AGENDA
COMMUNITY REDEVELOPMENT AGENCY MEETING
VILLAGE HALL COUNCIL CHAMBERS
226 CYPRESS LANE ■ PALM SPRINGS, FL 33461
JULY 10, 2025
6:00 PM

COUNCIL

□ Chairperson Bev Smith

□ Vice Chair Kim Schmitz
□ Board Member Gary Ready
□ Board Member Joni Brinkman
□ Board Member Patti Waller
□ Board Member Marta Padron *(Lake Worth Corridor District)*
□ Board Member Fabiana DesRosiers *(Congress Avenue District)*

ADMINISTRATION

□ Executive Director Michael Bornstein
□ Asst Executive Director Kim Glas-Castro
□ CRA Attorney Christy Goddeau
□ CRA Clerk Kimberly Wynn

If a person decides to appeal against any decision made by the Board concerning any matter considered, they will need a record of the proceedings. For such purposes, they may need to ensure that a verbatim record of the proceedings is available. The recording includes the testimony and evidence upon which the appeal is to be based.

CALL TO ORDER

ROLL CALL

ADDITIONS, DELETIONS OR MODIFICATIONS, AND APPROVAL OF AGENDA

Motion	Second	Vote

PUBLIC COMMENT

ORDER OF BUSINESS

1. **Approval of June 12, 2025, Community Redevelopment Agency Meeting Minutes**
   Staff: Kimberly Wynn, Village Clerk

Motion	Second	Vote

2. **Resolution No. 2025R-02 Piggyback Agreement and Work Order for the Congress Avenue Sanitary Sewer Installation - Pipeline Continuing Services Construction Contract PBC No. 22-032-2022:** Motion to approve entering into a Piggyback Agreement with Hinterland Group Inc. utilizing the Palm Beach County Engineering and Public Works Agreement Contract No. 22-032-2022 - Pipeline Continuing Construction Contract, and approving Work Order No. 1. Funding will be available from Congress Avenue CRA Account Number 15552-53400.
   Staff: Kimberly Glas-Castro, Assistant Village Manager

Motion	Second	Vote

CRA DIRECTOR / ASSISTANT DIRECTOR COMMENTS

CRA BOARD COMMENTS

ADJOURNMENT

NEXT MEETING
THURSDAY, SEPTEMBER 11, 2025, AT 6:00 P.M.

Village of Palm Springs

Title VI/Nondiscrimination Policy

I. Policy Statement:

The Village of Palm Springs values diversity and welcomes input from all interested parties, regardless of cultural identity, background, or income level. Moreover, the Village believes the best programs and services result from careful consideration of the needs of all its communities and when those communities are involved in the decision-making process. The Village does not tolerate discrimination in any of its programs, services, or activities. Pursuant to Title VI of the Civil Rights Act of 1964 and other federal and state authorities, the Village will not exclude from participation in, deny the benefits of, or subject to discrimination anyone on the grounds of race, color, national origin, sex, age, disability, religion, or family status.

II. Persons with Disabilities:

Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990 (ADA) and related federal and state laws and regulations forbid discrimination against those who have disabilities. These laws require federal-aid recipients and other government entities to take affirmative steps to reasonably accommodate those with disabilities and ensure that their needs are equitably represented.

The Village will make every effort to ensure that its facilities, programs, services, and activities are accessible to those with disabilities. The Village will also make every effort to ensure that its advisory committees, public involvement activities and all other programs, services and activities include representation by communities with disabilities and disability service groups.

The Village encourages the public to report any facility, program, service, or activity that appears inaccessible to those who are disabled. Also, the Village will provide reasonable accommodation to individuals with disabilities who wish to participate in public involvement events or who require special assistance to access facilities, programs, services, or activities. Because providing reasonable accommodation may require outside assistance, the Village asks that requests be made at least three (3) business days prior to the need for accommodation. Questions, concerns, comments, or requests for accommodation should be made to the Village ADA Officer:

Name: Ashley Saingilus
Address: 226 Cypress Lane, Palm Springs, FL 33461
Email: asaingilus@vpsfl.org
Phone: (561) 584-8200 Ext. 8421

III. Complaint Procedures:

The Village has established a discrimination complaint procedure and will take prompt and reasonable action to investigate and eliminate discrimination when found. Any person who believes that he or she has been subjected to discrimination based upon race, color, national origin, sex, religion, age, disability or family status in any Village program, service or activity may file a complaint with the Village Title VI/Nondiscrimination Coordinator:

Name: Janette Piedra, Human Resources Manager
Address: 226 Cypress Lane, Palm Springs, FL 33461
Email: jpiedra@vpsfl.org
Phone: (561) 584-8200 Ext. 8422

PALM SPRINGS CRA MEETING MINUTES
VILLAGE HALL - COUNCIL CHAMBERS
226 CYPRESS LANE ▪ VILLAGE OF PALM SPRINGS, FLORIDA
JUNE 12, 2025 AT 6:00 PM

CALL TO ORDER

The Chairperson, Bev Smith, called the Community Redevelopment Agency (CRA) Meeting to order at 6:03 p.m.

ROLL CALL

Present: Chairperson Bev Smith, Vice-Chair Kim Schmitz, Board Member Mrs. Joni Brinkman, Board Member Mrs. Patti Waller, and Board Member Gary M. Ready.

Absent: Board Members Ms. Fabiana DesRosiers, and Ms. Marta Padron

Also Present: CRA Director Michael Bornstein, Assistant CRA Director Kim Glas-Castro, Village Attorney Christy Goddeau, Village Clerk Kimberly M. Wynn, Assistant Village Manager Kim Glas- Castro, Police Chief Tom Ceccarelli, Sergeant-In-Arms, Planning, Zoning, and Building Director Iramis Cabrera, Utilities Director Jimmie Johnson, Assistant Utilities Director Paul Ward, and Public Works Director Felipe Lofaso

ADDITIONS, DELETIONS OR MODIFICATIONS, AND APPROVAL OF AGENDA

Chairperson Smith noted there were no additions, deletions, or modifications to the agenda.

Mr. Ready motioned for the agenda as presented, and Vice-Chair Schmitz seconded the motion. The said motion carried 5-0.

ORDER OF BUSINESS

1. **Approval of Community Redevelopment Agency Meeting Minutes April 10, 2025**
   Staff: Kimberly Wynn, Village Clerk

   Mrs. Waller motioned for the approval of April 10, 2025, CRA meeting minutes, and Mrs. Brinkman seconded it. The said motion carried 5-0.

2. **Approve Palm Springs CRA Incentive Program: Motion for the approval of a Palm Springs CRA Incentive Program.**
   Staff: Kimberly Glas-Castro, Assistant Village Manager

   SUMMARY: At its April 10, 2025 meeting, the CRA Board provided consensus to move forward with a new incentive program. The five (5) incentive programs include:

- Facade and Exterior Improvement Program
- Demolition of Distressed Structures Program
- Economic Impact Program
- Relocation and Development Assistance
- Septic to Sewer Conversion

The incentive program will be open to all properties within the CRA on a competitive basis. An application cycle will be announced, and grants may be awarded for projects that are consistent with the vision and the Community Redevelopment Plan.

Each year, the CRA Board will determine the amount of incentive funds to budget for the coming year based on CRA priorities and available revenues. In Fiscal Year 2025, the CRA budgeted $100,000 in the Lake Worth Road District and $56,119 in the Congress Avenue District for financial incentives.

Upon CRA Board approval of the revised Incentive Program, staff will prepare for a funding cycle, which includes marketing, informational meetings, and application assistance.

Note: At its April 13, 2023, meeting, the CRA Board approved the Catalyst Fund incentive programs and authorized the Executive Director to administratively approve grant awards of up to $25,000, with awards of more than $25,000 requiring Board approval. CRA staff is proposing that the same authorization be made for the new incentive program.

Note: The Palm Springs CRA Community Redevelopment Plan, Policy VI.I, provides that the "CRA shall provide financial incentives and programming support for desired redevelopments." Additionally, the CRA's Economic Development Strategic Plan includes key strategies focused on business attraction and recruitment:

- Create guidelines and incentives to recruit and retain desired authentic retail and restaurant uses for vacant storefront spaces.
- Create incentives to encourage desired authentic uses for vacant parking lots.

The Assistant CRA Director, Mrs. Glas-Castro, gave the background of the CRA Incentive program. She explained that this program was mentioned during the April 10, 2025, CRA meeting. The CRA Board gave directions for staff to proceed. Mrs. Glas-Castro then introduced Allison Justice, the CRA Consultant. At its April 10, 2025, meeting, the CRA Board provided consensus to move forward with a new incentive program. The five (5) incentive programs include Mrs. Justice discussed how the current Catalyst Program focused on properties with code violations, demolitions, and making improvements to the facade. The proposed CRA incentive programs would focus on improving the taxable value, upgrading properties and attracting desired developments. Although code violations can be included, it would not be a standalone project, and it would be at the CRA's discretion. Applicants can apply for each of the programs using a separate application that is available on the CRA website.

Mrs. Justice explained each of the programs:

- **Façade and Exterior Improvement Program:** The grant is for property owners or tenants for an amount up to $50,000 or 50% of eligible improvements for exterior improvements to commercial properties in the Palm Springs CRA area. Improvements can include painting, lighting, awnings and other aesthetic improvements that increase property values and remove blight.
- **Demolition of Distressed Structures Program:** Grant up to $25,000 or 50% of the demolition and site refurbishment for blighted and distressed properties within the CRA areas that align with the CRA Plan and vision.
- **Economic Impact Program:** Provide an incentive to support targeted industries and mixed-use developments within the Lake Worth Road and Congress Avenue CRA Districts. The funding will be based on the economic impact and program criteria met for the project.
- **Relocation and Development Assistance:** Is an incentive to support the development of targeted businesses within the Palm Springs CRA through tenant relocation, property development or property enhancement.
- **Septic to Sewer Conversion:** Grant funding will be determined after the completion of the public portion of the project and estimated costs for each property connection. The intent of this program is to support the conversion of commercial and residential properties to the newly installed Palm Beach County Wastewater system within the Congress Avenue CRA. Early applications are encouraged; however, the estimated completion of this project is in 2026.

After explaining each of the programs, Chairperson Smith offered the public and CRA Board an opportunity to comment further. There were no comments from the public. Mr. Ready noted that there were areas that belong to Palm Beach County, and some that were Village Utilities.

Mrs. Brinkman motioned for the approval of the Palm Springs CRA Incentive Program, and Mrs. Waller seconded the motion. The said motion carried 5-0.

CRA DIRECTOR / ASSISTANT DIRECTOR COMMENTS

There were no comments.

CRA BOARD COMMENTS

None

ADJOURNMENT

Hearing no further business, Chairperson Smith adjourned the meeting at 6:11 p.m.

The undersigned is the CRA Board Clerk of Palm Springs, Florida, and the

information provided herein is the Minutes of the CRA Meeting held on **June 12, 2025**. Which minutes were formally approved and adopted by the CRA Board on **July 10, 2025.**

Kimberly M. Wynn
Village Clerk

NEXT REGULAR MEETING:
THURSDAY, JULY 10, 2025, AT 6:00 PM

Village of Palm Springs

Executive Brief

AGENDA DATE: July 10, 2025

DEPARTMENT: Public Works

ITEM #2: Piggyback Agreement with Hinterland Group Inc. for Congress Avenue Sanitary Sewer Installation - Pipeline Continuing Services Construction Contract PBC No. 22-032-2022

SUMMARY: The Palm Springs CRA has been actively engaged in a partnership with Palm Beach County to design and install sanitary sewer to serve properties along the east side of Congress Avenue (Phase 1), which are currently operating on septic tanks. The Village Engineer, Holtz Consulting Engineers, has completed the design and construction plans and obtained permits from the Florida Department of Transportation, Lake Worth Drainage District, Palm Beach County Land Development Division, and the Florida Health Department. CRA Staff proposes utilizing a county contractor, via piggyback, to install the sanitary sewer lines and associated facilities. The Palm Beach County Engineering and Public Works Department recently renewed the term of the awarded Pipeline Continuing Construction Contract for one (1) additional year to May 14, 2026, with Hinterland Group Inc.

The CRA is seeking authorization to enter into a Piggyback Agreement with Hinterland Group Inc. to utilize the contract to install the sanitary sewer facilities. Additionally, staff is seeking approval of Work Order No. 1. Staff anticipate the installation work to begin in July 2025 and to be completed in September 2026.

The Village and County entered into an Interlocal Agreement in May, 2024 to share the costs of installing sanitary sewer along Congress Avenue. The County agreed to reimburse the Village for 50% of the project costs, up to $1.5 million and inclusive of $206,012.57 in initial design costs.

The proposed construction contract is $2,073,534.38. This together with the ongoing engineering oversight and certification costs of $473,600 (Holtz Consulting Engineers, Work Authorization #HE-CRA2.1), bring the total projected project costs to $2,547,134.38.

FISCAL IMPACT:

The Piggyback Agreement with Hinterland Group for Congress Avenue Sanitary Sewer Installation is being managed by the Palm Springs CRA. The Village Council entered into an interlocal agreement with the County Commission to partner on the funding ($3 million) to install sanitary sewer along Congress Avenue, north of Forest Hill Boulevard. The Florida Legislature approved a $1 million appropriation to offset a portion of the project costs.

ATTACHMENTS:

1. Resolution No. R2025-02 - Piggyback - Pipeline Continuing Construction Contract - Palm Beach County
2. Agreement for Congress Avenue Sanitary Sewer Construction via Piggyback

3. Authorization to Piggyback - Village Of Palm Springs
4. Work Order No. 1 - Hinterland - Congress Avenue Sewer
5. Quote - Hinterland Group Inc.
6. Palm Beach County Agreement - Hinterland Group Inc
7. Approved Amendment No. 1, Hinterland Group Inc.
8. Approved Amendment No. 2, Hinterland Group Inc.
9. 22-032 2022 Award Recommendation Package - Palm Beach County
10. Interlocal Agreement - Congress Avenue Sanitary Sewer Project
11. Certificates of Insurance
12. Phase 1 Sanitary Sewer Concept Plan for Congress Ave

RESOLUTION NO. R2025-02

A RESOLUTION OF THE PALM SPRINGS COMMUNITY REDEVELOPMENT AGENCY (CRA) OF THE VILLAGE OF PALM SPRINGS, FLORIDA, AUTHORIZING THE CHAIRPERSON, AND/OR HER DESIGNEE, TO APPROVE A PIGGYBACK AGREEMENT WITH HINTERLAND GROUP, INC. UTILIZING THE PALM BEACH COUNTY ENGINEERING AND PUBLIC WORKS AGREEMENT CONTRACT NO 22-032-2022- PIPELINE CONTINUING CONSTRUCTION CONTRACT AND APPROVING WORK ORDER NO. 1; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Village Staff Palm Springs CRA has been actively engaged in a partnership with Palm Beach County to design and install sanitary sewer to serve properties along the east side of Congress Avenue (Phase 1), which are currently operating on septic tanks; and

WHEREAS, Village Staff has determined that the Piggyback Agreement awarded to Hinterland Group, Inc., through Palm Beach County Engineering and Public Works Department renewed the term of the awarded Pipeline Continuing Construction Contract for one (1) additional year to May 14, 2026, with Hinterland Group Inc; and

WHEREAS, the Village Engineer, Holtz Consulting Engineers, has completed the design and construction plans and obtained permits from the Florida Department of Transportation, Lake Worth Drainage District, Palm Beach County Land Development Division, and the Florida Health Department; and

WHEREAS, the Village and County entered into an Interlocal Agreement in May, 2024 to share the costs of installing sanitary sewer along Congress Avenue. The County agreed to reimburse the Village for 50% of the project costs, up to $1.5 million and inclusive of $206,012.57 in initial design costs; and

WHEREAS, the Village Purchasing Code, Section 58-9, allows for the Village to Access contracts of other government agencies for the purchase of goods and services.

WHEREAS, the term of this Agreement shall be consistent with the term of the PBC Contract unless earlier terminated in accordance with the PBC Contract terms. This Agreement may be extended by the VILLAGE Manager consistent with extensions of the PBC Contract; and

WHEREAS, funding will be available from Congress Avenue CRA Account Number 15552-53400.

WHEREAS, it has been determined that it is in the best and most efficient interests of the Village to secure services for the Congress Avenue Sanitary Sewer Installation-Pipeline Continuing Services Construction Contract, and have made a recommendation of same to the Palm Springs CRA.

NOW, THEREFORE, BE IT RESOLVED BY THE VILLAGE COUNCIL OF THE VILLAGE OF PALM SPRINGS, FLORIDA:

Section 1. Based upon review of the proposal attached hereto and incorporated herein as **Exhibit "A"**, the Village Council hereby authorizes the execution of a Piggyback Agreement with Hinterland Group, based on Palm Beach County's Contract 2024050.

Section 2. The Mayor and Village Clerk are hereby authorized to execute any and all documents necessary to complete the Agreement, and the Village Clerk to deliver an executed contract to Ranger Construction Industries, PO Box 15065 West Palm Beach, FL 33416.

Section 3. This Resolution shall be effective immediately upon its adoption.

Board Member _____ offered the foregoing Resolution. Board Member _____ seconded the Motion, and upon being put to a vote, the vote was as follows:

	Aye	Nay	Absent
BEV SMITH, CHAIRPERSON	□	□	□
KIM SCHMITZ, VICE CHAIR	□	□	□
GARY READY, BOARD MEMBER	□	□	□
JONI BRINKMAN, BOARD MEMBER	□	□	□
PATTI WALLER, BOARD MEMBER	□	□	□
MARTA PADRON, BOARD MEMBER	□	□	□
FABIANA DESROSIERS	□	□	□

Mayor thereupon declared the Resolution duly passed and adopted this _____ day of JULY 2025.

VILLAGE OF PALM SPRINGS, FLORIDA

BY: _____
BEV SMITH, CHAIRPERSON

ATTEST:

BY: _____
KIMBERLY WYNN, VILLAGE CLERK

REVIEWED AS TO FORM AND LEGAL SUFFICIENCY

BY:_____
CHRISTY GODDEAU, VILLAGE ATTORNEY

AGREEMENT FOR PIPELINE CONSTRUCTION
(Utilizing the Palm Beach County Pipeline Continuing Construction Contract)

This Agreement for Pipeline Construction ("Agreement") is made as of the _____ day of _____, 2025, by and between the **Village of Palm Springs Community Redevelopment Agency**, 226 Cypress Lane, Palm Springs, Florida 33461-1699, a Florida corporation ("VILLAGE"), and **Hinterland Group Inc.,** a Florida corporation, 2051 W. Blue Heron Blvd., Riviera Beach, 33404 ("CONTRACTOR").

RECITALS

WHEREAS, the VILLAGE is in need of certain pipeline construction services; and

WHEREAS, on or about May 16, 2023, Palm Beach County ("PBC"), through its competitive selection process (R2023-0676), awarded an agreement to the CONTRACTOR for the provision of pipeline continuing construction services on a unit price basis ("PBC Contract"); and

WHEREAS, the PBC Contract includes the pipeline construction services the Village seeks; and

WHEREAS, the VILLAGE has reviewed the terms of the PBC Contract and has determined the CONTRACTOR's unit pricing as set forth therein for the needed goods and services are fair and reasonable; and,

WHEREAS, the VILLAGE requested and the CONTRACTOR has agreed to extend the terms of the PBC Contract to the VILLAGE and the CONTRACTOR has executed this Agreement with the VILLAGE to utilize the terms of the PBC Contract; and,

WHEREAS, the VILLAGE finds that entering into this Agreement is in compliance with the VILLAGE's Purchasing Code and serves a valid public purpose.

NOW THEREFORE, in consideration of the mutual promises set forth herein, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. Recitals. The parties agree that the recitals set forth above are true and correct and are fully incorporated herein by reference.

2. PBC Contract, Effective Date, and Term. The PBC Contract with the CONTRACTOR is hereby expressly made a part of this Agreement as fully as if set forth at length herein. The VILLAGE shall have all rights, obligations, and remedies authorized to PBC under the PBC Contract. The effective date of this Agreement is the date this Agreement is approved by the Village Council. Unless earlier terminated, the term of this Agreement shall continue for the term of the PBC Contract. If PBC extends the term of the PBC Contract with the CONTRACTOR, the VILLAGE may extend the term of this Agreement. This Agreement shall be dependent on the annual appropriation of funds by the VILLAGE's Village Council.

3. Construction Service Request(s). The VILLAGE does not guarantee that it will utilize this Agreement or the CONTRACTOR for any needed construction services hereunder. If the Village seeks construction services from the CONTRACTOR under this Agreement, the VILLAGE's ordering mechanism for the construction services shall be a VILLAGE issued Work Order. The scope of construction services to be provided by the CONTRACTOR and the compensation to be paid by the VILLAGE to the CONTRACTOR shall be set forth in each VILLAGE issued Work Order. The CONTRACTOR shall not provide any goods or services under this Agreement without a VILLAGE issued Work Order specifically for this purpose. The

CONTRACTOR shall not provide any goods and/or services which are outside the scope of an issued Work Order and the CONTRACTOR shall not exceed the expressed amounts stated in the Work Order to be paid to the CONTRACTOR. The pricing in each Work Order shall be consistent with the pricing set forth in the Jupiter Contract.

4. Documents and Conflict of Terms and Conditions. The complete agreement between the VILLAGE and the CONTRACTOR consists of the terms and conditions in this Agreement, VILLAGE issued Work Order(s), and the PBC Contract. The aforementioned documents are intended to be complementary and interpreted in harmony so as to avoid conflict with the words and phrases interpreted in a manner consistent with construction and design industry standards. In the event of any inconsistency, conflict or ambiguity between or among the above documents, the terms and conditions of this Agreement shall take precedence with any VILLAGE issued Work Order(s) next taking precedence.

6. Miscellaneous Provisions.

6.1 *Successors and Assigns*. The VILLAGE and CONTRACTOR each binds itself, its partners, its successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements and obligations contained in this Agreement.

6.2 *Insurance*. CONTRACTOR shall maintain the insurance as required in PBC Contract applicable to the goods and services being delivered hereunder. Said insurance will name the "Village of Palm Springs, its officials, employees and agents" as an additional insured.

6.3 *Headings, References and Exhibits*. The headings contained in this Agreement are inserted for convenience of reference only and shall not be a part or control or affect the meaning hereof. All references herein to Exhibits are to the exhibits hereto, each of which shall be incorporated into and deemed to be a part of this Agreement.

6.4 *Counterparts*. This Agreement may be executed in two or more counterparts, each of which shall be deemed to be an original, but all of which shall be deemed to be an original, but each of which together shall constitute one and the same instrument.

6.5 *Entire Agreement; Amendment*. This Agreement supersedes any and all prior negotiations and oral or written agreements heretofore made relating to the subject matter hereof and, except for written agreements, if any, executed and delivered simultaneously with or subsequent to the date of this Agreement, constitutes the entire agreement of the parties relating to the subject matter hereof. This Agreement may not be altered or amended except by a writing signed by the parties hereto.

6.6 *Lien Rights*. The CONTRACTOR shall have no lien rights regarding any property owned by the VILLAGE or otherwise.

6.7 *Governing Law; Consent to Jurisdiction*. This Agreement shall be governed by and construed and interpreted in accordance with the laws of the State of Florida. Each of the parties hereto (a) irrevocably submit itself to the exclusive jurisdiction of the Fifteenth Judicial Circuit Court in and for Palm Beach County, Florida, for state actions and jurisdiction of the United States District Court for the Southern District of Florida, Palm Beach Division, for the purposes of any suit, action or other proceeding arising out of, or relating to, this Agreement; (b) waives and agrees not to assert against any party hereto, by way of motion, as a defense of otherwise, in any suit, action or other proceeding, any claim that it is not personally subject to the jurisdiction of the above-named courts for any reason whatsoever; and (ii) to the extent permitted by applicable law, any claim that such suit, action or proceeding by any part hereto is brought in an inconvenient

forum or that the venue of such suit, action or proceeding is improper or that this Agreement or the subject matter hereof may not be enforced in or by such courts.

6.8 *Third Party Beneficiary rights*. This Agreement shall create no rights or claims whatsoever in any person other than a party herein.

6.9 *Severability*. If any one or more of the provisions of the Agreement shall be held to be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions hereof shall not in any way be affected or impaired thereby.

6.10 *Public Records*. CONTRACTOR shall comply with Florida's Public Records Act, Chapter 119, Florida Statutes, and, if determined to be acting on behalf of the VILLAGE as provided under section 119.011(2), Florida Statutes, specifically agrees to:

(1) Keep and maintain public records required by the VILLAGE to perform the service.
(2) Upon request from the VILLAGE's custodian of public records or designee, provide the VILLAGE with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes, or as otherwise provided by law.
(3) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of this Agreement and following completion of this Agreement if the CONTRACTOR does not transfer the records to the VILLAGE.
(4) Upon completion of this Agreement, transfer, at no cost, to the VILLAGE all public records in possession of the CONTRACTOR or keep and maintain public records required by the VILLAGE to perform the service. If the CONTRACTOR transfers all public records to the VILLAGE upon completion of the Agreement, the CONTRACTOR shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the CONTRACTOR keeps and maintains public records upon completion of the Agreement, the CONTRACTOR shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the VILLAGE, upon request from the VILLAGE's custodian of public records or designee, in a format that is compatible with the information technology systems of the VILLAGE.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS OR DESIGNEE AT (561) 584-8200 Ext. 8431, kwynn@vpsfl.org, OR BY MAIL AT VILLAGE OF PALM SPRINGS, 226 CYPRESS LANE, PALM SPRINGS, FL 33461.

6.11 *Preparation*. This Agreement shall not be construed more strongly against either party regardless of who was more responsible for its preparation.

6.12 *Palm Beach County IG*. In accordance with Palm Beach County ordinance number 2011-009, the CONTRACTOR acknowledges that this Agreement may be subject to investigation and/or audit by the Palm Beach County Inspector General. The CONTRACTOR has reviewed Palm Beach County ordinance number 2011-009 and is aware of its rights and/or obligations under such ordinance.

6.13 *Notices*. Except for Service Requests, which may be sent via email pursuant to Paragraph 3 of this Agreement, all notices required in this Agreement shall be hand-delivered, sent by certified mail, return

receipt requested, or by over-night delivery by a nationally recognized courier (with receipt of delivery) to the addresses appearing on the first page of this Agreement.

6.14 *Taxes*. The VILLAGE is exempt from payment of Florida State Sales and Use Tax. The CONTRACTOR shall not be exempted from paying sales tax to its suppliers for materials used to fill contractual obligations with the VILLAGE, nor is the CONTRACTOR authorized to use the VILLAGE'S Tax Exemption Number in securing such materials.

6.15 *No Consequential Damages*. Notwithstanding any other provision in this Agreement, in no event shall either party be liable to the other party for any incidental, special, indirect, liquidated, consequential, or punitive damages arising out of or related to this Agreement, whether such alleged damages are labeled in tort, contract, or otherwise, and even if a party has been advised of the possibility of such damages.

6.16 *Execution/Delivery*. This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original and such counterparts will constitute one and the same instrument. The parties agree to accept the execution and delivery of this Agreement by electronic means and shall treat the same as an original.

6.17 *Authorized Signatory*. By signing this Agreement, the undersigned individual agrees and warrants that he/she is authorized by the CONTRACTOR to enter this Agreement and bind the CONTRACTOR to this Agreement.

6.18 Public Entity Crimes, E-Verify, and Scrutinized Companies.

(1) As provided in Sections 287.132-133, Florida Statutes, as amended from time to time, by entering into the Agreement, CONTRACTOR certifies that it, its affiliates, suppliers, subcontractors and any other contractors who will perform hereunder, have not been placed on the convicted CONTRACTOR list maintained by the State of Florida Department of Management Services within the thirty-six (36) months immediately preceding the date hereof.

(2) If applicable to the CONTRACTOR, pursuant to Section 448.095(5), Florida Statutes, the CONTRACTOR, and any subcontractor thereof, shall register with and use the E-Verify system to verify the work authorization status of all new employees of the contractor and the subcontractor.

(3) As provided in Section 287.135, Florida Statutes, as amended from time to time, by entering into the Agreement, CONTRACTOR certifies that it is not participating in a boycott of Israel. The VILLAGE and CONTRACTOR agree that the VILLAGE will have the right to terminate the Agreement if CONTRACTOR is found to have been placed on the Scrutinized Companies that Boycott Israel List or is engaged in a boycott of Israel.

6.19 **COMPLIANCE WITH SECTION 787.06, FLORIDA STATUTES (2024):** By signing this Agreement before a notary public and taking an oath under the penalty of perjury, the CONTRACTOR attests and warrants that the CONTRACTOR does not use coercion for labor or services as defined in section 787.06, Florida Statutes (2024).

REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK
SIGNATURE PAGE FOLLOWS

IN WITNESS WHEREOF, the VILLAGE and CONTRACTOR have caused this Agreement for Pipeline Construction (Utilizing the PBC Pipeline Continuing Construction Contract) to be executed the day and year shown above.

VILLAGE OF PALM SPRINGS
COMMUNITY REDEVELOPMENT AGENCY

By: _____
Bev Smith, Chair

ATTEST

_____
Kimberly Wynn, Village Clerk

Approved as to form and legal sufficiency:

_____
Christy Goddeau, Village Attorney

CONTRACTOR: **HINTERLAND GROUP, Inc.**

By: _____

Print Name: Chase Rogers

Title: C.O.O.

[Corporate Seal, if required.]

HINTERLAND GROUP, INC. CORPORATE SEAL June 26, 2006 FLORIDA

STATE OF Florida)
COUNTY OF Palm Beach)

THE FOREGOING instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization on this 23rd day of June 2024, by Chase Rogers, as the C.O.O. [title] of **Hinterland Group, Inc.,** a corporation authorized to do business in the State of Florida, who is ☑ personally known to me or ☐ who has produced _____ as identification, and who did take an oath under penalty of perjury that the facts stated with regard to section 787.06, Florida Statutes, are true and correct, and that he or she is duly authorized to execute the foregoing instrument and bind **Hinterland Group, Inc.** to the same.

JULIE ROSADO
Notary Public - State of Florida
Commission # HH 685526
My Comm. Expires Jun 8, 2029
Bonded through National Notary Assn.

Julie Rosado
Notary Public Signature

Notary Seal
My Commission expires: 06/08/2029

MINUTES OF SPECIAL MEETING

OF

HINTERLAND GROUP INC.

Minutes of Special Meeting of Hinterland Group Inc. held at 2051 W. Blue Heron Blvd., Riviera Beach, Florida 33404 on this 20 day of JANUARY, 2025.

The President called the meeting to consider the following business: The authorization of Chase Rogers, Julie Gwinner, and Danny Duke, Jr., to sign any and all documentation with regard to the Company.

On motion duly made and carried, the meeting proceeded to approve the authorization.

Chase Rogers, Julie Gwinner, and Danny Duke, Jr., have the authority to sign all documents as stated above. There being no further business, the meeting was adjourned.

Dated: JANUARY 20, 2025

Daniel Duke III, President
Hinterland Group Inc.

STATE OF FLORIDA

COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this 20 day of JANUARY, 2025 by DANIEL DUKE III.

Notary Public

LORI GUILD
MY COMMISSION # HH 298713
EXPIRES: August 9, 2026

Printed Name: LORI GUILD

My Commission Expires: 8/9/2026

HINTERLAND GROUP INC.

June 20, 2025

Village of Palm Springs
Procurement Department
226 Cypress Lane
Palm Springs, FL 33461

Ref: Piggyback of Palm Beach County Water Utilities Department 2022 Pipeline Continuing Construction Contract Project No. 22-032

Hinterland Group Inc. agrees to use the Palm Beach County Water Utilities Department Contract # 22-032 (R2023-0676) terms and conditions for the Village of Palm Springs' Congress Avenue Sanitary Sewer project.

The contract effective dates, as amended with renewals, are May 16, 2023 through May 14, 2026, with the period of service continuing until completion of outstanding Work Orders issued within the period of the contract.

Sincerely,

Chase Rogers

Chase Rogers
C.O.O. and Chief Estimator
Hinterland Group, Inc.

2051 W Blue Heron Blvd., Riviera Beach, FL 33404
561-640-3503 OFFICE 561-640-3504 FAX
CGC1520354 CUC1224634 CBC1255077 EC13003615

WORK ORDER No. 1
AGREEMENT PIPELINE CONSTRUCTION
(Utilizing the Palm Beach County Pipeline Continuing Construction Contract)

THIS WORK ORDER for Pipeline Construction ("Work Order") is made on _____, 2025, between the **Village of Palm Springs Community Redevelopment Agency**, a Florida corporation ("Village") and **Hinterland Group, Inc.**, a corporation authorized to do business in State of Florida ("Contractor").

1.0 Project Description:

The Village desires the Contractor to provide all goods, services, materials and equipment as identified herein related to the Pipeline Construction Project generally described as: Congress Avenue Sanitary Sewer Force Main Project (the "Project").

2.0 Scope

Under this Work Order, the Contractor will provide the Village with construction services for the Project as specified in the **Contractor's proposal attached hereto and incorporated herein as Exhibit "1".**

No work shall commence under this Work Order until the Village receives a copy of the recorded Public Construction Bond.

3.0 Schedule and Liquidated Damages

Time is of the essence under this Work Order. Substantial completion of all work under this Work Order shall be within **330 calendar days** from the date the Contractor commences the work. Final completion of all work (and all punch-list items (if any)) under this Work Order shall be within **360 calendar days** from the date the Contractor commences the work. Substantial completion occurs when the work has progressed to the point where, in the opinion of the Village, the work is sufficiently complete in accordance with the Contract Documents and this Work Order, so that the Project can be utilized for the purposes for which it is intended. Final completion occurs when all work (including punch-list items) has been completed and the project becomes fully operational and accepted by the Village.

Liquidated Damages. The Village and Contractor recognize that time is of the essence under this Work Order and the Contract Documents, and that the Village will suffer financial loss if the services and work described in this Work Order and the Contract Documents are not completed within the times specified in this Work Order. The Village and Contractor recognize, agree and acknowledge that it would be impractical and extremely difficult to ascertain and fix the actual damages that the Village would suffer in the event Contractor neglects, refuses, or otherwise fails to complete the services and work within the time specified. Accordingly, instead of requiring any such proof, the Village and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay the Village five hundred dollars ($500.00) for each day that expires after the time specified in this Work Order.

4.0 Compensation and Direct Purchases

This Work Order is issued for a lump sum, not to exceed amount of two million seventy-three thousand five hundred thirty-four dollars and thirty-eight cents ($2,073,534.38). The attached proposal identifies all costs and expenses included in the lump sum, not to exceed amount.

5.0 Project Manager

The Project Manager for the Contractor is NELSON BELLO, phone: (561) 657-5011; email: NBELLO@HINTERLANDSGROUP.COM; and, the Project Manager for the Village is Kimberly Glas-Castro, phone: (561) 584-8200; email: kglascastro@vpsfl.org.

6.0 Progress Meetings

The Contractor and Village Project Manager shall schedule periodic progress review meetings as necessary.

7.0 Contractor's Representations

In order to induce the Village to enter into this Work Order, the Contractor makes the following representations:

7.1 Contractor has familiarized itself with the nature and extent of the Contract Documents including this Work Order, work, site, locality, and all local conditions and laws and regulations that in any manner may affect cost, progress, performance or furnishing of the work.

7.2 Contractor has obtained at his/her own expense and carefully studied, or assumes responsibility for obtaining and carefully studying, soil investigations, explorations, and test reports which pertain to the subsurface conditions at or contiguous to the site or otherwise may affect the cost, progress, performance or furnishing of the work as Contractor considers necessary for the performance or furnishing of the work at the stated work order price within the Work Order stated time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of the IFB; and no additional examinations, investigations, explorations, tests, reports, studies or similar information or data are or is deemed necessary by Contractor for such purposes.

7.3 Contractor has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports, studies or similar information or data in respect of said Underground Facilities are or is deemed necessary by the Contractor in order to perform and furnish the work under this Work Order price, within the Work Order time and in accordance with the other terms and conditions of the Contract Documents.

7.4 Contractor has correlated the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.

7.5 Contractor has given the Village's Contract Administrator written notice of all conflicts, errors or discrepancies that he or she has discovered in the Contract Documents and the written resolution thereof by Village or its designee is acceptable to the Contractor.

8.0 Warranty. The Contractor warrants and guarantees to the Village that all services and work provided under this Work Order will be in accordance with this Work Order and the other Contract Documents. The Contractor warrants that (a) all materials and parts supplied under this Work Order shall be free from defects for one (1) year from the final completion of all work (unless a longer manufacturer warranty applies); (b) all services and work performed under this Work Order will be free from defects for one (1) year from the final completion of all work and the project shall be fully operational without unreasonable downtime or failures; and (c) that the services and work will conform to the requirements of the Contract Documents. If, at any time prior to the expiration of the one (1) year warranty period, the Village discovers any failure or breach of the Contractor's warranties or the Contractor discovers any failure or breach of the Contractor's warranties, the Contractor will, upon written notice from Village or of its own accord, at the Contractor's sole cost and expense, promptly correct such failure or breach (which corrective action must include, without limitation, any necessary removal, disassembly, reinstallation, repair, replacement, reassembly, retesting, and/or re-inspection of any part or portion of the work and any other property damaged or affected by such failure, breach, or corrective action). The Contractor will remedy any such failure or breach so, to the extent possible, to avoid unnecessary disruptions to the operations of Village or its systems. In the event the Contractor fails to initiate and diligently pursue corrective action within five (5) days of the Contractor's receipt of the Village's notice or the Contractor's discovery of the same, the Village may undertake such corrective action at the Contractor's expense.

9.0 Authorization

This Work Order is issued pursuant to the Agreement for Pipeline Construction between the Village and the Contractor, dated _____, 2025 ("Contract"). If there are any conflicts between the terms and conditions of this Work Order and the Contract, the terms and conditions of the Contract shall prevail; provided however, that the scope of services set forth in this Work Order in shall take precedence over any other provision in the Contract.

REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK
SIGNATURE PAGE FOLLOWS

IN WITNESS WHEREOF, the VILLAGE and CONTRACTOR have caused this Work Order No. 1 to the Agreement for Pipeline Construction (Utilizing the PBC Pipeline Continuing Construction Contract) to be executed the day and year shown above.

VILLAGE OF PALM SPRINGS
COMMUNITY REDEVELOPMENT AGENCY

By: _____
Bev Smith, Chair

ATTEST

_____
Kimberly Wynn, Village Clerk

Approved as to form and legal sufficiency:

_____
Christy Goddeau, Village Attorney

CONTRACTOR: **HINTERLAND GROUP, Inc.**

By: _____

Print Name: Chase Rogers

Title: C.O.O.

HINTERLAND GROUP, INC. CORPORATE SEAL June 26, 2006 FLORIDA

[Corporate Seal, if required.]

STATE OF Florida)
COUNTY OF Palm Beach)

THE FOREGOING instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization on this 23rd day of June 2025 by Chase Rogers, as the C.O.O. [title] of **Hinterland Group, Inc.**, a corporation authorized to do business in the State of Florida, who is ☑ personally known to me or ☐ who has produced _____ as identification, and who did take an oath under penalty of perjury that the facts stated with regard to section 787.06, Florida Statutes, are true and correct, and that he or she is duly authorized to execute the foregoing instrument and bind **Hinterland Group, Inc.** to the same.

JULIE ROSADO
Notary Public - State of Florida
Commission # HH 685526
My Comm. Expires Jun 8, 2029
Bonded through National Notary Assn.

Julie Rosado.
Notary Public Signature

Notary Seal:
My Commission expires: 06/08/2029

MINUTES OF SPECIAL MEETING

OF

HINTERLAND GROUP INC.

Minutes of Special Meeting of Hinterland Group Inc. held at 2051 W. Blue Heron Blvd., Riviera Beach, Florida 33404 on this 20 day of JANUARY, 2025.

The President called the meeting to consider the following business: The authorization of Chase Rogers, Julie Gwinner, and Danny Duke, Jr., to sign any and all documentation with regard to the Company.

On motion duly made and carried, the meeting proceeded to approve the authorization.

Chase Rogers, Julie Gwinner, and Danny Duke, Jr., have the authority to sign all documents as stated above. There being no further business, the meeting was adjourned.

Dated: JANUARY 20, 2025

Daniel Duke III, President
Hinterland Group Inc.

STATE OF FLORIDA

COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this 20 day of JANUARY, 2025 by DANIEL DUKE III.

Notary Public

LORI GUILD
MY COMMISSION # HH 298713
EXPIRES: August 9, 2026

Printed Name: LORI GUILD

My Commission Expires: 8/9/2026

Exhibit "1"
CONTRACTOR's PROPOSAL

EXHIBIT '1'

ATTACHMENT E
SCHEDULE OF BID ITEMS
Village of Palm Springs
Piggyback of 2022 Pipeline Continuing Construction Contract - Resolution R2023-0676 Contract Dated May 16, 2023
Work Authorization No.: 1 Contractor Name: Hinterland Group Inc.
Project Name: Congress Avenue Force Main Project HG Project No.: 25-0084-01

NO.	BID ITEM (Furnish and Install with Appurtenances)	QUANTITY	UNIT	UNIT PRICE	TOTAL
3	4" DIP Force Main	5290	LF	$ 99.00	$ 523,710.00
6	6" DIP Force Main	20	LF	$ 76.00	$ 1,520.00
34	Ductile Iron Fittings for Wastewater Force Main	3.50	TON	$ 10,000.00	$ 35,000.00
36	6" HDPE Directional Drill Force Main	340	LF	$ 60.00	$ 20,400.00
45	6" DIP/PVC x HDPE Adapter	2	EA	$ 600.00	$ 1,200.00
53	4" Mechanical Joint Restraint	325	EA	$ 400.00	$ 130,000.00
54	6" Mechanical Joint Restraint	8	EA	$ 450.00	$ 3,600.00
102	4" Gate Valve	20	EA	$ 1,900.00	$ 38,000.00
152	Aerial Crossing Complete (4" Wastewater Force Main, 40'to80'	2	EA	$ 85,000.00	$ 170,000.00
196	2" Air Release Valve w/ Manhole for Wastewater Main	1	EA	$ 15,000.00	$ 15,000.00
200	2" Above Ground Offset Air Release Valve for Wastewater Main	2	EA	$ 14,000.00	$ 28,000.00
221	Irrigation Service Line Repair and Replace	50	LF	$ 35.00	$ 1,750.00
234	4" to 12" Connection to Existing Force Main	6	EA	$ 3,200.00	$ 19,200.00
245	Milling of Asphalt	4030	SY	$ 7.50	$ 30,225.00
246	Asphalt Overlay	444	TONS	$ 380.00	$ 168,720.00
247	Asphalt Roadway Removal and Restoration	1400	SY	$ 65.00	$ 91,000.00
256	Concrete Sidewalk Removal and Restoration	1560	SY	$ 95.00	$ 148,200.00
257	Concrete Curb and Gutter Removal & Restoration	200	LF	$ 72.00	$ 14,400.00
260	Bahia Sod	2240	SY	$ 6.00	$ 13,440.00
263	Record Drawing	5400	LF	$ 2.00	$ 10,800.00
264	Construction Survey	5400	LF	$ 1.00	$ 5,400.00
265	Preconstruction Video Taping	5400	LF	$ 1.00	$ 5,400.00
267	MOT Residential Street	800	LF	$ 1.50	$ 1,200.00
269	MOT FDOT Roadway	6400	LF	$ 4.50	$ 28,800.00
270	Density Test	120	EA	$ 45.00	$ 5,400.00
271	Proctor Test	8	EA	$ 95.00	$ 760.00
272	Concrete Cylinder Testing	18	EA	$ 100.00	$ 1,800.00
273	4' to 5' Fence Removal and Reinstallation	480	LF	$ 40.00	$ 19,200.00
279	Remove and Replace Signs	6	EA	$ 500.00	$ 3,000.00
281	ADA Concrete Ramps	14	EA	$ 3,500.00	$ 49,000.00
312	Canal Bank Grade and Revetment	6	EA	$ 6,500.00	$ 39,000.00
314	4" Single Line Stop	2	EA	$ 5,800.00	$ 11,600.00
	SUBTOTAL				$ 1,634,725.00

335	Mobilization	1	LS	$40,578.13	$ 40,578.13
336	Demobilization	1	LS	$16,231.25	$ 16,231.25
	Additional Work Items				
334	Service Connection (From Wye to cleanout, complete)	15	LS	$ 18,800.00	$ 282,000.00
337	Owner's Allowance	1	LS	$ 100,000.00	$ 100,000.00

Subtotal	$ 1,634,725.00
Mobilization	$ 40,578.13
Demobilization	$ 16,231.25
Addt'l Work	$ 282,000.00
Owner's Allowance	$ 100,000.00
Total	**$ 2,073,534.38**

EXHIBIT '1'

ATTACHMENT E
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221	Irrigation Service Line Repair and Replace	50	LF	$ 35.00	$ 1,750.00
234	4" to 12" Connection to Existing Force Main	6	EA	$ 3,200.00	$ 19,200.00
245	Milling of Asphalt	4030	SY	$ 7.50	$ 30,225.00
246	Asphalt Overlay	444	TONS	$ 380.00	$ 168,720.00
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279	Remove and Replace Signs	6	EA	$ 500.00	$ 3,000.00
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Addt'l Work	$ 282,000.00
Owner's Allowance	$ 100,000.00
Total	**$ 2,073,534.38**

B

BOARD OF COUNTY COMMISSIONERS
PALM BEACH COUNTY, FLORIDA

R2023 0676

MAY 16 2023

CONFIDENTIAL
PBCWUD DOCUMENT
NOT FOR PUBLIC DISCLOSURE
In Accordance with:
FS Chapter 281.301
FS Chapter 119.071 (3) (b)
FS Chapter 153

2022 Pipeline Continuing Construction Contract

PBCWUD Project No. 22-032

CONFORMED DOCUMENT

CONTRACT DOCUMENTS
BIDDING REQUIREMENTS, CONTRACT FORMS,
CONDITIONS OF THE CONTRACT, AND
TECHNICAL SPECIFICATIONS

Palm Beach County Water Utilities Department
8100 Forest Hill Boulevard
West Palm Beach, FL 33413
FAX: (561) 493-6113
E-Mail Address: Destime@pbcwater.com

Bids will be received at the office of the Palm Beach County Water Utilities Department, Administration Building, located at 8100 Forest Hill Boulevard, West Palm Beach, Florida 33413 at the time and on the date specified in the Advertisement for Bids.

ADDENDUM NO. 1

PALM BEACH COUNTY WATER UTILITIES DEPARTMENT

2022 PIPELINE CONTINUING CONSTRUCTION CONTRACT

PROJECT NO. 22-032

TO ALL BIDDERS AND OTHERS CONCERNED:

Contractors submitting proposals for the above referenced project shall take note of the clarification to the Contract and Specifications that shall become a part of the contract documents.

BID DOCUMENTS (November 22, 2022) by 2:00 pm

Note: Bidder must acknowledge Receipt of Addendum on Bid Form - Page 3 of the Contract Documents.

Dated this 15th day of November 2022

Palm Beach County
Water Utilities Department

Ralph Estime, PMP

PLEASE ACKNOWLEDGE RECEIPT OF ADDENDUM NO. 1 (PAGE 1- PAGE 2) BY SIGNING BELOW – EMAIL to DEstime@pbcwater.com IMMEDIATELY.

HINTERLAND GROUP, INC. CORPORATE SEAL FLORIDA

Signature

Chase Rogers, Project Director
Title (title, print name)

Hinterland Group Inc.
Company

Bid Documents will be received by the Board of County Commissioners, Palm Beach County, Florida until 2:00 P.M. on Tuesday, November 22, 2022 at 8100 Forest Hill Blvd, West Palm Beach, FL 33413 Administration Building.

Bidders are reminded to acknowledge Addendum No. 1 on Bid Form-3

1. **FRONT END DOCUMENTS**

   Bid Form; Page 13; Bid Item No. 221:

   a. Revised text from (up to 6") to 4", and revised text from "EA" to "LF".

2. **TECHNICAL SPECIFICATIONS**

   Section 01 11 00 – SUMMARY OF WORK

   a. Part 1 – General, Subsection 1.2 A 1 – revised text from "36-months" to read as follows: "12-month period with an optional two (2) 12-month contract renewal (see Supplemental General Conditions)."

   Section 01 29 00 – MEASUREMENT AND PAYMENT

   a. Revised text on the Measurement and Payment page 01 29 00 – 5, No. 10 – Restrain Existing DIP and PVC Pipe (Bid Items 86 – 101) Subsections a, b, c, and d.

   b. Revised text on the Measurement and Payment page 01 29 00 – 9, No. 27 – 6" PVC Sewer Lateral Replacement (Bid Item 203) Subsection b from "30 LF" to "20 LF".

   c. Revised text on the Measurement and Payment page 01 29 00 – 11, No. 31– Long Polyethylene (HDPE) Service Line Casing (up to 50' Long) (Bid Items 209 and 211); Subsection b.

   d. Revised text on the Measurement and Payment page 01 29 00 – 14, No. 38 – Irrigation Service Line Repair and Replace (Bid Item 221) from (up to 6") to (up to 4"). Revised text in Subsection b.

OEBO PARTICIPATION EVALUATION FORM

DATE SENT: Revised	PROJECT MANAGER: Ralph D. Estime
PROJECT #: 22-032	PROJECT NAME: 2022 Pipeline Continuing
USER DEPARTMENT: WUD	SOLICITATION OPENING DATE:
OEBO ESTABLISHED API : **Minimum Mandatory 20% SBE Goal** (which 3% is for AA & HA)	

SOLICITATION EVALUATION INFORMATION

BIDDERS	PRIME IS A CERTIFIED S/M/WBE	PRIME IS RESPONSIVE TO API	SBE %	MBE %
B&B Underground Construction, Inc.	(1)	(2)	100	1.074
Hinterland Group, Inc.	(2)	(1)	20.9653	5.859
Johnson-Davis Incorporated	(2)	(1)	20.8338	5.521

KEYS FOR DETERMINATIONS: (NOTED IN THE SOLICITATION EVALUATION INFORMATION TABLE)
(1) YES
(2) NO
(3) N/A

EVALUATION NOTES:

**SEE PAGE 2

Evaluated by: Angie Whitaker

Signature: Angie Whitaker Date: 01/31/2023

Reviewed by: Allen Gorny

Signature: Allen Gorny Date: Feb. 1, 2023

	Certification Status	Expiration Date	Bid Amount/Price/Percent:		
Prime Respondent: **B&B Underground Construction, Inc.**	*SBE*	5/21/2023	**$45,604,800.84**		
Subcontractor/Sub consultant Name	[redacted]	[redacted]	**SBE**	**MBE**	**Supplier**
B&B Underground Construction, Inc.	*SBE*	5/21/2023	**$ 45,114,800.84**		☐
Tru Trucking, Inc.	*MBE - HI*	10/26/2025	**$ 490,000.00**	**$490,000.00**	☐
	Total SBE/MBE Participation		$45,604,800.84	$490,000.00	
			(100%)	**(1.074)**	

Evaluation Comments:

B&B Underground Construction, Inc. – NON - RESPONSIVE

	Certification Status	Expiration Date	Bid Amount/Price/Percent:		
Prime Respondent: **Hinterland Group, Inc.**	*Non-SBE*		**$33,760,413.00**		
Subcontractor/Sub consultant Name	[redacted]	[redacted]	**SBE**	**MBE**	
Utility Supply Associates, Inc.	*SBE*	8/21/2025	$ 5,100,000.00		☒
Almazan Construction	*MBE - HI*	9/6/2025	$ 1,978,000.00	$1,978,000.00	☐
	TOTAL SBE/MBE Participation		$ 7,078,000.00	$1,978,000.00	
			(20.9653%)	**(5.859%)**	

Evaluation Comments:

Hinterland Group, Inc. - RESPONSIVE

	Certification Status	Expiration Date	Bid Amount/Price/Percent:		
Prime Respondent: **Johnson-Davis Incorporated**	*Non-SBE*		**$ 28,440,000.00**		
Subcontractor/Sub consultant Name	[redacted]	[redacted]	**SBE**	**MBE**	**Supplier**
Almazan Construction, LLC	*MBE - HI*	**9/6/2025**	**$1,449,000.00**	**$1,449,000.00**	☐
Pacifica Engineering Services, LLC	*MBE - AA*	**10/24/2024**	**$ 38,000.00**	**$ 38,000.00**	☐
Odums Sod, Inc.	*MBE - HI*	**01/16/2023**	**$ 83,250.00**	**$ 83,250.00**	☐
Utility Supply Associates, Inc.	*SBE*	**08/22/2025**	**$4,179,889.30**		☒
Michael B. Schorah & Associates, Inc	*SBE*	**06/21/2024**	**$ 175,000.00**		☐
	TOTAL SBE/MBE Participation		**$5,925,139.30 (20.8338%)**	**$1,570,250.00 (5.521%)**	

Evaluation Comments:

Johnson-Davis Incorporated - RESPONSIVE

BOARD OF COUNTY COMMISSIONERS
PALM BEACH COUNTY, FLORIDA
2022 Pipeline Continuing Construction Contract

PBCWUD Project No. 22-032

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Post Bid Information	B-1/B-5

ADVERTISEMENT FOR BID

Project Name: 2022 Pipeline Continuing Construction Contract

PBCWUD Project No: 22-032

Sealed Bids containing all the required Bid Documents will be received by the Board of County Commissioners, Palm Beach County, Florida, until **2:00 PM** on **November 22, 2022,** at the Palm Beach County Water Utilities Department, Administration Building (1st Floor Reception Desk) located at 8100 Forest Hill Boulevard, West Palm Beach, Florida. The Bid Documents received by this time will be opened the same day, **November 22, 2022,** in accordance with the Invitation to Bid and Instructions to Bidders, at or after **2:00 PM** in the Administration Building, Conference Room (Room 158).

The bids will be for furnishing all materials, labor, supervision, equipment, supplies, fees, expertise, and services necessary to for the installation of raw water mains, potable water mains, fire hydrants, water service lines, wastewater force mains, reclaimed water mains, and all associated appurtenances. The contract is for a one-year (12-months) term with an optional two (2) 12-months contract renewal. The contract will be awarded to up to two (2) of the lowest responsive and responsible bidder(s).

All conditions and requirements for bid submission, consideration, and award are contained in the Bid Documents. The Bid Documents will be available to download free of charge beginning October 18, 2022. Please visit Palm Beach County's Vendor Self Service page to access the Bid Documents: https://pbcvssp.co.palm-beach.fl.us/webapp/vssp/AltSelfService. In order to do business with Palm Beach County, vendors are required to create a Vendor Registration Account OR activate an existing Vendor Registration Account through the Purchasing Department's Vendor Self Service (VSS) System, which can be accessed at https://pbcvssp.co.palm-beach.fl.us/webapp/vssp/AltSelfService. IF BIDDER INTENDS TO USE SUBCONTRACTORS, BIDDER MUST ALSO ENSURE THAT ALL SUBCONTRACTORS ARE REGISTERED AS VENDORS IN VSS. ALL SUBCONTRACTOR AGREEMENTS MUST INCLUDE A CONTRACTUAL PROVISION REQUIRING THAT THE SUBCONTRACTOR REGISTER IN VSS. COUNTY WILL NOT FINALIZE A CONTRACT AWARD UNTIL THE COUNTY HAS VERIFIED THAT THE BIDDER AND ALL OF ITS SUBCONTRACTORS ARE REGISTERED IN VSS. This will allow the County to notify you of upcoming solicitations. In addition, there may be certain documents necessary for submittal of a bid which are exempt from public disclosure. Bidders shall download and submit a Plan Holder Registration form (Bid Document attachment) to access these exempt documents. Registered Plan Holders will automatically receive notification of addenda and project updates.

The Bid Documents also may be obtained from **Palm Beach County Water Utilities Department,** 8100 Forest Hill Boulevard, West Palm Beach, FL 33413. A non-refundable service charge of **$100.00** per set of Bid Documents is required. Checks are to be made payable to "Palm Beach County Water Utilities Department." Partial sets will not be available. Bidders requiring Bid Documents mailed must provide an express mail account number to the PBCWUD Engineering Division. The bill will be charged to the recipient's account.

Bid Documents may also be examined at the following plan houses:

ConstructConnect (800) 364-2059
Dodge Data & Analytics, LLC (800) 393-6343
Construction Journal, Stuart (800) 785-5165

When Bid Documents are obtained through a plan house, Bidders must notify the Palm Beach County Water Utilities Department's Project Manager via e-mail in order to be registered to receive project addendums and communications.

Questions may be addressed in writing to **Ralph Estime, PMP** at **Destime@pbcwater.com** or **Palm Beach County Water Utilities Department, 8100 Forest Hill Blvd., West Palm Beach, FL 33413.**

Pursuant to the Palm Beach County Code Section 2-80.20 – 2-80.40, the Equal Business Opportunity (EBO) Ordinance, the County will provide contracting and subcontracting opportunities for S/M/WBEs. The following Affirmative Procurement Initiatives (APIs) apply to this project:

The SBE subcontracting goal for this project is a mandatory minimum of 20% participation, See EBO Ordinance Section 2-80.27(1)(c), of which 5% shall be among certified African American and/or Hispanic American owned firms, See EBO Ordinance Section 2-80.27(2)(b).

Explanation of goal setting committee's reasons for applying this API: The goal setting committee's reason for applying this particular API to this project was that the most recent data on the utilization of the foregoing MBEs indicates that contracts of this type have exhibited significant disparities in the utilization of these MBEs.

When a mandatory SBE or M/WBE goal applies to this solicitation, then any bid that fails to comply with the required goal shall be deemed non-responsive after the period allowed for waiver requests has lapsed. If a bidder is unable to comply with a required goal, such bidder shall submit a request for a waiver or partial waiver at least 7 days prior to the bid due date. If a bidder requests a waiver from a goal from the Office of EBO at least 7 days prior to the bid due date, then the bid due date will be extended pending the outcome of a waiver request. Additionally, if the waiver is granted the solicitation will be amended accordingly and the due date extended again. Fillable pdfs of all EBO forms can be found on the OEBO website at http://discover.pbcgov.org/oebo/Pages/Compliance-Programs.aspx. Also, see the EBO Ordinance and Countywide PPM CW-O-043 for further information on the County's EBO Program.

At the time of bid submission each bidder, and all identified subcontractors, must possess all professional licenses or certifications required by the State of Florida and/or Palm Beach County, as applicable, for the purpose of performing the specified work.

Bid proposals must be submitted on the forms provided by Palm Beach County and accompanied by a bid bond security in favor of Palm Beach County in the amount of not less than five percent (5%) of the bid price. A public construction bond (100%) will be required of the successful bidder within fourteen calendar days of notification from County.

Bidders are invited to attend a non-mandatory pre-bid conference to be held on **November 2, 2022** at **10:00 AM** at the address listed below. A non-mandatory site visit will be scheduled at the conclusion of this conference. Attendance at this pre-bid conference is recommended and encouraged.

Palm Beach County Water Utilities Department
Administration Building
8100 Forest Hill Blvd., Room 158
West Palm Beach, FL 33413

In accordance with F.S. 287.133(2)(a), persons and affiliates who have been placed on the convicted vendor list may not submit bids, contract with, or perform work (as a contractor, supplier, subcontractor or consultant) with any public entity (i.e. Palm Beach County) in excess of Ten Thousand dollars (or such other amount as may be hereafter established by the Florida Division of Purchasing in accordance with F.S. 287.017) for a period of 36 months from the date of being placed on the convicted vendor list.

The Board of County Commissioners reserves the right to waive any bid irregularities, informalities, or technical deficiencies and to reject any and all bids.

This Notice given this 11th day of October 2022. PALM BEACH COUNTY WATER UTILITIES DEPARTMENT.

BY: _____
Deputy Director, Palm Beach County Water Utilities Dept.

PRINTED NAME: Krystin Berntsen PE, PMP

ATTEST:

JOSEPH ABRUZZO
CLERK OF THE CIRCUIT COURT &
COMPTROLLER

BOARD OF COUNTY COMMISSIONERS
PALM BEACH COUNTY, FLORIDA
BY: ROBERT S. WEINROTH, MAYOR

PUBLISH: Palm Beach Post
October 16, 2022

END OF SECTION

INVITATION TO BID

Project Name: 2022 Pipeline Continuing Construction Contract

PBCWUD Project No: 22-032

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At the time of bid submission each bidder, and all identified subcontractors, must be properly certified and licensed in the State of Florida and/or Palm Beach County, as applicable, for the purpose of performing the specified work.

Bid proposals must be submitted on the forms provided by Palm Beach County and accompanied by a bid bond security in the form of a certified check, cashier's check, money order or a bid bond in favor of Palm Beach County in the amount of not less than five percent (5%) of the bid price. A public construction bond (100%) will be required of the successful bidder within 14 calendar days of notification from County. All bid documents must be submitted in sealed envelopes as described in the INSTRUCTIONS TO BIDDERS.

Bidders are invited to attend a non-mandatory pre-bid conference to be held on **November 2, 2022** at **10:00 AM,** at the address listed below. A site visit will be scheduled at the conclusion of this conference. Attendance at this pre-bid conference is recommended and encouraged.

Palm Beach County Water Utilities Department
Administration Building
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West Palm Beach, FL 33413

In accordance with F.S. 287.133 (2) (a), persons and affiliates who have been placed on the convicted vendor list may not submit bids, contract with, or perform work (as a contractor, supplier, subcontractor or consultant) with any public entity (i.e. Palm Beach County) in excess of Ten Thousand dollars (or such other amount as may be hereafter established by the Florida Division of Purchasing in accordance with F.S. 287.017) for a period of 36 months from the date of being placed on the convicted vendor list.

The Board of County Commissioners reserves the right to waive any bid irregularities, informalities, or technical deficiencies and to reject any and all bids.

END OF SECTION

PALM BEACH COUNTY

INSTRUCTIONS TO BIDDERS

PBCWUD Project No.: 22-032

SECTION DESCRIPTIONS

1. DEFINITIONS
2. LICENSES, BUSINESS TAX RECEIPTS, POLICY REGARDING SUBCONTRACTORS
3. BIDDER'S REPRESENTATIONS
4. BIDDING DOCUMENTS
5. BIDDING PROCEDURE
   5.3 EQUAL BUSINESS OPPORTUNITY PROGRAM
6. CONSIDERATION OF BIDS AND AWARD OF CONTRACT
7. TIME
8. VOLUNTARY PARTNERING
9. PUBLIC BID DISCLOSURE COMPLIANCE
10. CONSTRUCTION INCENTIVE PROGRAM
11. LIQUIDATED DAMAGES
12. LOBBYIST REGISTRATION ORDINANCE - CONE OF SILENCE
13. LIVING WAGE ORDINANCE
14. CRIMINAL HISTORY RECORDS CHECK ORDINANCE
15. DEPARTMENT SPECIFIC INSTRUCTIONS
16. PALM BEACH COUNTY OFFICE OF THE INSPECTOR GENERAL
17. NOTIFICATIONS
18. E-VERIFY – EMPLOYMENT ELIGIBILITY

1.0 Definitions

1.1 **Addenda** are written or graphic instruments issued by the County via the Department prior to the submission of bids which modify or interpret the bidding documents by additions, deletions, clarifications, or corrections or other type of modifications. Addenda will become part of the Contract Documents when the Contract is executed. Bidders, upon receiving addenda, shall insert same into the Bidding documents and are required to acknowledge receipt of all addenda on the Bid Form.

1.2 A **Bid Alternate** Item is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in the work, as described in the Bidding Documents, is accepted by the County.

1.3 The **Base Bid** is the sum stated in the Bid for which the Bidder offers to perform the work described in the Bidding Documents as the base, to which work may be added or from which work may be deducted for sums stated in Alternate Bid Items.

1.4 A **Bid** is a complete and properly signed offer to do the work or designated portion thereof, for the sums stipulated therein, submitted in accordance with the Bidding Documents. When combined with the completed, signed, sealed Attachments and required information, also referred to as Sealed Bid.

1.5 **Bid Schedule –** The Bidder's cost proposal for Work items.

1.6 The term **Bidder** means one who submits a Bid directly to the County, as distinguished from a sub-bidder who submits a bid to a Bidder.

1.7 **Bid Documents or Bidding Documents** include the Invitation to Bid, Instructions to Bidders, the Bid Form and Attachments, Bid Bond and Forms, the Contract conditions (General, Supplemental, and Special, if included), technical specifications, drawings, exhibits thereto and any Addenda issued prior to the date designated for receipt of bids.

1.8 The **Contract Documents** for bidding and execution of the awarded Work consist of the following:

1. Bidding Requirements - Invitation to Bid, Instructions to Bidders, Bid Form and Attachments, and Bid Bond
2. Contract Forms - Contract, Public Construction Bond, and Form of Guarantee
3. Contract Conditions - General Conditions, Supplemental Conditions, and Special Conditions, if included.
4. Appendices
5. Technical Specifications
6. Addenda
7. Drawings/Plans
8. Permits

9. Sealed Bid

10. Amendment(s), Work Supplement(s), Work Directive(s)

11. Required Contractor Submittals related to the Work

1.9 The term **Contractor** shall mean the person or entity who is the successful bidder and who executes a contract with Palm Beach County and who is identified in the Contract and is referred to throughout the Contract Documents. Contractor may mean the Contractor or his authorized representative, as the contract context requires.

1.10 The term **County or Owner** shall mean the Board of County Commissioners of Palm Beach County, Florida.

1.11 The term **Day or Days** shall mean a calendar day or calendar days. A calendar day begins at 12:00:00 midnight and ends 24 hours later at 11:59:59 p.m.

1.12 The term **Department** shall mean the Palm Beach County Water Utilities Department, 8100 Forest Hill Boulevard, West Palm Beach, FL 33413, Telephone No. (561) 493-6000.

1.13 **Front-end Loading** – This occurs when a Bidder submits a relatively high price on items which are normally completed, or substantially completed, in the early phases of the Work.

1.14 **Invitation for Bid (IFB)** – A competitive bid process advertised by the County requesting sealed Bids from bidders for a project with detailed specifications. A formal Bid opening is scheduled.

1.15 **Local Preference** - In accordance with the Palm Beach County Local Preference Ordinance, as amended, preference shall be given to: (1) those bidders having a permanent place of business in Palm Beach County ("County"); and, (2) those bidders having a permanent place of business in the Glades providing goods or services to be utilized in the Glades. To receive a local preference, bidders must have a permanent place of business in the County or in the Glades, as applicable, prior to the County's issuance of any solicitation.

1.16 A **Lump Sum and Unit Price Bid** is the sum stated in the Bid for which the Bidder offers to perform the work described in the Bidding Documents containing lump sum and unit price work items. For the purpose of determining the Base Bid amount on a Lump Sum and Unit Price Bid, the unit price costs multiplied by the estimated quantities contained in the Bidding Documents and the lump sum shall be added together.

1.17 **Palm Beach County** is a political subdivision of the State of Florida, as represented by its Board of County Commissioners (hereinafter called "County"). Where the word "approval" is mentioned, "approval" shall mean action by the Board of County Commissioners, or designated representative.

1.18 **S/M/WBE** -- Small, Minority and Women Owned businesses are defined consistent with the requirements of the County's Equal Business Opportunity Ordinance Section 2-80.20-Section 2-80.40 Palm Beach County Code.

1.19 **Unbalanced Bid Item** – Bid items in which the lump sum or unit prices are not in line with industry standards or averages for the items. For a Bid to be balanced, each item must carry its proportionate share of direct cost, overhead and profit.

1.20 The term **Work** as used herein refers to the construction and services required by the Contract Documents and include all labor, materials, equipment, and services provided by the Contractor to fulfill the Contractor's obligations.

1.21 **Work Authorization** is a document which, when executed by the County and Contractor, becomes a part of the Contract Documents and specifies the scope of work, duration, total price, liquidated damages, and schedule for a specific project to be constructed by Contractor in accordance with the terms of the contract document.

2.0 Licenses, Business Tax Receipts, Policy Regarding Subcontractors

2.1 Bidders and their proposed subcontractors of any tier regulated by the Florida Construction Industry Licensing Board or the Construction Industry Licensing Board of Palm Beach County shall be properly qualified and licensed/certified by the appropriate Board or Boards as required by Florida Statute Chapter 489, or Special Act, Laws of Florida Chapter 67-1876 prior to the time of submission of the bid. State of Florida Contractor's Registration/License or numbers or Palm Beach County Certificate Numbers must be listed at the applicable places on the Bid Form. Any bid, which is submitted by a contractor who fails to comply with this section at the time the bid is submitted, or which lists a subcontractor who is not in compliance with this section at the time the bid is submitted, shall be rejected as non-responsive.

2.2 The Contractor, subcontractors of any tier, and specialty contractors must have a valid Palm Beach County business tax receipt at the time of bid submission, except where provisions of F.S. 205.065 apply.

2.3 It is Palm Beach County's policy to discourage contractors from seeking new subcontractor or supplier pricing after the opening of bids of a County contract, which practice is sometimes known as bid or subcontractor shopping. In order to facilitate this policy, Bidders are required to identify, in the Bid Documents, the major subcontractors which Bidder, as the contractor, intends to use to perform the contract.

2.3.1 No Contractor, having been awarded any contract based upon the Contractor's response to an invitation to bid, request for proposal, request for qualifications, or other solicitation for competitive selection wherein the Contractor listed the subcontractors which the Contractor intended to use in performing such contract, shall replace any subcontractor listed in the Contractor's response to such request without having first demonstrated good cause, acceptable to the County in its sole discretion. The replacement of any S/M/WBE subcontractor shall also conform to the requirements of the County's EBO Ordinance and paragraph 5.3.10 of these Instructions to Bidders."

2.3.2 No Contractor, having been awarded any contract based upon the Contractor's response to an invitation to bid, request for proposal, request for qualifications, or other solicitation for competitive selection wherein the Contractor listed the elements of work which the Contractor intended to perform with its own forces, shall perform such work with a subcontractor without having first demonstrated good cause, acceptable to the County in its sole discretion, for utilizing such subcontractor.

2.3.3 Contractor agrees that neither the County's acceptance nor rejection of the Contractor's request to replace or add any subcontractor shall give rise to any liability of any kind on the part of the County.

2.3.4 No bidder, including subcontractors, will be considered responsible if it had recently failed to satisfactorily carry out any previous contract with Palm Beach County. Contractor shall not employ any Subcontractor, Supplier or other person or organization, whether initially or as a substitute, against whom County or Engineer may have reasonable objection.

3.0 Bidder's Representations

3.1 Each Bidder by making its Bid represents that:

3.1.1 Bidder has satisfied itself, by personal examination of the location of the proposed Work and by thorough examination of the Bid Documents, that Bidder understands all requirements of the Work. In addition, Bidder has, to the extent Bidder determined to be necessary, satisfied itself regarding the accuracy of the estimate of the quantities of the Work to be done; and shall not at any time after the submission of a Bid dispute or complain of such estimate nor the nature or amount of Work to be performed. Bidder is familiar with, and certifies that all work shall comply with all Federal, State and Local laws, ordinances, rules and regulations that in any way affect the cost, progress or performance of the Work. Failure of a Bidder to be familiar with applicable laws, ordinances, rules and regulations will in no way relieve Bidder from the responsibility of complying with the applicable laws, ordinances, rules and regulations.

3.1.2 The County will make copies of such reports and drawings that are referenced in the Bid Documents available to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the Bidder is entitled to review the technical data contained therein for general information purposes only. County does not represent that the conditions reflected in such reports and drawings are the conditions which contractor will experience, but are based on best information available to the County.

3.1.3 Bidder assumes responsibility for having determined to its satisfaction, prior to the submission of its Bid, the conformation of the ground, the character and quality of the substrata, the types and quantity of materials to be encountered, the nature of the groundwater conditions, the character of equipment and facilities needed preliminary to and during the execution of the Work, the general and local conditions and all other matters which can in any way affect the Work of this Project. The prices established for the Work to be done will reflect all costs pertaining to the Work.

3.1.4 By submission of its Bid, each Bidder affirms that it has, at its own expense, performed any additional examinations, investigations, explorations, tests, or studies and obtained any additional information and data which pertain to the physical conditions (surface, subsurface and underground utilities) at or contiguous to the Site or otherwise, prior to Bidding which may affect the cost, progress or performance of the Work and which the Bidder deems necessary to determine its Bid for performing the Work in accordance with the time, price, and other terms and conditions of the Bid Documents and/or it has satisfied itself with respect to such conditions and it shall make no claims against the County or the Engineer if on carrying out the Work it finds that the actual conditions do not conform to those indicated.

3.1.5 On request, the County will provide each Bidder access to the Site to conduct such investigations and tests, as each Bidder deems necessary for submission of its Bid. Bidder shall schedule such access in advance with the County by contacting the Department. Upon completion of such additional field investigations and tests, each Bidder shall completely restore disturbed areas to a condition equal to or better than the conditions which existed prior to performance of the additional field investigations and tests.

3.1.6 The lands upon which the Work is to be performed, rights-of-way, and easements for access thereto and other lands designated for use by the Contractor in performing the Work are identified in the Bid Documents. All additional lands and access thereto required for temporary construction facilities or storage of materials, equipment and supplies are to be provided by the Contractor. Easements for permanent structures or permanent changes in existing structures are to be obtained and paid for by the County, unless otherwise provided in the Contract Documents.

3.1.7 The submission of a Bid will constitute an incontrovertible representation by the Bidder that the Bidder has complied with every requirement of these Instructions to Bidders, that, without exception, the Bid is premised upon performing the Work required by the Bid Documents and that such means, methods, techniques, sequences, or procedures of construction as may be indicated in or required by the Bid Documents are sufficient in scope and detail to indicate and convey an understanding of all terms and conditions for performance of the Work.

3.1.8 The Bidder shall not be entitled to any additional compensation or time extensions based upon alleged differing conditions that in the opinion of the Engineer and/or the County should have been reasonably anticipated by the Bidder.

3.1.9 The Bidder understands and agrees that the quantities of work or material stated in unit price items are supplied only to give an indication of the general scope of the Work and the County does not expressly or by implication agree that the actual quantity of the Work or material will correspond therewith. The County reserves the right after award to increase or decrease the quantity of any unit price item of the bid quantity, without a change in the unit price, and reserves the right to delete any bid item, in its entirety, or to add additional bid items up to and including an aggregate total amount not to exceed fifteen percent (15%) of the contract price.

3.1.10 Scrutinized Companies

As provided in F.S. 287.135, by entering into this Contract or performing any work in furtherance hereof, the CONTRACTOR certifies that it, its affiliates, suppliers, subcontractors and consultants who will perform hereunder, have not been placed on the Scrutinized Companies that boycott Israel List, or is engaged in a boycott of Israel, pursuant to F.S. 215.4725.

When contract value is greater than $1 million: As provided in F.S. 287.135, by entering into this Contract or performing any work in furtherance hereof, the CONTRACTOR certifies that it, its affiliates, suppliers, subcontractors and consultants who will perform hereunder, have not been placed on the Scrutinized Companies With Activities in Sudan List or Scrutinized Companies With Activities in The Iran Petroleum Energy Sector List created pursuant to F.S. 215.473 or is engaged in business operations in Cuba or Syria.

If the County determines, using credible information available to the public, that a false certification has been submitted by CONTRACTOR, this Contract may be terminated and a civil penalty equal to the greater of $2 million or twice the amount of this Contract shall be imposed, pursuant to F.S. 287.135. Said certification must also be submitted at the time of Contract renewal, if applicable.

3.2 As provided in Florida Statute 287.133(2)(a) a person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in FF.S. 287.017 for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list. By entering into this contract or performing any work in furtherance hereof, the contractor certifies that it, its affiliates, suppliers, subcontractors and consultants who will perform hereunder have not been placed on the convicted vendor list maintained by the State of Florida Department of Management Services within the 36 months immediately preceding the date hereof. This notice is required by F.S. 287.133 (3) (a).

3.3 The undersigned does hereby declare that it is the only person or persons interested in said Bid; that it is a genuine Bid not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; that it is made without any connection with any person submitting another Bid for the same Contract; that this Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; that the Bid is in all respects fair and without collusion, fraud, or mental reservations; that no official of the County or any person in the employ of the County is directly or indirectly interested in said Bid or in the supplies of Work to which it relates, or in any portion of the profits thereof; and that Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over the County.

3.4 Local Preference

3.4.1. In accordance with the Palm Beach County Local Preference Ordinance (Sec. 2-80.44), a preference will be given to Bidders having a permanent place of business in Palm Beach County. Local preference means that if the lowest responsive, responsible Bidder is a regional or non-local business, then all bids received from responsive, responsible local Bidders are decreased by 5%, to a maximum of $100,000 difference. The original bid amount is not changed; the 5% decrease is calculated only for the purposes of determining local preference.

3.4.1.1 Glades Local Preference (Sec. 2-80.44.1): in addition, if the project is located in the Glades area as defined in the Ordinance, a preference will be given to Bidders having a permanent place of business in the Glades area or to a local bidder who utilizes a Glades subcontractor(s) by a minimum of 15% of the total bid price. This preference takes precedence over the preference in Paragraph 3.4.1. If the lowest responsive, responsible Bidder is a non-Glades business, then all bids received from responsive, responsible Glades Bidders are decreased by 5%, to a maximum of $100,000 difference. If the lowest responsive, responsible Bidder is a non-Glades business, then all bids received from responsive, responsible non-Glades, local Bidders that utilize Glades subcontractors for a minimum of 15% are decreased by 3%, and for a minimum of 30% are decreased by 4%, to a maximum of $100,000 difference. The original bid amount is not changed; the decrease is calculated only for the purposes of determining the Glades local preference.

3.4.2. To receive a local preference, a business must have a permanent place of business in existence prior to the County's issuance of this Invitation for Bid. A permanent place of business means that the business' headquarters is located in Palm Beach County or for the Glades preference in the Glades area; or, the business has a permanent office or other site in Palm Beach County or Glades area where the business will produce a substantial portion of the goods or services to be purchased.

3.4.3 A valid business tax receipt issued by the Palm Beach County Tax Collector will be used to verify that the business had a permanent place of business prior to the issuance of this Invitation for Bid. The name and address on the business tax receipt must be the same name and address that is included in the bid submitted to Palm Beach County. A Palm Beach County business tax receipt is required unless specifically exempted by law. In lieu of a Palm Beach County business tax receipt, the business' current business tax receipt issued to the business should be included in the response.

3.4.4 The Bidder must submit the attached Certification of Business Location and/or "Certification of Business Location – Glades Subcontractor" as applicable along with a copy of the Bidder's/subcontractor's business tax receipt at the time of bid submission. Failure to submit the certification shall cause the Bidder to not receive a local or Glades local preference. Palm Beach County may require a Bidder to provide additional information for clarification purposes at any time prior to the award of the contract.

3.5 A local business or a Glades business or a local business utilizing Glades Contractors receiving a preference under the Palm Beach County Equal Business Opportunity Ordinance and the Equal Business Opportunity Program Policies and Procedures ("EBO Program and EBO PPM") for a particular purchase shall not be eligible to receive a local preference as established under this Local Preference Code for that same purchase. In case of any inconsistency between the provisions of the Local Preference Code and Chapter 2, Article III, Division 2, Part C of this Code and EBO PPM, Chapter 2, Article III, Division 2, Part C of this Code and EBO PPM shall take precedence

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3.6 Commercial Non-Discrimination. The Bidder represents and warrants that it will comply with the County's Commercial Nondiscrimination Policy as described in Resolution 2017-1770 as amended. As part of such compliance, the Bidder shall not discriminate on the basis of race, color, national origin, religion, ancestry, sex, age, marital status, familial status, sexual orientation, gender identity or expression, disability, or genetic information in the solicitation, selection, hiring or commercial treatment of subcontractors, vendors, suppliers, or commercial customers, nor shall the Bidder retaliate against any person for reporting instances of such discrimination. The Bidder shall provide equal opportunity for subcontractors, vendors and suppliers to participate in all of its public sector and private sector subcontracting and supply opportunities, provided that nothing contained in this clause shall prohibit or limit otherwise lawful efforts to remedy the effects of marketplace discrimination that have occurred or are occurring in the County's relevant marketplace in Palm Beach County. The Bidder understands and agrees that a material violation of this clause shall be considered a material breach of any resulting contract and may result in termination of the contract, disqualification or debarment of the Bidder from participating in County contracts, or other sanctions. This clause is not enforceable by or for the benefit of, and creates no obligation to, any third party.

All subcontractor agreements shall include a commercial non-discrimination clause.

VSS Registration Required. In order to do business with Palm Beach County, vendors are required to create a Vendor Registration Account OR activate an existing Vendor Registration Account through the Purchasing Department's Vendor Self Service (VSS) system, which can be accessed at https://pbcvssp.co.palm-beach.fl.us/webapp/vssp/AltSelfService. IF BIDDER INTENDS TO USE SUBCONTRACTORS, BIDDER MUST ALSO ENSURE THAT ALL SUBCONTRACTORS ARE REGISTERED AS VENDORS IN VSS. ALL SUBCONTRACTOR AGREEMENTS MUST INCLUDE A CONTRACTUAL PROVISION REQUIRING THAT THE SUBCONTRACTOR REGISTER IN VSS. COUNTY WILL NOT FINALIZE A CONTRACT AWARD UNTIL THE COUNTY HAS VERIFIED THAT THE BIDDER AND ALL OF ITS SUBCONTRACTORS ARE REGISTERED IN VSS.

4.0 Bidding Documents

4.1 Copies

4.1.1 Bidders may obtain complete sets of the Bidding Documents by methods as indicated in the Invitation to Bid.

4.1.2 Bidders shall use complete sets of Bidding Documents in preparing Bids; the County assumes no responsibility for errors or misinterpretations resulting from the use of incomplete or illegible sets of Bidding Documents.

4.1.3 The County, by making copies of the Bidding Documents available on the above terms, does so only for the purpose of obtaining Bids on the work and does not confer a license or grant for any other use. All information contained in the Bidding Documents is the sole property of the County and any unauthorized use is prohibited by law.

4.2 Interpretation or Correction of Bidding Documents

4.2.1 Bidders shall promptly notify the County in writing of any ambiguity, inconsistency or error, which is discoverable upon examination of the Bidding Documents or of the site and local conditions.

4.2.2 Bidders requiring clarification or interpretation of the Bidding Documents shall make a written request which shall reach the Department at the name and address listed in the Invitation to Bid at least ten calendar days prior to the date for receipt of Bids. Bidders requesting clarification or interpretation of the Bidding Documents shall supply the Department with all information requested by the Department which the Department requires to issue a clarification or interpretation. A bidder finding discrepancies, errors, and/or omissions or having doubt as to the intent of the technical portions of the Bid Documents, or having questions relative to bidding requirements, bidder qualifications and contract award shall at once notify the Department. The Department, in its sole discretion, shall determine if a clarification or interpretation of the Bidding Documents is required.

4.2.3 Any interpretation, clarification, correction, or change of the Bidding Documents will be made only by Addendum. Written instructions regarding discrepancies, omissions or unclear intents shall be sent to all Bidders who have received bid documents from Palm Beach County. Interpretations, corrections or changes to the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon such interpretations, corrections and changes.

4.2.4 Governing Order of Contract Documents - The Contract Documents include various divisions, sections and conditions which are essential parts for the work to be provided by the successful Bidder. A requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. In case of discrepancy, the following precedence will govern the interpretation of the Contract Documents prior to award of the contract.

1. Contract
2. Addenda
3. Instructions to Bidders
4. Special Conditions
5. Supplemental General Conditions
6. General Conditions
7. Technical Specifications/Drawings/Plans
8. Bid Documents

After award, Work Authorizations, Work Supplements, supplemental agreements, and revisions to plans and specifications will take precedence over any of the above. **In case of discrepancy among technical specifications, drawings, and plans, the most restrictive requirements shall govern.** Detailed plans shall have precedence over general plans. In the event that any conflicts cannot be resolved by reference to this Governing Order of Contract Documents provision, then County shall resolve the conflict in any manner which is acceptable to County and which comports with the overall intent of the Contract Documents.

4.2.5 Whenever reference is made to actions being performed with respect to dates and times set forth in the Invitation to Bid, such reference shall always be interpreted as including, by inference, "or as may be modified by pre-bid addenda".

4.3 Addenda

4.3.1 Addenda will be mailed, delivered, e-mailed, or faxed to all who are known by the Department to have received a complete set of Bidding Documents.

4.3.2 Copies of Addenda will be made available for inspection at the Department where Bidding Documents are on file for that purpose.

4.3.3 No Addenda will be issued later than five work days prior to the date for receipt of Bids except an Addendum withdrawing the request for Bids, one which includes postponement of the date for receipt of Bids, one whose content is limited to the listing of additional approved manufacturers and substitutions, or one which contains minor clarifications or changes.

4.3.4 Prior to submission of its Bid, each Bidder shall ascertain that it has received all Addenda issued. The Bidder shall acknowledge receipt of all addenda by completing the acknowledgment space provided on the Bid Form.

5.0 Bidding Procedure

5.1 Form and Style of Bids

5.1.1 Bids shall be submitted on forms furnished by the County. Changes or additions to the Bid, recapitulations or changes in the work bid upon, alternative proposals, or any other modifications of the Bid Form, Attachments to the Bid Form, or the Bid Documents, which are not specifically called for in the Bid Documents may result in the County's rejection of the bid as non-responsive to the Invitation to Bid.

5.1.2 All blanks on the Bid Form and enclosures to the Bid Form shall be filled in by typed text or manually printed in ink.

5.1.3 In the event there are unit price bid items provided in the Bid Form and the "amount" indicated for a unit price bid item does not equal the product of the unit price and quantity, the unit price shall govern and the amount will be corrected accordingly. In the event there is more than one bid item in the Bid Form and the total indicated therein does not agree with the sum of the prices bid for the individual items, the prices bid on the individual items shall govern and the total for the schedule will be corrected accordingly. Where so indicated by the make-up of the Bid Form, sums shall be expressed in both words and figures, and in case of discrepancy between the two, the amount written in words shall govern.

5.1.4 Any interlineation, alteration or erasure must be initialed, in ink, by the signer of the Bid Form.

5.1.5 All requested Bid Alternate Items shall be bid. If no change in the Base Bid is required, enter "No Change."

5.1.6 The Bidder shall provide on Attachment No. 4 to the Bid Form, the names and license or certificate numbers of major subcontractors who will perform that portion of work which will be performed by subcontractors. A major subcontractor is one that is expected to perform more than 5% of the dollar amount of the bid or as listed on Attachment No. 4 to the bid form by the Engineer.

5.1.7 Each page of the Bid Form and Attachments to the Bid Form shall include, where requested, the legal name of the Bidder. The Bid Form shall also contain a statement whether the Bidder is a sole proprietor, a partnership, a corporation, or some other legal entity, and shall be signed by the person or persons legally authorized to bind the Bidder to a contract.

5.1.8 In the event a Bid is submitted by two or more Bidders as a joint venture, such Bid shall be submitted in strict accordance with all applicable laws of the State of Florida, State Contractor

License Law, and Rules and Regulations of the State Contractor's Board. The joint venture and all legal entities comprising the joint venture shall be jointly and severally liable and shall be required to submit and sign the Bid Form, execute the Bid Bond as listed Principals, and, if awarded the Contract, shall be required to execute the Contract (and any Work Authorizations) and Public Construction Bond as listed Principals and provide insurance evidencing the joint venture and all legal entities as the insured.

5.1.9 No person, firm or corporation shall be allowed to submit, or have an interest in, more than one Bid for the same work unless alternate bids are specifically called for. A person, firm or corporation that has submitted a subbid to a Bidder is not, however, disqualified from submitting a subbid or quoting prices to other Bidders or submitting a prime Bid.

5.1.10 The following forms, together, comprises a Bid and must be submitted at the times identified in 5.4:

BID DOCUMENTS (Due November 22, 2022 by 2:00 PM)

BID FORM	
ATTACHMENT NO. 1	BID BOND
ATTACHMENT NO. 2	OFFICE OF EQUAL BUSINESS OPPORTUNITY - SCHEDULE 1 and SCHEDULE 2
ATTACHMENT NO. 3	CERTIFICATION OF BUSINESS LOCATION
ATTACHMENT NO. 4	LIST OF MAJOR SUBCONTRACTORS
ATTACHMENT NO. 5	TRENCH SAFETY

Omission of any of these attachments from the bid submission, or failure to properly complete any portion of the required forms, or failure to deliver the attachments at or before the times specified in paragraph 5.4 may be cause to reject the entire Bid.

5.2 Bid Security, Project Bonds, Insurance, and Indemnity

5.2.1 Each Bid shall be accompanied by a BID SECURITY (in the form of, at Bidder's option, cashier's check, certified check, money order or Bid Bond in favor of the County) in the amount of at least five percent (5%) of the bid price pledging that the Bidder will within fourteen (14) days after Notification from County, enter into a contract with the County on the terms stated in its Bid and will furnish bonds as described hereunder covering the faithful performance of the Contract and the payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish the required bonds and insurance, the amount of the bid security shall be forfeited to the County as liquidated damages, not as penalty. If a Bidder fails to execute a Contract for the project, the Bidder may be suspended or debarred from bidding on future projects for a period of two (2) years, in accordance with the Palm Beach County Purchasing Ordinance. The County may further pursue any and all remedies available against the Contractor for damages resulting from its failure to enter into a contract.

5.2.2 The bid bond shall be written on the Bid Bond form, included as part of the Bidding Documents, and the attorney-in-fact who executes the bond on behalf of the surety must be licensed to do business in the State of Florida and shall affix to the bond a certified and current copy of his power of attorney. If a bid bond is submitted on a form other than that provided, such submission shall result in the bid being declared non-responsive. Checks and money orders shall be made payable to Palm Beach County Board of County Commissioners.

5.2.3 The County will have the right to retain the bid security of Bidders to whom an award is being, or may be, considered until either (a) the Contract has been executed and the bonds and

insurance have been furnished, or (b) the specified time has elapsed so that Bids may be withdrawn, or (c) all Bids have been rejected.

5.2.4 Bond Requirements

The bond requirements may be waived where permissible under applicable law.

5.2.4.1 The Bidder shall furnish bonds covering the faithful performance of the Contract and the payment of all obligations arising thereunder in such form and amount as the County may prescribe. Bonds may be secured through the Bidder's usual sources provided the Surety must be authorized to do business in the State of Florida.

5.2.4.2 Prior to execution of a Contract, and not later than fourteen (14) calendar days after Notification from County, the successful Bidder shall furnish contract bonds to the Department, on the forms provided in the bidding documents, as follows:

1. Public Construction Bond in the Amount of 100% of the Contract Price.

2. Form of Guarantee

Such Public Construction Bond shall incorporate by reference all of the terms and conditions of the Contract Documents, including but not limited to the Contractor and Surety's obligation for liquidated damages as well as Surety's acknowledgment regarding any and all provisions addressing or regarding "no damages for delay", as provided for in the General Conditions.

5.2.4.3 The Surety Company, in addition to the above requirements, shall be currently listed with the United States Department of Treasury for an amount greater than the contract amount. The Contractor, at the time of his execution of the contract, shall provide, with his Contract Bonds, a copy of the Surety Company's current valid Certificate of Authority issued by the United States Department of the Treasury under SS 31, U.S.C. 9304-9308.

5.2.4.4 The bonds and guarantees shall be written on the forms included in the Contract Documents provided by the Department.

5.2.4.5 The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the Surety to affix thereto a certified and current copy of his Power of Attorney, reflecting his/her authority as Power of Attorney, which must be valid in the State of Florida.

5.2.4.6 As soon as possible after award of the Work Authorization, successful bidder shall deliver to County a certified copy of the recorded Public Construction Bond or, when applicable, the recorded Payment and Performance bonds. **No payment will be made for work performed under any Work Authorization until a certified copy of the appropriate bond(s) has been delivered to County.**

5.2.5 Insurance Requirements - Prior to execution of a Contract and not later than fourteen (14) calendar days after Notification from County, the successful Bidder shall furnish to the Department certificates of insurance evidencing the existence of current valid, and binding insurance policies for the limits and coverage in accordance with the requirements delineated in the General Conditions, where such insurance is to be provided by Contractor, or as otherwise modified within the Contract Documents, together with a declaration of deductible amounts applicable to each type of insurance provided, acceptable to County.

5.3 Equal Business Opportunity Program.

5.3.1 Policy It is the policy of the Board of County Commissioners of Palm Beach County, Florida, (the Board) that all segments of its business population, including, but not limited to, small, local, minority and women owned businesses, have an equitable opportunity to participate in the County's procurement process, prime contract and subcontract opportunities. To that end, the Board adopted an Equal Business Opportunity Ordinance which is codified in Sections 2-80.20 through 2-80.30 (as may be amended) of the Palm Beach County Code, (EBO Ordinance) which sets forth the County's requirements for the EBO program, and which is incorporated into and made a part of this solicitation. A bidder must comply with the requirements contained in this section for a bidder to be deemed responsive to the solicitation requirements. The provisions of the EBO Ordinance are applicable to this solicitation, and shall have precedence over the provisions of this solicitation in the event of a conflict.

5.3.2 Affirmative Procurement Initiatives (APIs). The APIs approved for this solicitation, including any applicable SBE or MWBE goals, are set out on the Bid Form which is incorporated herein by reference. Any bid that fails to comply with the API requirements stated in this solicitation after the period allowed for waiver requests has lapsed shall be deemed non-responsive.

5.3.3 API Waiver Requests/Good Faith Efforts. If Bidder is unable to comply with the API requirements as set forth in this solicitation, such Bidder shall submit a request for a waiver or partial waiver at least (7) days prior to the bid due date as stated in the solicitation. ***If a bidder requests a waiver from an API from the Office of EBO at least 7 days prior to the bid due date, then the bid due date will be extended pending the outcome of a waiver request. Additionally, if the waiver is granted, the solicitation will be amended accordingly and the due date extended again.***

Such waiver request shall include specified documentation that demonstrates satisfactory Good Faith Efforts (as defined below) were undertaken by Bidder to comply with the requirements as described under the selected API. The Good Faith Effort waiver request shall be reviewed by the Office of EBO within seven (7) days of receipt. The bid due date will be extended during this review period. If the Office of EBO determines that adequate Good Faith Efforts have been demonstrated by the Bidder to warrant a partial or total waiver of the API, then the solicitation shall be amended accordingly to reflect the partial or total waiver, and any bids received by the County in the interim shall be returned unopened. The amended solicitation shall then be advertised to all prospective Bidders and the bid due dated extended. However, if the Office of EBO determines that the Bidder failed to submit documentation sufficient to demonstrate that Good Faith Efforts were undertaken by the Bidder to support its waiver or partial waiver request, the request for waiver or partial waiver shall be denied, and the solicitation shall remain unchanged. In the event of an adverse waiver or partial waiver request decision, the Bidder shall have the right to request reconsideration of the adverse decision by the Director of the EBO Office, and if still aggrieved, shall be subsequently entitled to the process for an appeal to a Special Master as referenced in Section 2.-80.28 (b) of the EBO Ordinance. The solicitation due date shall be extended pending the EBO Director reconsideration and Special Master appeal process if requested.

Good Faith Efforts means documentation of the Bidder's intent to comply with the applicable APIs, including, but not limited to, the following: (1) documentation as stated in the solicitation reflecting the Bidder's commitment to comply with SBE or M/WBE goals as established by the Office of EBO for a particular contract; or (2) documentation of efforts made toward achieving EBO program goals (e.g., solicitations of bids/proposals/qualification statements from all qualified SBE firms or M/WBE firms listed in the Office of EBO's directory of certified SBE or M/WBE firms; correspondence from qualified SBE or M/WBE firms documenting their unavailability to perform SBE or M/WBE contracts; documentation of efforts to subdivide work into smaller quantities for subcontracting purposes to enhance opportunities for SBE or M/WBE firms; documentation of a Prime Contractor's posting of a bond covering the work of SBE or M/WBE subcontractors; documentation of efforts to assist SBE or M/WBE firms with obtaining financing, bonding or insurance required by the Bidder; and documentation of consultations with trade associations and consultants that represent the interests of SBE and/or M/WBEs in order to identify

qualified and available SBE or M/WBE subcontractors). Scoring of Good Faith Efforts documentation and administrative determinations regarding the adequacy of such Good Faith Efforts is the responsibility of the Office of EBO.

5.3.4 Bid Submission Documentation. S/M/WBE bidders, bidding as prime contractors, are advised that they must complete Schedule 1 listing the Work to be performed by their own workforce as well as the Work to be performed by any subcontractor, including S/M/WBE subcontractors. Failure to include this information on Schedule 1 will result in the participation by the S/M/WBE prime bidders own workforce NOT being counted towards meeting the S/M/WBE goal. This requirement applies even if the S/M/WBE contractor intends to perform 100% of the Work with their own workforce.

All Bidders are required to submit with their bid the appropriate EBO schedules in order to be deemed responsive to this solicitation. EBO documentation to be submitted is as follows:

5.3.4.1 Schedule 1 - List of Proposed Contractor/Consultant and Subcontractor/Subconsultant Participation. A completed Schedule 1 shall list the names of **all** subcontractors, including S/M/WBE subcontractors, intended to be used in performance of the contract, if awarded. This schedule shall also be used if an S/M/WBE prime bidder is utilizing any subcontractors.

5.3.4.2 Schedule 2 - Letter of Intent. A Schedule 2 for each subcontractor, including each S/M/WBE subcontractor, listed on Schedule 1, shall be completed and executed by the proposed subcontractor. The type of Work to be performed by each subcontractor and the dollar value or percentage shall also be specified. Additional copies may be made as needed. A completed Schedule 2 is a binding agreement between the prime contractor and the subcontractor and should be treated as such.

Completed and submitted EBO forms are incorporated into and made a part of the Contract Documents.

5.3.5 S/M/WBE Certification. Only those firms certified by Palm Beach County at the time of bid opening shall be counted toward the established S/M/WBE goal. Upon receipt of a complete application, **IT TAKES UP TO NINETY (90) DAYS TO BECOME CERTIFIED AS AN S/M/WBE WITH PALM BEACH COUNTY.** It is the responsibility of the bidder to confirm the certification of any proposed S/M/WBE; therefore, it is recommended that bidders visit the on-line S/M/WBE Directory at http://discover.pbcgov.org/oebo/Pages/Vendor-Directory.aspx to verify S/M/WBE certification.

5.3.6 Counting S/M/WBE Participation.

Once a firm is determined to be an eligible S/M/WBE according to the Palm Beach County certification procedures, the Prime may count toward its S/M/WBE goals only that portion of the total dollar value of a contract performed by the S/M/WBE.

The Prime may count toward its S/M/WBE goal a portion of the total dollar value of a contract with a joint venture, eligible under the standards for certification, equal to the percentage of the ownership and control of the S/M/WBE partner in the joint venture.

The Prime may count toward its S/M/WBE goal the entire expenditures for materials and equipment purchased by an S/M/WBE subcontractor, provided that the S/M/WBE subcontractor has the responsibility for the installation of the purchased materials and equipment.

The Prime may count the entire expenditure to an S/M/WBE manufacturer (i.e., a supplier/distributor that produces goods from raw materials or substantially alters the goods before resale).

The Prime may count sixty percent (60%) of its expenditure to S/M/WBE suppliers/distributors that are not manufacturers.

The Prime may count toward its S/M/WBE goal second and third tiered S/M/WBE subcontractors, provided that the Prime submits a completed Schedule 2 form for each S/M/WBE subcontractor.

The Prime may only count towards its S/M/WBE goal the goods and services in which the SBE is certified.

A certified S/M/WBE Prime may count toward the established goal the goods and services in which it performs with its own work force. The Prime S/M/WBE shall submit a completed Schedule 1 and 2.

5.3.7 S/M/WBE Participation. Bidder represents and warrants that Bidder will meet the S/M/WBE participation percentages submitted in its bid with the subcontractors contained on Schedules 1 and 2 and at the dollar values specified. Bidder agrees to provide any additional information requested by the County to substantiate participation.

5.3.8 Post Bid Waiver Request. After submission of a bid, if Bidder, through no fault of its own, is unable to meet the S/M/WBE participation specified in its bid, then Bidder must immediately seek substitute S/M/WBEs to fulfill the requirements and obtain the approval of the EBO Director. If, after reasonable Good Faith Efforts, the Bidder is unable to find an acceptable substitute S/M/WBE, a post-bid opening waiver may be requested. The request shall document the reasons for the Bidder's inability to meet the goal requirement. In the event the Bidder is found not to have performed Good Faith Efforts in its attempt to find a suitable a substitute for the initial S/M/WBE proposed utilization, one (1) or more of the penalties and sanctions as set forth in Section 5.3.12 herein may be imposed by the EBO Office.

5.3.9 Responsibilities after Contract Award. The successful Bidder shall submit the following forms with each pay application:

5.3.9.1 Schedule 3 – S/M/WBE Activity Form. This form shall be submitted by the prime contractor with each payment application when S/M/WBE subcontractors are utilized in the performance of the contract. This form shall contain the names of all S//M/WBE subcontractors, specify the subcontracted dollar amount for each subcontractor approved change orders, revised S/M/WBE contract amount, amount drawn this period, amount drawn to date, and payments to date issued to subcontractors. This form is intended to be utilized on all non-professional services contracts.

5.3.9.2 Schedule 4 – Subcontractor Payment Certification, including S/M/WBEs. A Schedule 4 for **each subcontractor**, including each S/M/WBE, shall be completed and signed by each subcontractor, including each S/M/WBE, after receipt of payment from the prime. The prime shall submit this Schedule 4 with each payment application submitted to the County to document payment issued to a subcontractor in the performance of the Contract.

The successful bidder shall submit an S/M/WBE Activity Form (Schedule 3) and Subcontractor Payment Certification Forms (Schedule 4) with each payment application. **Failure to provide these forms may result in a delay in processing payment or disapproval of the invoice until they are submitted.** The S/M/WBE Activity Form (Schedule 3) is to be filled out by the Prime Contractor and the Subcontractor Payment Certification Form (Schedule 4) is to be executed by each subcontractor to verify receipt of payment.

Upon letter notification by the County that the payment tracking system is automated, the prime contractor is required to input all subcontractor payment information directly into the County's contract information system prior to submitting a payment application.

5.3.10 S/M/WBE Substitutions after Contract Award. After contract award, the successful bidder will only be permitted to replace a certified S/M/WBE subcontractor who is unwilling or unable to perform. Such substitution must be done with other certified S/M/WBEs in order to maintain the S/M/WBE percentages submitted with the bid. Requests for substitutions must be submitted to the Department issuing the bid and the EBO Office for approval. Any desired change in the S/M/WBE participation schedule shall be approved in advance by the Office of EBO and shall indicate the Prime Contractor's Good Faith Efforts to substitute another certified S/M/WBE Subcontractor (as appropriate) to perform the work. Any desired changes (including substitutions or termination and self-performance) must be approved in writing in advance by the Office of EBO. Upon receiving approval of substitution for the S/M/WBE subcontractor, the Prime must submit a completed and signed Schedule 2 by the proposed S/M/WBE subcontractor. Subcontractors shall specify the type of Work to be performed, the cost or percentage shall also be specified. In the event the Prime Contractor is found not to have performed Good Faith Efforts in its attempt to find a suitable a substitute for the initial S/M/WBE proposed utilization, one (1) or more of the penalties and sanctions as set forth in Section 5.3.12 herein may be imposed by the EBO Office.

5.3.11 Change Orders and Modifications. If the County's issuance of an alternate or change order on a project results in changes in the scope of Work to be performed by a S/M/WBE subcontractor listed at bid opening, the Prime must submit a modified, completed and signed Schedule 2 that specifies the revised scope of Work to be performed by the S/M/WBE, along with the price and /or percentage.

5.3.12 EBO Program Compliance, Enforcement, Penalties. Under the EBO Ordinance, the Office of EBO is required to implement and monitor S/M/WBE utilization during the term of any contract resulting from this solicitation. It is the County's policy that S/M/WBEs shall have the maximum feasible opportunity to participate in the performance of County contracts. All Bidders are required to comply with the EBO Ordinance and are expected to comply with the APIs applicable to this solicitation, as well as the S/M/WBE utilization proposed by a Bidder in its Bid, as the utilization plan and APIs are automatically incorporated into and made a material component of any resulting Contract.

All Bidders are required to comply with the EBO Ordinance and are expected to comply with the APIs applicable to this solicitation, as well as the S/M/WBE utilization proposed by a Bidder in its Bid, as the utilization plan and APIs are a material component of any resulting Contract.

The EBO Office and the Department shall have the right to request and review Contractor's books and records to verify Contractor's compliance with the Contract, adherence to the EBO Program and its Bid. The EBO Office and the Department shall have the right to interview subcontractors and workers at the work site to determine Contract compliance. Contractor shall retain all books and records pertaining to this Contract, including, but not limited to, subcontractor payment records, for four (4) years after project completion date, or such longer time as may be required in other provisions of this Contract, and make such records available for inspection in Palm Beach County by the EBO Office and the County at any reasonable time during the four (4) years.

The Director of the Office of EBO or designee may require such reports, information, and documentation from Contractor as are reasonably necessary to determine compliance with the EBO Ordinance requirements. Contractor shall correct all noncompliance issues within 15 calendar days of a written notice of noncompliance by the contracting department or the EBO Office. If the Contractor does not resolve the non-compliance within 15 days of receipt of written notice of non-compliance, then the Director of the Office of EBO or designee may impose upon the non-complying party any or all of the following penalties:

a. Suspension of contract;

b. Withholding of funds;

c. Termination of contract based upon a material breach of contract pertaining to EBO Program compliance;

d. Suspension or Debarment of a respondent or bidder, contractor or other business entity from eligibility for providing goods or services to the County for a period not to exceed three (3) years; and

e. Liquidated damages equal to the difference in dollar value of S/M/WBE participation as committed to in the contract, and the dollar value of S/M/WBE participation as actually achieved.

5.4 Timing of Submission of Bid Documents

5.4.1 The following Bid Documents must be submitted by the date and time specified for the submission of bids in the Invitation to Bid. Submission of these documents after the date or time specified in the Invitation for Bid will result in the documents being rejected and returned to the bidder:

1. Bid Form

2. Bid Bond - Attachment No. 1 To Bid Form

3. Office of Equal Business Opportunity – Schedule1 and Schedule 2 of Attachment No. 2 To Bid Form

4. Certification of Business Location – Attachment No. 3 To Bid Form

5. List of Major Subcontractors - Attachment No. 4 To Bid Form

6. Trench Safety - Attachment No. 5 To Bid Form

5.4.2 The list of S/M/WBE subcontractors to be used on the subject contract must be included with the Bid Documents using Attachment No. 2, OEBO *Schedule 1 – List of Proposed Contractor/Consultant and Subcontractor/Subconsultant Participation* and OEBO *Schedule 2 – Letter of Intent.*

The Bidder shall provide, on Schedule No. 1 of Attachment No. 2 to the Bid Form, the firm name of the proposed Contractor and each subcontractor listed. Receipt of this form by the County does not imply or grant approval for the use of any subcontractor. The Contractor is completely responsible for ensuring that all subcontractors performing work pursuant to this contract are licensed and otherwise qualified.

To be responsive to the SBE requirements a bidder must meet the stated goal.

5.5 Submission of Bids

5.5.1 The **Bid Documents (Due November 22, 2022 by 2:00 PM)** package shall be enclosed in a sealed opaque envelope addressed as follows:

PBCWUD Project No.: 22-032
Contractor's **Bid Documents** for 2022 Pipeline Continuing Construction Contract

Water Utilities Department
Administration Building
8100 Forest Hill Boulevard
West Palm Beach, Florida 33413

No responsibility will be attached to the County for premature opening of or failure to open a bid not properly identified. If the bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing with the notation "SEALED BID ENCLOSED" on the face thereof.

5.5.2 Bids, including those sent by mail, must be received and deposited at the designated location prior to the time and date for receipt of Bids indicated in the Invitation to Bid, or any extension thereof made by Addendum. Bids received after the time and date for receipt of Bids will be returned unopened.

5.5.3 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

5.5.4 Oral, telephonic, fax, e-mail, or telegraphic Bids are invalid and will not receive consideration.

5.6 Modification or Withdrawal of Bid

5.6.1 A Bid may not be modified, withdrawn, or canceled by the Bidder for the period after opening of Bids as stipulated on the Bid Form and each Bidder so agrees in submitting his Bid.

5.6.2 Prior to the time and date designated for submission of the Bid Documents, any Bid submitted may be modified or withdrawn by notice to the party receiving Bids at the place and prior to the time designated for submission of the Bid Documents. Such notice shall be in writing over the signature of the Bidder and received by the Department before the date and time set for submission of the Bid Documents; and it shall be worded so as not to reveal the amount of the original Bid.

5.6.3 Withdrawn Bids may be resubmitted up to the time designated for the submission of the Bid Documents provided that the resubmitted bid is fully in conformance with these Instructions to Bidders.

5.6.4 Bid security shall be in an amount sufficient for the Bid as modified or resubmitted.

6.0 Consideration of Bids and Award of Contract

6.1 Opening of Bids - The Bids received on time will be opened publicly and will be read aloud at the time and location specified.

6.2 Rejection of Bids - The Board of Palm Beach County Commissioners reserves the right to reject any and all Bids, and/or to re-advertise, to waive any irregularities, informalities or technicalities therein, to negotiate Contract terms with the successful Bidder, to disregard all non-conforming, non-responsive, unbalanced or conditional Bids, or to accept any Bid which in the County's sole judgment will best serve the public interest. County reserves the right to cancel the award of any Contract at any time before the execution of said Contract by all parties without any liability against the County. In consideration of the County's evaluation of submitted Bids, the Bidder, by submitting its Bid, expressly waives any claim to damages or legal remedy, of any kind whatsoever, in the event the County exercises its rights provided for in this subsection.

6.3 Award of Contract

6.3.1 Award will be made to the lowest, responsive, responsible Bidder. To be considered responsive, the Bid must conform in all respects to the conditions of the Invitation to Bid, to the Instructions to Bidders, Palm Beach County Code Sections 2-51 through 2-54, as amended and to

Florida law. To demonstrate qualifications to perform the Work, each Bidder must be prepared to submit within two (2) days of the County's request, the. Post Bid Information identified in Appendix B to the General Conditions. Each Bidder must, upon request, provide evidence that, as of the date of execution of the contract, Bidder, and the listed subcontractors, were qualified to do business in the State of Florida and Palm Beach County.

6.3.2 Bid tabulations with recommended awardees, will be posted at the location where bids were opened, for review by interested parties, prior to award by the Board of County Commissioners, and will remain posted for a minimum period of five (5) business days. All bidders will receive a copy of the bid posting by e-mail or fax. Failure to file a protest to the Director of Purchasing during the 5-day period following initial posting shall constitute a waiver of proceedings under Chapter 2, Article II, Section 2-55 of the Palm Beach County Code.

6.3.3 The County of Palm Beach, in accordance with Title VII of the Civil Rights Act of 1964, affirmatively ensures that in any contract entered into pursuant to the Invitation to Bid, any SBE will be afforded full opportunity to submit bids and will not be discriminated against on the grounds of race, color, or national origin in consideration of award.

6.3.4 The dollar amount for award of this Contract shall be the Total Base Bid for the items noted on the Bid Form. Palm Beach County reserves the option to award or re-bid alternates in any sequence or at any time deemed to be in the best interest of the County.

6.3.4.1 The amounts for each bid alternate shall constitute an ongoing and open offer and the prices stated in the bid proposal shall be maintained for a minimum period of one year, or the duration of the contract whichever is shorter. If the County opts to accept an alternate within the time frame identified above but after the time at which such activity fits into the Contractor's approved schedule so as to cause a time or monetary impact, the cost of the alternate can be adjusted accordingly. However, in no instance shall the Contractor be entitled to extend home office overhead costs as a result of the County exercising this option.

6.3.5 Bids which are determined by the County to be unbalanced bids or which contain unbalanced line item pricing when compared to competitor's bids for the same item and standard industry prices, and which significantly deviate from the County's determination of acceptable line item pricing, may be rejected by the County in accordance with established County procedures. The County has a formal, written policy against front end loaded projects. A copy of this policy is available upon request.

6.4 Disqualification of Bidders - Any of the following causes is considered sufficient to disqualify a Bidder, and reject its proposal.

1. Interest by the same person in more than one bid as a bidder.
2. Collusion among or between bidders.
3. Unbalanced bids; that is bids in which the price bid is out of all proportion to the other bids received.
4. Lack of responsibility on the part of the Bidders. (For example, no bidder would be considered responsible if it had recently failed to satisfactorily carry out any previous contract with Palm Beach County).
5. Lack of experience or capital on the part of the Bidder. Evidence of experience, ability, financial standing and machinery available may be required of any bidder.
6. Substantial evidence of bad character or dishonesty.
7. Lack of current applicable certification and/or license for the purpose of performing the specified work.
8. Any cause listed under Section 2-56 of the Palm Beach County Code as amended.

9. History of unsuccessful claims asserted by Bidder against public owners in the State of Florida, such as to establish a trend of improperly asserted claims.
10. An incomplete bid.
11. Using a different bid bond form or incomplete bid surety.
12. Any other cause which, as a matter of law renders the Bid non-responsive or non-responsible.

7.0 Time - Time is of the essence in all contract documents. The successful Bidder, shall enter into a Contract with the County, shall commence the work to be performed under the Contract on the date set by the County in the written notice to proceed, and shall continue the work with due diligence and shall agree to complete the entire work as specified in the Bid Form.

8.0 Voluntary Partnering - The objective of partnering is to establish a partnership charter and action plan between the County and Contractor to identify and achieve reciprocal goals. This partnership will not change the legal relationship of the parties to the Contract nor relieve either party from any of the terms of the Contract. This partnership will be bilateral in make-up and only if participation is desired by the Contractor. Any cost associated with developing this partnership must be agreed to by both parties, in writing and will be shared equally.

If both the County and Contractor agree to partnering, the County's representative and the Contractor's representative will meet and plan a partnering development seminar/team building workshop. At this planning session, arrangements will be made to select a facilitator, determine workshop attendees, and develop an agenda and location. Participants shall include the Architect/Engineer and key project personnel, representatives of the subcontractors, utilities, regulatory agencies and others will be invited. Management personnel consisting of the Director-level head of the Division or Department and a Corporate Officer or other person representing ownership of the Contractor, and of the Architect/Engineer of Record shall also participate in the partnering workshop and its implementation.

Follow-up workshops may be held throughout the duration of the Contract as agreed to by the County and Contractor.

9.0 Public Bid Disclosure Compliance - All fees including, but not limited to, certificate of occupancy permit fees and inspection fees payable by the Contractor to the County by virtue of this project will be waived by the County. Permits and fees which are required by the State of Florida or any state agency or by any other governmental agency are not waived. The requirement that all contractors and subcontractors of any tier be properly licensed or certified is not waived and no fees required to be paid by any contractor or subcontractor related to licensing and certification are being waived. All contractors and subcontractors, identified in the bid documents, who work in trades required to be licensed or certified by the Palm Beach County Construction Industry Licensing Board are required to have such licenses or certificates in place at the time of bid submission.

10.0 Cost Savings Incentive - The Costs Savings Incentive provisions of General Condition 74 **are not** in effect for this Contract.

11.0 Liquidated Damages - If the Bid Form indicates that liquidated damages apply to this contract then they will be assessed at the rate(s) set forth in the Bid Form. County and Contractor agree that time is of the essence in the performance of this contract and agree that the damages which County will suffer in the event that Contractor finishes this project after the completion dates set forth in this Contract are certain but will be difficult, if not impossible, to quantify. Therefore, Contractor and County agree that the rate(s) set forth on the bid form are a reasonable estimate of the amount of damages which County will suffer in the event Contractor does not timely complete the Contract. Contractor and

County agree that these liquidated damages shall be assessed as damages, as provided in the Contract Documents, and that they are not, and shall never be considered to be, a penalty.

12.0 Lobbyist Registration Ordinance – Cone of Silence.

12.1 The Palm Beach County Lobbyist Registration Ordinance Palm Beach County Code Section 2-351, et seq, is hereinafter referred to in this Section as the Ordinance. The Ordinance includes a "Cone of Silence" provision that prohibits any communication, except written communication, regarding any Competitive Solicitation between:

1. Any Person or Person's representative seeking an award from such competitive solicitation; and
2. Any County Commissioner or Commissioner's staff, or any Employee authorized to act on behalf of the Commission to award a particular contract.

12.2 For the purposes of this Section, a Person's representative shall include but not be limited to the Person's employee, partner, officer, director, consultant, lobbyist, or any actual or potential subcontractor or consultant of the Person.

12.3 The Cone of Silence shall be in effect as of the deadline to submit the proposal, bid, or other response to a competitive solicitation. Each Request for Proposal, Request for Qualification, bid, or any other competitive solicitation shall provide notice of Cone of Silence requirements and refer to this Ordinance.

12.4 The provisions of this Ordinance shall not apply to oral communications at any public proceeding, including pre-bid conferences, oral presentations before selection committees, contract negotiations during any public meeting, presentations made to the Board, and protest hearings. Further, the Cone of Silence shall not apply to contract negotiations between any Employee and the intended awardee, any dispute resolution process following the filing of a protest between the Person filing the protest and any Employee, or any written correspondence at any time with any Employee, County Commissioner, or Advisory Board Member or selection committee member, unless specifically prohibited by the applicable competitive solicitation process.

12.5 The Cone of Silence shall not apply to any purchases made in an amount less than the competitive bid threshold set forth in the Palm Beach County Purchasing Ordinance (Palm Beach County Code Chapter 2, Article III, Division 2, Part A, Section 2.51, *et seq.*).

12.6 The Cone of Silence shall terminate at the time the Board, or a County Department authorized to act on behalf of the Board, awards or approves a contract, rejects all bids or responses, or otherwise takes action which ends the solicitation process.

13.0 Living Wage Ordinance

13.1 The Palm Beach County Living Wage Ordinance (Ordinance 2003-004) went into effect for all construction contracts issued on or after October 1, 2003. The ordinance requires the County and its construction contractors and subcontractors to pay a living wage of $12.99 per hour (effective October 1, 2021 through September 30, 2022).

13.2 This ordinance shall apply to all construction contracts exceeding $100,000 in value that are not subject to the Davis-Bacon Act or any related act or amendments that require Davis-Bacon wage rates.

13.3 The ordinance shall apply to construction related services meaning any service, other than a professional service as defined by the Palm Beach County Purchasing Ordinance, consisting of work or labor performed directly upon the site of work and directly related to construction.

13.4 Before entering into any construction contract, the General Contractor must provide a certificate to the Water Utilities Department stating that if awarded the contract, they will pay each employee no less than the living wage. Subcontractors must provide the certificate to the General Contractor, who shall forward to the Water Utilities Department.

13.5 The contractor shall post a copy of the following statement at the work site in a prominent place where it can easily be seen by the employees: "NOTICE TO EMPLOYEES: If you are employed to provide certain services to Palm Beach County, your employer may be required by Palm Beach County law to pay you at least $12.99 per hour as of October 1, 2021. If you are not paid this hourly rate, contact your supervisor or lawyer." The preceding statement shall be printed in English, Spanish, and Creole, and shall be printed with black lettering on letter-size, white paper using Times New Roman 14-point font, Courier new 14-point font, or Arial 14-point font. Posting requirements will not be required if the employer attaches a copy of the preceding statement to the employee's first paycheck, and to subsequent paychecks at least every six (6) months thereafter. General Contractors shall forward a copy of the requirements of this ordinance to any person or business submitting a bid for a subcontract.

13.6 Every six (6) months the General Contractor shall certify and file with the Water Utilities Department, certification that all employees who worked on each construction contract during the preceding six (6) month period were paid the living wage in compliance with the ordinance. The Water Utilities Department has the right to request records of living wage pay. Contractors shall maintain records for 3 years.

14.0 Criminal History Records Check Ordinance

14.1 The CONTRACTOR, CONTRACTOR'S employees, or subcontractors of CONTRACTOR and employees of subcontractors shall comply with Palm Beach County Code, Section 2-371 - 2-377, the Palm Beach County Criminal History Records Check Ordinance ("Ordinance"), for unescorted access to critical facilities ("Critical Facilities") or criminal justice information facilities ("CJI Facilities") are required under this contract to enter a "critical facility," as identified in Resolution R-2003-1274, as amended. The CONTRACTOR shall comply with the provisions of Chapter 2, Article IX of the Palm Beach County Code ("Criminal History Records Check" section). The CONTRACTOR acknowledges and agrees that all employees and subcontractors who are to enter a "critical facility" will be subject to a fingerprint based criminal history records check. Although COUNTY agrees to pay for all applicable FDLE/FBI fees required for criminal history record checks, the CONTRACTOR is solely responsible for the financial, schedule, and/or staffing implications associated in complying with this section of the Palm Beach County Code of this Ordinance. Further, the CONTRACTOR acknowledges that its Contract price includes any and all direct or indirect costs associated with compliance with this Ordinance, except for the applicable FDLE/FBI fees that shall be paid by the COUNTY.

14.2 This Contract may include sites and/or buildings which have been designated as either "critical facilities" or "criminal justice information facilities" pursuant to the Ordinance and Resolution R2003-1274, as amended. COUNTY staff representing the COUNTY department will contact the CONTRACTOR(S) and provide specific instructions for meeting the requirements of this Ordinance. Individuals passing the background check will be issued a badge. The CONTRACTOR shall make every effort to collect the badges of its employees and its subcontractors' employees upon conclusion of the contract and return them to the COUNTY. If the CONTRACTOR or its subcontractor(s) terminates an employee who has been issued a badge, the CONTRACTOR must notify the COUNTY within two (2) hours. At the time of termination, the CONTRACTOR shall retrieve the badge and shall return it to the COUNTY in a timely manner.

14.3 The COUNTY reserves the right to suspend the CONTRACTOR if the CONTRACTOR 1) does not comply with the requirements of County Code Section 2-371 - 2-377, as amended; 2) does not

contact the COUNTY regarding a terminated CONTRACTOR employee or subcontractor employee within the stated time; or 3) fails to make a good faith effort in attempting to comply with the badge retrieval policy.

15.0 Department Specific Instructions

15.1 During the course of the Project, Contractor can expect to receive and agrees to execute, when required, certain project related documents in a form substantially similar to those attached as Appendix A to the General Conditions.

15.2 The Department may require the submission of the Post-Bid Information pursuant to section 6.3.1 of these Instructions to Bidders to be submitted in substantially the form attached as Appendix B to the General Conditions. The Department may, in its sole discretion, require more or less information than the information required by Appendix B and Contractor agrees to provide such information as Department may require.

15.3 Bidder acknowledges that Palm Beach County reserves the right to institute, by Work Supplement, a program to take advantage of the sales and use tax exemption for county furnished materials in accordance with the term and conditions of the Special Conditions to the Contract between the parties and agrees to participate in the tax savings program, at no cost to the County, if utilized by the County.

16.0 Palm Beach County Office of the Inspector General

Palm Beach County has established the Office of the Inspector General, Palm Beach County Code, Section 2-421 – 2-440, as may be amended. The Inspector General's authority includes but is not limited to the power to review past, present and proposed County contracts, transactions, accounts and records, to require the production of records, and audit, investigate, monitor, and inspect the activities of the contractor, its officers, agents, employees, and lobbyists in order to ensure compliance with contract specifications and detect corruption and fraud. All contractors and parties doing business with the County and receiving County funds shall fully cooperate with the Inspector General including receiving access to records relating to Bid or any resulting contract.

17.0 Notifications

All bidders are requested to submit a valid email address and fax number for the purposes of receiving notification of bid posting and other pertinent information. The email address and fax number shall be included in the bid form.

18.0 E-Verify - Employment Eligibility

CONTRACTOR warrants and represents that it is in compliance with section 448.095, Florida Statutes, as may be amended, and that it: (1) is registered with the E-Verify System (E-Verify.gov), and beginning January 1, 2021, uses the E-Verify System to electronically verify the employment eligibility of all newly hired workers; and (2) has verified that all of CONTRACTOR's subcontractors performing the duties and obligations of this CONTRACT are registered with the E-Verify System, and beginning January 1, 2021, use the E-Verify System to electronically verify the employment eligibility of all newly hired workers.

CONTRACTOR shall obtain from each of its subcontractors an affidavit stating that the subcontractor does not employ, contract with, or subcontract with an Unauthorized Alien, as that term is defined in section 448.095(1)(k), Florida Statutes, as may be amended. CONTRACTOR shall maintain a copy of any such affidavit from a subcontractor for, at a minimum, the duration of the subcontract and any extension thereof. This provision shall not supersede any provision of this CONTRACT which requires a longer retention period.

COUNTY shall terminate this CONTRACT if it has a good faith belief that CONTRACTOR has knowingly violated Section 448.09(1), Florida Statutes, as may be amended. If COUNTY has a good faith belief that CONTRACTOR's subcontractor has knowingly violated section 448.09(1), Florida Statutes, as may be amended, COUNTY shall notify CONTRACTOR to terminate its contract with the subcontractor and CONTRACTOR shall immediately terminate its contract with the subcontractor. If COUNTY terminates this CONTRACT pursuant to the above, CONTRACTOR shall be barred from being awarded a future contract by COUNTY for a period of one (1) year from the date on which this CONTRACT was terminated. In the event of such contract termination, CONTRACTOR shall also be liable for any additional costs incurred by COUNTY as a result of the termination.

END OF SECTION

ORIGINAL

ORIGINAL

PROJECT No. WUD 22-032
Bid NAME: 2022 Pipeline Continuing Construction Contract

HG Job No. 22-0214-00

BID DUE - Tuesday, November 22, 2022 @ 2:00 PM

SUBMITTED TO:

Palm Beach County Water Utilities Department
Board of County Commissioners
Administration Building
1st Floor - Reception Desk

8100 Forest Hill Boulevard
West Palm Beach, FL 33413



SUBMITTED BY: Hinterland Group Inc.

HINTERLAND GROUP INC.

2051 W Blue Heron Blvd
Riviera Beach, FL 33404
561-640-3503
Email: info@hinterlandgroup.com

ORIGINAL

ORIGINAL

PALM BEACH COUNTY

BID FORM AND ATTACHMENTS

PBCWUD Project No.: 22-032

Project Name: 2022 Pipeline Continuing Construction Contract

SECTION DESCRIPTION

1.0 BID FORM

2.0 BID BOND - Attachment No. 1

3.0 OFFICE OF EQUAL BUSINESS OPPORTUNITY - SCHEDULE 1 and SCHEDULE 2 - Attachment No. 2

4.0 CERTIFICATION OF BUSINESS LOCATION – Attachment No. 3
CERTIFICATION OF BUSINESS LOCATION – Glades Subcontractor – Attachment No. 3a

5.0 LIST OF MAJOR SUBCONTRACTORS - Attachment No. 4

6.0 TRENCH SAFETY - Attachment No. 5

BID FORM

PBCWUD PROJECT NO.: **22-032**

DATE: 11/21/2022

To: Palm Beach County Board of County Commissioners
Water Utilities Department
8100 Forest Hill Boulevard
West Palm Beach, Florida 33413

From (Name of Bidding Firm): Hinterland Group Inc.
Address: 2051 W. Blue Heron Blvd.
Riviera Beach, FL 33404

1.1 Having carefully examined the Bid Documents and Drawings for the Project **entitled 2022 Pipeline Continuing Construction Contract** , PBCWUD Project No.: **22-032** as well as the premises and conditions affecting the work, and confirming that the site was visited, as required, by

Chase Rogers, Project Director (Printed Name) on 11/21/2022 (Date)

the undersigned hereby declares that no person or persons, firm or corporation, other than the undersigned, are interested in this proposal as principals, and that this proposal is made without collusion with any person, firm, or corporation, and we have carefully and to our full satisfaction examined the Bid Documents, and that we have made a full examination of the location of the proposed work and the source of supply of materials, and we hereby agree to furnish and pay for all materials, labor, supervision, equipment, supplies, fees, expertise, and services necessary to fully complete all work in accordance with all requirements of the Bid Documents and in accordance with all applicable codes and governing regulations within the time limit specified in this proposal for the following Base Bid.

Price: Thirty Three Million Seven Hundred Sixty Thousand Four Hundred Thirteen Dollars and Zero Cents.
(written out)

($ 33,760,413.00) which sum is hereinafter referred to as the "Base Bid".
(numeric)

1.2 The undersigned acknowledges that it has included with its Bid the required Bid Security for not less than five percent (5%) of the total amount of its Base Bid.

1.3 Bidder shall be bound by the terms of its Bid Proposal for a period of one hundred fifty (150) calendar days from the date of the bid opening and may not withdraw its Bid within that time period. If the County issues a Notice of Award Recommendation within the above 150-day period, then the Bidder will be bound by the Bid Proposal as submitted. If the County fails to issue a Notice of Award Recommendation within the above identified 150-day period, the Bidder will not be required to honor its Bid Proposal unless otherwise agreed to by both parties.

Absent the filing of a bid protest, the County anticipates, but does not guarantee, that: (a) Contract approval by the County will occur within ninety (90) calendar days after the Notice of Award

Recommendation; and (b) written notice to proceed will occur within sixty (60) calendar days after Contract approval by the County.

1.4 **The SBE subcontracting goal for this project is a mandatory minimum of 20% participation, See EBO Ordinance Section 2-80.27(1)(c), of which 5% shall be among certified African American and/or Hispanic American owned firms, See EBO Ordinance Section 2-80.27(2)(b).**

Explanation of goal setting committee's reasons for applying this API: The goal setting committee's reason for applying this particular API to this project was that the most recent data on the utilization of the foregoing MBEs indicates that contracts of this type have exhibited significant disparities in the utilization of these MBEs.

When a mandatory SBE or M/WBE goal applies to this solicitation, then any bid that fails to comply with the required goal shall be deemed non-responsive after the period allowed for waiver requests has lapsed. If a bidder is unable to comply with a required goal, such bidder shall submit a request for a waiver or partial waiver at least 7 days prior to the bid due date. If a bidder requests a waiver from a goal from the Office of EBO at least 7 days prior to the bid due date, then the bid due date will be extended pending the outcome of a waiver request. Additionally, if the waiver is granted the solicitation will be amended accordingly and the due date extended again. Fillable pdfs of all EBO forms can be found on the OEBO website at http://discover.pbcgov.org/oebo/Pages/Compliance-Programs.aspx. Also, see the EBO Ordinance and Countywide PPM CW-O-043 for further information on the County's EBO Program.

1.5 It is agreed that the undersigned has received all addenda complete as issued by the County and that related costs are included in the bid submitted. The undersigned acknowledges receipt of said addenda as follows:

Addendum # 1 dated 11/15/2022 Addendum #_____ dated_____
Addendum #_____ dated_____ Addendum #_____ dated_____

1.6 Time is of the essence. The undersigned Bidder agrees that, if awarded the Contract hereunder, it shall commence the work to be performed under the Contract on the date set by the County in its written notice to proceed, continuing the work with diligence and shall Substantially Complete all work under this contract in not more than 335 calendar days. Final completion shall be within 30 calendar days of Substantial Completion. The undersigned agrees that, if awarded the Contract, it will complete said separable portions of work in accordance with such date. Substantial Completion is defined in the General Conditions.

1.6.1 Should the Contractor (or in the event of a default, its Surety) fail to achieve Substantial Completion by the contractually established date, the County will suffer damages, the amount of which is difficult if not impossible to ascertain, and the County shall be entitled to Liquidated Damages as specified for each calendar day beyond the Contractual end date, until certification of Substantial Completion and acceptance has been given by the County. The Liquidated Damages rate is **$500.00** per calendar day through the date of certification of Substantial Completion.

Should the Contractor (or in the event of a default, his Surety) fail to achieve Final Completion within 30 calendar days from the date of Substantial Completion, the County will suffer damages, the amount of which is difficult if not impossible to ascertain, and the County shall be entitled to Liquidated Damages as specified for each calendar day greater than thirty beyond the date certified for Substantial Completion. The Liquidated Damages rate is **$250.00** per calendar day.

Liquidated Damages due the County may be deducted from payments due the Contractor, or may be collected directly from the Contractor or his surety or sureties. The liability of the Contractor and its

ADDENDUM NO. 1

PALM BEACH COUNTY WATER UTILITIES DEPARTMENT

2022 PIPELINE CONTINUING CONSTRUCTION CONTRACT

PROJECT NO. 22-032

TO ALL BIDDERS AND OTHERS CONCERNED:

Contractors submitting proposals for the above referenced project shall take note of the clarification to the Contract and Specifications that shall become a part of the contract documents.

BID DOCUMENTS (November 22, 2022) by 2:00 pm

Note: Bidder must acknowledge Receipt of Addendum on Bid Form - Page 3 of the Contract Documents.

Dated this 15th day of November 2022

Palm Beach County
Water Utilities Department

Ralph Estime, PMP

PLEASE ACKNOWLEDGE RECEIPT OF ADDENDUM NO. 1 (PAGE 1- PAGE 2) BY SIGNING BELOW – EMAIL to DEstime@pbcwater.com IMMEDIATELY.

HINTERLAND GROUP, INC. CORPORATE SEAL FLORIDA

Signature

Chase Rogers, Project Director
Title (title, print name)

Hinterland Group Inc.
Company

Bid Documents will be received by the Board of County Commissioners, Palm Beach County, Florida until 2:00 P.M. on Tuesday, November 22, 2022 at 8100 Forest Hill Blvd, West Palm Beach, FL 33413 Administration Building.

Bidders are reminded to acknowledge Addendum No. 1 on Bid Form-3

1. **FRONT END DOCUMENTS**

   Bid Form; Page 13; Bid Item No. 221:

   a. Revised text from (up to 6") to 4", and revised text from "EA" to "LF".

2. **TECHNICAL SPECIFICATIONS**

   Section 01 11 00 – SUMMARY OF WORK

   a. Part 1 – General, Subsection 1.2 A 1 – revised text from "36-months" to read as follows: "12-month period with an optional two (2) 12-month contract renewal (see Supplemental General Conditions)."

   Section 01 29 00 – MEASUREMENT AND PAYMENT

   a. Revised text on the Measurement and Payment page 01 29 00 – 5, No. 10 – Restrain Existing DIP and PVC Pipe (Bid Items 86 – 101) Subsections a, b, c, and d.

   b. Revised text on the Measurement and Payment page 01 29 00 – 9, No. 27 – 6" PVC Sewer Lateral Replacement (Bid Item 203) Subsection b from "30 LF" to "20 LF".

   c. Revised text on the Measurement and Payment page 01 29 00 – 11, No. 31– Long Polyethylene (HDPE) Service Line Casing (up to 50' Long) (Bid Items 209 and 211); Subsection b.

   d. Revised text on the Measurement and Payment page 01 29 00 – 14, No. 38 – Irrigation Service Line Repair and Replace (Bid Item 221) from (up to 6") to (up to 4"). Revised text in Subsection b.

Surety or Sureties for delay damages shall be joint and several. These provisions for liquidated damages shall not prevent the County, in case of the Contractor's default, from terminating the right of the Contractor to proceed as provided in General Conditions.

1.7 The Costs Savings Incentive provisions of the General Conditions **are not** in effect for this Contract.

1.8 If the undersigned is notified of the acceptance of this bid, the Bidder agrees to execute within fourteen (14) calendar days, a Contract for the above work, complete with all required insurance certificates and bond forms, and any resolutions or other documentation the department may reasonably require. The undersigned further agrees to furnish a sufficient and satisfactory bond on the form herein provided, in the sum of not less than 100% of the contract price of the work as indicated by the contract prices shown herein.

1.9 The undersigned does hereby declare that the Bid covers all expenses of every kind incidental to the completion of said Work and the Contract therefore, including all claims that may arise through damages or other causes whatsoever.

1.10 The undersigned does hereby declare that it shall make no claim on account of any variation from any estimate in the quantities of Work to be done, nor on account of any misunderstanding or misconception of the nature of the Work to be done or the grounds, subsurface conditions, or place where the Work is to be done.

1.11 ENCLOSURES:

ATTACHMENT NO. 1	BID BOND
ATTACHMENT NO. 2	OFFICE OF EQUAL BUSINESS OPPORTUNITY SCHEDULE 1 and SCHEDULE 2
ATTACHMENT NO. 3	CERTIFICATION OF BUSINESS LOCATION
ATTACHMENT NO. 3a	CERTIFICATION OF BUSINESS LOCATION GLADES SUBCONTRACTOR
ATTACHMENT NO. 4	LIST OF MAJOR SUBCONTRACTORS
ATTACHMENT NO. 5	TRENCH SAFETY

1.11. Commercial Non-Discrimination Certification. The undersigned Bidder hereby certifies and agrees that the following information is correct: In preparing its response on this Solicitation, the Bidder has considered all proposals submitted from qualified, potential Subcontractors and suppliers, and has not engaged in "discrimination" as defined in the County's Commercial Nondiscrimination Policy as set forth in Resolution 2017-1770 as amended, to wit: discrimination in the solicitation, selection or commercial treatment of any Subcontractor, vendor, supplier or commercial customer on the basis of race, color, national origin, religion, ancestry, sex, age, marital status, familial status, sexual orientation, gender identity or expression, disability, or genetic information, or on the basis of any otherwise unlawful use of characteristics regarding the vendor's, supplier's or commercial customer's employees or owners; provided that nothing in this policy shall be construed to prohibit or limit otherwise lawful efforts to remedy the effects of discrimination that have occurred or are occurring in the County's relevant marketplace of Palm Beach County. Without limiting the foregoing, "discrimination" also includes retaliating against any person or other entity for reporting any incident of "discrimination." Without limiting any other provision of the solicitation, it is understood and agreed that, if this certification is false, such false certification will constitute grounds for the County to reject the bid submitted by the Bidder for this Solicitation, and to terminate any contract awarded based on the response. As part of its bid, the Bidder shall provide to the County a list of all instances within the immediate past four (4) years where there has been a final adjudicated determination in a legal or administrative proceeding in the State of Florida that the Bidder discriminated against its Subcontractors, vendors, suppliers or commercial customers, and a description of the status or resolution of that complaint, including

any remedial action taken. As a condition of submitting a bid to the County, the Bidder agrees to comply with the County's Commercial Nondiscrimination Policy as described in Resolution 2017-1770 as amended.

(The remainder of this page left blank intentionally)

Respectfully Submitted,

Hinterland Group Inc.
(Name of Bidding Firm)

2051 W. Blue Heron Blvd., Riviera Beach, FL 33404
(Address)

(561) 640-3503
(Phone)

info@hinterlandgroup.com
(Email Address)

By: _____
(Authorized Signature)

Project Director
(Title)

Chase Rogers
(Printed Name)

HINTERLAND GROUP, INC. CORPORATE SEAL FLORIDA

STATE OF FLORIDA

COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 21 day of November, 2022, by Chase Rogers, who is ☑ personally known to me or ☐ has produced N/A as identification.

LORI GUILD
MY COMMISSION # HH 298713
EXPIRES: August 9, 2026

Lori Guild
(Signature of Notary Public – State of Florida)

Lori Guild
(Print, Type, or Stamp Commissioned Name of Notary Public)

Above Bidder is:

(✓) Corporation ( ) Partnership/Joint Venture ( ) Sole Proprietorship
( ) Other (Please Specify_____)

CONTRACTOR DATA:

Bidder's License or Certificate Number (as applicable): CGC1520354 / CUC1224634 / EC13003615

Contractor's Federal Tax No: 20-5156844

**Please see attached HGI Business Licenses and Tax Documents

Ron DeSantis, Governor

Melanie S. Griffin, Secretary

Florida dbpr

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

THE UNDERGROUND UTILITY & EXCAVATION CO HEREIN IS CERTIFIED UNDER THE PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

DUKE, DANIEL AMOS III

HINTERLAND GROUP INC
2051 W BLUE HERON BLVD
RIVIERA BEACH FL 33404

LICENSE NUMBER: CUC1224634

EXPIRATION DATE: AUGUST 31, 2024

Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.

This is your license. It is unlawful for anyone other than the licensee to use this document.

Ron DeSantis, Governor

Melanie S. Griffin, Secretary

Florida dbpr

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

THE GENERAL CONTRACTOR HEREIN IS CERTIFIED UNDER THE
PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

DUKE, DANIEL AMOS III

HINTERLAND GROUP INC
2051 W BLUE HERON BLVD
RIVIERA BEACH FL 33404

LICENSE NUMBER: CGC1520354

EXPIRATION DATE: AUGUST 31, 2024

Always verify licenses online at MyFloridaLicense.com

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Ron DeSantis, Governor

Melanie S. Griffin, Secretary

Florida dbpr

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

ELECTRICAL CONTRACTORS' LICENSING BOARD

THE ELECTRICAL CONTRACTOR HEREIN IS CERTIFIED UNDER THE
PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

BREIG, CHARLES J

HINTERLAND GROUP INC
7161 NW 74TH STREET
MEDLEY FL 33166

LICENSE NUMBER: EC13003615

EXPIRATION DATE: AUGUST 31, 2024

Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.

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ANNE M. GANNON
CONSTITUTIONAL TAX COLLECTOR
Serving Palm Beach County
Serving you.

P.O. Box 3353, West Palm Beach, FL 33402-3353
www.pbctax.com Tel: (561) 355-2264

LOCATED AT
2051 W BLUE HERON BLVD
RIVIERA BEACH, FL 33404

TYPE OF BUSINESS	OWNER	CERTIFICATION #	RECEIPT #/DATE PAID	AMT PAID	BILL #
23-0051 GENERAL CONTRACTOR	DUKE DANIEL AMOS III	CGC1520354	B22.619956 - 08/03/22	$99.00	B40148743

This document is valid only when receipted by the Tax Collector's Office.

STATE OF FLORIDA
PALM BEACH COUNTY
2022/2023 LOCAL BUSINESS TAX RECEIPT

LBTR Number: 2015082364
EXPIRES: SEPTEMBER 30, 2023

This receipt grants the privilege of engaging in or managing any business profession or occupation within its jurisdiction and MUST be conspicuously displayed at the place of business and in such a manner as to be open to the view of the public.

5 6 - 1667

HINTERLAND GROUP INC
HINTERLAND GROUP INC
2051 W BLUE HERON BLVD
RIVIERA BEACH FL 33404-5003

ANNE M. GANNON
CONSTITUTIONAL TAX COLLECTOR
Serving Palm Beach County
Serving you.

P.O. Box 3353, West Palm Beach, FL 33402-3353
www.pbctax.com Tel: (561) 355-2264

LOCATED AT
2051 W BLUE HERON BLVD
RIVIERA BEACH, FL 33404

TYPE OF BUSINESS	OWNER	CERTIFICATION #	RECEIPT #/DATE PAID	AMT PAID	BILL #
23-0153 BUILDING CONTRACTOR	DUKE DANIEL AMOS III	CBC1255077	B22.620222 - 08/03/22	$99.00	B40160342

This document is valid only when receipted by the Tax Collector's Office.

STATE OF FLORIDA
PALM BEACH COUNTY
2022/2023 LOCAL BUSINESS TAX RECEIPT

LBTR Number: 2018108321
EXPIRES: SEPTEMBER 30, 2023

This receipt grants the privilege of engaging in or managing any business profession or occupation within its jurisdiction and MUST be conspicuously displayed at the place of business and in such a manner as to be open to the view of the public.

5 6 - 1765

HINTERLAND GROUP INC
HINTERLAND GROUP INC
2051 W BLUE HERON BLVD
RIVIERA BEACH FL 33404-5003

ANNE M. GANNON
CONSTITUTIONAL TAX COLLECTOR
Serving Palm Beach County
Serving you.

P.O. Box 3353, West Palm Beach, FL 33402-3353
www.pbctax.com Tel: (561) 355-2264

LOCATED AT
2051 W BLUE HERON BLVD
RIVIERA BEACH, FL 33404

TYPE OF BUSINESS	OWNER	CERTIFICATION #	RECEIPT #/DATE PAID	AMT PAID	BILL #
23-0097 UNDERGROUND UTILITY & EXCAVATION	DUKE DANIEL AMOS III	CUC1224634	B22.619708 - 08/03/22	$27.50	B40135085

This document is valid only when receipted by the Tax Collector's Office.

STATE OF FLORIDA
PALM BEACH COUNTY
2022/2023 LOCAL BUSINESS TAX RECEIPT

LBTR Number: 201139576
EXPIRES: SEPTEMBER 30, 2023

This receipt grants the privilege of engaging in or managing any business profession or occupation within its jurisdiction and MUST be conspicuously displayed at the place of business and in such a manner as to be open to the view of the public.

5 6 - 1766

HINTERLAND GROUP INC
HINTERLAND GROUP INC
2051 W BLUE HERON BLVD
RIVIERA BEACH FL 33404-5003

ANNE M. GANNON
CONSTITUTIONAL TAX COLLECTOR
Serving Palm Beach County
Serving you.

P.O. Box 3353, West Palm Beach, FL 33402-3353
www.pbctax.com Tel: (561) 355-2264

LOCATED AT
2051 W BLUE HERON BLVD
RIVIERA BEACH, FL 33404

TYPE OF BUSINESS	OWNER	CERTIFICATION #	RECEIPT #/DATE PAID	AMT PAID	BILL #
23-0169 ELECTRICAL CONTRACTOR	BREIG CHARLES J	EC13003615	B22.619955 - 08/03/22	$99.00	B40148744

This document is valid only when receipted by the Tax Collector's Office.

STATE OF FLORIDA
PALM BEACH COUNTY
2022/2023 LOCAL BUSINESS TAX RECEIPT

LBTR Number: 2015082363
EXPIRES: SEPTEMBER 30, 2023

This receipt grants the privilege of engaging in or managing any business profession or occupation within its jurisdiction and MUST be conspicuously displayed at the place of business and in such a manner as to be open to the view of the public.

HINTERLAND GROUP INC
HINTERLAND GROUP INC
2051 W BLUE HERON BLVD
RIVIERA BEACH FL 33404-5003

5 - 6 - 1686

CITY OF RIVIERA BEACH
600 W BLUE HERON BLVD
RIVIERA BEACH FL 33404
BUSINESS TAX RECEIPT

Permit Year October 01, 2022 to September 30, 2023

2051 Blue Heron Blvd W
HINTERLAND GROUP INC

Issued:
Vendor: 12988.1
BUSINESS/ADMINISTRATION OFC
GENERAL CONTRCTOR
TRANSPORTATION/DISTRB TRUCKS

HINTERLAND GROUP INC
992 W 15TH ST
RIVIERA BEACH FL 33404

MUST BE POSTED CONSPICUOUSLY AT YOUR PLACE OF BUSINESS

CITY OF RIVIERA BEACH
600 W BLUE HERON BLVD
RIVIERA BEACH FL 33404
BUSINESS TAX RECEIPT

Permit Year October 01, 2022 to September 30, 2023

2051 Blue Heron Blvd W
HINTERLAND GROUP INC

Issued:
Vendor: 12988.1
BUSINESS/ADMINISTRATION OFC
GENERAL CONTRCTOR
TRANSPORTATION/DISTRB TRUCKS

HINTERLAND GROUP INC
992 W 15TH ST
RIVIERA BEACH FL 33404

MUST BE POSTED CONSPICUOUSLY AT YOUR PLACE OF BUSINESS

CITY OF RIVIERA BEACH
600 W BLUE HERON BLVD
RIVIERA BEACH FL 33404
BUSINESS TAX RECEIPT

Permit Year October 01, 2022 to September 30, 2023

2051 Blue Heron Blvd W
HINTERLAND GROUP INC

Issued:
Vendor: 12988.1
BUSINESS/ADMINISTRATION OFC
GENERAL CONTRCTOR
TRANSPORTATION/DISTRB TRUCKS

HINTERLAND GROUP INC
992 W 15TH ST
RIVIERA BEACH FL 33404

MUST BE POSTED CONSPICUOUSLY AT YOUR PLACE OF BUSINESS

CITY OF RIVIERA BEACH
600 W BLUE HERON BLVD
RIVIERA BEACH FL 33404
CERTIFICATE OF USE

Permit Year October 01, 2022 to September 30, 2023

2051 Blue Heron Blvd W
HINTERLAND GROUP INC

Issued:
Vendor: 12988.1

HINTERLAND GROUP INC
992 W 15TH ST
RIVIERA BEACH FL 33404

MUST BE POSTED CONSPICUOUSLY AT YOUR PLACE OF BUSINESS

CITY OF RIVIERA BEACH
600 W BLUE HERON BLVD
RIVIERA BEACH FL 33404
CERTIFICATE OF USE

Permit Year October 01, 2022 to September 30, 2023

2051 Blue Heron Blvd W
HINTERLAND GROUP INC

Issued:
Vendor: 12988.1

HINTERLAND GROUP INC
992 W 15TH ST
RIVIERA BEACH FL 33404

MUST BE POSTED CONSPICUOUSLY AT YOUR PLACE OF BUSINESS

CITY OF RIVIERA BEACH
600 W BLUE HERON BLVD
RIVIERA BEACH FL 33404
CERTIFICATE OF USE

Permit Year October 01, 2022 to September 30, 2023

2051 Blue Heron Blvd W
HINTERLAND GROUP INC

Issued:
Vendor: 12988.1

HINTERLAND GROUP INC
992 W 15TH ST
RIVIERA BEACH FL 33404

MUST BE POSTED CONSPICUOUSLY AT YOUR PLACE OF BUSINESS

SCHEDULE OF BID PRICES

PBCWUD Project No.: 22-032
Project Name: 2022 Pipeline Continuing Construction Contract

BID ITEM NO.	BID ITEM (Furnish and Install with Appurtenances)	UNIT	QUANTITY	UNIT PRICES	TOTAL
1	4" PVC Push-On Joint Wastewater Force Main	LF	300	$ 28.00	$ 8,400.00
2	4" DIP Push-On Joint Water Main/Reclaimed Water Main	LF	200	$ 70.00	$ 14,000.00
3	4" DIP Push-On Joint Wastewater Force Main	LF	100	$ 99.00	$ 9,900.00
4	6" PVC Push-On Joint Water Main/Reclaimed Water Main/Wastewater Force Main	LF	8,000	$ 35.00	$ 280,000.00
5	6" DIP Push-On Joint Water Main/Reclaimed Water Main	LF	5,000	$ 49.00	$ 245,000.00
6	6" DIP Push-On Joint Wastewater Force Main	LF	5,000	$ 76.00	$ 380,000.00
7	8" PVC Push-On Joint Water Main/Reclaimed Water Main/Wastewater Force Main	LF	15,000	$ 52.00	$780,000.00
8	8" DIP Push-On Joint Water Main/Reclaimed Water Main	LF	2,000	$ 64.00	$ 128,000.00
9	8" DIP Push-On Joint Wastewater Force Main	LF	1,500	$ 98.00	$ 147,000.00
10	10" PVC Push-On Joint Water Main//Reclaimed Water Main/Wastewater Force Main	LF	500	$ 80.00	$ 40,000.00
11	10" DIP Push-On Joint Water Main/Reclaimed Water Main	LF	100	$ 85.00	$ 8,500.00
12	10" DIP Push-On Joint Wastewater Force Main	LF	100	$ 125.00	$ 12,500.00
13	12" PVC Push-On Joint Water Main/Wastewater Force Main/Reclaimed Water Main	LF	7,000	$ 100.00	$ 700,000.00
14	12" DIP Push-On Joint Water Main/Reclaimed Water Main	LF	7,000	$ 92.00	$ 644,000.00
15	12" DIP Push-On Joint Wastewater Force Main	LF	4,000	$ 138.00	$ 552,000.00
16	16" PVC Push-On Joint Water Main/Wastewater Force Main/Reclaimed Water Main	LF	1,000	$ 192.00	$ 192,000.00
17	16" DIP Push-On Joint Water Main/Reclaimed Water Main	LF	200	$ 153.00	$ 30,600.00
18	16" DIP Push-On Joint Wastewater Force Main	LF	200	212.00	42,400.00
19	24" PVC Push-On Joint Water Main/Wastewater Force Main/Reclaimed Water Main	LF	500	404.00	202,000.00
20	24" DIP Push-On Joint Water Main/Reclaimed Water Main	LF	500	234.00	117,000.00
21	24" DIP Restrained Joint Water Main/Reclaimed Water Main	LF	500	315.00	157,500.00
22	24" DIP Push-On Wastewater Force Main	LF	500	322.00	161,000.00
23	30" PVC Push-On Joint Water Main/Wastewater Force Main/Reclaimed Water Main	LF	500	625.00	312,500.00
24	30" DIP Push-On Wastewater Force Main	LF	100	590.00	59,000.00

BID ITEM NO.	BID ITEM (Furnish and Install with Appurtenances)	UNIT	QUANTITY	UNIT PRICES	TOTAL
25	30" DIP Restrained Joint Water Main/Reclaimed Water Main	LF	100	625.00	62,500.00
26	36" DIP Restrained Joint Water Main/Reclaimed Water Main	LF	100	830.00	83,000.00
27	36" DIP Push-On Joint Wastewater Force Main	LF	100	780.00	78,000.00
28	42" DIP Restrained Joint Water Main/Reclaimed Water Main	LF	20	850.00	17,000.00
29	42" DIP Push-On Joint Wastewater Force Main	LF	20	850.00	17,000.00
30	48" DIP Restrained Joint Water Main/Reclaimed Water Main	LF	20	1,350.00	27,000.00
31	48" DIP Push-On Joint Wastewater Force Main	LF	20	1,275.00	25,500.00
32	54" DIP Restrained Joint Water Main/Reclaimed Water Main	LF	20	1,800.00	36,000.00
33	Ductile Iron Fittings for Water Main/Reclaimed Water Main	Tons	30	8,500.00	255,000.00
34	Ductile Iron Fittings for Wastewater Force Main	Tons	10	10,000.00	100,000.00
35	4" HDPE Directional Drill Water Main/Reclaimed Water Main/Wastewater Force Main	LF	300	50.00	15,000.00
36	6" HDPE Directional Drill Water Main/Reclaimed Water Main/Wastewater Force Main	LF	150	60.00	9,000.00
37	8" HDPE Directional Drill Water Main/Reclaimed Water Main/Wastewater Force Main	LF	100	75.00	7,500.00
38	10" HDPE Directional Drill Water Main/Reclaimed Water Main/Wastewater Force Main	LF	100	100.00	10,000.00
39	12" HDPE Directional Drill Water Main/Reclaimed Water Main/Wastewater Force Main	LF	100	130.00	13,000.00
40	16" HDPE Directional Drill Water Main/Reclaimed Water Main/Wastewater Force Main	LF	100	205.00	20,500.00
41	20" HDPE Directional Drill Water Main/Reclaimed Water Main/Wastewater Force Main	LF	100	290.00	29,000.00
42	24" HDPE Directional Drill Casing with 18" HDPE Carrier Pipe for Water Main/Reclaimed Water Main/Wastewater Force Main	LF	100	750.00	75,000.00
43	30" HDPE Directional Drill Casing with 24" HDPE Carrier Pipe for Water Main/Reclaimed Water Main/Wastewater Force Main	LF	200	985.00	197,000.00
44	4" DIP/PVC x HDPE Adapter	EA	5	545.00	2,725.00
45	6" DIP/PVC x HDPE Adapter	EA	10	600.00	6,000.00
46	8" DIP/PVC x HDPE Adapter	EA	10	640.00	6,400.00
47	10" DIP/PVC x HDPE Adapter	EA	2	720.00	1,440.00
48	12" DIP/PVC x HDPE Adapter	EA	10	745.00	7,450.00
49	16" DIP/PVC x HDPE Adapter	EA	10	1,250.00	12,500.00
50	20" DIP/PVC x HDPE Adapter	EA	10	1,850.00	18,500.00
51	24" DIP/PVC x HDPE Adapter	EA	5	2,950.00	14,750.00

BID ITEM NO.	BID ITEM (Furnish and Install with Appurtenances)	UNIT	QUANTITY	UNIT PRICES	TOTAL
52	30" DIP/PVC x HDPE Adapter	EA	5	8,600.00	43,000.00
53	4" Mechanical Joint Restraint for DIP	EA	30	400.00	12,000.00
54	6" Mechanical Joint Restraint for DIP	EA	30	450.00	13,500.00
55	8" Mechanical Joint Restraint for DIP	EA	30	492.00	14,760.00
56	10" Mechanical Joint Restraint for DIP	EA	10	590.00	5,900.00
57	12" Mechanical Joint Restraint for DIP	EA	40	615.00	24,600.00
58	16" Mechanical Joint Restraint for DIP	EA	15	775.00	11,625.00
59	24" Mechanical Joint Restraint for DIP	EA	10	1,100.00	11,000.00
60	30" Mechanical Joint Restraint for DIP	EA	1	2,200.00	2,200.00
61	36" Mechanical Joint Restraint for DIP	EA	1	3,200.00	3,200.00
62	42" Mechanical Joint Restraint for DIP	EA	1	4,500.00	4,500.00
63	48" Mechanical Joint Restraint for DIP	EA	1	5,800.00	5,800.00
64	54" Mechanical Joint Restraint for DIP	EA	1	10,000.00	10,000.00
65	4" Mechanical Joint Restraint for PVC	EA	25	450.00	11,250.00
66	6" Mechanical Joint Restraint for PVC	EA	50	500.00	25,000.00
67	8" Mechanical Joint Restraint for PVC	EA	55	550.00	30,250.00
68	10" Mechanical Joint Restraint for PVC	EA	40	650.00	26,000.00
69	12" Mechanical Joint Restraint for PVC	EA	40	700.00	28,000.00
70	16" Mechanical Joint Restraint for PVC	EA	30	950.00	28,500.00
71	24" Mechanical Joint Restraint for PVC	EA	10	1,600.00	16,000.00
72	4" Joint Restraint Gasket DIP (Field Lock or Fast Grip)	EA	30	135.00	4,050.00
73	6" Joint Restraint Gasket DIP (Field Lock or Fast Grip)	EA	50	215.00	10,750.00
74	8" Joint Restraint Gasket DIP (Field Lock or Fast Grip)	EA	50	295.00	14,750.00
75	10" Joint Restraint Gasket DIP (Field Lock or Fast Grip)	EA	20	365.00	7,300.00
76	12" Joint Restraint Gasket DIP (Field Lock or Fast Grip)	EA	50	425.00	21,250.00
77	24" Joint Restraint Gasket DIP (Field Lock or Fast Grip)	EA	25	1,900.00	47,500.00
78	4" PVC Pressure Pipe Restraint Harness	EA	40	560.00	22,400.00
79	6" PVC Pressure Pipe Restraint Harness	EA	45	605.00	27,225.00
80	8" PVC Pressure Pipe Restraint Harness	EA	45	695.00	31,275.00
81	10" PVC Pressure Pipe Restraint Harness	EA	35	1,000.00	35,000.00
82	12" PVC Pressure Pipe Restraint Harness	EA	35	990.00	34,650.00
83	16" PVC Pressure Pipe Restraint Harness	EA	35	1,700.00	59,500.00
84	24" PVC Pressure Pipe Restraint Harness	EA	35	2,100.00	73,500.00
85	30" PVC Pressure Pipe Restraint Harness	EA	5	4,200.00	21,000.00
86	Restrain existing 4" PVC Pressure Pipe	EA	30	1,775.00	53,250.00
87	Restrain existing 6" PVC Pressure Pipe	EA	30	1,800.00	54,000.00
88	Restrain existing 8" PVC Pressure Pipe	EA	30	1,900.00	57,000.00
89	Restrain existing 10" PVC Pressure Pipe	EA	30	2,200.00	66,000.00
90	Restrain existing 12" PVC Pressure Pipe	EA	30	2,200.00	66,000.00
91	Restrain existing 16" PVC Pressure Pipe	EA	30	2,900.00	87,000.00
92	Restrain existing 20" PVC Pressure Pipe	EA	10	2,900.00	29,000.00
93	Restrain existing 24" PVC Pressure Pipe	EA	10	3,400.00	34,000.00

BID ITEM NO.	BID ITEM (Furnish and Install with Appurtenances)	UNIT	QUANTITY	UNIT PRICES	TOTAL
94	Restrain existing 30" PVC Pressure Pipe	EA	10	5,200.00	52,000.00
95	Restrain existing 36" PVC Pressure Pipe	EA	5	6,400.00	32,000.00
96	Restrain existing 8" DIP Pressure Pipe	EA	20	1,900.00	38,000.00
97	Restrain existing 10" DIP Pressure Pipe	EA	10	2,200.00	22,000.00
98	Restrain existing 12" DIP Pressure Pipe	EA	30	2,200.00	66,000.00
99	Restrain existing 16" DIP Pressure Pipe	EA	20	2,900.00	58,000.00
100	Restrain existing 20" DIP Pressure Pipe	EA	20	2,900.00	58,000.00
101	Restrain existing 24" DIP Pressure Pipe	EA	30	3,400.00	102,000.00
102	4" Gate Valve & Valve Box	EA	25	1,900.00	47,500.00
103	6" Gate Valve & Valve Box	EA	25	2,200.00	55,000.00
104	8" Gate Valve & Valve Box	EA	15	2,800.00	42,000.00
105	10" Gate Valve & Valve Box	EA	10	3,800.00	38,000.00
106	12" Gate Valve & Valve Box	EA	10	4,550.00	45,500.00
107	16" Gate Valve & Valve Box	EA	5	11,500.00	57,500.00
108	20" Gate Valve & Valve Box	EA	5	21,000.00	105,000.00
109	24" Gate Valve & Valve Box	EA	1	38,000.00	38,000.00
110	30" Gate Valve & Valve Box	EA	1	58,000.00	58,000.00
111	36" Gate Valve & Valve Box	EA	1	82,000.00	82,000.00
112	42" Gate Valve & Valve Box	EA	1	120,000.00	120,000.00
113	48" Gate Valve & Valve Box	EA	1	124,000.00	124,000.00
114	54" Gate Valve & Valve Box	EA	1	180,000.00	180,000.00
115	12" Butterfly Valve & Valve Box	EA	10	5,200.00	52,000.00
116	16" Butterfly Valve & Valve Box	EA	1	8,500.00	8,500.00
117	20" Butterfly Valve & Valve Box	EA	1	11,000.00	11,000.00
118	24" Butterfly Valve & Valve Box	EA	1	14,500.00	14,500.00
119	30" Butterfly Valve & Valve Box	EA	1	35,000.00	35,000.00
120	36" Butterfly Valve & Valve Box	EA	1	37,000.00	37,000.00
121	42" Butterfly Valve & Valve Box	EA	1	48,000.00	48,000.00
122	48" Butterfly Valve & Valve Box	EA	1	72,000.00	72,000.00
123	4"X4" Tapping Sleeve w/Valve & Valve Box	EA	5	5,400.00	27,000.00
124	6"X4" Tapping Sleeve w/Valve & Valve Box	EA	5	5,800.00	29,000.00
125	6"X6" Tapping Sleeve w/Valve & Valve Box	EA	10	6,250.00	62,500.00
126	8"X4" Tapping Sleeve w/Valve & Valve Box	EA	10	6,000.00	60,000.00
127	8"X6" Tapping Sleeve w/Valve & Valve Box	EA	20	6,400.00	128,000.00
128	8"X8" Tapping Sleeve w/Valve & Valve Box	EA	20	7,500.00	150,000.00
129	10"X 4" Tapping Sleeve w/Valve & Valve Box	EA	1	9,900.00	9,900.00
130	10"X 6" Tapping Sleeve w/Valve & Valve Box	EA	1	10,300.00	10,300.00
131	10"X 8" Tapping Sleeve w/Valve & Valve Box	EA	1	12,000.00	12,000.00
132	10"X 10" Tapping Sleeve w/Valve & Valve Box	EA	1	13,200.00	13,200.00
133	12"X 4" Tapping Sleeve w/ Valve and Valve Box	EA	1	10,200.00	10,200.00
134	12"X 6" Tapping Sleeve w/ Valve and Valve Box	EA	1	11,400.00	11,400.00
135	12"X 8" Tapping Sleeve w/ Valve and Valve Box	EA	1	11,700.00	11,700.00

BID ITEM NO.	BID ITEM (Furnish and Install with Appurtenances)	UNIT	QUANTITY	UNIT PRICES	TOTAL
136	12"X10" Tapping Sleeve w/ Valve and Valve Box	EA	1	14,400.00	14,400.00
137	12"X 12" Tapping Sleeve w/ Valve and Valve Box	EA	1	16,400.00	16,400.00
138	16"X 4" Tapping Sleeve w/ Valve and Valve Box	EA	2	19,200.00	38,400.00
139	16"X 6" Tapping Sleeve w/ Valve and Valve Box	EA	2	20,200.00	40,400.00
140	16"X 8" Tapping Sleeve w/ Valve and Valve Box	EA	2	21,000.00	42,000.00
141	16"X 10" Tapping Sleeve w/ Valve and Valve Box	EA	2	22,100.00	44,200.00
142	16"X 12" Tapping Sleeve w/ Valve and Valve Box	EA	2	25,250.00	50,500.00
143	24"X 6" Tapping Sleeve w/Valve & Valve Box	EA	1	28,500.00	28,500.00
144	24"X 8" Tapping Sleeve w/Valve & Valve Box	EA	1	32,000.00	32,000.00
145	24"X 12" Tapping Sleeve w/Valve & Valve Box	EA	1	45,600.00	45,600.00
146	24"X 16" Tapping Sleeve w/Valve & Valve Box	EA	1	83,000.00	83,000.00
147	24"X 24" Tapping Sleeve w/Valve & Valve Box	EA	1	112,000.00	112,000.00
148	30"X 6" Tapping Sleeve w/Valve & Valve Box	EA	1	12,500.00	12,500.00
149	30"X 8" Tapping Sleeve w/Valve & Valve Box	EA	1	15,600.00	15,600.00
150	30"X 12" Tapping Sleeve w/Valve & Valve Box	EA	1	18,600.00	18,600.00
151	Aerial Crossing Complete (4" Water/Reclaimed Water Main, 40' to 80' Long)	LS	1	65,000.00	65,000.00
152	Aerial Crossing Complete (4" Wastewater Force Main, 40' to 80' Long)	LS	1	85,000.00	85,000.00
153	Aerial Crossing Complete (4" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	80,000.00	80,000.00
154	Aerial Crossing Complete (4" Wastewater Force Main, 80' to 120' Long)	LS	1	120,000.00	120,000.00
155	Aerial Crossing Complete (6" Water/Reclaimed Water Main, up to 40' Long)	LS	1	60,000.00	60,000.00
156	Aerial Crossing Complete (6" Wastewater Main, up to 40' Long)	LS	1	75,000.00	75,000.00
157	Aerial Crossing Complete (6" Water/Reclaimed Water Main, 40' to 80' Long)	LS	1	82,000.00	82,000.00
158	Aerial Crossing Complete (6" Wastewater Force Main, 40' to 80' Long)	LS	1	94,000.00	94,000.00
159	Aerial Crossing Complete (6" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	120,000.00	120,000.00
160	Aerial Crossing Complete (6" Wastewater Force Main, 80' to 120' Long)	LS	1	135,000.00	135,000.00
161	Aerial Crossing Complete (8" Water/Reclaimed Water Main, up to 40' Long)	LS	1	78,000.00	78,000.00
162	Aerial Crossing Complete (8" Wastewater Force Main, up to 40' Long)	LS	1	90,000.00	90,000.00
163	Aerial Crossing Complete (8" Water/Reclaimed Water Main/Wastewater Force Main, 40' to 80' Long)	LS	1	92,000.00	92,000.00
164	Aerial Crossing Complete (8" Wastewater Force Main, 40' to 80' Long)	LS	1	115,000.00	115,000.00
165	Aerial Crossing Complete (8" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	110,000.00	110,000.00

BID ITEM NO.	BID ITEM (Furnish and Install with Appurtenances)	UNIT	QUANTITY	UNIT PRICES	TOTAL
166	Aerial Crossing Complete (8" Wastewater Force Main, 80' to 120' Long)	LS	1	135,000.00	135,000.00
167	Aerial Crossing Complete (12" Water/Reclaimed Water Main, up to 40' Long)	LS	1	100,000.00	100,000.00
168	Aerial Crossing Complete (12" Wastewater Force Main, up to 40' Long)	LS	1	115,000.00	115,000.00
169	Aerial Crossing Complete (12" Water/Reclaimed Water Main, 40' to 80' Long)	LS	1	120,000.00	120,000.00
170	Aerial Crossing Complete (12" Wastewater Force Main, 40' to 80' Long)	LS	1	155,000.00	155,000.00
171	Aerial Crossing Complete (12" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	175,000.00	175,000.00
172	Aerial Crossing Complete (12" Wastewater Force Main, 80' to 120' Long)	LS	1	185,000.00	185,000.00
173	Aerial Crossing Complete (16" Water/Reclaimed Water Main, up to 40' Long)	LS	1	117,000.00	117,000.00
174	Aerial Crossing Complete (16" Wastewater Force Main, up to 40' Long)	LS	1	132,000.00	132,000.00
175	Aerial Crossing Complete (16" Water/Reclaimed Water Main, 40' to 80' Long)	LS	1	165,000.00	165,000.00
176	Aerial Crossing Complete (16" Wastewater Force Main, 40' to 80' Long)	LS	1	198,000.00	198,000.00
177	Aerial Crossing Complete (16" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	210,000.00	210,000.00
178	Aerial Crossing Complete (16" Wastewater Force Main, 80' to 120' Long)	LS	1	240,000.00	240,000.00
179	Aerial Crossing Complete (24" Water/Reclaimed Water Main, up to 40' Long)	LS	1	225,000.00	225,000.00
180	Aerial Crossing Complete (24" Wastewater Force Main, up to 40' Long)	LS	1	245,000.00	245,000.00
181	Aerial Crossing Complete (24" Water/Reclaimed Water Main, 40' to 80' Long)	LS	1	255,000.00	255,000.00
182	Aerial Crossing Complete (24" Wastewater Force Main, 40' to 80' Long)	LS	1	315,000.00	315,000.00
183	Aerial Crossing Complete (24" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	320,000.00	320,000.00
184	Aerial Crossing Complete (24" Wastewater Force Main, 80' to 120' Long)	LS	1	385,000.00	385,000.00
185	Fire Hydrant Assembly with Captivator Caps, 6" Gate Valve & Tee Assembly & 10-ft of 6" R.J. DIP	EA	100	9,000.00	900,000.00
186	Relocation of Existing Fire Hydrant	EA	100	4,000.00	400,000.00
187	Bollards for Fire Hydrant (1 Post)	EA	100	800.00	80,000.00
188	Sample Points W/Double Strap Saddle & Corp. Stop	EA	100	1,200.00	120,000.00
189	Sample Points on Fire Hydrants	EA	15	800.00	12,000.00
190	Sample Points on 2" Blow offs	EA	10	600.00	6,000.00
191	2" Blow off Piping Assembly with Box	EA	10	2,000.00	20,000.00
192	Automatic Flushing Device	EA	10	8,500.00	85,000.00
193	1" Air Release Valve W/Manhole for Water/Reclaimed Main	EA	5	5,500.00	27,500.00

BID ITEM NO.	BID ITEM (Furnish and Install with Appurtenances)	UNIT	QUANTITY	UNIT PRICES	TOTAL
194	1" Offset Air Release Valve W/Manhole for Water/Reclaimed Water Main	EA	2	9,500.00	19,000.00
195	2" Air Release Valve W/Manhole for Water/Reclaimed Main	EA	10	10,000.00	100,000.00
196	2" Air Release Valve W/Manhole for Wastewater Main	EA	10	15,000.00	150,000.00
197	2" Offset Air Release Valve W/Manhole for Wastewater/Reclaimed Water Main	EA	5	18,000.00	90,000.00
198	Doghouse Manhole (4" Thru 12" Pipe) 4' to 8' feet deep	EA	5	9,500.00	47,500.00
199	Doghouse Manhole (4" Thru 12" Pipe) 8' to 12' feet deep	EA	5	24,000.00	120,000.00
200	2" Above Ground Offset Air Release Valve for Wastewater Force Main	EA	20	14,000.00	280,000.00
201	Air Release Valve Rehabilitation (4" Thru 12" Pipe)	EA	20	8,500.00	170,000.00
202	Air Release Valve Rehabilitation (16" Thru 42" Pipe)	EA	10	9,500.00	95,000.00
203	6" PVC Sewer Service Lateral Replacement (Up to 5' deep)	EA	25	3,400.00	85,000.00
204	Short Single 5/8" Meter Service (1-1/2" PVC) (up to 20' long)	EA	125	2,150.00	268,750.00
205	Short Single 5/8" Meter Service (1-1/2" Polyethylene) (up to 20' long)	EA	25	2,400.00	60,000.00
206	Short Double 5/8" Meter Service (1-1/2" PVC) (up to 20' long)	EA	125	2,700.00	337,500.00
207	Short Double 5/8" Meter Service (1-1/2" Polyethylene) (up to 20' long)	EA	25	3,200.00	80,000.00
208	Long Single 5/8" Meter Service (1-1/2" PVC with 3" Casing up to 50' long)	EA	75	3,900.00	292,500.00
209	Long Single 5/8" Meter Service (1-1/2" Polyethylene with 3" Casing up to 50' long)	EA	25	3,400.00	85,000.00
210	Long Double 5/8" Meter Service (1-1/2" PVC with 3" Casing up to 50' long)	EA	75	4,400.00	330,000.00
211	Long Double 5/8" Meter Service (1-1/2" Polyethylene with 3" Casing up to 50' long)	EA	25	3,900.00	97,500.00
212	Extra Long 5/8" Meter Service Line (1-1/2" PVC w/3" Casing) (up to 200' long)	EA	15	5,200.00	78,000.00
213	Short 1" Meter Service (2" PVC) (up to 20' long)	EA	10	2,800.00	28,000.00
214	Short 1" Meter Service (2" Polyethylene) (up to 20' long)	EA	10	2,800.00	28,000.00
215	Meter Box (Existing) Relocation and Connection (up to 100' long)	EA	50	1,200.00	60,000.00
216	Up to 1 1/2" PVC Water Service within private property from meter box to the bldg up to 200-ft (Plumbing Permit included)	EA	100	2,000.00	200,000.00
217	Additional Cost for Installation of Tier 15 Traffic Rated Meter Box and Lid	EA	50	250.00	12,500.00
218	Additional Cost for Installation of Tier 15 Traffic Rated Double Meter Box and Lid	EA	50	250.00	12,500.00
219	Valve Box Adjustment	EA	50	450.00	22,500.00
220	Valve Box Replacement	EA	50	1,500.00	75,000.00
221	Irrigation Service Line Repair and Replace (up to 6 4") Addendum No. 1	LF	200	35.00	7,000.00
222	4" DIP X AC Pipe Adapter	EA	10	750.00	7,500.00

BID ITEM NO.	BID ITEM (Furnish and Install with Appurtenances)	UNIT	QUANTITY	UNIT PRICES	TOTAL
223	6" DIP X AC Pipe Adapter	EA	2	850.00	1,700.00
224	8" DIP X AC Pipe Adapter	EA	10	950.00	9,500.00
225	10" DIP X AC Pipe Adapter	EA	10	1,050.00	10,500.00
226	12" DIP X AC Pipe Adapter	EA	5	1,150.00	5,750.00
227	16" DIP X AC Pipe Adapter	EA	5	2,600.00	13,000.00
228	4" Asbestos Pipe Removal/Abatement	LF	500	10.00	5,000.00
229	6" Asbestos Pipe Removal/Abatement	LF	500	10.00	5,000.00
230	8" Asbestos Pipe Removal/Abatement	LF	500	10.00	5,000.00
231	10" Asbestos Pipe Removal/Abatement	LF	100	15.00	1,500.00
232	12" Asbestos Pipe Removal/Abatement	LF	500	15.00	7,500.00
233	16" Asbestos Pipe Removal/Abatement	LF	100	15.00	1,500.00
234	4" to 12" Diameter Connection to Existing Water Main/Reclaimed Water Main or Force Main (Joint Restraint for existing pipe to be included)	EA	30	3,200.00	96,000.00
235	16" to 24" Diameter Connection to Existing Water Main/Reclaimed Water Main or Force Main (Joint Restraint for existing pipe to be included)	EA	10	4,500.00	45,000.00
236	30" to 48" Diameter Connection to Existing Water Main/Reclaimed Water Main or Force Main (Joint Restraint for existing pipe to be included)	EA	5	5,400.00	27,000.00
237	Grouting/Deactivation of Existing 4" Pipe	LF	6,000	10.00	60,000.00
238	Grouting/Deactivation of Existing 6" Pipe	LF	6,000	12.00	72,000.00
239	Grouting/Deactivation of Existing 8" Pipe	LF	6,000	14.00	84,000.00
240	Grouting/Deactivation of Existing 10" Pipe	LF	500	15.00	7,500.00
241	Grouting/Deactivation of Existing 12" Pipe	LF	5,000	18.00	90,000.00
242	Grouting/Deactivation of Existing 16" Pipe	LF	1,000	22.00	22,000.00
243	Grouting/Deactivation of Existing 20" Pipe	LF	100	25.00	2,500.00
244	Grouting/Deactivation of Existing 24" Pipe	LF	200	30.00	6,000.00
245	Milling of Asphalt (1.5" - 2" thick)	SY	10,000	7.50	75,000.00
246	Asphalt Overlay	Tons	1,500	380.00	570,000.00
247	Asphalt Roadway Removal and Restoration (2.5" thick)	SY	10,000	65.00	650,000.00
248	Asphalt Roadway Restoration - Additional Thickness of 1" per SY	SY	10,000	22.00	220,000.00
249	Asphalt Driveway Removal and Restoration (1.5" thick)	SY	1,000	105.00	105,000.00
250	Concrete Driveway Removal and Restoration	SY	500	125.00	62,500.00
251	Stamped Concrete Driveway Removal and Restoration	SY	200	200.00	40,000.00
252	Concrete Paver Brick Driveway Removal and Restoration	SY	200	105.00	21,000.00
253	Painted Concrete Driveway Removal and Restoration	SY	200	325.00	65,000.00
254	Limerock/Shell Driveway or Roadway Removal and Restoration	Tons	250	65.00	16,250.00
255	Asphalt Sidewalk Removal & Restoration	SY	1,000	125.00	125,000.00
256	Concrete Sidewalk Removal & Restoration	SY	4,000	95.00	380,000.00
257	Concrete Curb & Gutter Removal & Restoration	LF	1,500	72.00	108,000.00
258	Concrete Flush Header Curb Removal & Restoration	LF	800	58.00	46,400.00

BID ITEM NO.	BID ITEM (Furnish and Install with Appurtenances)	UNIT	QUANTITY	UNIT PRICES	TOTAL
259	Floratam Sod	SY	10,000	8.00	80,000.00
260	Bahia Sod	SY	15,000	6.00	90,000.00
261	Root Barrier	LF	500	50.00	25,000.00
262	Remove Trees up to 12" diameter	EA	25	1,000.00	25,000.00
263	Record Drawing	LF	50,000	2.00	100,000.00
264	Construction Survey	LF	50,000	1.00	50,000.00
265	Preconstruction Video Taping	LF	50,000	1.00	50,000.00
266	Mail Box Removal and Reinstallation	EA	125	150.00	18,750.00
267	Maintenance of Traffic Residential Street	LF	10,000	1.50	15,000.00
268	Maintenance of Traffic Arterial Roadway	LF	10,000	2.50	25,000.00
269	Maintenance of FDOT Roadway	LF	10,000	4.50	45,000.00
270	Density Tests	EA	600	45.00	27,000.00
271	Proctor Tests	EA	100	95.00	9,500.00
272	Concrete 12"x6" Cylinder Tests	EA	100	100.00	10,000.00
273	4-ft to 5-ft High Fence Removal and Reinstallation	LF	100	40.00	4,000.00
274	Demucking with Imported Clean Fill	CY	5,000	35.00	175,000.00
275	Flowable Fill	CY	15	750.00	11,250.00
276	Compacted Clean Fill	CY	6,000	35.00	210,000.00
277	Protect and Support and Utility Poles	EA	5	2,500.00	12,500.00
278	Rock Removal	CY	15	500.00	7,500.00
279	Remove & Replace Signs	EA	20	500.00	10,000.00
280	Guardrail Removal and Restoration	LF	200	150.00	30,000.00
281	ADA Concrete Ramps per FDOT Index 304 (Include Ramp, Curb and Detectable Warning)	EA	4	3,500.00	14,000.00
282	Silt Fence	LF	20,000	3.00	60,000.00
283	Aerial Crossing DIP piping (8" Water/Reclaimed Water Main, up to 40' Long)	LS	1	55,000.00	55,000.00
284	Aerial Crossing DIP piping (8" Wastewater Force Main, up to 40' Long)	LS	1	60,000.00	60,000.00
285	Aerial Crossing DIP piping (8" Water/Reclaimed Water Main, 40' to 80' Long)	LS	1	70,000.00	70,000.00
286	Aerial Crossing DIP piping (8" Wastewater Force Main, 40' to 80' Long)	LS	1	80,000.00	80,000.00
287	Aerial Crossing DIP piping (8" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	78,000.00	78,000.00
288	Aerial Crossing DIP piping (8" Wastewater Force Main, 80' to 120' Long)	LS	1	100,000.00	100,000.00
289	Aerial Crossing Steel piping (8" Water/Reclaimed Water Main, up to 40' Long)	LS	1	69,000.00	69,000.00
290	Aerial Crossing Steel piping (8" Wastewater Force Main, up to 40' Long)	LS	1	72,000.00	72,000.00
291	Aerial Crossing Steel piping (8" Water/Reclaimed Water Main, 40' to 80' Long)	LS	1	90,000.00	90,000.00
292	Aerial Crossing Steel piping (8" Wastewater Force Main, 40' to 80' Long)	LS	1	93,000.00	93,000.00

BID ITEM NO.	BID ITEM (Furnish and Install with Appurtenances)	UNIT	QUANTITY	UNIT PRICES	TOTAL
293	Aerial Crossing Steel piping (8" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	138,000.00	138,000.00
294	Aerial Crossing Steel piping (8" Wastewater Force Main, 80' to 120' Long)	LS	1	142,000.00	142,000.00
295	Aerial Crossing Steel piping (10" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	115,000.00	115,000.00
296	Aerial Crossing Steel piping (10" Wastewater Force Main, 80' to 120' Long)	LS	1	120,000.00	120,000.00
297	Aerial Crossing DIP piping (12" Water/Reclaimed Water Main, up to 40' Long)	LS	1	68,000.00	68,000.00
298	Aerial Crossing DIP piping (12" Wastewater Force Main, up to 40' Long)	LS	1	74,000.00	74,000.00
299	Aerial Crossing DIP piping (12" Water/Reclaimed Water Main, 40' to 80' Long)	LS	1	100,000.00	100,000.00
300	Aerial Crossing DIP piping (12" Wastewater Force Main, 40' to 80' Long)	LS	1	112,000.00	112,000.00
301	Aerial Crossing DIP piping (12" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	155,000.00	155,000.00
302	Aerial Crossing DIP piping (12" Wastewater Force Main, 80' to 120' Long)	LS	1	245,000.00	245,000.00
303	Aerial Crossing Steel piping (12" Water/Reclaimed Water Main, up to 40' Long)	LS	1	90,000.00	90,000.00
304	Aerial Crossing Steel piping (12" Wastewater Force Main, up to 40' Long)	LS	1	95,000.00	95,000.00
305	Aerial Crossing Steel piping (12" Water/Reclaimed Water Main, 40' to 80' Long)	LS	1	135,000.00	135,000.00
306	Aerial Crossing Steel piping (12" Wastewater Force Main, 40' to 80' Long)	LS	1	142,000.00	142,000.00
307	Aerial Crossing Steel piping (12" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	165,000.00	165,000.00
308	Aerial Crossing Steel piping (12" Wastewater Force Main, 80' to 120' Long)	LS	1	175,000.00	175,000.00
309	Removal of Existing Aerial Canal Crossings (up to 40' Long)	LS	5	25,000.00	125,000.00
310	Removal of Existing Aerial Canal Crossings (40' to 80' Long)	LS	5	30,000.00	150,000.00
311	Removal of Existing Aerial Canal Crossings (80' to 120' Long)	LS	5	35,000.00	175,000.00
312	Canal Bank Grade and Place Rip-Rap Revetment	EA	40	6,500.00	260,000.00
313	2" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	4,800.00	4,800.00
314	4" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	5,800.00	5,800.00
315	6" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	6,000.00	6,000.00
316	8" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	6,500.00	6,500.00
317	10" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	8,500.00	8,500.00
318	12" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	9,000.00	9,000.00
319	16" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	14,500.00	14,500.00
320	18" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	15,500.00	15,500.00
321	20" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	16,500.00	16,500.00
322	24" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	21,000.00	21,000.00

BID ITEM NO.	BID ITEM (Furnish and Install with Appurtenances)	UNIT	QUANTITY	UNIT PRICES	TOTAL
323	30" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	35,000.00	35,000.00
324	36" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	45,000.00	45,000.00
325	6" Double Line Stop w/ 4" By-Pass (for PVC/DIP/CIP/AC)	EA	1	10,000.00	10,000.00
326	8" Double Line Stop w/ 6" By-Pass (for PVC/DIP/CIP/AC)	EA	1	14,500.00	14,500.00
327	10" Double Line Stop w/ 8" By-Pass (for PVC/DIP/CIP/AC)	EA	1	16,500.00	16,500.00
328	12" Double Line Stop w/ 8" By-Pass (for PVC/DIP/CIP/AC)	EA	1	18,500.00	18,500.00
329	4" Insertion Valves (for PVC/DIP/CIP/AC)	EA	1	9,000.00	9,000.00
330	6" Insertion Valves (for PVC/DIP/CIP/AC)	EA	1	10,000.00	10,000.00
331	8" Insertion Valves (for PVC/DIP/CIP/AC)	EA	1	11,000.00	11,000.00
332	10" Insertion Valves (for PVC/DIP/CIP/AC)	EA	1	16,000.00	16,000.00
333	12" Insertion Valves (for PVC/DIP/CIP/AC)	EA	1	18,000.00	18,000.00
				(A) SUBTOTAL BASE BID (Bid Items 1-333)	28,489,800.00
334	Additional Work not included in Bid Items (15% of Subtotal Bid Price (B)	LS	1	15%	4,273,470.00
335	Mobilization (2.5% of Subtotal Bid Price (B)	LS	1	2.5%	712,245.00
336	Demobilization (1% of Subtotal Bid Price (B)	LS	1	1%	284,898.00
				(B) SUBTOTAL ADDITIONAL WORK BID PRICE (Bid Items 334-336)	5,270,613.00
				TOTAL BID PRICE (A+B)	33,760,413.00

TOTAL BID IN WORDS INCLUDING DOLLARS AND CENTS:

Thirty Three Million Seven Hundred Sixty Thousand Four Hundred Thirteen Dollars and Zero Cents

The Total Base Bid Price is to be written in numerical figures above. In case of discrepancies or errors, the unit price shown above for each bid item shall govern and the corrected Total Bid Price shall be calculated as such. Total Bid Price is to be shown in both words and figures. In case of discrepancies, the amount shown in words will govern.

ATTACHMENT NO. 1 TO BID FORM

PBCWUD PROJECT NO.: 22-032
PROJECT NAME: 2022 Pipeline Continuing Construction Contract

DATE: 11/21/2022

BID BOND

STATE OF FLORIDA

COUNTY OF PALM BEACH

KNOW ALL MEN THESE PRESENT: That we, Hinterland Group Inc. (hereinafter called "Principal"), and Atlantic Specialty Insurance Company (hereinafter called "Surety") are held and firmly bound unto Palm Beach County, a Political Subdivision in the State of Florida, (hereinafter called "County") in the sum of Five Percent of Bid Amount Dollars, ($ 5% of Bid Amount), lawful money of the United States of America, for the payment of which sum will and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly be these presents;

WHEREAS, the "Principal" contemplates submitting or has submitted a bid to the Board of County Commissioners, Palm Beach County, Florida, for furnishing and paying for all necessary labor materials, equipment, machinery, tools, apparatus, services, all state workmen's compensation and unemployment compensation taxes incurred in the performance of the Contract, means of transportation for and complete Construction of: 2022 Pipeline Continuing Construction Contract (PBCWUD Project No.: 22-032) in the County of Palm Beach, State of Florida; and

WHEREAS, it was a condition precedent to the submission of said bid that a certified check cashier's check, money order or bid bond in the amount of five percent (5%) of the base bid be submitted with said bid as a guarantee that the bidder would, if given a Notification from County, enter into a written contract with the County, and furnish a public construction bond in an amount equal to one hundred (100%) of the total Contract, within fourteen (14) consecutive calendar days after the County issues the Notification from County

NOW THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH that, if the bid of the "Principal" herein is accepted and said "Principal," within fourteen (14) consecutive calendar days after written notice being given of such acceptance, (I) enter into a written contract with the County and (ii) furnishes a public construction contract bond in the amount equal to one hundred percent (100%) of the total contract amount and in a form satisfactory to the County, then this obligation shall be void. If the Principal fails to complete (i) and (ii) above, the sum herein stated shall be due and payable to the "County," and the "Surety" herein agrees to pay said sum immediately upon demand of the "County," in good and lawful money of the United States of America, as liquidated damages for failure of said "Principal."

IN WITNESS WHEREOF, the said Hinterland Group Inc. as "Principal" herein, has caused these presents to be signed in its name, by its Project Director, and attested by its President, under the corporate seal, and the said Atlantic Specialty Insurance Company, as "Surety" herein, has caused these presents to be signed in its name, by its Attorney-in-Fact, and attested by its corporate Seal, this 21 day of November 2022.

(All bid bonds shall use this form except for certified cashier's check)

ATTEST:

(Signature)

Daniel Duke, III - President
(Printed Name)

(SEAL)

Hinterland Group Inc.
(Contractor Name)

By:

Chase Rogers
(Printed Name)

Title: Project Director

Address 2051 W. Blue Heron Blvd.

Riviera Beach, FL 33404

ATTEST:

(Signature)

Candy Wagner
(Printed Name)

(SEAL)

Atlantic Specialty Insurance Company
(Surety Name)

By:

Taylor Wagner
(Printed Name)

Title: Attorney-in-Fact

Address 605 Highway 169 North Suite 800

Plymouth, MN 55441

(Bidder to attach valid Bonding Company Power of Attorney)

intact INSURANCE

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS, that ATLANTIC SPECIALTY INSURANCE COMPANY, a New York corporation with its principal office in Plymouth, Minnesota, does hereby constitute and appoint: **Daniel F. Wagner, Taylor D. Wagner, Daniel F. Wagner, Jr**, each individually if there be more than one named, its true and lawful Attorney-in-Fact, to make, execute, seal and deliver, for and on its behalf as surety, any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof; provided that no bond or undertaking executed under this authority shall exceed in amount the sum of: **unlimited** and the execution of such bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof in pursuance of these presents, shall be as binding upon said Company as if they had been fully signed by an authorized officer of the Company and sealed with the Company seal. This Power of Attorney is made and executed by authority of the following resolutions adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the President, any Senior Vice President or Vice-President (each an "Authorized Officer") may execute for and in behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and affix the seal of the Company thereto; and that the Authorized Officer may appoint and authorize an Attorney-in-Fact to execute on behalf of the Company any and all such instruments and to affix the Company seal thereto; and that the Authorized Officer may at any time remove any such Attorney-in-Fact and revoke all power and authority given to any such Attorney-in-Fact.

Resolved: That the Attorney-in-Fact may be given full power and authority to execute for and in the name and on behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and any such instrument executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed and sealed by an Authorized Officer and, further, the Attorney-in-Fact is hereby authorized to verify any affidavit required to be attached to bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof.

This power of attorney is signed and sealed by facsimile under the authority of the following Resolution adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the signature of an Authorized Officer, the signature of the Secretary or the Assistant Secretary, and the Company seal may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing an Attorney-in-Fact for purposes only of executing and sealing any bond, undertaking, recognizance or other written obligation in the nature thereof, and any such signature and seal where so used, being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed.

IN WITNESS WHEREOF, ATLANTIC SPECIALTY INSURANCE COMPANY has caused these presents to be signed by an Authorized Officer and the seal of the Company to be affixed this twenty-seventh day of April, 2020.

ATLANTIC SPECIALTY INSURANCE COMPANY CORPORATE SEAL 1986 NEW YORK

By _____
Paul J. Brehm, Senior Vice President

STATE OF MINNESOTA
HENNEPIN COUNTY

On this twenty-seventh day of April, 2020, before me personally came Paul J. Brehm, Senior Vice President of ATLANTIC SPECIALTY INSURANCE COMPANY, to me personally known to be the individual and officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, that he is the said officer of the Company aforesaid, and that the seal affixed to the preceding instrument is the seal of said Company and that the said seal and the signature as such officer was duly affixed and subscribed to the said instrument by the authority and at the direction of the Company.

ALISON DWAN NASH-TROUT
NOTARY PUBLIC - MINNESOTA
My Commission Expires
January 31, 2025

_____
Notary Public

I, the undersigned, Secretary of ATLANTIC SPECIALTY INSURANCE COMPANY, a New York Corporation, do hereby certify that the foregoing power of attorney is in full force and has not been revoked, and the resolutions set forth above are now in force.

Signed and sealed. Dated 21 day of November, 2022

ATLANTIC SPECIALTY INSURANCE COMPANY CORPORATE SEAL 1986 NEW YORK

This Power of Attorney expires
January 31, 2025

_____
Kara Barrow, Secretary

Please direct bond verifications to surety@intactinsurance.com

ATTACHMENT NO. 2 TO BID FORM

PBCWUD PROJECT NO.: 22-032

PROJECT NAME: 2022 Pipeline Continuing Construction Contract

DATE: 11/21/2022

Office of Equal Business Opportunity
Vendor forms included as part of Bid Form

Go to Palm Beach County's Office of Equal Business Opportunity (OEBO) website http://discover.pbcgov.org/oebo/Pages/Documents.aspx to download the latest version of the required vendor forms listed below:

OEBO *Schedule 1 – List of Proposed Contractor/Consultant and Subcontractor/Subconsultant Participation*

OEBO *Schedule 2 – Letter of Intent to Perform as a Subcontractor/Subconsultant*

Instructions on Completing SBE-M-WBE Schedules1-2

THESE SCHEDULES MUST BE COMPLETED AS APPLICABLE AND DEFINED IN INSTRUCTIONS TO BIDDERS SECTION 5.3 AND MUST BE SUBMITTED IN ACCORDANCE WITH PARAGRAPH 5.4.2 OF THE INSTRUCTIONS TO BIDDERS.

OEBO SCHEDULE 1

SOLICITATION/PROJECT/BID NAME: 2022 Pipeline Continuing Construction Contract

SOLICITATION/PROJECT/BID NO.: WUD 22-032

SOLICITATION OPENING/SUBMITTAL DATE: 11/22/2022

COUNTY DEPARTMENT: WUD

Section A

PLEASE LIST THE DOLLAR AMOUNT OR PERCENTAGE OF WORK TO BE COMPLETED BY THE PRIME CONTRACTOR/CONSULTANT* ON THE PROJECT:

NAME OF PRIME RESPONDENT/BIDDER: Hinterland Group Inc.

ADDRESS: 2051 W. Blue Heron Blvd., Riviera Beach, FL 33404

CONTACT PERSON: Chase Rogers, Project Director

PHONE NO.: 561-640-3503

E-MAIL: info@hinterlandgroup.com

PRIME'S DOLLAR AMOUNT OR PERCENTAGE OF WORK: 79.05%

*SMWBE Prime's must include their percentage or dollar amount in the Total Participation line under section B.

Non-SBE	MBE	WBE	SBE
☑	☐	☐	☐

Section B

PLEASE LIST THE DOLLAR AMOUNT OR PERCENTAGE OF WORK TO BE COMPLETED BY ALL SUBCONTRACTORS/SUBCONSULTANTS ON THE PROJECT BELOW:

Subcontractor/Sub consultant Name	(Check all Applicable Categories) Non-SBE	MBE Minority Business	WBE Women Business	SBE Small Business	DOLLAR AMOUNT OR PERCENTAGE OF WORK Black	Hispanic	Women	Caucasian	Asian	Other
1. Utility Supply Associates Inc.	☐	☐	☐	☑				8,500,000.00		
2. Almazan Construction	☐	☑	☐	☑		1,978,000.00		x 60%		
3.	☐	☐	☐	☐				=5,100,000.00		
4.	☐	☐	☐	☐						
5.	☐	☐	☐	☐						
Total						1,978,000.00/5.85%		5,100,000.00/15.1%		

(Please use additional sheets if necessary)

Total Bid/Offer Price $ 33,760,413.00

Total Certified S/M/WBE Participation $ 7,078,000.00/20.95%

I hereby certify that the above information is accurate to the best of my knowledge: Chase Rogers — Project Director

Name & Authorized Signature — Title

Note:

1. **The amount listed on this form for a Subcontractor/sub consultant must be supported by price or percentage listed on the properly executed Schedule 2 or attached signed proposal.**
2. **Only those firms certified by Palm Beach County at the time of solicitation due date are eligible to meet the established OEBO Affirmative Procurement Initiative (API). Please check the applicable box and list the dollar amount or percentage under the appropriate demographic category.**
3. **Modification of this form is not permitted and will be rejected upon submittal.**

REVISED 09/22/2022

OEBO LETTER OF INTENT – SCHEDULE 2

A completed schedule 2 is a binding document between the Prime Contractor/consultant and a Subcontractor/subconsultant (for any tier), and should be treated as such. The Schedule 2 shall contain bolded language indicating that by signing the Schedule 2, both parties recognize this Schedule as a binding document. All Subcontractors/subconsultants, including any tiered Subcontractors/subconsultants, must properly execute this document. Each properly executed Schedule 2 must be submitted with the bid/proposal.

SOLICITATION/PROJECT NUMBER: WUD 22-032

SOLICITATION/PROJECT NAME: 2022 Pipeline Continuing Construction Contract

Prime Contractor: Hinterland Group Inc. Subcontractor: Utility Supply Associates Inc.

(Check box(s) that apply)

☑ SBE ☐ WBE ☐ MBE ☐ M/WBE ☐ Non-S/M/WBE Date of Palm Beach County Certification (if applicable): 8-20-2022 - 8-21-2025

The undersigned affirms they are the following (select one from each column **if applicable**):

Column 1

☑ Male ☑ Female

Column 2

☐ African-American/Black ☐ Asian American ☑ Caucasian American
☐ Hispanic American ☐ Native American

Column 3

☑ Supplier

S/M/WBE PARTICIPATION – S/M/WBE Primes must document all work to be performed by their own work force on this form. Failure to submit a properly executed Schedule 2 for any **S/M/WBE** participation may result in that participation not being counted. Specify in detail, the scope of work to be performed or items supplied with the dollar amount and/or percentage for each work item. S/M/WBE credit will only be given for the areas in which the S/M/WBE is certified. A detailed proposal may be attached to a properly executed Schedule 2.

Line Item	Item Description	Unit Price	Quantity/ Units	Contingencies/ Allowances	Total Price/Percentage
1-185	Pipe Material Supplier	$8,500,000.00	1/LS	N/A	$8,500,000.00
					x 60%
					= $5,100,000.00

The undersigned Subcontractor/subconsultant is prepared to self-perform the above-described work in conjunction with the aforementioned project at the following total price or percentage: $5,100,000.00/15.1%

If the undersigned intends to subcontract any portion of this work to another Subcontractor/subconsultant, please list the business name and the amount below accompanied by a separate properly executed Schedule 2.

_____ **Price or Percentage:** _____

Name of 2nd/3rd tier Subcontractor/subconsultant

Hinterland Group Inc.
Print Name of Prime

By: _____
Authorized Signature

Chase Rogers
Print Name

Project Director
Title

Date: 11/21/2022

Utility Supply Associates Inc.
Print Name of Subcontractor/subconsultant

By: _____
Authorized Signature

William Potts
Print Name

Secretary Treasurer Director
Title

Date: 11/21/2022

Revised 09/17/2019

OEBO LETTER OF INTENT – SCHEDULE 2

A completed Schedule 2 is a binding document between the Prime Contractor/consultant and a Subcontractor/subconsultant (for any tier) and should be treated as such. The Schedule 2 shall contain bolded language indicating that by signing the Schedule 2, both parties recognize this Schedule as a binding document. All Subcontractors/subconsultants, including any tiered Subcontractors/subconsultants, must properly execute this document. Each properly executed Schedule 2 must be submitted with the bid/proposal.

SOLICITATION/PROJECT NUMBER: WUD 22-032

SOLICITATION/PROJECT NAME: 2022 Pipeline Continuing Construction Contract

Prime Contractor: Hinterland Group Inc. Subcontractor: Almazan Construction

(Check box(s) that apply)

☑ SBE ☐ WBE ☑ MBE ☐ M/WBE ☐ Non-S/M/WBE Date of Palm Beach County Certification (if applicable): 9/7/22

The undersigned affirms they are the following (select one from each column **if applicable**):

Column 1	Column 2	Column 3
☑ Male ☐ Female	☐ African-American/Black ☐ Asian American ☐ Caucasian American ☑ Hispanic American ☐ Native American	☐ Supplier

S/M/WBE PARTICIPATION – S/M/WBE Primes must document all work to be performed by their own work force on this form. Failure to submit a properly executed Schedule 2 for any S/M/WBE participation may result in that participation not being counted. Specify in detail, the scope of work to be performed or items supplied with the dollar amount and/or percentage for each work item. S/M/WBE credit will only be given for the areas in which the S/M/WBE is certified. A detailed proposal may be attached to a properly executed Schedule 2.

Line Item	Item Description	Unit Price	Quantity/ Units	Contingencies/ Allowances	Total Price/Percentage
245-253	Paving/Resurfacing				
255-258	Construction, sidewalk and driveway/Curb and Gutter				
274	Construction, General				
276	Construction, General				
	Total	1,978,000.00	1/LS		1,978,000.00

The undersigned Subcontractor/subconsultant is prepared to self-perform the above-described work in conjunction with the aforementioned project at the following total price or percentage: $1,978,000.00

If the undersigned intends to subcontract any portion of this work to another Subcontractor/subconsultant, please list the business name and the amount below accompanied by a separate properly executed Schedule 2.

_____ **Price or Percentage:** _____

Name of 2nd/3rd tier Subcontractor/subconsultant

Hinterland Group Inc.
Print Name of Prime

By: _____
Authorized Signature

Chase Rogers
Print Name

Project Director
Title

Date: 11/21/2022

Almazan Construction
Print Name of Subcontractor/subconsultant

By: _____
Authorized Signature

Samuel Almazan
Print Name

President
Title

Date: 11/22/22

ALMAZAN CONSTRUCTION

2771 Vista Parkway, Unit F6
West Palm Beach, FL 33411
Telephone: (561) 812-3672

E-Mail: info@almazanconstruction.com

CGC1522526

Proposal

Date: 11/22/2022
To: Hinterland Group
Attn: Chase Rodgers
Subject: 2022 Pipeline Continuing Contract

Almazan Construction is pleased to quote a price on the following specifically described scopes of work:

MOBILIZATION (MILL / PAVE) (PER MOVE)	1	EA	$	1,000.00	$	~~1,000.00~~
MOBILIZATION (CONCRETE) (PER MOVE)	1	EA	$	500.00	$	~~500.00~~
Bid Items:						
245) Milling of Asphalt (1.5" - 2" thick)	10,000	SY	$	5.60	$	56,000.00
246) Asphalt Overlay	1,500	TNS	$	295.00	$	442,500.00
247) Asphalt Roadway Removal and Restoration (2.5" thick)	10,000	SY	$	37.00	$	370,000.00
248) Asphalt Roadway Restoration - Additional Thickness of 1" per SY	10,000	SY	$	17.00	$	170,000.00
249) Asphalt Driveway Removal and Restoration (1.5" thick)	1,000	SY	$	81.00	$	81,000.00
250) Concrete Driveway Removal and Restoration	500	SY	$	98.00	$	49,000.00
251) Stamped Concrete Drivway Removal and Restoration	200	SY	$	155.00	$	31,000.00
252) Concrete Paver Brick Driveway Removal and Restoration	200	SY	$	83.00	$	16,600.00
253) Painted Concrete Driveway Remocal and Restoration	200	SY	$	252.00	$	50,400.00
255) Asphalt Sidewalk Removal and Restoration (PAVING ONLY)	1,000	SY	$	81.00	$	81,000.00
256) Concrete Sidewalk Removal and Restoration	4,000	SY	$	74.00	$	296,000.00
257) Concrete Curb & Gutter Removal & Restoration	1,500	LF	$	56.00	$	84,000.00
258) Concrete Flush Header Curb Removal & Restoration	800	LF	$	45.00	$	36,000.00
274) Demucking with Imported Clean Fill (Delivery Only)	5,000	CY	$	19.50	$	97,500.00
276) Compacted Clean Fill (Delivery Only)	6,000	CY	$	19.50	$	117,000.00
				TOTAL		~~$ 1,979,500.00~~ $1,978,000.00

*** All items are qouted as restoration only. No removals are included.**

Bid excludes permits, fees, performance and payment bonds, certified as-builts, construction layout, MOT, nor unforeseen items. It does not include any P-401 Asphalt and FAA. We purpose hereby to furnish material and labor complete in accordance with the above specifications with payments to be made as follows: **Due upon completion.**

Sincerely,
Almazan Construction

Juan A. Garza

Juan A. Garza
Estimator

Please Note: Proposal may be withdrawn in 30 days.
Please sign and return if acceptance of proposal.

Signature _____ Date _____
Please Note: By signing customer agrees to the terms of payment.

ATTACHMENT NO. 3 TO BID FORM

Certification of Business Location

PBCWUD PROJECT NO.: 22-032

PROJECT NAME: 2022 Pipeline Continuing Construction Contract

In accordance with the Palm Beach County Local Preference Ordinance, as amended, a preference will be given to: (1) those bidders having a permanent place of business in Palm Beach County ("County"); and, (2) those bidders having a permanent place of business in the Glades providing goods or services to be utilized in the Glades. To receive a local preference, bidders must have a permanent place of business in the County or in the Glades, as applicable, prior to the County's issuance of any solicitation. A Business Tax Receipt issued by the Palm Beach County Tax Collector is required, unless specifically exempted by law, and will be used to verify the bidder's permanent place of business. The bidder must submit this Certification of Business Location ("Certification") along with the required Business Tax Receipt at the time of bid submission. This Certification is the sole determinant of local preference eligibility. Errors in the completion of this Certification or failure to submit this completed Certification will cause the bidder to not receive a local preference.

I. Bidder is a:

✓ **Local Business:** A local business has a permanent place of business in Palm Beach County.

(Please indicate):

✓ Headquarters located in Palm Beach County

✓ Permanent office or other site located in Palm Beach County from which a vendor will produce a substantial portion of the goods or services.

____ **Glades Business** A Glades business has a permanent place of business in the Glades.

(Please indicate):

____ Headquarters located in the Glades

____ Permanent office or other site located in the Glades from which a vendor will produce a substantial portion of the goods or services.

____ **Non-local Business** The Bidder does not have a permanent place of business in Palm Beach County.

II. The attached copy of the bidder's Palm Beach County Business Tax Receipt verifies the bidder's permanent place of business.

THIS CERTIFICATION is submitted by Chase Rogers (Name of Individual), as Project Director (Title/Position), of Hinterland Group Inc. (Firm Name of Bidder).

who hereby certifies that the information stated above is true and correct and that the Palm Beach County Business Tax Receipt is a true and correct copy of the original. Further, it is hereby acknowledged that any misrepresentation by the bidder on this Certification will be considered an unethical business practice and be grounds for sanctions against future County business.

HINTERLAND GROUP INC. SEAL FLORIDA

(Signature) Chase Rogers, Project Director 11/21/2022 (Date)

Attachment 3a to Bid Form N/A

Certification of Business Location – Glades Subcontractor

In accordance with the Palm Beach County Local Preference Ordinance, as amended, a preference will be given to non-Glades business utilizing Glades subcontractors providing services to be utilized in a project located in the Glades. To receive a local preference, Glades subcontractors must have a permanent place of business in the Glades prior to the County's issuance of any solicitation. A Business Tax Receipt issued by the Palm Beach County Tax Collector is required, unless specifically exempted by law, and will be used to verify the subcontractor's permanent place of business. The bidder must submit this Certification of Business Location ("Certification") along with the required Business Tax Receipt at the time of bid submission. This Certification is the sole determinant of local preference eligibility. Errors in the completion of this Certification or failure to submit this completed Certification will cause the bidder to not receive a Glades local preference.

I. Subcontractor is a: **Glades Business** A Glades business has a permanent place of business in the Glades.

(Please indicate):

_____ Headquarters located in the Glades

_____ Permanent office or other site located in the Glades from which a vendor will produce a substantial portion of the goods or services.

II. Subcontractor's Scope of Work and Bid Price:

Scope of Work: _____

_____

_____

Bid Price: _____

Business Address: _____

_____

_____

II. The attached copy of the subcontractor's Palm Beach County Business Tax Receipt verifies the subcontractor's permanent place of business.

THIS CERTIFICATION is submitted by Chase Rogers, as
(Name of Individual)

Project Director, of Hinterland Group Inc.
(Title/Position) (Firm Name of Subcontractor)

who hereby certifies that the information stated above is true and correct and that the Palm Beach County Business Tax Receipt is a true and correct copy of the original. Further, it is hereby acknowledged that any misrepresentation by the subcontractor on this Certification will be considered an unethical business practice and be grounds for sanctions against future County business.

HINTERLAND GROUP INCORPORATED SEAL FLORIDA

Chase Rogers, Project Director 11/21/2022
(Signature) (Date)

ATTACHMENT NO. 4 TO BID FORM

LIST OF MAJOR SUBCONTRACTORS

PBCWUD PROJECT NO.: 22-032

PROJECT NAME: 2022 Pipeline Continuing Construction Contract

DATE: 11/21/2022

A list of major subcontractors to be utilized on the project shall be provided herein. Refer to Instructions to Bidders, Paragraph 5.1.6. The Contractor shall complete all information (Trade, Subcontractor, License/Certificate Number) in all categories that apply. Suppliers or off-site fabricators are not to be listed.

The purpose of this list is to discourage "sub-shopping" in general, to verify appropriate licenses and to provide a basis for the implementation of the substitution provisions of this Contract (Instructions to Bidder 2.3). The receipt of this Attachment in no way constitutes approval or disapproval by the County of any subcontractor listed. Failure to furnish all information may result in rejection of bid.

The Bidder has estimated the following are the major subcontractors to be used if the undersigned is awarded the contract.

TRADE	SUBCONTRACTOR	LICENSE/CERTIFICATE NO.
ASPHALT & CONCRETE	ALMABAN	ON FILE

Bidding Contractor: Hinterland Group Inc.

ATTACHMENT NO. 5 TO BID FORM
TRENCH SAFETY AFFIDAVIT

PBCWUD PROJECT NO.: 22-032

PROJECT NAME: 2022 Pipeline Continuing Construction Contract

DATE: 11/21/2022

FAILURE TO COMPLETE THIS FORM SHALL RESULT IN THE BID BEING DECLARED NONRESPONSIVE.

Hinterland Group Inc. (NAME OF CONTRACTOR) hereby provides written assurance that the Trench Safety Standards identified in the Occupational Safety & Health Administration's Excavation Safety Standards, (OSHA) 29 C.F.R. 1926.650 Subpart P will be adhered to during trench excavation in accordance with Florida Statute 553.60 through 553.64 inclusive (1990), "Trench Safety Act".

The undersigned acknowledges that included in the various items of the proposal and in the Total Bid Price are costs for complying with the Florida "Trench Safety Act" as summarized below: (Attached additional sheets as necessary)

Schedule Item	Trench Safety Measure (Slope, Trench Shield, etc.)	Cost (Per Linear ft. of trench, or per sq. ft. of shoring)
ALL	BENCHING/SLOPE	1.00/LF
	TOTAL	

HINTERLAND GROUP INC. CORPORATE SEAL FLORIDA

(Signature) 11/21/2022 (Date) $5,000.00

Chase Rogers (Printed Name) Project Director (Title)

STATE OF FLORIDA

COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 21 day of November, 2022, by Chase Rogers, who is ☑ personally known to me or ☐ has produced N/A as identification.

LORI GUILD
MY COMMISSION # HH 298713
EXPIRES: August 9, 2026

Lori Guild
(Signature of Notary Public – State of Florida)

Lori Guild
(Print, Type, or Stamp Commissioned Name of Notary Public)

END OF SECTION

Locations: Palm Beach – Cocoa – Stuart

COMPANY QUALIFICATION & CERTIFICATION PACKAGE



WWW.HINTERLANDGROUP.COM

CORPORATE OFFICE:

2051 W Blue Heron Blvd, Riviera Beach, FL 33404
561-640-3403 PH
561-640-3504 FX



INFO@HINTERLANDGROUP.COM

COMPANY QUALIFICATION & CERTIFICATION PACKAGE

COVER PAGE

Corporate Resume ---------- Page 3

Minutes of Special Meeting ---------- Page 4

Department of State Letter of Incorporation ---------- Page 5

Sunbiz Information ---------- Page 6

Insurance Information ---------- Page 8

Bondability Letter ---------- Page 9

State Licenses ---------- Page 10

Business Tax Receipt ---------- Page 13

FDOT Certificate of Qualification ---------- Page 25

Reference Letters ---------- Page 27

Pre-Qualified Vendor ---------- Page 32

Owned Equipment ---------- Page 34

Prior Experience ---------- Page 42

CIPP Roster ---------- Page 57

Installed Liner Quantities ---------- Page 58

CIPP Prior Experience ---------- Page 60

HINTERLAND GROUP INC.

2051 W. Blue Heron Blvd.
Riviera Beach, FL 33404
www.hinterlandgroup.com
561-640-3503

CORPORATE RESUME

DANIEL A. DUKE, III

President

Daniel began his career working on land development projects with his father, and came to realize his passion for the underground industry. In 2006 Daniel III and His father, Daniel Jr, decided to dive into the underground industry full bore and started Hinterland Group out of a small office space in Cocoa, FL. Daniel and his father served as the field crew through the first few years as Hinterland Group developed. Through Hard work and dedication to the best final product possible and customer satisfaction the company has grown exponentially over the years. Daniel has worked on projects of every nature related to the underground industry over the years, including all facets of water, waste water and storm water. Daniel remains a key role player at Hinterland Group and stays involved with all the daily operations. His oversight with all the projects ensures that the final product and customer that HG was built on continue to carry on through every project the company completes.

DANIEL A. DUKE, JR.

Operations

Daniel has Twenty-Seven years of direct experience including various wastewater lift station installations, gravity and force main sewer installations. He provides direct daily supervision of superintendents and skilled labor, management of project schedules, asset management and logistics for entire company personnel and equipment fleet.

CHARLES BREIG

Electrical Contractor

Charles has over 40 years of commercial electrical experience through out the state of Florida. He currently holds a Florida Electrical Contractors License (EC13003615). Charles joined the HGI team in June 2006.

JAY B. BREIG

Project Manager/Operations

Jay began working in the waste water industry in 2004 for a clarifier rehabilitation company, and then a full service underground utility company in 2006. He then joined the HG team in early 2008, and since then has been a huge contributing factor to the growth of HG as a company. Jay brought a wealth knowledge of the water and waste water industry to the company and allowed HG to broaden its capabilities as an underground contractor. Jay served as a lead foreman for many years on all of the company's largest and most difficult projects ranging from lift station installs to master pumping stations and neighborhood revitalization projects before moving into a management position. Jay now oversees the construction operations for HG by scheduling all crews, coordinating project startups with project managers, arranging equipment deliveries, communicating daily with crew foreman and superintendents and making sure that all jobs are completed properly, on time and under budget.

HINTERLAND GROUP INC.

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561-640-3503

CORPORATE RESUME (CONT.)

CHASE R. ROGERS, E.I.

Estimating Manager, Engineer

Chase has been with the HG team since 2008, in its very early stages. Prior to working at HG Chase had spent several years in the construction industry working for both residential contractors and an industrial electrical contractor. Chase began his career at HG halfway through his collegiate career as a field staff member working on lift station rehabilitation. Since then he has played many roles in the company both in the field and eventually into the office. Chase obtained his Bachelor's degree in civil engineering from the University of Central Florida, before making the transition into the office and has since become a key staff member for HG. He covered the role of Estimator and Project Manager for many years as HG expanded its scope of services and coverage area. As the need for more management grew Chase has fallen into a managerial role for the company, overseeing the estimating and contract procurement departments and helping to coordinate scheduling and crews with the project management team. Chase has worked on all facets of the underground industry over the years from Stormwater and drainage projects, to large pipeline projects, water and waste water treatment plants, and every type of lift station project imaginable.

DANIEL A. DUKE III

President/Founder

2051 W. Blue Heron Blvd.
Riviera Beach, FL 33404
dduke1@hinterlandgroup.com
561-640-3503

PERSONAL PROFILE

Daniel began his career working on land development projects with his father, and came to realize his passion for the underground industry. In 2006 Daniel III and His father, Daniel Jr, decided to dive into the underground industry full bore and started Hinterland Group out of a small office space in Cocoa, FL. Daniel and his father served as the field crew through the first few years as Hinterland Group developed. Through Hard work and dedication to the best final product possible and customer satisfaction the company has grown exponentially over the years. Daniel has worked on projects of every nature related to the underground industry over the years, including all facets of water, waste water and storm water. Daniel remains a key role player at Hinterland Group and stays involved with all the daily operations. His oversight with all the projects ensures that the final product and customer that HG was built on continue to carry on through every project the company completes.

QUALIFICATIONS

- Florida General Contractor's License (CGC1520354)
- Florida Certified Building Contractor's License (CBC1255077)
- Certified Underground and Excavation Contractor License (CUC1224634)

PROJECT RELATED BACKGROUND

ORANGE COUNTY EWRF IN PLANT PUMP STATION REPLACEMENT

Project Owner: Orange County
Project Location: Orlando, FL
Project Value: $1,323,642.00
Role: Project Manager

The Process 395 North In-Plant Pump Station Replacement. Furnishing and installation of a new triplex pumps station with three (3) 47 HP Flygt or ABS submersible pumps. Installation of a new 12 feet diameter wet well structure. Furnishing and Installation of the above ground flanged piping manifold with appurtenances. Installation of a new sanitary sewer manhole and 65 linear feet of 16" DIP force main and 48 linear feet of 24" PVC SDR 2.6 gravity sewer. The conversion of the existing pump station wet well into gravity sewer manhole. Demolition of existing valve vault and existing force main.

NORTH PALM BEACH EARMAN RIVER TRANSFER PUMP STATION

Project Owner: Village of North Palm Beach
Project Location: North Palm Beach, FL
Project Value: $346,680.00
Role: Project Manager

Installation of a water detection switch in the main mops pump station to confirm that there is water in the wet well.

PALM BEACH COUNTY GATOR BLVD WATERMAIN EXTENSION

Project Owner: Palm Beach County
Project Location: Belle Glade, FL
Project Value: $792,003.00
Role: Project Manager

Installation of approximately 4,000 Linear Feet of 12" water main on Gator Blvd from E Sugarhouse Road to Duda Road in Belle Glade and included fire hydrants, appurtenances, fittings and all necessary connections to provide a complete and functional water system.

CHASE R. ROGERS, E.I.

Estimating Manager/Project Director

2051 W. Blue Heron Blvd.
Riviera Beach, FL 33404
crogers@hinterlandgroup.com
561-640-3503

PERSONAL PROFILE:

Chase has been with the HG team since 2008, in its very early stages. Prior to working at HG Chase had spent several years in the construction industry working for both residential contractors and an industrial electrical contractor. Chase began his career at HG halfway through his collegiate career as a field staff member working on lift station rehabilitation. Since then he has played many roles in the company both in the field and eventually into the office. Chase obtained his Bachelor's degree in civil engineering from the University of Central Florida, before making the transition into the office and has since become a key staff member for HG. He covered the role of Estimator and Project Manager for many years as HG expanded its scope of services and coverage area. As the need for more management grew Chase has fallen into a managerial role for the company, overseeing the estimating and contract procurement departments and helping to coordinate scheduling and crews with the project management team. Chase has worked on all facets of the underground industry over the years from Stormwater and drainage projects, to large pipeline projects, water and waste water treatment plants, and every type of lift station project imaginable.

QUALIFICATIONS:

- Bachelor's Degree in Civil Engineering from University of Central Florida
- Engineering Intern, E.I.
- Member of ASCE
- OSHA Confined Space Training
- Intermediate MOT certification

PROJECT RELATED BACKGROUND

STRUCTURAL REPAIR OF THE FLOW EQUALIZATION BASIN AT ECR

Project Owner: City of West Palm Beach
Project Value: $528, 587.00
Project Location: West Palm Beach, FL
Role: On Site Foreman

Complete rehabilitation of the flow equalization basin at the City of West Palm Beach East Central Regional Water Reclamation Facility. Dewatering and cleaning/removal of all silt and sediment from the EQ basin, leak stopping throughout, repairs to damaged and spalling concrete and replacement of piping for the EQ basin floor pumps.

PUMP REPLACEMENT FOR THE RAW WATER BOOSTER PUMP STATION

Project Owner: Collier County
Project Value: $653,400.00
Project Location: Naples, FL
Role: Project Manager

Removal and Replacement of four 300HP split case pumps and their associated VFD drives. All 18" and 24" piping and valves were replaced to accommodate the new pumps.

CUDJOE INNER ISLANDS - MASTER PUMPING STATIONS

Project Owner: Florida Keys Aqueduct Authority
Project Value: $2,313,374.00
Project Location: Cudjoe Key, FL
Role: Project Manager

Removal and Replacement of four 300HP split case pumps and their associated VFD drives. All 18" and 24" piping and valves were replaced to accommodate the new pumps.

JAY B. BREIG

Construction Operations Manager

2051 W. Blue Heron Blvd.
Riviera Beach, FL 33404
jbreig@hinterlandgroup.com
561-640-3503

PERSONAL PROFILE

Jay began working in the waste water industry in 2004 for a clarifier rehabilitation company, and then a full service underground utility company in 2006. He then joined the HG team in early 2008, and since then has been a huge contributing factor to the growth of HG as a company. Jay brought a wealth knowledge of the water and waste water industry to the company and allowed HG to broaden its capabilities as an underground contractor. Jay served as a lead foreman for many years on all of the company's largest and most difficult projects ranging from lift station installs to master pumping stations and neighborhood revitalization projects before moving into a management position. Jay now oversees the construction operations for HG by scheduling all crews, coordinating project startups with project managers, arranging equipment deliveries, communicating daily with crew foreman and superintendents and making sure that all jobs are completed properly, on time and under budget.

QUALIFICATIONS

- OSHA Confined Space Training
- Advanced MOT Certification
- Crane and Rigging Certification

PROJECT RELATED BACKGROUND

CITY OF WESTON INDIAN TRACE LIFT STATION REHABILITATION

Project Owner: The City of Weston
Project Location: The City of Weston, FL
Project Value: $689,531.00
Role: Project Manager

This project consisted of the refurbishing, repair, and, replacement of concrete, and metal lift station components along with site related improvements for over 30 Lift Stations in the City of Weston, Florida.

PALM BEACH COUNTY WATER UTILITIES DISTRICT ZONE 1 WATERMAIN IMPROVEMENTS

Project Owner: Palm Beach County WUD
Project Location: Belle Glades, FL
Project Value: $1,121,551.20
Role: Project Manager

Improvement and replacement of approximately 2,500 LF of WM and relocation of services from the rear to front of homes.

CLIFF CREEK STORMWATER QUALITY RETROFIT

Project Owner: City of Melbourne
Project Location: City of Melbourne, FL
Project Value: $715,290.00
Role: Project Manager

The largest baffle box East of the Mississippi for the City of Melbourne, Fl. As part of the "Cleaning Our Lagoon Program." The project included installing a 24' x 30' x 12' deep baffle box structure, 7" x 5" box culvert, corresponding endwalls and canal revetment.

MINUTES OF SPECIAL MEETING

OF

HINTERLAND GROUP INC.

Minutes of Special Meting of Hinterland Group Inc. held at 2051 W. Blue Heron Blvd. Riviera Beach, FL 33404 on this 26th day of August, 2019

The President called the meeting to consider the following business: The authorization of Chase Rogers and Danny Duke, Jr., to sign any and all documentation with regard to the Company.

On motion duly made and carried, the meeting proceeded to approve the authorization.

Chase Rogers and Danny Duke, Jr., have the authority to sign all documents as stated above.

There being no further business, the meeting was adjourned.

Dated 8/26/19

Daniel Duke III – President

Hinterland Group Inc.

HINTERLAND GROUP INC. CORPORATE SEAL FLORIDA

STATE OF Florida

COUNTY OF Palm Beach

The foregoing instrument was acknowledged before me this 8/26/19, by Daniel Duke III

Emily Meng

Notary Public

Printed Name: Emily Meng

My Commission Expires: 07/19/2022

EMILY MENG
State of Florida-Notary Public
Commission # GG 240228
My Commission Expires
July 19, 2022

State of Florida
Department of State

I certify from the records of this office that HINTERLAND GROUP INC. is a corporation organized under the laws of the State of Florida, filed on June 26, 2006.

The document number of this corporation is P06000086423.

I further certify that said corporation has paid all fees due this office through December 31, 2020, that its most recent annual report/uniform business report was filed on March 2, 2020, and that its status is active.

I further certify that said corporation has not filed Articles of Dissolution.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Third day of March, 2020

Secretary of State

Tracking Number: 4322292258CU

To authenticate this certificate,visit the following site,enter this number, and then follow the instructions displayed.

https://services.sunbiz.org/Filings/CertificateOfStatus/CertificateAuthentication

DIVISION OF CORPORATIONS

Sunbiz.org Division of Corporations

Department of State / Division of Corporations / Search Records / Search by Entity Name /

Detail by Entity Name

Florida Profit Corporation
HINTERLAND GROUP INC.

Filing Information

Document Number	P06000086423
FEI/EIN Number	20-5156844
Date Filed	06/26/2006
State	FL
Status	ACTIVE

Principal Address

2051 WEST BLUE HERON BOULEVARD
RIVIERA BEACH, FL 33404

Changed: 04/30/2018

Mailing Address

2051 WEST BLUE HERON BOULEVARD
RIVIERA BEACH, FL 33404

Changed: 04/30/2018

Registered Agent Name & Address

Wynne, Ryan J, Esq.
1015 W Indiantown Road
Suite 101-A
Jupiter, FL 33458

Name Changed: 02/13/2019

Address Changed: 02/13/2019

Officer/Director Detail

Name & Address

Title PSTD

DUKE, DANIEL A, III
992 W. 15TH STREET
RIVIERA BEACH, FL 33404

Annual Reports

Report Year	Filed Date
2020	03/02/2020
2021	03/08/2021
2022	04/05/2022

Document Images

04/05/2022 -- ANNUAL REPORT	View image in PDF format
03/08/2021 -- ANNUAL REPORT	View image in PDF format
03/02/2020 -- ANNUAL REPORT	View image in PDF format
02/13/2019 -- AMENDED ANNUAL REPORT	View image in PDF format
02/01/2019 -- ANNUAL REPORT	View image in PDF format
04/30/2018 -- Reg. Agent Change	View image in PDF format
01/16/2018 -- ANNUAL REPORT	View image in PDF format
04/12/2017 -- ANNUAL REPORT	View image in PDF format
01/28/2016 -- ANNUAL REPORT	View image in PDF format
11/20/2015 -- Reg. Agent Change	View image in PDF format
01/23/2015 -- ANNUAL REPORT	View image in PDF format
01/10/2014 -- ANNUAL REPORT	View image in PDF format
04/11/2013 -- ANNUAL REPORT	View image in PDF format
04/09/2013 -- Reg. Agent Change	View image in PDF format
04/19/2012 -- ANNUAL REPORT	View image in PDF format
02/17/2011 -- ANNUAL REPORT	View image in PDF format
02/15/2010 -- ANNUAL REPORT	View image in PDF format
04/16/2009 -- ANNUAL REPORT	View image in PDF format
01/20/2008 -- ANNUAL REPORT	View image in PDF format
01/09/2007 -- ANNUAL REPORT	View image in PDF format
06/26/2006 -- Domestic Profit	View image in PDF format

An official website of the United States government
Here's how you know

E-Verify Menu

My Company Account

My Company Profile

Company Information

Company Name

Hinterland Group, Inc.

Doing Business As (DBA)

Company ID

1579646

Enrollment Date

08/21/2020

Employer ID Number

205156844

DUNS Number

Total Number of Employees

100 to 499

NAICS Code

237

Sector

Construction

Subsector

Heavy and Civil Engineering Construction

Edit Company Information

Employer Category

Employer Category

None of these categories apply

Edit Employer Category

Company Locations

Physical Address

2051 W Blue Heron Blvd
Riviera Beach, FL 33404

Mailing Address

Same as Physical Address

Edit Company Locations

Hiring Sites

We have implemented a new policy and require more information for existing and future hiring sites.

Number of Sites

1

Edit Hiring Sites

Company Access and MOU

My Company is Configured to:

Verify Its Own Employees

Memorandum of Understanding

View Current MOU

U.S. Department of Homeland Security

U.S. Citizenship and Immigration Services

Accessibility

Plug-ins

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 01/31/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER South Shore Insurance Inc. 955 SE Central Parkway Stuart FL 34994	**CONTACT NAME:** **PHONE (A/C, No, Ext):** (772) 426-9973 **FAX (A/C, No):** (772) 872-5870 **E-MAIL ADDRESS:**
INSURED Hinterland Group Inc. 2051 West Blue Heron Blvd Riviera Beach, FL 33404	**INSURER(S) AFFORDING COVERAGE** — **NAIC #** INSURER A : Zurich American Insurance Company — 16535 INSURER B : Travelers Property Casualty Company of Amer — 25674 INSURER C : American Guarantee & Liability Insurance Co. — 26247 INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR X XCU Coverage Included X Primary/Non Contributory GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PRO-JECT [ ] LOC OTHER:	x	x	GLO 4956332-02	01/31/2022	01/31/2023	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 300,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS [ ] SCHEDULED AUTOS X HIRED AUTOS [X] NON-OWNED AUTOS	x	x	BAP 4956334-02	01/31/2022	01/31/2023	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
B	X UMBRELLA LIAB [X] OCCUR EXCESS LIAB [ ] CLAIMS-MADE DED RETENTION $			CUP-0T249771-22-F	01/31/2022	01/31/2023	EACH OCCURRENCE AGGREGATE	$ 2,000,000 $ 2,000,000
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N [N] If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	x	WC4956333-02	01/31/2022	01/31/2023	X PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
A	Inland Marine			CPP-6674260-02	01/31/2022	01/31/2023	Installation Floater Rented/Leased Equi	$2,000,000 $500,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Should any of the above policies be cancelled before the expiration date thereof, the issuing insurer will endeavor to mail 30 days written notice to the certificate holder named to the left, but failure to do so shall impose no obligation or liability of any kind upon the insurer, its agents or representatives. Certificate Holder is as an additional insured on blanket form only if required by written contract/agreement with the insured executed prior to injury or damage. A Waiver of Subrogation is provided on blanket form only if required by written contract/agreement with the insured executed prior to injury or damage. Coverage is primary/noncontributory to additional insureds when it is required by written contract/agreement with the insured executed prior to injury or damage.

CERTIFICATE HOLDER

FOR BIDDING PURPOSES ONLY

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE Jennie Lanman

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WAGNER BONDING
&
INSURANCE, INC.

October 19, 2022

Re: Hinterland Group, Inc.

To whom it may concern,

We are the bonding agent for Hinterland Group, Inc. They are bonded by Atlantic Specialty Insurance Company, an "A+XV" rated surety in the AM Best Guide. Hinterland Group, Inc. has an excellent reputation in the community. While each project is approved on its own merits, Hinterland Group, Inc. has the ability to bond single projects in excess of $20,000,000 with an aggregate limit of $100,000,000.

We welcome the opportunity to execute the necessary bonds provided they meet the current underwriting guidelines and the provisions are acceptable to both Hinterland Group, Inc. and Atlantic Specialty Insurance Company.

Should you have any questions or concerns, please do not hesitate to call.

Sincerely,

Wagner Bonding & Insurance, Inc.

Taylor Wagner
Resident Florida Licensed Agent
Attorney-In-Fact

P.O. Box 2868 Lakeland, FL. 33806
Phone 863-859-9823
Fax 863-815-1864

Ron DeSantis, Governor

Melanie S. Griffin, Secretary

Florida dbpr

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

THE UNDERGROUND UTILITY & EXCAVATION CO HEREIN IS CERTIFIED UNDER THE PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

DUKE, DANIEL AMOS III

HINTERLAND GROUP INC
2051 W BLUE HERON BLVD
RIVIERA BEACH FL 33404

LICENSE NUMBER: CUC1224634

EXPIRATION DATE: AUGUST 31, 2024

Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.

This is your license. It is unlawful for anyone other than the licensee to use this document.

Ron DeSantis, Governor

Melanie S. Griffin, Secretary

Florida dbpr

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

THE GENERAL CONTRACTOR HEREIN IS CERTIFIED UNDER THE
PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

DUKE, DANIEL AMOS III

HINTERLAND GROUP INC
2051 W BLUE HERON BLVD
RIVIERA BEACH FL 33404

LICENSE NUMBER: CGC1520354

EXPIRATION DATE: AUGUST 31, 2024

Always verify licenses online at MyFloridaLicense.com

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Ron DeSantis, Governor

Melanie S. Griffin, Secretary

Florida dbpr

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

ELECTRICAL CONTRACTORS' LICENSING BOARD

THE ELECTRICAL CONTRACTOR HEREIN IS CERTIFIED UNDER THE PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

BREIG, CHARLES J

HINTERLAND GROUP INC
7161 NW 74TH STREET
MEDLEY FL 33166

LICENSE NUMBER: EC13003615

EXPIRATION DATE: AUGUST 31, 2024

Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.

This is your license. It is unlawful for anyone other than the licensee to use this document.

ANNE M. GANNON
CONSTITUTIONAL TAX COLLECTOR
Serving Palm Beach County
Serving *you.*

P.O. Box 3353, West Palm Beach, FL 33402-3353
www.pbctax.com Tel: (561) 355-2264

LOCATED AT
2051 W BLUE HERON BLVD
RIVIERA BEACH, FL 33404

TYPE OF BUSINESS	OWNER	CERTIFICATION #	RECEIPT #/DATE PAID	AMT PAID	BILL #
23-0051 GENERAL CONTRACTOR	DUKE DANIEL AMOS III	CGC1520354	B22.619956 - 08/03/22	$99.00	B40148743

This document is valid only when receipted by the Tax Collector's Office.

STATE OF FLORIDA
PALM BEACH COUNTY
2022/2023 LOCAL BUSINESS TAX RECEIPT

LBTR Number: 2015082364
EXPIRES: SEPTEMBER 30, 2023

This receipt grants the privilege of engaging in or managing any business profession or occupation within its jurisdiction and MUST be conspicuously displayed at the place of business and in such a manner as to be open to the view of the public.

5 6 - 1667

HINTERLAND GROUP INC
HINTERLAND GROUP INC
2051 W BLUE HERON BLVD
RIVIERA BEACH FL 33404-5003

ANNE M. GANNON
CONSTITUTIONAL TAX COLLECTOR
Serving Palm Beach County
Serving *you.*

P.O. Box 3353, West Palm Beach, FL 33402-3353
www.pbctax.com Tel: (561) 355-2264

LOCATED AT
2051 W BLUE HERON BLVD
RIVIERA BEACH, FL 33404

TYPE OF BUSINESS	OWNER	CERTIFICATION #	RECEIPT #/DATE PAID	AMT PAID	BILL #
23-0153 BUILDING CONTRACTOR	DUKE DANIEL AMOS III	CBC1255077	B22.620222 - 08/03/22	$99.00	B40160342

This document is valid only when receipted by the Tax Collector's Office.

STATE OF FLORIDA
PALM BEACH COUNTY
2022/2023 LOCAL BUSINESS TAX RECEIPT

LBTR Number: 2018108321
EXPIRES: SEPTEMBER 30, 2023

This receipt grants the privilege of engaging in or managing any business profession or occupation within its jurisdiction and MUST be conspicuously displayed at the place of business and in such a manner as to be open to the view of the public.

5 6 - 1765

HINTERLAND GROUP INC
HINTERLAND GROUP INC
2051 W BLUE HERON BLVD
RIVIERA BEACH FL 33404-5003

ANNE M. GANNON
CONSTITUTIONAL TAX COLLECTOR
Serving Palm Beach County
Serving *you.*

P.O. Box 3353, West Palm Beach, FL 33402-3353
www.pbctax.com Tel: (561) 355-2264

LOCATED AT
2051 W BLUE HERON BLVD
RIVIERA BEACH, FL 33404

TYPE OF BUSINESS	OWNER	CERTIFICATION #	RECEIPT #/DATE PAID	AMT PAID	BILL #
23-0097 UNDERGROUND UTILITY & EXCAVATION	DUKE DANIEL AMOS III	CUC1224634	B22.619708 - 08/03/22	$27.50	B40135085

This document is valid only when receipted by the Tax Collector's Office.

STATE OF FLORIDA
PALM BEACH COUNTY
2022/2023 LOCAL BUSINESS TAX RECEIPT

LBTR Number: 201139576
EXPIRES: SEPTEMBER 30, 2023

This receipt grants the privilege of engaging in or managing any business profession or occupation within its jurisdiction and MUST be conspicuously displayed at the place of business and in such a manner as to be open to the view of the public.

5 6 - 1766

HINTERLAND GROUP INC
HINTERLAND GROUP INC
2051 W BLUE HERON BLVD
RIVIERA BEACH FL 33404-5003

ANNE M. GANNON
CONSTITUTIONAL TAX COLLECTOR
Serving Palm Beach County
Serving you.

P.O. Box 3353, West Palm Beach, FL 33402-3353
www.pbctax.com Tel: (561) 355-2264

"LOCATED AT"
2051 W BLUE HERON BLVD
RIVIERA BEACH, FL 33404

TYPE OF BUSINESS	OWNER	CERTIFICATION #	RECEIPT #/DATE PAID	AMT PAID	BILL #
23-0169 ELECTRICAL CONTRACTOR	BREIG CHARLES J	EC13003615	B22.619955 - 08/03/22	$90.00	B40148744

This document is valid only when receipted by the Tax Collector's Office.

STATE OF FLORIDA
PALM BEACH COUNTY
2022/2023 LOCAL BUSINESS TAX RECEIPT

LBTR Number: 2015082363
EXPIRES: SEPTEMBER 30, 2023

This receipt grants the privilege of engaging in or managing any business profession or occupation within its jurisdiction and MUST be conspicuously displayed at the place of business and in such a manner as to be open to the view of the public.

HINTERLAND GROUP INC
HINTERLAND GROUP INC
2051 W BLUE HERON BLVD
RIVIERA BEACH FL 33404-5003

5 6 - 1686

CITY OF RIVIERA BEACH
600 W BLUE HERON BLVD
RIVIERA BEACH FL 33404
BUSINESS TAX RECEIPT

Permit Year October 01, 2022 to September 30, 2023

2051 Blue Heron Blvd W
HINTERLAND GROUP INC

Issued:
Vendor: 12988.1
BUSINESS/ADMINISTRATION OFC
GENERAL CONTRCTOR
TRANSPORTATION/DISTRB TRUCKS

HINTERLAND GROUP INC
992 W 15TH ST
RIVIERA BEACH FL 33404

MUST BE POSTED CONSPICUOUSLY AT YOUR PLACE OF BUSINESS

CITY OF RIVIERA BEACH
600 W BLUE HERON BLVD
RIVIERA BEACH FL 33404
BUSINESS TAX RECEIPT

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CITY OF RIVIERA BEACH
600 W BLUE HERON BLVD
RIVIERA BEACH FL 33404
CERTIFICATE OF USE

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992 W 15TH ST
RIVIERA BEACH FL 33404

MUST BE POSTED CONSPICUOUSLY AT YOUR PLACE OF BUSINESS

FDOT

Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

KEVIN J. THIBAULT, P.E.
SECRETARY

June 8, 2021

HINTERLAND GROUP, INC
2051 WEST BLUE HERON BOULEVARD
RIVIERA BEACH, FLORIDA 33404

RE: CERTIFICATE OF QUALIFICATION

Dear Sir/Madam:

The Department of Transportation has qualified your company for the type of work indicated below. Unless your company is notified otherwise, this Certificate of Qualification will expire 6/30/2022. However, the new application is due **4/30/2022**.

In accordance with S.337.14 (1) F.S. your next application must be filed within (4) months of the ending date of the applicant's audited annual financial statements.

If your company's maximum capacity has been revised, you can access it by logging into the Contractor Prequalification Application System via the following link: HTTPS://fdotwp1.dot.state.fl.us/ContractorPreQualification/

Once logged in, select "View" for the most recently approved application, and then click the "Manage" and "Application Summary" tabs.

FDOT APPROVED WORK CLASSES:
DRAINAGE, ELECTRICAL WORK, Water & Wastewater, Manhole Rehabilitation, Lift Stations, Pipe Lining & Pipe Desilting.

You may apply for a Revised Certificate of Qualification at any time prior to the expiration date of this certificate according to Section 14-22.0041(3), Florida Administrative Code (F.A.C.), by accessing your most recently approved application as shown above and choosing "Update" instead of "View." If certification in additional classes of work is desired, documentation is needed to show that your company has done such work with your own forces and equipment or that experience was gained with another contractor and that you have the necessary equipment for each additional class of work requested.

All prequalified contractors are required by Section 14-22.006(3), F.A.C., to certify their work underway monthly in order to adjust maximum bidding capacity to available bidding capacity. You can find the link to this report at the website shown above.

Sincerely,

Darlene Anderson, for

Alan Autry, Manager
Contracts Administration Office

AA:cg

FDOT

Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JARED W. PERDUE, P.E.
SECRETARY

May 20, 2022

HINTERLAND GROUP, INC
2051 WEST BLUE HERON BOULEVARD
RIVIERA BEACH, FLORIDA 33404

RE: CERTIFICATE OF QUALIFICATION

The Department of Transportation has qualified your company for the type of work indicated below.

FDOT APPROVED WORK CLASSES:
DRAINAGE, ELECTRICAL WORK, Water & Wastewater, Manhole Rehabilitation, Lift Stations, Pipe Lining & Pipe Desilting.

Unless notified otherwise, this Certificate of Qualification will expire **6/30/2023.**

In accordance with Section 337.14(4), Florida Statutes, changes to Ability Factor or Maximum Capacity Rating will not take effect until after the expiration of the current certificate of prequalification (if applicable).

In accordance with Section 337.14(1), Florida Statutes, an application for qualification must be filed within (4) months of the ending date of the applicant's audited annual financial statements.

If the company's maximum capacity has been revised, it may be accessed by logging into the Contractor Prequalification Application System via the following link:
HTTPS://fdotwp1.dot.state.fl.us/ContractorPreQualification

Once logged in, select "View" for the most recently approved application, and then click the "Manage" and "Application Summary" tabs.

The company may apply for a Revised Certificate of Qualification at any time prior to the expiration date of this certificate according to Section 14-22.0041(3), Florida Administrative Code (F.A.C.), by accessing the most recently approved application as shown above and choosing "Update" instead of "View." If certification in additional classes of work is desired, documentation is needed to show that the company has performed such work.

All prequalified contractors are required by Section 14-22.006(3), F.A.C., to certify their work underway monthly in order to adjust maximum bidding capacity to available bidding capacity. You can find the link to this report at the website shown above.

Sincerely,

James E. Taylor AA

for Alan Autry, Manager
Contracts Administration Office

AA:cg

Owned Equipent

Asset ID	Category	Type	Description	Status
543	VEHICLE	REEFER	2011 Kenworth T370	ACTIVE
542	VEHICLE	VAN	2007 CHEVY VAN	ACTIVE
541	VEHICLE	VAN	2011 GMC VAN	ACTIVE
540	VEHICLE	VAN	2007 Chevy van	ACTIVE
539	VEHICLE	VAN	2014 Dodge Caravan	ACTIVE
538	TRAILER	HAULER	Forest River Trailer	ACTIVE
536	PUMP	VACUUM OIL PUMP	3" Well point pump	ACTIVE
534	EQUIPMENT	ROLLER	Leeboy roller	ACTIVE
533	TRAILER	HAULER		ACTIVE
532	EQUIPMENT	COMPACTOR	COMPACTOR	ACTIVE
531	CREW EQUIPMENT	LIGHT TOWER	Light Tower	ACTIVE
530	TRAILER	HAULER	7X14 Spartan Trailer	ACTIVE
529	VEHICLE	CAR	2007 Volvo XC70	ACTIVE
528	TRAILER	CARGO	Cargo Trailer	ACTIVE
527	VEHICLE	FLAT BED	Flat bed	ACTIVE
526	TRAILER	CARGO	Cargo Trailer	ACTIVE
525	VEHICLE	VAN	TV Truck	ACTIVE
524	TRAILER	PUMP	Pump	ACTIVE
523	TRAILER	PUMP	Pump	ACTIVE
522	EQUIPMENT	PUMP	Pump	ACTIVE
521	TRAILER	PUMP	Pump	ACTIVE
520	TRAILER	PUMP	Pump	ACTIVE
519	EQUIPMENT	LOADER	Wheel Loader	ACTIVE
518	TRAILER	MIXER	Mixer	ACTIVE
517	TRAILER	GENERATOR	Generator	ACTIVE
516	TRAILER	LOW BOY	Lowboy	ACTIVE
515	VEHICLE	VAN	van	ACTIVE
514	TRAILER	PUMP	pump	ACTIVE
513	EQUIPMENT	PUMP	diaphram pump	ACTIVE
512	EQUIPMENT	SKID STEER	Skid Steer	ACTIVE
511	TRAILER	SPRAY MATE COATING	Coating Trailer	ACTIVE
509	TRAILER	DUMP	DUMP TRAILER	ACTIVE
508	TRAILER	DUMP	DUMP TRAILER	ACTIVE

507	EQUIPMENT	LOADER	Loader	ACTIVE
506	EQUIPMENT	EXCAVATOR	Excavator	ACTIVE
505	TRAILER	CARGO	Cargo Trailer	ACTIVE
504	TRAILER	CARGO	Cargo Trailer	ACTIVE
503	TRAILER	CARGO	Cargo Trailer	ACTIVE
502	VEHICLE	FLAT BED		ACTIVE
501	VEHICLE	BOILER		ACTIVE
500	EQUIPMENT	ROLLER		ACTIVE
499	EQUIPMENT	ROLLER		ACTIVE
498	EQUIPMENT	COMPACTOR		ACTIVE
497	EQUIPMENT	COMPACTOR		ACTIVE
496	VEHICLE	FLAT BED		ACTIVE
495	VEHICLE	FLAT BED	CHEVY FLAT BED	ACTIVE
494	VEHICLE	FLAT BED	CHEVY FLAT BED	ACTIVE
493	VEHICLE	FLAT BED	CHEVY FLAT BED	ACTIVE
492	EQUIPMENT	LOADER		ACTIVE
491	EQUIPMENT	EXCAVATOR		ACTIVE
490	EQUIPMENT	LOADER		ACTIVE
489	EQUIPMENT	EXCAVATOR		ACTIVE
488	VEHICLE	CRANE	F-550	ACTIVE
487	VEHICLE	UTILITY	F-550	ACTIVE
486	VEHICLE	CRANE	F-350	ACTIVE
485	EQUIPMENT	EXCAVATOR	Excavator	ACTIVE
484	EQUIPMENT	EXCAVATOR	Excavator	ACTIVE
482	EQUIPMENT	SKID STEER	skid steer	ACTIVE
481	EQUIPMENT	COMPACTOR	Compactor	ACTIVE
480	EQUIPMENT	OFF ROAD CART	Off Road Cart	ACTIVE
479	EQUIPMENT	OFF ROAD CART	Off Road Cart	ACTIVE
478	TRAILER	MESSAGE BOARD	Trailer	ACTIVE
477	TRAILER	HAULER	Trailer	ACTIVE
476	TRAILER	HAULER	Trailer	ACTIVE
475	VEHICLE	REEFER	refrigerated truck	ACTIVE
474	EQUIPMENT	EXCAVATOR	excavator	ACTIVE
473	EQUIPMENT	SKID STEER	skid steer	ACTIVE
472	EQUIPMENT	EXCAVATOR	excavator	ACTIVE
471	EQUIPMENT	EXCAVATOR	excavator	ACTIVE
470	EQUIPMENT	FORKLIFT	DOOSAN	ACTIVE
469	EQUIPMENT	SKID STEER	skid steer	ACTIVE

468	EQUIPMENT	EXCAVATOR	excavator	ACTIVE
467	EQUIPMENT	MIXER		ACTIVE
466	VEHICLE	VAC		ACTIVE
465	VEHICLE	CRANE		ACTIVE
464	VEHICLE	PICKUP		ACTIVE
463	VEHICLE	PICKUP		ACTIVE
462	VEHICLE	PICKUP		ACTIVE
461	VEHICLE	PICKUP		ACTIVE
460	TRAILER	CARGO		ACTIVE
459	EQUIPMENT	SKID STEER	skid steer	ACTIVE
458	EQUIPMENT	COMPACTOR	compactor	ACTIVE
457	EQUIPMENT	COMPACTOR	compactor	ACTIVE
456	VEHICLE	TRUCK	Crew Cab	ACTIVE
455	EQUIPMENT	MAN LIFT	Man Lift	ACTIVE
454	EQUIPMENT	MAN LIFT	Man lift	ACTIVE
453	TRAILER	PUMP	Electric Bypass Pump	ACTIVE
452	TRAILER	ARROW BOARD	Arrow Board	ACTIVE
451	TRAILER	ARROW BOARD		ACTIVE
450	EQUIPMENT	FORKLIFT	YALE	ACTIVE
449	EQUIPMENT	FORKLIFT	Forklift	ACTIVE
448	EQUIPMENT	LOADER	Loader	ACTIVE
447	TRAILER	CARGO	cargo	ACTIVE
446	TRAILER	CARGO	cargo	ACTIVE
445	VEHICLE	PICKUP	Pickup	ACTIVE
444	EQUIPMENT	SAW	Street Saw	ACTIVE
443	EQUIPMENT	SAW	Street saw	ACTIVE
442	EQUIPMENT	SAW	Street saw	ACTIVE
441	EQUIPMENT	SAW	Street saw	ACTIVE
440	EQUIPMENT	TRACTOR	Tractor	ACTIVE
439	EQUIPMENT	TRACTOR	Tractor	ACTIVE
438	TRAILER	PUMP	pump	ACTIVE
437	TRAILER	HAULER	Trailer	ACTIVE
436	TRAILER	HAULER	Trailer	ACTIVE
435	VEHICLE	VAN	Vehicle	ACTIVE
434	EQUIPMENT	PUMP	Pump	ACTIVE
433	EQUIPMENT	PUMP	PUMP	ACTIVE
432	EQUIPMENT	PUMP	PUMP	ACTIVE
431	EQUIPMENT	PUMP	PUMP	ACTIVE

430	EQUIPMENT	COMPACTOR	Compactor	ACTIVE
429	EQUIPMENT	COMPRESSOR	Air compressor	ACTIVE
423	EQUIPMENT	PUMP		ACTIVE
422	TRAILER	CARGO		ACTIVE
421	TRAILER	CARGO		ACTIVE
420	EQUIPMENT	PUMP	Dewater	ACTIVE
419	TRAILER	CARGO	14' x 7'	ACTIVE
418	EQUIPMENT	COMPACTOR	Plate compactor	ACTIVE
417	EQUIPMENT	COMPACTOR	Asphalt	ACTIVE
416	EQUIPMENT	PUMP		ACTIVE
415	VEHICLE	DUMP	Tri axle	ACTIVE
414	EQUIPMENT	PUMP		ACTIVE
413	EQUIPMENT	PUMP		ACTIVE
412	TRAILER	TANKER	Tanker	ACTIVE
411	EQUIPMENT	PUMP		ACTIVE
410	EQUIPMENT	WELDER	Welder	ACTIVE
409	TRAILER	CARGO	Forest River	ACTIVE
408	EQUIPMENT	PUMP	Hydraulic Pump	ACTIVE
407	EQUIPMENT	LIFT	Scissor Lift	ACTIVE
406	EQUIPMENT	PUMP	Elec Bypass Pump	ACTIVE
405	EQUIPMENT	LOADER	Wheel Loader	ACTIVE
404	TRAILER	DUMP	Dump Trailer	ACTIVE
403	TRAILER	CARGO	Cutter Trailer	ACTIVE
402	EQUIPMENT	SKID STEER	Skid Steer	ACTIVE
401	EQUIPMENT	BACKHOE	Backhoe	ACTIVE
400	EQUIPMENT	EXCAVATOR	Hydraulic Excavator	ACTIVE
399	EQUIPMENT	SPRAY	Epoxy Spray Rig	ACTIVE
398	EQUIPMENT	EXCAVATOR	Excavator	ACTIVE
397	EQUIPMENT	GENERATOR	25KW Generator	ACTIVE
396	EQUIPMENT	GENERATOR	80KW Generator	ACTIVE
395	EQUIPMENT	GENERATOR	80KW Generator	ACTIVE
390	EQUIPMENT	SURVEYING	Surveying Equipment	ACTIVE
389	EQUIPMENT	LIGHTING	Portable Light Trailer	ACTIVE
388	EQUIPMENT	EXCAVATOR	Hydraulic Excavator	ACTIVE
385	TRAILER	REEFER	Reefer Trailer 53'	ACTIVE
384	EQUIPMENT	EXCAVATOR	Compact Excavator	ACTIVE
383	VEHICLE	VAC	Vactor Truck	ACTIVE
382	TRAILER	LOW BOY	Low Boy	ACTIVE

380	VEHICLE	TANDEM	International Truck	ACTIVE
379	VEHICLE	BUCKET	GMC Truck	ACTIVE
378	VEHICLE	FLAT BED	GMC Truck	ACTIVE
377	VEHICLE	PICKUP	Chevy Truck	ACTIVE
376	VEHICLE	FLAT BED	GMC Truck	ACTIVE
375	VEHICLE	PICKUP	GMC Pickup Truck	ACTIVE
374	EQUIPMENT	WETOUT	Wetout Assembly Equipment	ACTIVE
373	EQUIPMENT	ATTACHMENT	Telescopic Dipper	ACTIVE
372	EQUIPMENT	WETOUT	Resin Tank w/ Conveyor	ACTIVE
371	EQUIPMENT	SURVEYING	Pipe Laser	ACTIVE
370	EQUIPMENT	CIPP	Cues Truck 2	ACTIVE
369	EQUIPMENT	CIPP	Cues Truck 1	ACTIVE
368	EQUIPMENT	ATTACHMENT	Clam Shell Bucket	ACTIVE
367	EQUIPMENT	COMPUTER	CIPP Computers	ACTIVE
366	EQUIPMENT	TANKER	300 Gallon Spray Rig Attachment	ACTIVE
365	EQUIPMENT	PERSONAL	Boat Engine	ACTIVE
364	EQUIPMENT	PERSONAL	Jet Ski	ACTIVE
363	EQUIPMENT	PERSONAL	Jet Ski	ACTIVE
362	EQUIPMENT	PERSONAL	Jet Ski	ACTIVE
361	EQUIPMENT	GRADER	Volvo Motor Grader	ACTIVE
360	TRAILER	REEFER	Reefer Trailer 53'	ACTIVE
359	TRAILER	CARGO	Look Trailer	ACTIVE
358	EQUIPMENT	FORKLIFT	Toyota Forklift	ACTIVE
357	TRAILER	HAULER	Tilt Trailer	ACTIVE
356	EQUIPMENT	PUMP	Thompson Pump	ACTIVE
355	EQUIPMENT	PUMP	Thompson Pump	ACTIVE
354	EQUIPMENT	PUMP	Thompson Pump	ACTIVE
353	EQUIPMENT	PUMP	Thompson High Pressure Pump	ACTIVE
352	EQUIPMENT	PUMP	Thompson 6' Vacuum Assisted Pump	ACTIVE
351	EQUIPMENT	PUMP	Thompson 6' Vacuum Assisted Pump	ACTIVE
350	EQUIPMENT	PUMP	Thompson 6' Vacuum Assisted Pump	ACTIVE
349	EQUIPMENT	PUMP	Thompson 6' Vacuum Assisted Pump	ACTIVE
348	EQUIPMENT	PUMP	Thompson 6' Vacuum Assisted Pump	ACTIVE
347	EQUIPMENT	PUMP	Thompson 6' Trailer Mounted Pump	ACTIVE
346	EQUIPMENT	PUMP	Thompson 6' Bypass Pump	ACTIVE
344	EQUIPMENT	PUMP	Thompson 4' Mounted Pump	ACTIVE
343	EQUIPMENT	PUMP	Thompson 12' Wellpoint Pump	ACTIVE
342	EQUIPMENT	PUMP	Thompson 12' Wellpoint Pump	ACTIVE

341	TRAILER	HAULER	Thomas Trailer	ACTIVE
340	EQUIPMENT	PUMP	Auto Dialer Pump	ACTIVE
339	EQUIPMENT	COMPRESSOR	Compressor w/ Trailer	ACTIVE
338	VEHICLE	VAC	Sterling Vac Truck	ACTIVE
337	VEHICLE	VAC	Sterling Truck	ACTIVE
336	VEHICLE	CRANE	Sterling Crane Truck	ACTIVE
335	TRAILER	CARGO	Space Coast Trailer	ACTIVE
334	EQUIPMENT	BOAT	Ever	ACTIVE
333	EQUIPMENT	MIXER	Rex Dulvi-Mixer	ACTIVE
332	VEHICLE	FLAT BED	Crane Flatbed	ACTIVE
331	EQUIPMENT	EXCAVATOR	Walking Excavator	ACTIVE
330	TRAILER	CARGO	Look Enclosed Trailer	ACTIVE
329	TRAILER	CARGO	Look Enclosed Trailer	ACTIVE
328	TRAILER	CARGO	Lark Trailer	ACTIVE
327	EQUIPMENT	EXCAVATOR	Komatsu Hydraulic Excavator	ACTIVE
326	EQUIPMENT	EXCAVATOR	Komatsu Hydraulic Excavator	ACTIVE
325	EQUIPMENT	EXCAVATOR	Komatsu Hydraulic Excavator	ACTIVE
324	EQUIPMENT	BLASTER	KMT Aqua Blaster	ACTIVE
323	VEHICLE	VAC	Kenworth Vac Truck	ACTIVE
322	VEHICLE	BOILER	Kenworth Boiler Truck	ACTIVE
321	VEHICLE	DUMP	Kenworth Dump Truck	ACTIVE
320	TRAILER	ASPHALT	Keizer Morris Trailer w/ Asphalt Hot Box	ACTIVE
319	EQUIPMENT	LOADER	John Deere Wheel Loader	ACTIVE
318	EQUIPMENT	LOADER	John Deere Wheel Loader	ACTIVE
317	EQUIPMENT	SKID STEER	John Deere Skid Steer	ACTIVE
316	EQUIPMENT	MOWER	John Deere Riding Mower	ACTIVE
315	EQUIPMENT	MOWER	John Deere Mower Attachment	ACTIVE
314	EQUIPMENT	EXCAVATOR	John Deere Excavator	ACTIVE
313	EQUIPMENT	SKID STEER	John Deere Compact Track Loader	ACTIVE
312	EQUIPMENT	SKID STEER	John Deere Compact Track Loader	ACTIVE
310	EQUIPMENT	EXCAVATOR	John Deere Compact Excavator	ACTIVE
308	EQUIPMENT	ATTACHMENT	John Deere Bucket	ACTIVE
307	EQUIPMENT	ROLLER	Bomag Roller	ACTIVE
306	EQUIPMENT	MOWER	John Deere Mower	ACTIVE
305	TRAILER	HAULER	Interstate Trailer	ACTIVE
304	TRAILER	HAULER	Grey Trailer	ACTIVE
303	VEHICLE	VAC	International Vac Truck	ACTIVE
302	VEHICLE	VAC	International Vac Truck	ACTIVE

301	VEHICLE	VAC	International Vac Truck	ACTIVE
300	VEHICLE	VAC	International Vac Truck	ACTIVE
298	VEHICLE	BLASTER	International Sand Blaster Truck	ACTIVE
297	VEHICLE	REEFER	International Truck	ACTIVE
296	VEHICLE	REEFER	International Truck	ACTIVE
295	VEHICLE	REEFER	International Reefer Truck	ACTIVE
292	VEHICLE	BOX	International Box Truck	ACTIVE
291	VEHICLE	DUMP	Flat Bed Dump Truck	ACTIVE
290	VEHICLE	DUMP	Flat Bed Dump Truck	ACTIVE
289	EQUIPMENT	COMPRESSOR	Ingersoll Rand Mounted Compressor	ACTIVE
288	EQUIPMENT	COMPRESSOR	Ingersoll Rand Air Compressor	ACTIVE
287	VEHICLE	BOX	International Chassis	ACTIVE
286	VEHICLE	UTILITY	Horton Truck Crane	ACTIVE
285	EQUIPMENT	BLASTER	Power Washer Trailer	ACTIVE
284	TRAILER	HAULER	Homemade Trailer	ACTIVE
283	EQUIPMENT	GENERATOR	HESC Generator	ACTIVE
282	EQUIPMENT	GENERATOR	HESC Generator	ACTIVE
281	TRAILER	HAULER	Hardee Built Trailer	ACTIVE
280	EQUIPMENT	PUMP	Gorman Pump	ACTIVE
279	VEHICLE	VAN	GMC Van	ACTIVE
278	VEHICLE	VAN	GMC Van	ACTIVE
277	VEHICLE	UTILITY	GMC Truck w/ Crane	ACTIVE
276	VEHICLE	FLAT BED	GMC Truck	ACTIVE
275	VEHICLE	FLAT BED	GMC Truck	ACTIVE
274	VEHICLE	PICKUP	GMC Truck	ACTIVE
272	VEHICLE	VAN	GMC Truck	ACTIVE
271	VEHICLE	UTILITY	GMC Service Truck	ACTIVE
270	VEHICLE	FLAT BED	GMC Pickup Truck	ACTIVE
269	VEHICLE	PICKUP	GMC Pickup Truck	ACTIVE
268	VEHICLE	PICKUP	GMC Pickup Truck	ACTIVE
264	VEHICLE	PICKUP	GMC Pickup Truck	ACTIVE
262	VEHICLE	PICKUP	GMC Pickup Truck	ACTIVE
260	VEHICLE	VAN	GMC Cargo Van	ACTIVE
259	EQUIPMENT	LIFT	Genie Personal Lift	ACTIVE
258	TRAILER	CARGO	FRRV Trailer	ACTIVE
257	VEHICLE	TANDEM	Freightliner	ACTIVE
256	VEHICLE	BOX	Freightliner	ACTIVE
255	VEHICLE	TANKER	Freightliner	ACTIVE

254	VEHICLE	TANKER	Freightliner	ACTIVE
253	VEHICLE	TANKER	Freightliner	ACTIVE
250	VEHICLE	UTILITY	Ford Truck	ACTIVE
249	VEHICLE	UTILITY	Ford Truck	ACTIVE
248	VEHICLE	PICKUP	Ford Truck	ACTIVE
245	VEHICLE	UTILITY	Ford Truck	ACTIVE
242	VEHICLE	PICKUP	Ford Pickup Truck	ACTIVE
241	VEHICLE	CAR	Ford Fusion	ACTIVE
239	VEHICLE	BOILER	Ford Tandem	ACTIVE
238	EQUIPMENT	ATTACHMENT	FFC Tree Boom	ACTIVE
237	TRAILER	OFFICE	Dutchman Trailer	ACTIVE
236	TRAILER	HAULER	Draggin Trailer	ACTIVE
235	EQUIPMENT	FORKLIFT	DOOSAN	ACTIVE
234	VEHICLE	VAN	Dodge Van	ACTIVE
233	VEHICLE	UTILITY	Dodge Truck	ACTIVE
232	TRAILER	HAULER	Crosley Trailer	ACTIVE
231	TRAILER	HAULER	Crosley Trailer	ACTIVE
230	TRAILER	HAULER	Crosley Dual Axle Trailer	ACTIVE
229	TRAILER	PERSONAL	Jet Ski Trailer	ACTIVE
228	EQUIPMENT	FORKLIFT	Clark Forklift	ACTIVE
226	VEHICLE	PICKUP	Chevy Truck	ACTIVE
222	VEHICLE	FLAT BED	Chevy Pickup Truck	ACTIVE
219	TRAILER	HAULER	Center Trailer	ACTIVE
218	EQUIPMENT	EXCAVATOR	Caterpillar Mini Excavator	ACTIVE
217	EQUIPMENT	LULL	Caterpillar Forklift	ACTIVE
216	EQUIPMENT	EXCAVATOR	Caterpillar Excavator	ACTIVE
215	EQUIPMENT	EXCAVATOR	Caterpillar Excavator 328D	ACTIVE
214	EQUIPMENT	SKID STEER	Track Skid Loader	ACTIVE
213	EQUIPMENT	TERRAIN	Golf Cart	ACTIVE
211	EQUIPMENT	COMPACTOR	Bomag Reversible Plate Tamper	ACTIVE
210	EQUIPMENT	COMPACTOR	Bomag Reversible Plate Tamper	ACTIVE
209	EQUIPMENT	SKID STEER	Bobcat Skid Steer Loader	ACTIVE
208	EQUIPMENT	EXCAVATOR	Bobcat Mini Excavator	ACTIVE
207	EQUIPMENT	EXCAVATOR	Bobcat Compact Excavator	ACTIVE
206	TRAILER	HAULER	Blastoff Trailer	ACTIVE
205	TRAILER	HAULER	Better Built Trailer	ACTIVE
204	EQUIPMENT	ASPHALT	John Deere Asphalt Zipper on Trailer	ACTIVE
203	TRAILER	HAULER	Sand Blaster	ACTIVE

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
LS 8220 Gravity Sewer Pipe	To install specialized 18" liner to fit the existing 20" casting prior to replacing the existing 8" gravity sewer main	Palm Beach County	Pollop Phonpornwithoon	(561) 493-6247	pphonpornwithoon@pbcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 99,715.53	Mar-18	Aug-18
Wellfield System 9	Rehabilitation of gravity sewer line segments in lift station networks and various terminal manhole to wet well segments, includes inspections and applicable required rehab	Palm Beach County	Pollop Phonpornwithoon	(561) 493-6247	pphonpornwithoon@pbcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 1,880,369.37	May-18	May-19
Lift Station 244 Gravity Sewer Rehab Project	rehabilitation of gravity sewer line segments in the following lift station networks	Palm Beach County	Pollop Phonpornwithoon	(561) 493-6247	pphonpornwithoon@pbcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 30,088.75	Sep-18	Feb-19
LS4101	Construction services including rehabilitation fo gravity sewer lining inside lift station network; lift station 244	Palm Beach County	Pollop Phonpornwithoon	(561) 493-6247	pphonpornwithoon@pbcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 1,062,018.68	Feb-19	Feb-20
Mangole and Gravity Sewer Pipe Repair in Front of 6185 Winding Brooke Way, Delray Beach	Approval of utility work authorized under Work Directive Number 1 to front of 6185 Winding Brooke Way in Delray Beach including all associated appurtenances and site Wastewater Lines and Manhole Rehabilitation issued on May 21, 2019 to furnish and install all materials necessary to repair/rehabilitate an existing manhole and 8" gravity pipe in front of 6185 Winding Brooke Way in Delray Beach including all associated appurtenances and site restoration in accordance with the governing regulations	Palm Beach County	Pollop Phonpornwithoon	(561) 493-6247	pphonpornwithoon@pbcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 83,082.53	Aug-19	Sep-19
MLK Blvd Water and Force Main Replacement	Replacing water and force main piping under Dr Martin Luther King Jr Blvd using directional drilling methods and tying back in to the existing mains on either side of the road	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 324,736.43	Aug-17	Nov-17
Colony Water Main Extension South	Installation of approximately 760 LF of 8" water main	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 113,277.28	Apr-17	Jun-17
Gator Blvd Water Main	Furnish and install all materials for a 12" water main extension on Gator Blvd from E Sugarhouse Rd. to Duda Rd.	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 792,003.03	Nov-17	Apr-18
Emergency Repair at E 1st Street	Emergency repair of 6' water main	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 88,720.93	Jul-17	Feb-17
Military Trail Appaloosa St. to Wadita-Ka Way Water Main Replacement	furnish and install all materials necessary to complete the 8in Water Main Replacement	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 108,234.78	Sep-17	Mar-18
Priority Aerial Canal Crossing	(4) aerial canal crossing to be rehabilitated include: Two (2) crossings, 12-inch water main and 20-inch wastewater force main at Lake Worth Drainage District (LWDD) L14 Canal and Ohio Road, two (2) crossings, 8-inch water main and 10-inch wastewater force main at LWDD L-10 Canal and Sherwood Forest Boulevard, two (2) crossings at LWDD L14 Canal and Milltary Trail, and one (1) crossing at LWDD L2 Canal and Bridgeman Drive	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 765,220.20	Jan-18	May-18
Belle Glade Water Sys Zone 1	Installing raw water mains, potable water mains, fire hydrants, water services lines, wastewater force mains, reclaimed water mains and all associated appurtenances.	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 1,389,257.38	Feb-18	Apr-19
Water Main Improvements Site 8 - North Congress Ave and L2 Canal	Installation of approximately 140' of DIP water main	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 54,503.10	Aug-17	Nov-17
Pahokee PBC Airport & PEEHokey	Furnish and install all materials necessary to complete the FH Replacement at Pahokee PCB Airport & PEE Hokey Dr FH Replacement	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 88,716.40	Dec-17	May-18
Lift Station #8105	Force Main Improvements to Lift Station 8105 Project (Project) which includes but is not limited to furnish material, labor supervision, equipment, supplies, fees, expertise, and services necessary to fully complete work in accordance with the Construction Documents and governing regulations. This work includes constructing approximately 350-linear feet of 6-inch poly vinyl chloride (PVC) force main from lift station 8105 by heading east through the City of Belle Glades Right of Way (ROW), north to Avenue L through an existing easement, and west to a proposed man hole.	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 143,976.17	Mar-18	Aug-18
CD01- Water Main Improvements Zones 2,3 & 4	The construction scope of services as described herein; which includes approximately 5,500 LF of new C-900 and DIP water main in varying sizes from 4" to 12" with values, associated appurtenances and site restoration.	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 1,264,998.80	Jan-19	Aug-19
Water Main Stubouts and Fire Hydrant Installations along 60th Pl N (10th Ave to 180th Ave N.)	Installation of various stub outs and fire hydrants on the water main along a maintenance road on the north side of M Canal, 61st St. N, 60th Pl N and 180th Ave N	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 401,253.98	Oct-19	
Installation of Water Services Along 60th PL N and 61st St N	Installation of two stub outs with fire hydrants and water services along 60th PL N and 61st St N.	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 43,130.30	Aug-19	Sep-19
Fire Hydrant Relocation on Chickasaw Rd	Furnish and installation of new fire hydrant and appurtenances includes but not limited to piping valves and site restoration on Chickasaw Road	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 33,885.03	May-19	Jun-19
Barfield Highway from Pelican River to East 7th St. Pahokee; Water Main Replacement	Installation of approximately 1,300 linear feet of 8-inch water main via directional drill and open cut method, seven (7) water services and miscellaneous stub outs and connections along East 7th St in Pahokee.	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 262,482.02	Oct-19	Apr-20
Priority Aerial Canal Crossing, Phase 2	Improvements to aerial crossings at eight (8) locations throughout Palm Beach County. Improvements at seven locations will include removal and replacement of water main and force main piping of various sizes pipe cap restoration, air release valves, fan guards, canal bank revetment and rip rap installation. One location will receive a new complete aerial crossing with new piling and pile caps.	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 1,819,104.20	Oct-18	

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Water Main Replacement within Sandpiper Avenue, Meadowlark Drive and Oriole Court	Construction services including but not limited to replacement of approximately 7,600 linear feet of existing 6-inch and 8-inch water main along Sandpiper Avenue, Meadowlark Drive and Oriole Court (Royal Palm Beach); replacement of approximately 169 water services; installation of new fire hydrants and improvement of fire protection, as well as site restoration	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 1,754,414.58	Jan-20	
Utility Relocations for Belle Glade Citywide Sidewalk Improvements	Construction services including but not limited to relocation of approximately 360 linear feet of existing 4-inch and 6-inch water main along NE 1st St. and NW 2nd St. in Belle Glade; relocation of approximately 10 water services in conflict with the sidewalk improvements project proposed by the City of Belle Glade	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 160,937.95	Aug-19	
Utility Relocations for Belle Glade Citywide Sidewalk Improvements	Construction services for the installation of water main, water services and water meters. Service also includes new water service pipe to connect to the existing water meter, the replacement of sewer later piping, and the relocation of existing water main ranging in size from 2-inch to 6-inch	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 625,761.75	Oct-19	
Loxahatchee Groves Park Lit Station and Force Main	The installation of approximately 170 liner feet of 4-inch force main via directional drill under the west-bound lanes of Southern Blvd (SR 80), west of F Road. The FDOT is working on the widening of Southern Blvd and the pipe installation within the road ROW must be finished before the road widening can be completed. The installation of the force main pipe is necessary for the connection to the existing building in the Loxahatchee Groves Park. The work also includes the connection to an existing 6-inch force main under the median.	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 38,824.55	Oct-19	
Utility Relocations along Hamlin Blvd; Indian Trail Culvert Improvements	The deflection of an existing 12-inch water main and an 8-inch force main in conflict with a new 36" culvert at 4 (4) different Locations along Hamlin Blvd. Indian Trail Improvements District is upsizing and lowering the existing canal culverts & lowering prior the culvert installation in order to avoid a utility conflict with the District project.	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 242,699.20	NTP Pending	
12-inch Force Main on Sandalfood Blvd	Installation of approximately 1,000 linear feet of 12-inch force main along the north side of Sandalfoot, from LWDD Canal E-1 to east of SW 66th Ave, Boca Raton. The new force main will parallel and existing 8-inch force main is over capacity, especially in wet weather connecting an existing force on the east side of LWDD Canal E-1 canal crossing and force main north of Lift Station #0981	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 238,215.60	NTP Pending	
Florida Turnpike (SR91) at Atlantic Ave. Toll Facility Conversion	The removal of approximately 600 LF of existing 4-inch sanitary forcee main, 400 LF of 6-inch Ductile Iron Pipe (DIP) water main, and 500 linear feet of 8-inch water main. The removal of two (2) fire hydrants, one (1) 1-1/2 inch water meter and two (2) back flow preventers. The relocation of one (1) fire hydrant	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 165,091.88	NTP Pending	
System II/III Generator	Remove and replace Plant's existing 750 KW rated Detroit Diesel engine generator set No. 2 currently being utilized in a standby paralleling generator system at the Plant operating in parallel with an existing Caterpillar manufactured 750 KW standby power rated engine generator set. Remove and replace the Plant's existing ASCO generator synchronizing and paralleling control switchboard with a new two (2) generator synchronizing and paralleling control switchgear system that shall be control designed to operate each generator set independently of each other and to also be able to automatically start, synchronize and parallel both the new and the existing 750 KW diesel engine generator sets upon start initiation of an automatic sequence for both automatic and manual use for the transfer of electrical power to the connected Facility loads, including all related systems and accessories for a complete working installation in place. Test and demonstrate all equipment performs properly	Town of Davie	Don Bayler	(954) 327-3741	don_bayler@davie-fl.gov	6591 Orange Drive, Davie, Florida, 33314	$ 1,011,686.85	Apr-18	Jul-19
Lift Station No. 83 Lift Station Improvements & LS #10 Electrical Improvements	Bypass of all flow to wet well, inspection of pipeline and cleaning to determine if line able, replacement of 16" piping if it cannot be lined	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 291,070.00	Feb-16	Jul-16
Lift Station 73 Palm Beach Lakes Blvd 8" Force Main Rehab	Bypass of all flow during sanitary sewer pipe repair, cleaning/lining of approximately 460 LF of 8" Sanitary Force Main Sewer Piping w/ Connections; restoration of roadway, curb and sod	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 125,678.00	Feb-16	Jul-16
Lift Station #5 Rehab	install concrete coating on interior wall surfaces and overhead slabs exposed to wastewater	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 270,342.00	Jan-18	On Going
Dry Can Ladder Rehabilitation/Replacement	Removal and replacement of the dry can ladders, up to 20 feet in height, at four dry can stations throughout the city. Installation of anti slip ladder rung covers at eight dry can lift stations to prevent slipping and injury on existing ladders which cannot be replaced.	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 27,190.00	Aug-17	Jan-18
Lift Station 5 Rehabilitation and risers	Add 8' HDPE Risers (3) with new pump base to 14' HDPE/DIP Flange adapters	City of West Palm Beach	Jay Kwag	(561) 822-2100	Eponelli@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 22,251.00	Sep-17	Jan-18
WO#7 - Lift Station 24 Rehab	Rehab of LS# 24 including bases, base plates, piping from base through the valve vault with installation of bypass pump out and wet well coating.	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 77,461.00	Nov-17	Mar-18
Lift Station 91 Rehabilitation	Rehab of LS# 91 including bases, base plates, piping from base through the valve vault with installation of bypass pump out and wet well coating.	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 47,295.00	Feb-18	Jun-18
Storm Pump Station - WPBPD	Replacement of 3 pumps in existing pump station	City of West Palm Beach	Joe Thompson	(561) 822-2100	jthompson@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 62,283.00	Aug-18	On Going
WO #10 - LS 98 Rehab	Rehab of LS# 98 from the base plates through the FM connection, including a new true 3 valve bypass setup and wet well and valve vault coating	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 63,444.00	May-18	Sep-18

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
LS Nos. 114-123-125-132-148	Lift Stations Rehabilitations Nos. 114,123,125,132, AND 148 Rehabilitation of lift 5 lift stations, cleaned and lined, new fillets will be installed, a new lid and hatch will be installed, and two new submersible pumps will be installed in each of the wet wells, along with new electrical and instrumentation panels and equipment. The pump discharge will be piped to a new valve and bypass vault and connected to the existing sanitary sewer force main. Additionally, new fences and other surface improvements will be provided at all lift stations	City of Sunrise	Jimsheng Huo	(954) 888-6049	jhuo@sunrisefl.gov	1560 Sawgrass Corporate Parkway, Ste 240, Sunrise, FL 33323	$ 2,385,880.00	Aug-18	On Going
Lift Station Rehabilitation A	Lift Station Rehabilitation; install the polyvinyl chloride (PVC) sewer pipe and fittings install, complete and ready for operation a duplex (or quadraplex) pumping station, including pumps, base elbows, guide rails and lifting cables, control panels and appurtenances	Palm Beach County WUD	Andre McBarnett	(561) 493-6104	amcbarnett@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 5,051,500.00	Jan-18	On Going
Generator Replacement	Generator Replacement for Marigold, East brook, Winterpark Estates, Indian Hills And Monterey	South Seminole & North Orange County Wastewater Transmission Authority	Stefano Cerliana	(407) 628-3419	scerliana@rensseng.com	410 Lake Howell Rd. Maitland, FL 32751	$ 1,365,900.00	Aug-17	Sep-17
915 NE 3rd Avenue	Installation of new storm drainage system, which consists of catch basins, French drain and asphalt restoration	City of Fort Lauderdale	Francisco Rios	(954) 828-5807	frios@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 361,515.00	Feb 18	Jun-18
3318 SE 6th Avenue	Installation of new storm drainage system, which consists of catch basins, French drain and asphalt restoration	City of Fort Lauderdale	Dronix Suarez	(954) 828 6982	dsuarez@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 255,889.00	Nov-17	Mar-18
NE 30th & Coral Shores Drive	Installation of new storm drainage system, which consists of catch basins, French drain and asphalt restoration	City of Fort Lauderdale	Juan Carlos Samuel	(954) 828-6323	jsamuel@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 92,640.00	Jan-18	Feb-18
NW 21st Avenue - CCTV 54 inch	Installation of new storm drainage system, which consists of catch basins, French drain and asphalt restoration	City of Fort Lauderdale	Juan Carlos Samuel	(954) 828-6323	jsamuel@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 54,102.50	Apr-18	May-18
Birch Road TOR5	Installation of new storm drainage system, which consists of catch basins, French drain and asphalt restoration	City of Fort Lauderdale	Francisco Rios	(954) 828-5807	frios@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 58,504.00	Jun-18	Jun-18
NE 9th Ave Drainage	Installation of new storm drainage system.	City of Fort Lauderdale	Dronix Suarez	(954) 828-6982	dsuarez@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 210,640.00	May-18	On Going
Stormwater Improvements at 908 Guava Isle (Q332093)	Removal and replacement of two catch basins, pipe replacement and pipe lining at 908 Guava Isla in order to alleviate flooding in the area. Construction to be completed 7 weeks after NTP	City of Fort Lauderdale	Juan Carlos Samuel	(954) 828-6323	jsamuel@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 95,750.00	Jul-19	Mar-19
18 Compass Lane Stormwater Improvements	Removal and Replacement of and existing catch basin, replacement of approximately 42 LF of 12-inch RCP, CCTV of the full 12-inch RCP line, and all restoration. Construction to be completed 120 days after NTP	City of Fort Lauderdale	Dronix Suarez	(954) 828-6982	dsuarez@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 27,926.00	Feb-19	Jun-19
Stormwater Improvements - 3200 NE 29 Street	Removal and replacement of a catch basin, 35 LF of 12-inch pipe, rehabilitation of an existing structure, CCTV lining of outfall and installation of wastop check valve construction is to be completed 90 days after NTP	City of Fort Lauderdale	Juan Carlos Samuel	(954) 828-6323	jsamuel@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 61,142.00	Apr-19	Jun-19
Stormwater Drainage Improvements Employee Parking at Fleet SW 2 Ct, Ft Lauderdale, FL	Remove and Replace 15" pipe between inlet #3 and MH #2, remove tree and root ball and remove and Replace 10 LF of 15" pipe between inlet #1 and inlet #2. Work to be complete within 90 days of issuance of NTP	City of Fort Lauderdale	Sayd Hussain	(954) 828-5678	Shussain@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 19,655.00	Apr-19	Jul-19
Stormwater Improvements for 11906 NE 33 Avenue and NE 34th Street	Removal and replacement of one existing drainage inlet and 22 LF of existing 18-inch reinforced concrete pipe. Work Completed within 90 days after NTP	City of Fort Lauderdale	Francisco Rios	(954) 828-5807	frios@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 23,405.00	Aug-19	
630 Isle of Palms Stormwater Operations Project	Removal of existing 12-inch drainage pipe and replacement with new solid 12-inch ADS drainage pipe, 2-45-inch bends and connection to existing pipe and box, and all restoration. Work to be completed within 90 days of NTP	City of Fort Lauderdale	Sayd Hussain	(954) 828-5678	Shussain@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 13,340.00	Aug-19	
SW 21st Terrace Drainage Improvements	Regular Excavation and grading to form swale along NW 21st Terrace. Installation of 8 drainage catch basins and 15" RCP to connect the boxes. All roadway removal and restoration included. Construction will be complete within 120 days of NTP	City of Fort Lauderdale	Dronix Suarez	(954) 828-6982	dsuarez@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 227,990.00	Oct-19	
Hector Park Stormwater Improvement Project	Installation of new drainage structures and exfiltration trench to reduce nuisance flooding in and around Hector Park in the Rio Vista Neighborhood. The works is to be completed within 210 days of NTP	City of Fort Lauderdale	Francisco Rios	(954) 828-5807	frios@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 536,240.00	Oct-19	
Parking Lot Storm Drain Cleanout Phase 1	Cleaning, desilting and CCTV of the existing Storm Drainage Pipe. Construction will be completed within 30 days of NTP	City of Fort Lauderdale	Shiau Ching Low	(954) 828-3779		100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 2,400.00	Sep-19	
NE 31st Avenue Stormwater Improvements	Installation of new catch basins and tidal valves on NE 31st Ave and NE 20th Ct	City of Fort Lauderdale	Francisco Rios	(954) 828-5807	frios@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 1,125,000.00	Nov-19	
11906 - 1405 SW 9th Avenue Drainage Improvements	CCTV and Cleaning of Existing outfall pipe to determine condition of pipe. Remove and replace pipe as required and then line the entire run of pipe. Includes tree, fence and other miscellaneous landscape removal and replacement.	City of Fort Lauderdale	Juan Carlos Samuel	(954) 828-6323	jsamuel@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 1,625,000.00	NTP Pending	
ESU37 - Drainage Repair	Desilting of pipes, providing color video before and after improvements, sealing joints with internal joint seals and lining storm drains on various State Roads	Orange & Seminole	Eric Plantier	(407) 482-7847		N Franklin Street Suite 1400, Tampa, FL 33602	$ 306,580.00	Nov-17	Jan-17
PBC Lift Station Cleaning	Cleaning and disposal of 250 lift stations per year; cleaned twice per year for 500 cleanings per year	Palm Beach County	Marva Brown	(561) 616-6800	mbrown@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 259,400.00	Nov-17	Nov-18
Meadow Croft CIPP	Sanitary Sewer Main lining of 642 LF of 10" CIPP	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 20,544.00	Mar-18	Apr-18
WO #14 537 Toccoa Road 16" & 24"	Remove and replace existing 36 LF of 16" and 80 LF of 24" with RCP and reconnect to existing drainage structures. Restoration includes road base within 1" of final grade	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 26,045.81	Oct-17	Nov-17

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
WO # 15 726 Connestee Road	Remove and replace existing 36 LF of 16" with RCP and reconnect to existing drainage structures. Restoration includes road base within 1" of final grade. Asphalt by others	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 27,123.48	Dec-17	Jan-18
WO #23 Military Trail S of Lantana Road Kokomo Dr.	Drainage improvements and installation per project scope and drawling's	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 37,138.09	Nov-17	Aug-17
WO #24 Military Trail/Southbound at Kokomo - South	Remove and Replace approximately 30 LF of CMP with RCP across residential roadway	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 57,599.73	Dec-17	Apr-18
WO #25 Center St/200' East of Loxahatchee River Road CIPP	Drainage Improvements and Installation per project scope. Does not include any P-Top Removal. Lining, plugging, cctv pre and post only. Dewatering of pipe(s) included.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 41,838.00	Dec-17	Apr-18
WO #26 Center Street West of N Hepburn Ave	Drainage Improvements and Installation per project scope. Does not include any P Top Removal. Pipe Lining, plugging, cctv pre and post, dewatering of pipe(s).	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 53,198.00	Nov-17	May-18
WO #27 Brian Way N of Saxon Blvd	Remove and Replace approximately 100 LF of CMP with 30" ADS across the roadway. Total road closure needed. Final restoration by others. No canal grading or reshaping included.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 69,300.00	Nov-17	Jan-18
WO #28 1069 Edgehill Road	Remove and replace approximately 40 LF Approx. of CMP with HDPE per scope	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 43,700.00	Apr-18	Jun-18
WO #29 Flamango Lake Dr/Flamango Ct. E and Flamango Ct. W	Remove and replace approximately 240 LF approx. of CMP with HDPE per scope	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 97,300.00	Jan-18	May-18
WO #30 Limestone Creek Road and Palm Garden St.	Perform rehabilitation to designated storm drain junction box and asphalt patch.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 30,825.00	Apr-18	May-18
WO #31 Military Trail and 61st St	Perform necessary repairs to existing abandoned storm line and/or pipe crossing	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 46,600.00	Feb-18	Jun-18
WO #32 Lawrence Rd at LWDD L-17 Canal	Drainage Improvements and Headwall installation	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 579,835.19	Jun-18	Oct-18
WO#33 3261 Atlantic Rd	Drainage improvements installation	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 48,300.00	Apr-18	Jun-18
19598 Trails End Ter	Remove and Replace approximately 300 LF approx. of CMP with 18"ADS at two different locations	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 72,900.00	May-18	Jun-18
WO#35 19506 Trails End Terr (#2)	Remove and Replace approximately 50 LF approx. of CMP with 18"ADS	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 37,950.00	May-18	Jun-18
WO#36 19582 Trails End Terr (#3)	Remove and Replace approximately 50 LF approx. of CMP with 18"ADS	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 37,950.00	May-18	Jun-18
WO#37 19637 ReD Maple Rd (#5)	Remove and Replace approximately 220 LF approx. of CMP with 24"ADS	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 59,300.00	On Hold	On Hold
WO#39 19650 Red Maple Rd	Remove and Replace approximately 220 LF approx. of CMP with 24"ADS per scope. Limits of	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 22,975.00	May-18	Oct-18
WO #40 Loxahatchee River Road Storm Pipe Repalcement - Phase 1	Drainage Improvements installation per project scope and drawings. Replacement of 2 inlet boxes and replacement of 216 LF of RCP with new 24" ADS	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 79,950.00	Mar-19	Jun-19
WO #41 Loxahatchee River Road Storm Pipe Repalcement - Phase 2	Drainage improvements installation per project scope and drawings. Replacement of 2 inlet boxes and replacement of 305 LF of RCP with new 24" ADS	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 94,800.00	Mar-19	Jun-19
WO #43 6126 Woodlake Rd - Drainage Repairs	Remove and Replace approximately 40 LF approx. of CMP with 18"ADS, remove and replace approx.. 13'x13' concrete driveway and restoration of area.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 40,500.00	May-18	Nov-18
WO #44 6633 Woodlake Rd	Remove and Replace approximately 50 LF approx. of CMP with 18"ADS, 1 new concrete structure	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 47,500.00	Sep-18	Oct-18
WO #45 Lawrence Rd @ Hypoluxo Road Drainage Improvements 66" and 24"	Drainage improvements at Hypoluxo Rd and Lawrence Rd SW corner.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 396,200.00	Aug-18	Mar-19
WO #46 Lawrence Rd at Santaluces School	Drainage improvements. Restoration by others	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 78,500.00	Aug-18	Nov-18
WO #47 Indiantown Road - East of 131st Trail N	Drainage Improvements and Installation per project scope. Does not include any P-Top Removal. Lining, plugging, cctv pre and post only. Dewatering of pipe(s) included	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 44,350.00	Aug-18	Nov-18
WO #48 Indiantown Road - West of 131st Trail N	Drainage improvements and installation per project scope. Does not include any P-Top Removal. Lining, plugging, cctv pre and post only. Dewatering of pipe(s) included.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 76,380.00	Aug-18	Nov-18
WO #49 6528 Woodlake Rd	Remove and Replace approximately 40 LF approx. of CMP with 18"ADS per scope.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 33,650.00	Aug-18	Nov-18

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
WO #50 6662 Lawrence Wood Ct. - Drainage Repair	Replace 2 pipes - south 24-inch and west 12-inch pipe, brick up top 7"-8" and cut out 30'x30' asphalt repair	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 57,525.00	Oct-18	Jan-19
WO #51 East Side of 4322 Diamond Rd - Mediterranean	Remove and Replace approximately 40 LF approx. of CMP with 24"ADS , concrete collar, remove and reinstall fence, match rip rap on North side of bank, AT&T to relocate Line near fence , 10' deep excavation and restoration Rip Rap to be installed from Tip to Toe of canal, no cleaning of canal past limit of constructions.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 59,600.00	Oct-18	Nov-18
WO #52 6464 Woodlake Road - Drainage Repairs	Remove and Replace approximately 15 LF approx. of CMP with 24"ADS per scope and restoration.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 26,525.00	Oct-18	Nov-18
WO #53 104 Foxwood Dr WPB Fl	Remove and Replace approximately 200 LF of CMP with 36"ADS at inlet boxes into the canal.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 43,000.00	Jan-19	Feb-19
WO #54 Willow Pond Road @ Willow Pond Court - Drainage Repairs	Remove and Replace approximately 212 LF of CMP with 18" HDPE per scope	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 94,900.00	Jan-19	Jun-19
WO #55 Pinehurst Drive and 10th Avenue North	Drainage Improvements and Installation per project scope. Does not include any Top Removal. Cipp Lining 24" culvert, plugging, cleaning, cctv pre and post only. Dewatering of pipe(s) included.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 39,155.00	Jan-19	Feb-19
WO #56 Center and 52nd Way, Jupiter	TV line from basin to basin. Include clean and Pre tv inspection. TV will be delivered to PBC after completion of Pre Tv. Additional work may follow after inspection of pipe under Center St.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 9,100.00	Feb-19	Mar-19
WO #57 Toney Penna Drive & Central Boulevard	Remove and Replace approximately 1-2 joints of pipe. Explore excavation at sink hole and repair as directed by inspector onsite.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 4,470.00	Jun-19	Jun-19
WO #58 Toney Penna Dr. & Bush Rd.	Plug inverts as needed to re grout pipes inside storm basin structure on west side of road. Install new R&C at MH and properly seal with concrete and Refratta inside of MH. Add fill around Manhole due to low are around structure.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 21,600.00	Feb-19	Feb-19
WO #59 Kingston Drive Drainage Pipe and Headwall Repairs	Drainage Improvements and Installation per project scope. 2 shots of Lining, plugging, cctv pre and post only. Dewatering of pipe(s) included. Does not include Canal Dredging	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 59,850.00	Apr-19	Jun-19
WO #60 Central Blvd from Jupiter Park Drive to 100' south of Toney Penna Drive	Drainage Improvements and Installation per project scope. Does not include any P Top Removal. Pipe Lining, plugging, cctv pre and post, dewatering of pipe(s)	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 605,000.00	Jul-19	Aug-19
WO #61 7479 Central Industrial Drive @ Byron Drive	Excavate area 9' Deep / 42" pipe failure, pour concrete 48" collar on first joint to the North.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 7,832.56	Jul-19	Jul-19
WO #62Orchard Way and Woodbine Road	Cipp Lining 24" and 36" culvert, plugging, cleaning, cctv pre and post only. Dewatering of pipe(s) included. Replacement of 2 grates and Refratta both boxes, fill dirt around sink hole, compaction and concrete sidewalk replacement.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 69,681.00	May-19	Jun-19
WO #63 Davis Rd. & Berkshire	Remove and Replace approximately 45 LF of RCP with 18"ADS. Asphalt and site restoration included. (Existing pipe has separated and sinkhole is appearing in the road)	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 37,125.00	Jul-19	Jul-19
WO #64 155th Pl and 70th Trail (Palm Beach County Estates)	Remove and Replace approximately 60 LF approx. of CMP with 18"ADS from Box to Box. Including removal of pipe, installation of pipe, compaction, asphalt, and site restoration.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 32,275.00	Aug-19	Aug-19
WO #65 904 Flamingo Dr	Drainage Improvements and Installation per project scope. Does not include any Top Removal. Cipp Lining 18" culvert, plugging, cleaning, cctv pre and post only. Dewatering of pipe(s) included.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 37,025.00	Jul-19	Sep-19
WO #66 Jog Rd Shoppes of Woolbright	Remove and Replace approximately 60 LF of collapsed pipe and install new 18"RCP. Remove and haul away approx. 17 flags of concrete sidewalk and approx. 5' of curb on either side of each box. Dewater included.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 35,875.00	Jun-19	Jul-19
WO #68 Orleans Ct - South of Belvedere Road and West of Military Trail Emergency 24" ADS	Remove and Replace approximately 24 LF of CMP with 24" ADS and pour concrete collar at both pipe connection. This pipe was in need to be removed due to leaking joints and emergency job with PBCWUD while doing a sewer repair under this storm pipe.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 9,800.00	Aug-19	Oct-19
WO #69 Lox River Rd	Excavate approximately 50 LF of existing ADS and pour two concrete collars around Bell end of pipe to eliminate pipe from floating. Including pipe excavation, compaction, asphalt, and site restoration	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 16,500.00	Sep-19	Oct-19
WO #70 5718 Souchak Dr Headwall repair	Remove and Replace approximately 20 LF of CMP with 24" ADS from broken pipe to headwall. Pour concrete collar at pipe connection. Existing Headwall is to remain. Camera existing line after pipe replacement to assess the condition from Box on Souchek to Headwall. Rock rubble around headwall 5' each side of Bank. No dredging of canal included.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 28,800.00	Oct-19	
WO #71 Congress Ave N of Blue Heron on W 26th St. west side of road	Plug inverts as needed to re grout pipes inside storm basin structure on west side of road. Properly seal with chemical grout or concrete. Add fill around Manhole due to low are around structure.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 26,400.00	Oct-19	
WO #73 Foxwood Circle	Drainage Improvements and Installation per project scope. Does not include any P Top Removal. Pipe Lining, plugging, cctv pre and post, dewatering of pipe(s).	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 79,504.00	Oct-19	
WO #74 Roebuck Rd and Rocking Horse Rd	Drainage Improvements and Installation per project scope. Includes 1 Top Removal and cutting of RCP pipe in the North box. Cipp Lining 21"x14 elliptical, plugging, cleaning, cctv pre and post only. Dewatering of pipe(s)	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 39,575.00	Oct-19	
Charleston Shores blvd South of Lauden	Remove and Replace approximately 60 LF approx. of CMP with 24"ADS from Box to Box. Including removal of pipe, installation of pipe, compaction, asphalt, and site restoration.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 43,775.00	Dec-19	
Charleston Shores blvd South of Heathley	Remove and Replace approximately 60 LF approx. of CMP with 24" FDOT ADS from Box to Box. Including removal of pipe, installation of pipe, compaction, asphalt, and site restoration	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 43,775.00	Dec-19	

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
4354 Maleleuca	excavate to affected area and pour concrete collar over broken pipe, replavement may be necessary after exposed. Including excavation, concrete collar, compaction, asphalt, concrete and site restoration	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 28,500.00	Dec-19	
Maleleuca and Dell	Excavate to affected area and pour concrete collar over broken pipe, replacement may be necessary after exposed. Including excavation, concrete collar, compaction, asphalt, concrete and site restoration.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 29,625.00	Dec-19	
Lantana and Military Trail. (S.E. Corner)	Excavate two affected areas of 72" drainage failure, SE corner of intersection and other just east of Military Trl on East bound lane, and pour concrete collar over broken pipe, replacement may be necessary after exposed. Including excavation, concrete collar, compaction, asphalt, concrete and site restoration. Refratta box at intersection after pipe is repaired. No striping of road or PBC permits required.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 71,830.00	Dec-19	
10087 Trailwood	Drainage Improvements and Installation per project scope. Does not include any P Top Removal. Pipe Lining, plugging, cctv pre and post, dewatering of pipe(s).	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 58,996.60	Dec-19	
6867 Hatteras Dr	Remove and Replace approximately 30 LF approx. of CMP with 24" FDOT ADS from Box to Box. Including removal of pipe, installation of pipe, compaction, asphalt, and site restoration. Concrete curb to be removed	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 33,850.00	Feb-20	
6663 Hatteras DR	Remove and Replace approximately 30 LF approx. of CMP with 24" FDOT ADS from Box to Box. Including removal of pipe, installation of pipe, compaction, asphalt, and site restoration. Concrete curb to be removed	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 33,850.00	Feb-20	
4679 Brooks Ave	Drainage Improvements and Installation per project scope. Does not include any P Top Removal. Pipe Lining, plugging, cctv pre and post, dewatering of pipe(s).	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 54,639.58	Jan-20	
Maleleuca and Letho Ln	Excavate to affected area and pour concrete collar over broken pipe, replacement may be necessary after exposed. Including excavation, concrete collar, compaction, asphalt, concrete and site restoration.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 32,450.00	Jan-20	
Maleleuca and 40th s (West and East of 40th)	Excavate to two affected areas, West and East of 40th way, and pour concrete collar over broken pipe, replacement may be necessary after exposed. Including excavation, concrete collar, compaction, asphalt, concrete and site restoration.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 56,900.00	Jan-20	
Balmoral Blvd.	Drainage improvements including the removal of broken CMP and installation of new ADS joints at each end of the canal. installation of rip rap around new pipe. Pipe Cleaning, Lining, plugging, cctv pre and post, dewatering of pipe(s).	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 95,636.45	Jan-20	
3861 Barkis Ave	Drainage Improvements and Installation per project scope. Does not include any P Top Removal. Pipe Lining, plugging, cctv pre and post, dewatering of pipe(s).	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 55,784.15	Jan-20	
Lift Stations Rehab - Proj B	Rehabilitation of 28 lift stations	Palm Beach County WUD	Joseph Tanacredi	(561) 493-6000	jtanacredi@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 4,221,409.50	Aug-18	On Going
Palm Beach Lakes Blvd Sewer Lining	The Services and materials to be provided under this Work Order consist of cleaning, CCTV and C.I.P.P. lining of existing 8" VCP pipe, 1,415 LF	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 124,929.00	Dec-15	
Rosemary Ave Large Dia. Sewer Pipe Lining	Bypass of all flow during sanitary sewer pipe repair, Cleaning/lining of approximately 2040 LF of 30" sanitary Sewer piping	City of West Palm Beach	Daniel Roberge	(561) 822-2100	Droberge@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 281,475.00	Feb-16	
Shenandoah Emergency CIPP	Bypass of all flow during sanitary sewer pipe repair, Cleaning/lining of approximately 2090 LF of 8" and 18" of sanitary and sewer piping	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 161,125.00	Completed in 2016	
Congress & Australian	Cleaning/Lining of approximately 400 LF of 8" and 304 LF of 36" Sanitary Sewer Piping	City of West Palm Beach	Daniel Roberge	(561) 822-2100	Droberge@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 70,935.00	Aug-16	May-18
Spruce Avenue -WO# 04	Cleaning/Lining of approximately 4,079 LF of 18"-36" Storm Sewer Piping	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 290,385.00	Jan-18	May-18
Avila & Grandview & Park WO#5	Cleaning/CCTV of approximately 2,468 LF of 8"-30", CIPP of approximately 2,468 LF of Sanitary Sewer Piping	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 280,183.00	Jul-18	Nov-18
Sanitary Sewer Storm Pilot-WO#	Provide new water service connections to the parcels included in the pilot project	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 56,004.25	Jun-18	Aug-18
Spruce Ave-47th and 53rd WO#5	Cleaning/CCTV of approximately 436 LF of 18"-24", CIPP approximately 436 LF of storm sewer piping	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 36,920.00	Jul-18	Oct-18
Henrietta Avenue Phase I CIPP Lining	Cleaning/CCTV of approximately 348 LF of 10", CIPP of approximately 348 LF of Sanitary Sewer Piping on N. Flagler & 23rd Street	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 13,766.00	Oct-18	Jan-19
Henrietta ave. Phase 2 Sanitary Sewer (9th St. to PBL Blvd.)	8-inch CIPP Lining with lateral lining CCTV & cleaning	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 97,298.00	Aug-19	Sep-19
Sophia Drive Phase 1 CIPP Lining	Cleaning/CCTV of approximately 430 LF of 8-inch, CIPP of approximately 4350 LF Sanitary sewer piping on Sophia drive, Cleaning/CIPP/CCTV of 4-inch - 6-inch lateral from 8"-12" main including first 3 LF of lateral, CIPP lining of 4"-6" laterals.	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 81,890.00	Sep-19	
Gaines Park Sanitary Sewer & Water	Install new sanitary cleanout, two manholes. 62 LF of 6" PVC piping and relocate water Lines as needed	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 49,390.00	Feb-15	Apr-15
PCCP Force Main Assessment	Installation of Line Stop equipment on 24" FM, Installation of Tapping saddle and valve on the 24" main for pipe diver insertion,	City of West Palm Beach	Daniel Roberge	(561) 822-2100	Droberge@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 183,843.15	Jun-15	Aug-15
20-inch WM Valve Removal - Georgia Ave at Hampton Road	Bypass of all flow during sanitary pipe repair. Cleaning/Lining of approximately 2,090 LF of 8" and 18" Sanitary Sewer Piping associated laterals.	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 72,216.52	Jul-15	Aug-15

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Palm Beach Lakes Force Main, Emergency	Repair of force main	City of West Palm Beach	Daniel Roberge	(561) 822-2100	Droberge@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 111,054.00	Aug-15	Aug-15
Shenandoah Emergency Gravity Sewer Repair	Replacement of 60 LF of 24" PVC pipe	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 386,630.00	Feb-16	Mar-16
Executive Drive Outfall Repair	Replacement of pipe, including slip lining of section of existing CMP	City of West Palm Beach	Daniel Roberge	(561) 822-2100	Droberge@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 265,839.00	Sep-16	Feb-17
16th St Storm Water Drainage Replacement	Removal of existing VCP Pipe, installation of new RCP pipe, installation of 2 9.5' deep mainline manholes, installation of 4 9.5' deep storm water curb inlets	City of West Palm Beach	Daniel Roberge	(561) 822-2100	Droberge@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 180,580.00	Apr-17	Jul-17
16th St Water Main	Removal and replacement of approximately 440 LF of 8" water main, including all fittings and all necessary connections	City of West Palm Beach	Daniel Roberge	(561) 822-2100	Droberge@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 239,070.00	May-17	Sep-17
Pinewood Stormwater Replace	Replacement of storm sewer pipe	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 239,070.00	Sep-17	Jul-18
10-24" FM ARV Replacements	Replacement of two ARV manholes on 24" force main.	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 261,510.00	Jan-19	Jun-19
SW Rehab on Pinewood 23rd St and 36th St.	Replacement of storm sewer pipe in different locations alone pinewood ave. in West Palm Beach	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 149,770.00	Mar-19	Nov-19
Century Village and Westgate	Inspection and rehabilitation of approximately 77,000 linear feet of gravity sewer lines and 475 manholes, Gravity sewer system services lift stations 348-352, 391, 5044, 5243 - 54 Segments of gravity sewer from terminal manhole to wet well to be lined.	Palm Beach County	Pollop Phonpornwithoon	(561) 493-6123	pphonpornwithoon@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 3,000,651.30	Sep-17	Jul-18
Aletha Manor	18" CIPP lining & Cleaning	Clay County	Stephen E. Koteras	904-269-6301	Stephen.Koteras@claycountygov.com	477 Houston Street, Green Cove Springs, FL 32043	$ 24,964.00	Mar-17	May-17
CR 218 Middleburg	Furnish & Install 24" CIPP Lining, 24" CIPP, dewatering & cleaning	Clay County	Stephen E. Koteras	904-269-6301	Stephen.Koteras@claycountygov.com	477 Houston Street, Green Cove Springs, FL 32043	$ 47,952.00	Mar-18	Aug-18
Camp Lane 1159	Furnish & Install 26" CIPP Lining, 36" CIPP, dewatering & cleaning	Clay County	Stephen E. Koteras	904-269-6301	Stephen.Koteras@claycountygov.com	477 Houston Street, Green Cove Springs, FL 32043	$ 29,298.00	Sep-19	Dec-19
CR220/Angora Bay 30" Lining	Furnish and Install 664 LF of 30" CIPP Liner	Clay County	Stephen E. Koteras	904-269-6301	Stephen.Koteras@claycountygov.com	477 Houston Street, Green Cove Springs, FL 32043	$ 70,634.00	Apr-19	Jun-19
Between 3157 & 3161 Silverado Circle GCS, FL	Furnish and install 167 LF of 15-inch CIPP Lining	Clay County	Stephen E. Koteras	904-269-6301	Stephen.Koteras@claycountygov.com	477 Houston Street, Green Cove Springs, FL 32043	$ 27,900.00	Jul-19	Jan-20
County Road 15A WO 171210	CIPP lining and pipe cleaning for CR 15A	Clay County	Stephen E. Koteras	904-269-6301	Stephen.Koteras@claycountygov.com	477 Houston Street, Green Cove Springs, FL 32043	$ 89,700.00	Dec-19	Feb-20
Sanitary Sewer & Manholes	Repair or cure-in-place (CIP) lining of sections of gravity sewer pipes and relocation of fire hydrants and water mains	City of Clearwater	Rose Lara	(727) 224-7062	rose.lara@myClearwater.com	100 S Myrtle Ave, Clearwater, FL 33756	$ 2,666,550.00	Feb-15	Feb-17
WUD 16-027-2017 Telemetry	WUD 16-027-2017 Telemetry	Palm Beach County WUD	Duane Palumbo	(561) 493-6000	dpalumbo@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 1,196,008.00	Jun-17	May-18
Palm Beach Cnty Lining 17-016	Inspection of gravity main lines and manholes. Rehabilitation of 29,971 LF of gravity main lines. Post inspection reports for all rehabilitated assets	Palm Beach County	Pollop Phonpornwithoon	(561) 493-6248	pphonpornwithoon@pbcwater.com	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 1,040,134.00	Apr-17	Sep-17
E1Q95-RO Desilting	Side Drain Desilting	Florida Department of Transportation	Wayne Harris	(863) 519-2382	Wayne.Harris@dot.state.fl.us	N Franklin Street Suite 1400, Tampa, FL 33602	$ 97,800.00	May-17	
US 27 Sebring	Side Drain Desilting	Florida Department of Transportation	Wayne Harris	(863) 519-2382	Wayne.Harris@dot.state.fl.us	N Franklin Street Suite 1400, Tampa, FL 33602	$ 54,433.20	Feb-18	Jul-18
Desoto, Glades, Hardee, Hendry & Highlands Counties Side Drain Desilting	Side Drain Desilting	Florida Department of Transportation	Wayne Harris	(863) 519-2382	Wayne.Harris@dot.state.fl.us	N Franklin Street Suite 1400, Tampa, FL 33602	$ 13,041.90	Mar-19	Aug-18
E4S32-RO - NPDES MARTIN	Remove and dispose of materials and or blockage inside of a pipe, box culvert or other part of the storm drainage system to provide maximum drainage capacity of the departments storm water system	Florida Department of Transportation	Maria Velarde	(954) 777-4084	mickey.kelly@dot.state.fl.us	3400 W Commercial Blvd. Fort Lauderdale, FL 33309	$ 130,000.00	Apr-17	Feb-19
Lift Station Rehabilitation Continuing Construction Contract: Priority 1 WA# 1	provide construction services for various general activities on Lift Stations 203, 218, 325, 607, 957, 4113, 4150, 4153, 4217, 4228 including rehabilitation of piping, electrical and corrosion barrier system	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 1,916,423.39	Jun-15	Feb-16
Lift Station Rehabilitation Continuing Construction Contract: Priority 2 WA# 2	Rehabilitation of Lift Stations: 204, 0566, 947, 4138, 512, 575, 1060, 4106, 4136, 4152, Drexel Rd Gravity	Palm Beach County WUD	Andre McBarnette	(561) 493-6000	amcbarnette@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 1,877,743.48	Dec-15	Sep-16
Strategic Lift Station 8101 Electrical Improvements WA#3	Electrical upgrades to LS 8101, inclusive of bypass pumping, new FPL service installation, removal of overhead service, installation of new ancillary junction box, separate RTU, new antenna, and quadraplex control panel to design specifications with soft starters	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 149,140.00	Mar-16	Jun-16
Lift Station Rehabilitation Priority 3	Lift station rehabilitation including new control panels, pumps, force main piping, valves, hatches and all other specified materials/equipment.	Palm Beach County WUD	Andre McBarnette	(561) 493-6000	amcbarnette@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 1,783,205.71	Jun-16	Apr-17

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Lift Station Rehabilitation Continuing Construction Contract (Priority #4)	Contractor shall perform the engineering Scope of Services as described herein: Lift Station rehabilitation including new control panels, pumps, force main piping, valves, hatches and all other specified materials/equipment.	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 1,734,155.45	Jun-16	Apr-17
Century Village Grout Abandonment	Deactivation, flush and grouting of existing pipe up to 8" maintenance of traffic; record drawings and preconstruction video	Palm Beach County WUD	Andre McBarnette	(561) 493-6000	amcbarnett@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 8,862.19	May-16	Jun-16
Gravity Sewer Pipe Replacement at Lift Station 8218	Replacement of approximately 215 LF of 8" lined pipe with new 8" PVC pipe, from manhole 13 - 14	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 62,660.00	Mar-17	Aug-17
16- Inch Reclaimed Water to Seminole Improvement District M2	modifications of piping within existing vaults	Palm Beach County WUD	Andre McBarnette	(561) 493-6000	amcbarnett@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 75,201.00	May-17	Nov-17
Electrical Improvements LS 1043	Electrical improvements and installation of an automatic transfer switch adding a fuse disconnect and electrical service at LS 1043	Palm Beach County WUD	Vince Riccobono	(561) 493-6000	vriccobono@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 57,197.75	Feb-18	On Going
Glades Lift Station Rehabilitation & Improvements to Lift Station 8148	Improvements to LS 8148, include valve vault demolition, new piping and valves, new pumps, control panel and appurtenances, along with site restoration and new fencing	Palm Beach County WUD	Andre McBarnette	(561) 493-6000	amcbarnett@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 243,713.45	Aug-18	Nov-18
Belle Glade Gravity Main Improvements on SW 5th St	Installation of approximately 170 LF of 8" PVC gravity sewer and 2 manholes	Palm Beach County WUD	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 75,701.33	Jun-18	Aug-18
Gravity Sewer Replacement - SW 3rd St	Replacement of approximately 250 LF of 8" clay with PVC gravity sewer piping	Palm Beach County WUD	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 118,420.15	Jun-18	Oct-18
Water Treatment Plant 8 Sanitary Sewer Improvements - WA #13	Installation of three new manholes and rerouting of 10" gravity sewer pipe, including removal of existing gravity sewer and all restoration.	Palm Beach County WUD	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 55,695.21	Dec-18	Feb-19
Gravity Sewer Replacement Lift Station 8116	Replacement of approximately 1,100 LF of 8" PVC gravity sewer main, including all lateral connections and replacement of all manholes, bypass pumping, asphalt roadway replacement and restoration work	Palm Beach County WUD	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 342,028.37	Sep-18	Jun-19
Red Road Emergency Repair	Furnishing and installation of all emergency needs for the City of Miramar Sewer and Water system	City of Miramar	Marcelin P. Denis	(954) 602-3115	mpdenis@miramarfl.gov	2300 Civic Center Place, Miramar, FL 33025	$ 44,362.50	Mar-18	Apr-18
SW 100th Avenue - Emergency	Furnishing and installation of all emergency needs for the City of Miramar Sewer and Water system	City of Miramar	Marcelin P. Denis	(954) 602-3115	mpdenis@miramarfl.gov	2300 Civic Center Place, Miramar, FL 33025	$ 24,600.00	Apr-18	May-18
Miramar Pkwy & Sykes FM Emergency Job	Furnishing and installation of all emergency needs for the City of Miramar Sewer and Water system	City of Miramar	Marcelin P. Denis	(954) 602-3115	mpdenis@miramarfl.gov	2300 Civic Center Place, Miramar, FL 33025	$ 41,800.00	Jul-18	Aug-18
10" Force main Repair on Miramar Parkway and SW 69th Way	10" Force main Repair on Miramar Parkway and SW 69th Way	City of Miramar	Marcelin P. Denis	(954) 602-3115	mpdenis@miramarfl.gov	2300 Civic Center Place, Miramar, FL 33025	$ 49,950.00	Jul-18	Aug-18
8" Reuse Main Repair on Miramar Parkway and Red Road	8" Reuse Main Repair on Miramar Parkway and Red Road	City of Miramar	Marcelin P. Denis	(954) 602-3115	mpdenis@miramarfl.gov	2300 Civic Center Place, Miramar, FL 33025	$ 34,300.00	Jul-18	Aug-18
Homestead I & I	Wastewater collection system rehab	City of Homestead	Antonio J Torres	(305) 443-4549	Atorres@hazenandsawyer.com	450 SE 6th Avenue, Homestead, FL 33030	$ 492,050.00	Apr-18	
Coral Shores 5-Locations	Clean/CCTV & CIPP lining 6"-42" Storm Sewer Pipe	Manatee County	Clint Rimer	(941) 749-3046	clint.rimer@mymanatee.org	4520 66th Street West, Bradenton, FL 34210	$ 213,100.00	Nov-17	
110 39th St Ct NW	Clean/CCTV & CIPP lining 6"-42" Storm Sewer Pipe	Manatee County	Clint Rimer	(941) 749-3046	clint.rimer@mymanatee.org	4520 66th Street West, Bradenton, FL 34210	$ 14,640.00	Dec-17	
201 Magellan	Clean/CCTV & CIPP lining 6"-42" Storm Sewer Pipe	Manatee County	Clint Rimer	(941) 749-3046	clint.rimer@mymanatee.org	4520 66th Street West, Bradenton, FL 34210	$ 11,656.25	Dec-17	
CR 675	Clean/CCTV & CIPP lining 6"-42" Storm Sewer Pipe	Manatee County	Clint Rimer	(941) 749-3046	clint.rimer@mymanatee.org	4520 66th Street West, Bradenton, FL 34210	$ 16,145.00	Dec-17	
Flamingo Cay	Clean/CCTV & CIPP lining 6"-42" Storm Sewer Pipe	Manatee County	Clint Rimer	(941) 749-3046	clint.rimer@mymanatee.org	4520 66th Street West, Bradenton, FL 34210	$ 206,225.50	Nov-18	
10104 Sandpiper Road East-Section 2	Clean/CCTV & CIPP lining 6"-42" Storm Sewer Pipe	Manatee County	Clint Rimer	(941) 749-3046	clint.rimer@mymanatee.org	4520 66th Street West, Bradenton, FL 34210	$ 357,519.75	Jun-19	
Polk County - CIPP	CIPP Installations	Polk County	Doug Gable	(863) 535-2285	DougGable@polk-county.net	330 West Church Street, Room 150, Bartow, FL 33831	$ 183,125.00	Apr-17	Feb-18
5 - Locations - Polk 17-326	CIPP lining: 80 LF of 15", 1,043 LF of 18", 326 LF of 30", 182 LF of 42"	Polk County	Doug Gable	(863) 535-2285	DougGable@polk-county.net	330 West Church Street, Room 150, Bartow, FL 33831	$ 251,918.00	Oct-18	
Asherwoods, Avon Park Cutoff, Birch, Lark, Longwood, Oak, Lake Lulu	CIPP lining: 715 LF of 18"; 47 LF of 24"; 45 LF of 30"; 295 LF of 36" & 166 LF of 60""	Polk County	Doug Gable	(863) 535-2285	DougGable@polk-county.net	330 West Church Street, Room 150, Bartow, FL 33831	$ 224,915.00	Oct-19	Nov-18
Lake Marion, Laynewade, The Pines, Forestgreen	CIPP Lining: 78 LF of 15"; 397 LF of 18"; 1,029 LF of 24", 970 LF of 36"; 146 LF of 42" & 120 LF of 48"	Polk County	Doug Gable	(863) 535-2285	DougGable@polk-county.net	330 West Church Street, Room 150, Bartow, FL 33831	$ 343,885.00	Mar-19	
Hickory Stream Lane, Lakeview Dr., Sagewood Dr, Shadow Wood Ct, Pipkin, Waring Rd, Mt. Olive	CIPP lining: 85 LF of 15"; 333 LF of 18"; 55 LF of 48" & 337 LF of 54"	Polk County	Doug Gable	(863) 535-2285	DougGable@polk-county.net	330 West Church Street, Room 150, Bartow, FL 33831	$ 219,200.00	Mar-19	

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Bridgers Ave, Country Club Rd., Cresent Lake Dr., Hunters Run, Jaybee Ave, King Ave., Lazy Lake, Oak Square, Pine St., Pine Valley, Robin Rd, Ryan Rd., Split Creek, Imperial Lakes, Heather Glynn	CIPP lining: 880 LF of 18"; 1,350 LF of 24", 505 LF of 30"; 164 LF of 36" & 730 LF of 42"	Polk County	Doug Gable	(863) 535-2285	DougGable@polk-county.net	330 West Church Street, Room 150, Bartow, FL 33831	$ 523,315.00	Jul-19	
SW Infrastructure Main/Repair	Storm water infrastructure maintenance and repair services to the City's several premises and locations	Palm Beach Gardens	Daniel Widdick	(561) 804-7044	dwiddick@pbgfl.com	10500 North Military Trail, Palm Beach Gardens, FL 33410	$ 1,027,255.00	Mar-16	Mar-26
Vactor Cleaning of Wet Well	Vactor Cleaning of Wet Well	Solid Waste Authority	Mona McBride	(561) 640-4000	Mmcbride@swa.org	7501 North Jog Road, West Palm Beach, FL 33412	$ 99,621.50	Jan-16	
Pipe Lining - Charlotte 01	Light cleaning 16"-42" Storm pipe & 16"-36" CIPP Lining	Charlotte County Utilities	Randy Vowell	(641) 575-3680	Randy.Vowell@charlottefl.com	18500 Murdock Circle, Port Charlotte, FL 33948	$ 358,785.10	Jan-18	Mar-18
Pipe Lining - Charlotte 02	Light cleaning 16"-42" Storm pipe & 15"-60" CIPP Lining	Charlotte County Utilities	Randy Vowell	(641) 575-3680	Randy.Vowell@charlottefl.com	18500 Murdock Circle, Port Charlotte, FL 33948	$ 16,000.00	Feb-18	
Pipe Lining - Charlotte 03	Light cleaning 16"-42" Storm pipe & 15"-42" CIPP Lining	Charlotte County Utilities	Randy Vowell	(641) 575-3680	Randy.Vowell@charlottefl.com	18500 Murdock Circle, Port Charlotte, FL 33948	$ 264,042.90	Mar-18	
Pipe Lining - Charlotte 04	Light cleaning 16"-42", Medium Cleaning, 42" or Greater & 15"-48" CIPP Lining	Charlotte County Utilities	Randy Vowell	(641) 575-3680	Randy.Vowell@charlottefl.com	18500 Murdock Circle, Port Charlotte, FL 33948	$ 214,205.98	Jun-18	
Pipe Lining - Charlotte 05	Pipe lining & CCTV	Charlotte County Utilities	Randy Vowell	(641) 575-3680	Randy.Vowell@charlottefl.com	18500 Murdock Circle, Port Charlotte, FL 33948	$ 96,730.00	Feb-18	
Pipe Lining - Charlotte 06	Heavy Cleaning 30-42" & 42" CIPP lining	Charlotte County Utilities	Randy Vowell	(641) 575-3680	Randy.Vowell@charlottefl.com	18500 Murdock Circle, Port Charlotte, FL 33948	$ 64,306.00	Aug-18	
Pipe Lining - Charlotte 07	Drainage pipe RV inspection and cleaning of various pipes in Gardens of Guld Cove	Charlotte County Utilities	Randy Vowell	(641) 575-3680	Randy.Vowell@charlottefl.com	18500 Murdock Circle, Port Charlotte, FL 33948	$ 90,000.00	Aug-18	
Pipe Lining - Charlotte 08	Light Cleaning, "16-29", & 15" CIPP Lining	Charlotte County Utilities	Randy Vowell	(641) 575-3680	Randy.Vowell@charlottefl.com	18500 Murdock Circle, Port Charlotte, FL 33948	$ 20,112.00	Oct-18	
Pipe Lining - Charlotte 09	Medium Cleaning, 42" or greater & 60" CIPP lining	Charlotte County Utilities	Randy Vowell	(641) 575-3680	Randy.Vowell@charlottefl.com	18500 Murdock Circle, Port Charlotte, FL 33948	$ 237,478.30	Oct-18	
Pipe Lining - Charlotte 10	Light Cleaning 16"-29", Medium cleaning 30"-42" & 15"-30" CIPP lining	Charlotte County Utilities	Randy Vowell	(641) 575-3680	Randy.Vowell@charlottefl.com	18500 Murdock Circle, Port Charlotte, FL 33948	$ 63,034.33	Jan-19	
Pipe Lining - Charlotte 11	15" - 24" CIPP lining	Charlotte County Utilities	Randy Vowell	(641) 575-3680	Randy.Vowell@charlottefl.com	18500 Murdock Circle, Port Charlotte, FL 33948	$ 300,608.26	Jan-19	
Pipe Lining - Charlotte 12	Light cleaning 16"-42" Storm pipe & 18"-30" CIPP Lining	Charlotte County Utilities	Randy Vowell	(641) 575-3680	Randy.Vowell@charlottefl.com	18500 Murdock Circle, Port Charlotte, FL 33948	$ 86,124.00	Jan-19	
Pipe Lining - Charlotte 13	18" - 30" CIPP lining	Charlotte County Utilities	Randy Vowell	(641) 575-3680	Randy.Vowell@charlottefl.com	18500 Murdock Circle, Port Charlotte, FL 33948	$ 123,623.00	Jan-19	
Pipe Lining - Charlotte 14	12-36" CIPP Lining	Charlotte County Utilities	Randy Vowell	(641) 575-3680	Randy.Vowell@charlottefl.com	18500 Murdock Circle, Port Charlotte, FL 33948	$ 63,298.00	May-19	
Pipe Lining - Charlotte 15	Light cleaning 16"-29" Storm pipe & 15"-30" CIPP Lining	Charlotte County Utilities	Randy Vowell	(641) 575-3680	Randy.Vowell@charlottefl.com	18500 Murdock Circle, Port Charlotte, FL 33948	$ 80,085.00	Apr-19	
Pipe Lining - Charlotte 16	Light Cleaning, "16-29", Medium Cleaning, "30"-42", Heavy Cleaning-42" or Greater, 18-36" CIPP Lining	Charlotte County Utilities	Randy Vowell	(641) 575-3680	Randy.Vowell@charlottefl.com	18500 Murdock Circle, Port Charlotte, FL 33948	$ 47,473.00	May-19	
Pipe Lining - Charlotte 17	Light Cleaning 16"-29', Medium Cleaning, 30-42" or greater & 15-42" CIPP lining	Charlotte County Utilities	Randy Vowell	(641) 575-3680	Randy.Vowell@charlottefl.com	18500 Murdock Circle, Port Charlotte, FL 33948	$ 145,591.60	May-19	
Gardens of Gulf Cove- Englewood-FDOT SEWERS	Heavy Cleaning-42" or Greater, Frontage Pipe McCall Rd at Gardens of Gulf Cove	Charlotte County Utilities	Randy Vowell	(641) 575-3680	Randy.Vowell@charlottefl.com	18500 Murdock Circle, Port Charlotte, FL 33948	$ 18,500.00	Apr-19	
Pipe Lining - Charlotte 19	Medium Cleaning, 16"-29", Heavy Cleaning, "30" 42", 24"-42" CIPP lining	Charlotte County Utilities	Randy Vowell	(641) 575-3680	Randy.Vowell@charlottefl.com	18500 Murdock Circle, Port Charlotte, FL 33948	$ 340,717.59	Aug-19	
Pipe Lining - Charlotte 21	PO PENDING	Charlotte County Utilities	Randy Vowell	(641) 575-3680	Randy.Vowell@charlottefl.com	18500 Murdock Circle, Port Charlotte, FL 33948	PO PENDING	PO PENDING	
Sanitary Sewer Remediation	Cleaning and internally lining the existing vitrified clay sanitary sewer gravity collection system. Cured-in Place Pipe (CIPP) system. The liner system consists of a heat-activated resin-impregnated fabric pipe system. Once cured, the CIPP system will provide a continuous rigid pipe system between manholes. Individual services are to be cut out and sealed to the main line to minimize infiltration around the connections	City of Cape Coral	Marty Mantell	(239) 574-0831	mmantell@capecoral.net	1015 Cultural Park Blvd, 2nd Floor, Cape Coral, FL 33990	Annual Contract Work Orders Below	Annual Contract Work Orders Below	Annual Contract Work Orders Below

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Cape Coral - PO# 46977 LS Basin 305	8-10" pipe cleaning & 9,036 LF of 8" & 2,090 LF of 10" pipe lining	City of Cape Coral	Marty Mantell	(239) 574-0831	mmantell@capecoral.net	1015 Cultural Park Blvd. 2nd Floor, Cape Coral, FL 33990	$ 355,750.00	Feb-18	
Cape Coral - PO# 47850	8" pipe cleaning & 3,536 LF of 8" CIPP Lining	City of Cape Coral	Marty Mantell	(239) 574-0831	mmantell@capecoral.net	1015 Cultural Park Blvd. 2nd Floor, Cape Coral, FL 33990	$ 111,940.00	Apr-18	
Cape Coral - PO# 48056	8" pipe cleaning & 233 LF of 8" CIPP lining	City of Cape Coral	Marty Mantell	(239) 574-0831	mmantell@capecoral.net	1015 Cultural Park Blvd. 2nd Floor, Cape Coral, FL 33990	$ 7,352.50	Apr-18	
Progresso Village Stormwater	Annual stormwater infrastructure cleaning contract	City of Fort Lauderdale	Sandra Marie Pierce	(954) 828-5239	mariep@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	Annual Contract Work Orders Below	Annual Contract Work Orders Below	Annual Contract Work Orders Below
Stormwater Infrastructure Cleaning and Maintenance	Disposal of Contaminated Liquids	City of Fort Lauderdale	Sandra Marie Pierce	(954) 828-5239	mariep@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 31,103.00	Aug-17	
GTL Deepwell Site Stormwater System Cleaning	Cleaning of 3050 LF of 3"-30" stormwater pipes	City of Fort Lauderdale	Justin Murray	(954) 828-5239	jmurray@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 14,900.00	Feb-18	
Removal of Compacted Debris Within the Basin and Pipes	Removal of compacted debris within the basin and pipes - CCTV & cleaning of 2450 Stormwater pipes 19"-30"	City of Fort Lauderdale	Justin Murray	(954) 828-5239	jmurray@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 13,800.00	Feb-18	
Stormwater Mtce Carter Park		City of Fort Lauderdale	Sabine Joseph	(954) 828-5239	sjoseph@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 11,800.00	May-18	
Clean Pipes & Catch Basins		City of Fort Lauderdale	Cathy Green	(954) 828-5239	cgreen@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 7,000.00	Jun-18	
Clean Various Storm Sewers on SW 4th Ave from SR 84 to I-595		City of Fort Lauderdale	Elkin Diaz	(954) 828-5239	Ediaz@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 21,171.00	Aug-18	Feb-19
Clean Various Storm Sewer & Basins on Riverland Road		City of Fort Lauderdale	Marie Pierce	(954) 828-5239	mpierce@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 9,936.00	Nov-18	Apr-19
Storm Sewers and Basins for Peele Dixie		City of Fort Lauderdale	Cesar Alza	(954) 828-5239	calza@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 8,200.00	Aug-19	
Storm Water Pipe Clean-Up		City of Fort Lauderdale	Lucia Dadilvia	(954) 828-5239	ldadilvia@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 9,970.00	Nov-19	Oct-19
Fire Station #29		City of Fort Lauderdale	Alexandra Rampy	(954) 828-5239	lplatkin@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 2,650.00	Nov-19	
DSD One Stop Stormwater system Cleaning		City of Fort Lauderdale	Lucia Dadilvia	(954) 828-5239	lplatkin@fortlauderdale.gov	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 9,970.00	Nov-19	
Point Repair - Lauderhill	Maintenance, repair and improvements to water and sewer infrastructure throughout the City	City of Lauderdale Lakes	Bob Snyder	(954) 730-4225	rsnyder@lauderhill-fl.gov]	5581 W. Oakland Park Blvd, Lauder Hill, FL 33313	$ 43,500.00	Jan-18	
NW 50th & NW 22 Pt Repair	Point Repairs on NW 50th Ave & NW 22nd St.	City of Lauderdale Lakes	Bob Snyder	(954) 730-4225	rsnyder@lauderhill-fl.gov]	5581 W. Oakland Park Blvd, Lauder Hill, FL 33313	$ 25,600.00	Aug-18	
Lift Station # 54	Lift Station # 54	City of Cooper City	Steve Blanchard	(954) 434-4300	SBlanchard@coopercityfl.org	9090 SW 50th Place, Cooper City, FL 33328	$ 11,700.00	Oct-19	Dec-17
Lauderdale By The Sea CIPP2017	Gravity sewer system condition assessment and renewal and replacement I & I	Lauderdale by the Sea	Don Prince	(954) 973-9700	dprince@lauderdalebythesea-fl.gov	125 SE 5th Court, Deerfield Beach, FL 33441	$ 215,000.00	May-17	Sep-17
Sanitary Sewer Lateral-Emerg	Sanitary Sewer lateral repair 15' deep	City of Deerfield Beach	Fred Scott	(954) 480-4418	fscott@deerfield-beach.com	150 NE 2nd Ave, Deerfield Beach, FL 33441	$ 95,000.00	Oct-17	Jan-18
Cypress Lake III- HOA	Cypress Lake III- HOA	Palm Beach County	Mike Brauchle	(561) 355-2912	mikebrachle@gmail.com	3445 Cypress Trail, West Palm Beach, FL 33417	$ 124,320.00		
Hagen Airline		Palm Beach County WUD	William Moreno	(561) 493-6000	wmoreno@pbcwater.com]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 35,500.00	Nov-17	Nov-17
Hagen Various Valves	Hagen Various Valves	Palm Beach County WUD	William Moreno	(561) 493-6000	wmoreno@pbcwater.com]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 35,500.00	Dec-17	
Hagen #3		Palm Beach County WUD	Craig Moyer	(561) 493-6000	cmoyer@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 9,742.00	Dec-17	Jan-18
LS 8146 Canal Bank		Palm Beach County WUD	Pollop Phonpornwithoon	(561) 493-6000	ppholpornwithoon@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 73,646.00	Dec-17	Jan-18
Winikoff Point Repair	Excavation, exposure and repair of 36" PCCP forcemain with unknown break. Repair to be performed by Thompson Pipe Group. County to supply all pipe and fittings.	Palm Beach County WUD	Craig Moyer	(561) 493-6000	cmoyer@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 94,365.00	Feb-18	Feb-18
Hagen Flow Meter Piping - Building 1		Palm Beach County WUD	William Moreno	(561) 493-6000	wmoreno@pbcwater.com]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 35,500.00	Jan-18	

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Hagen Flow Meter Piping - Building 2		Palm Beach County WUD	William Moreno	(561) 493-6000	wmoreno@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 35,500.00	Jan-18	
SW 3rd St - 24in Valve Replace	Excavation, exposure and replacement of 24" Water Main Valve	Palm Beach County WUD	Jim Nelson	(561) 493-6000	jnelson@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 22,420.00	Mar-18	Apr-18
Atlantic Emergency 14 FM Valve	Excavation, exposure and removal of 14" FM Valve	Palm Beach County WUD	Jim Nelson	(561) 493-6000	jnelson@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 38,080.00	Mar-18	Mar-18
Winikoff 2nd Repair	Thompson Pipe Group if needed and Valve repair to be done by Valve manufacturer once discovered. County to supply all pipe and fittings.	Palm Beach County WUD	Craig Moyer	(561) 493-6000	cmoyer@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 37,150.00	Feb-18	Mar-18
Southern & Arden Emergency	Excavation, exposure and repair of 18" C900 PVC FM which Ruptured, at approximately 10' depth.	Palm Beach County WUD	Conrad Thirbenny	(561) 493-6000	cthirbenny@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 35,550.00	Mar-18	Apr-18
Pahokee Waste Water Plant	Stop leak around effluent pipe in basin at the Pahokee WWTP	Palm Beach County WUD	David Guerrero	(561) 493-6000	dguerrero@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 4,925.00	Nov-18	Dec-18
Turnpike and Roebuck Rd	Repair of Damaged 16" Water Main that was hit by and HDD Contractor	Palm Beach County WUD	Don Stiles	(561) 493-6000	dstiles@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 97,600.00	Oct-18	Oct-18
WAM 14" inside Sludge Pump Station 2 Lower Level		Palm Beach County WUD	William Moreno	(561) 493-6000	wmoreno@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 10,000.00	Feb-19	Feb-19
WAM 24" ETPS - Outside		Palm Beach County WUD	William Moreno	(561) 493-6000	wmoreno@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 10,000.00	Feb-19	Feb-19
Belle Glade Waste Water Plant	Stop leak around effluent pipe in basin at the Pahokee WWTP	Palm Beach County WUD	Jarvis Gulley	(561) 493-6000	jgulley@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 11,685.00	Feb-19	Apr-19
Haverhill Rd & Roebuck Rd	Emergency Watermain Break at Haverhill and Roebuck Rd - Saturday	Palm Beach County WUD	Craig Moyer	(561) 493-6000	cmoyer@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 36,508.00	Mar-19	Apr-19
S. Military Trail South of Sunny Lane Ave	Repair the Force Main running East to West across Military Trail South of Sunny Lane Avenue. Removal of existing failed force main from existing casing and installation of new force main piping in existing casing.	Palm Beach County WUD	Craig Moyer	(561) 493-6000	cmoyer@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 70,904.00	Apr-19	Jun-19
Belle Glade Waste Water Plant	Clean, Sandblast and Coat Grit Separator Tanks	Palm Beach County WUD	Jarvis Gulley	(561) 493-6000	jgulley@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 17,605.00	Apr-19	Jul-19
Hagan Ranch WWTP	Flow Meter Replacement on 12" (AB4 A)	Palm Beach County WUD	William Moreno	(561) 493-6000	wmoreno@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 10,000.00	Apr-19	Jul-19
Hagan Ranch WWTP	Flow Meter Replacement on 24" (ETPS)	Palm Beach County WUD	William Moreno	(561) 493-6000	wmoreno@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 10,000.00	Apr-19	Jul-19
Hagan Ranch WWTP	Flow Meter Replacement on 24" (ETPS)	Palm Beach County WUD	William Moreno	(561) 493-6000	wmoreno@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 4,393.76	Apr-19	Jul-19
Pahokee Waste Water Plant	Stop leak around effluent pipe in basin at the Pahokee WWTP	Palm Beach County WUD	Jarvis Gulley	(561) 493-6000	jgulley@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 3,590.00	Jun-19	Jul-19
L-38 WM Aerial Crossing Repair	Repair of Damaged 18" Aerial WM Which blew out at edge of canal bank. Repair includes rip rap on only one side of canal, only on water main, no dredging included. Sod for golf course property affected and immediate canal embankment only, not entire entry to site.	Palm Beach County WUD	Jim Nelson	(561) 493-6000	jnelson@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 119,450.00	May-19	Aug-19
L-38 WM Aerial Crossing Repair (North Side)	Repair of Damaged 18" Aerial Water Main and Force Main Crossing on the North side. Repair includes rip rap on only North side of canal, no dredging included. Restoration for property affected and immediate canal embankment only, not entire entry to site.	Palm Beach County WUD	Jim Nelson	(561) 493-6000	jnelson@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 123,550.00	May-19	Aug-19
Pahokee Waste Water Plant	Stop leak around effluent pipe in basin at the Pahokee WWTP	Palm Beach County WUD	Jarvis Gulley	(561) 493-6000	jgulley@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 3,590.00	Jul-19	Sep-19
Pahokee Waste Water Plant	Stop leak around effluent pipe in basin at the Pahokee WWTP	Palm Beach County WUD	Jarvis Gulley	(561) 493-6000	jgulley@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 3,590.00	Jul-19	Sep-19
LS 151 Gravity Repair	Remove and replace approximately 33 LF of 8" gravity sewer 11' deep in front of LS 151 on Orleans Ct. Line Remaining 8" influent gravity from terminal MH to Wet Well to be CIPP Lined	Palm Beach County WUD	Don Stiles	(561) 493-6000	dstiles@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 67,600.00	Aug-19	Sep-19
Sanitary Sewer - Mulberry	Manhole rehabilitation including installation of 580 VF of CIP or Spray Manhole Liner (poly-liner or equal) in 102 manholes Point Repairs of 24 existing sanitary sewer lines. By-pass pumping; Bench repair, Chimney seal manholes; Replacement of manholes; Installation of cured-in-place-pipe;	City of Mulberry	Roger Homann	(863) 425-1125	[illegible]	104 South Church Ave, Mulberry, FL 33860	$ 4,912,591.00	Mar-18	Nov-19
Manhole Rehabilitation	Manhole Rehabilitation	Fort Pierce Utilities Authority	Mark Kobbe	(772) 466-1600	mkobbe@fpua.com	PO BOX 3191 FORT PIERCE, FL 34948-3191	$ 186,292.44	May-17	
Lift Station # 38	Lift Station # 38	City of Bradenton	Kim Clayback	941.708 6300 x224	Kim.Clayback@cityofbradenton.com	1411 9th St W Bradenton, FL 34205	$ 29,860.00	Nov-17	
Rehab 8 Lift Stations	Rehab 8 Lift Stations	City of Altamonte Springs	Karen McCullen	(407) 571-8539	KMcCullen@altamonte.org	968 Keller Road, Altamonte Springs, FL 32714	$ 491,037.50	Dec-17	Sep-18

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Hibiscus & Baynon	Provide pipe cleaning , CCTV and dewatering	City of Delray Beach	Jeffery Needle	(561) 243-7000	needlej@mydelraybeach.com	100 NW 1st Ave, Delray Beach, FL 33444	$ 90,000.00	Mar-18	Mar-18
Park Avenue	Clean, TV and Cipp Line 30" RCP Pipe under Park Avenue	Town of Lake Park	Richard Scherle	(561) 881-3345	rscherle@lakeparkflorida.gov	535 Park Ave, Lake Park, FL 33403	$ 63,123.00	Jan-18	Feb-18
Storm Water Video Inspections	Video inspection and documentation of storm water basin 3	Town of Lake Park	Richard Scherle	(561) 881-3345	rscherle@lakeparkflorida.gov	535 Park Ave, Lake Park, FL 33403	$ 46,006.64	Mar-18	May-18
Cypress Drive 60" CCTV	Confined Space Entry and Televise 60" Storm Line	Town of Lake Park	Richard Scherle	(561) 881-3345	rscherle@lakeparkflorida.gov	535 Park Ave, Lake Park, FL 33403	$ 107,360.00	Jun-18	Aug-18
Lift Station 57 and 66	Gravity sewer main cleaning & CCTV, Installation of 5,517 LF of 8" CIPP lining	City of Loxahatchee	Kris Dean	(561) 747-5700	kris.dean@lrecd.org	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 174,673.81		
Cleaning, TV & Lining Services		City of Loxahatchee	Kris Dean	(561) 747-5700	kris.dean@lrecd.org	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 193,294.56	Feb-18	
Lift Station 065 Main Lining PO #48742	Gravity sewer main cleaning and TV inspections, install 8", 10" & 12" CIPP Liner	City of Loxahatchee	Kris Dean	(561) 747-5700	kris.dean@lrecd.org	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 454,093.51	Sep-18	Jan-19
Manhole Rehabilitation Services	Repair sewer manholes	City of Loxahatchee	Kris Dean	(561) 747-5700	kris.dean@lrecd.org	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 63,398.93	Nov-19	Dec-19
Penn Park Main Lining	Main line cleaning, TV inspection & lining services	City of Loxahatchee	Kris Dean	(561) 747-5700	kris.dean@lrecd.org	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 273,866.95	Dec-18	Oct-19
Jupiter Harbor - LS #97 Basin	Clean Tv and Line all 8" clay lines within the LS #97 basin, in the Jupiter Harbor Community	City of Loxahatchee	Kris Dean	(561) 747-5700	kris.dean@lrecd.org	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 67,672.96	Oct-19	Oct-19
Lift Station #58 - Main Lining Services	Cleaning, Televising & lining of 415 LF of 8" CIPP, 590 LF of 15" CIPP	City of Loxahatchee	Kris Dean	(561) 747-5700	kris.dean@lrecd.org	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 38,600.33	Jun-19	Oct-19
LRD-Jupiter-MH Rehab #2	Manhole rehabilitative services	City of Loxahatchee	Kris Dean	(561) 747-5700	kris.dean@lrecd.org	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 90,000.00	Oct-19	Oct-19
Lift Station #001 - Main Lining Services @ Circle West Road	Gravity sewer main cleaning & TV inspections 6" - 12", install 10" CIPP lining	City of Loxahatchee	Kris Dean	(561) 747-5700	kris.dean@lrecd.org	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 13,340.00	Aug-19	
Repairs to existing 42" storm drain at PBIA	Drainage Repairs and replacement of one section of 42" pipe in the parking lot at PBIA. Separate pricing to line pipe after repair to prevent future failures will also be provided.	Palm Beach County	William Humber	(561) 324-9155	whumber@pbia.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 48,100.00	DO Pending	
PBIA Airport Parking Lot	Drainage improvements and installation per project scope. Does not include any P Top Removal. Pipe Lining, plugging, cctv pre and post, dewatering of pipe(s).	Palm Beach County	William Humber	(561) 324-9155	whumber@pbia.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 59,371.00	DO Pending	
PBIA Airport Parking Lot	Drainage repair in employee parking lot. Removal and replacement of approx. 360 LF of 38"x24" elliptical pipe and restoration	Palm Beach County	Matt Taylor	(561) 616-6800	mtaylor@pbia.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 67,200.00	Oct-19	Nov-19
MH and LS Rehabilitation	Rehabilitation to manholes in Sebring	City of Sebring	Jim Jackson	(561) 640-3503		454 North Franklin, Sebring, FL 33870	$ 54,012.16	Feb-18	
Lift Station 73 & 88 Rehabilitation	Rehabilitation of two wastewater lift stations	City of West Palm Beach	Luis Perez	(561) 822-2100	lperez@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 432,715.82	May-19	
FPUA 20 MH's	Annual manhole rehabilitation	Fort Pierce Utilities Authority	Tom Driskell	(772) 466-1600, Ext. 5515	tdriskell@fpua.com	500 Boston Ave, Fort Pierce, FL 34950	$ 74,649.72	Dec-18	
FPUA 5 MH's End of Fiscal 19	Annual manhole rehabilitation	Fort Pierce Utilities Authority	Tom Driskell	(772) 466-1600, Ext. 5515	tdriskell@fpua.com	500 Boston Ave, Fort Pierce, FL 34950	$ 28,627.26	Aug-19	
Canoe Creek Subdivision Drainage	Approx. 420 LF of 15" - 24" CIPP lining	Martin County	Ken Vreeland	(772) 288-5430	kvreelan@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 99,764.00	Jul-18	Sep-18
Infrastructure Construction - Delmar St 36in	SE Delmar Street Pipe Replacement - 36in RCP	Martin County	Ken Vreeland	(772) 288-5430	kvreelan@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 54,915.00	Aug-19	Aug-19
Infrastructure Construction - SE Lanham Exfiltration	SE Lanham St - 18" Exfiltration Trench	Martin County	Ken Vreeland	(772) 288-5430	kvreelan@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 37,280.00	Aug-18	Jan-19
SE Indian Street CIPP	180 LF of 48 CIPP lining	Martin County	Ken Vreeland	(772) 288-5430	kvreelan@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 52,980.00	Oct-18	
Gomez and Soundings CIPP	108 LF of 30" CIPP lining	Martin County	Ken Vreeland	(772) 288-5430	kvreelan@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 13,500.00	Oct-18	
Palm Lake Park Neighborhood Drainage	1200 LF of 28"-42" CIPP lining, installation of 18"-48" RCP, removal and replacement of structures including headwall, driveways and drain structures, televising of pipe	Martin County	Ken Vreeland	(772) 288-5430	kvreelan@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 1,075,076.00	May-18	Jun-19
Sugar Hill Outfall	470 LF of 24" CIPP lining	Martin County	Ken Vreeland	(772) 288-5430	kvreelan@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 49,290.00	Dec-18	
NE Jensen Beach CIPP	SE Jensen Beach Blvd and Savannah Rd - 60" Inspection and Joint Repair	Martin County	Ken Vreeland	(772) 288-5430	kvreelan@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 29,080.00	Mar-19	Apr-19
Salerno Rd Camera Inspection	SE SALERNO ROAD EAST OF US1 CAMERA INSPECTION	Martin County	Ken Vreeland	(772) 288-5430	kvreelan@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 6,510.00	Feb-19	
SW Murphy Road Liner	24"-36" CIPP Lining	Martin County	Ken Vreeland	(772) 288-5430	kvreelan@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 32,040.00	Mar-19	
Rio Nature Park Stabilization		Martin County	Ken Vreeland	(772) 288-5430	kvreelan@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 27,250.00	Aug-19	
SW Carl Metz Ln	24" CIPP	Martin County	Ken Vreeland	(772) 288-5430	kvreelan@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 46,050.00	Oct-19	

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
NE Barbara Dr	24" CIPP	Martin County	Ken Vreeland	(772) 288-5430	kvreeland@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 35,410.00	Sep-19	
St. Lucie West Main Irrigation Pump Station Replacement	Install pumps, motors, fillers, piping, fittings, valves, meters, electrical gear, conduits, wiring, panels and concrete slabs. Demolition of existing pumps, motors, electrical panels, piping, valves and filters/filter housing	St. Lucie West Services District	Joshua C. Miller	(321) 622-4646	jmiller@slwsd.org	450 S.W. Utility Drive Port St. Lucie, Florida, 34986	$ 921,194.81	Sep-18	Nov-19
Lift Station Rehabilitation Project A Bid Package 2	Furnish all necessary services for the rehabilitation of thirty (30) lift stations in Palm Beach County WUD service area	Palm Beach County WUD	Duane Palumbo	(561) 493-6000	dpalumbo@pbcwater.com	8100 Forest Hill Blvd. West Palm Beach, FL 33413	$ 4,830,000.00	Oct-18	
Lift Station #40 Removal & Disposal & Replacement of Top Slab	Removal, Disposal and Replacement of Existing Top Slab and Hatch with new Top Slab and Traffic Rated Hatch System	City of Deerfield Beach	Timothy Martin	954-480-4403	TMartin@deerfield-beach.com	200 Goolsby Boulevard Deerfield Beach, Fl 33442	$ 9,300.00	Apr-18	
Sykes Creek Regional WWTF RASWAS Pumping System Rehabilitation	Removal and replacement of the Return Activated Sludge (RAS) and three of the Waste Activated Sludge (WAS) pumps	Brevard County	Craig Helping	(321) 617-7390	craig.helping@brevardfl.gov	2725 Judge Fran Jamieson Way, A-213, Melbourne, FL 32940	$ 1,030,000.00	Jan-19	Sep-19
Manhole Rehabilitation	Rehabilitate manholes across the City	City of Deerfield Beach	Timothy Martin	954-480-4403	TMartin@deerfield-beach.com	200 Goolsby Boulevard Deerfield Beach, Fl 33442	$ 38,595.63	Apr-19	
Lands End & Spoonbill Road	line the entire pipe. 160 LF of 15" CIPP will be installed.	Town of Manalapan		561-383-2543		600 S Ocean Blvd. Manalapan, FL 33462	$ 17,500.00	Nov-18	
Rehabilitation and Infrastructure Repair	Water supply groundwater sewage treatment	City of Deerfield Beach	Spencer Britt	(561) 243-7164	britt@mydelraybeach.com	200 Goolsby Boulevard Deerfield Beach, Fl 33442	$ 185,000.00	Dec-17	
Sewer Main Lining Group 1	Water supply groundwater sewage treatment	City of Deerfield Beach	Spencer Britt	(561) 243-7164	britt@mydelraybeach.com	200 Goolsby Boulevard Deerfield Beach, Fl 33442	$ 275,000.00	Jan-19	
300 N Courtenay Lateral	Replace Lateral at 300 N Courtenay Parkway according to plan sheet provided June 2018	Brevard County	Louis Braafladt	(321) 617-7390	Louis.Braafladt@brevardfl.gov	2725 Judge Fran Jamieson Way, A-213, Melbourne, FL 32940	$ 44,700.00	Aug-18	Sep-19
Legacy Cove Manhole Rehab	Coat manhole 4' round, chemical grouting, benching manholes	Martin County	Phillip Olivia	772-214-5394	poliva@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 45,710.00	Jan-19	
Leilani Heights	Raise 23" manhole ring, coat manhole 4' round, chemical grouting, benching manholes 4' round	Martin County	Phillip Olivia	772-214-5394	poliva@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 25,900.00	Feb-19	
Port Salerno Village	Coat manhole 4' round, chemical grouting, benching manholes	Martin County	Phillip Olivia	772-214-5394	poliva@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 13,380.00	Feb-19	
Port Sewall Manhole Rehab	Coat manhole 4' round, chemical grouting, benching manholes	Martin County	Phillip Olivia	772-214-5394	poliva@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 15,900.00	Sep-19	
Mariner Sands Manhole Rehab	Raise 23" manhole ring, coat manhole 4' round, chemical grouting, benching manholes 4' round	Martin County	Phillip Olivia	772-214-5394	poliva@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 33,900.00	Oct-19	
Miles Grant Manhole Rehab	Raise 23" manhole ring, coat manhole 4' round, chemical grouting, benching manholes 4' round	Martin County	Phillip Olivia	772-214-5394	poliva@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 24,950.00	Oct-19	
The Estuary Manhole Rehab	Raise 23" manhole ring, coat manhole 4' round, chemical grouting, benching manholes 4' round	Martin County	Phillip Olivia	772-214-5394	poliva@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 23,460.00	Oct-19	
Martin-Pinelake Village MH Rehabilitation	Coat manhole 4' round, chemical grouting, benching manholes	Martin County	Phillip Olivia	772-214-5394	poliva@martin.fl.us	2401 SE Monterey Road, Stuart, FL 34996	$ 9,100.00	Oct-19	
Lift Station 10 Drycan Conversion		City of Cooper City	Steve Blanchard	(954) 434-4300	SBlanchard@coopercityfl.org	9090 SW 50th Place, Cooper City, FL 33328	$ 102,022.50	Jul-19	
Stormwater Pipe Lining - Cove Lane		City of Largo	Brian Highnote	(727) 587-6713 X4402	bhighnot@largo.com	201 Highland Avenue Largo, FL 33779-0296	$ 29,255.00	Sep-19	
Lift Station No. 2	Sanitary Sewer Basin 2 and Inflow & Infiltration Abatement pipe lining rehabilitation	City of Largo	Brian Highnote	(727) 587-6713 X4402	bhighnot@largo.com	201 Highland Avenue Largo, FL 33779-0296	$ 1,392,443.69	Nov-19	
Lift Station 980 Top Slab	Lift Station 80 Top Slab, Repair, Removal and New Slab Installation	City of Cooper City	Steve Blanchard	(954) 434-4300	SBlanchard@coopercityfl.org	9090 SW 50th Place, Cooper City, FL 33328	$ 8,700.00	Sep-18	On Going
Lift Station #21 Pipe Repair		City of Lauderhill	Bob Snyder	(954) 730-4225	rsnyder@lauderhill-fl.gov	5581 W. Oakland Park Blvd, Lauder Hill, FL 33313	$ 14,070.00	May-19	
12" WM Valve Replacement	All materials, fittings, line stops, restraints to complete the work. Installation of (4) - 12" Line stops on an AC water main. Removal and Replacement of (4) - 12" gate valve and (1) - 12" cross. Bell restraints to be placed on AC Main 3 joints past line stop in each direction. All Restoration included (Sod and Sidewalk) (No Asphalt Anticipated)No As Builts, Permits, Bonds, Etc. included. Assumes all lines can be shutdown without impact	City of Lauderhill	Bob Snyder	(954) 730-4225	rsnyder@lauderhill-fl.gov	5581 W. Oakland Park Blvd, Lauder Hill, FL 33313	$ 118,345.00	PO PENDING	
Lift Station #44	Emergency Bypass and Valve Replacement	City of Lauderhill	Bob Snyder	(954) 730-4225	rsnyder@lauderhill-fl.gov	5581 W. Oakland Park Blvd, Lauder Hill, FL 33313	$ 20,000.00	Oct-19	
Lift Station #53	Emergency Rail System Replacement - Repipe in Well ONLY ACTIVITY	City of Lauderhill	Bob Snyder	(954) 730-4225	rsnyder@lauderhill-fl.gov	5581 W. Oakland Park Blvd, Lauder Hill, FL 33313	$ 43,100.00	Nov-19	

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Mangonia - Driftwood Street	Vac Truck & Dumping	Mangonia Park	Roosevelt Jones	(561) 848-1235	rjones@townofmangoniapark.com	1755 E Tiffany Drive Mangonia Park, FL 33407	$ 2,050.00	Oct-18	
Pescayo Village-Marathon, Sanitary Sewer Inspection		Aramis Alvarez Architect				1237 S Alhambra Circle Coral Gables, FL 33146	$ 9,452.50	Oct-18	
Osceola Force Main Rerouting		Seminole Tribe of Florida	James Jackson	(954) 894-1060	JamesJackson@semtribe.com	3107 NORTH STATE ROAD No. 7 HOLLYWOOD, FL 33021	$ 104,861.56	May-19	Aug-19
Hollywood 8" FM Connection		Seminole Tribe of Florida	James Jackson	(954) 894-1060	JamesJackson@semtribe.com	3107 NORTH STATE ROAD No. 7 HOLLYWOOD, FL 33021	$ 73,147.95	Mar-19	Apr-19
16" Water Main Loop Disinfection	Provide potable water on the Hard Rock Casino Facility by certifying existing 16-inch water main loop. The attachments delineate the procedure disinfecting and certifying the water main loop in two separate phases	Seminole Tribe of Florida	James Jackson	(954) 894-1060	JamesJackson@semtribe.com	3107 NORTH STATE ROAD No. 7 HOLLYWOOD, FL 33021	$ 71,878.60	Jul-19	
Abandonment of Kent Pump Station PS-05	Installation of a new sanitary sewer system along Kent Avenue, Sussex Avenue and across Kirk Road. It also consists of the abandonment of the Kent Pump Station	Village of Palm Springs/Ekkler Engineering Inc.	Oscar L. Rubio	954.510.4700	orubio@ecklerengineering.com	4700 Riverside Drive, Suite 110, Coral Springs, FL 33067	$ 567,715.89	Jun-19	Oct-19
ESU98-R0 - FDOT	Inspection, desilting, videoing, repair and replacement of drainage facilities	Florida Department of Transportation	Andrea Velasquez	332-634-6069	andrea.velasquez@dot.state.fl.us	719 S. Woodland Blvd. Deland, FL 32720	$ 300,000.00	Feb-19	
EWRF In-Plant PS Replacement	Furnishing and installation of 47 HP Flight or ABS submersible pumps, construction of a new 12 feet diameter wet well, furnishing and installation of the above ground piping manifold with appurtenances, installation of 65 feet 16" PVC force main and 48 feet 24" gravity sewer and conversion of existing pump station into gravity sewer manhole.	Orange County	Terra Reffitt	(407) 836-5644	Terra.Reffitt@ocfl.net	400 E. South Street; 2nd Floor, Orlando, FL 32825	$ 1,323,642.00	Apr-19	
Sanitary Sewer Collection System Rehab Project Phase 2	Rehabilitation of the existing gravity sewer collection system including: Installation of CIPP, reinstatement of service line connections, sewer later replacement, sewer later lining, point repairs, rehabilitation of manholes, cleanout installations and site restoration	Palm Beach County WUD	Frantz Fenelon	561-493-6123	FFenelon@pbcwater.com	8100 Forest Hill Blvd. West Palm Beach, FL 33413	$ 3,113,950.00	Jun-19	
Emer - Storm Drain Cleaning	General construction services associated with the rehabilitation of operating lift stations located in northern Palm Beach County and southern Martin County. Work to be performed includes demolition and removal of existing piping, fittings, valves and structures and installation of new piping, fittings, valves, structures, resetting existing pumps, rehabilitation of interior walls, relocation and/or installation of electrical equipment and all general site work	Loxahatchee River District	Joe Jesteadt	561-747-5700	Joe.Jesteadt@lrecd.org	2500 Jupiter Park Dr., Jupiter FL 33458	$ 495,990.00	Aug-19	
CIPP Lining	CIPP lining to the 10" DIP at Tierra Verde ad to the 10" Clay Pipe at SW Anchorage Way	City of Stuart	Chad Herzog	772-288-5320	cherzog@ci.stuart.fl.us	121 SW Flagler Ave. Stuart, Florida 34994	$ 10,566.32	Dec-18	
E Madison Ave	8" CIPP lining and installation of manhole coating	City of Stuart	Chad Herzog	772-288-5320	cherzog@ci.stuart.fl.us	121 SW Flagler Ave. Stuart, Florida 34994	$ 44,948.91	Sep-19	Sep-19
Colorado Ave	Installation of 10" gravity sewer & CIPP lining	City of Stuart	Chad Herzog	772-288-5320	cherzog@ci.stuart.fl.us	121 SW Flagler Ave. Stuart, Florida 34994	$ 8,034.19	Oct-19	
Coating of Sanitary Lift Station & Reclaimed Water Stations	This project comprises the surface preparation and coating of above ground pipe, fittings and appurtenances for seven (7) sanitary sewer lift stations and five (5) reclaimed water stations	Seacoast Utility Authority	Brent Weidenhamer	(561) 627-2900	bweidenhamer@sua.com	4200 Hood Road, Palm Beach Gardens, Florida 33410	$ 57,400.00	Feb-19	
(SWRUSA) Inflow and Infiltration Project Phase 1A	Furnish all labor, materials, supervision, and equipment necessary to perform all operations required for the proper rehabilitation of Cured-In-Place (CIPP) lining of the 8-inch, 10-inch, and 12-inch diameter sewers in the subdivisions	Polk County	Ari Goldstein	863-534-6757	AriGoldstein@polk-county.net	330 West Church Street, Room 150, Bartow, FL 33831	$ 889,117.00	May-19	
Civil Surv - Polk County - Cleaning,TV Phase II Assesment	Gravity sewer cleaning and gravity sewer manhole cleaning services	CivilSurv Design Group, Inc., Polk County	Craig Fuller	863-646-4771	cfuller@civilsurv.com	2525 Drane Field Road, Suite 7 Lakeland, FL 33811	$ 98,220.50	Apr-19	
Pump Station C-1	Perform sanitary sewer cleanong and CCTV per NASSCO specifications	City of Fort Lauderdale	Terrance Bray/Jud Hopping	954-828-7855	Terrance Bray/Jud Hopping	949 NW 38th St., Fort Lauderdale, FL 33309	$ 85,492.90	Mar-19	
Pump Station C-2	Perform sanitary sewer cleanong and CCTV per NASSCO specifications	City of Fort Lauderdale	Terrance Bray/Jud Hopping	954-828-7855	Terrance Bray/Jud Hopping	949 NW 38th St., Fort Lauderdale, FL 33309	$ 116,391.00		
Pump Station D-35	Perform sanitary sewer cleanong and CCTV per NASSCO specifications	City of Fort Lauderdale	Terrance Bray/Jud Hopping	954-828-7855	Terrance Bray/Jud Hopping	949 NW 38th St., Fort Lauderdale, FL 33309	$ 28,690.00		
Pump Station D-36	Perform sanitary sewer cleanong and CCTV per NASSCO specifications	City of Fort Lauderdale	Terrance Bray/Jud Hopping	954-828-7855	Terrance Bray/Jud Hopping	949 NW 38th St., Fort Lauderdale, FL 33309	$ 46,485.00		
Pump Station E-5	Perform sanitary sewer cleanong and CCTV per NASSCO specifications	City of Fort Lauderdale	Terrance Bray/Jud Hopping	954-828-7855	Terrance Bray/Jud Hopping	949 NW 38th St., Fort Lauderdale, FL 33309	$ 74,548.10		
Pump Station E-6	Perform sanitary sewer cleanong and CCTV per NASSCO specifications	City of Fort Lauderdale	Terrance Bray/Jud Hopping	954-828-7855	Terrance Bray/Jud Hopping	949 NW 38th St., Fort Lauderdale, FL 33309	$ 76,542.00		
3119 Cormorant Road, Delray Beach	Repair assumed broken pipe in rear yard at 3119 Cormorant Road, excavate location of sinkhole to expose pipe, pick up end of pipe in canal, realign pipe at sinkhole location, pour a concrete collar around pipe and backfill and re-sod area. Place rip rap rock underneath pipe at outfall to support pipe in future.	City of Delray Beach	Jeffery Needle	561-243-7000	needlej@mydelraybeach.com	100 NW 1st Ave, Delray Beach, FL 33444	$ 15,032.00	Jun-19	
SE 8th Court Drainage and Outfall Installation	Storm rain cleaning repair and sludge removal services	City of Delray Beach	Jeffery Needle	561-243-7000	needlej@mydelraybeach.com	100 NW 1st Ave, Delray Beach, FL 33444	$ 115,056.00	May-19	

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Delray Racquet Club/Jaeger Pipe Repair	Install 21" plug and Dewater approx 255' of 21" CMP pipe. (two segments). Clean and CCTV approx 255' of 21" CMP pipe to assess condition and damage in area of collapse. Provide point repair to area of collapsed pipe if conditions allow. Completion of this repair has mulitplied due to the discovery of a Fiber optic line running in and out of the storm pipe 11' deep and 20' long.	City of Delray Beach	Jeffery Needle	561-243-7000	needlej@mydelraybeach.com	100 NW 1st Ave, Delray Beach, FL 33444	$ 77,243.00	Jun-19	
NE 1st Court Wastop Installation	Install 15" Wastop Check Valve inside exiting RCP Pipe @ NE 1st Court Outfall	City of Delray Beach	Jeffery Needle	561-243-7000	needlej@mydelraybeach.com	100 NW 1st Ave, Delray Beach, FL 33444	$ 7,255.00	Jun-19	
Price Street lift Station Rehab - (New Discharge Piping)	Replace two 4" DIP DIP discharge lines from the well to the check valves	Village of Palm Springs	Andy Klausner	(561) 965-4013	aklausner@vpsfl.org	226 Cypress Lane Palm Springs, FL 33461-1699	$ 5,000.00	May-19	
Emergency point Repair - Lake Clarke Gardens	Emergency sewer repair in Lake Clarke Gardens. Cracked sewer line that is 9' below the Lift Station and a manhole directly to the north.	Village of Palm Springs	Andy Klausner	(561) 965-4013	aklausner@vpsfl.org	226 Cypress Lane Palm Springs, FL 33461-1699	$ 53,182.00	Jun-19	
Gravity System Improvements Packages 15,19,20,21,22	Installation of cured-in-place pipe (CIPP) lining for existing gravity sanitary sewers; lining existing manholes; and seal and coating existing manholes.	Orange County	Paul Oliver	407-836-5696	paul.oliver@ocfl.net	400 E. South Street, 2nd Floor, Orlando, FL 32825	$ 2,571,471.00	Jun-19	
Palmetto Drive Stormwater Improvements	provide stormwater infrastructure improvements, replacement of reinforced concrete pipe, installation of cure-in-place pipe, and estoration of any disturbed roadway and sidewalks	Town of Lake Park	Howard Butts	561-722-9379	hbutts@townoflakepark.city	535 Park Avenue Lake Park, FL 33403	$ 68,755.00	Apr-19	
CIPP Culvert Lining Project	Cured-in-Place Culvert Lining	Santa Rosa County	Glenn F. Bailey	805-981-7127	Glenn@santarosa.fl.gov	6075 Old Bagdad Hwy.Milton, Florida 32583	$ 315,400.00	Jun-19	
Near 95th Ave and 50th Court- Cooper City	2,607 LF of 8" CIPP lining, reinstate later after CIPP installation, grout and test lateral connection	City of Cooper City	Chad Bergeron	954-434-5519	Cbergeron@coopercityfl.org	9090 SW 50th Place, Cooper City, FL 33328	$ 77,018.00	Oct-19	
SW 88th Terr.- Cooper City	Install cured-in-place mainline liner, 8" X 6MM. Reinstate lateral after CIPP installation, grout and test lateral connection, CIP Lining, 6"-8" fullcircle main connection, 4" or 6" X 4.5MM, Minimum 10'. Lateral Liner 4"-6" X 4.5 MM. Beyond 10' Sewer Lateral TV Inspection 6" to 8" main (Up to 30') Sewer Lateral TV Inspection 6" to 8" main (beyond 30') Bypass Pumping (8-inch and 10-inch), requires owner approval-Estimated	City of Cooper City	Chad Bergeron	954-434-5519	Cbergeron@coopercityfl.org	9090 SW 50th Place, Cooper City, FL 33328	$ 163,380.00	Dec-19	
North, East, South and West Point Dr - Rock Creek - Cooper City	Rehabilitation of 10 Manholes in the Rock Creek Neighborhood	City of Cooper City	Chad Bergeron	954-434-5519	Cbergeron@coopercityfl.org	9090 SW 50th Place, Cooper City, FL 33328	$ 22,800.00	Nov-19	
River Ridge Point Repair	Clean & CCTV Sewer lines per NASSCO PACP Standards-MOT Included All Inspections and reports to be produced per NASCCO PACP standards.	KLOO Management, LLC	Cherylynn Pannebecker	561-747-0122	cherylynnpnrhoa@earthlink.net	18600 County Line Road, Tequesta, FL 33469	$ 18,250.00	Mar-19	
Utility Repairs	Utility Repair Services on an as needed basis, both emergency and non-emergency work on the utility infrastructure owned and operated by the CITY, under a continuing services contract. The work shall generally consist of emergency and non-emergency repairs to the CITY's utility infrastructure which includes the water distribution system, the sanitary sewer (wastewater) collection system, stormwater system and associated street repair and restoration	City of Weston	Jose Casio	954-385-2600	jcasio@westonfl.org	17200 Royal Palm Blvd. Weston, FL 33326	$ 200,000.00	Jan-20	
Sewer Gravity Main Lining	Sewer Gravity Main Lining	City of Naples	Andrew Holland	239-213-5001	aholland@naplesgov.com	380 Riverside Cir Naples, FL 34102	$ 310,000.00	Jul-19	
Pipe Lining to Damaged Storm Drain	Line Damaged stormwater pipes in public ROW or easements at 5 locations	City of Naples	Andrew Holland	239-213-5001	aholland@naplesgov.com	380 Riverside Cir Naples, FL 34102	$ 50,311.00	Aug-19	
Storm Line Damaged	Line 160 feet of pipe in ROW at 520 Harbour Dr	City of Naples	Andrew Holland	239-213-5001	aholland@naplesgov.com	380 Riverside Cir Naples, FL 34102	$ 10,420.00	Sep-19	
Storm Line Damaged	line damaged stormwater pipe at 3rd St S and Bread Ave S which is causing sinkhole	City of Naples	Andrew Holland	239-213-5001	aholland@naplesgov.com	380 Riverside Cir Naples, FL 34102	$ 9,900.00	Sep-19	
Stormwater Pipe Lining	Stormwater Pipe lining @ 3 locations	City of Naples	Andrew Holland	239-213-5001	aholland@naplesgov.com		$ 34,810.00	Dec-19	
Emer Pump CIPP	Bernie's Lift Station Emergency Pumping Emergency Pumping	Town of Mangonia Park	Roosevelt Jones	(561) 848-1235	rjones@townofmangoniapark.com	1755 East Tiffany Drive Mangonia Park, FL 33407	$ 3,150.00	Feb-19	
Cured-In-Place Pipe Sanitary Sewer Rehabilitation	8" - 15" CIPP lining, CCTV & bypass pumping Sanitary Sewer	Emerald Coast Utilities Authority	Justin Midgette	(850) 969-5825	justin.midgette@ecua.fl.gov	1755 East Tiffany Drive Mangonia Park, FL 33407	$ 240,000.00	Nov-19	
Cured-In-Place Pipe Sanitary Sewer Rehabilitation	8" CIPP & CCTV Sanitary Sewer	Emerald Coast Utilities Authority	Justin Midgette	(850) 969-5825	justin.midgette@ecua.fl.gov		$ 86,100.00	Feb-20	
Cured-In-Place Pipe Sanitary Sewer Rehabilitation	Sanitary sewer clening & CCTV	Emerald Coast Utilities Authority	Justin Midgette	(850) 969-5825	justin.midgette@ecua.fl.gov		$ 143,000.00	Feb-20	
Cortez, Florida- Harbour Town Estates	Clean & CCTV Sewer lines per NASSCO PACP Standards-MOT Included, All Inspections and reports to be produced per NASCCO PACP standards	Harbour Landings Estates	Mike Bishop	941-870-5600	mikebishop@verizon.net	4014 Commodore Blvd, Cortez, FL 34215	$ 7,362.00	Apr-19	
Cortez, Florida- Harbour Landings Estates	Clean & CCTV Sewer lines per NASSCO PACP Standards-MOT Included, All Inspections and reports to be produced per NASCCO PACP standards	Harbour Landings Estates	Mike Bishop	941-870-5600	mikebishop@verizon.net	4014 Commodore Blvd, Cortez, FL 34215	$ 4,514.00	Jun-19	
Cortez, Florida- Harbour Landings Estates	Clean & CCTV Sewer lines per NASSCO PACP Standards-MOT Included, All Inspections and reports to be produced per NASCCO PACP standards	Harbour Landings Estates	Mike Bishop	941-870-5600	mikebishop@verizon.net	4014 Commodore Blvd, Cortez, FL 34215	$ 10,542.00	Oct-19	
Cortez, Florida- Harbour Town Estates	Clean & CCTV Sewer lines per NASSCO PACP Standards-MOT Included, All Inspections and reports to be produced per NASCCO PACP standards	Harbour Landings Estates	Mike Bishop	941-870-5600	mikebishop@verizon.net	4014 Commodore Blvd, Cortez, FL 34215	$ 14,203.00	PO PENDING	

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Original Section Drainage Improvements Phase 5	Drainage improvements within the alleys between Fleming Boulevard and Jackson Avenue, as well as the portion of Biscayne Drive where the alleys intersect Biscayne Drive and within a portion of the LWDD L-11 Canal; The removal of dinage piping and structures; the installation of new drainage piping and structures; and restoration	City of Greenacres	Zach Gamble	(954) 739-6400	zgamble@craventhompson.com	5800 Melaleuca Lane, Greenacres, Florida 33463	$ 165,533.00	Jun-19	
E-1 Pump Station Improvements	Furnish all la bor and materials necessary to construct all improvements at E-1 lift station as depicted on the plans and in these specifications to provide a complete and functional system. Bypass pumping will be required	Town of Palm Beach	Jason Debrincat	(561) 227-7027	jdebrincat@TownOfPalmBeach.com	951 Old Okeechobee Road, Suite A, West Palm Beach, Florida 3340 1	$ 247,400.00	Jun-19	Dec-19
Lift Station #27, #50 & #2122	L/S #27 Rehab, LS - 50 - Control Panel WITHOUT DataFlow Equipment -8hp, 3phase, 240v, LS - 2122 - Control Panel WITHOUT DataFlow Equipment -5.3hp, 1phase, 240v	Indian River County	Sean Mcfarland	772-226-1418	smcfarland@ircgov.com	1800 27th Street Vero Beach, FL 32960	$ 184,100.00	Oct-19	
Lift Station 62 Emergency Generator	Permit and install a diesel powered emergency standby generator	Loxhatchee River Environmental Control District	Joe Jesteadt	561-747-5700	Joe.Jesteadt@lrecd.org	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 44,750.00	Aug-19	Nov-19
Lift Station 43 Emergency Generator	Permit and install a diesel powered emergency standby generator	Loxhatchee River Environmental Control District	Joe Jesteadt	561-747-5700	Joe.Jesteadt@lrecd.org	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 35,000.00	Aug-19	Nov-19
Forcemain Replacement Project	The Forest Hill Boulevard crossing shall have a minimum inside diameter of 16 inches and includes and air release valve on both sides of the crossing. A secondary main will also need to be relocated via open cut method and tied into the new forcemain. The existing main for the cut-in connections is 16" DIP. The portion of the existing 12" DIP main to be replaced, shall be grout-filled and abandoned. The C-2 Canal crossing shall have a minimum inside diameter of 6 inches and includes and air release valve on one side of the crossing and a tapping connection to the existing main on the other side. The existing main for the cut-in connections is 6" DIP. The existing main for the tapping connections is 12" DIP. The portion of the existing 6" DIP main and aerial crossing to be replaced, shallbe demolished and removed.	Village of Wellington	Shannon R. LaRocque	561-791-4107	slarocque@wellingtonfl.gov	12300 Forest Hill Boulevard, Wellington, FL 33414	$ 358,417.50	Sep-19	
Lift Station #31		City of Altamonte Springs	Jeff Grant	(407)571-8122	JGrant@altamonte.org	225 Newburyport Ave Altamonte Springs FL 32701	$ 249,289.00	Oct-19	
Culvert Pipe Replacement - Unit 32	This project consists of the removal, disposal, re-installation, and restoration of multiple cross drain culvert pipes at sixty-nine (69) locations throughout the City of Palm Bay's Port Malabar Unit (PMU) 32	City of Palm Bay	Hector Franco	561-791-4107	Hector.Franco@palmbayflorida.org	1050 Malabar Road SW, Palm Bay, FL 32908	$ 452,636.75	Aug-19	
Wellington - Piggyback PBC R2019-0216	Manhole and sewer lining repairs	Village of Wellington		561-791-4107		12300 Forest Hill Boulevard, Wellington, FL 33414	$ 100,000.00	May-19	
System SBA & Forcemain Replacements	Construction of wastewater force mains, wastewater lift stations and reclaimed water mains	City of Delray Beach	Natasha Tucker	561-243-7163	TuckerN@mydelraybeach.com	100 Northwest 1st Avenue, Delray Beach, FL 33444	$ 1,472,444.00	Jan-19	
Water Treatment Plant Generator Interconnect	Entire project is electrical. Running new service feeds to well pumps and tying the generator in to another building for backup power, also includes fire alarm work	City of Lake Worth Beach	Steve Fowler	(561) 575-2005	stephen.fowler@holtzconsulting.com	7 North Dixie Highway, Lake Worth Beach, Florida 33460	$ 352,000.00	Nov-19	
888 Intracoastal Drive - 18" FM Repair	Sewer repairs & replacement	City of Fort Lauderdale	Herbert Stanley	954-828-5933	hstanley@fortlauderdale.gov	100 N. Andrews Avenue, 619, Fort Lauderdale, Florida 33301	$ 75,830.00	Nov-19	Dec-19
Mills Pond Park Gravity Repair	Sewer repairs & replacement	City of Fort Lauderdale	Herbert Stanley	954-828-5933	hstanley@fortlauderdale.gov	100 N. Andrews Avenue, 619, Fort Lauderdale, Florida 33301	$ 26,250.00	Oct-19	Dec-19
SE 3rd Ave Water Main Replacement	Sewer repairs & replacement	City of Fort Lauderdale	Herbert Stanley	954-828-5933	hstanley@fortlauderdale.gov	100 N. Andrews Avenue, 619, Fort Lauderdale, Florida 33301	$ 225,169.00	Nov-20	
SE 40th Ave & th St. Stormdrain Repair CIPP	Road repairs at SE 40th Ave & 8th St.	Okeechobee County Road Department				408 NW 2nd St., Okeechobee, FL 34972	$ 15,804.00	Jun-19	Jul-19
Gravity Sewer Main Lining	Gravity sewer main lning in lift stations #12, #13 and #20 basins	City of North Lauderdale	Shani Grant	954-597-4754	sgrant@nlauderdale.org	701 SW 71st Ave., North Lauderdale, FL 33068	$ 276,000.00	Jul-19	
Trenchless Pipe Rehabilitation Services - Low Bid On One Structure	Trenchless pipe rehabilitation for Structure 735511	City of Palm Coast	Carmelo Morales	386-986-4776	CMorales@palmcoastgov.com	160 Lake Ave, Palm Coast, FL 32164	$ 149,240.00	Nov-19	
Replacement of Pump Station D-38	Furnishing of all labor, materials, equipment, services, and incidentals for the additions and modifications of the submersible Pump Station D-38	City of Fort Lauderdale	Raymond Rammo	954-828-5990	rrammo@fortlauderdale.gov	100 N. Andrews Avenue, 619, Fort Lauderdale, Florida 33301	$ 662,960.00	May-20	
95th Ave. N. Public Utilities Renewal	Labor, material, equipment, hoisting, supercision, startup support, anchors, incidentals, techincal submittals and closeout docs. HGI to provide: Storm sewer cleaning & CCTV for 280 LF of 12" medium cleaning & storm sewer CIPP lining of 280 LF of 12"	Collier County-Subcontract Work for Douglas N Higgins, Inc.	Anthony Silvestri	(305) 292-7889	asilvestri@higgins-eng.com>	4485 Enterprise Ave, Naples, FL 34104	$ 12,320.00	Aug-19	Oct-19
Lantana Airport CIPP	Clean, TV and CIPP Line 5 shots of 18" and 24" Storm Drain. 403 LF of 18" and 134 LF of 24".	Sunline Civil Construction	Jimmy Bradley			640 SW Bittern St, Palm City, FL 34990	$ 44,250.00	Sep-19	Dec-19
Kilbourne - Storm CCTV	CIPP of 18" storm line	Kilbourne & Sons Paving	Steve Dolen	561-498-7040		2201 SW 35th Ave, Delray Beach, FL 33445	$ 26,900.00	Sep-19	
Lift Station U-01	Lift Station rehab to convert existing station from WW/VV Configuration to Above ground valves	Brevard County	Robert Edmiston	(321) 617-7390	robert.edmiston@brevardfl.gov	2725 Judge Fran Jamieson Way, A-213, Melbourne, FL 32940	$ 78,500.00	Jan-20	

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Emergency Flood Control Pumping	Emergency pumping for flood control on the Federal Aid Highway segments as well as local roads and roadways within Brevard, Flagler, Volusia, Marion, Seminole, Sumter, Lake, Orange and Osceola Counties specifically assigned by the Florida Department of Transportation (FDOT), District Five. The Contractor shall provide all labor, materials and equipmen for mobilization, operation and maintenance of a temporary pumping system intended to provide flood relief during or after a hurricane.	Florida Department of Transportation	Jennifer L. Smith	586-943-5367	jennifer.smith2@dot.state.fl.us	719 S. Woodland Blvd. DeLand, Florida 32720	$ 1,547,500.00	Sep-19	
Emergency MLS Bypass	Emergency Mobilization/Demobilization AfterHours (Sunday) and bypass pumping	City of Clewiston				115 W. Ventura Avenue Clewiston, FL 33440	$ 6,350.00	Sep-19	Oct-19
LS #1 - Emergency CP Replacement	Demo damaged control panel, antenna tower, FPL meter and water service Provide and install new control panel, conduit, wire and pad. Provide and install new 24' Rohn antenna tower and concrete base Provide and install new 200A, 3 Phase meter can and SS disconnect. Provide new FPL service run to handhole Provide and install new antenna and cable. Rewire existing pumps, transducer and floats	City of Lauderhill	Bob Snyder	(954) 730-4225	rsnyder@lauderhill-fl.gov	5581 W. Oakland Park Blvd, Lauder Hill, FL 33313	$ 68,300.00	Oct-19	
Haines City 15"	Clean & TV lines, CIPP 258 LF of 15" gravity sewer main	Pospiech Contracting	Gary Bracken	352-726-3940 EXT. 216	gbracken@pospiechcontracting.com	201 S Apopka Ave, Inverness, FL 34452	$ 28,402.00	Oct-19	Dec-19
3300 NE 36th St., Ft. Lauderdale,-Coral Ridge Towers East	Pipe cleaning of storm lines	RD Plumbing & Sewer, Inc.	Richard Katz	954-707-9594	rich@rdplumber.com	2442 Andros Lane, Fort Lauderdale, Florida 33312	$ 13,200.00	Dec-19	Dec-19
10200 W SR 84, Favie FL	Pipe cleaning of storm lines	RD Plumbing & Sewer, Inc	Richard Katz	954-707-9594	rich@rdplumber.com	2442 Andros Lane, Fort Lauderdale, Florida 33312	$ 2,841.00	Dec-19	
Piper Landing Pipe Lining	Clean & TV lines CIPP of 18"-60"	Piper's Landing Yacht & Country Club				6160 SW Thistle Terrace, Palm City, FL 34990	$ 118,460.00	Dec-19	
Taft Street	Asphalt removal and excavation in area of interest. Includes only a 20'x5' area. If further excavation is needed additional costs will be applied. Excavation and exposure of damaged force main pipe, assumed to be 4" or smaller. Anything larger may result in additional costs. Repair Broken force main line, backfill and compact area. Prep site for asphalt application by others. Emergency Mobilization and MOT Included. Proposal does not include any bypass pumping, permits, surveying or as-builts	Noble Properties	Kim Hoglund	561-389-9549	KIM@NOBLEP.com	4280 Professional Center Dr., Suite 100, Palm Beach Gardens, FL 33410	$ 14,350.00	Dec-19	
Lift Station C-16 Rehabilitation	Rehabilitation of Lift Station C-16, existing wet well structure needs rehabed & new concrete top installed. All mechanical piping, valves, and electrical equipment to be replaced.	Brevard County	Craig Helpling	(321) 633-2085	Craig.Helpling@brevardcounty.us	2725 Judge Fran Jamieson Way, A-213, Viera Beach, FL 32940	$ 207,800.00	Jul-16	Oct-16
Lift Station C-05 and Force Main Replacement	Replacement of the existing C-05 Lift Station, including new wet well, twin submersible pumps, electrical and instrumentation, PVC force main installed, modification to existing wet well, and placing out of service a portion of the existing force main. Work includes temporary bypass pumping, piping, valves fittings	Brevard County	Owen Callard	(321) 933-2089	owen.callard@brevardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 872,000.00	Jul-15	Dec-15
Lift Station M-06 Replacement	installation of new mechanical equipment, piping and appurtenances	Brevard County	Owen Callard	(321) 933-2089	owen.callard@brevardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 439,495.00	Sep-15	Nov-15
Relocation of Lift Station M-05 Panel	Relining of lift station M-5	Brevard County	Owen Callard	(321) 933-2089	owen.callard@brevardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 6,590.00	Apr-14	May-14
LS R1 & R6	Lift Station rehabilitations	Brevard County	Owen Callard	(321) 933-2089	owen.callard@brevardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 20,774.40	Jan-12	Mar-12
LS #4 & #47	High pressure water blasing, bypass, remove and install HDPE risers	City of Altamonte Springs	James Wickert	(407) 57-5860	jpwickert@altamonte.org	950 Calabria Drive, Altamonte Springs, FL 32714	$ 6,842.00	Oct-13	Nov-13
Manhole Rehabilitation 2012	Manhole rehabilitations	City of Altamonte Springs	James Wickert	(407) 57-5860	jpwickert@altamonte.org	950 Calabria Drive, Altamonte Springs, FL 32714	$ 13,446.90	Oct-12	Sep-12
LS #3	Rehabilitation & lining	City of Atlantis	Mo Thornton	(562) 965-1744	mthornton@atlantisfl.gov	260 Orange Tree Dr, Atlantis, FL 33462	$ 119,420.00	Aug-13	Oct-13
Misc Drainage Repairs		City of Atlantis	Mo Thornton	(562) 965-1744	mthornton@atlantisfl.gov	260 Orange Tree Dr, Atlantis, FL 33462	$ 66,545.00	Oct-16	Nov-16
Manhole Rehabilitation August 2013	High pressure water blasting, coating, .5" layer build back, reset manhole casting within asphalt, re-construct existing manhole benching	City of Bartow	Ken Absher	863-534-0100	kbasher.pw@cityofbartow.net	450 N Wilson Ave , Bartow, FL 33830	$ 44,990.76	Sep-13	Oct-13
M-20 Lift Station	Rehabilitation of master Lift Station	Brevard County/Merritt Island	Bill Cowan	(321) 617-7390	bill.cowan@brevardcounty.us	2725 Judge Fran Jamieson Way, Bldg. C, 3rd Floor, Suite C-303, Viera, FL 32940	$ 213,250.00	Feb-11	Apr-11
Lift Station M-20	Rehabilitation of Lift Station M-20	Brevard County	Owen Callard	(321) 933-2089	owen.callard@brevardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 158,777.00	Jan-14	May-14
Cape Canaveral Lift Station No. 1 Improvements	Rehabilitation of master pump station, lift station No. 1. Rehabilitation of wet well structure inclusive protective coating, & replacement of ALL LS internals including but not limited to rails, pump bases, discharge piping, valves to point where the three pump discharge piping comes into one manifold pipe, bypass pumping installation, and all other incidentals.	City of Cape Canaveral	Lonnie Dunn	(321) 868-1240	ldunn@cityofcapecanaveral.org	601 Thrum Blvd, Cape Canaveral, FL 32920	$ 164,743.11	Nov-13	Apr-15
Replacement of three Return Activated Sludge Pumps (RAS) Pumps	Install three (3) Return Activated Sludge (RAS) Pump ends, at the Sellers Water Reclamation Facility	City of Cocoa Utilities	Don Stevens	(321) 433-8744	rstevens@cocoafl.org	65 Stone Street, Cocoa, FL 32922	$ 89,987.00	Jan-13	Jul-13
Manhole Rehabilitation	Manhole rehabilitation, 4' lining, excess surface loss, reconstruction of manhole benching, removal of existing coating	City of Cooper City	Kerri Fisher	(954) 454-4300		11791 SW 49 STREET COOPER CITY, FL 33330	$ 11,480.00	Oct-14	Nov-14
Lift Station Rehabilitation Project 2014	Rehabilitation to various lift stations across the City	City of Coral Gables	Margie Gomez	(305) 460-5103	mgomez@coralgables.com	405 Baltimore Way, Coral Gables, FL 33134	$ 180,508.32	May-14	Mar-15
2014 Rehabilitation of Lift Stations	Rehabilitation of Lift Stations #31, #33, #47 and #52. Converting Lift Stations from Dry Can into duplex submersible LS.	City of Deerfield Beach	Paul Collette	(954) 480-4418	pcollette@deerfield-beach.com	150 NE 2nd Ave, Deerfield Beach, FL 33441	$ 444,240.00	Nov-14	Apr-15
Manhole Rehabilitation	Rehabilitation of (14) Manholes throughout the City, Rehabilitation of wetwell.	City of Deerfield Beach	Paul Collette	(954) 480-4418	pcollette@deerfield-beach.com	150 NE 2nd Ave, Deerfield Beach, FL 33441	$ 23,527.00	May-13	Jun-13

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Rehabilitation of Lift Stations 2018	Rehabilitation of Lift Stations. Converting Lift Stations from Dry Can into duplex submersible LS.	City of Deerfield Beach	Paul Collette	(954) 480-4418	pcollette@dearfield-beach.com	150 NE 2nd Ave, Deerfield Beach, FL 33441	$ 376,798.00	Apr-17	Aug-18
Lift Station Rehabilitation 2013	Rehabilitation of lift station #60	City of Delray Beach	Harold Williams	(561) 243-7161	hwilliams@ci.delray-beach.fl.us	100 NW 1st Ave, Delray Beach, FL 33444	$ 29,750.00	Jun-13	Jul-13
Manhole Piggyback	Remove and replace existing 4' diameter manhole with coal tar epoxy coating inside and out and new ring and cover. Install bench and invert in the new manhole, remove and replace influent and effluent pipe up to 20' each direction, bypass pumping as needed, and full restoration of the roadway and surrounding area.	City of Delray Beach	Scott Solomon	(561) 243-7161	ssolomon@ci.delray-beach.fl.us	434 S. Swinton Avenue, Delray Beach, FL 33444	$ 25,940.00	Mar-15	Nov-14
Lift Station and Manhole Rehabilitation 2014 Project	Lift station and manhole rehabilitation	City of Lake Wales	Rendall Britt	(863) 678-4114	abuckner@cityoflakewales.com	201 W. Central Ave. Lake Wales, Florida 33853	$ 259,644.62	Apr-14	Sep-14
South Water Treatment Plant Improvements	Complete demolition of existing WTP and installation of new prefab pumping station, above ground storage tank, 2 wells and al other WTP appurtenances. Electrical work included installing new power services, ATS and 150 kW generator, making all connections between wells and pumping station and all other instrumentation	City of Mulberry	John Wright	(863)425-1125	jwright@cityofmulberryfl.com	500 S.W. 2nd Street Mulberry, FL 33860	$ 2,143,000.00	Feb-14	Dec-15
Lift Station No. 34 Pump Rehabilitation	High pressure water blasting, furnish/install 3 inflatable plugs in two, 8" inverts, one 10" invert, coating work, reinstall existing pump base, furnish and install 4" pipe, check valve and gate valve and replace all conduitys from wet well up to existing seal offs, install pumps and guide rails, additional core drilling of four 8" holes & removal of unforeseen concrete	City of St. Cloud	Christopher Combs	407-957-7124	ccombs@stcloud.org	1300 Ninth Street St. Cloud, Fl 34769	$ 33,894.00	May-13	Jun-13
Turtle Creek Forcemain & Lift Station No. 84		City of St. Cloud	Christopher Combs	407-957-7124	ccombs@stcloud.org	155 Corey Avenue St. Pete Beach, Florida 33706	$ 12,900.00	May-13	Nov-13
Manhole Rehabilitation	Rehabilitation to include inspection, surface preparations, liner installation, testing, bypass pumping, maintenance of traffic, confined space monitoring/certifications, patching of any areas disturbed or destroyed	City of St. Pete Beach	Christopher Combs	407-957-7124	ccombs@stcloud.org	155 Corey Avenue St. Pete Beach, Florida 33706	$ 24,990.00	May-12	Aug-12
Lift Station 107 Rehabilitation	convert the City of Sunrise's existing Lift Station 107 from a package wet pit/dry pit configuration to a submersible pump configuration	City of Sunrise	Gregg Bagnall	(954) 572-2274	GBagnall@Sunrisefl.gov	10770 W. Oakland Park Blvd., Sunrise, Florida 33351	$ 494,176.66	Feb-16	Jun-16
Wastewater Gravity Sewer Rehabilitation by Cured in Place Pipe	Annual contract for wastewater gravity sewer rehabilitation by CIPP	City of Tampa	Jim Greiner	813-274-8598	Jim.Greiner@tampagov.net	306 E Jackson St #280A4N, Tampa FL 33602	$ 1,048,495.00	Feb-15	Feb-16
Manhole Rehabilitation - Rebid	Rehabilitation of sanitary sewer manholes	City of Tarpon Springs	James Wheaton	(727) 942-5615	jweaton@ctsfl.us	324 East Pine Street Tarpon Springs, Florida 34688-5004	$ 18,525.00	Mar-16	Apr-16
Lift Stations Upgrades	Rehabilitation of the wet wells of four lift stations.By-pass pumping and control of sewage flows for the duration of the wet well rehabilitation work.	City of Titusville	Jimmy Gager	(321) 383-5767		555 South Washington Avenue, Titusville, Florida 32796	$ 73,435.00	Mar-12	Apr-12
Lift Stations Nos. 6, 7, 8, & 9 Rehabilitation	Rehabilitation of mentioned lift stations	City of Treasure Island	Mike Helfrich	(727) 574-4575	mhelfrich@mytreasureisland.org	108th Ave., Treasure Island, FL 33706	$ 884,000.00	Aug-16	Dec-16
Structural Repairs of the Flow Equalization Basin for East Central Regional Water Reclamation Facility	repair damaged concrete slabs, columns and elevated walkways at the ECRWRF Equalization Basin. The Work shall include cleaning the basin, removing unsound concrete, preparing the concrete and reinforcing bars, replacement of damaged reinforcing basin, epoxy adhesive injection, epoxy mortar backfill, repair of construction and expansion joints, and fabrication and installation of escutcheon plates	City of West Palm Beach	Jay Kwag	(561) 822-2100	HJKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 424,770.00	Sep-12	Feb-13
Lift Station Rehabilitation Phase II	refurbishing/repair/replacement of concrete, and metal lift station components along with site related improvements for Lift Station Nos. 11, 12, 13, 15A, 17A, 18, 119, 25, 40, 41, 42, 43, 44, 45, 46, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 67, 102, 201, 202, 203 and 20	City of Weston	Sabrina Baglieri	(954) 385-2000	sbaglieri@colvin-giordano.com	17200 Royal Palm Blvd. Weston, FL 33326	$ 1,127,059.28	Sep-12	Mar-13
Phipps Park Booster Pump Station Rehabilitation & Modifications	Booster Pump Station Rehabilitation & Modifications	City of West Palm Beach	Daniel Roberge	(561) 822-2100	Droberge@wpb.org	401 Clematis St. 5th Floor, West Palm Beach, FL 33401	$ 219,033.50	Aug-11	Apr-12
7th St. SW RWBS Pump and VFD Replacement		Collier County	Nicole Parker	(239) 252 - 4270	nicoleparker@colliergov.net	3327 Tamiami Trail E, Naples, FL 34112	$ 653,400.00	May-13	Mar-14
Lift Station #30 & #32 Rehabilitation	Set up Bypass pump from terminal manhole to existing pump out connection, Vactor clean wet well. Remove pump equipment and piping from existing triplex configuration, Provide and install load plates for under pump base elbows, guide rails, upper brackets, crossover flushing valve and 6" piping compete through chimney walls to existing isolation valves.	Coral Springs	Steve Seigfried	(954) 796-6658	steves@fladistricts.com	10300 NW 11th Manor, Coral Springs, FL 33071	$ 97,710.00	Aug-12	Oct-12
Cudjoe Regional Wastewater Inner Islands Collection System	Turnkey installation of the Upper Sugarloaf and the Summerland Master lift stations. Furnish and install precast lift stations and valve vault, pumps, piping & wet well accessories. Help with FP&L coordination. Water Service to be installed to just outside lift station fence and tied in by others. All restoration on lift station plans is including (i.e fencing, sidewalk, drives etc.), all electrical work for operable lift station, furnish and install RTU components and coordination with Ramrod Key Facility. Dewater into prime contractor supplied injection well. All incoming and outgoing piping will be extended to the boundary of the lift station for tie-in by HGI.	Cudjoe Inner Islands	David Tegreen	772-834-9498	DTegreene@fkaa.com	2301 W Sample Road, Bldg. 3 Ste 6A, Pompano Beach, FL 33073	$ 2,313,374.02	Aug-13	Sep-16
Mad Hatter Linda Lakes I & I Repairs	Cleaning & TV Inspection of sewer line segments, bypass pumping, CIPP	Florida Governmental Utility Authority (FGUA)	Michael Wilson	(239) 543-1005	mwilson@govmserv.com	280 Wekiva Springs Road, Suite 2000, Longwood, FL 32779	$ 68,700.00	Sep-14	Nov-14

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Rehabilitation & Improvements to Master Lift Station 01	Installation of a new Diesel Engine Driven Pump with an integral fuel tank, on a new support foundation and complete with provided and installed piping, valving, electrical and instrumentation wiring and controls; replacement of control panels, electrical conduit, wiring and instrumentation controls for the existing two (2) 75-hp and one (1) 30-hp pumps in the existing wet well; integration of the new electrical power and control systems into the existing standby power generator; piping tie in and modifications to the existing valve box; upgrade to the existing main utility power supply relocation and remounting of the existing SCADA telemetry system, antenna and upgrades to the SCADA system I/O and configuration including additions to the existing remote SCADA monitoring system	Florida Governmental Utility Authority (FGUA)	Dwight Perry	(239) 543-1005	Dperry@gpiversery.com	5660 Bayshore Road, Suite 36, North Fort Myers, FL 33917	$ 239,180.00	Jul-18	Sep-18
Seven Springs Blvd and Humboldt Ave. I & I Repairs	Cleaning & TV inspection of sewer line segments, bypass pumping, CIPP	Florida Governmental Utility Authority (FGUA)	Rob Dickson	(239) 543-1005	rdickson@gpmsery.com	280 Wekiva Springs Road, Suite 2000, Longwood, FL 32779	$ 99,290.00	Nov-14	Jan-15
Seven Springs / Pasco County Replacing Project & Aloha Gardens Glean & TV Collection System	Cleaning & TV inspection of sewer line segments, bypass pumping, CIPP	Florida Governmental Utility Authority (FGUA)	Rob Dickson	(239) 543-1005	rdickson@gpmsery.com	280 Wekiva Springs Road, Suite 2000, Longwood, FL 32779	$ 48,096.00	Aug-15	Oct-15
South Hutchinson Island Repump #2 Station Modifications	Installation of 2 new split case pumps @ 75 HP, new 15Kva Transformer, lighting panel, VFD's for the pumps, outdoor lighting circuit, multiple different instruments, and removal and replacement of existing generator with new 200 kW generator with stand alone fuel tank	Fort Pierce Utility Authority	Keith Stephens	(772) 466-1600	kstephens@fpua.com	206 S 6th St., Fort Pierce/Hutchinson Island, FL 34950	$ 679,152.23	Jan-13	Dec-15
Lift Stations 23, 87, 117 and 212 Rehabilitation	Remove all interior piping inside the wet well, clean interior walls and repair/fill any voids or exposed seams, coat all new concrete with epoxy, install new base plates, install new HDPE piping and associated support brace.	Loxahatchee River District	Joe Jesteadt	561-747-5700	joe.jesteadt@lrecd.org	2500 Jupiter Park Dr., Jupiter FL 33458	$ 28,980.00	May-12	Aug-12
Simmons Road Drain Repair	Install 36" CIPP liner, hydraulically de-silt the entire storm drain system prior to lining with CIPP liner and prior to installing the pipe liner, inspect the host pipe	Nassau County	David Hearn	(904) 491-7377	dhearn@nassaucounty6.com	96161 Nassau Place, Yulem FL 32097	$ 250,000.00	Mar-15	Apr-15
Rehabilitation of Sanitary Sewer Concrete Structures and Lift Stations	Lining/Coating of Brick or Precast Manhole, Rehabilitation (Repair and Lining) of structures, Bypass Pumping, Reconstruction Manhole Bench and Flow Channels, Remove and Install Existing Pump Base Plate, Elbow and Guide Rails, Furnish and Install PVC, ETC.	Palm Beach County	Joseph Tanacredi	(561) 493-6005	jtanacredi@pcbwater.com	8105 Forest Hill Blvd, West Palm Beach, FL 33413	$ 419,578.00	Jan-13	Dec-16
Wastewater Lift Stations Rehab	Installation of 8 new list stations all new pumps and control panels at all stations, along with new antenna and RTU systems, transformers and electrical services. New Permanent generators were installed at two of the stations along with the corresponding ATS	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 2,172,785.00	Oct-12	Oct-14
Strategic Wastewater Infrastructure project Sewer Collection	Furnishing all materials, labor, supervision, equipment, supplies, fees, expertise, and services necessary for: Lining of sewer, manhole repair and lining, inflow protectors, repair of gravity sewer and laterals. Repair of 9 wastewater lift stations including wet well, valve vault, coatings, bypass pumping, electrical panels, pumps and concrete pads	Palm Beach County	Joseph Tanacredi	(561) 493-6001	jtanacredi@pcbwater.com	8101 Forest Hill Blvd, West Palm Beach, FL 33413	$ 1,918,320.00	Jan-18	Dec-18
Control Panel LS 8102	Install control panel at lift station 8102	Palm Beach County	Joseph Tanacredi	(561) 493-6002	jtanacredi@pcbwater.com	8102 Forest Hill Blvd, West Palm Beach, FL 33413	$ 14,950.00	Jun-13	Aug-13
Lift Station Rehabilitation South Service Area – Phase II	Install 2 new pumps	Palm Beach County	Joseph Tanacredi	(561) 493-6004	jtanacredi@pcbwater.com	8104 Forest Hill Blvd, West Palm Beach, FL 33413	$ 308,322.81	Apr-14	Jan-15
I & I Improvements		Palm Beach County	Joseph Tanacredi	(561) 493-6006	jtanacredi@pcbwater.com	8106 Forest Hill Blvd, West Palm Beach, FL 33413	$ 550,690.00	Nov-13	May-14
Belle Glade Sewer I & I Improvements		Palm Beach County WUD	Duane Palumbo	(561) 493-6000	dpalumbo@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$1,343,343.00	Feb-15	Jul-15
Sanitary Sewer & Lift Station Wet Well, Repairs		Palm Beach County WUD	Pollop Phonpronwithoon	(561) 493-6123	pphonpronwithoon@pcbwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 1,488,751.00		
Lift Station #10 rehabilitation	Project includes new valve vault, small wet well riser and top slab install. Lift station receiving entire new flygt pump package with new control panel and junction box to be mounted separate per plans. Wet well to be coated with refratta along with two closest manholes to lift station.	City of St. Pete Beach	Ian Wade	(727) 363-9254	ian.wade@stpetebeach.org	115 Corey Avenue, St. Pete Beach, FL 33706	$ 116,112.00	Mar-12	Sep-12
E-3 Force main Rehabilitation	E-3 Force main Rehabilitation from Garden Road to Cherry Lane,	Town of Palm Beach	Michael Roach	(561) 838-5440	mroach@townofpalmbeach.com	951 Old Okeechobee Rd, West Palm Beach, FL 33401	$ 1,205,730.00	Jul-14	Nov-14
Rehabilitation of Monica, Davis Rd., & Professional Plaza Pump Station	Furnishing all labour, equipment and materials for the construction of improvements to the Village's sanitary sewer systems. The work inclused the complete rehabilitation of three existing pump stations.	Village of Palm Springs	John Rouse	(561) 965-4010	jrouse@vpsfl.org	226 Cypress Lane, Palm Springs, FL 33461	$ 586,102.00	Jan-18	Jun-18
Continuing Contract for Wastewater Gravity Lines Rehabilitation	Rehabilitation of wastewater gravity pipelines utilizing the CIPP or Fold and Form Lining method	Palm Beach County WUD	Hassan Hadjimary	(561) 493-6000	hhadjimary@pcbwater.com	8100 Forest Hill Blvd. West Palm Beach, FL 33413	$ 2,331,350.00	Nov-14	Mar-17
Deerfield Rehab Lift Stations	4 Lift Station dry can conversions	City of Deerfield Beach	Fred Scott	(954) 480-4418	fscott@deerfield-beach.com	150 NE 2nd Ave, Deerfield Beach, FL 33441	$ 391,710.00	Dec-17	Mar-17
Lift Station 41 Upgrades	Lift Station 41 Upgrades, including bypass pumping to allow work to be completed within the wet well; remove and replace pumps, onsite discharge piping, wet well piping, base plates, pump bases, riser pipes, check valves, plug valves, pressure gauges and pump out connection; install new liner in wet well and effluent force main valve vault; remove control panel, power panel; furnish and install control panel, power panel, and emergency generator with belly tank, concrete pad and ATS; provide associated electrical and instrumentation work.	City of Winter Garden	Jim Monahan	(407) 656-4111	jmonahan@cwgdn.com	300 WEST PLANT STREET, WINTER GARDEN, FLORIDA 34787	$ 382,420.95	Oct-17	Jul-18
Ponce Verda Sanitary Sewer Manhole Rehabilitation - Group 1 Master Contract	Rehabilitate 49 sanitary sewers manholes	St. Johns County	James Overton	(904)209-2614	joverton@sjcfl.us	1205 State Road 16, St. Augustine, FL 32084	$ 210,288.50	Oct-17	May-18
Ponte Verdra Sanitary Sewer MH	Rehabilitate fifty (50) sanitary sewers manholes	Board of County Commissioners St. Johns County Florida	James Overton	(904) 209-0150	joverton@sjcfl.us	500 San Sebastian View St. Augustine FL 32084	$ 190,574.00	Dec-17	May-18
Lift Station C-18 Rehabilitation	installation of new mechanical equipment, piping and appurtenances	Brevard County	Owen Callard	(321) 933-2089	owen.callard@brevardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 310,932.50	Nov-17	Jan-18
Lift Station C-18 Rehab	Rehab of existing wet well and installation of a Generator	Brevard County	Owen Callard	(321) 617-7390	owen.callard@brevardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 269,350.00	Sep-18	Jan-19

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Lift Station V-10 Rehabilitation	Rehabilitation of the existing LiftStation V-10 which included removal of the existing pump house, pipes, valves, floats, electrical cables and connections. Project also included submersible pumps, pipes (force main), power cables, floats, upper brackets, stainless steel guide rail, control panel, transfer switch, tower antenna and electrical connections.	Brevard County	Owen Callard	(321) 933-2089	owen.callard@bervardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 236,500.00	Jun-17	Jul-17
M-08 Lift Station Replacement	Installation of the proposed Lift Station M-08, including but not limited to the installation of a new wet well, above-grade valving, pumps, risers, valves, piping, control panel, and associated electrical components, telemetry infrastructure, and the associated instrumentation and controls, as well as converting the existing Lift Station M-08 wet well to a manhole	Brevard County	Owen Callard	(321) 933-2089	owen.callard@bervardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 354,000.00	May-17	Nov-17
Lift Station 7 & 8 Improvement	Lift Station Improvements	City of Clearwater	Jeff Walker	(727) 562-4827	Jeff.walker@myclearwater.com	100 S Myrtle Ave Clearwater, FL 33756	$ 1,064,030.00	Oct-17	Aug-18
Master Pump Station Rehabilitation	Modifications to the City of Clewiston's Master Lift Station including but not limited to a new lift station, temporary bypass pumping, demolition, electrical improvements, restoration	City of Clewiston	Danny Williams	(863) 983-1484	danny.williams@clewston-fl.gov	115 W Ventura Ave, Clewiston, FL 33440	$ 997,356.30	May-17	Apr-18
Lift Station T-26 Rehabilitation	Rehabilitation of Lift Station T-26 to include rehabilitation of existing wet well demolition of underground valve box and its replacement with an aboveground valve pad; replacement of the pumps, base elbows, discharge piping, guiderail system, valves and fittings, electrical and RTU panels; installation of an electrical demarcation box and connection to the existing force main. The project also involves bypass pumping during rehabilitation and site restoration after completion of rehabilitation	Brevard County	Craig Helping	(321) 633-2089	Craig.Helping@brevardcounty.us	2725 Judge Fran Jamieson Way, A-213, Viera Beach, FL 32940	$ 128,450.00	Jan-18	Jun-18
Lift Station T-26 Rehab	Rehab of Lift Station including pipes, pumps, and electrical	Brevard County	Owen Callard	(321) 617-7390	owen.callard@bervardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 148,450.00	Jan-18	Jun-18
Lift Station S-05 Rehab	Install of new mechanical equipment, piping and appurtenances	Brevard County	Owen Callard	(321) 617-7390	owen.callard@bervardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 467,500.00	Apr-18	Aug-18
Master Lift Station Generator Replacement	Remove existing generator and turn over to owner, Remove all wiring associated with existing generator system between generator and ATS and replace with new, Provide new 80kW, 480V, 3phase generator with 200 gallon subbase tank and weather-proof enclosure and critical grade stainless steel silencer	City of Atlantis	Joseph Kusnir	(561) 242-0028	stormwaterj@gmail.com	260 Orange Tree Drive, Atlantis, FL 33462	$ 57,100.00	Jan-18	Feb-18
Master LS Generator Replace	Installation of a generator at the master lift station	City of Atlantis	Mo Thornton	(561) 965-1744	mthornton@atlantisfl.gov	260 Orange Tree Dr, Atlantis, FL 33462	$ 57,100.00	Jul-17	Feb-18
Australian Ave Sanitary Sewer & Parking Lot Improvements	Gravity sanitary sewer replacement, pavement removal and reconstruction	Town of Palm Beach	John Cairnes	(561) 838-5440	john.cairnes@mockroos.com	951 Okeechobee Drive, West Palm Beach, FL 33401	$ 228,580.00	Jun-17	Oct-17
Wastewater Lift Station No. 8 & 16	Rehabilitation of Lift Station No. 8 & 16, including, but not limited to, bypass pumping, restoration of existing wet well, fencing, demolition of the existing manholes, structural repairs, construction of new valve vaults, submersible pumps, associated force main piping and valves, control panel and associated electrical equipment, and instrumentation	City of St. Pete Beach	Ian Wade	(727) 363-9254	iwade@stpetebeach.org	155 Corey Avenue, St. Pete Beach, Florida 33706	$ 544,431.43	Apr-17	Dec-17
Melaleuca & Kirk Road	Remove and Replace approximately 270LF of 60" RCP with new headwall south of the intersection of. Kirk Rd and Melaleuca Lane.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 198,000.00	Aug-17	Nov-17
WO #10 Woolbright Inlets	Remove and replace 24' of 18" RCP piping and type P6 inlet top and bottom approcimately 8' deep within edge of roadway	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 98,000.00	Apr-17	Jun-17
WO #12 Aladdin	Remove and Replace approximately 76LF of 36" RCP at 3860 Aladdin Avenue	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 75,200.00	Feb-17	Mar-17
WO #13 Kirk storm part 2	Rehabilitation of approximately 447 LF of 48 - 60"" RCP south of the intersection of Kirk Rd and Melaleuca Lane. Quote includes rehabilitation of storm line within Melaleuca Lane performed.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 171,700.93	Jul-17	Sep-17
WO#16 Lyon Forest Hill	Drainage Improvements per project scope and drawings	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 101,659.32	Jun-18	Sep-17
WO #18 Florida Blvd	Drainage Improvements 24"	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 50,461.06	Jul-17	Aug-17
WO#19 Riverside	Drainage Improvements 18", Driveway and Curbing Repairs	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 58,250.00	Aug-17	Sep-17
Riverside	Drainage Improvements 18", Asphalt Repairs	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pcbgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 31,395.30	Aug-17	Nov-17
Lift Station #22 - S&L Replacement	Conversion of S+C Station to Submersible Lift Station - Lift Station 84 Rehabilitation	City of Cooper City	Steve Blanchard	(954) 434-4300	SBlanchard@coopercityfl.org	9090 SW 50th Place, Cooper City, FL 33328	$ 59,580.00	Aug-17	Feb-18
Lift Station M18	Rehabilitation to lift station M-18	Brevard County	Owen Callard	(321) 933-2089	owen.callard@bervardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 123,700.00	Aug-17	Nov-17
Lift Station #1 Rehabilitation	Lift Station #1 Rehabilitation	City of Holly Hill	Walt Smyser	(386) 490-1249	Wsmyser@hollyhill.org	4401 East Port Pkwy, Port Orange, FL 32127	$ 510,000.00	Sep-17	Feb-18
Lift Station 7 -17WW07	Install High Density Polyethylene (HDPE) sheet lining in the lift station/pump station wet wells and manholes, mobilization, bypass pumping (as Additional Pricing), removal of any existing deteriorated coating, preparation of lift station structure to be lined, furnishing and applying the specified cementitious and epoxy coating materials to the interior surface areas of the lift station, applicable QA/QC testing, clean-up, and demobilization.	City of Holly Hill	Walt Smyser	(386) 490-1249	Wsmyser@hollyhill.org	4401 East Port Pkwy, Port Orange, FL 32127	$ 289,000.00	Nov-17	May-18
Seminole County 10 LS Rehab 2017	Rehabilitation to 10 lift stations across the County	Seminole County	Jeff Lane	(407) 665-2558	jlane@seminolecountyfl.org	4903 Wayside Dr, Sanford, FL 32771	$ 539,636.66	Oct-17	Nov-17
Palm Beach County Lift Station Rehabilitation Continuing Construction Contract	Complete electrical system at Lift Station No. 21	City of Cooper City	Steve Blanchard	(954) 434-4300	SBlanchard@coopercityfl.org	9090 SW 50th Place, Cooper City, FL 33328	$ 531,643.60	Sep-17	Mar-18

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Replacement Lift Station 21	Replacement of Lift Station 21	City of Cooper City	Steve Blanchard	(954) 434-4300	SBlanchard@coopercityfl.org	9090 SW 50th Place, Cooper City, FL 33328	$ 520,568.78	Sep-17	Mar-18
Pipe Draining and Video, And Drainage Repair on Various State Roads	Drainage repair district wide	FDOT	Wayne Harris	(863) 519-2382	Wayne.Harris@dot.state.fl.us	N Franklin Street Suite 1400, Tampa, FL 33602	$ 306,580.00	Oct-17	Jun-17
Lift Station T-04 Rehab	Rehabilitating existing submersible LS including a new valve pad, tie-in to the existing force main, new control panel, new telemetry tower, site grading, new access driveway	Brevard County	Owen Callard	(321) 933-2089	owen.callard@brevardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 195,172.81	Jul-18	Nov-18
Lift Station 29 Replacement	to provide maintenance and construction for water, wastewater and reuse projects	City of Altamonte Springs	Karen McCullen	407-571-8335	kmccullen@altamonte.org	225 Newburyport Avenue, Altamonte Springs, FL 32701	$ 850,000.00	Sep-16	Jul-17
2016 Telemetry Information Management System Upgrade	Furnishing all materials, labor, supervision, equipment, supplies, fees, expertise, and services necessary to provide and install new remote terminal units (RTUs) with programmable logic controllers (PLCs) to control 50 lift station with associated level transducers, transformers, antenna, solar panels with controllers	Palm Beach County WUD	Andre McBarnett	(561) 493-6104	amcbarnett@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 1,462,251.50	Feb-17	Aug-18
Greenacres Drainage Improvements	Drainage improvements within 1st Street between the 40 feet west of Swain Boulevard to 130 feet west of Jackson Avenue	City of Greenacres	Zach Gamble	(561) 642-2013	zgamble@swensonsign.com	5800 Melaleuca Lane, Greenacres, FL 33463	$ 311,148.50	Jun-17	Oct-17
2017 Storm drain Pipe Lining	perform high pressure water jetting, rodding, brushing, bucketing and flushing of designated sewer lines and manholes	City of Ormond Beach	Alex Schumann	(386) 676-3306	Alex.Schumann@ormondbeach.org	22 South Beach Street, Ormond Beach, FL 32174	$ 268,210.00	Mar-17	Jul-17
Lining - 16-092	10,000 LF Lining	Palm Beach County WUD	Pollop Phonpornwithoon	(561) 493-6123	pphonpornwithoon@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 99,621.50	Nov-16	Apr-17
Lift Station 139 Minor Rehab	Lift Station 139 Minor Rehab	City of Sunrise	Joe Mazzella	(954) 572-2277	jmazzella@sunrisefl.gov	14150 NW 8th St, Sunrise, FL 33325	$ 41,200.00	Apr-18	May-18
Sand Dollar LS 3 & 4 Repairs	Improvements to the Sand Dollar 3&4 Lift Station	St. Johns County Utility Department	James Overton	(904) 209-2614	joverton@sjcfl.us	1205 State Road 16, St Augustine, FL 32084	$ 119,490.00	Jul-18	Sep-18
Lift Station #44 - CWPB	Install vertical pumps, motors, and pump control valves, including all accessories	City of West Palm Beach	Yanice Mercado	561-494-1061	Ymercado@wpb.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 838,153.00	May-18	Sep-19
Blue Cypress Lake Rd Culvert	replacement of an existing culvert crossing; Elliptical Reinforced Concrete Pipe (ERCP); temporary canal bypass, temporary sheet pile, earthwork, pavement replacement, maintenance of traffic, erosion control	Indian River County	Kristen Leiendecker	(772) 226-1416	kleiendecker@ircgov.com	1800 27th Street, Vero Beach, FL 32960	$ 176,000.00	Apr-18	Jun-18
Lift Station # 3 - Lining	Gravity sewer main lining in lift station #3 basin area	City of North Lauderdale	George Krawczyk	(954) 597-4754	gkrawczyk@nlauderdale.org	701 Southwest 71st Ave, North Lauderdale, FL 33068	$ 136,609.00	Mar-18	Oct-18
Earman River Trans Pump Stat	Install a water detection switch in the main mops pump station; install a manufactured pump station in a fiberglass wet well with 2 40 HP main water pumps	Village of North Palm Beach	Adam Swaney	(561) 691-3442	aswaney@engenuityxtrusion.com	501 US Highway One, North Palm Beach, FL 33408	$ 346,680.00	Aug-18	Sep-18
Manhole Rehab - Tarpon Springs	Rehabilitation of sanitary sewer manholes	City of Tarpon Springs	Rodney Rainey	(727) 942-5615	rrainey@ctcfl.us	324 East Pine Street, Tarpon Springs, FL 34688	$ 33,975.00	May-18	Jul-18
Emerg Sewer Repair - Seaport	Minimum Service Charge to Mobilize and attempt to locate/repair leaking sewer. ($2,000 mobilization, and up to 10 hours work included in price. Each additional hour worked after the 10 hours will be billed at $500/hour.)	Village s of Seaport Condominium Association Inc.	Betty Walsh	(321) 748-6400	VOS-Manager@cfl.rr.com	120 Seaport Blvd, Cape Canaveral, FL 32920	$ 6,500.00	Apr-18	May-18
Rock Creek Manholes	Manhole Coating	City of Cooper City	Steve Blanchard	(954) 434-4300	SBlanchard@coopercityfl.org	9090 SW 50th Place, Cooper City, FL 33328	$ 19,665.00	Apr-18	May-18
Utilities Complex Electrical	Electrical work utl storage building	City of Cooper City	Steve Blanchard	(954) 434-4300	SBlanchard@coopercityfl.org	9090 SW 50th Place, Cooper City, FL 33328	$ 19,780.00	May-18	Jun-18
Lift Station #16 Piping	LS Piping	City of Cooper City	Steve Blanchard	(954) 434-4300	SBlanchard@coopercityfl.org	9090 SW 50th Place, Cooper City, FL 33328	$ 14,520.00	May-18	Jun-18
Emergency - Belle Glade SEPTIC	Emergency - Belle Glade SEPTIC	Palm Beach County WUD	Gerado Castellano	(561) 493-6033	gcastellano@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 38,325.00	Jun-18	Jul-18
Garden Lakes	Sanitary Sewer and Stormwater Rehabilitation and infrastructure repair	Seminole County	David Omberg	(407) 665-5699	domberg@seminolecountyfl.gov	500 West Lake Mary Blvd, Sanford, FL 32773	$ 86,702.00	May-18	Jun-18
Top Slab Replacement	8' diameter concrete top slab, H-20 hatch	City of Cooper City	Steve Blanchard	(954) 434-4300	SBlanchard@coopercityfl.org	9090 SW 50th Place, Cooper City, FL 33328	$ 8,700.00	Jun-18	Jul-18
Construction Services for Brighton Reservation	Construction Services for the installation of cast in place pipe rehabilitation at the Brighton Reservation	Seminole Tribe of Florida	Emran Rahaman	(954) 966-6300	emranrahaman@semtribe.com	6300 STIRLING ROAD, HOLLYWOOD, FLORIDA 33024	$ 100,706.00	Feb-19	Apr-19
Lift Station No. 4 Minor Rehabilitation	Rehabilitate existing submersible-style waste water plant lift station by removing and re-installing existing pumps and electricalequipment, cleaning and relining wetwells where needed, replacing existing piping in the wetwell and valve vault, replacing bypass connections, and making other improvements	City of Sunrise	Mark Pacitti	(954) 572-2272	mpacitti@sunrisefl.gov	10770 West Oakland Park Blvd. Sunrise, Florida 33351	$ 89,947.20	Jan-19	Feb-19
Water and Sewer Lines Abandonment Project	abandonment of existing water and sewer mains along with service lines with concrete grout within the boundary of Commerce Park including removal of existing fire hydrants	City of Lauderdale Lakes	Masqood Nasir	(954) 535-2700	mnasir@lauderdalelakes.org	4300 NW 36th Street Lauderdale Lakes, FL 33319	$ 81,981.41	Jan-19	Jul-19
Lift Station 383 - Rehabilitation	Lift station rehab for #83, is required to remove the existing leaking wet well liner, repair leaks and coat well.	City of Miramar	Jim Frawley	(954) 602-3115	jfrawley@miramarfl.gov	2300 Civic Center Place Miramar, FL 33025	$ 52,862.00	Apr-19	May-19
Gravity Sewer	Gravity sewer main claning, bypass pumping, install of 11,017 LF of 8" CIPP liner	City of Zephyrhills	Mike Perry	813-780-0000	Mperry@zephyrhills.fl.us	39825 Alston Ave Zephyrhills, FL 33542	$ 343,828.31	Oct-18	Dec-18
Big Crest Haven LS Rail Replacement	Remove and replace SS guide rails and brackets vaccum truck (for cleaning)	Village of Palm Springs	Andrew Klausner	(561) 965-4013	aklausner@vpsfl.org	226 Cypress Lane Palm Springs, FL 33461-1699	$ 9,330.00	Feb-19	Feb-19
Lift Station 5133 Emergency Repairs	Remove and Replace - (3) -10" Riser Pipes from the Base Elbow up to the Check Valve - Triplex Remove and Replace T- Rails Supply and Install 24"-30" Plug Re-Anchoring of the Elbows as needed	Palm Beach County WUD	Gerardo Castellano	561-493-6033	GCastellano@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 57,200.00	Jan-19	Feb-19
Palm beach traveler RV Park	Emergency removal and replacement of up to 10 LF of 8" sewer pipe in the Palm Beach Traveler Park	Palm Beach Trailer RV Park	Bob Wolf	216 905 6202	info@palmbeachtravler.com	6159 Lawrence Rd Lake Worth, FL 33462	$ 27,800.00	May-19	Jun-19
Lift Station S-08 Replacement	The Contractor shall furnish all labor, materials, equipment, machinery, tools, apparatus, and transportation and perform all of the work shown on the Drawings and described in the Specifications entitled, Lift Station S-08 Replacement, as prepared by Honeycutt & Associates, inc., acting as, and in the Contract Documents entitled, the Engineer, and shall do everything required by this Contract and the other Contract Documents.	Brevard County	Owen Callard	(321) 617-7390	owen.callard@brevardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 468,250.00	Aug-18	Aug-19



Hinterland Group Inc
2051 W Blue Heron Blvd.
Riviera Beach, FL 33404

As of: 11/02/2022
CIPP Roster: Position, Experience, Expertise, Licenses

Name	Position	Years of Experience	Expertise	Licenses
Jacob Crowe Percentage of time Assigned to Work: - As Needed	General Manager / Project Manager	23 - Utility Construction 8 - Lining	CCTV PACP Liner Installation, Liner Curing Wet-Out Grouting/Pressure Testing Robotic Service Reconnection	PACP MACP LACP
Butch Forrester Percentage of time Assigned to Work: - As Needed	Project Manager	22	CCTV PACP Liner Installation, Liner Curing Grouting/Pressure Testing Robotic Service Reconnection	PACP HAZWOPER FDOT MOT Geophysical Survey
Kevin Orlowski Percentage of time Assigned to Work: - As Needed	Assistant Project Manager	5	CCTV PACP Liner Installation, Liner Curing Grouting/Pressure Testing Robotic Service Reconnection	PACP LACP
Kaj Rasmussen Percentage of time Assigned to Work: - As Needed	Superintendent	23	CCTV PACP Liner Installation, Liner Curing Grouting/Pressure Testing Robotic Service Reconnection	PACP HAZWOPER FDOT MOT
Carlos Angulo Percentage of time Assigned to Work: - As Needed	Foreman	5	Liner Curing Liner Installation	FDOT MOT
Ivan Pulido Percentage of time Assigned to Work: - As Needed	Robotics Operator / Mechanic Laborer	12	Liner Curing, Liner Installation Wet-Out Grouting/Pressure Testing Robotic Service Reconnection	CDL

HINTERLAND GROUP INC.
Lining and Infrastructure Repair

As of 8-17-21

Installed Liner Quantities

	Avg Diameter	Total Footage Installed
Palm Beach County / R&B	8.586750789	276521
Homestead	7.8203125	20525
Lake Park	32.33333333	1298
Cypress Lakes HOA	27	822
Winter Springs FDOT-E5U37	34	672
City of Palmetto	18	93
Charlotte County	24.47692308	38411
FDOT Martin County	19.5	1877
Desoto	24	157
Bradenton	9.096153846	10127
Delray	9.629411765	25139
Lauderdale by the Sea	8.665322581	19293.9
Golden Bear Properties	27	858
Ormond Beach	20	2842
Clay County	34.90909091	1525
Cape Coral	8.177884615	15054
Manatee County	21.33510638	13856
Riviera Beach	8	1298
Tampa	10.20673077	26181
City of West Palm Beach	14.40140845	21878
Clearwater	11.80769231	31511.7
Zephyrhills	8.623853211	34633
Lake Worth	12.75	1722
Bartow	15.875	509
Maitland	8	1144
Nassau County	36	995
Mangonia Park	8	12795
Village of Golf	9.694444444	2309
Town of Lantana	10	20000
Lantana Airport	19.2	606
FGUA	8	6000
City of Lake City	12.25	8856
Seminole County	10.55147059	17020
Colonial Estates HOA	8	3500
City of Maitland	8	2136
Sebring	8	1685
Miramar	9	375
N Lauderdale	7.875	24873

Palm Beach Gardens	26.76923077	1379
Polk County	20.28942308	51455
Loxahatchee River/Jupiter	10.74202128	29140
Martin County	27.2195122	6109
Mulberry	8.833333333	3391
Stuart	9.022727273	3329
Seminole Tribe	8	3353
Hickory Ridge	18	92
Fort Lauderdale	19.5	1395
FLO-TECH FDOT	18.85714286	463
Cypress Lakes	23.28358209	7087
Dade County (Miami)	7.822222222	22722
River Ridge	18	510
Santa Rosa County	39.53846154	981
Okeechobee	24	63
Naples	12.25	14092
Cooper City	7.708333333	9344
Pensacola ECUA	8.076446281	49926
Palm Coast	44	828
Orange County	8.049479167	79380
Pipers Landing	28.5	750
Coral Ridge	23.57142857	916
Largo	8.262886598	25908
Lantana	12.425	2577
Lands End	18	32
FPL	18	356
Lee County	27	972
Tequesta	22.82142857	4895
Sarasota	8.021551724	23347
Maestre	7.75	352
Titusville	25.90909091	3952
Lakewood Villas	7.75	387
Ocean Ridge	8.875	500
Palm Bay	24	188
Brevard	25.5	266
SWA Leachate	12	470
Englewood	7.75	15217
St Lucie	20.25	511
Lauderdale Marine	15	236
Georgetown	24	688
Goldsboro	7.75	3502
Newberry	7.75	1405
Wellington	17.57142857	2832
Village of North Palm Beach	36	620
Atlantis	7.75	875
PGA Village	31.5	338
Bay County	31.36363636	1618

Breakfast Point	60	159
Hallandale	18	18
TOTAL FOOTAGE		**1,028,023.6**

Hinterland Group
Inc. 2051 W. Blue
Heron Blvd. Riviera
Beach, FL 33404
(561) 640-3503

Date: 11/02/2022

Personnel Resume's		Years of CIPP Experience
Field Superintendent	Kaj Rasmussen	29
Installation Foreman	Carlos Angulo	5
	Angel Perez	4
Boiler Tech	Fred Gonzales	26
	LeAndro dos Santos	12
	Ivan Pulido	12
Lateral Cutter	Henry Urbay	3
CCTV Inspection	Dermaine Williams	7
	Jesus Aguilar	3
CCTV Inspector	Butch Forrester	22
	Kevin Orlowski	5
	Cory Nidetz	3

Prepared By: Jacob Crowe - CIPP General Manager

Hinterland Group, Inc.
2051 W. Blue Heron Blvd.
Riviera Beach, FL. 33404

3/8/2021

For questions or comments please contact us at (561) 640-3503

REFERENCE LIST

Owner	Project Title	Completion Date	Contact Information	Cleaned, Televised and Lined Linear Footage	Diameters
Palm Beach County Water Utilities Department	12-063, 14-088, 16-092, 17-016, 16-092	On going	Contact: Pollop Phonpornwithoon Phone: 561-493-6154 PPhonpornwithoon@pbcwater.com	255,746	8"-24"
City of Clearwater	Sanitary Sewer Rehab – Section A CIPP – Annual Contract	Annual Contract held since February, 2015	Contact: Rose Lara Phone: 727-224-7062 Rose.Lara@myClearwater.com	28,225	8" to 24"
Palm Beach Gardens	StormWater Project	On Going	Contact: Daniel Widdick 561-804-7044 dwiddick@pbgfl.com	1,379	12"-36"
Polk County	Storm Water Project	On Going	Contact: Doug Gable 863-535-2285 DougGable@polk-county.net	37,992	15"-36"
Charlotte County	Storm Sewer Rehab	On Going	Contact: Randy Vowell 941-575-3680 Randy.Vowell@charlottefl.com	24,566	12"-72"
N Lauderdale	I&I Program	On Going	Contact: George Krawczyk, P.E., CFM 954-724-7070 gkrawczyk@nlauderdale.org	24,873	8"-10"
Manatee County	Storm Improvements	On Going	Contact: Clint Rimer 941-708-7430 clint.rimer@mymanatee.org	13,441	12"-36"
Martin County	Stormwater Infrastructure	On Going	Contact: Nick Muzia 772-288-5761 nmuzia@martin.fl.us	5,229	12"-60"
Zephyrhills	I&I Program	Jan, 2017	Contact: Joey Theel 813-780-0006 JTheel@ci.zephyrhills.fl.us	34,633	8"-12"
City of Naples	CIPP Lining	On Going	Contact: Bob Dorta 239-213-5117 rdorta@naplesgov.com	14,092	12"-36"
City of Largo	CIPP Lining	On Going	Contact: Brian Highnote 727-587-6715 X 6402 bhighnote@largo.com	21,064	12"36"
Town of Palm Beach	E-3 Forcemain Rehabilitation	November, 2014	Contact: Doug Terry Phone: 561-838-5440 Dterry@townofpalmbeach.com	6,000	12" Force main
Town of Lantana	CIPP and Manhole Rehab 2015	June, 2015	Contact: Darrell Blom Phone: 561-540-5750 Dblom@lantana.org	10,000	8" to 12"
City of Delray	CIPP Lining	On going	Contact: Spencer Britt Phone: 561-243-7164 Britt@mydelraybeach.com	25,139	8"-12"
Ormond Beach	I&I Program	July, 2017	Contact: Alex Schumon 386-676-3306 Alex.Schumon@ormondbeach.org	2,842	12"-36"

HINTERLAND GROUP INC.
Lining and Infrastructure Repair

Hinterland Group, Inc.
2051 W. Blue Heron Blvd.
Riviera Beach, FL. 33404

3/8/2021

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City of West Palm Beach	Master of Contract for Sanitary Sewer and Stormwater Piping CIPP	Annual Contract Held Since September 2015	Contact: Daniel Roberge Phone: 561-494-1053 Droberge@wpb.org	20,499	8" to 36"
Town of Mangonia Park	I&I Program	December, 2016	Contact: David Frodsham Phone: 561-681-5269 Dfrodsham@cgasolutions.com	12,795	8"
Lauderdale by the Sea	I&I Program	On going	Contact: Don Prince Phone: 954-640-4233 Email:DonP@lauderdalebythesea-fl.gov	19,293	8"-12"

CONTRACT

R2023 0676

THIS CONTRACT, made and entered into this _____ day of MAY 16 2023, 20__, between PALM BEACH COUNTY, a political subdivision of the State of Florida, hereinafter referred to as the "County" and HINTERLAND GROUP INC, hereinafter referred to as the "CONTRACTOR".

WITNESSETH:

That the said Contractor having been awarded the contract for the:

2022 Pipeline Continuing Construction Contract

PBCWUD Project No.: 22-032

in accordance with the Bid therefore and for and in consideration of the promises and of the covenants and agreements, and of the payments herein specified, to be made and performed by the Contractor and the County, the Contractor hereby covenants and agrees to and with the County to undertake and execute all of the said named work, in a good, substantial and workmanlike manner, and to furnish and pay for all materials, labor, supervision, equipment, supplies, fees, expertise, and services necessary to fully complete all work in accordance with all requirements of the Contract Documents and in accordance with all Federal, State, and local laws, rules, and regulations, within the time limit specified in the Bid Form. The Contract Documents consist of the following documents which are incorporated herein by reference.

A - Invitation to Bid, Instructions to Bidders, Bid Form and Attachments 1 through 5.
B - Completed Bond and Guarantees.
C - General Conditions.
D - Supplemental Conditions.
E - Special Conditions.
F - Technical Specifications dated October 9, 2022.
G - Addenda.
H - Drawings dated – NA.

Contractor agrees to accept as full compensation for the satisfactory performance of this Contract the sum of $33,760,413.00. The prices named in the Bid are for the completed work and all expense, direct or indirect, connected with the proper execution of the work of each Work Authorization and of maintaining the same until it is accepted by the Board of County Commissioners. It is understood that the Contractor holds and will maintain current appropriate certification and/or license for the purpose of performing the specified work pursuant to this Contract. The time limit for the Substantial Completion of all work under this contract shall be as stated in the Bid Form. The date fixing the beginning of this period upon the calendar shall be established and stated in the Notice to Proceed. The Contract is for a one-year term (and any additional time needed to complete issued Work Authorizations). The amount shown above is the maximum amount for all Work Authorizations which may be issued under this Contract. The County has no obligation to issue any Work Authorizations thereunder.

Counterparts: This Agreement, including the exhibits referenced herein, may be executed in one or more counterparts all of which shall constitute collectively but one and the same Agreement. The County may execute the Agreement through electronic or manual means. Consultant shall execute the Agreement by manual means only, unless the County provides otherwise.

IN WITNESS WHEREOF, the Board of County Commissioners of Palm Beach County, Florida, has made and executed this Contract on behalf of the said County and caused the seal of the said County to be affixed hereto, and the Contractor has hereunto set his hand and seal the day and year written. The Contractor represents that it is authorized to execute this contract on behalf of itself and its Surety.

R2023 0676 MAY 16 2023

ATTEST:
JOSEPH ABRUZZO
CLERK OF THE CIRCUIT COURT & COMPTROLLER

Deputy Clerk

PALM BEACH COUNTY, FLORIDA, A
Political Subdivision of the State of Florida
BOARD OF COUNTY COMMISSIONERS

By: _____
Gregg K. Weiss, Mayor

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

Assistant County Attorney

APPROVED AS TO TERMS AND CONDITIONS

Ali Bayat, PE, PMP
Director, Palm Beach County Water Utilities Department

'CONTRACTOR'

By: HINTERLAND GROUP INC.
(Corporate Name)

a FLORIDA corporation
(insert state of corporation)

(witness signature)

Chase Rogers
(witness name printed)

(witness signature)

Lori Guild
(witness name printed)

By: _____
(signatory)

DANIEL DUKE III
(print signatory's name)

PRESIDENT
(print title)

MARCH 23, 2023
(date)

(Corporate Seal)

HINTERLAND GROUP, INC. CORPORATE SEAL FLORIDA

2051 W. BLUE HERON BLVD.
(Contractor's Official Address)

RIVIERA BEACH, FL 33404
(Contractor's City, State, Zip Code)

WAGNER BONDING
&
INSURANCE, INC.

March 15, 2023

Re: Hinterland Group Inc.

To whom it may concern,

We are the bonding agent for Hinterland Group, Inc. They are bonded by Atlantic Specialty Insurance Company, an "A+XV" rated surety in the AM Best Guide. Hinterland Group, Inc. has an excellent reputation in the community. While each project is approved on its own merits, Hinterland Group, Inc. has the ability to bond single projects in excess of $20,000,000 with an aggregate limit of $100,000,000.

We welcome the opportunity to execute the necessary bonds provided they meet the current underwriting guidelines and the provisions are acceptable to both Hinterland Group, Inc. and Atlantic Specialty Insurance Company.

Should you have any questions or concerns, please do not hesitate to call.

Sincerely,

Wagner Bonding & Insurance, Inc.

Taylor Wagner
Resident Florida Licensed Agent
Attorney-In-Fact

P.O. Box 2868 Lakeland, FL. 33806
Phone 863-859-9823
Fax 863-815-1864

intact INSURANCE

Power of Attorney

KNOW ALL MEN BY THESE PRESENTS, that ATLANTIC SPECIALTY INSURANCE COMPANY, a New York corporation with its principal office in Plymouth, Minnesota, does hereby constitute and appoint: **Daniel F. Wagner, Taylor D. Wagner, Daniel F. Wagner, Jr**, each individually if there be more than one named, its true and lawful Attorney-in-Fact, to make, execute, seal and deliver, for and on its behalf as surety, any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof; provided that no bond or undertaking executed under this authority shall exceed in amount the sum of: **unlimited** and the execution of such bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof in pursuance of these presents, shall be as binding upon said Company as if they had been fully signed by an authorized officer of the Company and sealed with the Company seal. This Power of Attorney is made and executed by authority of the following resolutions adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the President, any Senior Vice President or Vice-President (each an "Authorized Officer") may execute for and in behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and affix the seal of the Company thereto; and that the Authorized Officer may appoint and authorize an Attorney-in-Fact to execute on behalf of the Company any and all such instruments and to affix the Company seal thereto; and that the Authorized Officer may at any time remove any such Attorney-in-Fact and revoke all power and authority given to any such Attorney-in-Fact.

Resolved: That the Attorney-in-Fact may be given full power and authority to execute for and in the name and on behalf of the Company any and all bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof, and any such instrument executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed and sealed by an Authorized Officer and, further, the Attorney-in-Fact is hereby authorized to verify any affidavit required to be attached to bonds, recognizances, contracts of indemnity, and all other writings obligatory in the nature thereof.

This power of attorney is signed and sealed by facsimile under the authority of the following Resolution adopted by the Board of Directors of ATLANTIC SPECIALTY INSURANCE COMPANY on the twenty-fifth day of September, 2012:

Resolved: That the signature of an Authorized Officer, the signature of the Secretary or the Assistant Secretary, and the Company seal may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing an Attorney-in-Fact for purposes only of executing and sealing any bond, undertaking, recognizance or other written obligation in the nature thereof, and any such signature and seal where so used, being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed.

IN WITNESS WHEREOF, ATLANTIC SPECIALTY INSURANCE COMPANY has caused these presents to be signed by an Authorized Officer and the seal of the Company to be affixed this twenty-seventh day of April, 2020.

ATLANTIC SPECIALTY INSURANCE COMPANY CORPORATE SEAL 1986 NEW YORK

By _____
Paul J. Brehm, Senior Vice President

STATE OF MINNESOTA
HENNEPIN COUNTY

On this twenty-seventh day of April, 2020, before me personally came Paul J. Brehm, Senior Vice President of ATLANTIC SPECIALTY INSURANCE COMPANY, to me personally known to be the individual and officer described in and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, that he is the said officer of the Company aforesaid, and that the seal affixed to the preceding instrument is the seal of said Company and that the said seal and the signature as such officer was duly affixed and subscribed to the said instrument by the authority and at the direction of the Company.

ALISON DWAN NASH-TROUT
NOTARY PUBLIC - MINNESOTA
My Commission Expires
January 31, 2025

_____
Notary Public

I, the undersigned, Secretary of ATLANTIC SPECIALTY INSURANCE COMPANY, a New York Corporation, do hereby certify that the foregoing power of attorney is in full force and has not been revoked, and the resolutions set forth above are now in force.

Signed and sealed. Dated 15 day of March, 2023.

ATLANTIC SPECIALTY INSURANCE COMPANY CORPORATE SEAL 1986 NEW YORK

This Power of Attorney expires
January 31, 2025

_____
Kara Barrow, Secretary

Please direct bond verifications to surety@intactinsurance.com

March 23, 2023

To whom it may concern:

I, Daniel Duke, III, President of Hinterland Group Inc., do hereby authorize Chase Rogers and Jay Breig to sign any and all project related documents on behalf of Hinterland Group Inc.

In addition, and until further notice, the following personnel are authorized to sign pay applications and supporting documentation relating to Palm Beach County pay applications. This does not authorize the signing of change orders, supplements, lien releases, notice to proceed, warranties of title or Final pay applications or relating documents.

Authorized to Sign Pay Applications and Supporting Documentation for Pay Applications:

- Butch Forrester
- Jacob Crowe
- Kevin Orlowski
- Kervin Flores- Garcia
- Nelson Bello
- Andrew Keenan
- Joshua Ramirez

Daniel Duke III – President
Dated: March 23, 2023

State of Florida
County of Palm Beach

The foregoing instrument was acknowledged before me by means of [✓] physical presence or [ ] online notarization this 23 day of MARCH, 2023 by Daniel Duke III, who is personally known to me [✓] or has produced a [ ] _____ as identification.

Notary Public Lori Guild

My Commission Expires 8/9/2026

LORI GUILD
MY COMMISSION # HH 298713
EXPIRES: August 9, 2026

MINUTES OF SPECIAL MEETING

OF

HINTERLAND GROUP INC.

Minutes of Special Meting of Hinterland Group Inc. held at 2051 W. Blue Heron Blvd. Riviera Beach, FL 33404 on this 26th day of August, 2019

The President called the meeting to consider the following business: The authorization of Chase Rogers and Danny Duke, Jr., to sign any and all documentation with regard to the Company.

On motion duly made and carried, the meeting proceeded to approve the authorization.

Chase Rogers and Danny Duke, Jr., have the authority to sign all documents as stated above.

There being no further business, the meeting was adjourned.

Dated 8/26/19

Daniel Duke III – President

Hinterland Group Inc.

HINTERLAND GROUP, INC. CORPORATE SEAL FLORIDA

STATE OF Florida

COUNTY OF Palm Beach

The foregoing instrument was acknowledged before me this 8/26/19, by Daniel Duke III

Emily Meng

Notary Public

Printed Name: Emily Meng

My Commission Expires: 07/19/2022

EMILY MENG
State of Florida-Notary Public
Commission # GG 240228
My Commission Expires
July 19, 2022

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 01/31/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER South Shore Insurance Inc. 955 SE Central Parkway Stuart FL 34994	CONTACT NAME: PHONE (A/C, No, Ext): (772) 426-9973 FAX (A/C, No): (772) 872-5870 E-MAIL ADDRESS: jennie@southshore-insurance.com
INSURED Hinterland Group Inc. 2051 West Blue Heron Blvd Riviera Beach, FL 33404	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : The Charter Oak Fire Insurance Company — 25615 INSURER B : Travelers Property Casualty Company of Amer — 25674 INSURER C : Starr Indemnity and Liability Company INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR X XCU Coverage Included X Primary/Non Contributory GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC OTHER:	x	x	CO-2W558369	01/31/2023	01/31/2024	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG $	$ 1,000,000 $ 300,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $
A	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS	x	x	810-2W545755	01/31/2023	01/31/2024	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) $	$ 1,000,000 $ $ $ $
B	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $			CUP-2T683165-23-NF	01/31/2023	01/31/2024	EACH OCCURRENCE AGGREGATE $	$ 4,000,000 $ 4,000,000 $
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A					PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ $ $
C	Inland Marine	x		ITA100065252723	01/31/2023	01/31/2024	Inland Marine/Contractor's scheduled equipment Installation Floater	$5,163,699 $100,000/$500,000

Should any of the above policies be cancelled before the expiration date thereof, the issuing insurer will endeavor to mail 30 days written notice to the certificate holder named to the left, but failure to do so shall impose no obligation or liability of any kind upon the insurer, its agents or representatives. Palm Beach County, Board of County Commissioners, a political subdivision of the State of Florida is an additional insured on blanket form only if required by written contract/agreement with the insured executed prior to injury or damage under the terms of this policy for the 2022 Pipeline Continuing Construction Contract, Project No. PBCWUD 22-032. A Waiver of Subrogation is provided on blanket form only if required by written contract/agreement with the insured executed prior to injury or damage. Coverage is primary/ noncontributory to additional insureds when it is required by written contract/agreement with the insured executed prior to injury or damage.

CERTIFICATE HOLDER

Palm Beach County
Water Utilities Department Director Utilities Engineering
8100 Forest Hill Blvd
West Palm Beach, FL 33413

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE Jennie Lanman <>

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CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 01/31/2023

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
South Shore Insurance Inc. 955 SE Central Parkway Stuart FL 34994	PHONE (A/C, No, Ext): (772) 426-9973	FAX (A/C, No): (772) 872-5870
	E-MAIL ADDRESS: jennie@southshore-insurance.com	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A : FFVA Mutual Insurance Company	10385
INSURED Hinterland Group Inc. 2051 West Blue Heron Blvd Riviera Beach, FL 33404	INSURER B :	
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$
	CLAIMS-MADE [X] OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$
	POLICY [ ] PRO-JECT [ ] LOC						PRODUCTS - COMP/OP AGG	$
	OTHER:							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	ANY AUTO						BODILY INJURY (Per person)	$
	ALL OWNED AUTOS / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS / NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
	UMBRELLA LIAB [ ] OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB [ ] CLAIMS-MADE						AGGREGATE	$
	DED [ ] RETENTION $							$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N [N] (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	x	WC840-0805462-2023A	01/31/2023	01/31/2024	X PER STATUTE [ ] OTH-ER	
							E.L. EACH ACCIDENT	$ 1,000,000
							E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000

Should any of the above policies be canceled before the expiration date thereof, the issuing insurer will endeavor to mail 30 days written notice to the certificate holder named to the left, but failure to do so shall impose no obligation or liability of any kind upon the insurer, its agents or representatives. A Waiver of Subrogation is provided on blanket form only if required by written contract/agreement with the insured executed prior to injury or damage.

CERTIFICATE HOLDER

Palm Beach County
Water Utilities Department Director Utilities Engineering
8100 Forest Hill Blvd
West Palm Beach, FL 33413

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE Jennie Jarman

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PUBLIC CONSTRUCTION BOND – WORK AUTHORIZATION NO. _____ CONTINUING CONTRACT NO. _____

BOND NUMBER: _____

WORK AUTHORIZATION/BOND AMOUNT: _____

CONTRACTOR'S NAME: _____

CONTRACTOR'S ADDRESS: _____

_____

_____

_____

CONTRACTOR'S PHONE: _____

SURETY COMPANY: _____

SURETY'S ADDRESS: _____

_____

_____

_____

OWNER'S NAME: PALM BEACH COUNTY

OWNER'S ADDRESS: 8100 Forest Hill Boulevard
West Palm Beach, FL 33413

OWNER'S PHONE: (561) 493-6000

DESCRIPTION OF WORK: for the installation of raw water mains, potable water mains, fire hydrants, water service lines, wastewater force mains, reclaimed water mains, and all associated appurtenances. The contract is for a one-year (12-months) term with an optional two 12-months contract renewal. The contract will be awarded to up to two (2) of the lowest responsive and responsible bidder(s).

COUNTY'S PROJECT NUMBER: PBCWUD _____

PROJECT LOCATION: System-Wide

LEGAL DESCRIPTION: System-Wide

PUBLIC CONSTRUCTION BOND

This Bond is issued in favor of the County conditioned on the full and faithful performance of the Work Authorization No. _____ to Continuing Contract No. _____dated on _____, 20___.

KNOW ALL MEN BY THESE PRESENTS: that Contractor and Surety, are held and firmly bound unto Palm Beach County Board of County Commissioners
301 N. Olive Avenue
West Palm Beach, Florida 33401

as Obligee, herein called County, for the use and benefit of claimant as herein below defined, in the amount of

_____Dollars and ___ Cents ($ _____)
(Here insert a sum equal to the Work Authorization/Bond Amount from page 1)

for the payment whereof Principal and Surety bind themselves, their heirs, personal representatives, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS,

Principal has by written agreement dated _____, 20__, entered into Work Authorization No. _____ to Continuing Contract No. _____with the County for

Work Authorization Project Name: 2022 Pipeline Continuing Construction Contract
Work Authorization Project No.: 22-032
Project Description: for the installation of raw water mains, potable water mains, fire hydrants, water service lines, wastewater force mains, reclaimed water mains, and all associated appurtenances. The contract is for a one-year (12-months) term with an optional two 12-months contract renewal. The contract will be awarded to up to two (2) of the lowest responsive and responsible bidder(s).
Project Location: System-Wide

in accordance with Design Criteria Drawings and Specifications prepared by

Name of Design Firm:
Location of Firm:
Phone:
Fax:

which Work Authorization No. ___ to Continuing Contract No. _____is by reference made a part hereof in its entirety, and is hereinafter referred to as the Work Authorization.

THE CONDITION OF THIS BOND is that if Principal:

1. Performs the Work Authorization dated _____, 20__ , between Principal and County for the design and construction of _____, the Work Authorization being made a part of this bond by reference, at the times and in the manner prescribed in the Work Authorization; and

2. Promptly makes payments to all claimants, as defined in Section 255.05, Florida Statutes,

supplying Principal with labor, materials, or supplies, used directly or indirectly by Principal in the prosecution of the work provided for in the Work Authorization; and

3. Pays County all losses, damages (including liquidated damages), expenses, costs, and attorneys' fees, including appellate proceedings, that County sustains because of a default by Principal under the Work Authorization; and

4. Performs the guarantee of all work and materials furnished under the Work Authorization for the time specified in the Work Authorization, then this bond is void; otherwise it remains in full force.

5. Any changes in or under the contract documents and compliance or noncompliance with any formalities connected with the Work Authorization or the changes does not affect Surety's obligation under this bond and Surety waives notice of such changes.

6. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of construction liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against the bond.

7. Principal and Surety expressly acknowledge that any and all provisions relating to consequential, delay and liquidated damages contained in the Work Authorization are expressly covered by and made a part of this Performance, Labor and Material Payment Bond. Principal and Surety acknowledge that any such provisions lie within their obligations and within the policy coverage's and limitations of this instrument.

8. Section 255.05, Florida Statutes, as amended, together with all notice and time provisions contained therein, is incorporated herein, by reference, in its entirety. Any action instituted by a claimant under this bond for payment must be in accordance with the notice and time limitation provisions in Section 255.05(2), Florida Statutes. This instrument regardless of its form, shall be construed and deemed a statutory bond issued in accordance with Section 255.05, Florida Statutes.

9. Any action brought under this instrument shall be brought in the state court of competent jurisdiction in Palm Beach County, Florida and not elsewhere.

_____	_____
Witness	Principal (Seal)
_____	_____
Print name	Print name
	_____
	Title
_____	_____
Witness	Surety (Seal)
_____	_____
Print name	Print name
	_____
	Title

(This page is intentionally left blank)

FORM OF GUARANTEE

GUARANTEE FOR (Contractor and Surety Name) _____

_____

We the undersigned hereby guarantee that the **2022 Pipeline Continuing Construction Contract, PBCWUD Project No. 22-032, Work Authorization Number** _____, Palm Beach County, Florida, which we have constructed and bonded, has been done in accordance with the plans and specifications; that the work constructed will fulfill the requirements of the guaranties included in the Contract Documents. We agree to repair or replace any or all of our work, together with any work of others which may be damaged in so doing, that may prove to be defective in the workmanship or materials within a period of one year from the date of Final Completion of all of the above named work by the County of Palm Beach, State of Florida, without any expense whatsoever to said County of Palm Beach, ordinary wear and tear and unusual abuse or neglect excepted by the County. The date of Final Completion shall be the date set forth on the fully executed and acknowledged Contractor's Certification of Final Completion form. When correction work is started, it shall be carried through to completion.

In the event of our failure to acknowledge notice, and commence corrections of defective work within five (5) calendar days after being notified in writing by the Board of County Commissioners, Palm Beach County, Florida, we, collectively or separately, do hereby authorize Palm Beach County to proceed to have said defects repaired and made good at our expense and we will honor and pay the costs and charges therefore upon demand.

County and Contractor agree that the provisions of Florida Statute Chapter 558 shall not apply to this Contract/Agreement.

SEAL AND NOTARIAL ACKNOWLEDGMENT OF SURETY

_____(Seal)
(Contractor)

By:_____ _____
(Signature) (Printed Name)

_____(Seal)
(Surety)

By:_____ _____
(Signature) (Printed Name)

END OF SECTION

(This page is intentionally left blank)

GENERAL CONDITIONS

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1. Definitions

Wherever the words or terms defined in this section or pronouns used in their stead occur in the Specifications or other Contract Documents, they shall have the meanings herein given.

"Addendum" - A written explanation, interpretation, change, correction, addition, deletion, or modification of the Contract Documents issued in writing by the Engineer prior to opening the Bids.

"Alternative Dispute Resolution" or "ADR" – A dispute resolution process to resolve issues related to the Project. Unless a specific ADR process is required herein or by Laws and Regulations, the parties may agree to the format of the ADR procedure.

"Application for Payment" - The form furnished by the County which is to be used by the Contractor to request progress or final payment and which includes such supporting documentation as is required by the Contract Documents.

"Bonds" - Bid, Public Construction Bond, and other instruments which protect against loss due to inability, failure or refusal of the Contractor to perform the Work specified in the Contract Documents.

"Change Order" - A document recommended by the Engineer, which is signed by the Contractor and the County and authorizes an addition, deletion, or revision in the Work, or an adjustment in the Contract Price or the Contract Time, issued on or after execution of Contract.

"Contractor" – As designated in Contract.

"Construction Manager" - The construction manager is an employee of the Contractor who shall be in attendance at the project site during performance of the Work and shall represent the Contractor. Communications given to the construction manager or decisions made by the construction manager shall be as binding as if given to or made by the Contractor. Important communications or decisions shall be confirmed in writing. Other communications or decisions shall be similarly confirmed on written request in each case.

"Contract" - The written agreement between the County and the Contractor covering the Work to be performed; when other documents are attached to the Agreement they become part of the Contract. The Contract is also referred to as the Agreement as established by properly executed Work Authorizations.

"Contract Price" - The total monies payable by the County to the Contractor under the terms and conditions of the Contract Documents.

"Contract Time" - The number of successive calendar days stated in the Contract Documents for the completion of the Work.

"County" - Palm Beach County Board of County Commissioners, Palm Beach County, Florida.

"Defective Work" - Work that is unsatisfactory, faulty, or deficient; or that does not conform to the Contract Documents; or that does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents; or Work that has been damaged prior to the Engineer's recommendation of final payment.

"Drawings" - The drawings, plans, maps, profiles, diagrams, and other graphic representations which show the character, location, nature, extent and scope of the Work to be performed, which have been prepared and approved by the Engineer, and which are considered a part of the Contract Documents.

"Effective Date of the Contract " - The date indicated in the Contract on which it was executed, but if no such date is indicated it means the date on which the Contract is signed and delivered by the last of the two parties to sign and deliver.

"Engineer" – **PALM BEACH COUNTY WATER UTILITIES DEPARTMENT** and its authorized agents, inspectors or representatives acting within the scope of duties entrusted to them by the County.

"Field Order" - An order by the Engineer that does not impact the cost or time of performance of the Work.

"Final Acceptance" – The date the project is finally accepted by the Board of County Commissioners or their designee.

"General Requirements" - Division 1 of the Technical Specifications.

"Inclement Weather" – A normal work day during which the Contractor was unable to perform critical path work for a continuous period of more than four (4) hours during that day.

"Inspector" - The inspector shall be in attendance at the project site during performance of the Work and shall report to, and be under the direct supervision of, the Resident Engineer or Resident Project Representative. The inspector shall have no authority to permit deviation from or to modify any of the provisions of the Drawings or Specifications without the written permission or instruction of the Engineer.

"Laws and Regulations; Laws or Regulations" - Laws, rules codes, regulations, ordinances and/or orders promulgated by a lawfully constituted body authorized to issue such Laws and Regulations.
"

"Normal Working Hours" - Normal working hours shall consist of forty (40) hours per week with no more than eight (8) hours per day.

"Notice to Proceed" - The written notice issued by the County, or its authorized agents, to the Contractor authorizing the Contractor to proceed with the Work and establishing the date of commencement of the Contract Time.

"Partial Utilization" - Placing a portion of the Work in service for the purpose for which it is intended (or a related purpose) before reaching Substantial Completion for all the Work.

"Project" - The entire construction to be performed as provided in the Contract Documents.

"Resident Engineer" - (Same definition as for Resident Project Representative hereinafter).

"Resident Project Representative" - The resident project representative shall be in attendance at the project site during performance of the Work and shall represent the Engineer. Communications given to the resident project representative or decisions made by the resident project representative shall be as binding as if given to or made by the Engineer. Important communications or decisions shall be confirmed in writing. Other communications or decisions shall be similarly confirmed or requested in writing in each case.

"Shop Drawings" - All drawings, diagrams, illustrations, schedules, and other data which are specifically prepared by or on behalf of the Contractor to illustrate some portion of the Work, and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a supplier and submitted by the Contractor to illustrate material or equipment for some portion of the Work.

"Specifications" - (Same definition as for Technical Specifications hereinafter).

"Subcontractor" - An individual, firm, or corporation having a direct contract with the Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

"Substantial Completion" - The date as determined by the Engineer, as evidenced by the Engineer's definitive Certificate of Substantial Completion, when the construction of the entire Project (or a specified part thereof) is sufficiently completed, in accordance with the Contract Documents, so that the entire Project (or a specified **part**) can be utilized for the purposes for which it is intended. When the entire Project is considered to be Substantially Complete, this does not constitute Final Acceptance or Final Completion of the entire Project.

"Supplier" - A manufacturer, fabricator, provider, distributor, materialman or vendor.

"Technical Specifications" - Those portions of the Contract Documents consisting of the General Requirements and written technical descriptions of materials, equipment, products, supplies, manufactured articles, standards and the execution of the Work.

"Unbalanced Bid Items" – Bid items in which the unit prices are not in line with industry standards or averages for the items. In order for a bid to be balanced each item must carry its proportionate share of direct cost, overhead, and profit. Unbalanced items which are installed and billed at the beginning of a project also result in "front-end loading."

"Underground Utilities" - All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasement containing such facilities which have been installed underground to furnish any of the following services or materials: water, sewage and drainage removal, electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, traffic, or other control systems.

"Work Authorization" - A document which, when executed by the County and Contractor, becomes a part of the Contract Documents and specifies the scope of work, duration, total price, liquidated damages, and schedule for a specific project to be constructed by Contractor in accordance with the terms of the contract document.

"Work Directive" - A written directive to the Contractor, issued on or after the Effective Date of the Contract, signed by the County and recommended by the Engineer, ordering an addition, deletion or revision in the Work in response to an emergency or in the case of an inability to agree upon the amount of compensation of a requested change. The Contractor shall proceed upon receipt of a Work Directive to complete the work on a "cost plus" basis in accordance with Article 44, Paragraph A.3.C. A Work Directive may not change the Contract Price or Contract Time, but is evidence that the parties expect that the change directed or documented by a Work Directive will be incorporated in a subsequently issued Work Supplement following negotiations by the parties as to its effect, if any, on the Contract Price and/or Contract Time.

"Work Supplement" - A document recommended by the Engineer, which is signed by the Contractor and the County and authorizes an addition, deletion, or revision in the Work, or an adjustment in the Contract Price or the Contract Time, issued on or after execution of Contract.

"Written Amendment" - A written amendment of the Contract Documents, signed by the County and the Contractor on or after the Effective Date of the Contract and normally dealing with the non-engineering or non-technical rather than strictly work-related aspects of the Contract Documents.

2. Preliminary Matters

When the Contractor delivers the signed Contracts to the County, the Contractor shall also deliver to the County such Bonds and Insurance Policies, Certificates or other documents as the Contractor may be required to furnish in accordance with the Contract Documents.

The County will furnish to the Contractor three (3) copies of the Contract Documents. Additional quantities of the Contract Documents will be furnished at reproduction cost.

The County and the Contractor in Section 8 of the Instructions to Bidders have the option to mutually agree to implement a partnering cooperative approach to problem solving.

3. Before Starting Construction

The Contractor shall submit to the Engineer for review those documents identified in the General Requirements of the Technical Specifications. Before undertaking each part of the Work, the Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. The Contractor shall notify the Engineer, in writing, of all conflicts, errors, inconsistencies, or omissions which he may discover; and obtain specific instructions in writing from the Engineer before proceeding with any part of the Work affected thereby. The Contractor shall not take advantage of any apparent error or omission which may be found in the Contract Documents, but the Engineer shall be entitled to make such corrections therein and interpretations thereof, as he may deem necessary for the fulfillment of their intent. The Contractor shall be responsible for all errors in construction which could have been avoided by such examination and notification and shall correct at his own expense all Work improperly constructed through failure to notify the Engineer and request specific instructions.

For each project to be constructed by contractor, pursuant to Contract, County will submit to Contractor a set of plans for the project together with an unexecuted Work Authorization. Within 14 calendar days of the receipt of the plans Contractor shall perform a materials takeoff and shall fill in the Work Authorization, using the quantities for Contractor's takeoff and the unit prices for this Contract.

After completing the Work Authorization, Contractor shall sign the Work Authorization and return it to the County. County will review Contractor's calculation of quantities of prices. If County agrees with Contractor's quantities and calculations, County may execute the Work Authorization and return it to Contractor. If County does not agree with Contractor, County and Contractor shall negotiate to resolve their differences prior to County's execution of the Work Authorization. Upon execution by County and Contractor, the Work Authorization shall be binding as to scope, price, liquidated damages and schedule.

Within 14 calendar days of executing each Work Authorization, County will issue a Notice to Proceed to Contractor identifying the start date for that Work Authorization, which date begins the construction time for substantial and final completion.

4. Pre-construction Conference

Following the execution of the Contract and prior to start of construction, a pre-construction conference will be scheduled by the Engineer, which must be attended by the Contractor. This conference will be held to review the above schedules, to establish procedures for handling shop drawings and other submissions, and to establish a working understanding between the Parties as to the Project. This conference may include representatives of the Engineer, County, local utilities, regulatory agencies, other contractors performing work in the area for the County, and any other party that may be deemed as necessary for the orderly performance of the Contract. However, this does not relieve the Contractor of the responsibility of contacting local utilities and any other necessary agencies or contractors.

5. Intent and Amending Contract Documents

A. Intent

The Contract Documents comprise the entire Contract between the County and Contractor concerning the Work. The Contract Documents are complementary, so that any Work exhibited in the one shall be executed just as if it has been set forth in all, in order that the Work shall be completed in every respect according to the complete design or designs as decided and determined by the Engineer.

It is the intent of the Contract Documents to describe the Work, functionally complete, to be constructed in accordance with the Contract Documents. Any work, materials, or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result shall be supplied whether or not specifically called for.

In the event of a conflict, omission, error or discrepancy in the Contract Documents the Contractor shall promptly notify the Engineer. In resolving conflicts resulting from errors or discrepancies in any of the Contract Documents, the order of precedence shall be as set forth in Section 4.2.4 of the Instructions to Bidders.

The captions or subtitles of the several Articles and Divisions of these Contract Documents constitute no part of the context hereof, but are only labels to assist in locating and reading the provisions hereof.

From time to time during the progress of the Work, the Engineer may furnish supplementary drawings attached to a Work Supplement, a Field Order, a work Directive, or as a response to the Contractor's request for additional information, as he determines necessary to show changes or define the Work in more detail, and these also shall be considered as part of the Contract Documents.

B. Amending and Supplementing the Contract Documents

1. The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

    a. A formal Written Amendment
    b. A Work Supplement
    c. A Field Order
    d. A work Directive

    As indicated in Articles 44 and 49, Contract Price and Contract Time may only be changed by a Work Supplement.

2. In addition, the requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

    a. A Field Order
    b. The Engineer's approval of a Shop Drawing or Sample, provided that Contractor has called such variation or deviation from the contract requirements to the attention of Engineer in a writing in accordance with GC 72, which specifically identifies the change.
    c. The Engineer's written interpretation or clarification of the Intent of the Contract Documents.

6. Reuse of Documents

Neither the Contractor, nor any Subcontractor or Supplier, nor any other person or organization performing or furnishing any of the Work under a Contract with the County shall have or acquire any title to or ownership rights in any of the Drawings, Technical Specifications, or other documents (or copies of any thereof) prepared by the Engineer for use on the Work, and they shall not reuse any of them on extensions of the project or any other project without prior written consent of the County and the Engineer.

7. Occupying Private Land

The County shall furnish, as indicated in the Contract Documents, the Lands upon which the work is to be performed, Rights-of-way and easements for access thereto, and such other lands which are designated for the use of the Contractor. These Lands are shown on the Contract Drawings and it is the Contractor's Responsibility to perform the work within the legally described Limits of the Lands. The Contractor shall provide for all additional Lands and access thereto required for temporary Construction facilities or storage of equipment and materials.

The Contractor shall not (except after written consent from the proper parties) enter or occupy with personnel, tools, equipment or materials, any land outside the rights-of-way or property of the County. Upon request of the County, the Contractor shall give a copy of the written consent to the Engineer.

8. Work in State and County Rights-of-Way and Easements

When the Work involves the installation of sanitary sewers, storm sewers, drains, water mains, manholes, underground structures, or other disturbances of existing features in or across streets, rights-of-way, easements, or other property, the Contractor shall (as the Work progresses) promptly back-fill, compact, grade and otherwise restore the disturbed area to a basic condition which will permit resumption of pedestrian or vehicular traffic and any other critical activity or function consistent with the original use of the land. Unsightly mounds of earth, large stones, boulders, and debris shall be removed so that the site presents a neat appearance.

9. Work Adjacent to Telephone, Power, Water, Sewer, Drainage Cable TV and Gas Company Structures

In all cases where Work is to be performed near utilities including telephone, power, water, sewer, drainage, cable TV, or gas company facilities, the Contractor shall provide written notification to the respective companies of the areas in which Work is to be performed, prior to the actual performance of any Work in these areas, and shall take all actions necessary to protect such facilities from damage.

10. Use of Public Streets

The use of public streets and alleys shall be such as to provide a minimum of inconvenience to the public and to other vehicular and non-vehicular traffic. Any earth or excavated material spilled from trucks shall be removed by the Contractor and the streets cleaned to the satisfaction of the Engineer and the County Engineering Department, the Florida Department of Transportation, or other local agency having jurisdiction, as applicable.

11. Subsurface Investigation

In the preparation of the Contract Documents, the Engineer has relied on the reports and tests of subsurface conditions taken at the job site. Such reports are not guaranteed as to their accuracy or completeness and are not part of the Contract Documents.

The County and the Engineer do not warrant or guarantee the accuracy or correctness of this material with respect to actual subsurface conditions.

The Contractor shall be responsible for having determined to his satisfaction, prior to the submission of his Proposal, the nature and location of the Work, the conformation of the ground, the character and quality of the substrata, the types and quantity of materials to be encountered, the nature of the ground water conditions, the character of equipment and facilities needed preliminary to and during the execution of the Work, the general and local conditions and all other matters which can in any way affect the Work under this Contract. The prices established for the Work to be done will reflect all costs pertaining to the Work.

12. Obstructions

The information and data shown or indicated in the Contract Documents with respect to existing underground utilities at or contiguous to the site and reports of prior property ownership of the site are based on information and data furnished to the County or the Engineer by the owners of such Underground Utilities or others. The County and the Engineer are not responsible for the accuracy or completeness of any such information or data, and the Contractor shall have full responsibility for reviewing and checking all such information and data, for locating all Underground Utilities shown or indicated in the Contract Documents, for coordination of the Work with the owners of such Underground Utilities during construction, for the safety and protection thereof and repairing any damage thereto resulting from the Work, the cost of which will be considered as having been included in the Contract Price.

All water pipes, sanitary sewers, storm drains, force mains, gas mains, or other pipe, telephone or power cables or conduits, pipe or conduit casings, curbs, sidewalks, service lines and all other obstructions, whether or not shown, shall be temporarily removed from or supported across all excavations. Where it is necessary to temporarily interrupt services, the Contractor shall notify the Owner or occupant of such facilities, both before the interruption and again immediately before service is resumed. Before disconnecting any pipes or cables, the Contractor shall obtain permission from their owner, or shall make suitable arrangements for their disconnection by their owner. The Contractor shall be responsible for any damage to any such pipes, conduits or cables, and shall restore them to service promptly as soon as the Work has progressed past the point involved. Approximate locations of known water, sanitary, drainage, natural gas, power, telephone and cable TV installations along the route of new pipelines or in the vicinity of new work are shown, but are to be verified in the field by the Contractor prior to performing the Work. The Contractor shall uncover these pipes, ducts, cables, etc., carefully, by hand, prior to installing his Work. Any discrepancies or differences found shall be immediately brought to the attention of the Engineer in order that necessary changes may be made to permit installation of the Work.

13. Dimensions of Existing Structures

Where the dimensions and locations of existing structures are of critical importance in the installation or connection of new work, the Contractor shall verify such dimensions and locations in the field before the fabrication of any materials or equipment which is dependent on the correctness of such information.

14. Elevation Datum

Datum is shown on the project plans. All elevations on the Drawings or referred to in the Specifications refer to this datum.

15. Work to Conform

During its progress and on its completion, all Work shall conform truly to the lines, levels, and grades indicated on the Drawings or given by the Engineer and shall be built in a thoroughly substantial and workmanlike manner, in accordance with the Contract Documents and the written instructions or written directions given from time to time by the Engineer. In no case shall any Work in excess of the requirements of the Contract documents be paid for unless so approved in writing by an appropriately executed Work Supplement, work directive or written amendment.

All Work done without written instructions having been given by the Engineer, done without proper lines or levels, or done during the absence of the Engineer, or his agent, will not be estimated or paid for except when such Work is authorized in writing by an appropriately executed Work Supplement, work Directive or written amendment. Work so done may be ordered uncovered or taken down, removed and replaced entirely at the Contractor's expense.

16. Location of Proposed Work

Piping and structures to be installed by contractor, will be located substantially as indicated on the Drawings, but the right is reserved by the County, acting through the Engineer, to make such modifications in location as may be found desirable to avoid interference with existing structures or for other reasons. Where fittings, etc., are noted on the Drawings, such notation is for the Contractor's convenience and does not relieve the Contractor from laying and jointing different or additional items where required without additional compensation.

17. Bonds

The bond requirements may be waived where permissible under applicable law.

The successful Bidder shall, upon delivery of the executed Contract to the County, deposit with the County a Public Construction Bond, in the form included in these documents, providing for the satisfactory completion of the Work and providing security for payment of all persons performing labor in connection with this Contract. Such bond shall be furnished in an amount equal to 100% of the amount of the Contract award as security for the faithful performance and payment of all Contractors' obligations under the Contract Documents and shall be recorded by Contractor in the public records of Palm Beach County. The form and conditions of the Bond and the Surety shall be acceptable to the County. As soon as possible after award of the contract, successful bidder shall deliver to County a certified copy of the recorded Public Construction Bond or, when applicable, the recorded Payment and Performance bonds. **No payment will be made for work performed under this contract until a certified copy of the appropriate bond(s) has been delivered to County.**

The bond shall be written by a Surety Company of recognized standing, licensed to do business in the State of Florida, and having a resident agent in the State of Florida. The Surety Company shall hold a current certificate of authority as acceptable surety on Federal Bonds in accordance with U.S. Department of Treasury, Fiscal Service, Bureau of Government Financial Operations, Circular 570, current revision, entitled, "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies". The bond shall be executed by an Attorney-in-Fact for the Surety Company with a certified copy of his Power of Attorney attached to the Bonds.

The bonding limit of the Surety Company shall not exceed the limits indicated in the U.S. Department of Treasury listing unless the Surety Company submits a "reinsurance agreement form" indicating the amount above the bonding limit is insured by another Surety Company also on the U.S. Department of Treasury listing.

If the Surety Company on any Bond furnished to the County is declared, upon notification of the Insurance Agent, as bankrupt or becomes insolvent or its right or license to do business is terminated

in the State of Florida, or it ceases to meet any of the requirements stated herein, the Contractor shall within ten (10) working days thereafter substitute another Bond and Surety Company at no cost to the County, both of which must be acceptable to the County. If the project is declared more than 90% complete by the Engineer and the County at the time of the Surety's bankruptcy or insolvency, the Contractor may, at the County's option, obtain a Maintenance Bond in the amount of 100% of the project cost, for the one (1) year warranty period after project completion. The Maintenance Bond shall be submitted on the form provided by the County and shall comply with all of the requirements for Public Construction Bond stated herein.

Failure by the Contractor to substitute satisfactory Bonds under this section shall result in any or all of the following actions by the County:

1. Withholding of all applications for payment until satisfactory bonds are received and accepted, and/or;

2. Default in the Contract and cancellation as provided for in the Contract's default clause, and/or;

3. Suspension of the Contractor's name from the County's bid list for a period of not less than three (3) years from the date of Surety or Contract default.

18. Contractor's Insurance

Unless otherwise specified in this Contract or granted by County's Risk Management Department, the Contractor shall, at its sole expense, maintain in full force and effect at all times during the life of this contract or the performance of work hereunder, insurance coverage as described herein at limits, including endorsements, set forth in the Insurance Coverage & Limit Table below. Contractor shall deliver to Owner Certificate(s) of insurance evidencing that such policies are in full force and effect, not later than fourteen (14) calendar days after receipt of Notification of Intent to Award, but in any event, prior to execution of the Contract by Owner and prior to commencement of work on the project. Such certificate(s) shall adhere in every respect to the conditions set forth herein.

The requirement contained herein as to types and limits, as well as County's approval of insurance coverage to be maintained by Contractor are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by Contractor under the Contract.

COMMERCIAL GENERAL LIABILITY Contractor shall agree to maintain a standard ISO version Commercial General Liability policy form, or its equivalent providing coverage for, but not be limited to, Bodily Injury and Property Damage, Premises/Operations, Products/Completed Operations, Independent Contractors, Contractual Liability, Broad Form Property Damage, X-C-U Coverages (if applicable), Severability of Interest including Cross Liability, and be in accordance with all of the limits, terms and conditions set forth herein. Contractor agrees this coverage shall be provided on a primary basis.

BUSINESS AUTOMOBILE LIABILITY Contractor shall agree to maintain a standard ISO version Business Automobile Liability coverage form, or its equivalent, providing coverage for all owned, non-owned and hired automobiles, and in accordance with all of the limits, terms and conditions set forth herein. Contractor agrees this coverage shall be provided on a primary basis. Notwithstanding the foregoing, should the Contractor not own any automobiles, the business auto liability requirement shall be amended to allow the Contractor to agree to maintain only Hired & Non-Owned Auto Liability. This amended coverage requirement may be satisfied by way of endorsement to the Commercial General Liability, or separate Business Auto Coverage form.

WORKER'S COMPENSATION & EMPLOYER'S LIABILITY Contractor shall agree to maintain Worker's Compensation Insurance & employer's liability, including Federal Act endorsement for U.S.

Longshoremen's and Harbor Workers Act when any work is on or contiguous to navigable bodies of U.S. waterways and ways adjoining, covering all of its employees on the work site. This coverage shall be accordance with all of the limits, terms and conditions set forth herein. Exemptions for a Contractor in or doing work in the Construction Industry, or proof of worker's compensation coverage provided by an employee leasing arrangement shall not satisfy this requirement. If any work is sublet Contractor shall require all subcontractors to similarly comply with this requirement unless such subcontractors' employees are covered by Contractor's Worker's Compensation insurance policy. Contractor agrees this coverage shall be provided on a primary basis.

ADDITIONAL REQUIRED INSURANCE WHEN WORK INVOLVES: The Contractor shall agree to maintain the following additional required insurance coverages with respect to any work involving property, operations, or type of equipment for which each insurance coverages described below have been designed specifically to provide coverage for:

WATERCRAFT LIABILITY With respect to any of the work hereunder involving watercraft owned, hired, or borrowed, the Contractor shall agree to maintain Protection and Indemnity, or similar Watercraft Liability. Coverage shall be included either way of endorsement under the Commercial General Liability or by separate watercraft liability insurance and be in accordance with all of the limits, terms and conditions set forth herein. Contractor agrees this coverage shall be provided on a primary basis.

AIRCRAFT LIABILITY With respect to any of the work involving (fixed wing or helicopter) aircraft owned, hired, or borrowed, the Contractor shall agree to maintain Aircraft Liability. Passenger Liability shall be include when persons other than the pilot and crew are occupying the aircraft. Coverage shall be in accordance with all of the limits, terms and conditions set forth herein. Contractor agrees this coverage shall be provided on a primary basis.

BUILDERS RISK With respect to any of the work involving the construction of real property (buildings and improvements other than buildings) during the construction project, the Contractor shall maintain Builders Risk insurance providing coverage for the entire work at the project site, and will also cover portions of work located away from the site but intended for use at the site, and will also cover portions of the work in transit. Coverage shall be written on a All-Risk, Replacement Cost, and Completed Value Form basis in an amount at least equal to the projected completed value of the project as well as subsequent modifications of that sum. If a sublimit applies to the perils of wind or flood, the sublimit shall not be less than 25% of the projected completed value of the project. The deductible shall not exceed $10,000, nor shall a wind percentage deductible, when applicable, exceed five percent (5%).

Partial Occupancy or use of the work shall not commence until insurance company or companies providing insurance as required have consented to such partial occupancy or use. Contractor shall take reasonable steps to notify and obtain consent of the insurance company or companies, and agree to take no action, other than upon mutual consent, with respect to occupancy or use of the work that could lead to cancellation, lapse, or reduction of insurance.

The coverage shall be kept in force until Substantial Completion has been obtained, or until no one but the County has any property interest in the project, or until Contractor and County mutually consent to the termination, whichever occurs first. The Contractor agrees and understands the County shall not provide any Builder's Risk insurance on behalf of Contractor for loss or damage to work, or to any other property of owned, hired, or borrowed by the Contractor. In addition, the Contractor agrees that they shall be responsible for all policy deductibles.

INLAND MARINE/TRANSIT INSURANCE. With respect to property with values in excess of $100,000 which is rigged, hauled or situated at the site pending installation, the Contractor shall agree to maintain inland marine property/transit insurance provided the coverage is not afforded by a Builders Risk policy. Coverage shall be provided in accordance with all of the limits, terms and conditions set forth herein. Contractor agrees this coverage shall be provided on a primary basis. The coverage shall be kept in force

until Substantial Completion has been obtained, or until no one but the County has any property interest in the project, or until Contractor and County mutually consent to the termination, whichever occurs first. The Contractor agrees and understands the County shall not provide any inland marine or transit insurance on behalf of Contractor for loss or damage to work, or to any other property of owned, hired, or borrowed by the Contractor. In addition, the Contractor agrees that they shall be responsible for all policy deductibles.

SATISFYING LIMITS UNDER AN UMBRELLA POLICY: If necessary, the Contractor may satisfy the minimum limits required above for either Commercial General Liability, Business Auto Liability, and Employer's Liability coverage under an Umbrella or Excess Liability. The underlying limits may be set at the minimum amounts required by the Umbrella or Excess Liability provided the combined limits meet at least the minimum limit for each required policy. The Umbrella or Excess Liability shall have an Annual Aggregate at a limit not less than two (2) times the highest per occurrence minimum limit required above for any of the required coverages. The County shall be specifically endorsed as an "Additional Insured" on the Umbrella or Excess Liability, unless the Umbrella or Excess Liability provides continuous coverage to the underlying policies on a complete "Follow-Form" basis without exceptions and stated as such on the Certificate of Insurance.

ADDITIONAL INSURED The Contractor agrees to endorse the County as an Additional Insured on each insurance policies required to be maintained by the Contractor, except for Worker's Compensation and Business Auto Liability. The CG 2026 Additional Insured - Designated Person or Organization endorsement, or its equivalent, shall be endorsed to the Commercial General Liability. Other policies, when required, such as for watercraft, aircraft, builder's risk or transit insurance, shall provide a standard Additional Insured endorsement offered by the insurer providing coverage with respect to liability arising out of the operations of the Contractor. The endorsement shall read "Palm Beach County Board of County Commissioners". The Contractor shall agree the Additional Insured endorsements provide coverage on a primary basis. Endorsement shall be in accordance with all of the limits, terms and conditions set forth herein.

LOSS PAYEE The Contractor shall agree to endorse the County as a Loss Payee on the Builder's Risk and Inland Marine/Transit Insurance, when required to be maintained by the Contractor. The Loss Payee endorsement shall read "Palm Beach County Board of County Commissioners." Endorsement shall be in accordance with all of the limits, terms and conditions set forth herein. The Contractor shall agree the Loss Payee endorsement provides coverage on a primary basis.

WAIVER OF SUBROGATION The Contractor shall agree by entering into this Contract to a Waiver of Subrogation for each required policy providing coverage during the life of this Contract. When required by the insurer or should a policy condition not permit an Insured to enter into an pre-loss agreement to waive subrogation without an endorsement, then the Contractor shall agree to notify the insurer and request the policy be endorsed with a Waiver of Transfer of Rights of Recovery Against Others, or its equivalent. This Waiver of Subrogation requirement shall not apply to any policy, which a condition to the policy specifically prohibits such an endorsement, or voids coverage should the insured enter into such an agreement on a pre-loss basis. The Waiver of Subrogation shall be in accordance with all of the limits, terms and conditions set forth herein.

RIGHT TO REVIEW & ADJUST The Contractor shall agree, notwithstanding the foregoing, the County, by and through its Risk Management Department, in cooperation with the Department, reserves the right to periodically review, reject or accept all required policies of insurance, including limits, coverages, or endorsements, hereunder from time to time throughout the life of this Contract. Furthermore, the County reserves the right to review and reject any insurer providing coverage because of poor financial condition or because it is not operating legally. In such event, County shall provide Contractor written notice of such adjusted limits and Contractor shall agree to comply within thirty (30) days of receipt thereof and to be responsible for any premium revisions as a result of any such reasonable adjustment.

NO REPRESENTATION OF COVERAGE ADEQUACY: The coverages and limits identified in the table have been determined to protect primarily interests of the County only, and the Contractor agrees in no way should the coverages and limits in the table be relied upon when assessing the extent or determining appropriate types and limits of coverage to protect the Contractor against any loss exposures, whether as a result of the construction project or otherwise.

CERTIFICATE OF INSURANCE Certificates of Insurance must provide clear evidence that Contractor's Insurance Policies contain the minimum limits of coverage and terms and conditions set forth herein. A minimum thirty (30) day endeavor to notify due to cancellation or non-renewal of coverage shall be identified on the Certificate.

In the event the County is notified that a required insurance coverage will cancel or non-renewed during the period of this Contract, the Contractor shall agree to furnish at least thirty (30) days prior to the expiration of such insurance, an additional certificate of insurance as proof that equal and like coverage for the balance of the period of the Contract and any extension thereof is in effect. Contractor shall agree not continue to work pursuant to this Contract unless all required insurance remains in effect. The County shall have the right, but not the obligation, of prohibiting Contractor or any subcontractor from entering the project site until such certificates or other evidence that insurance has been placed in complete compliance with these requirements is received and accepted by the County. The County reserves the right to withhold payment, but not the obligation, to Contractor until coverage is reinstated. If the Contractor fails to maintain the insurance as set forth herein, the County shall have the right, but not the obligation, to purchase said insurance at Contractor's expense.

ADDITIONAL REQUIREMENTS FOR CERTIFICATES OF INSURANCE

1. Shall clearly identify Palm Beach County, a political subdivision of the State of Florida, its officers, agents and employees as Additional Insured for all required insurance coverages, except Workers Compensation and Business Auto Liability.

2. Shall clearly indicate project name and project number to which it applies.

3. Shall clearly indicate a minimum ten (10) day endeavor to notify requirement in the event of cancellation or non-renewal of coverage.

4. Evidence of renewal coverage must be provided at least fourteen (14) days in advance of any policy that may expire during the term of this Contract.

5. Shall clearly identify Palm Beach County, Board of County Commissioners endorsed as a Loss Payee on the Builders Risk and any Inland Marine coverages.

6. Contractor shall deliver original Certificate(s) of Insurance to the following Certificate Holder address:

   Palm Beach County
   Water Utilities Department
   Director Utilities Engineering
   8100 Forest Hill Boulevard
   West Palm Beach, FL 33413

   The County will correspond directly with Contractor to convey insurance deficiencies, policy renewal requests and any other insurance documentation needed in order to establish full compliance with the insurance requirements of the contract. In the event that County elects to utilize a third-party for insurance tracking, County will provide notice to Contractor of said election and relevant address information.

DEDUCTIBLES, COINSURANCE PENALTIES, & SELF-INSURED RETENTION The Contractor shall agree to be fully and solely responsible for any costs or expenses as a result of a coverage deductible, coinsurance penalty, or self-insured retention; including any loss not covered because of the operation of such deductible, coinsurance penalty, or self-insured retention.

SUBCONTRACTOR'S INSURANCE: The Contractor shall agree to cause each subcontractor employed by Contractor to purchase and maintain insurance of the type specified herein, unless the Contractor's insurance provides coverage on behalf of the subcontractor. When requested by the County, the Contractor shall agree to obtain and furnish copies of certificates of insurance evidencing coverage for each subcontractor.

INSURANCE COVERAGE & TABLE The Contractor shall agree to maintain the coverages, endorsements, and limits of liability in accordance with and set forth by the Insurance Coverage & Table below:

INSURANCE COVERAGE & LIMIT TABLE			
TYPE OF COVERAGE	**CONTRACTS LESS THAN $500,000**	**CONTRACTS $500,000 OR MORE**	**COVERAGE REQUIRED THIS CONTRACT**
COMMERCIAL GENERAL LIABILITY: Limit of Liability not less than: Additional Insured endorsement required:	$500,000 per occurrence Yes	$1,000,000 per occurrence Yes	Yes
COMPREHENSIVE AUTO LIABILITY: Limit of Liability not less than:	$500,000 per occurrence	$1,000,000 per occurrence	Yes
WORKERS COMPENSATION & EMPLOYER'S LIABILITY: Coverage not less than: Employers Liability Limits:	Statutory $100/500/100		Yes
WATERCRAFT LIABILITY: *Limit of Liability not less than:* *Additional Insured endorsement required:*	*$5,000,000* *per occurrence* *Yes*		No
AIRCRAFT LIABILITY: When used to carry passengers (excluding aircraft's crew) coverage for Passenger Liability not less than:	$1,000,000 per passenger		No

INSURANCE COVERAGE & LIMIT TABLE		
Additional Insured endorsement required:	Yes	
INLAND MARINE/TRANSIT COVERAGE: Limit not less than: Additional Insured & Loss Payee endorsements required:	Highest value exposed during the construction project. Yes	Yes
BUILDERS RISK: Limit not less than: Endorsement to waive coverage termination from Occupancy Clause. Endorsement cover until final acceptance of the project by Certificate of Occupancy by the Owner. Additional Insured & Loss Payee endorsements required:	The total project completed construction value as well as subsequent modifications to that sum. Yes Yes Yes	No

19. Contractor's Responsibility

The Contractor shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. The County and the Contractor have agreed to use a partnering cooperative approach to problem solving (See Instruction to Bidders 8.0). The Contractor shall be solely and wholly responsible for the means, methods, techniques, sequences, and procedures of construction and safety precautions and programs incidental thereto. The Contractor shall be responsible to see that the finished Work complies accurately with the Contract Documents and for the good condition of the Work and materials until Final Acceptance by the County. The Contractor shall bear all losses resulting on account of the weather, fire, the elements, or other causes of every kind or nature prior to Final Acceptance.

The Contractor shall designate in writing and keep on the Work site at all times during progress of the Work, a technically qualified construction manager, who shall not be replaced without prior written notice to the County and the Engineer. The construction manager shall be the Contractor's representative at the site and shall have full authority to act on behalf of the Contractor. All communications given to the construction manager shall be as binding as if given to the Contractor. The Contractor shall issue all its communications to the County through the Engineer.

The Contractor's construction manager shall be present at the site of the Work at all times while Work is in progress. Failure to observe this requirement shall be considered as suspension of the Work by the Contractor until such time as a construction manager is again present at the site.

All materials shall be supplied and the Work shall be done in accordance with the rules, requirements, regulations and directives of various Building Departments and such other State, County, or City Departments having jurisdiction over the same and in accordance with the requirements of the representatives of the mortgagee or mortgagees, if any, or any other governmental bureau,

agency, or department interested in this job either directly or indirectly. Contractor shall be responsible for making himself aware of any laws or ordinances which may affect Contractor's access to the project, the times of day when Contractor may perform the work, or in any other way affect Contractor's performance of the Work. County will not be liable to Contractor for any action of any other governmental or private entity or agency which impacts Contractor's costs or schedule for completing the Work.

Except as otherwise provided in this Article, the Contractor shall receive no additional compensation for overtime work, i.e., work in excess of eight (8) hours in any one calendar day or forty (40) hours in any one calendar week, even though such overtime work may be required under emergency conditions and may be ordered by the Engineer in writing. Additional compensation will be paid to the Contractor for overtime work only in the event extra work is ordered by the Engineer and the Work Supplement specifically authorizes the use of overtime work and then only to such extent as overtime wages are regularly being paid by the Contractor for overtime work of a similar nature in the same locality.

All costs of field observations, inspection and testing performed by the Engineer during overtime work by the Contractor which is allowed solely for the convenience of the Contractor shall be borne by the Contractor, based upon Engineer's salary rates plus fringe benefits, overhead, profit and indirect costs in accordance with the terms of the Engineer's Contract with the County. The County shall have the authority to deduct the cost of all such inspection and testing from any partial payments otherwise due to the Contractor.

Unless otherwise specified in the Contract Documents, the Contractor shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, drainage, sanitary facilities, and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up, and Final Completion of the Work. In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, Contractor, without special instruction or authorization from Engineer or County, is obligated to act to prevent threatened damage, injury or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If Engineer determines that a change in the Contract Documents is required because of the action taken in response to an emergency, a Work Directive or Work Supplement will be issued to document the consequences of the changes or variations.

20. Discontinuance of Construction

The Contractor agrees and guarantees to perform the above mentioned Work in accordance with the terms stated herein, irrespective of any strikes, lockouts, or stoppages, and the Contractor shall not employ men, means, materials, or equipment which may cause strikes, work stoppages, or any disturbances by workmen employed by the Contractor.

In the event the County is prevented from proceeding with any or all of this Work as stated in this Contract, due to a declaration of war, or national emergency, by the United States government, whereas the construction of the type contracted for herein is specifically prohibited by statute or governmental edict, or due to the stoppage of construction caused by any governmental agency, State, City, Town, or County regulations, orders, restrictions, or due to circumstances beyond the County's control, then the County herein reserves the right to either suspend the Work to be done for an indefinite period of time or to cancel this Contract outright by giving notice by registered mail of such intention to the Contractor herein. In the event of any conditions above mentioned occurring after the Work herein has already been commenced, then the County herein shall be liable for only the cancellation or suspension without the addition of prospective profits or other charges whatsoever.

21. Guarantee

The Contractor guarantees that the Work and service to be performed under the Contract and all workmanship, materials, and equipment performed, furnished, used, or installed in the Work shall be free from defects and flaws, and shall be performed and furnished in strict accordance with the Contract Documents; that the strength of all parts of all manufactured equipment shall be adequate and as specified; and that performance test requirements of the Contract shall be fulfilled. The Contractor shall remedy all defects in the Work and shall repair, correct, or replace all damage to the other Work, persons or property resulting from failures covered by the guarantee. The guarantee shall remain in effect for one (1) year from the date of final acceptance unless a longer period is specified. The County shall give notice of observed defects with reasonable promptness. Unremedied defects identified for correction during the guarantee period but remaining after its expiration shall be considered as part of the obligations of the guarantee. Defects in material, workmanship, or equipment which are remedied as a result of obligations of the guarantee shall subject the remedied portion of the Work to an extended guarantee period of one (1) year after the defect has been remedied. The Surety shall be bound with and for the Contractor in the Contractor's faithful observance of the guarantee.

22. Field Layout of Work

All Work under this Contract shall be constructed in accordance with the lines and grades shown on the Contract Drawings or as approved by the Engineer in writing. Elevation of existing ground, structures and appurtenances are believed to be reasonably correct but are not guaranteed to be absolute and therefore are presented only as an approximation.

All survey work for construction control purposes shall be made by a land surveyor registered in the State of Florida with demonstrated experience in the project area who shall be employed by the Contractor at his expense. The Contractor shall establish all base lines for the location of the principal component parts of the Work together with permanent benchmarks and temporary bench marks adjacent to the Work. Based upon the information provided by the Contract Drawings, the Contractor shall develop and make all detail surveys necessary for construction including establishment or construction of grid coordinates as shown on the Contract Drawings, location of property boundaries, stakes for all working points, lines and elevations.

The Contractor shall have the responsibility to carefully preserve all benchmarks, reference points and stakes. In case of destruction thereof by the Contractor resulting from his negligence, or for any other reason, he shall be held liable for any expense and damage resulting there from and shall be responsible for any mistakes that may be caused by the unnecessary loss or disturbance of such bench marks, reference points and stakes. Existing or new control points, property markers, and monuments that will be established or are destroyed during the normal causes of construction shall be re-established by the Contractor; and all reference ties recorded shall be furnished to the Engineer. All computations necessary to establish the exact position of the Work shall be made and preserved by the Contractor.

23. Specifications

Where any materials, articles, items, equipment, or processes are specified by one or more trade or brand names, the substitution of unnamed materials, articles, items, equipment, or processes will not be allowed. Where the words "equivalent", "proper", "equal to", or "or Equal" are used, they shall be understood to mean that the referred to materials, items, equipment, articles or processes shall be the equivalent of, or equal to some other materials, items, equipment, articles or processes in the opinion or judgment of the Engineer. Unless otherwise specified, all materials, items, equipment, articles or processes shall be the best of their respective kinds and shall be in all cases, fully equal to samples acceptable to the Engineer. Even though the words "or equal" or other such expressions may be used in the Specifications, unless a substitute is accepted in writing by the Engineer, the Engineer shall have the right to require the use of such specifically designated material, equipment, items, articles or processes named in the Specifications.

24. Handling and Distribution

The Contractor shall, at his own expense, handle, haul and distribute all materials and all surplus materials on the different portions of the Work, as necessary. Suitable and adequate storage room for materials and equipment shall be furnished until the Final Acceptance of the Work.

Storage charges and demurrage charges by transportation companies and vendors, which result from delays in handling, shall be borne by the Contractor.

25. Storage of Materials

Suitable storage facilities shall be furnished by the Contractor. All materials, supplies and equipment intended for use in the Work shall be stored by the Contractor in accordance with the recommendations of the associated manufacturer or supplier to prevent damage from exposure, contamination by foreign substances, or vandalism. The Engineer may refuse to accept, or sample for testing, materials, supplies, or equipment that have been improperly stored. Materials, supplies and equipment found unfit for use shall not be incorporated in the Work and shall immediately be removed from the construction or storage site and replaced at no cost to the County.

Should the Contractor build temporary structures for housing workers, tools, machinery and supplies, they shall be permitted only at places acceptable under Local codes, Ordinances, Laws, Rules, and Regulations, and their surroundings shall be maintained at all times in a satisfactory and sanitary manner. On or before the completion of the Work, all such structure shall be removed in their entirety, together with all rubbish and trash, at the expense of the Contractor.

The Contractor shall, at its own expense, handle, haul and distribute all materials and all surplus materials on the different portions of the Work, as necessary. Suitable and adequate storage room for materials and equipment shall be furnished until the Final Acceptance of the Work.

Storage charges and demurrage charges by transportation companies and vendors, which result from delays in handling, shall be borne by the Contractor.

26. Salvaged Materials

In the absence of special provisions to the Contract, salvaged materials, equipment or supplies that occur are the property of the County and shall be stored as directed by the Engineer, or shall be properly disposed of by the Contractor at his sole cost, if directed by the Engineer.

27. Subcontracts

As soon as practical after execution of the Contract, the Contractor shall notify the Engineer and request approval in writing, of the use of subcontractors proposed for the Work and shall not employ any that the Engineer may, within a reasonable time, determine are not performing the work in strict conformance with the Contract Documents, or approved changes thereto.

The Contractor agrees that he is as fully responsible to the County for the acts and omissions of his subcontractors and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

Nothing contained in the Contract Documents shall create any contractual relation between any subcontractor and the County.

The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to bind subcontractors to the Contractor by the terms of the General Conditions, the Supplemental

General Conditions and other Contract Documents insofar as applicable to the Work of subcontractors, and to give the Contractor the same power as regards to terminating any subcontract that the County may exercise over the Contractor under any provision of the Contract Documents. The Contractor shall only Contract with bondable Subcontractors if the Subcontractor is performing work that represents more than 15% of the Work.

28. Permits

The Contractor shall, obtain all necessary permits, licenses, royalties, inspections and certificates pertaining to the Work and shall comply with all Federal, State, Municipal and local laws, ordinances, rules, regulations, orders, notices and requirements, whether or not provided by the Drawings, Specifications, General Conditions or other parts of the Contract Documents without additional charge or expense to the County and shall also be responsible for and correct at its own cost and expense, any violations thereof resulting from and in connection with its performance of the Work.

29. Employees

All labor described in these Specifications or indicated on the Drawings and the Work specified or indicated shall be executed in a thoroughly substantial and workmanlike manner by mechanics skilled in the applicable trades.

Any person employed on the Work who fails, refuses or neglects to obey the instructions of the Construction Manager in anything relating to this Work, or who appears to the Construction Manager to be disorderly, intoxicated, insubordinate, unfaithful or incompetent, shall upon the order of said Construction Manager, be at once discharged and not again employed in any part of the Work. Any interference with, or abuse or threatening conduct toward the Engineer or his inspectors by the Contractor or his employees or agents, shall be authority for the County to annul the Contract and re-let the Work. No intoxicating substance shall be allowed on the Work.

30. Florida Products and Labor

The Contractor's attention is called to Section 255.04, Florida Statutes, which requires that on public building contracts, Florida products and labor shall be used wherever price and quality are equal.

31. Equal Employment Opportunity

The Contractor warrants and represents that all of its employees or applicants for employment are treated equally without regard to race, color, religion, disability, sex, age, national origin, ancestry, marital status, familial status, sexual orientation, gender identity or expression, or genetic information. Such action shall include but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

32. Sanitary Regulations

The Contractor shall provide adequate sanitary conveniences for the use of those employed on the Work. Such conveniences shall be made available when the first employees arrive on the Work, shall be properly secluded from public observation, and shall be constructed and maintained in suitable numbers and at such points and in such a manner as may be required by Local codes, Ordinances, Laws, Rules and Regulations.

The Contractor shall maintain the sanitary facilities in a satisfactory and sanitary condition at all times and shall enforce their use. He shall prohibit the committing of nuisances on the site of the Work, on the lands of the County, or on adjacent property.

The County and the Engineer shall have the right to inspect any building or other facility erected, maintained, or used by the Contractor, to determine compliance with these Sanitary Regulations.

33. Taxes

The Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by the Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

34. Contractor's Use of Premises

The Contractor's use of the project site shall be limited to its construction operations, including on-site storage of materials, on-site fabrication facilities, and field offices.

35. Accident Prevention

No laborer or mechanic employed in the performance of this Project shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health or safety as determined under construction safety and health standards promulgated by the Secretary of Labor.

The Contractor shall appoint a qualified and experienced safety representative and shall exercise proper caution at all times for the protection of persons and property and shall be responsible for all damage to persons or property, either on or off the work site, which occur as a result of his prosecution of the Work. The safety provisions of applicable laws and building and construction codes shall be observed and the Contractor shall take or cause to be taken such additional safety and health measures as the Local Public Agency involved may determine to be reasonably necessary. Machinery, equipment and all hazards shall be guarded in accordance with the safety provisions of the "Manual of Accident Prevention in Construction" as published by the Associated General Contractors of America, Inc., to the extent that such provisions are not in conflict with applicable laws.

The Contractor shall maintain an accurate record of all cases of death, occupational disease, or injury requiring medical attention or causing loss of time from work, arising out of and in the course of employment on Work under the Contract. The Contractor shall promptly furnish the Local Public Agency with reports concerning these matters.

The Contractor shall indemnify and save harmless the County and the Engineer from any claims for damages resulting from property damage, personal injury and/or death suffered or alleged to have been suffered by any person as a result of any Work conducted under this Contract.

36. Precautions During Adverse Weather

During adverse weather, and against the possibility thereof, the Contractor shall take all necessary precautions to insure that the Work shall be done in a good and workmanlike condition and is satisfactory in all respects. When required, protection shall be provided by the use of tarpaulins, wood and building paper shelters, or other acceptable means. The Contractor shall be responsible for all changes caused by adverse weather, including unusually high winds and water levels and he shall take such precautions and procure such additional insurance as he deems prudent.

The Contractor may suspend construction operations at any time when, in his judgment, the conditions are unsuitable or the proper precautions are not being taken, whatever the weather or water level conditions may be, in any season.

37. Indemnification

Contractor shall indemnify and hold harmless the County, its officers and employees, from liabilities, damages, losses and costs, including, but not limited to, reasonable attorney's fees, to the extent caused by the negligence, recklessness, or intentional wrongful misconduct of the indemnifying party and persons employed or utilized by the indemnifying party in the performance of the construction contract

38. Non-assignable

This Contract, any monies due hereunder, or any part thereof, shall not be assigned, transferred, or sublet by Contractor, nor shall County be liable to any assignee or transferee, or sublease, without the written consent of the County, and without consent to the assignment, transfer, or sublease, the County shall not release or discharge Contractor from any obligation hereunder. County shall not consider its approval to an assignment unless the Surety on the Contract Public Construction Bond has informed the County in writing that it consents to the assignment.

39. Venue

This Contract shall be governed by the laws of the State of Florida as now and hereafter in force. The venue for actions arising out of this Contract shall be in a state court of competent jurisdiction located in Palm Beach County, Florida.

40. Confidentiality

In the performance of the Work, the Contractor may be exposed to the confidential information of the County and others. The Contractor shall not disclose to anyone not employed by the County nor use, except on behalf of the County, any such confidential information acquired by it in the performance of the Work except as authorized by the County in writing and, regardless of the term of this Contract, the Contractor shall be bound by this obligation until such time as said confidential information shall become part of the public domain. Information regarding all aspects of the County's business and information concerning the Work (either directly or indirectly disclosed to it or developed by it in the performance of the Work) shall be presumed to be confidential except to the extent that same shall have been published or otherwise made freely available to the general public without restriction. The Contractor also agrees that it will not disclose to the County any information it holds subject to any obligation or confidence to any third persons or parties.

41. Work by Others

The County may perform additional Work related to the Project by itself, or he may let other direct contracts which shall contain General Conditions similar to these. The Contractor shall afford the other contractors who are parties to such direct contracts (or the County, if it is performing the additional work himself), reasonable opportunity for the introduction and storage of materials and equipment and the execution of the Work, and shall properly connect and coordinate his Work with theirs.

If any part of the Contractor's Work depends on proper execution or results upon the Work of any such other contractor (or County), the Contractor shall inspect and promptly report to the Engineer, in writing, any defects or deficiencies in such Work that render it unsuitable for such proper execution and results. His failure to so report shall constitute an acceptance of the other Work as fit and proper for the reception

of his Work except as to defects and deficiencies, which may appear in the other Work after the execution of the Work under this Contract.

The Contractor shall do all cutting, fitting and patching of his Work that may be required to make its several parts come together properly and fit it to receive or be received by such other Work. The Contractor shall not endanger any Work of others by cutting, excavating or otherwise altering their Work and will only cut or alter their Work with the written consent of the Engineer and of the other contractors whose Work will be affected.

If the performance of additional Work by other contractors or the County is not noted in the Contract Documents prior to the execution of the Contract, written notice thereof shall be given to the Contractor by the Engineer prior to starting any such additional Work.

42. Engineer's Responsibility

The supervision of the execution of this Contract is vested wholly in the Contractor. The orders, instructions, directions, or requests of the County are to be given through the County's Engineer. The County's Engineer shall transmit them promptly to the Contractor as coming from the County and originating in the County. The Contractor shall designate a representative to receive such instructions, directions or requests in his absence and, failing to do so, will be held responsible for the execution of them.

The Engineer shall have the authority to suspend the Work wholly or in part for such period or periods as may be deemed necessary due to failure on the part of the Contractor to carry out orders given to perform any or all provisions of the Contract. This right of the Engineer to stop the Work shall not give rise to any duty on the part of the Engineer to exercise this right for the benefit of the Contractor or any other party. The Contractor shall not suspend the Work and shall not remove any equipment, tools, lumber or other materials without the written permission of the County's Engineer.

The County's Engineer shall have free access to the materials and the Work at all times for measuring or observing the same, and the Contractor shall afford him all necessary facilities and assistance for so doing.

After written authorization to proceed with the Work, the Engineer shall:

1. Make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents; not be responsible for the construction means, methods, procedures, techniques and sequences of construction and will not be responsible for the Contractor's failure to perform the construction Work in accordance with the Contract Documents; not be responsible for safety precautions and procedures in connection with the Work; and during such visits and on the basis of on-site observations, as an experienced and qualified design professional, will keep the County informed of the progress of the Work, will endeavor to guard the County against defects and deficiencies in the Work of the Contractor and may reject Work as failing to conform to the Contract Documents.

2. Issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as the Engineer may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents.

3. Review samples, catalog data, schedules, shop drawings, laboratory, shop and mill tests of materials and equipment and other data, which the Contractor is required to

submit, only for conformance with the design concept of the project and compliance with the information given by the Contract Documents, and assemble written guarantees, which are required by the Contract Documents.

4. Consult with and advise the County, act as the County's representative at the project site, issue all instructions of the County to the Contractor and prepare routine Work SupplementsChanre as required.

5. Based on on-site observations, as an experienced and qualified design professional and on the review of the Contractor's applications for payment, determine the amount owing to the Contractor and approve in writing payment to the Contractor in such amounts; such approvals of payment to constitute a representation to the County, based on such observations and review of data comprising such applications, that the Work has progressed to the point indicated and that, to the best of its knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents, subject to the results of any subsequent tests called for in the Contract Documents and any qualifications stated in the approval. Such partial and final payments will be as specified elsewhere herein except as modified in this paragraph.

6. Conduct, in the company of the County, a final inspection and an "eleventh month inspection" of the Project for conformance with the design concept of the project and compliance with the information given by the Contract Documents, and recommend to the County, in writing, acceptance of the Project for ownership and final payment to the Contractor in accordance with Article 59 "Final Payment and Acceptance."

The Engineer will be the initial interpreter of the requirements of the Contract Documents.

Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). The Engineer has agreed to participate in the use of a partnering cooperative approach to problem solving.

Neither the Engineer's authority to act under this Article or other provisions of the Contract Documents nor any decision made by the Engineer, in good faith either to exercise or not exercise such authority, shall give rise to any duty or responsibility of the Engineer to the Contractor, any Subcontractor, any Supplier, any Surety, or any other person or organization performing any of the Work.

Whenever in the Contract Documents the terms "as ordered", "as directed", "as required", "as allowed", "as reviewed", "as approved", or terms of the like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper", or "satisfactory" or adjectives of the like effect or import are used to describe a requirement, direction, review, or judgment of the Engineer as to the Work, it is intended that such requirements, direction, review, or judgment will be solely to evaluate the Work for compliance with the Contract Documents, unless there is a specific statement indicating otherwise. The use of any such term or adjective shall not be effective to assign to the Engineer any duty or authority to undertake responsibility.

The authority and duties of the resident project representative are limited to examining the material furnished, observing the Work done, and reporting their findings to the Engineer. The Engineer does not underwrite, guarantee or insure the Work done by the Contractor. It is the Contractor's responsibility to perform the Work in all details in accordance with the Contract Documents. Failure by the Engineer or by any inspectors or other representatives of the County engaged in on-site observation to discover defects or deficiencies in the Work of the Contractor shall never, under any circumstances, relieve the Contractor from his liability to the County. Inspectors shall have no authority to permit deviations from

or to modify any of the provisions of the Drawings or Specifications without the written permission or instruction of the Engineer.

The Engineer, his representatives, employees, or any resident project representative in employment of the Engineer shall have no authority to supervise, direct, expedite or otherwise control and instruct or order the Contractor or his employees in the fulfillment of the Contractor's obligation. The County's instructions, orders, directions and/or orders to the Contractor shall be given only through the Engineer, or his employees.

The Engineer shall have the authority to disapprove or reject work which the Engineer believes to be defective or that the Engineer believes will not produce a completed project that conforms to the Contract Documents or that will prejudice the integrity of the construction of the completed Project as a functioning whole as indicated by the Contract Documents. The Engineer shall also have the authority to require special inspections or testing of the Work as provided in Article **51** of these specifications, whether the Work is fabricated, installed or completed.

If any Work (including the Work of subcontractors) that is to be inspected, tested or approved is covered without written concurrence of the Engineer, it must, if requested by the Engineer, be uncovered for observation. Such uncovering shall be at the Contractor's sole expense unless the Contractor has given the Engineer timely notice of the Contractor's intention to perform such test or to cover the same and the Engineer has not acted with five (5) days in response to such notice.

If any Work is covered contrary to the written request of the Engineer, it must, if requested by the Engineer, be uncovered for the Engineer's observation and replaced at the Contractor's sole expense.

If the Engineer considers it necessary or advisable that covered Work be observed by the Engineer or inspected or tested by others, the Contractor, at the Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection or testing as the Engineer may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective, the Contractor shall bear all direct, indirect and consequential costs and damages of such uncovering, exposure, observation, inspection and testing and of satisfactory re-construction, including but not limited to fees and charges of engineers, attorneys and other professionals. However if such Work is found not to be defective, the Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and re-construction; and if the parties are unable to agree as to the amount or extent thereof, the Contractor may make a claim as provided in Articles **44** and **49**.

The payment of any compensation, regardless of its character or form, or the giving of any gratuity, or the granting of any valuable favor, directly or indirectly, by the Contractor to any project representative, is strictly prohibited and any such act on the part of the Contractor will constitute a violation of the Contract.

43. Changes in the Work

Without invalidating the Contract and without notice to any Surety, County may, at any time or from time to time, order additions, deletions, or revisions in the Work; these will be authorized by a Written Amendment, a Work Supplement, or a Work Directive Change. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

If County and Contractor are unable to agree on the extent, if any, of an increase or decrease in the Contract Price or an extension or shortening of the Contract Time that should be allowed as a result of a Work Directive Change, a claim may be made thereof as provided in Article **44** or Article **49**.

Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Time with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented as provided, except in the case of an emergency as provided in Article **19**.

County and Contractor shall execute appropriate Work Supplements (or Written Amendments) covering:

A. Changes in the Work which are ordered by County, or are required because of acceptance of defective work under Article **51** or correcting defective Work under Article **53**, or are agreed to in writing by the parties;

B. Changes in the Contract Price or Contract Time which are agreed to in writing by the parties; and,

C. Changes in the Contract Price or Contract Time which embody the substance of any written decision rendered by Engineer pursuant to ADR, provided that, in lieu of executing any such Change Order, Contractor or County may litigate any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such ADR and litigations, Contractor shall carry on with the Work and adhere to the Progress Schedule as provided in Article **49.**

If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Time) is required by the provisions of any Bond to be given to a Surety, the giving of any such notice will be Contractor's responsibility, and the amount of each applicable Bond will be adjusted accordingly.

All changes to the contract must comply to Palm Beach County Board of County Commissioners Resolution R-89-633, any revisions thereto and any other policies enacted by the Board of County Commissioners in relation to contract changes.

44. Change of Contract Price

A. General

1. The Contract price constitutes the total compensation (subject to adjustments authorized in writing) payable to Contractor for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by Contractor shall be at his expense without change in the Contract Price.

2. The Contract Price may only be changed by a Work Supplement. Any claim for an increase or decrease in the Contract Price shall be based on written notice delivered by the party making the claim to the other party and to the Engineer promptly (but in no event later than thirty (30) days) after occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within sixty (60) days after such occurrence (unless the Engineer allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by claimant's written statement that the amount claimed covers all known amounts (direct, indirect and consequential) to which the claimant is entitled as a result of the occurrence of said event. Any claim for adjustment in the Contract Price may be determined by ADR if County and Contractor cannot otherwise agree on the amount involved. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this Article.

3. The value of any Work covered by a Work Supplement or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

   a. Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved.

   b. By mutual acceptance of a lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph C.1.

   c. On the basis of the Cost of the Work (determined as provided in paragraphs B.1 and B.2) plus a Contractor's Fee for overhead and profit (determined as provided in paragraphs C.1 and C.2).

B. Cost of the Work

1. The term Cost of the Work means the sum of all costs necessarily incurred and paid by Contractor in the proper performance of the Work. Except as otherwise may be agreed to in writing by County, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph B.2.

   a. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by County and Contractor. Payroll costs for employees not employed full time in the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment compensation, excise and payroll taxes, worker's or workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation pay and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing Work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above to the extent authorized by the County.

   b. Costs of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and supplier's field services required in connection therewith.

   c. Payments made by Contractor to the Subcontractors for Work performed by Subcontractors.

   d. Cost of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys and accountants) employed for services specifically related to the Work.

   e. Supplemental costs including the following:

      (i) The proportion of necessary transportation, travel and subsistence expenses of Contractor's employees incurred in the discharge of duties connected with the Work.

      (ii) Costs, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work, and costs less market value of such items used but not consumed which remain the property of Contractor.

(iii) Rentals of all construction equipment and machinery and the parts thereof whether rented from Contractor or others. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for completion of the Work or any portion thereof for which the equipment, machinery or parts are specifically required.

For special equipment and machinery such as power driven pumps, concrete mixers, trucks, front-end loaders, backhoes, and tractors, or other equipment required for the economical performance of the authorized Work, the Contractor shall receive payment based on the weekly rate divided by 40 to arrive at an hourly cost. The weekly rate shall be from the latest edition of the Rental Rate Blue Book for Construction Equipment, published by Equipment Guide Book Co., reduced by twenty-five percent (25%). Equipment cost shall be calculated based upon the actual time used on the Work. If said Work requires the use of machinery not on the Work or not to be used on the Work, the cost of transportation, not exceeding a distance of one hundred (100) miles, of such machinery to and from the Work shall be added to the fair rental rate; provided, however, that this shall not apply to machinery or equipment already required to be furnished under the terms of the Contract.

(iv) Sales, consumer, use or similar taxes related to the Work, and for which Contractor is liable, imposed by Laws and Regulations.

(v) The cost of utilities, fuel and sanitary facilities at the site.

(vi) Minor expenses such as telegrams long distance phone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

(vii) Cost of premiums for additional Bonds and insurance required because of changes in the Work and for premiums for property insurance coverage within the limits of the deductible amounts established by County in accordance with Article 18.

2. The term Cost of Work shall not include any of the following:

   a. Payroll costs and other compensation of Contractor's officers, executives, principals (or partnerships and sole proprietorships), general managers, engineers, architects, estimators, attorneys, surveyors, auditors, accountants, purchasing and contract agents, expediters, timekeepers, clerks and other personnel employed by Contractor whether at the site or in Contractor's principal office or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph B.1.a or specifically covered by paragraph B.1.d, all of which are considered administrative costs covered by the Contractor's fee.

   b. Expenses of Contractor's principal and branch offices other than Contractor's office at the site.

   c. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

   d. Cost of premiums for all Bonds and for all insurance whether or not Contractor is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by subparagraph B.1.e.vii above.

e. Costs due to the negligence of Contractor, any subcontractor, or anyone directly or indirectly employed by any of them or for those acts any of them may be liable for, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied and making good any damage to property.

f. Other overhead or general expense costs of any kind and the costs of any items not specifically and expressly included in paragraph B.1.

C. Contractor's Fee

1. The Contractor's Fee allowed for overhead and profit shall be determined as follows:

a. A mutually acceptable fixed fee, or if none can be agreed upon, a fee based on the following percentages of the various portions of the Cost of the Work:

(i) For costs incurred under paragraphs B.1.a and B.1.b, the Contractor's Fee shall be fifteen percent (15%).

(ii) For costs incurred under paragraph B.1.c, the Contractor's Fee shall be five percent (5%); and if a subcontract is on the basis of Cost of the Work plus a Fee, the maximum allowable fee to Contractor on account of overhead and profit of all subcontractors shall be fifteen percent (15%).

(iii) No fee shall be payable on the basis of costs itemized under paragraph B.1.d, B.1.e, and B.2.

(iv) The amount of credit to be allowed by Contractor to County for any such change which results in a net decrease in cost will be the amount of the actual net decrease plus a deduction in Contractor's Fee by an amount equal to ten percent (10%) of the net decrease; and,

(v) When both additions and credits are involved in any one change, the adjustment in Contractor's Fee shall be computed on the basis of the net change in accordance with paragraphs C.1.b.i through C.1.b.iv, inclusive.

2. Whenever the cost of any Work is to be determined pursuant to paragraph B.1 or B.2, Contractor will submit in a form acceptable to the Engineer an itemized cost breakdown together with supporting data.

3. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the established unit prices for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Contract. The estimated quantities of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer. Each Unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

Where the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Contract and there is not a corresponding adjustment with respect to any other item of Work and if Contractor believes that Contractor has incurred additional expense as a result thereof, Contractor may

make a claim for an increase in the Contract Price which may be resolved by ADR if the parties are unable to agree as to the amount of any such increase.

45. Change Procedures

A. Minor Changes:

The Engineer will advise the Contractor, in writing, of minor changes in the Work not involving an adjustment to Contract Price or Contract Time by issuance of a Field Order.

B. Other Changes:

1. The County, through its Engineer may, at any time, without notice to the surety, by written order designated or indicated to be a Work Supplement, make any change in the Work within the general scope of the Contract, including but not limited to changes:

   a. In the Specifications (including drawings and designs);
   b. In the time, method or manner of performance of the Work;
   c. In the County furnished facilities, equipment, materials, services, or site; or
   d. Directing acceleration in the performance of the Work.

2. Any other written order (which terms as used in this paragraph shall include direction, instruction, interpretation, or determination) from the County, which causes any change, shall be treated as a Work Supplement under this clause, provided that the Contractor gives the County written notice not later than ten (10) days after the occurrence of the event giving rise to the claim but prior to incurring any expense stating the date, circumstances, and source of the order and that the Contractor regards the order as a Work Supplement.

3. Except as provided in this Article, no order, statement, or conduct of the County shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment, and this Article shall not allow, nor be construed to allow, a claim otherwise disallowed by the Contract Documents.

4. If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the Work under this Contract, whether or not changed by any order, an equitable adjustment shall be made and the Contract modified in writing accordingly; provided however, that no claim for any change under Paragraph 2 above shall be allowed for any costs unless the Contractor gives written notice as herein required.

5. If the Contractor intends to assert a claim for an equitable adjustment under this clause, it must, within thirty (30) days after receipt of a written Work Supplement under Paragraph 1 above or the furnishing of a written notice under Paragraph 2 above, submit to the County a written statement setting forth the general nature and monetary extent of such claim, unless this period is extended by the County. The statement of claim hereunder may be included in the notice under Paragraph 2 above.

6. No claim by the Contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment under this Contract.

46. Omitted Work

The County may, at any time, by a written order, without notice to the Sureties, require the omission of such Contract Work as it may find necessary or desirable. An order for omission of Work shall be valid only by an executable Work Supplement. All Work so ordered must be omitted by the Contractor. The amount by which the Contract Price shall be reduced shall be determined as follows:

a. By such applicable unit prices, or rates for work of a similar nature or character as set forth in the Contract; or,

b. By the appropriate lump sum price set forth in the Contract; or,

c. By the reasonable and fair estimated cost of such omitted Work as determined by the Contractor and the Engineer, and approved by the County.

47. Changes Not to Affect Bonds

It is distinctly agreed and understood that any changes made in the Contract Documents for Work associated with this Project (whether such changes increase or decrease the amount thereof) or any change in the manner or time of payments or time of performance made by the County to the Contractor shall in no way annul, release or affect the liability and surety on the Bonds given by the Contractor.

If notice of any change is required to be given to a Surety by the provisions of any Bond, the giving of any such notice will be the Contractor's responsibility, and the amount of each applicable Bond shall be adjusted accordingly.

48. Continuing the Work

Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with County. If the Contractor and County are unable to agree, all such disputes may be referred to ADR or litigation. No Work shall be delayed or postponed pending resolution of any disputes or disagreements except as the Contractor and County agree in writing otherwise and County shall continue to make payments in accordance with the Contract Documents.

49. Change of Contract Time

The Contract Time may only be changed by a Work Supplement. Any claim for an extension of the Contract Time shall be based on written notice delivered by the Contractor to the Engineer promptly (but in no event later than 10 days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within thirty (30) days after such occurrence (unless the Engineer allows, in writing, an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the Contractor's written statement that the adjustment claimed is the entire adjustment to which the Contractor has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Time shall be determined by the Engineer in accordance with Article **42** if County and Contractor cannot otherwise agree. No claim for an adjustment in the Contract Time shall be valid if not submitted as previously specified above.

The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of Contractor if a claim is made as provided in this Article. Such delays shall include, but not be limited to, acts or neglect by County or others performing additional Work as contemplated by Article **41**, or to fires, floods, labor disputes, epidemics, abnormal weather conditions (Article **50**) or acts of God.

Pursuant to the Contract's float-sharing requirements, no time extensions will be granted nor delay damages considered until a delay occurs that impacts the project's critical path, consumes all available float, and extends the work beyond the Contract completion date.

50. Extension of Time on Account of Weather/Inclement Weather

If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be submitted within five (5) days of occurrence and shall be documented by data substantiating that weather conditions where the contractor was unable to perform work, for the period of time required for completion of the Work and could not have been reasonably anticipated and that weather conditions had an adverse effect on the scheduled construction.

The Contractor's construction schedule shall be based upon the inclusion of at least fifteen (15) calendar days per calendar year, of inclement weather delays to be prorated over the length of the contract. Further, the contractor has the responsibility to take reasonable precautions to mitigate the impact of unfavorable weather conditions.

Failure by the contractor to comply with the proper notice or to supply substantial data within the time limit will result in the contractor waiving its claim for weather delay.

51. Materials, Samples and Inspections

Unless otherwise indicated on the Drawings or specified elsewhere, only new materials and equipment shall be incorporated in the Work. All materials and equipment furnished by the Contractor to be incorporated in the Work shall be subject to inspection by the Engineer. No material shall be processed for, fabricated for, or delivered to the Site without prior acceptance from the Engineer.

If not required by the Proposal, as soon as possible after the formal execution of the Contract, the Contractor shall submit to the Engineer, the names and addresses of the manufacturers and suppliers of all materials and equipment he proposes to incorporate into the Work. When shop and supplemental drawings are required as specified below, such information shall be submitted prior to the submission of the drawings so that the Engineer may consider the manufacturer, and/or the supplier, to be acceptable or unacceptable, as to his or their ability to furnish a product meeting the Specifications, subject to final acceptance of the particular material or equipment. As requested, the Contractor shall also submit data relating to the material and equipment he proposes to incorporate into the Work, in sufficient detail to enable the Engineer to identify the particular product in question and to form an opinion as to its conformity to the Contract requirements. Such data shall be submitted in a manner similar to that specified for shop drawings.

Facilities and labor for the handling and inspection of all materials and equipment shall be furnished by the Contractor. Defective materials and equipment shall be removed immediately from the site of the Work. The Engineer will make arrangements for, and the County shall pay for soil density tests wherever and whenever the Engineer desires. If the results of a density test indicate that compaction is less than that specified in the Specifications, the Contractor shall reimburse the County for the full cost of the test.

If the Engineer so requires, either prior to beginning or during the progress of the Work, the Contractor shall submit samples of materials for such special tests as may be necessary to demonstrate that they conform to the requirements of the Contract Documents. Such samples, including concrete test cylinders, shall be furnished, taken, stored, packed, and shipped as directed, at the expense of the Contractor. The Contractor shall, at his own expense, furnish acceptable molds for making concrete test cylinders. Except as otherwise specified, the County will make arrangements for, and pay for, the tests.

All samples shall be packed so as to reach their destination in good condition, and shall be labeled to indicate the material represented, the name of the building or Work and location of which the material is intended, and the name of the Contractor submitting the sample. To ensure consideration of samples, the Contractor shall notify the Engineer by letter that the samples have been shipped and shall properly describe the samples in the letter. In no case shall the original letter of notification be enclosed with the samples.

The Contractor shall submit data and samples, or place his orders, sufficiently early to permit consideration, inspection, testing, and acceptance before the materials and equipment are needed for incorporation in the Work. Delay resulting from his failure to do so shall not be used as the basis of a claim against the County or the Engineer.

When required, the Contractor shall furnish to the Engineer triplicate sworn copies of manufacturer's shop or mill tests (or reports from independent testing laboratories) relative to materials and concrete data.

After the samples, data, etc., are considered acceptable to the Engineer, the materials and equipment used on the Work shall correspond therewith.

If the Work is defective, or the Contractor fails to perform the Work in such a way that the completed Work will conform with the Contract Documents, the County may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the County to stop the Work, or the right of the Engineer to make this recommendation to the County, shall not give rise to any duty on the part of the County or the Engineer to exercise this right for the benefit of the Contractor or any other party.

If required by the Engineer, the Contractor shall promptly either correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by the Engineer, remove it from the site and replace it with non-defective Work. The Contractor shall bear all direct, indirect, and consequential costs of such correction or removal, including but not limited to fees and charges of engineers, architects, attorneys, and other professionals made necessary thereby.

If, instead of requiring correction or removal and replacement of defective Work, County, and, prior to Engineer's recommendation of final payment, also Engineer, prefers to accept the Work, County may do so. Contractor shall bear all direct, indirect and consequential costs attributable to County's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness and to include but not be limited to fees and charges of engineers, architects, attorneys and other professionals). If any such acceptance occurs prior to Engineer's recommendation of Final Payment, a Work Supplement will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and County shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, County may make claim as provided in Article **44**. If the acceptance occurs after such recommendation, an appropriate amount will be paid by the Contractor to the County.

52. Inspection of Work Away from the Site

If Work to be done away from the construction site is to be inspected on behalf of the County during its fabrication, manufacture, or testing, or before shipment, the Contractor shall give notice to the Engineer of the place and time where such fabrication, manufacture, testing or shipping is to be done. Such notice shall be in writing and delivered to the Engineer in ample time so that the necessary arrangements for the inspection can be made.

53. One Year Correction Period

If within one (1) year after the date of Final Acceptance or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents, any Work which is found to be defective, the Contractor shall promptly, without cost to the County, and in accordance with the County's written notification, either correct such defective Work, or, if it has been rejected by the County, remove it from the site and replace it with non-defective Work. If the Contractor does not promptly comply with such notification, or in an emergency where delay would cause serious risk of loss or damage, the County may have the defective Work corrected or the rejected Work removed and replaced, and all direct, indirect, and consequential costs of such removal and replacement including but not limited to fees and charges of engineers, architects, attorneys and other professionals will be paid by the Contractor.

If, instead of requiring correction or removal and replacement of defective Work, the County prefers to accept the Work, the County may do so. The Contractor shall bear all direct, indirect, and consequential costs attributable to the County's evaluation of and determination to accept such defective Work. If any such acceptance occurs prior to final payment, a Work Supplement will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and the County shall be entitled to an appropriate decrease in the Contract Price. If the acceptance occurs after final payment, an appropriate amount will be paid by the Contractor to the County, as determined by the Engineer.

54. Progress Payment Procedures

The Contractor shall prepare a schedule of values by phases of work to show a breakdown of the Contract Sum corresponding to the payment request breakdown and progress schedule line items. The schedule of values must also show dollar value for each unit of work scheduled. Change Orders shall be added as separate line items. The schedule of values shall be submitted to the County and Architect/Engineer of Record for review and approval prior to "Commencement of Work."

Unless specifically included as a line item in the bid proposal form, "mobilization" will not be considered a line item.

For lump sum projects the General Conditions costs will be considered as a line item for the following items (break down required).

1. Contractor's field office personnel (full-time on-site).
2. Construction office and storage facilities.
3. Utilities required to sustain field office and sanitary facilities.
4. Electrical power and water for construction.
5. Bonds and insurance.

Progress Payments for General Conditions will be based on the percentage of work completed to date, except Bonds and Insurance which may be requested in full. Separate payments for shop drawings and deposits for materials will not be allowed. Prior to initial payment request, the following must be submitted and approved by the Architect/Engineer of Record and Palm Beach County Capital Improvements Division.

1. List of principal subcontractors and suppliers.
2. Schedule of values.
3. Shop drawing log.
4. Project schedule.

The Contractor will prepare and submit three (3) original copies of monthly invoices for work completed during the one month period. Pay Applications shall be submitted in the format and wording of the form contained in Appendix A. All information must be complete for the pay application to be accepted. County's account number(s) for the project will be given at the Pre-Construction meeting and will be

placed at the top right hand corner of each application. These payment applications will be reviewed by all the parties in attendance at the monthly pay application meetings. Prior to formal submission of the Application, the Contractor shall submit a rough draft plus two extra copies for the County and Architect/Engineer of Record to review. Submit four (4) final approved copies to the Architect/Engineer of Record, whose approval is required prior to submission to the County.

If the pay estimate and support data are not approved, the Contractor is required to submit new, revised or missing information according to the County's instructions. Otherwise, the Contractor shall prepare and submit to County an invoice in accordance with the estimate as approved. County will pay Contractor, in accordance with Local Government Prompt Payment Act (Section 218.70 et. seq., Florida Statutes) (hereinafter, "the Act"). County shall provide Contractor with a written notice of disputed pay request within ten (10) business days after receipt of such pay request which clearly states any and all deficiencies in Contractor's pay request that will prevent prompt processing and issuance of payment. To the extent there is an undisputed portion of the pay request that can be paid, the County shall proceed with prompt payment of that portion of the pay request. Retainage, in the amount of 5%, will be withheld on the calculated value of any Work, with the exception of stored materials which may be paid at the supplier's invoiced cost. Notwithstanding the foregoing, in no instance can the amount retained be less than the value of County's good faith claims plus the value of the Work the County determines remains to be put in place or required to be performed as remedial activities.

In the event any dispute with respect to any payment or pay request cannot be resolved between the Contractor and County's project staff, Contractor may, in accordance with the alternative dispute resolution requirements of the Act, demand in writing a meeting with and review by the Water Utilities Department Director. In the absence of the Water Utilities Department Director, the Water Utilities Department Deputy Director may conduct the meeting and review. Such meeting and review shall occur within ten (10) business days of receipt by County of Contractor's written demand. The Water Utilities Department Director, or Deputy Director, shall issue a written decision on the dispute within ten (10) business days of such meeting. This decision shall be deemed the County's final decision for the purposes of the Act.

Contractor must remit undisputed payment due for labor, services, or materials furnished by subcontractors and suppliers hired by the Contractor, within ten (10) business days after the contractor's receipt of payment from the County pursuant to the Act. Contractor shall provide subcontractors and suppliers hired by Contractor with a written notice of disputed invoice within five (5) business days after receipt of said invoice which clearly states the reasons for the disputed invoice. In the event of Contractor's non-compliance with these payment provisions, Contractor shall be subject to any sanctions and penalties available under the terms of the Palm Beach County Equal Opportunity Ordinance, the Equal Business Opportunity Program Policies and Procedures, this Contract, or by law.

Each application for payment shall be accompanied by the following:

1. A notarized "Affidavit of Disbursement of Previous Periodic Payments to Subcontractors" from the General Contractor for the portion of work up to the date of that particular pay application.
2. OEBO Schedule 3 – Subcontractor Activity Form
3. OEBO Schedule 4 – Subcontractor/Subconsultant Payment Certification Form
4. A County approved construction schedule update.

55. Partial Utilization

The County shall have the right to utilize or place into service any item of equipment or other usable portion of the Work prior to substantial completion of all of the Work. Whenever the County plans to exercise said right, the Contractor shall be notified in writing by the County, identifying the specific portion or portions of the Work to be so utilized or otherwise placed into service. If the Contractor agrees that such part of the Work is substantially complete and is capable of being partially utilized, The

Contractor shall certify to the County and the Engineer that such part of the Work is substantially complete and request the Engineer to issue a Certificate of Substantial Completion for that part of the Work. If the Engineer does not consider that part of the Work to be substantially complete, the Engineer shall notify the County and the Contractor in writing of the reasons why. If the Engineer considers that part of the Work to be substantially complete, the Engineer shall so recommend in writing to the County.

It shall be understood by the Contractor that until such written notification of the certification of substantial completion of that part of the Work is issued by the Engineer, all responsibility for care and maintenance of all items or portions of the Work to be partially utilized shall be borne by the Contractor. Upon issuance of said written notice of partial utilization, the County will accept responsibility for the protection and maintenance of all such items or portions of the Work described in the written notice.

The Contractor shall retain full responsibility for satisfactory completion of the Work, regardless of whether a portion thereof has been partially utilized by the County, and the Contractor's one (1) year correction period shall commence only after the date of Final Acceptance of the Work for each Work Authorization. The Contractor shall also submit complete and legally effective releases or waivers.

56. Substantial Completion

When the Contractor considers the entire Work ready for its intended use, the Contractor shall notify the County and the Engineer in writing that the Work is substantially complete and request that the Engineer prepare a Certificate of Substantial Completion. Within the time allowed by F.S. 218.70 and in accordance with the County, the Engineer and the Contractor shall make an inspection of the Work to determine the status of completion. If the Engineer does not consider the Work substantially complete, the Engineer shall notify the Contractor in writing stating the reasons. If the Engineer considers the Work to be substantially complete, the Engineer will prepare and deliver to the County for its execution and recordation the Certificate of Substantial Completion signed by the Engineer and Contractor, which shall fix the Date of Substantial Completion. At the discretion of the County, the County may withhold one and one-half times the value of outstanding uncompleted items and corrective work on the incomplete punch list. All such Work shall be completed or corrected to the satisfaction of the County within the time stated on the punch list; otherwise the Contractor does hereby waive any and all claims to all monies withheld by the County to cover the value of all such uncompleted or uncorrected items.

57. Final Application for Payment

After the Contractor has completed all correction Work referred to in Article 56 "Substantial Completion", and on the final punch lists, or any other punch lists which have been completed, and the Contractor has delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents (as provided in these General Conditions) and other documents, all as required by the Contract Documents, and has given the Engineer written notice that the Work has been completed in conformity with the Drawings and Specifications and any approved changes thereto, the Contractor may make application for final payment following the procedure for progress payments in Article 54 "Applications for Progress Payments." The Final Application for Payment shall be accompanied by all documentation called for in the Contract Documents, including but not limited to the following on forms provided by the County:

1. Contractor's Certification of Final Completion

2. Consent of Surety for Final Payment (Payment Bond)

The Contractor shall also submit complete and legally effective releases or waivers (satisfactory to the County) of all liens and "Notices to Owner" arising out of or filed in connection with the Work Authorization.

58. Record Documents

The Contractor shall keep one (1) record copy of all Specifications, Drawings, Addenda, modifications and shop drawings at the site in good order and clearly annotated to show all changes made during the construction process. These shall be available to the Engineer for inspection and reference and shall be delivered to him upon completion of the Project, prior to Application for Final Payment.

59. Final Payment and Acceptance

Upon receipt of written notice from the Contractor that the Work under any Work Authorization has been completed in conformity with the Drawings and Specifications and any approved changes thereto, and receipt of the Final Application for Payment and accompanying documentation, the County's Engineer shall promptly examine the Work and, making such tests as he may deem proper and using all of the care and judgment normally exercised in the examination of completed Work by a properly qualified and experienced Professional Engineer, shall satisfy himself that the Contractor's statement appears to be correct and the Contractor's other obligations under the Contract Documents have been fulfilled. He shall then inform the County in writing that he has examined the Work for the Work Authorization and that it appears, to the best of his knowledge and belief, to conform to the Contract Drawings, Specifications and any approved Work Supplements, that the Contractors other obligations under the Contract Documents have been fulfilled, and that he therefore recommends acceptance of the Work Authorization for ownership and Final Payment to the Contractor. However, it is agreed by the County and the Contractor that such statement by the County's Engineer does not in any way relieve the Contractor from his responsibility to deliver a fully completed job in a good and workmanlike condition, and does not render the Engineer or the County liable for any faulty Work done or defective materials or equipment used by the Contractor.

The County's Engineer will then make a final estimate of the value of all Work done and deduct all previous payments which have been made. The County's Engineer will report such estimate to the County together with his recommendation as to the acceptance of the Work or his findings as to any deficiencies therein. After receipt and acceptance by the County of the properly executed Final Warranty of Title and within sixty (60) days after approval of the Engineer's estimate and recommendation to the County, the County will make final payment to the Contractor of the Amount remaining after deducting all prior payments and all amounts to be kept or retained under the provisions of the Contract Documents, including the following items:

1. Liquidated Damages, as applicable.

2. At the discretion of the County, two times the value of outstanding items of correction Work or "punch list" items indicated on the Certificate of Substantial Completion, "final punch list", or any other "punch list" as being yet uncompleted or uncorrected, as applicable. All such Work shall be completed or corrected to the satisfaction of the County within the time stated on the Certificate of Substantial Completion, or on the "final punch list", or any other "punch list", otherwise the Contractor does hereby waive any and all claims to all monies withheld by the County to cover the value of all such uncompleted or uncorrected items.

All prior estimates are subject to correction in the final estimate.

60. Contractor's Continuing Obligation

The Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any Progress or Final Payment by the Engineer, nor the issuance of a Certificate of Substantial completion nor any payment by the County to the Contractor under the Contract Documents, for any use or occupancy of the Work or any part thereof

by the County, nor any act of acceptance by the County, nor any failure to do so, nor any review of a Shop Drawing or sample submittals, will constitute an acceptance of Work not in conformance with the Contract Documents or a release of the Contractor's obligation to perform the Work in accordance with the Contract Documents.

61. Final Payment Terminates Liability of County

Final Payment is defined as the last Progress Payment made to the Contractor for earned funds, less retainage as applicable, less deductions listed in Article 59 "Final Payment and Acceptance". The acceptance of the Final Payment referred to in Article 59, shall be a full release of the County and its agents from any and all claims of liability to the Contractor for anything done or furnished for, or relating to, the Work or for any act or neglect of the County, or of any person relating to or affecting the Work, except demands against the County for the remainder, if any, of the amounts kept or retained under the provisions of Article 59.

62. County's Right to Terminate

(a) If at any time there shall be filed by or against the Contractor in any court, a petition in bankruptcy or insolvency or for reorganization or for the appointment of a receiver or trustee of all or a portion of the Contractor's property, and within thirty (30) days there from the Contractor fails to secure a discharge thereof, or if the Contractor makes an assignment for the benefit of creditors or petitions for or enters into an agreement or arrangement with its creditors, or if the Contractor admits in writing an inability to pay its debts generally as they become due, or if the Contractor persistently fails to perform the Work in accordance with the Contract Documents (including, but not limited to failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under the General Requirements of the Technical Specifications as revised from time to time), or if Contractor disregards Laws or Regulations of any public body having jurisdiction, or if Contractor disregards the authority of the Engineer, or if Contractor otherwise violates in any substantial way any provisions of the Contract Documents, then the County by giving seven (7) days prior written notice of any such default to the Contractor and without prejudice to any other remedy it may have, may terminate the employment of the Contractor, exclude Contractor from the site, and take possession of the Work and all or some of the Contractor's materials, tools, equipment and appliances and use the same to the full extent they could be used by the Contractor (without liability to the Contractor for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which County has paid Contractor but which are stored elsewhere and complete the Work by such means as the County deems expedient. In such case, the Contractor shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Sum shall exceed (1) the expense of completing the Work including compensation for additional managerial and administrative services, plus (2) the County's indirect and consequential losses and damages because of the Contractor's default, including but not limited to fees and charges of Engineers, Architects, Attorneys and other professionals and court costs, such excess shall be paid to the Contractor. If such expense, plus the County's losses and damages shall exceed such unpaid balance, the Contractor shall pay the difference to the County promptly on demand. Such costs incurred by the County shall be approved as to reasonableness by the Engineer and incorporated into a Work Supplement, but when exercising any rights or remedies under this paragraph, County shall not be required to obtain the lowest price for the Work performed.

(b) The County may terminate this Contract without cause by giving written notice to the Contractor, and in such event, the County will pay the Contractor for that portion of the Contract Sum, less the aggregate of previous payments, allocable to the Work completed as of the Date of Termination. The County also will reimburse the Contractor for all costs necessarily incurred for organizing and carrying out the stoppage of the Work and paid directly by the Contractor, not including overhead, general expenses or profit. The County will not be responsible to reimburse the Contractor for any continuing contractual commitments to subcontractors or material suppliers or penalties or damages for canceling

such contractual commitments inasmuch as the Contractor shall make all subcontracts and other commitments subject to this provision. County will not be liable for, and Contractor hereby waives, any claim for lost prospective profits, economic losses, or other consequential damages.

(c) In the event of termination by the County, the County may require the Contractor promptly to assign to it all or some subcontracts, construction, plant, materials, tools, equipment, appliances, rental agreements, and any other commitments which the County, in its sole discretion, chooses to take by assignment, and in such event the Contractor shall promptly execute and deliver to the County written assignments of the same.

(d) In the event that any termination under subparagraph (a) above is determined to have been effectuated without proper or sufficient cause, then such termination shall be deemed to have been a termination for convenience under subparagraph (b) above.

63. County Remedies

If the Contractor defaults or neglects to carry out any of his obligations under this Contract, including but not limited to the provisions of the General Requirements of the Technical Specifications, or should liens be filed, bills of sale, conditional bills of sale, chattel mortgages, assignments of this Contract, or orders for the payment of money for materials or labor or either, or should the Contractor become insolvent or bankrupt, the County shall have the right, in addition to any other rights and remedies provided herein or by law, to perform and furnish through itself and/or through others any such labor or materials for the Work and to deduct the costs thereof from any money due or to become due to the Contractor for all or any portion of the Work; enter upon the premises and take possession, for the purpose of completing the Work, all equipment, scaffolds, tools, appliances, and any other items thereon, and to employ any person or persons to complete the Work and provide all labor services, materials, equipment, and other items required. In case of such termination of the employment of the Contractor, Contractor shall not be entitled to receive any further payment under this Contract; however, if the unpaid balance of the amount to be paid under this Contract shall exceed the cost and expense incurred by the County in completing the Work, such excess shall be paid by the County to the Contractor; but, if such cost and expense shall exceed the unpaid balance, the Contractor shall promptly pay the difference to the County on demand. Said cost and expense shall include not only the cost of completing the Work to the satisfaction of the County and of performing and furnishing all labor, services, materials, equipment, and other items required; but all losses, damages, costs and expenses including attorney's fees sustained, incurred, or suffered by reason of or resulting from the Contractor's default, or by reason of litigation over this Contract.

No provision of this Contract is intended to, or shall be construed to, create any third party beneficiary or to provide any rights to any person or entity not a party to this Contract, including but not limited to any citizen or employees of the County and/or Contractor.

64. Contractor's Right to Terminate or Stop Work

This Contract may be terminated by the CONTRACTOR upon sixty (60) days' prior written notice to the COUNTY in the event of substantial failure by the COUNTY to perform in accordance with the terms of this Contract through no fault of the CONTRACTOR. It may also be terminated, in whole or in part, by the COUNTY, with cause upon five (5) business days' written notice to the CONTRACTOR or without cause upon ten (10) business days' written notice to the CONTRACTOR. Unless the CONTRACTOR is in breach of this Contract, the CONTRACTOR shall be paid for services rendered to the COUNTY'S satisfaction through the date of termination. After receipt of a Termination Notice, except as otherwise directed by the COUNTY, in writing, the CONTRACTOR shall:

A. Stop work on the date and to the extent specified.

B. Terminate and settle all orders and subcontracts relating to the performance of the terminated work.

C. Transfer all work in process, completed work, and other materials related to the terminated work to the COUNTY.

D. Continue and complete all parts of the work that have not been terminated.

65. Title to Materials Found on the Work

The County reserves the right to retain title to all suitable soils, stone, sand, gravel, and other materials (as determined suitable by the Engineer) developed and obtained from excavations and other operations connected with the Work. Unless otherwise specified in the Contract Documents, neither the Contractor nor any subcontractor shall have any right, title, or interest in or to any such materials.

The Contractor will be permitted to use any such suitable materials in the Work, without charge, provided that such materials meet the requirements of the Contract Documents.

66. Right to Audit

The County shall have the right to audit the Contractor's books to the extent they are relevant. This right shall include the right to examine books, records, documents, and other evidence and accounting procedures and practices, sufficient to discover and verify all direct and indirect costs of whatever nature claimed to have been incurred or anticipated to be incurred and for which a claim for payment has been submitted. The right to audit shall include the right to inspect the Contractor's plants, or such parts thereof, as may be or have been engaged in the performance of the Work. The Contractor further agrees that the right to audit encompasses all subcontracts and is binding upon all subcontractors. The rights to examine and inspect herein provided for shall be exercisable through such representatives as the County deems desirable during the Contractors normal business hours at the office of the Contractor. The Contractor shall make available to the County for auditing, all relevant accounting records and documents, and other financial data, and upon request, shall submit true copies of requested records to the County.

The County shall have the Right to Audit for five (5) years after Final Payment or resolution of all claims, whichever occurs last, except that additional time may be required for a state- or federal- funded project.

67 Asbestos

If the Contractor during the course of the work observes, uncovers, or otherwise becomes aware of the existence of any suspect asbestos material at the site that was not previously identified by the County, the Contractor shall immediately stop work in the affected area and notify the County and confirm any oral notice in writing. In addition, the Contractor shall take reasonable precautions to prevent or contain the movement, spread or disturbance of such materials and to protect persons and property. The County shall promptly consult with the Engineer concerning such condition and determine the necessity of County's retaining special consultants or qualified experts to deal therewith. The Contractor shall not perform any work in connection near or in connection with the suspect material until receipt of special written instructions from the County

A. PROCEDURES FOR DEMOLITION OF STRUCTURES:

1. Notification:

Federal and state asbestos regulations require, prior to demolition of any structure:

(a) An inspection for asbestos-containing materials (ACM);

(b) Removal of specific ACM; and,
(c) An asbestos notification of demolition received at least ten (10) business days prior to demolition.

To meet requirements (a) and (b) above, the County has surveyed the structure(s) in this Contract for the presence of ACM and every effort has been made to remove National Emission Standard for Hazardous Air Pollutant (NESHAP) Regulated Asbestos-Containing Material (RACM) and Category II Non-Friable ACM (e.g. asbestos-cement board and shingles) before releasing this project to the Contractor. Intact resilient floor coverings with mastic and bituminous roofing materials are classified as NESHAP Category I Non-Friable ACM and may still remain on the structure released for demolition. Verification of this work is attached to this Contract. If not attached, it is the Contractor's responsibility to contact the Project Manager of the County Department overseeing this Contract, or the County's Risk Management/Loss Control section to obtain:

1. A copy of the pre-demolition asbestos inspection report; and,
2. A copy of Risk Management/Loss Control's memo of approval to proceed to the next phase of the project addressed to the County department overseeing this project, and

To meet requirement (c) above, the Contractor is responsible for submitting a complete and accurate asbestos notification of demolition form titled "Notice of Demolition or Asbestos Renovation " [i.e., NESHAP notification, 40 CFR Part 61.145(b)], for each separate address to be demolished to the below listed agency at least ten (10) business days prior to demolition. The form and business portal are available from the Florida Department of Environmental Protection (FDEP) at:
https://floridadep.gov/air/permitting-compliance/content/asbestos

SEND ORIGINAL TO:
Florida Department of Environmental Protection
Division of Air Resource Management
3301 Gun Club Road, MSC 7210-1
West Palm Beach, FL 33406
Fax (561) 681-6755

The Contractor must notify FDEP and the project manager of the County Department overseeing the project immediately if the demolition start date changes. No demolition may begin before the start date on the NESHAP notification and no demolition may occur without a notice to proceed from the County department. It is the responsibility of the Contractor to call and submit revised NESHAP notifications to the above listed agency, adhering to required NESHAP time frames.

The Contractor will provide a copy of the submitted NESHAP form(s) to the County Department overseeing this project, when requested.

The Contractor is responsible for physically checking the structure(s) before submitting the NESHAP notification to ensure that all RACM and Category II ACM, as identified in the pre-demolition asbestos inspection report, have been removed. If RACM or Category II ACM is discovered or Category I flooring and/or roofing is in poor (friable/not intact) condition, immediately contact the County's Project Manager or Loss Control.

2. Work Practices:

The Contractor will utilize wet methods to control airborne emissions during the demolition process and during loading onto transport vehicles, regardless whether NESHAP Category I

material is present or not. The Contractor is responsible for supplying water meters, hoses, and adequate volume of water to the demolition site.

Intact resilient flooring, floor mastic, and bituminous roofing materials (NESHAP Category I Non-Friable ACM) are not required to be removed prior to wet demolition. Demolition work practices will be conducted in a manner to prevent Category I materials from becoming friable (regulated). It is the demolition contractor's responsibility to ensure Category I materials and their substrates are segregated from non-asbestos debris, kept wet, and disposed properly in a licensed facility.

Recycling and/or salvage of presumed or confirmed asbestos-containing Category I materials and their substrates is strictly prohibited.

Materials containing less than one percent (<1%) asbestos are not mandated to be removed prior to wet demolition under NESHAP, however, the Contractor's compliance with OSHA regulations is required.

Materials containing less than one percent (<1%) asbestos and debris mixed in with it cannot be recycled. It is the Contractor's responsibility to properly segregate these materials from non-asbestos debris should recycling be considered. The County will require verification of proper disposal of materials containing <1% asbestos to ensure they are not recycled.

3. Applicable Regulations

Compliance with the following regulations is the demolition contractor's responsibility:

1. Environmental Protection Agency (EPA) 40 CFR part 61 Subpart M – National Emission Standards for Hazardous Air Pollutants (NESHAP)
2. Occupational Safety and Health Administration (OSHA) Construction Industry Standard, 29 CFR 1926.1101
3. Chapter 469 Florida Statutes

In accordance with OSHA (29 CFR 1926.1101) the Contractor must have a Competent Person onsite who:

(a) Is capable of identifying existing asbestos hazards in the work place;
(b) Is capable of selecting the appropriate control strategy for asbestos exposure; and
(c) Has the authority to take prompt corrective action to eliminate hazard.

This person must be trained in accordance with OSHA, EPA, and Florida Statutes as an onsite supervisor (commonly referred to as Asbestos Supervisor/Contractor). Copies of training certificates of the onsite supervisor shall be made available to the County upon request.

B. REMOVAL OF CONFIRMED OR PRESUMED ASBESTOS-CONTAINING BITUMINOUS ROOFING MATERIALS:

The County will provide all known information as to the roofing material used on the existing roof specified in the Contract Documents. This information will include the results of any recent bulk sampling analysis of the existing roof system determining the presence or absence of asbestos by percentage and the location where each sample was taken. In the absence of bulk sampling for asbestos, the roofing materials will be presumed asbestos containing until proven otherwise.
It is the Contractor's responsibility to determine if the information furnished is adequate to provide a bid.

It is the responsibility of the Contractor awarded the Contract to determine if the roofing materials do not contain asbestos. If the Contractor wishes not to sample and analyze for asbestos, the materials will be presumed to contain asbestos and must be handled accordingly. If the Contractor elects to sample the roof system, it must first notify the County of the sampling, including date, location, and number of samples to be collected. The bulk sample collection must be conducted by a Florida Licensed Asbestos Consultant and the analyses must be performed by an NVLAP-accredited laboratory (NVLAP: National Voluntary Laboratory Accreditation Program). Results, if proven less than one percent (1.0%) asbestos, shall be provided to the County prior to the start of any Work.

The Contractor awarded the Contract will be required to meet all Federal, State, and local regulations pertaining to the handling, removal, and disposal of confirmed or presumed asbestos-containing roofing materials. This includes, but is not limited to:

1. Meeting the requirements listed in Chapter 469 Florida Statutes regarding training of onsite roofing supervisors involved in the removal of asbestos containing bituminous resinous roofing materials; and,

2. Utilizing removal methods that will maintain the roofing material's Category I non-friable status and will not create dust (i.e., employ methods other than sanding, grinding, drilling, abrading, rotary blade, or saw cutting). Suggested methods are slicing, shearing, or punch cutting while using wet methods where feasible.

3. Submitting a NESHAP notification of renovation if greater than 5580 square feet of asbestos-containing roofing will be removed.

   To meet requirement #3 above, the Contractor is responsible for submitting a complete and accurate asbestos notification titled "Notice of Demolition or Asbestos Renovation " [i.e., NESHAP notification, 40 CFR Part 61.145(b)], to the below listed agency at least ten (10) business days prior to the start of work. The form and business portal are available from the Florida Department of Environmental Protection (FDEP) at:
   https://floridadep.gov/air/permitting-compliance/content/asbestos

   SEND ORIGINAL TO:
   Florida Department of Environmental Protection
   Division of Air Resource Management
   3301 Gun Club Road, MSC 7210-1
   West Palm Beach, FL 33406
   Fax (561) 681-6755

The Contractor will submit upon award of the Contract the following documentation to the County department coordinating this project:

1. Copies of training certificates of the onsite roofing supervisor in compliance with the current requirements of Chapter 469 Florida Statutes;

2. Approval of a landfill to accept confirmed or presumed asbestos containing roofing material and any conditions associated with its acceptance; and,

3. A plan of action, as specified by OSHA 29 CFR 1926.1101, which addresses:
   a. Method(s) of removal;
   b. Worker protection;
   c. Protection of building occupants and ventilation system;
   d. Method and location of disposal.

C. HANDLING AND DISPOSAL OF ASBESTOS CEMENT PIPE

1. General

Federal EPA regulations (40 CFR Part 61, Sub-part M "NESHAP") classify asbestos-cement pipe (AC pipe) as Category II non-friable asbestos-containing material. Federal OSHA regulations regarding materials containing asbestos (29 CFR 1926.1101) state handling such materials must be performed in accordance with its regulations, including work practices and training. Florida Statutes (Chapter 469) require adherence to EPA and OSHA regulations. Contractors working on or tying into AC pipe owned by the County or its entities shall comply with these regulations.

The County will make every effort to identify and quantify the location of known AC pipe prior to onset of the work.

If during the course of the work Contractor observes, uncovers, or otherwise becomes aware of the existence of any AC pipe, AC pipe pieces, or suspect asbestos material at the site that was not previously identified by the County, the Contractor shall immediately notify the County and confirm any verbal notice in writing. In addition, the Contractor shall take reasonable precautions to prevent or contain the movement, spread or disturbance of such materials and to protect persons and property. The County shall promptly consult with the Project Engineer concerning such conditions and determine the necessity of the County retaining special consultants or qualified experts. The Contractor shall not perform any work near or in connection with the suspect material until receipt of special written instructions from the County.

2. Pre-Work Submittals

Prior to any work on AC pipe that could disturb the pipe or expose the worker to possible asbestos fiber release while working on AC pipe, the Contractor shall submit the following documentation to the County department overseeing this Contract and/or the applicable Florida agency:

1. Copy of the current training certificate of the onsite OSHA Competent Person (also known as the Onsite Supervisor or Asbestos Supervisor).

2. Copy of the current training certificate or training documentation for each employee working on the AC pipe. This training shall meet the criteria stated for OSHA Class II special operation.

3. Copy of the Contractor's most recent Negative Exposure Assessment or Periodic Monitoring for asbestos.

4. Copy of the plan of action, as specified by OSHA 29 CFR 1926.1101, which addresses:
    a. Method of removal and/or repair
    b. Worker protection
    c. Method and location of AC Pipe disposal

5. Copy of the NESHAP notification, when applicable.

Prior to any work on AC pipe that may render it to become friable or regulated in quantities of 260 linear feet or greater, the Contractor will submit a NESHAP "Notice of Demolition or Asbestos Renovation" form to (a) the County department overseeing this Contract and (b) the below listed agency at least ten (10) business days prior to the start of work. The form and business portal are available from the Florida Department of Environmental Protection (FDEP) at:

https://floridadep.gov/air/permitting-compliance/content/asbestos

SEND ORIGINAL TO:
Florida Department of Environmental Protection
Division of Air Resource Management
3301 Gun Club Road, MSC 7210-1
West Palm Beach, FL 33406
Fax: (561) 681-6755

The Contractor will provide a copy of the submitted NESHAP form(s) to the County Department overseeing this project, when requested.

3. Work Practices

Compliance with the following regulations is the Contractor's responsibility:

1. Environmental Protection Agency (EPA) 40 CFR part 61 Subpart M – National Emission Standards for Hazardous Air Pollutants (NESHAP)
2. Occupational Safety and Health Administration (OSHA) Construction Industry Standard, 29 CFR 1926.1101
3. Chapter 469 Florida Statutes

4. Post Work Submittals

The Contractor will submit the following documentation to the County department coordinating this project prior to payment:

1. A Waste Shipment Record (WSR) for each shipment of AC pipe disposed, signed by the disposal facility, within 35 days of shipment. Refer to 40 CFR part 61 Subpart M (NESHAP) for an example of a WSR.

68. Explosives and Hazardous Materials

Contractor shall obtain all required Federal, State and local permits and licenses and shall be responsible for the safe and proper handling, transporting, storage and use of any explosive or hazardous materials brought onto or encountered within the site, and at its expense, make good any damage caused by its handling, transporting, storage and use. The Contractor will notify the County immediately if explosive or hazardous materials are encountered on the site. Transporting explosive or hazardous materials onto the site will require prior written approval from the County. The Contractor shall maintain and Post as necessary Material Hazard Data Sheets for all applicable Hazardous Materials used in the course of his work.

In the event that hazardous material is improperly handled or stored by the Contractor, its subcontractors, any sub-subcontractors, or any employee or agent of any of the aforementioned which results in contamination of the site, Contractor shall immediately notify the County and the appropriate governmental authority and shall take whatever action is necessary or desirable to remediate the contamination at the Contractor's sole cost and expense. Further, Contractor shall indemnify and hold harmless from any and all cost, expense, action, or liability whatsoever resulting from such contamination and/or remedial activities.

69. Notice and Service

All notices, demands, requests, instructions, approvals and claims shall be made in writing.

Any notice to or demand upon the Contractor shall be sufficiently given if delivered to such office of the Contractor specified in the Proposal (or to such other office as the Contractor may from time to time designate to the County in writing), or if deposited in the United States Mail in a sealed, postage prepaid envelope, or if delivered with charges prepaid to any telegraph company for transmission, in each case addressed to such office.

All notices or other papers required to be delivered by the Contractor to the County, or to any of its representatives shall, unless otherwise specified in writing to the Contractor, be delivered to the office of the County's Engineer, and any other notice or demand upon the County shall be sufficiently given if delivered to such office, or if deposited in the United States Mail in a sealed, postage prepaid envelope, or if delivered, with the charges prepaid to any telegraph company for transmission, in each case addressed to such office (or to such other representative of the County or to such other address as the County may subsequently specify in writing to the Contractor for such purpose).

Any such notice or demand shall be deemed to have been given or made as of the time of actual delivery, or, in the case of mailing, when the same should have been received in due course of posts, or in the case of telegrams, at the time of actual receipt thereof.

70. Listing of the Duties, Responsibilities and Limitations of Authority of the Resident Project Representative

The Engineer may furnish a Resident Project Representative (RPR), assistants and other field staff to assist the Engineer in observing performance of the Work of the Contractor. The RPR may only be part time on site, and the Contractor shall coordinate with the RPR as required in the Contract Documents.

Through on-site observations of the Work in progress and field checks of materials and equipment by the RPR and assistants, the Engineer shall provide further protection for the County against defects and deficiencies in the Work; but, the furnishing of such services will not make the Engineer responsible for or give the Engineer control over construction means, methods, techniques, sequences or procedures or for the safety precautions or programs, or responsibility for the Contractor's failure to perform the Work in accordance with the Contract Documents.

The duties and responsibilities of the RPR are limited to those of the Engineer in the Engineer's Contract with the County and in the construction Contract Documents, and are further limited and described as follows:

A. GENERAL:

The RPR is the Engineer's agent at the site, will act as directed by and under the supervision of the Engineer, and will confer with the Engineer regarding the RPR's actions. The RPR's dealings in matters pertaining to the on-site Work shall in general be with the Engineer and the Contractor, keeping the County advised as necessary. RPR's dealings with subcontractors shall only be through or with the full knowledge and approval of the Contractor. RPR shall generally communicate with the County with the knowledge of and under the direction of the Engineer.

B. DUTIES AND RESPONSIBILITIES OF THE RPR:

1. Review the construction progress schedule, schedule of shop drawing submittals, and schedule of values prepared by the contractor and consult with the Engineer concerning their acceptability.

2. Attend various meetings with the Contractor, including pre-construction conferences, construction progress meetings, job site conferences and other project-related meetings, and prepare and circulate written copies of minutes thereof.

3. Serve as the Engineer's liaison with the Contractor, working principally through the Contractor's superintendent or construction manager, and assist in understanding the intent of the Contract Documents; and assist the Engineer in serving as the County's liaison with the Contractor when the Contractor's operations affect the County's on-site operations.

4. Assist in obtaining from the County additional details or information, when required for proper execution of the Work.

5. Record the dates of receipt of shop drawings and samples.

6. Receive samples furnished at the site by the Contractor, and notify the Engineer of availability of samples for examination.

7. Advise the Engineer and the Contractor of the commencement of any Work requiring a shop drawing or sample if the submittal has not been approved by the Engineer.

8. Conduct on-site observations of the Work in progress to assist the Engineer in determining if the Work is in general proceeding in accordance with the Contract Documents.

9. Report to the Engineer whenever the RPR believes that any Work is unsatisfactory, faulty or defective or does not conform to the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise the Engineer of Work that the RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.

10. Verify that tests, equipment and systems start-ups and operating and maintenance training are conducted in the presence of appropriate personnel and that the Contractor maintains adequate records thereof; and observe, record and report to the Engineer appropriate details relative to the test procedures and start-ups.

11. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections and report to the Engineer.

12. Report to the Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to the Contractor clarifications and/or interpretations as issued by the Engineer.

13. Consider and evaluate the Contractor's suggestions for modifications in Drawings or Specifications and report with the RPR's recommendations to the Engineer. Transmit to the Contractor decisions as issued by the Engineer.

14. Maintain at the job site and the Engineer's office files for correspondence, reports of job conferences, shop drawings and samples, reproductions of original Contract Documents including all Work Directive Changes, Addenda, Work Supplements, Field Orders, Written Amendments, additional drawings issued subsequent to the execution of the Contract, the Engineer's clarifications and interpretations of the Contract Documents, progress reports, and other Project-related documents.

15. Record names, addresses and telephone numbers of all subcontractors and major suppliers of materials, equipment and manufactured articles.

16. Furnish the Engineer periodic reports as required of progress of the Work and of the Contractor's compliance with the progress schedule and schedule of shop drawing and sample submittals.

17. Consult with the Engineer in advance of scheduled major tests, inspections or start of important phases of the Work.

18. Draft proposed Work Supplements and Work Directive Changes, obtaining backup material from the Contractor and recommend to the Engineer Work Supplements, Work Directive Changes, and Field Orders.

19. Report immediately to the Engineer and the County upon the occurrence of any accident witnessed by the RPR or that was otherwise made known to the RPR.

20. Review applications for payment with the Contractor for compliance with the established procedure for their submission and forward with recommendations to the Engineer, noting particularly the relationship of the payment requested to the schedule of values, Work completed and materials and equipment delivered at the site but not incorporated in the Work.

21. During the course of the Work, verify that certificates, maintenance and operation manuals and other data required to be assembled and furnished by the Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have this material delivered to the Engineer for review and forwarding to the County prior to final payment for the Work.

22. Before the Engineer issues a Certificate of Substantial Completion, submit to the Contractor a list of observed items requiring completion or correction.

23. Conduct final inspections in the company of the Engineer, the County and the Contractor and prepare a final list of items to be completed or corrected.

24. Observe that all items on the final list have been completed or corrected and make recommendations to the Engineer concerning acceptance.

C. LIMITATIONS OF AUTHORITY:

1. The Resident Project Representative shall not:

   a. Authorize any deviation from the Contract Documents or substitution of materials or equipment, unless authorized in writing by the Engineer.
   b. Exceed limitations of the Engineer's authority as set forth in the Contract Documents.
   c. Undertake any of the responsibilities of the Contractor, subcontractors or the Contractors superintendent or construction manager.
   d. Advise on issue directions relative to or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction unless such advice or directions are specifically required by the Contract Documents.
   e. Advise on issue directions regarding or assume control over safety precautions and programs in connection with the Work.

f. Accept shop drawings or sample submittals from anyone other than the Contractor.
g. Authorize the County to occupy the Project in whole or in part.
h. Participate in specialized field or laboratory tests or inspections conducted by others as specifically authorized by the Engineer.

71. Waiver of Jury Trial

THE PARTIES HEREBY WAIVE ANY RIGHTS EITHER OF THEM MAY HAVE TO A JURY TRIAL IN ANY LITIGATION ARISING OUT OF OR RELATED TO THIS AGREEMENT AND AGREE THAT THEY SHALL NOT ELECT A TRIAL BY JURY. THE PARTIES HERETO HAVE SEPARATELY, KNOWINGLY AND VOLUNTARILY GIVEN THIS WAIVER OF RIGHT TO TRIAL BY JURY WITH THE BENEFIT OF COMPETENT LEGAL COUNSEL.

72. Contractor Furnished Drawings, Data and Samples

Review and permission to proceed by County as stated in this Contract does not constitute acceptance or approval of design details, calculations, analyses, test methods, certificates or materials developed or selected by the Contractor and does not relieve Contractor from full compliance with contractual obligations. Drawings, samples, catalogues, data and certificates required to be submitted to the County for review, shall be submitted attached to forms provided by County.

All correspondence from the Contractor to the County shall be numbered sequentially and the submittal number shall be referenced. Submittal drawings (shop, erection or setting diagrams) and schedules, required for work of various trades, shall be checked before submission by technically qualified employees of Contractor for accuracy, completeness and compliance with contract requirements. These drawings and schedules shall be stamped and signed by Contractor certifying to such check. The certification stamp shall read as follows:

"I certify that I have checked this submittal for accuracy, completeness and compliance with contract requirements, and it has been coordinated with all other submittals and Contract Documents."
"I certify that I have checked this submittal for accuracy, completeness and compliance with contract requirements, and it has been coordinated with all other submittals and Contract Documents."

_____ _____
Signed Date

_____
Printed name of signer

_____ (Company Name)

A. Drawings

Where drawings are required for (a) fabrication of Contractor furnished equipment; (b) installing Contractor furnished material or equipment; or (c) planning and performance of the work under Contract; such drawings shall be submitted by and at the expense of the Contractor before fabrication, installation or performance is commenced. Each submittal shall be made not less than thirty five (35) calendar days prior to the time that the drawings are required in accordance with the schedule. Allow at least 21 calendar days for review by County. County's review will be accomplished based on the Contractor's submittal schedule portion of the CPM schedule, as approved. Such drawings shall include, but not be limited to, matchmarks, erection diagrams and other details, such as field connections for proper installation, erection of the equipment, and performance of the work.

For drawings greater in size than 11" x 17", one reproducible and four copies shall be submitted to the County by and at the expense of the Contractor. The County will be the sole judge of the adequacy of the quality of the reproducible and prints and may reject reproducibles and/or prints on the basis of quality alone. Such drawings will not be folded, but will be transmitted in mailer rolls manufactured expressly for that purpose. The reproducible with the County's review comments will be returned to the Contractor. A reproducible copy of drawings equal to or less than 11" x 17" is not necessary, but five copies of the unfolded drawings must be transmitted to the County.

If drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the County approves any such variation(s), it shall issue an appropriate contract modification, except that, if the variation is minor and does not involve a change in price or in time of performance, a modification need not be issued.

Drawings of a specific piece of equipment shall identify components with the manufacturer's part number or reference drawing clearly indicated. If reference drawing numbers are used, the review date of such drawings shall be included. Drawings shall indicate design dimensions, maximum and minimum allowable operating tolerances on all major wear fits, i.e. rotating, reciprocating or intermittent sliding fits between shafts or stems and seals, guides and pivot pins. The sequence of submission of all drawings shall be such that all information is available for reviewing each drawing when it is received.

All drawings submitted by the Contractor shall be certified and dated by the Contractor on the face of each drawing to be correct, accurate and shall be furnished in accordance with requirements of the specifications. County will conduct a review of Contractor's drawings and a drawing marked with one of the following review comments will be returned to the Contractor.

1. No exceptions taken.

2. Comments attached. Resubmit.

3. Rejected.

The Contractor must incorporate the changes indicated, resubmit and obtain a Code 1 or 2 notation before release for shipment can be granted.

B. Samples

Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the work will be judged. Samples of all items of related systems (i.e. adjacent surfaces requiring similar colors but manufactured of different materials) must be submitted in the same time frame before the approval process can begin.

Where samples are required, they shall be submitted by and at the expense of the Contractor. Such submittal shall be made not less than thirty five (35) calendar days prior to the time that the materials represented by such samples need to be ordered for incorporation into any work in accordance with the schedule. Allow at least 21 calendar days for County's review. Materials represented by such samples shall not be manufactured, delivered to the site or incorporated into any work without such review. Each sample shall bear a label showing the Contractor's name, date submitted, project name, name of the item, manufacturer's name, brand name, model number, supplier's name, and reference to the appropriate drawing, technical specification section and paragraph number, all as applicable.

Samples which have been reviewed may, at County's option, be returned to the Contractor for incorporation into the work.

C. Catalogues, Data and Certificates

Where catalogues, data or certificates are required, five (5) copies of each shall be submitted by and at the expense of the Contractor. Such submittal shall be made not less than thirty five (35) calendar days prior to the time that the materials represented by such catalogues, data or certificates must be ordered for incorporation into any work in accordance with the CPM schedule. Allow at least 21 calendar days for County's review. Material represented by such shall not be fabricated, delivered to the site or incorporated into any work without such review.

Certificates shall clearly identify the material being certified and shall include but not be limited to providing the following information: Contractor's name, project name, name of the item, manufacturer's name, and reference to the appropriate drawing, technical specification section and paragraph number all as applicable. All catalogues, data and certificates submitted by the Contractor shall be certified and dated by the Contractor on the face of each catalogue, data and certificate to be correct and shall be furnished in accordance with these requirements and the requirements of the Technical Specification, on forms provided by the County. County will conduct a review of Contractor's catalogues, data, and certificates and one copy marked with the review comments listed in paragraph A, above, will be returned to the Contractor.

73. Contractor Work-Site Emergency Action Plan

Contractor shall be fully and solely responsible for the safety of all on-site contract personnel, including subcontractors. The contractor shall supply the Water Utilities Communication Department with names, telephone numbers and/or pager numbers of designated contract/subcontract personnel responsible for implementing contractor emergency action plans.

74. Cost Savings

After award of the Contract, the County will consider changes to the Contract proposed by the Contractor impacting the intent of the Contract Documents. If the Contractor awarded the project proposes changes to the Contract Documents which reduce project costs, and they are accepted by the County and the Engineer, then the Contractor will be entitled to fifty percent (50%) of the savings resulting from the changes (after engineering fees have been paid).

75. Safety and Health Regulations

A. The Contractor shall be fully and solely responsible for conducting all operations under this Contract at all times in such a manner as to avoid the risk of bodily harm to persons and damage to property. The Contractor shall continually and diligently inspect all work, materials, and equipment to discover any conditions that might involve such risks and shall be solely responsible for discovery and correction of any such conditions.

The Contractor shall comply with the Department of Labor Safety and Health Regulations promulgated under the Occupational Safety and Health Act of 1970 to include General Industry Standards (29 CFE 1910) and (29 CFR 1926/1910) for construction, and under Section 107 of the Contract Work Hours and Safety Standards Act.

B. The Contractor shall comply with the Manual on Uniform Traffic Control Devices when working on or off the site.

C. The Contractor shall allow representatives of the Department of Labor and authorized representatives of the Palm Beach County Water Utilities Department and the Palm Beach County Risk Management Department full access to the project for inspection.

76. Best Management Practices for the Construction Industry

A. The Contractor shall be responsible for assuring that each contractor or subcontractor evaluates the site before construction is initiated to determine if any site conditions may pose particular problems for the use, handling, production or storage of any regulated substances. For instance, handling regulated substances in the proximity of water bodies or wetlands may be improper.

B. If any regulated substances are stored on the construction site during the construction process, they shall be stored in a location and manner which will minimize any possible risk of release to the environment. Any storage container of 55 gallons or 440 pounds or more containing regulated substances shall have constructed below it an impervious containment system constructed of material of sufficient thickness, density and composition that will prevent the discharge to the land, groundwater or surface water of any pollutant which may emanate from said storage container. Each containment system shall be able to contain 150% of the contents of all storage containers above or within the containment system.

C. Each Contractor shall familiarize itself with the manufacturer's safety data sheet supplied with each material containing a regulated substance and shall be thoroughly familiar with procedures required to contain and clean up any releases of the regulated substance. Any tools or equipment necessary to accomplish same shall be available in case of release.

D. Upon completion of construction, all unused and waste regulated substances and containment systems shall be removed from the construction site by the Contractor and shall be disposed of in a proper manner as prescribed by law.

77. Performance During Emergency

By submitting a bid, bidder agrees and promises that, during and after a public emergency, disaster, hurricane, flood, or acts of God, Palm Beach County shall be given "first priority" for all goods and services under this contract. Bidder agrees to provide all goods and services to Palm Beach County during and after the emergency/disaster at the terms, conditions, and prices as provided in this solicitation, and with a priority above, a preference over, sales to the private sector. Bidder shall furnish a 24-hour phone number to the County in the event of such an emergency. Failure to provide the stated priority/preference during and after an emergency/disaster shall constitute breach of contract and make the bidder subject to sanctions from further business with the County.

78. Incentives

A. Apprentice Incentive

1. Palm Beach County offers an Apprentice Incentive payment to a contractor who actually expends a minimum of $25,000 (including subcontractors) in payroll costs on apprentice wages. For purposes of this section, "apprentice" means any person who is participating in a Florida Department of Education registered apprenticeship program. The Living Wage provisions of this contract shall not be diminished by paying an apprentice less than the Living Wage.

2. Upon completion of the contract, Contractor may apply for the payment which will be added to the contract by change order. If the County determines that the Contractor complied with the requirements of this section, it will reimburse the contractor 20% of its apprentice wages (including payroll taxes, costs, and benefits) up to a maximum reimbursement of $100,000. The request must be submitted no later than 45 days after Substantial Completion of the project.

3. For projects with construction costs of $20,000,000 or greater, the threshold amount of expenditures for apprentices which must be paid to qualify for the incentive shall increase to $50,000 and the maximum reimbursement payment to $200,000.

4. To be eligible for the Apprenticeship Incentive payment, the apprentice employer (through the Contractor) must provide the following documentation: apprentice name(s), contact information, the apprentice Registered Apprenticeship Partners Information Data System (RAPIDS) Registration number, certification from the apprentice program that the employee was in good standing during the time on the project, registered trade, and certified payroll for the apprentice hours worked on the project.

5. The Contractor is required to forward all documentation, assembled and submitted by the apprentice employer in accordance with the above paragraph, to the County for review and disposition. Any incentive that the County approves shall be provided to the apprentice employer in full.

B. Glades Resident Incentive

1. Palm Beach County offers an incentive Payment to any contractor (and subcontractors) who hires a new employee that is a resident of the Glades area for work on County contracts ("Glades Employee"). For purposes of this section, "resident of the Glades area" means any person whose legal residence is located in the Glades area as defined in the Palm Beach County Local Preference Ordinance.

2. To be eligible for the Incentive Payment, the employee must be a full-time employee of the Contractor for a minimum of 3 weeks on this project and cannot have worked for the Contractor claiming the Glades Employee as a new hire for 90 days prior to this project. Within 5 days of the Contractor hiring and the Glades Employee reporting to work at the project site, Contractor must provide the following documentation ("Hiring Certification"): Glades Employee name, contact information including legal residence, copy of driver's license or other proof of residence, hire date, start date at project site, and trade. Both the Glades Employee and employer must sign the Hiring Certification with signatures notarized.

3. The County has the right, but not the obligation, to conduct unannounced field interviews with the Glades Employee to ensure compliance with the requirements of this Section.

4. Upon completion of the contract, Contractor may apply for the Incentive Payment which will be added to the contract by change order. The documentation ("Incentive Certification") required includes resubmitting of the Hiring Certification along with the employment end date or last day on the job site (whichever is earlier), a certified payroll for the hours worked on the project, and employee wages and benefits paid. The Incentive Certification must be signed by both the Glades Employee and employer with both signatures notarized. No markup will be allowed either by the General Contractor or a subcontractor.

5. If the County determines that the Contractor complied with the requirements of this section, it will reimburse the contractor 30% of the new employee(s) wages (including payroll taxes, costs, and benefits) up to a maximum reimbursement of $100,000. The request must be submitted no later than 45 days after Substantial Completion of the project.

6. Contractor can only claim the Incentive Payment once for each Glades Employee within a rolling twelve (12) month period, but the incentive can be claimed across multiple County contracts.

7. It is a Contract requirement of the Contractor that any reimbursement requested by a subcontractor under this Section be processed by the Contractor to the County for review.

79. Budget Availability

The County's performance and obligation to pay under this contract for subsequent fiscal years are contingent upon annual appropriations for its purpose by the Board of County Commissioners.

80. Public Records

Notwithstanding anything contained herein, as provided under Section 119.0701, F.S., if the Contractor: (i) provides a service; and (ii) acts on behalf of the County as provided under Section 119.011(2) F.S., the Contractor shall comply with the requirements of Section 119.0701, Florida Statutes, as it may be amended from time to time The Contractor is specifically required to:

A. Keep and maintain public records required by the County to perform services as provided under this Contract.

B. Upon request from the County's Custodian of Public Records, provide the County with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119 or as otherwise provided by law. The Contractor further agrees that all fees, charges and expenses shall be determined in accordance with Palm Beach County PPM CW-F-002, Fees Associated with Public Records Requests, as it may be amended or replaced from time to time.

C. Ensure that public records that are exempt, or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the Contract, if the Contractor does not transfer the records to the public agency.

D. Upon completion of the Contract the Contractor shall transfer, at no cost to the County, all public records in possession of the Contractor unless notified by County's representative/liaison, on behalf of the County's Custodian of Public Records, to keep and maintain public records required by the County to perform the service. If the Contractor transfers all public records to the County upon completion of the Contract, the Contractor shall destroy any duplicate public records that are exempt, or confidential and exempt from public records disclosure requirements. If the Contractor keeps and maintains public records upon completion of the Contract, the Contractor shall meet all applicable requirements for retaining public records. All records stored electronically by the Contractor must be provided to County, upon request of the County's Custodian of Public Records, in a format that is compatible with the information technology systems of County, at no cost to County.

Failure of the Contractor to comply with the requirements of this article shall be a material breach of this Contract. County shall have the right to exercise any and all remedies available to it, including but not limited to, the right to terminate for cause. Contractor acknowledges that it has familiarized itself with the requirements of Chapter 119, F.S., and other requirements of state law applicable to public records not specifically set forth herein.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE

CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, PLEASE CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT RECORDS REQUEST, PALM BEACH COUNTY PUBLIC AFFAIRS DEPARTMENT, 301 N. OLIVE AVENUE, WEST PALM BEACH, FL 33401, BY E-MAIL AT RECORDSREQUEST@PBCGOV.ORG OR BY TELEPHONE AT 561-355-6680.

END OF SECTION

SUPPLEMENTAL GENERAL CONDITIONS

1. GENERAL

These Supplemental General Conditions make additions, deletions, or revisions to the General Conditions as indicated herein. All provisions which are not so added, deleted, or revised remain in full force and effect. Terms used in these Supplemental General Conditions which are defined in the General Conditions have the meanings assigned to them in the General Conditions. Similar terms described in the General Conditions and Instruction to Bidders shall supersede these requirements if they are more restrictive.

2. MULTIPLE AWARD OF CONTRACT

Palm Beach County reserves the right to award this contract to more than one responsive bidder. In the event that this right is exercised, up to two lowest responsive and responsible bidders shall be awarded the contract. The County reserves the right to issue Work Authorizations to either awardee as per the County's discretion. Work Authorizations will be issued on an as-needed basis. The County has no obligation to issue work under this contract to any awardee. The awardee(s) may be found in default of this contract if it declines more than 10% of the offered work, or if it establishes a pattern of accepting only the more desirable work and declining the less desirable work.

3. RENEWAL OPTION WITH NO ESCALATOR

The low responsive bidder(s) shall be awarded a contract for twelve (12) months with the option to renew up to two (2) twelve (12) months contract renewal. Prices shall remain firm for the initial twelve (12) months period and the subsequent renewal period. The option for renewal shall only be exercised upon mutual written agreement with all original terms and conditions adhered to with no deviations.

Any renewal shall be subject to the approval and appropriation of funds by the Board of County Commissioners.

4. QUALIFICATION OF BIDDERS

This bid shall be awarded only to a responsive and responsible bidder, qualified to provide the goods and/or service specified. The bidder shall after bid opening, upon the County's request, promptly furnish sufficient evidence in order to confirm a satisfactory performance record. Such information may include an adequate financial statement of resources, the ability to comply with required or proposed delivery or performance schedule, a satisfactory record of integrity and business ethics, the necessary organization, experience, accounting and operation controls, and technical skills, and be otherwise qualified and eligible to receive an award under application laws and regulations.

The bidder should submit the following information with their bid response; however, if not included, it shall be the responsibility of the bidder to submit all evidence, as solicited, within a time frame specified by the County (normally within five working days of request). Failure of a bidder to provide the required information within the specified time frame is considered sufficient cause for rejection of their bid. Information submitted with a previous bid shall not satisfy this provision.

List a minimum of **five (5)** references in which similar goods and/or services described in this contract have been provided within the State of Florida. Include scope of work, contact names, addresses, telephone numbers and dates of service. A contact person shall be someone who has personal knowledge of the bidder's performance for the specific requirement listed. Contact person must have been informed that they are being used as a reference and that the County may be calling them. **DO NOT** list persons who are unable to answer specific questions regarding the requirement. The Company shall have as a prerequisite a minimum of **five (5) years'** experience in the State of Florida, demonstrating the ability to provide similar goods and/or services stated herein.

5. WORK SITE SAFETY/SECURITY

The awarded bidder shall at all times guard against damage or loss to the property of Palm Beach County, the bidder's own property, and/or that of other contractors, and shall be held responsible for replacing or repairing any such loss or damage. When applicable, the awarded bidder shall provide fences, signs, barricades, flashing lights, etc. necessary to protect and secure the work site(s) and insure that all County, State of Florida, OSHA, and other applicable safety regulations are met. Additionally, awarded bidder shall provide for the prompt removal of all debris from Palm Beach County property as necessary. Palm Beach County may withhold payment or make such deductions as deemed necessary to ensure reimbursement or replacement for loss or damage to property through negligence of the awarded bidder or its agents.

END OF SECTION

SECURITY

Criminal History Records Check Ordinance

The Palm Beach County Criminal History Records Check Ordinance Palm Beach County Code Section 2-371 - 2-377. Pursuant to the ordinance, the County will conduct fingerprint based criminal history record checks on all employees of contractors and subcontractors of contractors, vendors, repair persons and delivery persons entering a facility determined to be either a critical facility ("Critical Facilities") or criminal justice information facility ("CJI Facility"). Critical Facilities and CJI Facilities and the corresponding list of disqualifying offenses are identified in Resolution R2013-1421 and is available upon request. **In October, 2013, compliance with the requirements of the U.S. Federal Bureau of Investigations Criminal Justice Information (CJI) security policy was added to the ordinance and has a broad list of disqualifying offenses.** The Bidder understands that is solely responsible for the financial, schedule and/or staffing implications of compliance with this ordinance, and represents and warrants that its bid price includes any direct or indirect costs (not including the FDLE/FBI fees which will be paid directly by the County) of compliance with this county code. Refer to department specific instructions in this section for applicability of criminal history records check for this project.

Individuals passing the background check will be issued a badge. Contractor shall make every effort to collect the badges of its employees and its subcontractors' employees upon conclusion of the contract work and return them to the county. If the contractor or its subcontractor terminates an employee who has been issues a badge, the contractor must notify the county within 2 hours. At the time of termination, the contractor shall retrieve the badge and return it to the county in a timely manner. The county reserves the right to suspend any contractor that; 1) does not comply with the requirements of county code section 2-2371 - 2-377 as amended, 2) does not contact the county regarding a terminated contractor employee or subcontractor employee within the stated time, or 3) fails to make a good faith effort in attempting to comply with the badge retrieval policy. The Contractor will be charged a nominal fee for lost cards.

Department Specific Instructions

This project is subject to:

[**X**] Critical Facilities Background Check
[ ] CJI Facilities Background Check
[ ] No Background Check

The contractor shall comply with the following requirements:

1)	**CONFIDENTIALITY NOTICE**	**2**
2)	**PROJECT MANAGER INSTRUCTIONS**	**3-4**
3)	**CONTRACTOR INSTRUCTIONS**	**5-6**
4)	**ACKNOWLEDGEMENT**	**7**

CONFIDENTIALITY NOTICE

Project Name: 2022 Pipeline Continuing Construction Contract

PBCWUD Project No.: 22-032

Pursuant to Florida Statute 119.071(3), I DANIEL DUKE III as authorized representative of HINTERLAND GROUP INC, (hereinafter "Consultant/Contractor") agree that Consultant/Contractor shall maintain the exempt and confidential status of all security system plans, building plans, blueprints, schematic drawings, and diagrams, including draft, preliminary and final formats which depict the internal layout and structural elements of the water, wastewater, reclaimed water treatment and/or support facilities owned or operated by Palm Beach County. Consultant/Contractor further agrees the documents which shall remain exempt from disclosure pursuant to Florida Statute 119.071(3) shall not be used for any purpose other than what was contracted for and shall not be disclosed to any other party.

Also in accordance with Florida Statutes 153 and 281.301.

By: _____
(Signature of Consultant/Contractor)

DANIEL DUKE III, PRESIDENT
(Print Name and Title of Person Executing on behalf of Consultant/Contractor)

3/23/23
(Date)

STATE OF FLORIDA
COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 23 day of MARCH, 2023, by DANIEL DUKE III, who is ☑ personally known to me or ☐ has produced _____ as identification.

LORI GUILD
MY COMMISSION # HH 298713
EXPIRES: August 9, 2026

_____
(Signature of Notary Public – State of Florida)

_____
(Print, Type, or Stamp Commissioned Name of Notary Public)

PROJECT MANAGER INSTRUCTIONS

All Project Managers will follow the steps set forth below when requesting either a Critical Facility or CJI photo ID or access card for contractor and sub-contractor personnel.

Complete the Project Information Form (an optional internal information collection tool). Link to form:
http://wudengineering/PDS/Shared%20Documents/Bid%20Award/Bid%20Construction%20Contract/Project%20Information%20Form.pdf

PROJECT INFORMATION FORM				
TO BE COMPLETED BY THE PROJECT MANAGER				
PROJECT NUMBER OR PURCHASE ORDER NUMBER:				
PROJECT NAME OR PURCHASE ORDER REFERENCE:				
PROJECT LOCATION:				
BRIEF DESCRIPTION OF PROJECT OR PROCUREMENT:				
FACILITY TYPE:		Critical Facility		CJI Facility
START DATE:		END DATE:		
CONTRACTING COMPANY or SUBCONTRACTING COMPANY:				
FEI/EIN Number				
CONTRACTING or SUBCONTRACTING COMPANY ADDRESS:				
CONTRACTOR CONTACT:				
CONTRACTOR EMAIL AND PHONE:				
HOW MANY INDIVIDUALS WILL BE SENT FOR UNESCORTED ACCESS:				
Contractor/subcontractor employees are to be listed on the Contractor/Subcontractor form				

INSTRUCTIONS:

1. We cannot process record checks for contractors until we receive the Project Information and Contractor/Subcontractor forms. You may fax the form to the Access Section at (561) 233-0790 or email the form to PDO-ACCESS-SUPPORT@pbcgov.org, so that we can begin to schedule the record checks. Be sure to allow sufficient time for the contractor employees to complete the record checks and for the results to be received, before the scheduled work can begin.
2. The individual, who is responsible for initiating and/or monitoring the project or procurement (e.g., project manager, crew chief, etc.), should sign the form. This individual will become the ESS/Access Section's primary contact during the project or procurement. The Project Manager will notify the company when the form is received, so that contractor employees may schedule appointments for fingerprinting.
3. Complete a separate Project Information form for each contractor and each subcontractor that will be working the project. Fill in all of the requested information, including the start and end date and estimated number of employees who will need criminal history record checks.
4. Complete a separate Contractor/Subcontractor form for each contractor and each subcontractor that you will be sending for criminal history records check. Attach as many sheets as necessary. You may attach a typed or computer generated list provided by the contractor/subcontractor. The Project Manager should review the list to verify if the number of contractor/subcontractor employees is reasonable for the work to be performed.

I ACKNOWLEDGE THAT I HAVE READ THE INSTRUCTIONS AND UNDERSTAND MY RESPONSIBILITIES AS A PROJECT MANAGER:

REQUESTED BY (Print or Type Name): _____

REQUESTING DEPARTMENT/DIVISION: _____

AUTHORIZED SIGNATURE: _____ DATE: _____

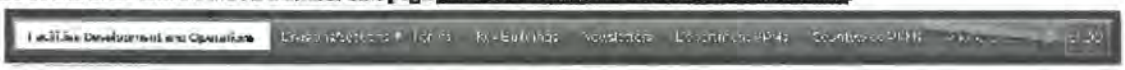
WORK PHONE: _____ CELL PHONE (If Applicable): _____

WUD 4/9/2019

ESS Access – Card Tracking System
Project Manager Cheat Sheet

Login

Go to the eFDO site on the FDO SharePoint page http://pbcportal.pbcgov.org/fdo/default.aspx.



Click the Card Access icon. This will bring you to your Project Dashboard.



There are 4 main steps for requesting a badge:

Step 1: The Project Manager will create the new project

1. **Click the Create New Project button, enter the required data then click Save. The project will display on your Dashboard.**

Step 2: The Project Manager will add the Company to the project

1. **Click the Add Company/Send Request button.**
2. **Select an existing company or create a new one.**
3. **Click the Save & Send Request button. This will send an email to the company to add contractors.**



Step 3: The Company will add the contractors (this step will be completed by the Company)

The Company will receive and email, click a link and enter their Verification Code. This will take them to the Contractor/Subcontractor From. From there they will use the Add Contractor button and enter Contractor(s) information. Once all Contractors have been added, they click the Submit to PM button.

Step 4: The Project Manager will add permission

1. **Next to the Company name, click the Review Request button.**
2. **Click inside the Permission Type[s] field then click the permission to add it. To add another permission, click inside the field again and select the other permission. The background check is run based on your selection of CJIS and/or Critical.**
3. **Click Submit to ESS.**



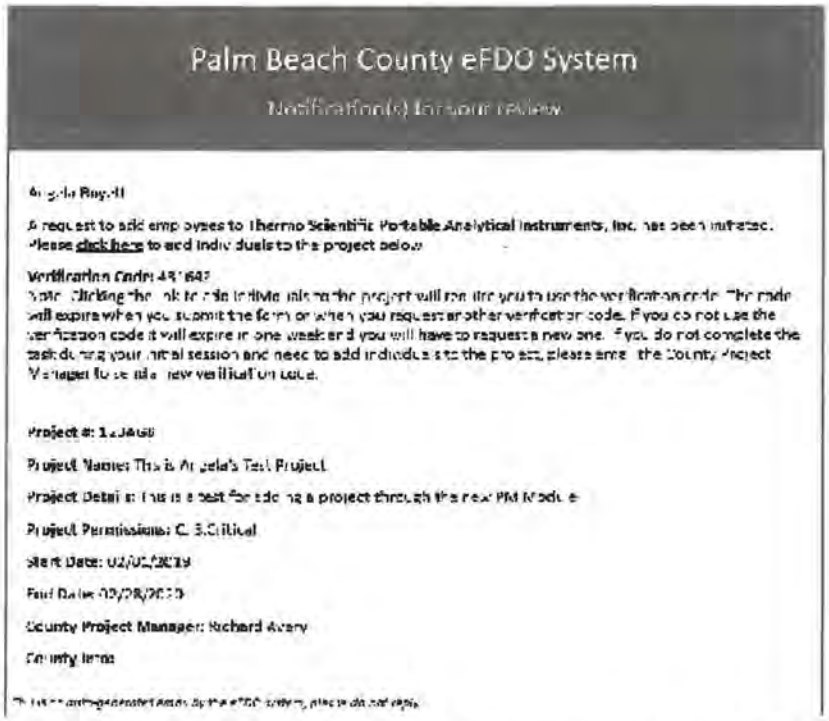


From this point on, the existing process for badge creation remains the same.

eFDO Quick Guide
ESS Access – Card Tracking System
Vendor Company User Guide

Vendor / Company - Add Contractors

An email is sent to the company to add contractors. The email contains a link to the website where contractors will be added. They will need the Verification Code in order to login to the website.


Palm Beach County eFDO System

Notification(s) for your review

Angela Boyett

A request to add employees to Thermo Scientific Portable Analytical Instruments, Inc. has been initiated. Please click here to add individuals to the project below.

Verification Code: 481642
Note: Clicking the link to add individuals to the project will require you to use the verification code. The code will expire when you submit the form or when you request another verification code. If you do not use the verification code it will expire in one week and you will have to request a new one. If you do not complete the task during your initial session and need to add individuals to the project, please email the County Project Manager to receive a new verification code.

Project #: 1220438

Project Name: This is Angela's Test Project

Project Detail: This is a test for adding a project through the new PM Module

Project Permissions: C. 3.Critical

Start Date: 02/02/2019

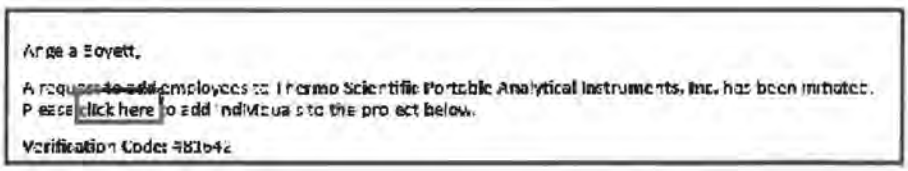
End Date: 02/28/2019

County Project Manager: Richard Avery

County Email:

This notification was generated from the eFDO system, please do not reply.

1. **Click the "click here" link in the email to go to the company portion of the application.**


Angela Boyett,

A request to add employees to Thermo Scientific Portable Analytical Instruments, Inc. has been initiated. Please click here to add individuals to the project below.

Verification Code: 481642

Notification for access to Critical Facilities – Criminal History Records Check (CHRC)_ can take approximately to one week for results.

Notification for access to CJI Facilities - CHRC can take two weeks for results. In addition to the normal process time (two weeks), it is important to inform your contractors/subcontractors that

anyone with disqualifying offense(s) who requests an escort may take longer to evaluate and approve. Overall contractors/subcontractors should plan for 4-6 weeks for results.

An appointment with Electronic Services and Security (ESS) is required to complete a CHRC. To make appointment with ESS call 561-233-0750.

Notification of all terminated employees must be made to the PM within 2 hours and must be immediately reported after that to the Access Section. Any terminated employees must surrender their IDs and/or access cards. Surrendered cards are to be returned to the Access Section.

Instruction on IDs and/or access card surrender for temporary or permanent surrender.

After the ESS has completed the required CHRC and the required ID and/or access card is ready, the Project Manager will be contacted and requested to pick up.

The Project Manager is responsible for the distribution of the ID and/or access cards to the contractor and subcontractor personnel and to ensure the contractor/subcontractor personnel wear the CJIS ID while on-site. The PM can make arrangements with ESS Access Section to have the Contractor pick up the ID badges or access cards. However, if the PM is going to make these alternate arrangements the PM is responsible to send written notice to ESS as to the name of the Contractor employee that is responsible for pick up. Only persons that are compliant with the access requirements for the applicable critical facility or CJI can be designated to pick-up cards.

No access card will be activated or "turned on" until 1) the access card is in the hands of the individual it belongs to; and 2) the call is made to activate per the instructions that will be given with each access card.

The Project Manager is responsible to collect all contractor/subcontractor IDs and/or access cards either at the completion of the project or as each subcontractor completes their portion of the work. The Project Manager is required to complete the ID/access card surrender form and return all ID/access cards to ESS within a reasonable amount of time from contractor/subcontractor completion of work.

BY INITIALING EACH ITEM BELOW, I AGREE THAT I HAVE READ AND UNDERSTAND ALL ITEMS:

_____ I have been provided the opportunity to review all disqualifying offenses at the time of my application submission and fingerprinting and I have read and understand the list.

_____ I will notify the Access Section within 24 hours if I am arrested while I am allowed to work in Critical or CJI Facilities.

_____ The information I have provided on this application is true, complete and correct to the best of my knowledge and is provided in good faith.

_____ I understand that this application will be sent to the Palm Beach Sheriff's Office for CJI Facility requests.

_____ I understand that my fingerprints will be transmitted electronically to the Florida Department of Law Enforcement and the Federal Bureau of Investigation for a state and national criminal history record check. I understand that if there is an active warrant for my arrest, I could be arrested. I release Palm Beach County from any liability whatsoever in connection with the criminal history record check with regards to my request to work unescorted in Critical or CJI Facilities.

_____ I understand that my employer is required to utilize good faith efforts to notify the County when I am no longer working in a County facility or CJI facility and request my badge and monitoring of my background check be terminated. I further understand that I can send the same information to the ESS Access Section via a signed letter or request to ESS Access Section at 2633 Vista Parkway, West Palm Beach, Florida 33411.

INITIAL EACH ITEM THAT PERTAINS TO YOUR APPLICATION. I AGREE THAT I HAVE READ AND UNDERSTAND ALL ITEMS I HAVE INITIALED:

_____ My employer has advised me I am working at a Critical Facility.

_____ My employer has explained the requirements for a criminal history records check for a Critical Facility.

_____ My employer has advised me I am working at a CJI Facility.

_____ My employer has explained the requirements for a criminal history records check for a CJI Facility.

By signing below, I acknowledge that I have an understanding of County Code, Section 2-371 thru 2-377 as well as having a full understanding all items disclosed in this application.

APPLICANT SIGNATURE: _____ **DATE:** _____

PRINTED NAME: _____

END OF SECTION

Appendix A

WORK AUTHORIZATION NO. ___
WATER UTILITIES DEPARTMENT
Resolution No. R_____ Contract Dated _____

Project Title: **2022 Pipeline Continuing Construction Contract**

PBCWUD Project No.: 22-032

Contractor: _____ _____

Address: _____
_____

Budget Line Item No. _____-_____-_____-_____

District: _____

This Work Authorization provides for: _____

_____

_____

_____

_____

_____

See **ATTACHMENT A** for detailed scope of services.

The Contract provides for_____% SBE participation. This Work Authorization includes _____% participation. The cumulative proposed SBE participation, including this authorization is _____%.

1. Services completed by the Contractor to date:

   See **ATTACHMENT B**.

2. Contractor shall begin work within ten (10) calendar days from the issuance of Notice to Proceed (NTP). Execution of the Project will be accomplished as follows from the issuance of the NTP:

   Substantial Completion _____ Calendar Days
   Final Construction Completion _____ Calendar Days

   Liquidated damages will apply as follows:

   $_____ per day past substantial completion date.
   $_____ per day past final completion date.

3. The compensation to be paid to the Contractor for providing the requested services in accordance with the Contract Bid Prices is $_____.

4. This Work Authorization does not amend, change, or modify the Contract which remains in full force and effect.

5. All Attachments to this Authorization are incorporated herein and made a part of this Work Authorization.

WORK AUTHORIZATION NO. _____

Palm Beach County Water Utilities Department
Resolution No. R_____ Contract Dated _____

Project Title: 2022 Pipeline Continuing Construction Contract

PBCWUD Project No.: 22-032

IN WITNESS WHEREOF, this Work Authorization is accepted, subject to the terms, conditions and obligations of the aforementioned Contract.

PALM BEACH COUNTY, A POLITICAL SUBDIVISION OF THE STATE OF FLORIDA

Palm Beach County
Water Utilities Department

_____
Jim Stiles, Director

_____
Date

CONTRACTOR: _____

_____
(Signature)

_____
(Name and Title)

_____
Date

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this ___ day of _____, _____, by _____, who is ☐ personally known to me or ☐ has produced _____ as identification.

_____
(Signature of Notary Public – State of Florida)

_____
(Print, Type, or Stamp Commissioned Name of Notary Public)

WORK AUTHORIZATION NO. _____

Palm Beach County Water Utilities Department

Resolution No. R_____ Contract Dated _____

Project Title: 2022 Pipeline Continuing Construction Contract

PBCWUD Project No.: 22-032

IN WITNESS WHEREOF, this Work Authorization is accepted, subject to the terms, conditions and obligations of the aforementioned Contract.

PALM BEACH COUNTY, A POLITICAL SUBDIVISION OF THE STATE OF FLORIDA

Palm Beach County
Contract Review Committee

_____
Irwin Jacobowitz, Director
Contract Development Control

_____
Date

CONTRACTOR: _____

_____
(Signature)

_____
(Name and Title)

_____
Date

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this ___ day of _____, _____, by _____, who is ☐ personally known to me or ☐ has produced _____ as identification.

_____
(Signature of Notary Public – State of Florida)

_____
(Print, Type, or Stamp Commissioned Name of Notary Public)

WORK AUTHORIZATION NO. _____
Palm Beach County Water Utilities Department

Resolution No. R_____ Contract Dated _____

Project Title: **2022 Pipeline Continuing Construction Contract**

PBCWUD Project No.: 22-032

IN WITNESS WHEREOF, this Work Authorization is accepted, subject to the terms, conditions and obligations of the aforementioned Contract.

PALM BEACH COUNTY, A POLITICAL SUBDIVISION OF THE STATE OF FLORIDA

Sharon R. Bock, Clerk & Comptroller,
Palm Beach County

Palm Beach County,
Board of County Commissioners

ATTEST:

Signed:_____

Signed:_____
Robert S. Weinroth, Mayor

Typed Name: _____
Deputy Clerk

_____
Date

Approved as to Form and Legal Sufficiency

CONTRACTOR:

Signed: _____

_____
(Signature)

Typed Name: _____
County Attorney

_____
(Name and Title)

_____
Date

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this ___ day of _____, _____, by _____, who is ☐ personally known to me or ☐ has produced _____ as identification.

_____
(Signature of Notary Public – State of Florida)

_____
(Print, Type, or Stamp Commissioned Name of Notary Public)

LIST OF ATTACHMENTS

WORK AUTHORIZATION NO. _____

Palm Beach County Water Utilities Department

Resolution No. R_____ Contract Dated _____

ATTACHMENT	A	**Scope of Work**
ATTACHMENT	B	**Summary and Status of Work Authorizations**
ATTACHMENT	C	**Public Construction Bond**
ATTACHMENT	D	**Form of Guarantee**
ATTACHMENT	E	**Work Authorization Schedule of Bid Items**
ATTACHMENT	F	**SBE Schedule 1 and Schedule 2**
ATTACHMENT	G	**Summary of SBE/Minority Business Tracking**
ATTACHMENT	H	**Location Map**

ATTACHMENT A

SCOPE OF WORK AUTHORIZATION # _____

Project Title: **2022 Pipeline Continuing Construction Contract**

PBCWUD Project No.: 22-032

Contractor shall perform:

_____

_____

_____

_____

_____

_____

_____

_____

ATTACHMENT B

SUMMARY AND STATUS OF WORK AUTHORIZATIONS

Work Auth. No.	PBCWUD Project No.	Title	Status	Project Total Amount	SBE Total Amount	SBE Participation %	Approved By	Approved Date

ATTACHMENT C

PUBLIC CONSTRUCTION BOND – WORK AUTHORIZATION NO. _____
TO CONTINUING CONSTRUCTION CONTRACT
RESOLUTION NO. R_____ Contract Dated _____

Project Title: 2022 Pipeline Continuing Construction Contract

PBCWUD Project No.: 22-032

BOND NUMBER: _____

WORK AUTHORIZATION/BOND AMOUNT: _____

CONTRACTOR'S NAME: _____

CONTRACTOR'S ADDRESS: _____

_____

_____

_____

CONTRACTOR'S PHONE: _____

SURETY COMPANY: _____

SURETY'S ADDRESS: _____

_____

_____

OWNER'S NAME: PALM BEACH COUNTY

OWNER'S ADDRESS: 8100 Forest Hill Boulevard
West Palm Beach, FL 33413

OWNER'S PHONE: (561) 493-6000

DESCRIPTION OF WORK: _____

PROJECT LOCATION: _____

LEGAL DESCRIPTION: _____

PUBLIC CONSTRUCTION BOND

This Bond is issued in favor of the County conditioned on the full and faithful performance of the Work Authorization No. _____ to Continuing Construction Contract Resolution No. R_____ dated on _____, 20___.

KNOW ALL MEN BY THESE PRESENTS: that Contractor and Surety, are held and firmly bound unto

Palm Beach County Board of County Commissioners
301 N. Olive Avenue
West Palm Beach, Florida 33401

as Obligee, herein called County, for the use and benefit of claimant as herein below defined, in the amount of _____, $_____.

(Here insert a sum equal to the Work Authorization/Bond Amount from page 1)

for the payment whereof Principal and Surety bind themselves, their heirs, personal representatives, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS,

Principal has by written agreement dated _____, 20____, entered into Work Authorization No. _____ to Continuing Construction Contract Resolution No. R_____ with the County for

Work Authorization Project Name: _____
Work Authorization Project No.: _____
Project Description: _____
_____
_____
Project Location: _____

in accordance with Design Criteria Drawings and Specifications prepared by

Name of Design Firm: _____
Location of Firm: _____
Phone: _____
Fax: _____

which Work Authorization No. ___ to Continuing Construction Contract Resolution No. R_____ is by reference made a part hereof in its entirety, and is hereinafter referred to as the Work Authorization.

1. THE CONDITION OF THIS BOND is that if Principal:

a. Performs the Work Authorization dated _____20___, between Principal and County for the construction of the above project, the Work Authorization being made a part of this bond by reference, at the times and in the manner prescribed in the Work Authorization; and

b. Promptly makes payments to all claimants, as defined in Section 255.05, Florida Statutes, supplying Principal with labor, materials, or supplies, used directly or indirectly by Principal in the prosecution of the work provided for in the Work Authorization; and

c. Pays County all losses, damages (including liquidated damages), expenses, costs, and attorneys' fees, including appellate proceedings, that County sustains because of a default by Principal under the Work Authorization; and

d. Performs the guarantee of all work and materials furnished under the Work Authorization for the time specified in the Work Authorization; then this bond is void; otherwise it remains in full force.

2. Any changes in or under the contract documents and compliance or noncompliance with any formalities connected with the Work Authorization or the changes does not affect Surety's obligation under this bond and Surety waives notice of such changes.

3. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of construction liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against the bond.

4. Principal and Surety expressly acknowledge that any and all provisions relating to consequential, delay and liquidated damages contained in the Work Authorization are expressly covered by and made a part of this Performance, Labor and Material Payment Bond. Principal and Surety acknowledge that any such provisions lie within their obligations and within the policy coverage's and limitations of this instrument.

5. Section 255.05, Florida Statutes, as amended, together with all notice and time provisions contained therein, is incorporated herein, by reference, in its entirety. Any action instituted by a claimant under this bond for payment must be in accordance with the notice and time limitation provisions in Section 255.05(2), Florida Statutes. This instrument regardless of its form, shall be construed and deemed a statutory bond issued in accordance with Section 255.05, Florida Statutes.

6. Any action brought under this instrument shall be brought in the state court of competent jurisdiction in Palm Beach County, Florida and not elsewhere.

_____	_____
Witness	Principal (Seal)
_____	_____
Print name	Print name
	_____
	Title
_____	_____
Witness	Surety (Seal)
_____	_____
Print name	Print name
	_____
	Title

ATTACHMENT D

FORM OF GUARANTEE

GUARANTEE FOR (Contractor and Surety Name) _____

_____

We the undersigned hereby guarantee that the _____**Contract, Resolution No. R_____, Contract Dated _____, PBCWUD Project No. _____, Work Authorization No. _____, Project Title: _____,** Palm Beach County, Florida, which we have constructed and bonded, has been done in accordance with the plans and specifications; that the work constructed will fulfill the requirements of the guaranties included in the Contract Documents. We agree to repair or replace any or all of our work, together with any work of others which may be damaged in so doing, that may prove to be defective in the workmanship or materials within a period of one year from the date of Final Completion of all of the above named work by the County of Palm Beach, State of Florida, without any expense whatsoever to said County of Palm Beach, ordinary wear and tear and unusual abuse or neglect excepted by the County. When correction work is started, it shall be carried through to completion.

In the event of our failure to acknowledge notice, and commence corrections of defective work within five (5) calendar days after being notified in writing by the Board of County Commissioners, Palm Beach County, Florida, we, collectively or separately, do hereby authorize Palm Beach County to proceed to have said defects repaired and made good at our expense and we will honor and pay the costs and charges therefore upon demand.

County and (contractor, engineer, architect as applicable) agree that the provisions of Florida Statute Chapter 558 shall not apply to this (contract, agreement as applicable).

SEAL AND NOTARIAL ACKNOWLEDGMENT OF SURETY

_____(Seal)
(Contractor)

By:_____ _____
(Signature) (Printed Name)

_____(Seal)
(Surety)

By _____ _____
(Signature) (Printed Name)

ATTACHMENT E

SCHEDULE OF BID ITEMS

Palm Beach County Water Utility Department
XXXXX Continuing Construction Contract - Resolution No. R_____ Contract Dated _____

Work Authorization No.: _____
Contractor Name: _____
Project Name: _____
PBCWUD Project No.: _____

NO.	BID ITEM (Furnish and Install with Appurtenances)	QUANTITY	UNIT	UNIT PRICE	TOTAL

ATTACHMENT F

Office of Equal Business Opportunity
Vendor forms included as part of Bid Form

Go to Palm Beach County's Office of Equal Business Opportunity (OEBO) website http://discover.pbcgov.org/oebo/Pages/Documents.aspx to download the latest version of the required vendor forms listed below:

OEBO *Schedule 1 – List of Proposed Contractor/Consultant and Subcontractor/Subconsultant Participation*

OEBO *Schedule 2 – Letter of Intent to Perform as a Subcontractor/Subconsultant*

Instructions on Completing SBE-M-WBE Schedules1-2

THESE SCHEDULES MUST BE COMPLETED AS APPLICABLE AND DEFINED IN INSTRUCTIONS TO BIDDERS SECTION 5.3 AND MUST BE SUBMITTED IN ACCORDANCE WITH PARAGRAPH 5.4.2 OF THE INSTRUCTIONS TO BIDDERS.

ATTACHMENT G

Palm Beach County Water Utilities Department

Resolution No. R_____ Contract Dated _____

SUMMARY OF
SBE-M/WBE MINORITY BUSINESS TRACKING

Master Contract Goal _____	**SBE**
Current Proposal	
Value of Authorization No	$0
Value of SBE-M/WBE Letters of Intent	$0
Actual Percentage	___%
Signed/Approved Authorizations	
Total Value of Authorizations	$0
Total Value of SBE-M/WBE Signed Subcontracts	$0
Actual Percentage	___%
Signed/Approved Authorizations Plus Current Proposal	
Total Value of Authorization	$0
Total Value of Subcontracts & Letters of Intent	$0
Actual Percentage	___%

Project Title: _____

PBCWUD Project No. _____

Contractor: _____

Address: _____

Budget Line Item No. ____-____-____-____

District: _____

Notice to Proceed: _____

SUPPLEMENT NO. ____ TO WORK AUTHORIZATION NO. ____
Palm Beach County Water Utilities Department
Resolution No. R_____ Work Authorization Dated _____

You are directed to make the following changes in this work authorization:

(INSERT NARRATIVE DESCRIPTION OF THE SPECIFIC WORK TO BE UNDERTAKEN UNDER THE SUPPLEMENT – SPECIFY DOLLARS AND DAYS – REFERENCE ANY SUPPORTING DOCUMENTATION BEING INCLUDED AS AN ATTACHMENT TO SUPPORT THE SUPPLEMENT)

Total: _____

All Attachments to this Supplement are made a part of this Supplement and incorporated herein.

NOT VALID UNTIL SIGNED BY BOTH OWNER AND ENGINEER. SIGNATURE OF THE CONTRACTOR INDICATES THEIR AGREEMENT HEREWITH INCLUDING ANY ADJUSTMENT IN THE WORK AUTHORIZATION SUM OR WORK AUTHORIZATION TIME, AND NO ADDITIONAL COST OR TIME INDICATED HEREIN WILL BE RELATED TO THIS CHANGE

Execution of this supplement acknowledges final settlement of, and releases, all claims for costs and time associated, directly or indirectly, with the above stated modification(s), including all claims for cumulative delays or disruptions resulting from, caused by, or incident to such modification(s), and including any claim that the above stated modification(s) constitutes, in whole or part, a cardinal change to the work authorization.

	Palm Beach County Water Utilities Department	Palm Beach County Board of County Commissioners
CONTRACTOR	**ENGINEER**	**OWNER**
	8100 Forest Hill Blvd. West Palm Beach, FL 33413	301 N. Olive Avenue West Palm Beach, FL 33401
Address	**Address**	**Address**
Signature	**Signature**	**Signature** Robert S. Weinroth, Mayor
Print Name	**Print Name**	

SUPPLEMENT NO. ____ TO WORK AUTHORIZATION NO. ____
Palm Beach County Water Utilities Department
Resolution No. R_____ Work Authorization Dated _____

Title:_____	**Title:**_____	
_____	_____	_____
Date	**Date**	**Date**

Execution of this supplement acknowledges final settlement of, and releases, all claims for costs and time associated, directly or indirectly, with the above stated modification(s), including all claims for cumulative delays or disruptions resulting from, caused by, or incident to such modification(s), and including any claim that the above stated modification(s) constitutes, in whole or part, a cardinal change to the work authorization.

	Palm Beach County Water Utilities Department	Palm Beach County Contract Review Committee
CONTRACTOR	**ENGINEER**	**OWNER**
	8100 Forest Hill Blvd. West Palm Beach, FL 33413	301 N. Olive Avenue West Palm Beach, FL 33401
Address	**Address**	**Address**
_____	_____	_____
Signature	**Signature**	**Signature** **Irwin L. Jacobowitz, Director Contract Development & Control**
_____	_____	
Print Name	**Print Name**	
Title:_____	**Title:**_____	
_____	_____	_____
Date	**Date**	**Date**

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this ___ day of _____, _____, by _____, who is ☐ personally known to me or ☐ has produced _____ as identification.

_____
(Signature of Notary Public – State of Florida)

_____
(Print, Type, or Stamp Commissioned Name of Notary Public)

SUPPLEMENT NO. ____ TO WORK AUTHORIZATION NO. ____
Palm Beach County Water Utilities Department
Resolution No. R_____ Work Authorization Dated _____

Execution of this supplement acknowledges final settlement of, and releases, all claims for costs and time associated, directly or indirectly, with the above stated modification(s), including all claims for cumulative delays or disruptions resulting from, caused by, or incident to such modification(s), and including any claim that the above stated modification(s) constitutes, in whole or part, a cardinal change to the work authorization.

	Palm Beach County Water Utilities Department	Palm Beach County Water Utilities Department
CONTRACTOR	**ENGINEER**	**OWNER**
	8100 Forest Hill Blvd. West Palm Beach, FL 33413	8100 Forest Hill Blvd. West Palm Beach, FL 33413
Address	**Address**	**Address**
Signature	**Signature**	**Signature** **Jim Stiles, Director**
Print Name	**Print Name**	
Title:	**Title:**	
Date	**Date**	**Date**

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this ___ day of _____, _____, by _____, who is ☐ personally known to me or ☐ has produced _____ as identification.

_____
(Signature of Notary Public – State of Florida)

_____
(Print, Type, or Stamp Commissioned Name of Notary Public)

LIST OF ATTACHMENTS

ATTACHMENT	**A**	Supplement Summary and Categorization
ATTACHMENT	**B**	Supplement Additions/Deletions Summary
ATTACHMENT	**C**	SBE Schedule 1 and Schedule 2
ATTACHMENT	**D**	Location Map
ATTACHMENT	**E**	Bond Rider (if applicable)
ATTACHMENT	**F**	Supporting Documentation

ATTACHMENT B
SUPPLEMENT ADDITIONS/DELETIONS SUMMARY

Project Title:

PBCWUD Project No.

Resolution No. R

Item #	Suppl. Code	Scope of Work	Additions	(Deletions)	Net Change	Time
				$ -	$ -	
				$ -	$ -	
				$ -	$ -	
				$ -	$ -	
				$ -	$ -	
				$ -	$ -	
				$ -	$ -	
				$ -	$ -	
				$ -	$ -	
		Total		$ -	$ -	

SUPPLEMENT CATEGORIZATION CODE

O	OWNER INITIATED
D	DIFFERING SITE CONDITIONS
E	ERRORS and OMISSIONS
Z	ZONING/CODE/ORDINANCE CHANGES
Q	QUANTITY OVERRUNS/UNDERRUNS

ATTACHMENT B
SUPPLEMENT ADDITIONS/DELETIONS SUMMARY

R REQUEST BY ANOTHER AGENCY

Project Title:

Contractor:

PBCWUD Project No.:

Resolution No. R:

Date Approved:

APPROVAL LIMITS:

	DEPARTMENT HEAD	CONTRACT REVIEW COMMITTEE
	(Amount)	(Amount)
INDIVIDUAL SUPPL.	$100,000.00	$199,999.00

Suppl. #	DATE APPROVED	NET CHANGE[1]	DEPARTMENT HEAD (ADDS PLUS DEDUCTS)[2] AMOUNT	DAYS	CONTRACT REVIEW COMMITTEE (ADDS PLUS DEDUCTS)[2] AMOUNT	DAYS	TOTAL DEPT. HEAD & CONTRACT REVIEW COMM. (ADDS PLUS DEDUCTS)[2] AMOUNT	DAYS	BOARD OF COUNTY COMMISSIONERS (ADDS PLUS DEDUCTS)[2] AMOUNT	DAYS	TOTALS
TOTAL		**$**	**$**		**$ 2.00**		**$ 2.00**		**$ 2.00**		**$ 0.00**

Notes:

1. Net Change reflects the net amount of additions plus deductions.
2. Adds plus Deducts reflects the net value of unrelated changes for use in determining the approval authority for the Supplement.

Office of Equal Business Opportunity
Vendor forms included as part of Bid Form

Go to Palm Beach County's Office of Equal Business Opportunity (OEBO) website http://discover.pbcgov.org/oebo/Pages/Documents.aspx to download the latest version of the required vendor forms listed below:

OEBO *Schedule 1 – List of Proposed Contractor/Consultant and Subcontractor/Subconsultant Participation*

OEBO *Schedule 2 – Letter of Intent to Perform as a Subcontractor/Subconsultant*

Instructions on Completing SBE-M-WBE Schedules1-2

THESE SCHEDULES MUST BE COMPLETED AS APPLICABLE AND DEFINED IN INSTRUCTIONS TO BIDDERS SECTION 5.3 AND MUST BE SUBMITTED IN ACCORDANCE WITH PARAGRAPH 5.4.2 OF THE INSTRUCTIONS TO BIDDERS.

ATTACHMENT D

INSERT LOCATION MAP

ATTACHMENT E

INSERT BOND RIDER
(IF APPLICABLE)

ATTACHMENT F

INSERT SUPPORTING DOCUMENTATION

NOTICE TO PROCEED

Dated _____, 20___

TO: _____
(CONTRACTOR)

ADDRESS: _____

FOR
PALM BEACH COUNTY
WATER UTILITIES DEPARTMENT

2022 Pipeline Continuing Construction Contract

PBCWUD Project No.: 22-032
Work Authorization No.: _____

You are hereby notified that the Contract Time under the above Work Authorization will commence to run on _____, 20___. By that date, you are to start performing your obligations under the Contract Documents. In accordance with the Contract, the dates of Substantial Completion and Final Completion are 335 successive calendar days and successive calendar days, respectively, from this date.

Before you may start any Work you must deliver to the Engineer, the following:

1. List of all Subcontractors that will perform work on the project.
2. Construction schedule as required in specification Section 01 33 00.
3. List of all shop drawings to be submitted.

Palm Beach County, Florida By: _____
(Authorized Signature)
PBC Water Utilities Department

ACCEPTANCE OF NOTICE

Receipt of the above Notice to Proceed is hereby acknowledged by _____ this _____ day of _____, 20___.

BY: _____ TITLE: _____

PRINTED NAME: _____

Copy to Engineer
(Use Certified Mail
Return Receipt Requested)

PERIODICAL ESTIMATE FOR PARTIAL PAYMENT

PROJECT NAME: 2022 Pipeline Continuing Construction Contract

PBCWUD PROJECT NO.: 22-032 RESOLUTION NO.: R

CONTRACTOR: _____

ADDRESS: _____

Application No.: _____ Period From: _____ to _____

Account Number: _____

Item # (1)	Description of Item (2)	Original Estimate				Completed			
		Quantity (3)	Unit (4)	Unit Price (5)	Value (6)	Unit to Date (7)	Cost to Date (8)	Cost to Complete (9)	% Complete (10)

PERIODICAL ESTIMATE FOR PARTIAL PAYMENT

PROJECT NAME: 2022 Pipeline Continuing Construction Contract

PBCWUD PROJECT NO.: 22-032 RESOLUTION NO.: R

CONTRACTOR: _____

ADDRESS: _____

Application No.: _____ Period From: _____ to _____

Account Number: _____

WORK SUPPLEMENTS

Work Supplement				Additions		Deletions (7)
C.O. # (1)	Date (2)	Item # (3)	Description (4)	Amount (5)	Amount Completed To Date (6)	

PERIODICAL ESTIMATE FOR PARTIAL PAYMENT

PROJECT NAME: 2022 Pipeline Continuing Construction Contract

PBCWUD PROJECT NO.: 22-032 RESOLUTION NO.: R

CONTRACTOR: _____

ADDRESS: _____

Application No.: _____ Period From: _____ to _____

Account Number: _____

ANALYSIS OF ADJUSTED CONTRACT AMOUNT TO DATE:

A. Original Contract Amount (Page A-2, Col. 6) _____
B. Plus: Work Supplement Additions (Page A-3, Col. 5) _____
C. Less: Work Supplement Deletions (Page A-3, Col. 7) _____
D. Adjusted Contract Amount as of this Estimate _____

ANALYSIS OF WORK PERFORMED TO DATE:

1. Original Contract Work Performed to Date (Page A-2, Col. 8) _____
2. Extra Work Performed to Date (Page A-3, Col. 6) _____
3. Total Value of Work Performed To Date _____
4. Plus: _____ % of Stored Material and Equipment (Attach Schedule & Copies of Invoices) _____
5. Total Work Performed To Date Plus Stored Materials and Equipment _____
6. Less: _____ % Retainage _____
7. Net Amount Earned on Contract to Date _____
8. Less: Amount of Previous Payments _____
9. Plus: Reduction in Retainage from _____ % to _____ % _____
10. Balance Due This Payment _____

CERTIFICATION OF CONTRACTOR:

I hereby certify that I have checked and verified this Periodical Estimate for Payment No. _____, for the period from _____ to _____, inclusive, and that it is a true and correct statement of all work performed, and/or any and all material and equipment supplied by this Contractor; that all work, materials, and equipment included in Periodical Estimate No. _____ have been performed and/or supplied in full accordance with the terms and conditions of the Contract Documents and/or duly authorized deviations, substitutions, alterations and/or additions; that all terms of Periodical Estimate No. _____have been authenticated and approved by the authorized undersigned representative of the Contractor.

_____ By _____
(Contractor) Authorized Representative)

_____
(Printed Name)

Title _____ Date _____

PERIODICAL ESTIMATE FOR PARTIAL PAYMENT

PROJECT NAME: 2022 Pipeline Continuing Construction Contract

PBCWUD PROJECT NO.: 22-032 RESOLUTION NO.: R

CONTRACTOR: _____

ADDRESS: _____

Application No.: _____ Period From: _____ to _____

Account Number: _____

CERTIFICATION OF CONSTRUCTION REPRESENTATIVE:

According to the best of my knowledge and belief, I certify that all items and amounts shown on the face of the Periodical Estimate No. _____ are correct; that the work, material and equipment shown thereon has been completed and supplied in conformance with the Contract Documents of the project between PALM BEACH COUNTY (Owner), and _____ (Contractor), dated _____ , including any authorized changes, deviations, substitutions, alterations and/or additions; that it is agreed that this Periodical Estimate for Payment No. _____ is a true and correct statement of the Contract Amount, up to and including the last day of the last day of the period covered by this Periodical Estimate No. _____ and that no part of the "balance due" this payment has been received.

_____ By _____

(Resident Project Representative) (Authorized Representative)

Title _____ Date _____

CERTIFICATION OF WATER UTILITIES REPRESENTATIVE:

To the best of my knowledge and belief, all items shown on the face of this Periodical Estimate for Partial Payment No. ___ are correct and that the work, material and equipment shown thereon has been completed and/or supplied in conformance with the Contract Documents, and is satisfactory for approval and processing for payment.

Palm Beach County Water Utilities Dept. By _____

(Owner) (Authorized Representative)

_____

(Printed Name)

Title Director of Engineering Division Date _____

Office of Equal Business Opportunity
Vendor forms included as part of Appendix A

Go to Palm Beach County's Office of Equal Business Opportunity (OEBO) website http://discover.pbcgov.org/oebo/Pages/Documents.aspx to download the latest version of the required vendor forms listed below:

OEBO *Schedule 3 – Subcontractor Activity Form*

OEBO *Schedule 3A – Professional Services Activity Report*

OEBO *Schedule 4 – Subcontractor/Subconsultant Payment Certification*

Instructions on Completing SBE-M-WBE Schedules3-4

THESE SCHEDULES MUST BE COMPLETED AND SUBMITTED AS APPLICABLE AND DEFINED IN INSTRUCTIONS TO BIDDERS SECTION IN ACCORDANCE WITH PARAGRAPHS 5.3.9.1 and 5.3.9.2 OF THE INSTRUCTIONS TO BIDDERS.

WARRANTY OF TITLE AND RELEASE

(For Periodic Progress Payments)

STATE OF _____)
)SS:
COUNTY OF _____)

CUTOFF DATE:
CONTRACTOR:
PBCWUD PROJECT NO. 22-032

PROJECT NAME: 2022 Pipeline Continuing Construction Contract
WORK AUTHORIZATION NUMBER: _____

BEFORE ME, the undersigned authority, personally appeared _____ (hereinafter called the "Affiant"), who after being duly sworn, deposes and says that he is the ___ of_____ a _____ corporation (hereinafter called the "Contractor"), pursuant to Palm Beach County Contract No. 22-032, dated the ____ day of _____, 20___ (hereinafter called the "Contract"), with the BOARD OF COUNTY COMMISSIONERS, PALM BEACH COUNTY, FLORIDA (hereinafter called the "County"), for the furnishing of certain labor, materials, equipment, tools, supplies and manufactured articles (hereinafter called the "Work"), to improve certain property located in PALM BEACH COUNTY, FLORIDA (hereinafter called the "Property"), and on behalf of the Contractor named above is authorized to make the following warranties, requests, releases, and indemnifications:

I. The Contractor warrants that it has fully completed in accordance with the Drawings and Specifications therefor, that portion of the Work, pursuant to the Contract (the "Completed Work") and represents that the attached Application for Payment constitutes a full and complete accounting of all monies due the Contractor under the Contract as of the Cutoff Date.

II. A. ORIGINAL CONTRACT SUM $_____

B. Approved Work Supplements $_____

C. Other Adjustments (Explain on attachment) $_____

III. The Contractor further warrants and represents that:

1. All Work performed by the Contractor through the Cutoff Date has been incorporated into this request for payment.

2. There are no costs, extras, Work Supplements, or claims of any kind or nature due the Contractor for Work performed through the Cutoff Date other than as set forth herein.

3. Contractor hereby waives its right to payment and to any other claim not indicated herein.

4. All Subcontractors, laborers, vendors, material, manufacturers, suppliers and other parties of whatever kind or nature who are entitled to payment from the Contractor for providing labor and materials to the Contractor pursuant to the Contract as of the Cutoff Date in the last previous Periodical Estimate for Partial Payment have been paid in full for performing or furnishing the work, labor, equipment, materials, tools, supplies and manufactured articles upon said Contract and have delivered to the Contractor validly executed Partial Releases of Liens or Claims with respect thereto.

5. Contractor does hereby waive, release, remise, and relinquish Contractor's right to claim, demand, or impose a lien or claims to the extent of the previous payments, and except to the extent of the "Present Unpaid Balance" set forth above, for work done or labor, materials, equipment or supplies furnished and/or any other kind of class of lien or liens on the Property.

6. This shall constitute a full, absolute, and unconditional release and discharge by the Contractor to the County of all claims or liens of the Contractor, of whatever nature, arising out

of, in connection with, or resulting from the supply by the Contractor, or any of its Subcontractors or suppliers, of labor and/or materials to the Property as of the indicated Cutoff Date, except to the extent of the "Present Unpaid Balance" and any claims listed on the attached statement of unresolved claims.

The Contractor agrees to indemnify and hold the County harmless from and against all costs and expenses, including reasonable attorney's fees and fees on appeal, resulting from any entity or individual who claims to have not been paid for labor, materials, equipment, tools, supplies and manufactured articles furnished in connection with the Completed Work.

This Affidavit is done with the understanding that contract payments are based on the truth and veracity of this document and any misrepresentation hereunder could result in action for breach of contract and/or loss, reduction or retention of future contract payments.

This statement is given under oath.

_____ (CORPORATE SEAL)
(Contractor)

_____
(Signature)

_____
(Printed Name)

_____
(Title)

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this ___ day of _____, _____, by _____, who is ☐ personally known to me or ☐ has produced _____ as identification.

_____
(Signature of Notary Public – State of Florida)

_____
(Print, Type, or Stamp Commissioned Name of Notary Public)

CONSENT OF SURETY

For Reduction of or Partial Release of Retainage

PROJECT NAME: 2022 Pipeline Continuing Construction Contract

PROJECT LOCATION: System-Wide

PBCWUD PROJECT NO.: 22-032 RESOLUTION NO.: R_____ CONTRACT DATE:_____
WORK AUTHORIZATION NUMBER: _____

CONTRACT TYPE:_____

CONTRACT AMOUNT:_____ ENGINEER'S PROJECT NO.:_____

ENGINEER:_____

In accordance with the provisions of the above-named Contract between the County and the Contractor, the

following named Surety:

_____

on the PUBLIC CONSTRUCTION BOND of the following named Contractor:

_____

hereby approves a reduction of or a partial release of retainage to the Contractor as set forth below:

_____

The Surety Company hereby agrees that such reduction of or partial release of retainage to the Contractor shall not relieve said Surety Company of any of its obligations to the following named County as set forth in said Surety Company's bond:

_____

_____

IN WITNESS WHEREOF, the Surety Company has hereunto set its hand and seal this _____ day of _____, 20___.

_____ _____
(Attest) (Name of Surety Company)

_____
(Printed Name)
(Affix corporate here)

_____
(Signature of Authorized Representative)

_____
(Printed Name)

TITLE:_____

REQUEST FOR ADJUSTMENT OF RETAINAGE

PROJECT NAME: 2022 Pipeline Continuing Construction Contract
PBCWUD PROJECT NO.: 22-032
WORK AUTHORIZATION NUMBER: _____

County: _____ PBCWUD PROJECT NO.: 22-032

ENGINEER: _____ PROJECT MANAGER _____

CONTRACTOR: _____

The Contractor, _____ hereby requests that the percentage of partial payment estimates retained by the County under the provisions of the Contract Documents be REDUCED from ____% to ____%.

By _____ Date _____
Contractor Representative

Title _____

The Surety on the Public Construction Bond for said project:

_____
hereby approves the foregoing request.

By _____ Date _____
Attorney-in-Fact

Power of Attorney must be attached to original copy

_____

Approval IS/IS NOT recommended. The percentage of completed work as of _____,

20___ is _____% and the present percentage of elapsed contract time as of _____,

20___ is _____%

By _____ Date_____
Resident Project Representative

Approval IS/IS NOT recommended:

By _____ Date_____
Project Manager

APPROVED/DISAPPROVED:

By _____ Date_____
County's Representative

WORK SUPPLEMENT

PROJECT: 2022 Pipeline Continuing Construction Contract
WORK AUTHORIZATION NUMBER: _____

WORK SUPPLEMENT NO.: ___ **PBCWUD PROJECT NO. :22-032**

(Contractor):

DOCUMENT NO.
CONTRACT DATE:
NOTICE TO PROCEED:
BUDGET LINE ITEM:

You are directed to make the following changes in this contract:

1.

Total $

NOT VALID UNTIL SIGNED BY BOTH OWNER AND ENGINEER. SIGNATURE OF THE CONTRACTOR INDICATES HIS CONTRACT HEREWITH INCLUDING ANY ADJUSTMENT IN THE CONTRACT SUM OR CONTRACT TIME, AND NO ADDITIONAL COST OR TIME INDICATED HEREIN WILL BE RELATED TO THIS CHANGE

The Original Contract Sum was..... $_____
Net Change by previous Work Supplements ..... $_____
The Contract Sum prior to this Work Supplement was .....
$_____
The Contract Sum will be **increased/decreased** by this Work Supplement.....
$_____
The New Contract Sum indicating this Work Supplement will be... $_____
The Contract Time will be **changed** by_____ ( )Days _____
The Date of Substantial Completion. including this Work Supplement: _____
The Date of Final Completion including this Work Supplement: _____

Execution of this Work Supplement acknowledges final settlement of, and releases, all claims for costs and time associated, directly or indirectly, with the above stated modification(s), including all claims for cumulative delays or disruptions resulting from, caused by, or incident to such modification(s), and including any claim that the above stated modification(s) constitutes, in whole or part, a cardinal change to the contract.

Palm Beach County		Palm Beach County
ENGINEER	**CONTRACTOR**	**OWNER**
8100 Forest Hill Blvd.		8100 Forest Hill Blvd.
W. Palm Beach, FL 33413		West Palm Beach, FL 33413
Address	**Address**	**Address**
BY_____	BY_____	BY_____
DATE_____	DATE_____	DATE_____

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this ___ day of _____, _____, by _____, who is ☐ personally known to me or ☐ has produced _____ as identification.

_____
(Signature of Notary Public – State of Florida)

_____
(Print, Type, or Stamp Commissioned Name of Notary Public)

CHARGE AUTHORIZATION

PROJECT: 2022 Pipeline Continuing Construction Contract
PBCWUD PROJECT NO. 22-032
DISTRICT NUMBERS:
CHARGE AUTHORIZATION NO.:

TO (Contractor):

DOCUMENT NO.

CONTRACT DATE:
NOTICE TO PROCEED:
BUDGET LINE ITEM:

You are directed to perform the following work and make the following charges to the applicable allowance accounts:
1.

Total: _____

NOT VALID UNTIL SIGNED BY BOTH OWNER AND ENGINEER. SIGNATURE OF THE CONTRACTOR INDICATES HIS AGREEMENT HEREWITH INCLUDING ANY ADJUSTMENT IN THE CONTRACT SUM OR CONTRACT TIME, AND NO ADDITIONAL COST OR TIME INDICATED HEREIN WILL BE RELATED TO THIS CHARGE.

Total of Original Contract Allowances	$_____
Contract Allowances previously granted	$_____
The Allowance Balance prior to this Charge Authorization was	$_____
Amount Allowance Accounts will be **increased/decreased** by this Charge Authorization	$_____
The Allowance Balance after this Charge Authorization will be	$_____

Execution of this Charge Authorization acknowledges final settlement of, and releases, all claims for costs and time associated, directly or indirectly, with the above stated modification(s), including all claims for cumulative delays or disruptions resulting from, caused by, or incident to such modification(s), and including any claim that the above stated modification(s) constitutes, in whole or part, a cardinal change to the contract.

Palm Beach County	_____	Palm Beach County
ENGINEER	**CONTRACTOR**	**OWNER**
8100 Forest Hill Blvd.	_____	8100 Forest Hill Blvd.
W. Palm Beach, FL 33413	_____	West Palm Beach, FL 33413
Address	**Address**	**Address**
BY_____	BY_____	BY_____
DATE_____	DATE_____	DATE_____

CERTIFICATE OF SUBSTANTIAL COMPLETION

FOR THE 2022 Pipeline Continuing Construction Contract
PBCWUD Project Number: 22-032
WORK AUTHORIZATION NUMBER: _____

CONTRACTOR: _____

CONTRACT DATE:_____, 20___

This Certificate of Substantial Completion applies to all Work under the Contract Documents or to the following specified parts thereof:

TO: _____
(County)

AND
TO:_____
(Contractor)

The Work to which this Certificate applies has been inspected by authorized representatives of the ENGINEER, along with the CONTRACTOR and that Work is hereby declared to be Substantially Complete in accordance with the Contract Documents on:

_____
(Date of Substantial Completion)

A tentative list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and failure to include an item in the list does not alter the responsibility of the CONTRACTOR to complete all the Work in a good and workmanlike manner in accordance with the Contract Documents. The items in the tentative list shall be completed or corrected by the CONTRACTOR within _____days of the above date of Substantial Completion.

The responsibilities between the County and the CONTRACTOR for security, operation, safety, maintenance, heat, utilities, insurance and warranties shall be as follows:

County:_____

CONTRACTOR:_____

The following documents are attached to and made a part of this Certificate:

_____

This Certificate does not constitute an acceptance of any Work not in accordance with the Contract Documents nor is it a release of CONTRACTOR'S obligation to complete the Work in a good and workmanlike manner in accordance with the Contract Documents.

Recommended by the ENGINEER:

By: _____ _____ Date _____
Professional Engineer Print Name

CONTRACTOR hereby accepts this Certificate of Substantial Completion:

By: _____ _____
(Signature) (Printed Name)

_____ Date: _____
(Title)

County acknowledges receipt of this Certificate of Substantial Completion:

By: _____ _____
(Signature) (Printed Name)

Director of Engineering Division Date: _____
(Title)

CONTRACTOR'S CERTIFICATION OF FINAL COMPLETION

TO: _____

PROJECT NAME: 2022 Pipeline Continuing Construction Contract

PBCWUD PROJECT # 22-032

JOB NO. _____

CONTRACT NO. _____

ATTN: _____

COUNTY: _____

ENGINEER _____

FROM: _____
(Firm or Corporation)

This is to certify that I, _____ am an authorized official of

_____ working in the capacity of _____ and have

been properly authorized by said firm or corporation to sign the following statements pertaining to the subject Contract:

I know of my own personal knowledge, and do hereby certify, that the work of the Contract described above has been performed, and materials used and installed in every particular, in accordance with, and in conformity to, the Contract Documents and approved changes thereto.

The contract work is now complete in all parts and requirements, and ready for your final inspection.

I understand that neither the determination by the Engineer that the work is complete, nor the acceptance thereof by the County, shall operate as a bar to claim against the Contractor under the terms of the guarantee provisions of the Contract Documents.

Date of Final Completion: _____

BY _____ TITLE _____

_____
(Printed Name) FOR _____

Recommended by the ENGINEER:

By: _____ _____ Date: _____
Professional Engineer (Printed Name)

County acknowledges receipt of this Certificate of Final Completion:

By: _____ _____ Date: _____
Director of Engineering Division (Printed Name)

STATEMENT OF UNRESOLVED CLAIMS

FOR PBCWUD PROJECT NUMBER 22-032

WORK AUTHORIZATION NUMBER: _____

RESOLUTION NO. R_____

PAYMENT APPLICATION NUMBER _____

Contractor shall list, in detail, on this page and any required additional pages all outstanding, unresolved claims which Contractor has on this project.

CONSENT OF SURETY FOR FINAL PAYMENT

PROJECT NAME: 2022 Pipeline Continuing Construction Contract

PROJECT LOCATION: System-Wide

PBCWUD PROJECT NO.: 22-032 PROJECT RESOLUTION NO.: R

CONTRACT DATE: _____ CONTRACT RESOLUTION NO.: R

WORK AUTHORIZATION NUMBER: _____

CONTRACT TYPE: _____

CONTRACT AMOUNT: _____ ENGINEER'S PROJECT NO.: _____

ENGINEER: _____

In accordance with the provisions of the above named Contract between the County and the Contractor, the following named Surety:

_____

on the PUBLIC CONSTRUCTION BOND of the following named Contractor: _____
hereby approves of final payment by County to the Contractor, and further agrees that said final payment to the Contractor shall not relieve the Surety Company named herein of any of its obligations to the following named County, as set forth in said Surety Company's bond:

_____

IN WITNESS WHEREOF, the Surety Company has hereunto set its hand and seal this _____ day of _____, 20___.

_____ _____
(Attest) (Name of Surety Company)

_____
(Printed Name)

(Affix corporate seal)

_____
(Signature of Authorized Representative)

_____
(Printed Name)

TITLE: _____

FINAL WARRANTY OF TITLE

STATE OF FLORIDA_____)

COUNTY OF_____)

PBCWUD PROJECT NO.: 22-032

WORK AUTHORIZATION NUMBER: _____

Before me, the undersigned authority, personally appeared _____, who was duly sworn and says:

1. Affiant is the _____ of _____ a _____ (hereinafter called the "Contractor").

2. Contractor entered into a Contract dated the _____ day of_____, **20__** (hereinafter called the "Contract") with the **PALM BEACH COUNTY,** a political subdivision of the State of Florida (hereinafter called the "County"), being Contract No. R_____ for the construction of certain improvements and the performance of certain Work more particularly described in the Contract Documents (such construction and performance being hereinafter collectively referred to as the "Work"), on property owned and or controlled by the County, located in System-Wide.

3. Contractor has fully completed the Work and all individuals, firms, and corporations furnishing materials, labor, equipment, tools, supplies, manufactured articles and services incident to the completion of the Work, and all payrolls, bills for materials, equipment, tools, supplies, manufactured articles, and all other indebtedness connected with the Work, have been paid in full, except for the following:

None, unless set forth below:

Name	Address	Amount Due or to Become Due and Unpaid

(Attach additional sheets, if more space is needed)

4. Receipt by Contractor of the Final Payment from County in the amount of $_____shall constitute a full release and discharge by Contractor to said County of all claims and liens of the Contractor against said County arising out of, connected with, or resulting from performance of the Contract or the Work.

5. The undersigned further certifies that all non-exempt taxes imposed by Chapter 212, Florida Statutes (Sales and Use Tax Act), as amended, have been paid and discharged.

6. Contractor agrees to forever indemnify, defend, and hold said County harmless from and against all costs and expenses, including reasonable attorney's fees, including fees on appeal, resulting from individuals, firms, or corporations who claim to have not been paid for material, labor, equipment, tools, supplies, manufactured articles or services furnished incident to the Work.

7. This Affidavit is made for the purpose of inducing Final Payment from the County to the Contractor under the Contract in compliance with the Contract Documents.

8. Affiant has full authority to execute this Affidavit and to execute a full and final release of all claims and liens on behalf of the Contractor.

Signed and Sealed in the presence of:

_____ (CORPORATE SEAL)
(Contractor)

_____
(Signature))

_____
(Printed Name)

_____
(Title)

_____
(Witness)

_____
(Printed Name)

_____
(Witness)

_____
(Printed Name)

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this ___ day of _____, _____, by _____, who is ☐ personally known to me or ☐ has produced _____ as identification.

_____
(Signature of Notary Public – State of Florida)

_____
(Print, Type, or Stamp Commissioned Name of Notary Public)

PALM BEACH COUNTY
WATER UTILITIES DEPARTMENT

WORK DIRECTIVE

To: _____
Contractors Name

_____
Address

Project Name: 2022 Pipeline Continuing Construction Contract
PBCWUD Project No.: 22-032 Resolution No. R_____
Work Directive No.: _____

WORK AUTHORIZATION NUMBER: _____

Work Directive No.: _____

In accordance with your proposal dated _____ you are authorized to perform the following scope of work

_____
_____
_____
_____

_____ Time and materials as specified in the Contract Documents

_____ Lump Sum Price of _____.

Note: This Work Directive will be incorporated into a Work Supplement that will be submitted to the Contract Review Committee, Board of County Commissioners or Palm Beach County Water Utilities Director for approval.

Authorized by:

_____
(Printed Name)

_____
Title

_____
Signature

_____
Date

Appendix B

POST BID INFORMATION

2022 Pipeline Continuing Construction Contract

PBCWUD PROJECT NO.: 22-032

POST BID INFORMATION REQUIREMENTS

If required by the County, this form must be completed and returned to the County within two (2) working days. Each Bidder is responsible for checking the Bid results to determine if they are the low Bidder. Failure to return this form within two (2) working days may result in rejection of the Bid by the County. Award will be made to the lowest, responsive, responsible Bidder. To be considered responsive, the Bid must conform in all respects to the conditions of the Invitation to Bid, to the Instructions to Bidders, Palm Beach County Code Sections 2-51 through 2-54, as amended and to Florida law. To demonstrate qualifications to perform the Work, each Bidder must be prepared to submit within two (2) days of the County's request, The Post Bid Information as may be called for herein. Each Bidder must, upon request, provide evidence that, as of the date of Primary Bid Document submission, Bidder, and the listed subcontractors, were qualified to do business in the State of Florida and Palm Beach County.

1. Contractor's Legal Name and Address:

   Name: Hinterland Group Inc.

   Address: 2051 W. Blue Heron Blvd.

   City: Riviera Beach State FL Zip Code: 33404

2. Check One: Corporation: ✓ Partnership: _____ LLC _____

   Individual: _____ Joint Venture: _____

3. If a Corporation or LLC, state:

   Date of Incorporation or Organization : 06/26/2006

   State in which Incorporated or Organized: Florida

4. If an out-of-state corporation or LLC which is currently authorized to do business in the State of Florida, give the date of such authorization: N/A

5. Names and Titles of Principal Officers or Managing Members (LLC)

Date Elected: Daniel Duke, III - President 06/26/2006

6. If a Partnership, state: N/A

Date of Partnership: _____

Type of Partnership (General or Limited): _____

Names and Addresses of Partners: _____

7. If Joint Venture, state: N/A

Date of Joint Ventureship: _____

Names and Addresses of Joint Ventures:

8. If Sole Proprietorship, state: N/A

Name and Address of Sole Proprietor:

9. List corporate names or business names under which each of the principals in the present corporation have done business for the last ten (10) years:

N/A

10. List all subsidiaries or holding companies:

N/A

11. Contractor's License: CGC1520354 Primary Classification Certified General Contractor
Certified Underground Utility & Excavation
Certified Electrical Contractor

State License No.: CGC1520354 / CUC1224634 / EC13003615

Supplemental classifications held, if any: N/A

Name of Licensee, if different from (1) above:

Charles Breig - Certified Electrical Contractor (EC13003615)

12. What is the maximum bonding capacity of your company?

(A) Capacity (Dollar Amount): $100,000,000.00

(B) Include the company name, phone number, address and name of the Florida Resident Agent of your current bonding company:

Atlantic Specialty Insurance Company - (212) 440-6535 - 605 Highway 169 North, Suite 800, Plymouth, Minnesota 55441
Florida Resident Agent - Daniel Wagner - Wagner Bonding & Insurance, Inc. - P.O. Box 2868, Lakeland, FL 33806

13. Has your organization or any member been involved in any litigation or arbitration within the last ten (10) years as a result of construction contracts, including but not limited to liens, defective performance or workmanship? If yes, provide the following information for each case (attach additional sheets as necessary): N/A

(A) Style or caption of litigation or arbitration: N/A

(B) All parties to such proceedings:

N/A

(C) Names, Addresses, and Telephone Numbers of Attorneys for each party:

N/A

(D) Date Litigation Started: N/A

(E) Status of Case: N/A

(F) Provide an explanation of each claim by and against each party (Attach additional sheets as necessary).

N/A

14. Have you or any principal of your company ever declared bankruptcy?

Yes _____ No ✓

If yes, provide dates and particulars:

Date	Reason

15. Have you ever failed to complete work awarded to you? If so, where and why?

No

16. List some major subcontractors and suppliers from your completed or ongoing projects:

Fortiline Waterworks (561) 253-9886

PSI Technologies Inc. (305) 998-1371

Cemex (321) 633-0796

ABS USA (321) 639-3568

17. State the construction experience of your firm's principal members including, but not limited to, type, size and completion of projects, including project status (attach additional sheets as necessary):

Please see attached

18. State the construction experience of your organization including, but not limited to, type, size and completion of projects, including project status (attach additional sheets as necessary):

Please see attached

19. State the construction experience of the Superintendent to be assigned to this project including, but not limited to, type, size and completion of projects, including project status (attach additional sheets as necessary):

Please see attached

Hinterland Group Inc.
(Contractors Name)

HINTERLAND GROUP, INC. CORPORATE SEAL FLORIDA

(Signature)

Project Director
(Title)

Chase Rogers
(Printed Name)

11/28/2022
(Date)

END OF SECTION

Appendix B

Post Bid Information

2022 Pipeline Continuing Construction Contract
WUD PROJECT NO.: 22-032

Page APPENDIX B-5

QUESTIONS: ATTACHMENTS

17) CORPORATE RESUME

STATE OF FLORIDA CERTIFICATION AND LICENSES

18) COMPLETED AND CURRENT PROJECT LIST

19) DETAILED MANAGEMENT RESUMES

HINTERLAND GROUP INC.

2051 W. Blue Heron Blvd.
Riviera Beach, FL 33404
www.hinterlandgroup.com
561-640-3503

CORPORATE RESUME

DANIEL A. DUKE, III

President

Daniel began his career working on land development projects with his father, and came to realize his passion for the underground industry. In 2006 Daniel III and His father, Daniel Jr, decided to dive into the underground industry full bore and started Hinterland Group out of a small office space in Cocoa, FL. Daniel and his father served as the field crew through the first few years as Hinterland Group developed. Through Hard work and dedication to the best final product possible and customer satisfaction the company has grown exponentially over the years. Daniel has worked on projects of every nature related to the underground industry over the years, including all facets of water, waste water and storm water. Daniel remains a key role player at Hinterland Group and stays involved with all the daily operations. His oversight with all the projects ensures that the final product and customer that HG was built on continue to carry on through every project the company completes.

DANIEL A. DUKE, JR.

Operations

Daniel has Twenty-Seven years of direct experience including various wastewater lift station installations, gravity and force main sewer installations. He provides direct daily supervision of superintendents and skilled labor, management of project schedules, asset management and logistics for entire company personnel and equipment fleet.

CHARLES BREIG

Electrical Contractor

Charles has over 40 years of commercial electrical experience through out the state of Florida. He currently holds a Florida Electrical Contractors License (EC13003615). Charles joined the HGI team in June 2006.

JAY B. BREIG

Project Manager/Operations

Jay began working in the waste water industry in 2004 for a clarifier rehabilitation company, and then a full service underground utility company in 2006. He then joined the HG team in early 2008, and since then has been a huge contributing factor to the growth of HG as a company. Jay brought a wealth knowledge of the water and waste water industry to the company and allowed HG to broaden its capabilities as an underground contractor. Jay served as a lead foreman for many years on all of the company's largest and most difficult projects ranging from lift station installs to master pumping stations and neighborhood revitalization projects before moving into a management position. Jay now oversees the construction operations for HG by scheduling all crews, coordinating project startups with project managers, arranging equipment deliveries, communicating daily with crew foreman and superintendents and making sure that all jobs are completed properly, on time and under budget.

HINTERLAND GROUP INC.

2051 W. Blue Heron Blvd.
Riviera Beach, FL 33404
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561-640-3503

CORPORATE RESUME (CONT.)

CHASE R. ROGERS, E.I.

Estimating Manager, Engineer

Chase has been with the HG team since 2008, in its very early stages. Prior to working at HG Chase had spent several years in the construction industry working for both residential contractors and an industrial electrical contractor. Chase began his career at HG halfway through his collegiate career as a field staff member working on lift station rehabilitation. Since then he has played many roles in the company both in the field and eventually into the office. Chase obtained his Bachelor's degree in civil engineering from the University of Central Florida, before making the transition into the office and has since become a key staff member for HG. He covered the role of Estimator and Project Manager for many years as HG expanded its scope of services and coverage area. As the need for more management grew Chase has fallen into a managerial role for the company, overseeing the estimating and contract procurement departments and helping to coordinate scheduling and crews with the project management team. Chase has worked on all facets of the underground industry over the years from Stormwater and drainage projects, to large pipeline projects, water and waste water treatment plants, and every type of lift station project imaginable.

DANIEL A. DUKE III

President/Founder

2051 W. Blue Heron Blvd.
Riviera Beach, FL 33404
dduke1@hinterlandgroup.com
561-640-3503

PERSONAL PROFILE

Daniel began his career working on land development projects with his father, and came to realize his passion for the underground industry. In 2006 Daniel III and His father, Daniel Jr, decided to dive into the underground industry full bore and started Hinterland Group out of a small office space in Cocoa, FL. Daniel and his father served as the field crew through the first few years as Hinterland Group developed. Through Hard work and dedication to the best final product possible and customer satisfaction the company has grown exponentially over the years. Daniel has worked on projects of every nature related to the underground industry over the years, including all facets of water, waste water and storm water. Daniel remains a key role player at Hinterland Group and stays involved with all the daily operations. His oversight with all the projects ensures that the final product and customer that HG was built on continue to carry on through every project the company completes.

QUALIFICATIONS

- Florida General Contractor's License (CGC1520354)
- Florida Certified Building Contractor's License (CBC1255077)
- Certified Underground and Excavation Contractor License (CUC1224634)

PROJECT RELATED BACKGROUND

ORANGE COUNTY EWRF IN PLANT PUMP STATION REPLACEMENT

Project Owner: Orange County
Project Value: $1,323,642.00
Project Location: Orlando, FL
Role: Project Manager

The Process 395 North In-Plant Pump Station Replacement. Furnishing and installation of a new triplex pumps station with three (3) 47 HP Flygt or ABS submersible pumps. Installation of a new 12 feet diameter wet well structure. Furnishing and installation of the above ground flanged piping manifold with appurtenances. Installation of a new sanitary sewer manhole and 65 linear feet of 16" DIP force main and 48 linear feet of 24" PVC SDR 2.6 gravity sewer. The conversion of the existing pump station wet well into gravity sewer manhole. Demolition of existing valve vault and existing force main.

NORTH PALM BEACH EARMAN RIVER TRANSFER PUMP STATION

Project Owner: Village of North Palm Beach
Project Value: $346,680.00
Project Location: North Palm Beach, FL
Role: Project Manager

Installation of a water detection switch in the main mops pump station to confirm that there is water in the wet well.

PALM BEACH COUNTY GATOR BLVD WATERMAIN EXTENSION

Project Owner: Palm Beach County
Project Value: $792,003.00
Project Location: Belle Glade, FL
Role: Project Manager

Installation of approximately 4,000 Linear Feet of 12" water main on Gator Blvd from E Sugarhouse Road to Duda Road in Belle Glade and included fire hydrants, appurtenances, fittings and all necessary connections to provide a complete and functional water system.

CHASE R. ROGERS, E.I.

Estimating Manager/Project Director

2051 W. Blue Heron Blvd.
Riviera Beach, FL 33404
crogers@hinterlandgroup.com
561-640-3503

PERSONAL PROFILE:

Chase has been with the HG team since 2008, in its very early stages. Prior to working at HG Chase had spent several years in the construction industry working for both residential contractors and an industrial electrical contractor. Chase began his career at HG halfway through his collegiate career as a field staff member working on lift station rehabilitation. Since then he has played many roles in the company both in the field and eventually into the office. Chase obtained his Bachelor's degree in civil engineering from the University of Central Florida, before making the transition into the office and has since become a key staff member for HG. He covered the role of Estimator and Project Manager for many years as HG expanded its scope of services and coverage area. As the need for more management grew Chase has fallen into a managerial role for the company, overseeing the estimating and contract procurement departments and helping to coordinate scheduling and crews with the project management team. Chase has worked on all facets of the underground industry over the years from Stormwater and drainage projects, to large pipeline projects, water and waste water treatment plants, and every type of lift station project imaginable.

QUALIFICATIONS:

- Bachelor's Degree in Civil Engineering from University of Central Florida
- Engineering Intern, E.I.
- Member of ASCE
- OSHA Confined Space Training
- Intermediate MOT certification

PROJECT RELATED BACKGROUND

STRUCTURAL REPAIR OF THE FLOW EQUALIZATION BASIN AT ECR

Project Owner: City of West Palm Beach
Project Value: $528, 587.00
Project Location: West Palm Beach, FL
Role: On Site Foreman

Complete rehabilitation of the flow equalization basin at the City of West Palm Beach East Central Regional Water Reclamation Facility. Dewatering and cleaning/removal of all silt and sediment from the EQ basin, leak stopping throughout, repairs to damaged and spalling concrete and replacement of piping for the EQ basin floor pumps.

PUMP REPLACEMENT FOR THE RAW WATER BOOSTER PUMP STATION

Project Owner: Collier County
Project Value: $653,400.00
Project Location: Naples, FL
Role: Project Manager

Removal and Replacement of four 300HP split case pumps and their associated VFD drives. All 18" and 24" piping and valves were replaced to accommodate the new pumps.

CUDJOE INNER ISLANDS - MASTER PUMPING STATIONS

Project Owner: Florida Keys Aqueduct Authority
Project Value: $2,313,374.00
Project Location: Cudjoe Key, FL
Role: Project Manager

Removal and Replacement of four 300HP split case pumps and their associated VFD drives. All 18" and 24" piping and valves were replaced to accommodate the new pumps.

JAY B. BREIG

Construction Operations Manager

2051 W. Blue Heron Blvd.
Riviera Beach, FL 33404
jbreig@hinterlandgroup.com
561-640-3503

PERSONAL PROFILE

Jay began working in the waste water industry in 2004 for a clarifier rehabilitation company, and then a full service underground utility company in 2006. He then joined the HG team in early 2008, and since then has been a huge contributing factor to the growth of HG as a company. Jay brought a wealth knowledge of the water and waste water industry to the company and allowed HG to broaden its capabilities as an underground contractor. Jay served as a lead foreman for many years on all of the company's largest and most difficult projects ranging from lift station installs to master pumping stations and neighborhood revitalization projects before moving into a management position. Jay now oversees the construction operations for HG by scheduling all crews, coordinating project startups with project managers, arranging equipment deliveries, communicating daily with crew foreman and superintendents and making sure that all jobs are completed properly, on time and under budget.

QUALIFICATIONS

- OSHA Confined Space Training
- Advanced MOT Certification
- Crane and Rigging Certification

PROJECT RELATED BACKGROUND

CITY OF WESTON INDIAN TRACE LIFT STATION REHABILITATION

Project Owner: The City of Weston
Project Location: The City of Weston, FL
Project Value: $689,531.00
Role: Project Manager

This project consisted of the refurbishing, repair, and, replacement of concrete, and metal lift station components along with site related improvements for over 30 Lift Stations in the City of Weston, Florida.

PALM BEACH COUNTY WATER UTILITIES DISTRICT ZONE 1 WATERMAIN IMPROVEMENTS

Project Owner: Palm Beach County WUD
Project Location: Belle Glades, FL
Project Value: $1,121,551.20
Role: Project Manager

Improvement and replacement of approximately 2,500 LF of WM and relocation of services from the rear to front of homes.

CLIFF CREEK STORMWATER QUALITY RETROFIT

Project Owner: City of Melbourne
Project Location: City of Melbourne, FL
Project Value: $715,290.00
Role: Project Manager

The largest baffle box East of the Mississippi for the City of Melbourne, Fl. As part of the "Cleaning Our Lagoon Program." The project included installing a 24' x 30' x 12' deep baffle box structure, 7" x 5" box culvert, corresponding endwalls and canal revetment.

MINUTES OF SPECIAL MEETING

OF

HINTERLAND GROUP INC.

Minutes of Special Meting of Hinterland Group Inc. held at 2051 W. Blue Heron Blvd. Riviera Beach, FL 33404 on this 26th day of August, 2019

The President called the meeting to consider the following business: The authorization of Chase Rogers and Danny Duke, Jr., to sign any and all documentation with regard to the Company.

On motion duly made and carried, the meeting proceeded to approve the authorization.

Chase Rogers and Danny Duke, Jr., have the authority to sign all documents as stated above.

There being no further business, the meeting was adjourned.

Dated 8/26/19

Daniel Duke III – President

Hinterland Group Inc.

HINTERLAND GROUP INC CORPORATE SEAL FLORIDA

STATE OF Florida

COUNTY OF Palm Beach

The foregoing instrument was acknowledged before me this 8/26/19, by Daniel Duke III

Emily Meng

Notary Public

Printed Name: Emily Meng

My Commission Expires: 07/19/2022

EMILY MENG
State of Florida-Notary Public
Commission # GG 240228
My Commission Expires
July 19, 2022

State of Florida
Department of State

I certify from the records of this office that HINTERLAND GROUP INC. is a corporation organized under the laws of the State of Florida, filed on June 26, 2006.

The document number of this corporation is P06000086423.

I further certify that said corporation has paid all fees due this office through December 31, 2020, that its most recent annual report/uniform business report was filed on March 2, 2020, and that its status is active.

I further certify that said corporation has not filed Articles of Dissolution.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Third day of March, 2020



Secretary of State

Tracking Number: 4322292258CU

To authenticate this certificate,visit the following site,enter this number, and then follow the instructions displayed.

https://services.sunbiz.org/Filings/CertificateOfStatus/CertificateAuthentication

Ron DeSantis, Governor

Melanie S. Griffin, Secretary

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

THE GENERAL CONTRACTOR HEREIN IS CERTIFIED UNDER THE
PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

DUKE, DANIEL AMOS III

HINTERLAND GROUP INC
2051 W BLUE HERON BLVD
RIVIERA BEACH FL 33404

LICENSE NUMBER: CGC1520354

EXPIRATION DATE: AUGUST 31, 2024

Always verify licenses online at MyFloridaLicense.com

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Ron DeSantis, Governor

Melanie S. Griffin, Secretary

Florida dbpr

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

THE UNDERGROUND UTILITY & EXCAVATION CO HEREIN IS CERTIFIED UNDER THE PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

DUKE, DANIEL AMOS III

HINTERLAND GROUP INC
2051 W BLUE HERON BLVD
RIVIERA BEACH FL 33404

LICENSE NUMBER: CUC1224634

EXPIRATION DATE: AUGUST 31, 2024

Always verify licenses online at MyFloridaLicense.com

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Ron DeSantis, Governor

Melanie S. Griffin, Secretary

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

ELECTRICAL CONTRACTORS' LICENSING BOARD

THE ELECTRICAL CONTRACTOR HEREIN IS CERTIFIED UNDER THE
PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

BREIG, CHARLES J

HINTERLAND GROUP INC
7161 NW 74TH STREET
MEDLEY FL 33166

LICENSE NUMBER: EC13003615

EXPIRATION DATE: AUGUST 31, 2024

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****CURRENT & COMPLETED PROJECTS LIST - H.G.I.

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
LS 8220 Gravity Sewer Pipe	To install specialized 18" liner to fit the existing 20" casing prior to replacing the existing 8" gravity sewer main	Palm Beach County	Pollop Phonpornwihoon	(561) 493-6247	pphonpornwihoon@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 99,715.53	Mar-18	Aug-18
Wellfield System 9	Rehabilitation of gravity sewer line segments in lift station networks and various terminal manhole to wet well segments, includes inspections and applicable required rehab	Palm Beach County	Pollop Phonpornwihoon	(561) 493-6247	ppholpornwihoon@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 1,280,369.37	May-18	May-19
Lift Station 244 Gravity Sewer Rehab Project	rehabilitation of gravity sewer line segments in the following lift station networks	Palm Beach County	Pollop Phonpornwihoon	(561) 493-6247	ppholpornwihoon@pbcwater.com	8100 Forest Hill Blvd West Palm Beach, FL 33413	$ 30,055.75	Sep-18	Feb-19
LS4101	Construction services including rehabilitation to gravity sewer lining inside lift station network; lift station 244	Palm Beach County	Pollop Phonpornwihoon	(561) 493-6247	ppholpornwihoon@pbcwater.com	8100 Forest Hill Blvd. West Palm Beach, FL 33413	$ 1,067,018.59	Feb-19	Feb-20
Manhole and Gravity Sewer Pipe Repair in Front of 6185 Winding Brooke Way, Delray Beach	Approval of utility work authorized under Work Directive Number 1 to from of 6185 Winding Brooke Way in Delray Beach including all associated appurtenances and site Wastewater Lines and Manhole Rehabilitation issued on May 21, 2019 to furnish and install all materials necessary to repair/rehabilitate an existing manhole and 8" gravity pipe in front of 6185 Winding Brooke Way in Delray Beach including all associated appurtenances and site restoration in accordance with the governing regulations	Palm Beach County	Pollop Phonpornwihoon	(561) 493-6247	ppholpornwihoon@pbcwater.com	8100 Forest Hill Blvd West Palm Beach, FL 33413	$ 33,082.53	Aug-19	Sep-19
MLK Blvd Water and Force Main Replacement	Replacing water and force main piping under Dr Martin Luther King Jr Blvd using directional drilling methods and tying back in to the existing mains on either side of the road	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 324,736.43	Aug-17	Nov-17
Colony Water Main Extension South	Installation of approximately 750 LF of 8" water main	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 113,277.28	Apr-17	Jun-17
Gator Blvd Water Main	Furnish and install all materials for a 12" water main extension on Gator Blvd from E Sugarhouse Rd to Duda Rd.	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 792,003.03	Nov-17	Apr-18
Emergency Repair at E 1st Street	Emergency repair of 6" water main	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 88,720.93	Jul-17	Feb-17
Military Trail Apalachee St. to Wadsha-Ga Way Water Main Replacement	furnish and install all materials necessary to complete the 8in Water Main Replacement	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 308,234.76	Sep-17	Mar-18
Priority Aerial Canal Crossing	(8) aerial canal crossing to be rehabilitated include: Two (2) crossings, 12-inch water main and 20-inch wastewater force main at Lake Worth Drainage District (LWDD) L14 Canal and Ohio Road, two (2) crossings, 8-inch water main and 30-inch wastewater force main at LWDD L-30 Canal and Sherwood Forest Boulevard, two (2) crossings at LWDD L14 Canal and Military Trail, and one (1) crossing at LWDD L2 Canal and Bridgeman Drive	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 765,220.20	Jan-18	May-18
Belle Glade Water Svc Zone 1	Installing raw water mains, potable water mains, fire hydrants, water services lines, wastewater force mains, reclaimed water mains and all associated appurtenances.	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 1,389,257.38	Feb-18	Apr-19
Water Main Improvements Site 8 - North Congress Ave and L2 Canal	Installation of approximately 140' of DIP water main	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 59,503.10	Aug-17	Nov-17
Pahokee PBC Airport & PEE Hokey	Furnish and install all materials necessary to complete the FH Replacement at Pahokee PCB Airport & PEE Hokey Dr FH Replacement	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 88,716.40	Dec-17	May-18
Lift Station #8105	Force Main Improvements to Lift Station 8105 Project (Project) which includes but is not limited to furnish material labor supervision, equipment, supplies, fees, expertise, and services necessary to fully complete work in accordance with the Construction Documents and governing regulations. This work includes constructing approximately 350-linear feet of 6-inch poly vinyl chloride (PVC) force main from lift station 8105 by heading east through the City of Belle Glades Right of Way (ROW), north to Avenue L through an existing easement, and west to a proposed man hole.	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 143,976.17	Mar-18	Aug-18
C001- Water Main Improvements Zones 2,3 & 4	The construction scope of services as described herein; which includes approximately 5,500 LF of new C-900 and DIP water main in varying sizes from 4" to 12" with valves, associated appurtenances and site restoration	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 1,264,998.80	Jan-19	Aug-19
Water Main Stubouts and Fire Hydrant Installations along 60th Pl N (10th Ave to 180th Ave N.)	Installation of various stub outs and fire hydrants on the water main along a maintenance road on the north side of M Canal, 61st St. N, 60th Pl N and 180th Ave N.	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 401,253.98	Oct-19	
Installation of Water Services Along 60th Pl N and 61st St N	Installation of two stub outs with fire hydrants and water services along 60th Pl N and 61st St N.	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 43,180.30	Aug-19	Sep-19
Fire Hydrant Relocation on Chickasaw Rd	Furnish and installation of new fire hydrant and appurtenances includes but not limited to piping valves and site restoration on Chickasaw Road	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 33,885.03	May-19	Jun-19
Barfield Highway from Pelican River to East 7th St. Pahokee) Water Main Replacement	Installation of approximately 1,500 linear feet of 8-inch water main via directional drill and open cut method, seven (7) water services and miscellaneous stub outs and connections along East 7th St in Pahokee.	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 262,482.02	Oct-19	Apr-20
Priority Aerial Canal Crossing, Phase 2	Improvements to aerial crossings at eight (8) locations throughout Palm Beach County. Improvements at seven locations will include removal and replacement of water main and force main piping of various sizes pipe cap restoration, air release valves, fact guards, canal bank revetment and rip rap installation. One location will receive a new complete aerial crossing with new valves and pile caps.	Palm Beach County	Joseph Tanacredi	(561) 493-6000	jtanacredi@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 1,919,104.20	Oct-18	

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Water Main Replacement within Sandpiper Avenue, Meadowlark Drive and Oriole Court	Construction services including but not limited to replacement of approximately 7,800 linear feet of existing 6-inch and 8-inch water mains along Sandpiper Avenue, Meadowlark Drive and Oriole Court (Royal Palm Beach); replacement of approximately 188 water services; installation of new fire hydrants and improvement of fire protection, as well as site restoration	Palm Beach County	Joseph Tanacredi	(561) 493-6000		2300 Forest Hill Blvd, West Palm Beach, FL 33415	$ 1,754,494.58	Jan-19	
Utility Relocations for Belle Glade Citywide Sidewalk Improvements	Construction services including but not limited to relocation of approximately 360 linear feet of existing 4-inch and 6-inch water mains along NE 1st St. and NW 2nd St. in Belle Glade; relocation of approximately 20 water services in conflict with the sidewalk improvements project proposed by the City of Belle Glade	Palm Beach County	Joseph Tanacredi	(561) 493-6000		2300 Forest Hill Blvd, West Palm Beach, FL 33415	$ 160,957.85	Aug-19	
Utility Relocations for Belle Glade Citywide Sidewalk Improvements	Construction services for the installation of water mains, water services and water meters. Service also includes new water service pipe to connect to the existing water meter, the replacement of street tree piping, and the relocation of existing water main ranging in size from 2-inch to 6-inch	Palm Beach County	Joseph Tanacredi	(561) 493-6000		2300 Forest Hill Blvd, West Palm Beach, FL 33415	$ 625,763.75	Oct-19	
Construction Services: Park Ct Station and Force Main	The installation of approximately 1700 linear feet of 4-inch force main via directional drill under the west bound lanes of Southern Blvd (SR 80), west of F Road. The FDOT is working on the widening of Southern Blvd and the pipe installation within the road ROW must be finished before the road widening can be completed. The installation of the force main pipe is necessary for the connection to the existing training in the Loxahatchee Groves Park. The work also includes the connection to an existing 6-inch force main under the median.	Palm Beach County	Joseph Tanacredi	(561) 493-6000		2300 Forest Hill Blvd, West Palm Beach, FL 33415	$ 38,824.55	Oct-19	
Utility Relocations along Hamlin Blvd; Indian Trail Culvert Improvements	The deflection of an existing 12-inch water main and an 8-inch force main in conflict with a new 36" culvert at 4 (4) different locations along Hamlin Blvd, Indian Trail Improvements District is egating and lowering the existing canal culverts & lowering prior the culvert installation in order to resolve utility conflict with the District project.	Palm Beach County	Joseph Tanacredi	(561) 493-6000		2300 Forest Hill Blvd, West Palm Beach, FL 33415	$ 247,888.20	NTP Pending	
12-inch Force Main in Sandalwood Blvd	Installation of approximately 1,000 linear feet of 12-inch force main along the north side of Sandalwood, from LWDD Canal E-1 to east of SW 66th Ave, Boca Raton. The new force main will parallel and existing 8-inch force main is over capacity, especially in wet weather connecting an existing force on the east side of LWDD Canal E-1 canal crossing and force main north of LS Station #0661	Palm Beach County	Joseph Tanacredi	(561) 493-6000		2300 Forest Hill Blvd, West Palm Beach, FL 33415	$ 288,215.80	NTP Pending	
Florida Turnpike (SR 91) at Atlantic Ave. Toll Facility Conversion	The removal of approximately 600 LF of existing 4-inch sanitary force main, 400 LF of 6-inch Ductile Iron Pipe (DIP) water main, and 500 linear feet of 8-inch water main. The removal of two (2) fire hydrants, one (1) 1-1/2 inch water meter and two (2) back flow preventers. The relocation of one (1) fire hydrant	Palm Beach County	Joseph Tanacredi	(561) 493-6000		2300 Forest Hill Blvd, West Palm Beach, FL 33415	$ 385,681.25	NTP Pending	
System R/R Generator	Remove and replace Plant's existing 750 kW rated Detroit Diesel engine generator set No. 2 currently being utilized in a standby paralleling generator system at the Plant operating in parallel with an existing Caterpillar manufactured 750 kW standby power rated engine generator set. Remove and replace the Plant's existing ASCO generator synchronizing and paralleling control switchgear system that shall be control designed to operate each generator set independently of each other and to also be able to automatically start, synchronize and parallel both the new and the existing 750 kW diesel engine-generator sets upon start initiation of an automatic sequence for both automatic and manual use for the transfer of electrical power to the connected facility loads, including all related systems and accessories for a complete working installation in place. Test and demonstrate all equipment performs properly	Town of Davie	Dan Boyter	(954) 327-3761		6591 Orange Drive, Davie, Florida, 33314	$ 1,021,895.25	Apr-18	Jul-19
Lift Station No. 83 Lift Station Improvements & LS 110 Electrical Improvements	Bypass of all flow to wet well, inspection of pipeline and cleaning to determine if line able, replacement of 18" piping if it cannot be lined	City of West Palm Beach	Jay Kreig	(561) 822-2100		401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 291,078.00	Feb-16	Jul-16
Lift Station 73 Palm Beach Lakes Blvd 6" Force Main Rehab	Bypass of all flow during sanitary sewer pipe repair, cleaning/lining of approximately 670 LF of 6" Sanitary Force Main Sewer Piping w/ Connections; restoration of roadway, curb and sod	City of West Palm Beach	Jay Kreig	(561) 822-2100		401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 125,675.00	Feb-16	Jul-16
Lift Station #5 Rehab	Install concrete coating on interior wall surfaces and overhead slabs exposed to wastewater	City of West Palm Beach	Jay Kreig	(561) 822-2100		401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 220,240.00	Jan-18	On Going
Dry Can Ladder Rehabilitation/Replacement	Removal and replacement of the dry can ladders, up to 20 feet in height, at four dry can stations throughout the city. Installation of anti slip ladder rung covers at eight dry can lift stations to prevent slipping and injury on existing ladders which cannot be replaced.	City of West Palm Beach	Jay Kreig	(561) 822-2100		401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 37,250.00	Aug-17	Jan-18
Lift Station 5 Rehab Valve and risers	Add 6" ROPE Risers (5) with new pump base to 14" ROPE/DIP flange adapter	City of West Palm Beach	Jay Kreig	(561) 822-2100		401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 32,253.00	Sep-17	Jan-18
WO#7 - Lift Station 24 Rehab	Rehab of LSW 24 including base, base plate, piping from base through the valve vault with installation of bypass pump-out and wet well coating.	City of West Palm Beach	Jay Kreig	(561) 822-2100		401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 77,462.00	Nov-17	Mar-18
Lift Station 91 Rehab Station	Rehab of LSW 91 including base, base plate, piping from base through the valve vault with installation of bypass pump-out and wet well coating.	City of West Palm Beach	Jay Kreig	(561) 822-2100		401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 47,295.00	Feb-18	Jun-18
Storm Pump Station - WPBPD	Replacement of 3 pumps in existing pump station	City of West Palm Beach	Joe Thompson	(561) 822-2100		401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 42,268.00	Aug-18	On Going
WO #10 - LS 98 Rehab	Rehab of LSW 98 from the base plates through the FM connection, including a new 6"x6" 8 valve bypass setup and wet well and valve vault coating	City of West Palm Beach	Jay Kreig	(561) 822-2100		401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 83,444.00	May-18	Sep-18

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
LS Nos. 114-123-124-132-148	Lift Station Rehabilitation Nos. 114,123,124,132, AND 148 rehabilitation of 21 ± 5 ft. manhole, cleaned and lined, new liners will be installed, a new lid and frame will be installed, and two new submersible pumps will be installed in each of the wet wells, along with new electrical and instrumentation panels and equipment. The pump discharge will be piped to a new valve and bypass system connected to the existing wastewater force main. Additionally, new fences and other surface improvements will be provided at 4 lift stations	City of Sunrise	Jaysberg Hao	(954) 888-8049	[redacted]	10320 Sawgrass Corporate Parkway, Ste 240, Sunrise, FL 33351	$ 2,385,880.00	Aug-18	On Going
Lift Station Rehabilitation A	Lift Station Rehabilitation Install the polyvinyl chloride (PVC) sewer pipe and fittings install, complete and ready for operation a duplex (or quadruplex) pumping station, including pumps, base elbows, guide rails and lifting cables, control panels and appurtenances	Palm Beach County WCD	Andre McDaniel	(561) 493-6014	[redacted]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 5,651,500.00	Jan-18	On Going
Generator Replacement	Generator Replacement for Marigold, East Isles, Wavecrest Estates, Indian Hills And Inventory	South Seminole & North Orange County Wastewater Transmission Authority	Stefano Cadiam	(407) 628-5420	[redacted]	4000 Lake Howell Rd, Maitland, FL 32751	$ 3,208,900.00	Aug-17	Sep-17
715 NE 3rd Avenue	Installation of new storm drainage system, which consists of catch basins, French drain and asphalt restoration	City of Fort Lauderdale	Francisco Rios	(954) 828-5807	[redacted]	700 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 301,575.00	Feb-18	Jun-18
2513 SE 9th Avenue	Installation of new storm drainage system, which consists of catch basins, French drain and asphalt restoration	City of Fort Lauderdale	Dmetic Stanise	(954) 828-8582	[redacted]	700 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 265,888.00	Nov-17	Mar-18
NE 30th & Coral Shores Drive	Installation of new storm drainage system, which consists of catch basins, French drain and asphalt restoration	City of Fort Lauderdale	Juan Carlos Bermel	(954) 828-6329	[redacted]	700 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 92,580.00	Jan-18	Feb-18
SW 21st Avenue - CCTV 34 lock	Installation of new storm drainage system, which consists of catch basins, French drain and asphalt restoration	City of Fort Lauderdale	Juan Carlos Bermel	(954) 828-6329	[redacted]	700 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 56,102.50	Apr-18	May-18
Birch Road TCMS	Installation of new storm drainage system, which consists of catch basins, French drain and asphalt restoration	City of Fort Lauderdale	Francisco Rios	(954) 828-5807	[redacted]	700 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 38,504.00	Jan-18	Jun-18
NE 9th Ave Drainage	Installation of new storm drainage system	City of Fort Lauderdale	Dmetic Stanise	(954) 828-8582	[redacted]	700 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 220,640.00	May-18	On Going
Stormwater Improvements at 923 Guava Isle (2330093)	Removal and replacement of two catch basins, pipe replacement and pipe lining at 908 Guava Isle in order to alleviate flooding in the area. Construction to be completed 7 weeks after NTP	City of Fort Lauderdale	Juan Carlos Bermel	(954) 828-6329	[redacted]	700 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 95,750.00	Jul-19	Nov-19
18 Compass Lane Stormwater Improvements	Removal and Replacement of and existing catch basin, replacement of approximately 42 LF of 12-inch RCP, CCTV of the full 12-inch RCP line, and all necessities. Construction to be completed 120 days after NTP	City of Fort Lauderdale	Dmetic Stanise	(954) 828-8582	[redacted]	700 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 27,925.00	Feb-19	Jun-19
Stormwater Improvements - 3200 NE 29 Street	Removal and replacement of a catch basin, 25 LF of 12-inch pipe, rehabilitation of an existing structure, CCTV lining of outfall and installation of tidetrap check valve construction is to be completed 90 days after NTP	City of Fort Lauderdale	Juan Carlos Bermel	(954) 828-6329	[redacted]	700 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 61,142.00	Apr-19	Jun-19
Stormwater Drainage Improvements Employee Parking & Fleet SW 2 Ct, Ft Lauderdale, FL	Remove and Replace 25" pipe between MH #1 and MH #2, remove tree and root ball and remove and replace 121 LF of 15" pipe between MH #1 and Inlet #2. Work to be complete within 90 days of issuance of NTP	City of Fort Lauderdale	Lloyd Hussain	(954) 828-5678	[redacted]	700 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 29,625.00	Apr-19	Jul-19
Stormwater Improvements for 33306 NE 51 Avenue and NE 54th Street	Removal and replacement of one existing drainage inlet and 22 LF of existing 18-inch reinforced concrete pipe. Work Completed within 90 days after NTP	City of Fort Lauderdale	Francisco Rios	(954) 828-5807	[redacted]	700 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 23,405.00	Aug-19	
NW Side of Palm Stormwater Operations Project	Treatment of existing 12-inch drainage pipe and replacement with new 2060 12-inch ADS drainage pipe, 2-45-inch bends and connection to existing pipe and box, and all restoration. Work to be completed within 90 days of NTP	City of Fort Lauderdale	Lloyd Hussain	(954) 828-5678	[redacted]	700 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 13,340.00	Aug-19	
SW 22st Terrace Drainage Improvements	Regular Excavation and grading to form swale along NW 21st Terrace. Installation of 8 drainage catch basins and 25" RCP to connect the boxes. All roadway removal and restoration included. Construction will be complete within 120 days of NTP	City of Fort Lauderdale	Dmetic Stanise	(954) 828-8582	[redacted]	700 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 227,950.00	Oct-19	
Mercer Park Stormwater Improvement Project	Installation of new drainage structures and exfiltration trench to reduce rainwater flooding in and around Mercer Park in the Rio Vista neighborhood. The work is to be completed within 120 days of NTP	City of Fort Lauderdale	Francisco Rios	(954) 828-5807	[redacted]	700 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 586,240.00	Oct-19	
Pershing Lot Storm Drain Cleanout Phase 2	Cleaning, shelling and CCTV of the existing Storm Drainage Pipe. Construction will be completed within 30 days of NTP	City of Fort Lauderdale	Shiau Ching Law	(954) 828-5729		700 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 2,400.00	Sep-19	
NE 31st Avenue Stormwater Improvements	Installation of new catch basins and tidal valves on NE 31st Ave and NE 26th Ct.	City of Fort Lauderdale	Francisco Rios	(954) 828-5807	[redacted]	700 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 1,725,000.00	Nov-19	
21800 - 3400 SW 98 Avenue Drainage Improvements	CCTV and Cleaning of existing outfall pipe to determine condition of pipe. Remove and replace pipe as required and then line the entire run of pipe. Includes tree, fence and other [illegible] removal and replacement.	City of Fort Lauderdale	Juan Carlos Bermel	(954) 828-6329	[redacted]	700 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 1,815,000.00	SRF Funding	
65487 - Drainage Repair	Grading of pipes, providing color video before and after improvements, sealing joints with external joint sealband lining storm drains on various State Roads	Orange & Seminole	Eric Plantier	(407) 482-7847		N Franklin Street Suite 1400, Tampa, FL 33602	$ 306,500.00	Nov-17	Jan-17
FDC Lift Station Cleaning	Cleaning and disposal of 250 lift stations per year; cleaned twice per year for 500 cleanings per year	Palm Beach County	Marvel Brown	(561) 616-6800	[redacted]	50 South Military Trail, Suite 210, West Palm Beach, FL 33415	$ 253,000.00	Nov-17	Nov-18
Meadow Creek CIPP	Sanitary Sewer Main lining of 642 LF of 10" CIPP	Palm Beach County	Mark Kroeger	(561) 616-6800	[redacted]	50 South Military Trail, Suite 210, West Palm Beach, FL 33415	$ 30,504.00	Mar-18	Apr-18
MD-R34 527 Toccoa Road 15" & 24"	Remove and replace existing 35 LF of 15" and 80 LF of 24" with RCP and restored to existing drainage structures. Restoration includes road base within 1' of final grade	Palm Beach County	Mark Kroeger	(561) 616-6800	[redacted]	50 South Military Trail, Suite 210, West Palm Beach, FL 33415	$ 26,045.91	Oct-17	Nov-17

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
WO # 15 726 Coconut Isle Road	Remove and replace existing 35 LF of 36" with RCP and reconnect to existing drainage structures. Restoration includes road base within 1' of final grade. Asphalt by others	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 27,128.85	Dec-17	Jan-18
WO #23 Military Trail S of Lorenzo Road Kokomo Dr.	Drainage improvements and installation per project scope and drawings	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 37,138.09	Nov-17	Aug-17
WO #24 Military Trail/Southbound at Kokomo - South	Remove and Replace approximately 30 LF of CMP with RCP across residential roadway.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 57,592.78	Dec-17	Apr-18
WO #25 Center St/210' East of Intracoastal River and CIPP	Drainage improvements and installation per project scope. Does not include any P-Top Removal. Lining, plugging, cctv pre and post only. Dewatering of pipe(s) included.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 41,592.00	Dec-17	Apr-18
WO #26 Center Street West of N Dyer Ave	Drainage improvements and installation per project scope. Does not include any P Top Removal. Pipe Lining, plugging, cctv pre and post, dewatering of pipe(s).	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 53,196.00	Nov-17	May-18
WO #27 Belan Way E of Storm Blvd	Remove and Replace approximately 200 LF of CMP with 30" ADS across the roadway. Total road closure needed. Final restoration by others. No total grading or reshaping included.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 69,300.00	Nov-17	Jan-18
WO #28-1089 Edgehill Road	Remove and replace approximately 40 LF Approx. of CMP with HDPE per scope	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 43,700.00	Apr-18	Jun-18
WO #29 Flamingo Isle Dr/Flamingo Ct, S and Flamingo Ct, W	Remove and replace approximately 240 LF approx. of CMP with HDPE per scope	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 97,200.00	Jan-18	Mar-18
WO #30 Limestone Creek Road and Palm Garden St.	Perform rehabilitation on designated storm drain junction box and asphalt patch.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 38,825.00	Apr-18	May-18
WO #31 Military Trail and 61st St	Perform sediment capacity to existing abandoned storm line and/or pipe crossing	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 46,800.00	Feb-18	Jun-18
WO #32 Lawrence Rd at LWDD L-17 Canal	Drainage Improvements and Headwall Installation	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 579,695.39	Jun-18	Oct-18
WO#33 3281 Atlantic Rd	Drainage Improvements Installation	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 48,800.00	Apr-18	Jun-18
19888 Trails End Ter	Remove and Replace approximately 200 LF approx. of CMP with 18"ADS at two different locations	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 72,800.00	May-18	Jun-18
WO#35 19506 Trails End Ter (R)	Remove and Replace approximately 50 LF approx. of CMP with 18"ADS	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 37,950.00	May-18	Jun-18
WO#36 19582 Trails End Ter (R)	Remove and Replace approximately 50 LF approx. of CMP with 18"ADS	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 37,950.00	May-18	Jun-18
WO#37 19637 Red Maple Rd (R5)	Remove and Replace approximately 220 LF approx. of CMP with 24"ADS	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 59,500.00	On Hold	On Hold
WO#38 19650 Red Maple Rd	Remove and Replace approximately 230 LF approx. of CMP with 24"ADS per scope. Limits of	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 22,975.00	May-18	Oct-18
WO #39 Loxahatchee River Road Storm Pipe Replacement - Phase 1	Drainage improvements installation per project scope and drawings. Replacement of 2 inlet boxes and replacement of 226 LF of RCP with new 21" ADS	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 78,950.00	Jan-19	Jun-19
WO #41 Loxahatchee River Road Storm Pipe Replacement - Phase 2	Drainage improvements installation per project scope and drawings. Replacement of 2 inlet boxes and replacement of 305 LF of RCP with new 24" ADS	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 94,900.00	Nov-19	Jun-19
WO #42-6125 Woodlake Rd - Drainage Repairs	Remove and Replace approximately 40 LF approx. of CMP with 18"ADS, remove and replace approx. 25'x25' concrete driveway and restoration of area.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 40,500.00	May-18	Nov-18
WO #44 6833 Woodlake Rd	Remove and Replace approximately 50 LF approx. of CMP with 18"ADS, 1 new concrete structure	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 47,500.00	Sep-18	Oct-18
WO #45 Lawrence Rd @ Hypoluxo Road Drainage Improvements 48" and 24"	Drainage improvements at Hypoluxo Rd and Lawrence Rd SW corner.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 396,269.00	Aug-18	Mar-19
WO #46 Lawrence Rd at Stonelake Richard	Drainage improvements. Restoration by others	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 78,900.00	Aug-18	Nov-18
WO #47 Indiantown Road - East of 131st Trail N	Drainage improvements and installation per project scope. Does not include any P-Top Removal. Lining, plugging, cctv pre and post only. Dewatering of pipe(s) included	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 44,350.00	Aug-18	Nov-18
WO #48 Indiantown Road - West of 131st Trail N	Drainage improvements and installation per project scope. Does not include any P-Top Removal. Lining, plugging, cctv pre and post only. Dewatering of pipe(s) included.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 76,830.00	Aug-18	Nov-18
WO #49 6828 Woodlake Rd	Remove and Replace approximately 40 LF approx. of CMP with 18"ADS per scope.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 38,000.00	Aug-18	Nov-18

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
WO #50-663 Lakeside Road Ct. - Drainage Repair	Replace 2 pipes - south 24-inch and west 12-inch pipe, hand rip rap 7'-6" and cut out 30'x30' asphalt repair	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 57,525.00	Oct-18	Jan-19
WO #51 East Side of 1322 Dimond Rd - Maintenance	Remove and Replace approximately 40 LF approx. of CMP with 24"ADS , concrete collar, repairs and related items, match rip rap on North side of back, AT&T breakaway like inlet flume , 70' deep excavation and restoration. Rip Rap to be installed from Tip in Toe of canal. Re-dressing of canal west Trail of obstructions.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 58,600.00	Oct-18	Nov-18
WO #52 6414 Woodbine Road - Drainage Repairs	Remove and Replace approximately 13 LF approx. of CMP with 24"ADS per scope and restoration.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 15,525.00	Oct-18	Nov-18
WO #53 104 Faxon Dr WPB R	Remove and Replace approximately 200 LF of CMP with 36"ADS at inlet boxes into the canal.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 48,000.00	Jan-19	Feb-19
WO #54 Willow Pond Road @ Willow Pond Court - Drainage Repairs	Remove and Replace approximately 212 LF of CMP with 18" HDPE per scope.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 54,000.00	Jan-19	Jan-19
WO #55 Pinehurst Drive and 10th Avenue North	Drainage improvements and installation per project scope. Does not include any Top Removal. Cipp Lining 24" culvert, plugging, cleaning, cctv pre and post only. Dewatering of pipe(s) included.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 38,155.00	Jan-19	Feb-19
WO #56 Cocoa and 42nd Way, Jupiter	TV line from Station to Inlet. Bubble clean and Pre-TV inspection. TV will be delivered to PBC after completion of Pre-Tv. Additional work may follow after inspection of pipe under Center St.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 5,100.00	Feb-19	Mar-19
WO #57 Toney Penna Drive & General Boulevard	Remove and Replace approximately 2-3 joints of pipe. Replace excavation at sink hole and repair as directed by inspector onsite.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 4,470.00	Jan-19	Jan-19
WO #58 Toney Penna Dr. & Bash Rd.	Plug inverts as needed to re-grout pipes inside storm inside structure on west side of road. Install new R&C at INV and properly seal with concrete and Remove inside of MH. Add 6ft around Manhole due to the two around structure.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 21,600.00	Feb-19	Feb-19
WO #59 Kingston Drive Drainage Pipe and Headwall Repairs	Drainage improvements and installation per project scope. 2 shots of Lining, plugging, cctv pre and post only. Dewatering of pipe(s) included. Does not include Canal Dredging	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 59,850.00	Apr-19	Jun-19
WO #60 Central Blvd from Jupiter Park Drive to 200' south of Toney Penna Drive	Drainage improvements and installation per project scope. Does not include any 3' Top Removal. Pipe Lining, plugging, cctv pre and post, dewatering of pipe(s).	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 603,000.00	Jul-19	Aug-19
WO #62 7429 Central Industrial Drive @ Byron Drive	Excavate area 5' Deep / 42" pipe failure, pour concrete CB collar on first joint to the North.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 7,832.59	Jul-19	Jul-19
WO #63 Orchard View and Woodbine Road	Cipp Lining 24" and 36" culvert, plugging, cleaning, cctv pre and post only. Dewatering of pipe(s) included. Replacement of 2 gates and Refresh both inside, fill dirt around dirt tank, compaction and concrete sidewalk replacement.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 69,580.00	May-19	Jun-19
WO #69 Davis Rd. & Berkshire	Remove and Replace approximately 45 LF of RCP with 18"ADS. Asphalt and site restoration included. (Existing pipe has separated and sinkhole is appearing in the road)	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 27,125.00	Jul-19	Jul-19
WO #64 159th Pl and 70th Trail (Palm Beach County Branch)	Remove and Replace approximately 80 LF approx. of CMP with 18"ADS from Box to Box, including removal of pipe, installation of pipe, compaction, asphalt, and site restoration.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 32,275.00	Aug-19	Aug-19
WO #65 904 Fawnell Dr	Drainage improvements and installation per project scope. Does not include any Top Removal. Cipp Lining 18" culvert, plugging, cleaning, cctv pre and post only. Dewatering of pipe(s) included.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 27,025.00	Jul-19	Sep-19
WO #66 Jog Rd Shoppes of Woolbright	Remove and Replace approximately 60 LF of collapsed pipe and install new 36"RCP. Remove and find new approx., 27 flags of concrete sidewalk and approx. 5' of curb on either side of each box. Dewater included.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 35,625.00	Jun-19	Jul-19
WO #68 Orleans Ct - South of Belvedere Road and West of 54 Rory Trail Overgrown 24" ADS	Remove and Replace approximately 24 LF of CMP with 24" ADS and pour concrete collar at both pipe connections. This pipe was to be removed due to floating joints and emergency job with PBC WSD while doing a sewer repair under the storm pipe.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 5,800.00	Aug-19	Oct-19
WO #69 Lox River Rd	Excavate approximately 50 LF of existing ADS and pour two concrete collars around Bell end of pipe to eliminate pipe from floating. Including pipe excavation, compaction, asphalt, and site restoration.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 16,500.00	Sep-19	Oct-19
WO #70 5718 Snatch Dr Headwall repair	Remove and Replace approximately 20 LF of CMP with 24" ADS from broken pipe to Headwall. Pour concrete collar at pipe connection. Existing Headwall is to remain. Camera existing line after pipe replacement to assess the condition from Box on Southeast to Headwall. Rock rubble around headwall 5' each side of Bank. No dredging of canal included.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 25,800.00	Oct-19	
WO #71 Congress Ave N of Blue Heron on W 26th St. west side of road	Plug inverts as needed to re-grout pipes inside storm inside structure on west side of road. Properly seal with chemical grout or concrete. Add 6ft around Manhole due to two-one around structure.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 36,600.00	Oct-19	
WO #72 Fenwood Circle	Drainage improvements and installation per project scope. Does not include any 3' Top Removal. Pipe Lining, plugging, cctv pre and post, dewatering of pipe(s).	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 79,584.00	Oct-19	
WO #73 Roebuck Rd and Rocking Horse Rd	Drainage improvements and installation per project scope. Includes 1 Top Removal and casting of RCP pipe in the North box. Cipp Lining 21"x34" elliptical, plugging, cleaning, cctv pre and post only. Dewatering of pipe(s)	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 39,575.00	Dec-19	
Charleston Shores Rd S South of Landes	Remove and Replace approximately 60 LF approx. of CMP with 24"ADS from Box to Box, including removal of pipe, installation of pipe, compaction, asphalt, and site restoration.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 43,775.00	Dec-19	
Charleston Shores Rd S South of Blackberry	Remove and Replace approximately 60 LF approx. of CMP with 24" ROOT ADS from Box to Box, including removal of pipe, installation of pipe, compaction, asphalt, and site restoration.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 43,775.00	Dec-19	

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
3254 Middleton	excavate to affected area and pour concrete collar over broken pipe, replacement may be necessary after exposed. Including excavation, concrete collar, compaction, asphalt, concrete and site restoration	Palm Beach County	Mark Krueger	(561) 616-6800	mkrueger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 38,500.00	Dec-19	
Middleton and Dell	Excavate to affected area and pour concrete collar over broken pipe, replacement may be necessary after exposed. Including excavation, concrete collar, compaction, asphalt, concrete and site restoration.	Palm Beach County	Mark Krueger	(561) 616-6800	mkrueger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 28,875.00	Dec-19	
Lantana and Military Trail, (S.E. Corner)	Remove two affected areas of 72" drainage failure, SE corner of intersection and other just east of Military Trail on East bound lane, and pour concrete collar over broken pipe, replacement may be necessary after exposed. Including excavation, concrete collar, compaction, asphalt, concrete and site restoration. Retrace ten at intersection after pipe is repaired. Re-striping of road or PBC permits required.	Palm Beach County	Mark Krueger	(561) 616-6800	mkrueger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 71,638.00	Dec-19	
20387 Trailwood	Drainage improvements and installation per project scope. Does not include any F Top Removal. Pipe lining, plugging, catch pit and post, dewatering of pipe(s).	Palm Beach County	Mark Krueger	(561) 616-6800	mkrueger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 32,656.00	Dec-19	
6457 Hamoton Dr	Remove and Replace approximately 30 LF approx. of CMP with 24" FDOT 425 from Box to Box, including removal of pipe, installation of pipe, compaction, asphalt, and site restoration. Concrete curb to be removed	Palm Beach County	Mark Krueger	(561) 616-6800	mkrueger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 33,850.00	Feb-20	
6465 Hamoton Dr	Remove and Replace approximately 30 LF approx. of CMP with 24" FDOT 425 from Box to Box, including removal of pipe, installation of pipe, compaction, asphalt, and site restoration. Concrete curb to be removed	Palm Beach County	Mark Krueger	(561) 616-6800	mkrueger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 33,850.00	Feb-20	
4479 Brooks Ave	Drainage improvements and installation per project scope. Does not include any F Top Removal. Pipe lining, plugging, catch pit and post, dewatering of pipe(s).	Palm Beach County	Mark Krueger	(561) 616-6800	mkrueger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 56,625.53	Jan-20	
Middleton and Leith Ln	Excavate to affected area and pour concrete collar over broken pipe, replacement may be necessary after exposed. Including excavation, concrete collar, compaction, asphalt, concrete and site restoration.	Palm Beach County	Mark Krueger	(561) 616-6800	mkrueger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 82,450.00	Jan-20	
Middleton and 40th Ln (Westend East of 47th)	Remove broken affected areas, Westend East of 40th way, and pour concrete collar over broken pipe, replacement may be necessary after exposed. Including excavation, concrete collar, compaction, asphalt, concrete and site restoration.	Palm Beach County	Mark Krueger	(561) 616-6800	mkrueger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 56,628.00	Jan-20	
Belvedere Blvd.	Drainage improvements including the removal of broken CMP and installation of new ADS pipes at each end of the canal. Installation of rip rap around new pipe. Pipe Cleaning, lining, stapling, catch pit and post, dewatering of pipe(s).	Palm Beach County	Mark Krueger	(561) 616-6800	mkrueger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 85,695.45	Jan-20	
3301 Berlin Ave.	Drainage improvements and installation per project scope. Does not include any F Top Removal. Pipe lining, plugging, catch pit and post, dewatering of pipe(s).	Palm Beach County	Mark Krueger	(561) 616-6800	mkrueger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 96,784.15	Jan-20	
8th Stations Rehab - Proj 8	Rehabilitation of 28 lift stations	Palm Beach County WUD	Joseph Tamarodi	(561) 498-5203	jtamarodi@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 4,221,403.50	Aug-18	On Going
Palm Beach Isles Blvd Sewer Lining	The Services and materials to be provided under this Work Order consist of cleaning, CCTV and CIPP lining of existing 8" VCP pipe; 1,615 LF	City of West Palm Beach	Jay Kwag	(561) 822-2100	JKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 124,929.00	Dec-15	
Rosemary Ave Logic Dr. Sewer Pipe Lining	Bypass of all flow during sanitary sewer pipe repair, Cleaning/lining of approximately 2040 LF of 24" sanitary Sewer piping	City of West Palm Beach	Daniel Roberge	(561) 822-2100	DRoberge@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 281,475.00	Feb-16	
Shenandoah Emergency CIPP	Bypass of all flow during sanitary sewer pipe repair, Cleaning/lining of approximately 2090 LF of 8" and 12" of sanitary and sewer piping	City of West Palm Beach	Jay Kwag	(561) 822-2100	JKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 161,725.00	Completed in 2015	
Congress & Australian	Cleaning/lining of approximately 400 LF of 8" and 394 LF of 36" Sanitary Sewer Piping	City of West Palm Beach	Daniel Roberge	(561) 822-2100	DRoberge@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 70,935.00	Aug-16	May-18
Spruce Avenue -WOB 04	Cleaning/lining of approximately 4,079 LF of 15"-36" Storm Sewer Piping	City of West Palm Beach	Jay Kwag	(561) 822-2100	JKwag@wpb.org	401 Clematis St., 4th Floor West Palm Beach, FL 33401	$ 290,385.00	Jan-18	May-18
Avila & Grandview Pl Park WOB5	Cleaning/CCTV of approximately 2,483 LF of 8"-30", CIPP of approximately 2,488 LF of Sanitary Sewer Piping	City of West Palm Beach	Jay Kwag	(561) 822-2100	JKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 280,385.00	Jul-18	Nov-18
Sanitary Sewer Stand's Pilot WOB	Provide new water service connections to the parcels included in the pilot project	City of West Palm Beach	Jay Kwag	(561) 822-2100	JKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 56,004.25	Jan-18	Aug-18
Spruce Ave-47th and 52nd WOB3	Cleaning/CCTV of approximately 436 LF of 18"-24", CIPP approximately 436 LF of storm sewer piping	City of West Palm Beach	Jay Kwag	(561) 822-2100	JKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 36,920.00	Jul-18	Oct-18
Hawthorn Avenue Phase I CIPP Lining	Cleaning/CCTV of approximately 348 LF of 10", CIPP of approximately 348 LF of Sanitary Sewer Piping on N. Flagler & 23rd Street	City of West Palm Beach	Jay Kwag	(561) 822-2100	JKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 18,795.00	Oct-18	Jan-19
Hawthorn ave. Phase 2 Sanitary Sewer (23rd St. to PBL Blvd.)	8-inch CIPP Lining with lateral lining CCTV & cleaning	City of West Palm Beach	Jay Kwag	(561) 822-2100	JKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 57,259.00	Aug-19	Sep-19
Sophia Drive Phase 1 CIPP Lining	Cleaning/CCTV of approximately 420 LF of 8-inch, CIPP of approximately 4330 LF Sanitary sewer piping on Sophia drive, Cleaning/CIPP/CCTV of 4-inch - 6-inch lateral from 8"-12" main including first 3 LF of lateral, CIPP lining of 4"-6" laterals.	City of West Palm Beach	Jay Kwag	(561) 822-2100	JKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 81,890.00	Sep-19	
Gilmore Park Sanitary Sewer & Water	Install new sanitary cleanout, two manholes, 62 LF of 6" PVC piping and relocate water Line as needed	City of West Palm Beach	Jay Kwag	(561) 822-2100	JKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 49,390.00	Feb-15	Apr-15
PCCP Force Main Assessment	Installation of line Stop equipment on 24" FM, Installation of Tapping saddle and valve on the 24" main for pipe diver insertion,	City of West Palm Beach	Daniel Roberge	(561) 822-2100	DRoberge@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 188,843.35	Jan-15	Aug-15
20-inch WW Valve Renewal - Georgia Ave at Hampton Road	Bypass of all flow during sanitary pipe repair. Cleaning/Lining of approximately 2,590 LF of 8" and 18" Sanitary Sewer Piping associated laterals.	City of West Palm Beach	Jay Kwag	(561) 822-2100	JKwag@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 72,216.52	Jul-15	Aug-15

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Palm Beach Lakes Force Main Repair	Repair of force main	City of West Palm Beach	Daniel Roberge	(561) 822-1500	DanRoberge@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 111,694.00	Aug-15	Aug-15
Chesterfield Emergency Gravity Sewer Repair	Replacement of 80 LF of 24" PVC pipe	City of West Palm Beach	Jay Kreg	(561) 822-1500	JKreg@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 106,638.00	Feb-16	Mar-16
Executive Drive Outfall Repair	Replacement of pipe, including slip lining of section of existing CIP	City of West Palm Beach	Daniel Roberge	(561) 822-1500	DanRoberge@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 255,599.00	Sep-16	Feb-17
28th St Storm Water Drainage Replacement	Removal of existing VCP Pipe, installation of new RCP pipe, installation of 23.5' deep existing manholes, installation of 4 5.5' deep storm water curb inlets	City of West Palm Beach	Daniel Roberge	(561) 822-1500	DanRoberge@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 130,580.00	Apr-17	2017
26th St Water Main	Removal and replacement of approximately 440 LF of 8" water main, including all fittings and all necessary connections	City of West Palm Beach	Daniel Roberge	(561) 822-1500	DanRoberge@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 226,870.00	May-17	Sep-17
Pinewood Stormwater Replace	Replacement of storm sewer pipe	City of West Palm Beach	Jay Kreg	(561) 822-1500	JKreg@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 230,490.00	Sep-17	2017
12-24" FM ARV Replacements	Replacement of two ARV manholes on 24" force main.	City of West Palm Beach	Jay Kreg	(561) 822-1500	JKreg@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 251,500.00	Jun-18	Jun-19
SW Rehab on Pinewood 23rd St. and 28th St.	Replacement of storm sewer pipe in different location along pinewood ave. in West Palm Beach	City of West Palm Beach	Jay Kreg	(561) 822-1500	JKreg@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 349,770.00	Mar-19	May-19
Century Village and Pinegate	Inspection and rehabilitation of approximately 27,600 linear feet of gravity sewer lines and 478 manholes, 6 duplex sewer system services lift stations 349-352, 381, 3044, 5245 - 54 Segment of gravity sewer from terminal manhole to wet well to be lined.	Palm Beach County	Phillip Pinnock/Jeff Brown	(561) 493-6125	pinnock@pbcgov.com/jbrown@pbcgov.com	2300 Forest Hill Blvd, West Palm Beach, FL 33415	$ 5,001,681.80	Sep-17	Jul-18
Alpha Manor	24" CIPP Lining & Cleaning	Clay County	Stephen E. Kotarac	904-269-6301	Stephen.Kotarac@claycountygov.com	477 Houston Street, Green Cove Springs, FL 32043	$ 24,969.00	Mar-17	May-17
CR 218 Middleburg	Furnish & Install 24" CIPP Lining, 24" CIPP, dewatering & cleaning	Clay County	Stephen E. Kotarac	904-269-6301	Stephen.Kotarac@claycountygov.com	477 Houston Street, Green Cove Springs, FL 32043	$ 49,952.00	Mar-18	Aug-18
Camp Lane 1159	Furnish & Install 24" CIPP Lining, 24" CIPP, dewatering & cleaning	Clay County	Stephen E. Kotarac	904-269-6301	Stephen.Kotarac@claycountygov.com	477 Houston Street, Green Cove Springs, FL 32043	$ 25,298.00	Sep-19	Dec-19
CR220/Aspen Bay 21" Lining	Furnish and Install 681 LF of 30" CIPP Liner	Clay County	Stephen E. Kotarac	904-269-6301	Stephen.Kotarac@claycountygov.com	477 Houston Street, Green Cove Springs, FL 32043	$ 70,894.00	Apr-18	Jun-18
Between 3257 & 3261 Silversands Circle GCS, FL	Furnish and Install 157 LF of 15-inch CIPP Lining	Clay County	Stephen E. Kotarac	904-269-6301	Stephen.Kotarac@claycountygov.com	477 Houston Street, Green Cove Springs, FL 32043	$ 22,900.00	Jul-19	Jan-20
County Road 15A Inv 121220	CIPP lining and pipe cleaning for CR 15A	Clay County	Stephen E. Kotarac	904-269-6301	Stephen.Kotarac@claycountygov.com	477 Houston Street, Green Cove Springs, FL 32043	$ 28,700.00	Dec-19	Feb-20
Sanitary Sewer & MH Rehab	Repair or cure-in-place (CIP) lining of sections of gravity sewer pipes and relocation of dry laterals and sewer mains	Council Clearwater	Rose Lara	(727) 224-7062	rose.lara@myclearwater.com	1065 Sunset Ave. Clearwater, FL 33756	$ 2,595,538.00	Feb-15	Feb-17
WUD 16-027-2017 Telemetry	WUD 16-027-2017 Telemetry	Palm Beach County WUD	Derek Palmito	(561) 493-6000	dpalmito@pbcgov.com	2300 Forest Hill Blvd, West Palm Beach, FL 33415	$ 1,395,000.00	Jun-17	May-18
Palm Beach County Lining 17-016	Inspection of gravity main lines and manholes. Rehabilitation of 29,971 LF of gravity main lines. Post inspection reports for all rehabilitated blocks	Palm Beach County	Phillip Pinnock/Jeff Brown	(561) 493-6125	pinnock@pbcgov.com/jbrown@pbcgov.com	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 3,049,724.00	Apr-17	Sep-17
210205-RD Dredging	Side Drain Dredging	Florida Department of Transportation	Wayne Harris	(863) 519-2382	Wayne.Harris@dot.state.fl.us	N Franklin Street Suite 2402, Tampa, FL 33602	$ 97,800.00	May-17	
US 27 Dredging	Side Drain Dredging	Florida Department of Transportation	Wayne Harris	(863) 519-2382	Wayne.Harris@dot.state.fl.us	N Franklin Street Suite 2402, Tampa, FL 33602	$ 54,453.20	Feb-18	Jul-18
Hamilton, Glades, Hardee, Hendry & Highlands Counties Side Drain Dredging	Side Drain Dredging	Florida Department of Transportation	Wayne Harris	(863) 519-2382	Wayne.Harris@dot.state.fl.us	N Franklin Street Suite 2402, Tampa, FL 33602	$ 18,643.90	Mar-19	Aug-18
406512-RD - NPDES Permit	Remove and dispose of material(s) and or blockage inside of a pipe, box culvert or other part of the storm drainage system to provide maximum drainage capacity for the department's storm water system	Florida Department of Transportation	Mario Velarde	(954) 777-4086	mario.velarde@dot.state.fl.us	3400 W Commercial Blvd. Fort Lauderdale, FL 33309	$ 150,000.00	Apr-17	Feb-18
Lift Station Rehabilitation Continuing Construction Contract: Priority 1 WAR 1	provide construction services for various general activities on Lift Stations 208, 216, 321, 407, 957, 4218, 4250, 4258, 4227, 4278 including rehabilitation of piping, electrical and corrosion barrier system	Palm Beach County	Joaquin Tamargo	(561) 493-6000	jtamargo@pbcgov.com	2300 Forest Hill Blvd, West Palm Beach, FL 33415	$ 2,918,409.39	Jun-15	Feb-16
Lift Station Rehabilitation Continuing Construction Contract: Priority 2 WAR 2	Rehabilitation of Lift Stations 204, 4556, 947, 4238, 512, 575, 1088, 4106, 4138, 4152, Drural Rd Sandy	Palm Beach County WUD	Justin McBeanath	(561) 493-6000	jmcbeanath@pbcgov.com	2300 Forest Hill Blvd, West Palm Beach, FL 33415	$ 2,877,743.49	Dec-15	Sep-16
Strategic Lift Station 3301 Electrical Improvements WAR 1	Electrical upgrades to LS 3301, inclusive of bypass pumping, new FPL service installation, removal of overhead service, installation of new auxiliary junction box, separate RTU, new antennas, and quadraplex control panel to design specifications with soft starters	Palm Beach County	Joaquin Tamargo	(561) 493-6000	jtamargo@pbcgov.com	2300 Forest Hill Blvd, West Palm Beach, FL 33415	$ 349,140.00	Mar-16	Apr-16
Lift Station Rehabilitation Priority 3	Lift station rehabilitation including new control panels, pumps, force main piping, valves, fixtures and all other specified materials/equipment	Palm Beach County WUD	Justin McBeanath	(561) 493-6000	jmcbeanath@pbcgov.com	2300 Forest Hill Blvd, West Palm Beach, FL 33415	$ 1,280,365.71	Jan-16	Apr-17

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Lift Station Rehabilitation Including Construction Contract (Priority #4)	Contractor shall perform the engineering Scope of Services as described herein for Lift Station rehabilitation including new control panels, pumps, force main piping, valves, trenches and all other specified essential appurtenances.	Palm Beach County	Joseph Tarascio	(561) 493-6000	[redacted]	4200 Forest Hill Blvd, West Palm Beach, FL 33415	$ 1,734,133.45	Jan-16	Apr-17
Century Village Grade Abandonment	Demolition, flush and grouting of existing pipe up to 8" maintenance of traffic, record drawings and preconstruction video	Palm Beach County WUD	Andre McBarnette	(561) 493-6000	[redacted]	4200 Forest Hill Blvd, West Palm Beach, FL 33415	$ 630,000.00	May-16	Jan-16
Gravity Sewer Pipe Replacement at Lift Station #215	Replacement of approximately 210 LF of 8" lined pipe with new 8" PVC pipe, from manhole 13 - 14	Palm Beach County	Joseph Tarascio	(561) 493-6000	[redacted]	4200 Forest Hill Blvd, West Palm Beach, FL 33415	$ 62,688.88	Mar-17	Aug-17
16-inch Reclaimed Water to Seminole Improvement District M2	Modification of piping within existing vaults	Palm Beach County WUD	Andre McBarnette	(561) 493-6000	[redacted]	4200 Forest Hill Blvd, West Palm Beach, FL 33415	$ 78,301.89	May-17	Nov-17
Electrical Improvements LS 1045	Electrical improvements and installation of an automatic transfer switch adding a new disconnect and electrical service at LS 1045	Palm Beach County WUD	Vince Ribobono	(561) 493-6000	[redacted]	4200 Forest Hill Blvd, West Palm Beach, FL 33415	$ 57,197.75	Feb-18	On Going
Works Lift Station #[redacted] Rehabilitation & Improvements to Lift Station #148	Improvements to LS #148, include valve vault demolition, new piping and valves, new pumps, control panel and appurtenances, along with site restoration and new fencing	Palm Beach County WUD	Andre McBarnette	(561) 493-6000	[redacted]	4200 Forest Hill Blvd, West Palm Beach, FL 33415	$ 248,713.45	Aug-18	Nov-18
Gravity Main Improvements on SW 5th St.	Installation of approximately 130 LF of 8" PVC gravity sewer and 2 manholes	Palm Beach County WUD	Joseph Tarascio	(561) 493-6000	[redacted]	4200 Forest Hill Blvd, West Palm Beach, FL 33415	$ 75,701.33	Jan-18	Aug-18
Gravity Sewer Replacement - Sixl 3rd St	Replacement of approximately 250 LF of 8" clay with PVC gravity sewer piping	Palm Beach County WUD	Joseph Tarascio	(561) 493-6000	[redacted]	4200 Forest Hill Blvd, West Palm Beach, FL 33415	$ 139,421.25	Jan-18	Oct-18
Water Treatment Plant & Sanitary Sewer Improvements - WR #18	Installation of three new manholes and rerouting of 10" gravity sewer pipe, including removal of existing gravity sewer and all restoration.	Palm Beach County WUD	Joseph Tarascio	(561) 493-6000	[redacted]	4200 Forest Hill Blvd, West Palm Beach, FL 33415	$ 58,695.21	Dec-18	Feb-19
Gravity Sewer Replacement Lift Station #215	Replacement of approximately 1,300 LF of 8" PVC gravity sewer main, including all lateral connections and replacement of all manholes, bypass pumping, asphalt roadway replacement and restoration work	Palm Beach County WUD	Joseph Tarascio	(561) 493-6000	[redacted]	4200 Forest Hill Blvd, West Palm Beach, FL 33415	$ 342,828.37	Sep-18	Jan-19
Bed Road Emergency Repair	Furnishing and installation of all emergency needs for the City of Miramar Sewer and Water system	City of Miramar	Meredith P. Davis	(954) 602-3115	[redacted]	2300 Civic Center Place, Miramar, FL 33025	$ 44,362.50	Mar-18	Apr-18
SW 100th Avenue - Emergency	Furnishing and installation of all emergency needs for the City of Miramar Sewer and Water system	City of Miramar	Meredith P. Davis	(954) 602-3115	[redacted]	2300 Civic Center Place, Miramar, FL 33025	$ 34,600.00	Apr-18	May-18
Miramar Pkwy & Sykes Rd Emergency Job	Furnishing and installation of all emergency needs for the City of Miramar Sewer and Water System	City of Miramar	Meredith P. Davis	(954) 602-3115	[redacted]	2300 Civic Center Place, Miramar, FL 33025	$ 41,800.00	Jul-18	Aug-18
30" Force main Repair on Miramar Parkway and SW 69th Way	30" Force main Repair on Miramar Parkway and SW 69th Way	City of Miramar	Meredith P. Davis	(954) 602-3115	[redacted]	2300 Civic Center Place, Miramar, FL 33025	$ 49,500.00	Jul-18	Aug-18
8" Reuse Main Repair on Miramar Parkway and Red Road	8" Reuse Main Repair on Miramar Parkway and Red Road	City of Miramar	Meredith P. Davis	(954) 602-3115	[redacted]	2300 Civic Center Place, Miramar, FL 33025	$ 34,300.00	Jul-18	Aug-18
Homestead 2 & 3	Wastewater collection system rehab	City of Homestead	Antonio J Torres	(305) 443-4549	[redacted]	450 SE 6th Avenue, Homestead, FL 34030	$ 452,051.05	Apr-18	
Coral Shores S-Locations	Clean/CCTV & CIPP lining 6"-42" Storm Sewer Pipe	Manatee County	Clint Riner	(941) 749-3046	[redacted]	4520 69th Street West, Bradenton, FL 34210	$ 218,370.60	Nov-17	
130 39th St Ct NW	Clean/CCTV & CIPP lining 6"-42" Storm Sewer Pipe	Manatee County	Clint Riner	(941) 749-3046	[redacted]	4520 69th Street West, Bradenton, FL 34210	$ 16,648.00	Dec-17	
201 Magellan	Clean/CCTV & CIPP lining 6"-42" Storm Sewer Pipe	Manatee County	Clint Riner	(941) 749-3046	[redacted]	4520 69th Street West, Bradenton, FL 34210	$ 13,695.25	Dec-17	
CR 675	Clean/CCTV & CIPP lining 6"-42" Storm Sewer Pipe	Manatee County	Clint Riner	(941) 749-3046	[redacted]	4520 69th Street West, Bradenton, FL 34210	$ 16,525.00	Dec-17	
Flamingo Cay	Clean/CCTV & CIPP lining 6"-42" Storm Sewer Pipe	Manatee County	Clint Riner	(941) 749-3046	[redacted]	4520 69th Street West, Bradenton, FL 34210	$ 205,225.50	Nov-18	
11204 Sandpiper Bold East-Section 2	Clean/CCTV & CIPP lining 6"-42" Storm Sewer Pipe	Manatee County	Clint Riner	(941) 749-3046	[redacted]	4520 69th Street West, Bradenton, FL 34210	$ 357,519.75	Jan-19	
Polk County - CIPP	CIPP Installations	Polk County	Doug Gable	(863) 535-2285	[redacted]	330 West Church Street, Room 250, Bartow, FL 33831	$ 193,125.00	Apr-17	Feb-18
3- Locations - Felt 1) 425	CIPP lining: 801 LF of 15", 1,043 LF of 18", 326 LF of 30", 182 LF of 42"	Polk County	Doug Gable	(863) 535-2285	[redacted]	330 West Church Street, Room 250, Bartow, FL 33831	$ 251,975.00	Oct-18	
Achenwoods, Avon Park Cutoff, Birch, Elm, Longwood, Oak, Lake Isle	CIPP lining: 715 LF of 15"; 47 LF of 24"; 45 LF of 30"; 295 LF of 36" & 255 LF of 60"	Polk County	Doug Gable	(863) 535-2285	[redacted]	330 West Church Street, Room 250, Bartow, FL 33831	$ 224,925.00	Oct-19	Nov-18
Lake Marion, Lynnedale, The Pines, Pinegreen	CIPP Lining: 78 LF of 15"; 357 LF of 18"; 1,029 LF of 24", 970 LF of 30" 146 LF of 42" & 128 LF of 48"	Polk County	Doug Gable	(863) 535-2285	[redacted]	330 West Church Street, Room 250, Bartow, FL 33831	$ 348,885.00	Mar-19	
Hickory Stream Land, Liberian Dr., Sugarwood Dr, Shadely Wood Ct, Hpkin. Hilsring Rd, Mt. Olive	CIPP lining: 85 LF of 15"; 333 LF of 18"; 55 LF of 48" & 383 LF of 54"	Polk County	Doug Gable	(863) 535-2285	[redacted]	330 West Church Street, Room 250, Bartow, FL 33831	$ 219,200.00	Mar-19	

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Bridges Ave, Country Club Rd., Crescent Lake Dr., Hunters Run, Joyce Ave, King Ave., Lazy Lake, Old Square, Pine St., Pine Valley, Robin Rd, Town Rd., Split Creek, Imperial Estate, Heather Glynn	CIPP lining: 880 LF of 15"; 3,358 LF of 24"; 905 LF of 30"; 164 LF of 36" & 730 LF of 42"	Polk County	Chuy Gable	(863) 535-2235	Chuy.Gable@PolkCountyFL.com	330 West Church Street, Room 250, Bartow, FL 33831	$ 529,315.00	3rd Qtr	
On Infrastructure Lining/Repair	Storm water infrastructure maintenance and repair services to the City's several premises and locations	Palm Beach Gardens	Daniel Widdick	(561) 804-7081	dwiddick@pbgfl.com	10500 North Military Trail, Palm Beach Gardens, FL 33410	$ 1,027,255.00	Mar-15	Mar-25
Master Cleaning of Wet Well	Master Cleaning of Wet Well	Solid Waste Authority	Mike McBride	(561) 640-4000	Mmcbride@swa.org	7501 North Jog Road, West Palm Beach, FL 33412	$ 99,521.50	Jan-15	
Pipe Lining - Charlotte 01	Light cleaning 25"-42" Storm pipe & 25"-36" CIPP Lining	Charlotte County Utilities	Randy Vowell	(941) 575-3680	Randy.Vowell@charlottecountyfl.com	25500 Murdock Circle, Port Charlotte, FL 33948	$ 368,795.10	Jan-18	Mar-18
Pipe Lining - Charlotte 02	Light cleaning 25"-42" Storm pipe & 25"-60" CIPP Lining	Charlotte County Utilities	Randy Vowell	(941) 575-3680	Randy.Vowell@charlottecountyfl.com	25500 Murdock Circle, Port Charlotte, FL 33948	$ 16,000.00	Feb-18	
Pipe Lining - Charlotte 03	Light cleaning 25"-42" Storm pipe & 25"-42" CIPP Lining	Charlotte County Utilities	Randy Vowell	(941) 575-3680	Randy.Vowell@charlottecountyfl.com	25500 Murdock Circle, Port Charlotte, FL 33948	$ 264,042.80	Mar-18	
Pipe Lining - Charlotte 04	Light cleaning 25"-42", Medium Cleaning -42" or Greater & 25"-42" CIPP Lining	Charlotte County Utilities	Randy Vowell	(941) 575-3680	Randy.Vowell@charlottecountyfl.com	25500 Murdock Circle, Port Charlotte, FL 33948	$ 214,265.98	Jun-18	
Pipe Lining - Charlotte 05	Pipe lining & CCTV	Charlotte County Utilities	Randy Vowell	(941) 575-3680	Randy.Vowell@charlottecountyfl.com	25500 Murdock Circle, Port Charlotte, FL 33948	$ 96,780.00	Feb-18	
Pipe Lining - Charlotte 06	Heavy Cleaning 30-42" & 42" CIPP lining	Charlotte County Utilities	Randy Vowell	(941) 575-3680	Randy.Vowell@charlottecountyfl.com	25500 Murdock Circle, Port Charlotte, FL 33948	$ 64,355.00	Aug-18	
Pipe Lining - Charlotte 07	Cruiseys pipe for inspection and cleaning of various pipes in Gardens of Gold Cove	Charlotte County Utilities	Randy Vowell	(941) 575-3680	Randy.Vowell@charlottecountyfl.com	25500 Murdock Circle, Port Charlotte, FL 33948	$ 98,000.00	Aug-18	
Pipe Lining - Charlotte 08	Light Cleaning, "25-36", & 15" CIPP Lining	Charlotte County Utilities	Randy Vowell	(941) 575-3680	Randy.Vowell@charlottecountyfl.com	25500 Murdock Circle, Port Charlotte, FL 33948	$ 20,112.00	Oct-18	
Pipe Lining - Charlotte 09	Medium Cleaning, 42" or greater & 60" CIPP lining	Charlotte County Utilities	Randy Vowell	(941) 575-3680	Randy.Vowell@charlottecountyfl.com	25500 Murdock Circle, Port Charlotte, FL 33948	$ 237,478.20	Oct-18	
Pipe Lining - Charlotte 10	Light Cleaning 36"-48", Medium cleaning 30"-42" & 15"-30" CIPP lining	Charlotte County Utilities	Randy Vowell	(941) 575-3680	Randy.Vowell@charlottecountyfl.com	25500 Murdock Circle, Port Charlotte, FL 33948	$ 61,094.23	Jan-19	
Pipe Lining - Charlotte 11	15" - 24" CIPP lining	Charlotte County Utilities	Randy Vowell	(941) 575-3680	Randy.Vowell@charlottecountyfl.com	25500 Murdock Circle, Port Charlotte, FL 33948	$ 300,606.25	Jan-19	
Pipe Lining - Charlotte 12	Light cleaning 24"-42" Storm pipe & 18"-30" CIPP Lining	Charlotte County Utilities	Randy Vowell	(941) 575-3680	Randy.Vowell@charlottecountyfl.com	25500 Murdock Circle, Port Charlotte, FL 33948	$ 36,734.00	Jan-19	
Pipe Lining - Charlotte 13	15" - 30" CIPP lining	Charlotte County Utilities	Randy Vowell	(941) 575-3680	Randy.Vowell@charlottecountyfl.com	25500 Murdock Circle, Port Charlotte, FL 33948	$ 173,633.00	Jan-19	
Pipe Lining - Charlotte 14	12-30" CIPP lining	Charlotte County Utilities	Randy Vowell	(941) 575-3680	Randy.Vowell@charlottecountyfl.com	25500 Murdock Circle, Port Charlotte, FL 33948	$ 97,296.00	May-19	
Pipe Lining - Charlotte 15	Light cleaning 25"-36" Storm pipe & 15"-30" CIPP Lining	Charlotte County Utilities	Randy Vowell	(941) 575-3680	Randy.Vowell@charlottecountyfl.com	25500 Murdock Circle, Port Charlotte, FL 33948	$ 80,085.00	Apr-19	
Pipe Lining - Charlotte 16	Light Cleaning, "24-30", Medium Cleaning, "30"-42", Heavy Cleaning-42" or Greater, 18-36" CIPP Lining	Charlotte County Utilities	Randy Vowell	(941) 575-3680	Randy.Vowell@charlottecountyfl.com	25500 Murdock Circle, Port Charlotte, FL 33948	$ 47,473.00	May-19	
Pipe Lining - Charlotte 17	Light Cleaning 18"-30", Medium Cleaning, 30-42" or greater & 15-42" CIPP lining	Charlotte County Utilities	Randy Vowell	(941) 575-3680	Randy.Vowell@charlottecountyfl.com	25500 Murdock Circle, Port Charlotte, FL 33948	$ 149,591.60	May-19	
Replace of Gulf Cove - Englewood-FDOT Service	Heavy Cleaning -42" or Greater, Frontage Pipe McCall Rd at Gardens of Gulf Cove	Charlotte County Utilities	Randy Vowell	(941) 575-3680	Randy.Vowell@charlottecountyfl.com	25500 Murdock Circle, Port Charlotte, FL 33948	$ 18,500.00	Apr-19	
Pipe Lining - Charlotte 20	Medium Cleaning, 16"-24", Heavy Cleaning, "30"-42", 24"-42" CIPP lining	Charlotte County Utilities	Randy Vowell	(941) 575-3680	Randy.Vowell@charlottecountyfl.com	25500 Murdock Circle, Port Charlotte, FL 33948	$ 340,727.59	Aug-19	
Pipe Lining - Charlotte 21	PO PENDING	Charlotte County Utilities	Randy Vowell	(941) 575-3680	Randy.Vowell@charlottecountyfl.com	25500 Murdock Circle, Port Charlotte, FL 33948	PO PENDING	PO PENDING	
Sanitary Sewer Rehabilitation	Cleaning and internally lining the existing verified city sanitary sewer gravity collection system. Cured-in Place Pipe (CIPP) system. The liner system consists of a heat activated resin-impregnated fabric/fiber system. Once cured, the CIPP system will provide a continuous rigid pipe system between manholes. Individual services are to be cut out and sealed to the main line to eliminate infiltration around the connections.	City of Cape Coral	Jimmy Stanley	(239) 574-0553	[illegible]	1015 Cultural Park Blvd, 2nd Floor, Cape Coral, FL 33990	Annual Contract Work Orders Below	Annual Contract Work Orders Below	Annual Contract Work Orders Below

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Cape Coral - POR 48177 15 Basin 308	8-10" pipe cleaning & 6,096 LF of 8" & 2,800 LF of 10" pipe lining	City of Cape Coral	Mary Mandi	(239) 574-0821	[redacted]	1015 Cultural Park Blvd, 2nd Floor, Cape Coral, FL 33990	$ 265,750.00	Feb-18	
Cape Coral - POR 48150	8" pipe cleaning & 3,536 LF of 8" CIPP Lining	City of Cape Coral	Mary Mandi	(239) 574-0821	[redacted]	1015 Cultural Park Blvd, 2nd Floor, Cape Coral, FL 33990	$ 213,840.80	Apr-18	
Cape Coral - POR 48258	8" pipe cleaning 3,253 LF of 8" CIPP lining	City of Cape Coral	Mary Mandi	(239) 574-0821	[redacted]	1015 Cultural Park Blvd, 2nd Floor, Cape Coral, FL 33990	$ 7,352.50	Apr-18	
Pregnon Village Stormwater	Annual Stormwater infrastructure cleaning contract	City of Fort Lauderdale	Bryden Marie Pierce	(954) 828-5169	[redacted]	100 North Andrews Avenue, Fort Lauderdale, FL 33301	Annual Contract Work Orders Below	Annual Contract Work Orders Below	Annual Contract Work Orders Below
Stormwater Infrastructure Cleaning and Maintenance	Disposal of Contaminated Liquids	City of Fort Lauderdale	Bryden Marie Pierce	(954) 828-5169	[redacted]	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 31,100.00	Aug-17	
NW Deerpark Dr Stormwater System Cleaning	Cleaning of 3050 LF of 8"-30" storwater pipes	City of Fort Lauderdale	Justin Maxey	(954) 828-5239	[redacted]	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 14,900.00	Feb-18	
Removal of Compacted Debris Within the Basin and Pipes.	Removal of compacted debris within the basin and pipes - CCTV & cleaning of 2450 Stormwater pipes 18"-30"	City of Fort Lauderdale	Justin Maxey	(954) 828-5239	[redacted]	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 13,800.00	Feb-18	
Stormwater Mitst Citrus Park		City of Fort Lauderdale	Sylvian Joseph	(954) 828-5208	[redacted]	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 31,800.00	May-18	
Clean Pipes & Catch Basins		City of Fort Lauderdale	Cathy Greco	(954) 828-5239	[redacted]	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 7,[illegible].00	Jan-18	
Clean Various Storm Sewers on SW 4th Ave from SR 84 to NE6.		City of Fort Lauderdale	Elvis Diaz	(954) 828-5239	[redacted]	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 21,171.00	Aug-17	Feb-18
Clean Various Storm Sewer & Basins on Riverland Road		City of Fort Lauderdale	Marie Pierce	(954) 828-5169	[redacted]	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 9,535.00	Nov-18	Apr-19
Storm Sewers and Swales for Poole Creek		City of Fort Lauderdale	Cesar Abs	(954) 828-5239	[redacted]	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 8,200.00	Aug-18	
Storm Water Pipe Clean-Up		City of Fort Lauderdale	Lucia DaSilva	(954) 828-5239	[redacted]	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 9,970.00	Sep-18	Oct-18
Fire Station #29		City of Fort Lauderdale	Alexandra Rampy	(954) 828-5239	[redacted]	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 2,650.00	Nov-18	
SRID One Stop Stormwater system Cleaning		City of Fort Lauderdale	Lucia DaSilva	(954) 828-5239	[redacted]	100 North Andrews Avenue, Fort Lauderdale, FL 33301	$ 9,970.00	Nov-18	
Police Repair - Lauderhill	Maintenance, repair and improvements to water and sewer infrastructure throughout the City	City of Lauderdale Lakes	Bob Snyder	(954) 730-4225	[redacted]	3581 W. Oakland Park Blvd, Lauder Hill, FL 33313	$ 49,500.00	Jan-18	
NW 50th & NW 22 Pl Repair	Point Repairs on NW 50th Ave & NW 22nd St.	City of Lauderdale Lakes	Bob Snyder	(954) 730-4225	[redacted]	3581 W. Oakland Park Blvd, Lauder Hill, FL 33313	$ 28,600.00	Aug-18	
Lift Station # 54	Lift Station # 54	City of Cooper City	Steve Blanchard	(954) 434-8300	[redacted]	9090 SW 50th Place, Cooper City, FL 33328	$ 11,700.00	Oct-19	Dec-17
Lauderdale By The Sea CIPP2017	Gravity sewer system condition assessment and renewal and replacement I & I	Lauderdale by the Sea	Don Prince	(954) 929-9700	[redacted]	125 SE 5th Court, Deerfield Beach, FL 33441	$ 215,000.00	May-17	Sep-17
Sanitary Sewer Lateral Emerg	Sanitary Sewer Reveal repair 15' deep	City of Deerfield Beach	Fred Scott	(954) 480-4418	[redacted]	150 NE 2nd Ave, Deerfield Beach, FL 33441	$ 99,000.00	Oct-17	Jan-18
Cypress Lake III- HGK	Cypress Lake III- HGK	Palm Beach County	Mike Brocchi	(561) 356-7512	[redacted]	3445 Cypress Trail, West Palm Beach, FL 33417	$ 224,320.60		
Hagen Airline		Palm Beach County WUD	William Moreno	(561) 493-6000	[redacted]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 35,500.00	Nov-17	Nov-17
Hagen Various Valves	Hagen Various Valves	Palm Beach County WUD	William Moreno	(561) 493-6000	[redacted]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 35,500.00	Dec-17	
Hagen #3		Palm Beach County WUD	Cindy Moyer	(561) 493-6000	[redacted]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 9,782.00	Dec-17	Jan-18
US 1545 Canal Bank		Palm Beach County WUD	Phillip Phoenix/Rhoda Hewlett	(561) 493-6000	[redacted]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 75,678.00	Dec-17	Jan-18
Mitchell Point Repair	Excavation, exposure and repair of 36" PCCP forcemain with unknown break. Repair to be performed by Thompson Pipe Group. County to supply all pipe and fittings.	Palm Beach County WUD	Cindy Moyer	(561) 493-6000	[redacted]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 94,365.00	Feb-18	Feb-18
Hagen Flow Meter Piping - Building 1		Palm Beach County WUD	William Moreno	(561) 493-6000	[redacted]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 35,500.00	Jan-18	

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Pagan Flow Meter Piping - Building 2		Palm Beach County WUD	William Moreno	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 35,500.00	Jan-19	
SW 3rd St - 24in Valve Replace	Excavation, exposure and replacement of 24" Water Main Valve	Palm Beach County WUD	Jim Nelson	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 22,400.00	Mar-18	Apr-18
Atlantic Emergency 24 Fla Valve	Excavation, exposure and removal of 24" FM Valve	Palm Beach County WUD	Jim Nelson	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 58,080.00	Mar-18	Mar-18
Haddock 2nd Repair	Thompson Pipe Group if needed and Valve repair to be done by Valve manufacturer once discovered. County to supply all pipe and fittings.	Palm Beach County WUD	Cody Moyer	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 37,220.00	Feb-18	Mar-18
Southern & Ardon Emergency	Excavation, exposure and repair of 18" C900 PVC FM which ruptured, at approximately 10' depth.	Palm Beach County WUD	Conrad Talabenty	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 85,550.00	Mar-18	Apr-18
Pahokee Water Wwtp Plant	Stop leak around effluent pipe in basin at the Pahokee WWTP	Palm Beach County WUD	David Gladstone	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 4,525.00	Nov-17	Dec-17
Hampton and Rockwick Rd	Repair of Damaged 16" Water Main that was hit by and HDD Contractor	Palm Beach County WUD	Don Stiles	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 97,800.00	Oct-17	Oct-17
WWM 24" Inside Sludge Pump Station 2 Lower Level		Palm Beach County WUD	William Moreno	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 10,000.00	Feb-19	Feb-19
WWM 24" ETPS - Outside		Palm Beach County WUD	William Moreno	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 10,000.00	Feb-19	Feb-19
Belle Glade Waste Water Plant	Stop leak around effluent pipe in basin at the Pahokee WWTP	Palm Beach County WUD	Jarvis Gulley	(561)-493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 21,625.00	Feb-19	Apr-19
Haverhill Rd & Rockwick Rd.	Emergency Watermain Break at Haverhill and Rockwick Rd - Saturday	Palm Beach County WUD	Cody Moyer	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 96,500.00	Mar-19	Apr-19
S. Military Trail South of Sunny Lane Ave	Repair the Force Main inserting cast to West bound Military Trail South of Sunny Lane Avenue. Removal of existing failed force main from existing casing and installation of new force main piping in existing casing	Palm Beach County WUD	Cody Moyer	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 70,900.00	Apr-19	Jun-19
Belle Glade Waste Water Plant	Clean, Sandblast and Coat Grit Separator Tanks	Palm Beach County WUD	Jarvis Gulley	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 17,805.00	Apr-19	Jul-19
Pagan Ranch WWTP	Flow Meter Replacement on 12" (ABAA)	Palm Beach County WUD	William Moreno	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 10,000.00	Apr-19	Jul-19
Pagan Ranch WWTP	Flow Meter Replacement on 24" (ETPS)	Palm Beach County WUD	William Moreno	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 10,000.00	Apr-19	Jul-19
Pagan Ranch WWTP	Flow Meter Replacement on 24" (ETPS)	Palm Beach County WUD	William Moreno	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 4,283.75	Apr-19	Jul-19
Pahokee Waste Water Plant	Stop leak around effluent pipe in basin at the Pahokee WWTP	Palm Beach County WUD	Jarvis Gulley	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 3,580.00	Jun-19	Jul-19
L-38 W&I Aerial Crossing Repair	Repair of Damaged 12" Aerial Wat Which blew out at edge of canal bank. Repair includes rip rap on only one side of canal, only on water main, no dredging included. Sod for golf course property affected and immediate canal embankments only, not entire entry to site.	Palm Beach County WUD	Jim Nelson	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 133,450.00	May-19	Aug-19
L-38 W&I Aerial Crossing Repair (North Side)	Repair of Damaged 12" Aerial Water Main and Force Main Crossing on the North side. Repair includes rip rap on only North side of canal, no dredging included. Restoration for property affected and immediate canal embankment only, not entire entry to site.	Palm Beach County WUD	Jim Nelson	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 123,950.00	May-19	Aug-19
Pahokee Water Plant	Stop leak around effluent pipe in basin at the Pahokee WWTP	Palm Beach County WUD	Jarvis Gulley	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 3,580.00	Jul-19	Sep-19
Pahokee Waste Water Plant	Stop leak around effluent pipe in basin at the Pahokee WWTP	Palm Beach County WUD	Jarvis Gulley	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 3,580.00	Jul-19	Sep-19
LS 152 Gravity Repair	Remove and replace approximately 33 LF of 8" gravity sewer 11' deep in front of LS 152 on Orleans Ct. Line remaining 8" influent gravity from manhole MH to Wet Well as be CIPP lined	Palm Beach County WUD	Don Stiles	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 67,800.00	Aug-19	Sep-19
Sanitary Sewer - Mulberry	Manhole rehabilitation including installation of 560 sf of CIP or Spray Maintain Liner (poly-flow or equal) in 102 manholes; Point Repairs of 24 existing sanitary sewer lines; By-pass pumping; Bench repairs; Chimney seal manholes; Replacement of manhole; Installation of cast-in-place pipe	City of Mulberry	Roger Hansen	(863) 425-1125	[illegible]	104 South Church Ave, Mulberry, FL 33860	$ 4,972,598.00	Mar-18	Nov-19
Manhole Rehabilitation	Manhole Rehabilitation	Fort Pierce Utilities Authority	Mark Kobbe	(772) 468-1500	[illegible]	PO BOX 3201 FORT PIERCE, FL 34948-3191	$ 186,122.44	May-17	
Lift Station # 32	Lift Station # 32	City of Bradenton	Kim Claybaugh	(941) 708.6300 x2[illegible]	[illegible]	1411 9th St W Bradenton, FL 34205	$ 29,880.00	Nov-17	
Rehab 9 Lift Stations	Rehab 9 Lift Stations	City of Alajuanita Springs	Karen McCallie	(407) 571-8559	[illegible]	225 Keller Road, Altamonte Springs, FL 32714	$ 453,037.50	Dec-17	Sep-18

Pole Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Rebates & Payment	Provide pipe cleaning, CCTV and documenting	City of Delray Beach	Jeffery Nesbitt	(561) 243-7000	[redacted]	100 NW 1st Ave, Delray Beach, FL 33444	$ 90,000.00	Mar-18	Mar-18
Park Avenue	Clean, TV and CIPP line 30" RCP Pipe under Park Avenue	Town of Lake Park	Richard Schaefe	(561) 881-3345	[redacted]	535 Park Ave, Lake Park, FL 33403	$ 62,538.00	Jan-18	Feb-18
Storm Water Video Inspections	Video inspection and documentation of storm water basin 3	Town of Lake Park	Richard Schaefe	(561) 881-3345	[redacted]	535 Park Ave, Lake Park, FL 33403	$ 46,006.64	Mar-18	May-18
Cypress Drive 60" CCTV	Confined Space Entry and Televise 60" Storm Line	Town of Lake Park	Richard Schaefe	(561) 881-3345	[redacted]	535 Park Ave, Lake Park, FL 33403	$ 187,369.00	Jun-18	Aug-18
Lift Station 67 and 68	Gravity sewer main cleaning & CCTV. Installation of 5,617 LF of 8" CIPP lining	City of Lauderdale	Kris Dean	(561) 747-5700	[redacted]	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 174,579.91		
Cleaning, TV & Liner Services		City of Lauderdale	Kris Dean	(561) 747-5700	[redacted]	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 295,294.59	Feb-18	
Lift Station 068 Main Lining PO-18742	Gravity sewer main cleaning and TV inspections, install 8", 10" & 12" CIPP Liner	City of Lauderdale	Kris Dean	(561) 747-5700	[redacted]	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 454,088.91	Sep-18	Jan-19
Manhole Rehabilitation Services	Repair sewer manholes	City of Lauderdale	Kris Dean	(561) 747-5700	[redacted]	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 83,392.93	Nov-18	Dec-18
Town Park Main Lining	Main line cleaning, TV inspection & lining services	City of Lauderdale	Kris Dean	(561) 747-5700	[redacted]	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 272,288.95	Dec-18	Oct-19
Jupiter Harbor - LS 057 Basin	Clean TV and line all 8" clay lines within the LS 057 basin, in the Jupiter Harbor Community	City of Lauderdale	Kris Dean	(561) 747-5700	[redacted]	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 67,572.96	Oct-19	Dec-19
LS# Station #38 - Main Lining Services	Cleaning, Televising & lining of 435 LF of 8" CIPP, 955 LF of 15" CIPP	City of Lauderdale	Kris Dean	(561) 747-5700	[redacted]	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 38,600.00	Jan-19	Oct-19
LWD-Jupiter-MH Series #2	Manhole rehabilitative services	City of Lauderdale	Kris Dean	(561) 243-5700	[redacted]	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 90,000.00	Oct-19	Oct-19
Lift Station #001 - Main Lining Services @ Circle West Road	Gravity sewer main cleaning & TV inspections 6" - 12", install 10" CIPP lining	City of Lauderdale	Kris Dean	(561) 747-5700	[redacted]	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 13,340.00	Aug-19	
Repairs to existing 42" storm drain at PBIA	Drainage Repairs and replacement of one section of 42" pipe in the parking lot at PBIA. Improvement pricing to line pipe after repair to prevent future failures will also be provided.	Palm Beach County	William Hamber	(561) 324-8155	[redacted]	50 South Military Trail, Suite 210, West Palm Beach, FL 33415	$ 48,200.00	DO Pending	
PBIA Airport Parking Lot	Drainage Improvements and installation per project scope. Does not include any P Top removal. Pipe lining, plugging, csw pre and post, dewatering of pipe(s).	Palm Beach County	William Hamber	(561) 324-8155	[redacted]	50 South Military Trail, Suite 210, West Palm Beach, FL 33415	$ 59,371.50	DO Pending	
PBIA Airport Parking Lot	Drainage repairs employee parking lot. Removal and replacement of approx. 360 LF of 18"RCP elliptical pipe and renovation	Palm Beach County	Matt Taylor	(561) 616-6800	[redacted]	50 South Military Trail, Suite 210, West Palm Beach, FL 33415	$ 67,200.00	Oct-19	Nov-19
MH and LS Rehabilitation	Rehabilitation to manholes in Sebring	City of Sebring	Lisa Jackson	(863) 640-8508		454 North Franklin, Sebring, FL 33870	$ 54,032.16	Feb-18	
Lift Station 78 & 85 Rehabilitation	Rehabilitation of two wastewater lift stations	City of West Palm Beach	Luis Perez	(561) 822-1200	[redacted]	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 432,715.82	May-18	
FPUA 20 MH's	Annual manhole rehabilitation	Fort Pierce Utilities Authority	Tom Driskell	(772) 466-1600, Ext. 5515	[redacted]	600 Boston Ave, Fort Pierce, FL 34950	$ 24,643.72	Dec-18	
FPUA 5 MH's End of Fiscal 19	Annual manhole rehabilitation	Fort Pierce Utilities Authority	Tom Driskell	(772) 466-1600, Ext. 5515	[redacted]	600 Boston Ave, Fort Pierce, FL 34950	$ 28,622.25	Aug-19	
Cantee Creek Subdivision Drainage	Approx. 420 LF of 15" - 24" CIPP lining	Martin County	Ken Vreeland	(772) 288-5430	[redacted]	2401 SE Monterey Road, Stuart, FL 34996	$ 98,764.00	Jul-18	Sep-18
Infrastructure Construction - Delear St Inlet	SE Delear Street Pipe Replacement - 18in RCP	Martin County	Ken Vreeland	(772) 288-5430	[redacted]	2401 SE Monterey Road, Stuart, FL 34996	$ 54,115.00	Aug-19	Aug-19
Infrastructure Construction - SE Lanham Infiltration	SE Lanham St - 25" Exfiltration Trench	Martin County	Ken Vreeland	(772) 288-5430	[redacted]	2401 SE Monterey Road, Stuart, FL 34996	$ 37,280.00	Aug-18	Jan-19
SE Indian Street CIPP	335 LF of 48 CIPP lining	Martin County	Ken Vreeland	(772) 288-5430	[redacted]	2401 SE Monterey Road, Stuart, FL 34996	$ 52,580.00	Oct-18	
Bypass and Spreading CIPP	208 LF of 30" CIPP lining	Martin County	Ken Vreeland	(772) 288-5430	[redacted]	2401 SE Monterey Road, Stuart, FL 34996	$ 13,500.00	Oct-18	
Palm Lake Park Neighborhood Drainage	1200 LF of 20"-42" CIPP lining, installation of 18"-48" RCP, removal and replacement of structures including headwall, driveways and drain structures, retrofitting of pipe	Martin County	Ken Vreeland	(772) 288-5430	[redacted]	2401 SE Monterey Road, Stuart, FL 34996	$ 1,075,078.00	May-18	Jun-19
Sugar Hill Outfall	430 LF of 24" CIPP lining	Martin County	Ken Vreeland	(772) 288-5430	[redacted]	2401 SE Monterey Road, Stuart, FL 34996	$ 48,200.00	Dec-18	
NE Jensen Beach CIPP	SE Jensen Beach Blvd and Savannah Rd - 60" Inspection and Joint Repair	Martin County	Ken Vreeland	(772) 288-5430	[redacted]	2401 SE Monterey Road, Stuart, FL 34996	$ 29,680.00	Mar-19	Apr-19
Gallons Rd Camera Inspection	SE SALERNO ROAD EAST OF US1 CHANNEL INSPECTION	Martin County	Ken Vreeland	(772) 288-5430	[redacted]	2401 SE Monterey Road, Stuart, FL 34996	$ 6,520.00	Feb-19	
Old Murphy Road Liner	24"-36" CIPP Lining	Martin County	Ken Vreeland	(772) 288-5430	[redacted]	2401 SE Monterey Road, Stuart, FL 34996	$ 52,040.00	Mar-19	
Elm Nature Park Stabilization		Martin County	Ken Vreeland	(772) 288-5430	[redacted]	2401 SE Monterey Road, Stuart, FL 34996	$ 27,250.00	Aug-19	
SW Carl Mess Ln	24" CIPP	Martin County	Ken Vreeland	(772) 288-5430	[redacted]	2401 SE Monterey Road, Stuart, FL 34996	$ 46,050.00	Oct-18	

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
[illegible] Barbara Dr	24" CIPP	Martin County	Kim Vreeland	(772) 288-5430	[illegible]	2401 SE Monterey Road, Stuart, FL 34996	$ 20,420.00	Sep-19	
St. Lucie West Main Irrigation Pump Station Replacement	Install pumps, motors, filters, piping, fittings, valves, meters, electrical gear, conduits, wiring, panels and concrete slabs. Demolition of existing pumps, motors, electrical panels, piping, valves and filters/filter building	St. Lucie West Services District	Joshua C. Miller	(772) 878-4055	[illegible]	450 S.W. Utility Drive Port St. Lucie, Florida, 34986	$ 521,764.32	Sep-18	Nov-19
Lift Station Rehabilitation Project A Bid Package 2	Furnish all necessary services for the rehabilitation of thirty (30) lift stations in Palm Beach County WUD service area	Palm Beach County WUD	Duane Palumbo	(561) 493-6000	[illegible]	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 4,930,000.00	Oct-18	
Lift Station #49 Removal & Disposal & Replacement of Top Slab	Removal, Disposal and Replacement of Existing Top Slab and Hatch with new Top Slab and Bolt-in Raised Hatch System	City of Deerfield Beach	Timothy Martin	954-480-4426	[illegible]	200 Goolsby Boulevard Deerfield Beach, Fl 33442	$ 8,500.00	Apr-19	
Sykes Creek Regional WWTF Raw/WAS Pumping System Rehabilitation	Removal and replacement of the Return Activated Sludge (RAS) and three of the Waste Activated Sludge (WAS) pumps	Brevard County	Cody Hopkins	(321) 617-7199	[illegible]	2725 Judge Fran Jamieson Way, A-213, Melbourne, FL 32940	$ 1,038,000.00	Jan-19	Sep-19
Manhole Rehabilitation	Rehabilitate manholes across the City	City of Deerfield Beach	Timothy Martin	954-480-4426	[illegible]	200 Goolsby Boulevard Deerfield Beach, Fl 33442	$ 38,586.63	Apr-19	
Lands End & Spoonbill Road	Line the entire pipe, 200 LF of 15" CIPP will be installed.	Town of Manalapan		561-588-3049		600 S Ocean Blvd. Manalapan, FL 33462	$ 37,500.00	Nov-18	
Rehabilitation and Infrastructure Repair	Water supply groundwater sewage treatment	City of Deerfield Beach	Spencer Britt	(561) 243-7154	[illegible]	200 Goolsby Boulevard Deerfield Beach, Fl 33442	$ 185,000.00	Dec-17	
Sewer Main Lining Group 2	Water supply groundwater sewage treatment	City of Deerfield Beach	Spencer Britt	(561) 243-7154	[illegible]	200 Goolsby Boulevard Deerfield Beach, Fl 33442	$ 275,000.00	Jan-19	
180 N Courtenay Lateral	Replace Lateral at 30016 Community Parkway according to plan sheet provided June 2018	Brevard County	Louis Scalfaci	(321) 617-7199	[illegible]	2725 Judge Fran Jamieson Way, A-213, Melbourne, FL 32940	$ 48,700.00	Aug-18	Sep-19
Legacy Cove Manhole Rehab	Cast manhole-4' round, chemical grouting, benching manholes	Martin County	Phillip Olivia	772-214-5394	[illegible]	2401 SE Monterey Road, Stuart, FL 34996	$ 45,210.00	Jan-19	
Indian Heights	Raise 23" manhole ring, cast manhole-4' round, chemical grouting, benching manholes-4' round	Martin County	Phillip Olivia	772-214-5394	[illegible]	2401 SE Monterey Road, Stuart, FL 34996	$ 25,500.00	Feb-19	
Port Salerno Village	Cast manhole-4' round, chemical grouting, benching manholes	Martin County	Phillip Olivia	772-214-5394	[illegible]	2401 SE Monterey Road, Stuart, FL 34996	$ 23,380.00	Feb-19	
Port Sewer Manhole Rehab	Cast manhole-4' round, chemical grouting, benching manholes	Martin County	Phillip Olivia	772-214-5394	[illegible]	2401 SE Monterey Road, Stuart, FL 34996	$ 23,800.00	Sep-19	
Mariner Sands Manhole Rehab	Raise 23" manhole ring, cast manhole-4' round, chemical grouting, benching manholes-4' round	Martin County	Phillip Olivia	772-214-5394	[illegible]	2401 SE Monterey Road, Stuart, FL 34996	$ 33,800.00	Oct-19	
Atlantic Grant Manhole Rehab	Raise 23" manhole ring, cast manhole-4' round, chemical grouting, benching manholes-4' round	Martin County	Phillip Olivia	772-214-5394	[illegible]	2401 SE Monterey Road, Stuart, FL 34996	$ 24,950.00	Oct-19	
The Estuary Manhole Rehab	Raise 23" manhole ring, cast manhole-4' round, chemical grouting, benching manholes-4' round	Martin County	Phillip Olivia	772-214-5394	[illegible]	2401 SE Monterey Road, Stuart, FL 34996	$ 23,460.00	Oct-19	
Martin-Pinelake Village MH Rehabilitation	Cast manhole-4' round, chemical grouting, benching manholes	Martin County	Phillip Olivia	772-214-5394	[illegible]	2401 SE Monterey Road, Stuart, FL 34996	$ 9,500.00	Oct-19	
Lift Station 10 Dryer's Cowerton		City of Cooper City	Steve Stanstead	(954) 434-4300	[illegible]	9090 SW 50th Place, Cooper City, FL 33328	$ 102,032.50	Jul-19	
Stormwater Pipe Lining - Cove Lane		City of Largo	Brian Highsmith	(727) 587-6715 x5402	[illegible]	201 Highland Avenue Largo, FL 33770-0296	$ 28,255.00	Sep-19	
Lift Station No. 2	Sanitary Sewer Basin 2 Bid Inflow & Infiltration Abatement pipe lining rehabilitation	City of Largo	Brian Highsmith	(727) 587-6715 x5402	[illegible]	201 Highland Avenue Largo, FL 33770-0296	$ 1,352,453.69	Sep-19	
Lift Station 580 Top Slab	Lift Station 80 Top Slab, Repair, Removal and New Slab Installation	City of Cooper City	Steve Stanstead	(954) 434-4300	[illegible]	9090 SW 50th Place, Cooper City, FL 33328	$ 2,700.00	Sep-18	On Going
Lift Station #21 Pipe Repair		City of Lauderhill	Bob Snyder	(954) 730-4225	[illegible]	5581 W. Oakland Park Blvd, Lauder Hill, FL 33313	$ 14,070.00	May-19	
12" MJ Valve Replacement	All materials, fittings, line stops, restraints to complete the work. Installation of (4) - 12" Line stops on AC water main. Removal and Replacement of (4) - 12" gate valve and (1) - 12" plug. Bell reposins to be placed on AC Main 3 joints past the stop in each direction. All Restoration included (Sod and Sidewalk) (No Asphalt Restoration) As Built, Permits, Bonds, Etc. included. Assumes all lines can be shutdown without issues	City of Lauderhill	Bob Snyder	(954) 730-4225	[illegible]	5581 W. Oakland Park Blvd, Lauder Hill, FL 33313	$ 122,945.65	PO PENDING	
Lift Station #44	Emergency Repairs and Valve Replacement	City of Lauderhill	Bob Snyder	(954) 730-4225	[illegible]	5581 W. Oakland Park Blvd, Lauder Hill, FL 33313	$ 30,000.00	Oct-19	
Lift Station #53	Emergency Rail System Replacement - Repipe in Wall ONLY ACTIVITY	City of Lauderhill	Bob Snyder	(954) 730-4225	[illegible]	5581 W. Oakland Park Blvd, Lauder Hill, FL 33313	$ 43,520.00	Nov-19	

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Margate - Orthwold Street	Vac Truck & Dumping	Margate Park	Roosevelt Jones	(561) 548-3255	rjones@margatefl.gov; margatepark.com	5796 S Tiffany Drive Margate Park, FL 33442	$ 2,050.00	Oct-18	
Pelican Village - Manhattan, Sanitary Sewer inspection		Aramis Rivera Architect				1287 S Alhambra Circle Coral Gables, FL 33146	$ 9,450.50	Oct-18	
Coconut Force Main Retouring		Seminole Tribe of Florida	Jason Jackson	(954) 394-3060	jasonjackson@semtribe.com	3307 NORTH STATE ROAD No. 7 HOLLYWOOD, FL 33021	$ 104,981.55	May-19	Aug-19
Hollywood 8" FM Connection		Seminole Tribe of Florida	Jason Jackson	(954) 394-3060	jasonjackson@semtribe.com	3307 NORTH STATE ROAD No. 7 HOLLYWOOD, FL 33021	$ 72,147.95	Mar-19	Apr-19
24" Water Main Loop Disinfection	Provide potable water on the Hard Rock Casino Facility by certifying existing 16-inch water main loop. The attachments delineate the procedure disinfecting and certifying the water main loop in two separate phases	Seminole Tribe of Florida	James Jackson	(954) 394-3060	jasonjackson@semtribe.com	3307 NORTH STATE ROAD No. 7 HOLLYWOOD, FL 33021	$ 77,278.50	Jul-19	
Abandonment of Kent Pump Station PS-25	Installation of a new sanitary sewer system along Kent Avenue, Boston Avenue and across Hot Road. It also consists of the abandonment of the Kent Pump Station	Village of Palm Springs, Kidder Engineering Inc.	Shane L. Kidder	954.516.4700	kidder@kidderengineering.com	4700 Riverside Drive, Suite 210, Coral Springs, FL 33067	$ 567,715.85	Jan-19	Oct-19
ESUS9-07 - FDOT	Inspection, dredging, relining, repair and replacement of drainage facilities	Florida Department of Transportation	Andres Velasquez	352-434-6069	andres.velasquez@dot.state.fl.us	719 S. Woodland Blvd. Deland, FL 32720	$ 300,000.00	Feb-19	
EWRF In-Plant PS Rehabilitation	Furnishing and installation of 47 HP Flight & ABS submersible pumps, construction of a new 12 feet diameter wet well, furnishing and installation of the above grooved piping installed with appurtenances, installation of 65 feet 18" PVC force main and 42 feet 24" gravity sewer and connection of existing pump station into gravity sewer manhole.	Orange County	Terry Refft	(407) 836-6644	Terry.Refft@ocfl.net	400 E. South Street; 2nd Floor, Orlando, FL 32825	$ 1,323,642.80	Apr-19	
Sanitary Sewer Collection System Rehab Project Phase 2	Rehabilitation of the existing gravity sewer collection system including: installation of CIPP, reinstatement of service line connections, sewer lateral replacement, sewer lateral lining, point repairs, rehabilitation of manholes, cleanout installations and site restoration	Palm Beach County WUD	Procie Pereira	561-493-6131	PPereira@pbcwater.com	8500 Forest Hill Blvd. West Palm Beach, FL 33413	$ 3,113,650.00	Jan-19	
Diver - Storm Drain Cleaning	General construction services associated with the rehabilitation of operating lift stations located in northern Palm Beach County and southern Martin County. Work to be performed includes demolition and removal of existing piping, fittings, valves and structures and installation of new piping, fittings, valves, structures, resetting existing pumps, rehabilitation of interior walls, relocation and/or installation of electrical equipment and all general site work	Loxahatchee River District	Joe Jaskiewicz	561-747-5700	joe.jaskiewicz@lrecd.org	2500 Jupiter Park Dr., Jupiter FL 33458	$ 495,590.00	Aug-19	
CIPP Lining	CIPP lining to the 30" CMP at Tierra Verde rd to the 30" Clay Pipe at SW Anchorage Way	City of Stuart	Chad Harvey	772-288-5330	charvey@ci.stuart.fl.us	121 SW Flagler Ave. Stuart, Florida 34994	$ 30,905.32	Dec-18	
E Madison Ave	8" CIPP lining and installation of manhole coating	City of Stuart .	Chad Harvey	772-288-5330	charvey@ci.stuart.fl.us	121 SW Flagler Ave. Stuart, Florida 34994	$ 84,948.91	Sep-19	Sep-19
Colorado Ave	Installation of 12" gravity sewer & CIPP lining	City of Stuart	Chad Harvey	772-288-5330	charvey@ci.stuart.fl.us	121 SW Flagler Ave. Stuart, Florida 34994	$ 8,084.29	Oct-19	
Coating of Sanitary Lift Station & Reclaimed Water Stations	This project comprises the surface preparation and coating of above ground pipe, fittings and appurtenances for seven (7) sanitary sewer lift stations and five (5) reclaimed water stations	Suncoast Utility Authority	Brent Weidenkamer	(561) 627-2600	bweidenkamer@spua.org	4200 Hood Road, Palm Beach Gardens, Florida 33410	$ 97,600.00	Feb-19	
(Central SA) Inflow and Infiltration Project Phase 1A	Furnish all labor, materials, supervision, and equipment necessary to perform all operations required for the proper rehabilitation of Cured-in-Place (CIPP) lining of the 8-inch, 10-inch, and 12-inch diameter sewers in the subdivisions	Polk County	Art Goldsmith	863-534-6757	ArtGoldsmith@polk-county.net	330 West Church Street, Room 150, Bartow, FL 33831	$ 699,117.00	May-19	
CMB Surv - Polk County - Cleaning, TV Phase II Assessment	Gravity sewer cleaning and gravity sewer manhole cleaning services	Civilsurv Design Group, Inc., Polk County	Cody Fuller	863-616-4771	cfuller@civilsurv.com	2500 Drane Field Road, Suite 7 Lakeland, FL 33811	$ 58,200.50	Apr-19	
Pump Station C-1	Perform sanitary sewer cleaning and CCTV per NASSCO specifications	City of Fort Lauderdale	Terrance Brayfield Hopping	954-828-7855	TerrayHopping@fortlauderdale.gov	949 NW 38th St., Fort Lauderdale, FL 33309	$ 85,480.80	Mar-19	
Pump Station C-2	Perform sanitary sewer cleaning and CCTV per NASSCO specifications	City of Fort Lauderdale	Terrance Brayfield Hopping	954-828-7855	TerrayHopping@fortlauderdale.gov	949 NW 38th St., Fort Lauderdale, FL 33309	$ 136,393.80		
Pump Station D-35	Perform sanitary sewer cleaning and CCTV per NASSCO specifications	City of Fort Lauderdale	Terrance Brayfield Hopping	954-828-7855	TerrayHopping@fortlauderdale.gov	949 NW 38th St., Fort Lauderdale, FL 33309	$ 28,680.00		
Pump Station D-36	Perform sanitary sewer cleaning and CCTV per NASSCO specifications	City of Fort Lauderdale	Terrance Brayfield Hopping	954-828-7855	TerrayHopping@fortlauderdale.gov	949 NW 38th St., Fort Lauderdale, FL 33309	$ 46,485.00		
Pump Station E-5	Perform sanitary sewer cleaning and CCTV per NASSCO specifications	City of Fort Lauderdale	Terrance Brayfield Hopping	954-828-7855	TerrayHopping@fortlauderdale.gov	949 NW 38th St., Fort Lauderdale, FL 33309	$ 74,548.10		
Pump Station E-6	Perform sanitary sewer cleaning and CCTV per NASSCO specifications	City of Fort Lauderdale	Terrance Brayfield Hopping	954-828-7855	TerrayHopping@fortlauderdale.gov	949 NW 38th St., Fort Lauderdale, FL 33309	$ 76,542.00		
3119 Cornerant Road, Delray Beach	Repair stressed fiberglass pipe to rear yard as 3119 Cornerant Road, excavate location of sinkhole to expose pipe, pick up end of pipe in canal, realign pipe at sinkhole location, pour concrete collar around pipe and backfill and re-sod area. Place riprap rock underneath pipe at outfall to support pipe in future.	City of Delray Beach	Jeffery Needle	561-243-7000	needlej@mydelraybeach.com	100 NW 1st Ave, Delray Beach, FL 33444	$ 15,000.00	Jan-19	
SE 8th Court Drainage and Outfall Installation	Storm sale cleaning, repair and sludge removal services	City of Delray Beach	Jeffery Needle	561-243-7000	needlej@mydelraybeach.com	100 NW 1st Ave, Delray Beach, FL 33444	$ 125,656.00	May-19	

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Delray Racquet Club/Badger Pipe Repair	Install 21" plug and Dewater approx 253' of 21" CMP pipe. (two segments). Clean and CCTV approx 253' of 21" CMP pipe to attest condition and damage in area of collapse. Provide point repair to area of collapsed pipe if conditions allow. Completion of this repair may result in due to the discovery of a fiber optic line running in and out of the storm pipe 12' deep and 20' long.	City of Delray Beach	Jeffery Needle	561-243-7000	[redacted]	100 NW 1st Ave, Delray Beach, FL 33444	$ 77,243.85	Jan-19	
NE 1st Court Wastewater Installation	Install 15" Waste Check Valve inside existing RCP Pipe @ NE 1st Court Outfall	City of Delray Beach	Jeffery Needle	561-243-7000	[redacted]	100 NW 1st Ave, Delray Beach, FL 33444	$ 7,255.00	Jan-19	
Pilot Street lift Station Rehab - Sleve Discharge Piping	Replace two 4" DIP SSP discharge lines from the wall to the check valves	Village of Palm Springs	Andy Klausner	(561) 965-4013	[redacted]	226 Cypress Lane Palm Springs, FL 33461-1699	$ 5,000.00	May-19	
Emergency point Rehab - Lake Clarke Gardens	Emergency sewer repair in Lake Clarke Gardens. Cracked sewer line that is 5' below the lift station and is running directly to the north.	Village of Palm Springs	Andy Klausner	(561) 965-4013	[redacted]	226 Cypress Lane Palm Springs, FL 33461-1699	$ 52,122.00	Jan-19	
Gravity System Improvements Packages 18,19,20,21,22	Installation of cured-in-place pipe (CIPP) lining for existing gravity sanitary sewers; lining existing manholes; and seal and coating existing manholes.	Orange County	Paul Oliver	407-836-8888	[redacted]	400 E. South Street; 2nd Floor, Orlando, FL 32825	$ 2,571,472.00	Jan-19	
Palmetto Drive Stormwater Improvements	provide stormwater infrastructure improvements, replacement of reinforced concrete pipe, installation of cure-in-place pipe, and restoration of any disturbed roadway and sidewalks	Town of Lake Park	Howard Butts	561-722-9879	[redacted]	535 Park Avenue Lake Park, FL 33403	$ 68,755.00	Apr-19	
CIPP Culvert Lining Project	Cured-In-Place Culvert Lining	Santa Rosa County	Glenn R. Bailey	850-981-7127	[redacted]	6495 Old Bagdad Hwy, Milton, Florida 32583	$ 315,400.00	Jun-19	
Main 59th Ave and 50th Court- Cooper City	2,207 LF of 8" CIPP lining, reinstate later after CIPP installation, grout and seal lateral connection	City of Cooper City	Chad Bergeron	954-434-8515	[redacted]	9090 SW 50th Place, Cooper City, FL 33328	$ 77,018.00	Oct-19	
Six Site Test - Cooper City	Install cured-in-place manline liner, 8" X, CIPP. Reinstate lateral after CIPP installation, grout and seal lateral connection, CIP lining, 6"-8" fullcircle main connection, 4" or 6" X 4.5mil, Minimum 25'. Lateral Qnty 4"-6" X 4.5 Mil, Beyond 25' Sewer Lateral TV inspection 6" to 8" main (25' to 50') Sewer Lateral TV inspection 6" to 8" main (beyond 50') Bypass Pumping (8-inch and 10-inch), requires owner approval-Estimated	City of Cooper City	Chad Bergeron	954-434-8515	[redacted]	9090 SW 50th Place, Cooper City, FL 33328	$ 163,380.00	Dec-19	
North, East, South and West Point Dr - Rock Creek - Cooper City	Rehabilitation of 10 Manholes in the Rock Creek Neighborhood	City of Cooper City	Chad Bergeron	954-434-8515	[redacted]	9090 SW 50th Place, Cooper City, FL 33328	$ 22,800.00	Nov-19	
River Ridge Point Repair	Clean & CCTV Sewer Root per NASSCO PACP Standards-MOT Included All inspections and reports to be produced per NASSCO PACP standards.	ALLIED Management, LLC	Cherylynn Fernandez	561/743-0122	[redacted]	22600 County Line Road, Tequesta, FL 33469	$ 18,750.00	Mar-19	
Utility Repairs	Utility Repair Services on an as needed basis, both emergency and non-emergency work on the utility infrastructure owned and operated by the CITY, under a continuing services contract. The work shall generally consist of emergency and non-emergency repairs to the CITY's utility infrastructure which includes the water distribution system, the sanitary sewer (wastewater) collection system, stormwater system and associated street repair and restoration	City of Weston	Dave Carle	954-385-2000	[redacted]	17200 Royal Palm Blvd, Weston, FL 33326	$ 200,000.00	Jan-20	
Sewer Gravity Main Lining	Sewer Gravity Main Lining	City of Naples	Andrew Holland	239-213-6041	[redacted]	380 Riverside Cir Naples, FL 34102	$ 100,000.00	Jul-19	
Pipe Lining to Damaged Storm Drain	Line Damaged stormwater pipes in public ROW or easements at 5 locations	City of Naples	Andrew Holland	239-213-6041	[redacted]	380 Riverside Cir Naples, FL 34102	$ 50,317.80	Aug-19	
Storm Line Damaged	Line 150 Feet of pipe in ROW at 820 Harbour Dr	City of Naples	Andrew Holland	239-213-6041	[redacted]	380 Riverside Cir Naples, FL 34102	$ 30,000.00	Sep-19	
Storm Line Damaged	Line damaged stormwater pipe at 3rd St S and Broad Ave S which is causing sinkhole	City of Naples	Andrew Holland	239-213-6041	[redacted]	380 Riverside Cir Naples, FL 34102	$ 5,500.00	Sep-19	
Stormwater Pipe Lining	Stormwater Pipe Lining @ 3 locations	City of Naples	Andrew Holland	239-213-6041	[redacted]		$ 34,500.00	Dec-19	
Sewer Pump CIPP	Bonita's Lift Station Bioxegency Pumping Emergency Pumping	Town of Margarita Park	Tamara Jones	(561) 548-3225	[redacted]	3753 East Tiffany Drive Margarita Park, FL 33407	$ 1,195.00	Feb-19	
Cured-in-Place-Pipe Sanitary Sewer Rehabilitation	8" - 15" CIPP lining, CCTV & bypass pumping Sanitary Sewer	Emerald Coast Utilities Authority	Justin Midgette	(850) 969-5825	[redacted]	3798 East Tiffany Drive Margarita Park, FL 33407	$ 240,000.00	Nov-19	
Cured-in-Place Pipe Sanitary Sewer Rehabilitation	8" CIPP & CCTV Sanitary Sewer	Emerald Coast Utilities Authority	Justin Midgette	(850) 969-5825	[redacted]		$ 96,200.00	Feb-20	
Cured-in-Place Pipe Sanitary Sewer Rehabilitation	Sanitary sewer closing & CCTV	Emerald Coast Utilities Authority	Justin Midgette	(850) 969-5825	[redacted]		$ 143,000.00	Feb-20	
Cortez, Florida- Harbour Town Estates	Clean & CCTV Sewer lines per NASSCO PACP Standards-MOT Included, All inspections and reports to be produced per NASSCO PACP standards	Harbour Landings Estates	Mike Bishop	941-870-5800	[redacted]	4014 Commodore Blvd, Cortez, FL 34215	$ 7,382.00	Apr-19	
Cortez, Florida- Harbour Landings Estates	Clean & CCTV Sewer lines per NASSCO PACP Standards-MOT Included, All inspections and reports to be produced per NASSCO PACP standards	Harbour Landings Estates	Mike Bishop	941-870-5800	[redacted]	4014 Commodore Blvd, Cortez, FL 34215	$ 4,575.00	Aug-19	
Cortez, Florida- Harbour Landings Estates	Clean & CCTV Sewer lines per NASSCO PACP Standards-MOT Included, All inspections and reports to be produced per NASSCO PACP standards	Harbour Landings Estates	Mike Bishop	941-870-5800	[redacted]	4014 Commodore Blvd, Cortez, FL 34215	$ 10,542.00	Oct-19	
Cortez, Florida- Harbour Town Estates	Clean & CCTV Sewer lines per NASSCO PACP Standards-MOT Included, All inspections and reports to be produced per NASSCO PACP standards	Harbour Landings Estates	Mike Bishop	941-870-5800	[redacted]	4014 Commodore Blvd, Cortez, FL 34215	$ 14,355.00	PO PENDING	

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Original Section Drainage Improvements Phase 5	Drainage improvements along the alleys between Fleming Boulevard and Jackson Avenues, as well as the portion of Biscayne Drive where the alleys intersect Biscayne Drive and within a portion of the DAVID L. ELY Canal; The removal of storage piping and structures; the installation of new drainage piping and structures; and restoration	City of Greenacres	Zach Gamble	(954) 793-6400	zgamble@greenacresfl.gov	5800 Melaleuca Lane, Greenacres, Florida 33463	$ 188,533.00	Jan-19	
E-1 Pump Station Improvements	Furnish all to low and materials necessary to construct all improvements at E-1 lift station as depicted on the plans and in these specifications to provide a complete and functional system. Bypass pumping will be required.	Town of Palm Beach	Jason Debrincat	(561) 227-7027	jdebrincat@townofpalmbeach.com	951 Old Okeechobee Road, Suite A, West Palm Beach, Florida 33401	$ 247,600.00	Aug-19	Dec-19
Lift Station #27, W9-6-82122	Lift #27 Retrofit, LS - 50 - Control Panel WITHOUT OverFlow Equipment- 60a, 3phase, 240v, LS - 2122 - Control Panel WITHOUT OverFlow Equipment -5.5hp, 1phase, 240v	Indian River County	Ryan McFarland	772-226-1418	rmcfarland@ircgov.com	1800 27th Street Vero Beach, FL 32960	$ 184,200.00	Oct-19	
Lift Station #2 Emergency Generator	Permit and install a diesel powered emergency standby generator	Loxahatchee River Environmental Control District	Joe Jestrabik	561-747-5700	joe_jestrabik@lrecd.org	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 44,750.00	Aug-19	Nov-19
Lift Station 43 Emergency Generator	Permit and install a diesel powered emergency standby generator	Loxahatchee River Environmental Control District	Joe Jestrabik	561-747-5700	joe_jestrabik@lrecd.org	2500 Jupiter Park Drive, Jupiter, FL 33458	$ 35,000.00	Aug-19	Nov-19
Forcemain Replacement Project	The Forest Hill Boulevard crossing shall have a minimum inside diameter of 16 inches and include one 6" plug valve on both sides of the crossing. A secondary manhole will need to be relocated via open cut method and tied into the new forcemain. The existing main for the cut-in connections is 16" DIP. The portion of the existing 12" DIP main to be replaced, shall be grout-filled and abandoned. The C-2 Canal crossing shall have a minimum inside diameter of 6 inches and includes and air release valve on one side of the crossing and a tapping connection to the existing main on the other side. The existing main for the main connections is 6" DIP. The existing main for the tapping connections is 12" DIP. The portion of the existing 6" DIP main and metal crossing to be replaced, shall be demolished and removed.	Village of Wellington	Shannon R. LaRocque	(561) 791-4107	slarocque@wellingtonfl.gov	12300 Forest Hill Boulevard, Wellington, FL 33414	$ 358,457.50	Sep-19	
Lift Station #31		City of Altamonte Springs	Jeff Grant	(407)571-8122	JGrant@altamonte.org	225 Newburyport Ave Altamonte Springs FL 32701	$ 349,788.00	Oct-19	
Culvert Pipe Replacement - Unit 52	This project consists of the removal, disposal, re-installation, and restoration of multiple cross drain culvert pipes at sixty-nine (69) locations throughout the City of Palm Bay's Port Malabar Unit (PMU) 32.	City of Palm Bay	Hector Franco	561-726-4107	Hector.Franco@palmbayflorida.org	1050 Malabar Road SW, Palm Bay, FL 32908	$ 452,836.75	Aug-19	
Wellington - Piggyback PSCR2018-02215	Manhole and sewer lining repairs	Village of Wellington		561-791-4107		12300 Forest Hill Boulevard, Wellington, FL 33414	$ 300,000.00	May-19	
System 56A & Forcemain Replacements	Construction of wastewater force mains, wastewater lift stations and reclaimed water mains	City of Delray Beach	Natasha Tucker	561-243-7163	Tucker@mail.mydelraybeach.com	100 Northwest 1st Avenue, Delray Beach, FL 33444	$ 1,472,444.00	Jan-19	
Water Treatment Plant Generator Maintenance	Scope project is electrical, running new service feeds to well pumps and tying the generator in to another building for backup power. also includes fire alarm work	City of Lake Worth Beach	Steve Fowler	(561) 575-2605	sfowler@lakeworthbeachfl.gov	7 North Dixie Highway, Lake Worth Beach, Florida 33460	$ 852,000.00	Nov-19	
NW Intracoastal Drive - 18" PVC Repair	Sewer repairs & replacement	City of Fort Lauderdale	Herbert Stanley	954-828-5933	hstanley@fortlauderdale.gov	100 N. Andrews Avenue, 619, Fort Lauderdale, Florida 33301	$ 75,650.00	Nov-19	Dec-19
Mills Pond Park Gravity Repair	Sewer repairs & replacement	City of Fort Lauderdale	Herbert Stanley	954-828-5933	hstanley@fortlauderdale.gov	100 N. Andrews Avenue, 619, Fort Lauderdale, Florida 33301	$ 26,250.00	Oct-19	Dec-19
SE 3rd Ave Water Main Replacement	Sewer repairs & replacement	City of Fort Lauderdale	Herbert Stanley	954-828-5933	hstanley@fortlauderdale.gov	100 N. Andrews Avenue, 619, Fort Lauderdale, Florida 33301	$ 225,159.00	Nov-19	
SE 40th Ave & 5th St. Stormdrain Repair CIPP	Road repairs on SE 40th Ave & 5th St.	Okeechobee County Road Department				458 NW 2nd St., Okeechobee, FL 34972	$ 75,504.00	Jan-19	Feb-19
Gravity Sewer Main Lining	Gravity sewer main lining in lift station #12, #13 and #29 basins	City of North Lauderdale	Shari Grant	954-597-4754	sgrant@northlauderdale.com	701 SW 71st Ave., North Lauderdale, FL 33068	$ 276,000.00	Jul-19	
Trenchless Pipe Rehabilitation Services - Low Bid On One Structure	Trenchless pipe rehabilitation for Structure 73551J	City of Palm Coast	Casmiro Maricles	386-986-4776	CMaricles@palmcoastgov.com	160 Lake Ave, Palm Coast, FL 32164	$ 349,240.00	Nov-19	
Replacement of Phillip Station D-58	Furnishing of all labor, materials, equipment, services, and incidentals for the additions and modifications of the submersible Pump Station D-58	City of Fort Lauderdale	Raymond Rotmo	954-828-5990	rrotmo@fortlauderdale.gov	100 N. Andrews Avenue, 619, Fort Lauderdale, Florida 33301	$ 662,980.00	May-20	
95th Ave. N. Public Utilities Renewal	Labor, material, equipment, hoisting, supervision, startup support, archive, incidentals, mechanical submittals and closeout docs. MSF to provider Storm sewer cleaning & CCTV for 280 LF of 12" medium cleaning & storm sewer CIPP lining of 280 LF of 12"	Collier County Subcontract Work for Douglas N Higgins, Inc	Anthony Silvestri	(305) 292-7802	anthonysilvestri@douglasnhiggins.com	4400 Enterprise Ave, Naples, FL 34104	$ 12,320.00	Aug-19	Dec-19
Tamiami Airport CIPP	Clean, TV and CIPP Line 5 stows of 18" and 24" Storm Drain. 403 LF of 18" and 194 LF of 24".	Shoffner Civil Construction	Timmy Bradley			660 SW Bittern St, Port City, FL 34983	$ 41,250.00	Sep-19	Dec-19
Melbourne - Storm CCTV	CIPP of 18" storm line	Melbourne & Sons Paving	Steve Dutro	561-433-7040		2201 SW 15th Ave, Delray Beach, FL 33445	$ 26,000.00	Dec-19	
Lift Station B-01	Lift Station rehab to convert existing station from WW/VV Configuration to Above ground valves	Brevard County	Robert Edelstein	(321) 633-2081	robert.edelstein@brevardfl.gov	2725 Judge Fran Jamieson Way, A-213, Melbourne, FL 32940	$ 78,500.00	Jan-20	

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Emergency Flood Control Pumping	Emergency pumping for flood control on the Federal Aid Highway segments in well as local roads and roadways within Broward, Flagler, Volusia, Marion, Seminole, Sumter, Lake, Orange and Osceola Counties specifically assigned by the Florida Department of Transportation (FDOT), District Five. The Contractor shall provide all labor, materials and equipment for mobilization, operation and maintenance of a temporary pumping system necessary to provide flood relief during or after a hurricane.	Florida Department of Transportation	Jennifer L. Smith	386-943-5367	jennifer.smith2@dot.state.fl.us	719 S. Woodland Blvd. DeLand, Florida 32720	$ 1,547,500.00	Nov-25	
Emergency/MIS Bypass	Emergency Mobilization/Demobilization Afternoon (Sunday) and bypass pumping	City of Clewiston				725 W. Sycamore Avenue Clewiston, FL 33440	$ 5,350.00	Sep-25	Oct-25
LS #1 - Emergency & Replacement	Storm damaged control panel, antenna tower, FPL meter and water service Provide and install new control panel, conduit, wire and pad, Provide and install new 24" Solid concrete sewer and concrete base Provide and install new 200A, 3 Phase meter can and SE Gooseneck. Provide new FPL service mic to handhole Provide and install new antenna and cable. Rewire existing pumps, transducer and floats	City of Lauderhill	Bob Snyder	(954) 730-3721	rsnyder@lauderhill-fl.gov	5581 W. Oakland Park Blvd, Lauderhill, FL 33313	$ 68,300.00	Oct-19	
Storm City 25"	Clean & TV liner, CIPP 258 LF of 25" gravity sewer main	Pompano Contracting	Gary Bracken	305-735-3940 EXT. 226	gbracken@pompanocontractors.com	2011 S Ocean Ave, Stuart, FL 34952	$ 28,400.00	Oct-19	Dec-19
2900 NE 26th St., Ft. Lauderdale, Coral Ridge Towers East	Pipe cleaning of storm lines	BD Plumbing & Sewer, Inc.	Richard Katz	954-707-9554	richie@bdplumber.com	2642 Andros Lane, Fort Lauderdale, Florida 33312	$ 15,300.00	Dec-19	Dec-19
10800 W SR 84, Davie Fl.	Pipe cleaning of storm lines	BD Plumbing & Sewer, Inc.	Richard Katz	954-707-9554	richie@bdplumber.com	2642 Andros Lane, Fort Lauderdale, Florida 33312	$ 2,841.00	Dec-19	
Piper Landing, Pipe Lining	Clean & TV lines CIPP of 15"-CIP	Piper's Landing Yacht & Country Club				9180 SW Thistle Terrace, Palm City, FL 34990	$ 118,462.50	Dec-19	
Tait Street	Asphalt removal and excavation in area of blowout. Includes only a 20'x5' area. If further excavation is needed additional costs will be applied. Excavation and exposure of damaged force main pipe, assumed to be 4" or smaller. Anything larger may result in additional costs. Repair broken force main line, backfill and compact area. Prep site for asphalt application by others. Emergency Mobilization and MOT included. Proposal does not include any asphalt pumping, permits, surveying or as-builts.	Pebble Properties	Jim Haglund	561-889-9549	jim@pebbleGP.com	4200 Professional Center Dr., Suite 104, Palm Beach Gardens, FL 33410	$ 14,950.00	Dec-19	
Lift Station C-05 Rehabilitation	Rehabilitation of Lift Station C-05; existing wet well structure needs rehabed & new concrete top installed. All mechanical piping, valves, and electrical equipment to be replaced.	Brevard County	Cindy Helping	(321) 633-2083	Cindy.Helping@brevardcounty.us	2725 Judge Fran Jamieson Way, Bldg A-219, Viera Beach, FL 32940	$ 297,000.00	Jul-16	Oct-16
Lift Station C-05 and Force Main Replacement	Replacement of the existing C-05 Lift Station, including new wet well, twin submersible pumps, electrical and instrumentation, PVC force main installed, modification to existing wet well, and placing out of service a portion of the existing force main. Work includes temporary bypass pumping, piping, valves fittings	Brevard County	Owen Collard	(321) 633-2089	owen.collard@brevardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 672,000.00	Jul-15	Dec-15
Lift Station M-05 Replacement	Installation of new mechanical equipment, piping and appurtenances	Brevard County	Owen Collard	(321) 633-2089	owen.collard@brevardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 459,495.00	Sep-15	Nov-15
Relocation of Lift Station M-05 Panel	Pulling of lift station M-5	Brevard County	Owen Collard	(321) 633-2089	owen.collard@brevardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 9,350.00	Apr-14	May-14
LS #1 & #3	Lift Station rehabilitations	Brevard County	Owen Collard	(321) 633-2089	owen.collard@brevardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 30,774.40	Jan-12	Mar-12
LS #4 & #47	High pressure water blasting, bypass, remove and install HDPE pipes	City of Altamonte Springs	Teresa Wallace	(407) 571-8980	twallace@altamonte.org	350 Cypress Drive, Altamonte Springs, FL 32714	$ 6,300.00	Oct-13	Nov-13
Manhole Rehabilitation 2012	Manhole rehabilitations	City of Altamonte Springs	Teresa Wallace	(407) 571-8980	twallace@altamonte.org	350 Cypress Drive, Altamonte Springs, FL 32714	$ 23,648.00	Oct-12	Sep-12
LS #5	Rehabilitation & lining	City of Atlantic	Mac Thornton	(561) 965-1744	mthornton@cityofatlantic.com	200 Orange Tree Dr, Atlantic, FL 33405	$ 109,438.00	Aug-13	Oct-13
Misc Drainage Repairs		City of Atlantic	Mac Thornton	(561) 965-1744	mthornton@cityofatlantic.com	200 Orange Tree Dr, Atlantic, FL 33405	$ 55,545.00	Oct-15	Nov-15
Manhole Rehabilitation August 2013	High pressure water blasting, coating, 3" layer build back, resurface existing manhole lids	City of Barrow	Ken Absher	863-534-0108	rabsher@cityofbartow.net	450 N Wilson Ave., Barrow, FL 33830	$ 44,893.75	Sep-13	Oct-13
M-20 Lift Station	Rehabilitation of sewage lift Station	Brevard County/Merritt Island	Bill Cowley	(321) 631-7960	bill.cowley@brevardmx.us	2725 Judge Fran Jamieson Way, Bldg. C, 3rd Floor, Suite C-301, Viera, FL 32940	$ 233,250.00	Feb-11	Apr-11
Lift Station M-20	Rehabilitation of Lift Station M-20	Brevard County	Owen Collard	(321) 633-2089	owen.collard@brevardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 158,777.80	Jan-14	May-14
Cape Canaveral Lift Station No. 1 Improvements	Rehabilitation of master pump station, lift station No. 1. Rehabilitation of wet well structure including protective coating, & replacement of (2) 16 inch risers including but not limited to rails, pump bases, discharge piping, valves to point where the three pump discharge piping comes into one manifold pipe, bypass pumping installation, and all other incidentals.	City of Cape Canaveral	Lonnie Dunn	(321) 868-1240	LDunn@cityofcapecanaveral.org	100 Thrasher Blvd, Cape Canaveral, FL 32920	$ 164,743.11	Nov-13	Apr-14
Replacement of three Return Activated Sludge (RAS) Pump ends, at the Solids Waste Reclamation facility	Install three (3) Return Activated Sludge (RAS) Pump ends, at the Solids Waste Reclamation facility	City of Cocoa Utilities	Don Stevens	(321) 433-8746	dstevens@cocoafl.org	65 Stone Street, Cocoa, FL 32922	$ 82587.00	Jan-13	Jul-13
Manhole Rehabilitation	Manhole rehabilitation, 4" lining, access surface lost, reconstruction of manhole benching, removal of existing coating	City of Cooper City	Kent Fisher	(954) 434-4300		11791 SW 49 STREET COOPER CITY, FL 33330	$ 11,481.00	Oct-14	Nov-14
Lift Station Rehabilitation Project 2014	Rehabilitation to various lift stations across the City	City of Coral Gables	Margie Gomez	(305) 460-5103	mgomez@coralgables.com	405 Biltmore Way, Coral Gables, FL 33134	$ 188,592.32	May-14	Nov-15
2014 Rehabilitation of Lift Stations	Rehabilitation of Lift Stations 861, 858, 847 and 852. Converting Lift Stations from Dry Can to Submersible stations.	City of Deerfield Beach	Paul Colletta	(954) 480-4438	paulc@deerfield-beach.com	150 NE 2nd Ave, Deerfield Beach, FL 33441	$ 466,349.00	Nov-14	Apr-15
Manhole Rehabilitation	Rehabilitation of (24) Manholes throughout the City, Rehabilitation of wetwell.	City of Deerfield Beach	Paul Colletta	(954) 480-4438	paulc@deerfield-beach.com	150 NE 2nd Ave, Deerfield Beach, FL 33441	$ 22,527.00	May-13	Jun-13

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Rehabilitation of LS Stations 2015	Rehabilitation of Lift Stations. Converting Lift Stations from Dry Can into duplex submersible LS.	City of Deerfield Beach	Paul Colleran	(954) 480-4419	paul.colleran@deerfield-beach.com	150 NE 2nd Ave, Deerfield Beach, FL 33441	$ 976,788.00	Apr-17	Aug-18
Lift Station Rehabilitation 2013	Rehabilitation of lift station #30	City of Delray Beach	Harold Williams	(561) 243-7181	williamsh@mail.delray-beach.fl.us	200 NW 1st Ave, Delray Beach, FL 33444	$ 29,750.00	Jan-13	Jul-13
Manhole Playback	Remove and replace existing 4' diameter manhole with coal tar epoxy coating inside and out and new ring and cover, install bench and invert in the new manhole, remove and replace influent and effluent pipe up to 20' each direction, bypass pumping as needed, and full restoration of the roadway and surrounding area.	City of Delray Beach	Doug Solomon	(561) 243-7351	solomond@mail.delray-beach.fl.us	434 S. Swinton Avenue, Delray Beach, FL 33444	$ 25,940.00	Nov-15	Mar-16
Lift Station and Manhole Rehabilitation 2014 Project	Lift station and manhole rehabilitation	City of Lake Wales	Randall Bria	(863) 678-4114	rbria@cityoflakewales.com	201 W. Central Ave, Lake Wales, Florida 33853	$ 259,644.62	Apr-14	Sep-14
South Water Treatment Plant Improvements	Complete demolition of existing WTP and installation of new prefab pumping station, above ground storage tank, 2 wells and all other WTP appurtenances. Electrical work included installing new power services, ATS and 150 kW generator, making all connections between wells and pumping station and all other instrumentation	City of Mulberry	John Wright	(863)425-1178	jwright@cityofmulberry.com	5000 S.W. 2nd Street Mulberry, FL 33860	$ 2,143,000.00	Feb-14	Dec-15
Lift Station No. 34 Pump Rehabilitation	High pressure water blasting, furnish/install 3 submersible plugs in-line, 8" inverts, cut 20" invert, coring work, removal existing pump base, furnish and install 4" pipe, check valve and gate valve and replace all manways from wet well up to existing road elev, install pumps and guide rails, additional core drilling of four 6" holes & removal of unforeseen concrete	City of St. Cloud	Christopher Combs	407-957-7124	ccombs@stcloud.org	2300 Ninth Street St. Cloud, FL 34769	$ 38,894.00	May-12	Jun-12
Turtle Creek Forcemain & Lift Station No. 26		City of St. Cloud	Christopher Combs	407-957-7124	ccombs@stcloud.org	250 Corey Avenue St. Pete Beach, Florida 33706	$ 23,900.00	May-12	Nov-12
Manhole Rehabilitation	Rehabilitation to include inspection, surface preparations, liner installation, testing, bypass pumping, maintenance of traffic, confined space monitoring/certifications, patching of any areas of deterioration encountered	City of St. Pete Beach	Christopher Combs	407-957-7124	ccombs@stcloud.org	250 Corey Avenue St. Pete Beach, Florida 33706	$ 25,000.00	May-12	Aug-12
Lift Station 107 Rehabilitation	Convert the City of Sunrise's existing Lift Station 107 from a package wet pit/dry pit configuration to a submersible pump configuration	City of Sunrise	George Bignell	(954) 572-4274	GBignell@sunrisefl.gov	10770 W. Oakland Park Blvd., Sunrise, Florida 33351	$ 494,376.96	Feb-16	Jun-16
Wastewater Gravity Sewer Rehabilitation by Cured In Place Pipe	Annual contract for wastewater gravity sewer rehabilitation by CIPP	City of Tampa	Joe Graber	813-274-8588	joe.graber@tampagov.net	306 E Jackson St 7thFlAB, Tampa FL 33602	$ 1,043,855.00	Feb-15	Feb-16
Manhole Rehabilitation - Infill	Rehabilitation of sanitary sewer manholes	City of Tarpon Springs	James Wheeler	(727) 942-5615	jwheeler@tsfl.us	324 East Pine Street Tarpon Springs, Florida 34689-5004	$ 18,525.00	Mar-15	Apr-15
Lift Station Upgrades	Rehabilitation of the wet wells of four lift stations by-pass pumping and control of sewage flows for the duration of the wet well rehabilitation work.	City of Titusville	Jimmy Gagle	(321) 383-5767		555 South Washington Avenue, Titusville, Florida 32796	$ 79,455.00	Mar-12	Apr-12
Lift Stations Nos. 6, 7, 8, & 9 Rehabilitation	Rehabilitation of mentioned lift stations	City of Treasure Island	Mike Hellrich	(727) 574-6575	mhellrich@mytreasureisland.org	120th Ave., Treasure Island, FL 33706	$ 884,000.00	Aug-15	Dec-15
Structural Repairs of the Flow Equalization Basin for East Central Regional Water Reclamation Facility	Repair damaged concrete slabs, curbs and elevated walkways at the EQ/WAS Equalization Basin. The Work shall include cleaning the basin, removing unsound concrete, preparing the concrete and reinforcing bars, replacement of damaged reinforcing basin, epoxy adhesive injection, epoxy mortar backfill, repair of construction and expansion joints, and fabrication and installation of stainless plates	City of West Palm Beach	Jay Kang	(561) 822-2100	WPBeng@wpb.org	401 Clematis St., 4th Floor, West Palm Beach, FL 33401	$ 424,770.00	Sep-12	Feb-13
Lift Station Rehabilitation Phase II	rehabilitating/repair/replacement of concrete, and metal lift station components along with the related improvements for Lift Station Nos. 12, 22, 23, 154, 179, 19, 118, 25, 40, 41, 42, 43, 44, 45, 46, 49, 52, 53, 53, 54, 55, 56, 57, 58, 59, 69, 102, 201, 202, 203 and 20	City of Weston	Sabrina Bagliori	(954) 385-2000	sbagliori@westonfl.org	17200 Royal Palm Blvd. Weston, FL 33326	$ 1,527,000.00	Sep-12	Mar-13
Phipps Park Booster Pump Station Rehabilitation & Modifications	Booster Pump Station Rehabilitation & Modifications	City of West Palm Beach	Daniel Roberge	(561) 822-2100	DRoberge@wpb.org	401 Clematis St. 5th Floor, West Palm Beach, FL 33401	$ 218,000.50	Aug-11	Apr-12
7th St. SW EWBS Pump and VFD Replacement		Collier County	Nicole Parker	(239) 252 - 4230	nicoleparker@colliergov.net	3327 Tamiami Trail E, Naples, FL 34112	$ 53,450.00	May-13	Mar-14
Lift Station #30 & #32 Rehabilitation	Set up Bypass pump from terminal manhole to existing pump out connection. Vactor clean wet well. Remove pump equipment and piping from existing triplex configuration. Provide and install load plates for new pump base elbows, guide rails, upper brackets, crossover flushing valve and 6" piping complete through chimney walls to existing isolation valves.	Coral Springs	Steve Seigfried	(954) 796-7853	steves@fkellyinc.com	10000 NW 11th Manor, Coral Springs, FL 33071	$ 97,720.00	Aug-12	Oct-12
Collier Regional Wastewater Inner Islands Collection System	Turnkey installation of the Upper Sugarloaf and the Summerland Master lift stations. Furnish and install precast lift stations and valve vault, pumps, piping & wet well accessories. Help with FPSL coordination. Water service to be installed to just outside lift station fence and tied in by others. All restoration on lift station plans including (i.e. fencing, sidewalk, drives etc.), all electrical work for operable lift station, furnish and install RTU components and coordination with Razorback Key Facility. Downstream prime contractor supplied injection well. All incoming and outgoing piping will be extended to the boundary of the lift station for by-in by EGI.	Collier Inner Islands	David Tegreen	772-834-9488	DTegreen@EGIflow.com	23011 W Sample Road, Bldg. 3 Ste 324, Pompano Beach, FL 33073	$ 2,913,334.02	Aug-13	Sep-15
Mail Kotter Dr. & Lillies I & I Repairs	Cleaning & TV inspection of sewer line segments, bypass pumping, CIPP	Florida Governmental Utility Authority (FGUA)	Michael Wilson	(786) 548-4005	mwilson@fgua.com	280 Wekiva Springs Road, Suite 2030, Longwood, FL 32779	$ 88,700.00	Sep-14	Nov-14

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Rehabilitation & Improvements to Master Lift Station #1	Installation of a new Diesel Engine Driven Pump with an integral fuel tank, new support foundation and complete with provided and installed piping, valving, electrical and instrumentation wiring and controls; replacement of control panels, electrical conduit, wiring and instrumentation controls for the existing two (2) 75-hp and one (1) 30-hp pumps in the existing wet well; integration of the new electrical power and control systems into the existing standby power generator; piping tie in and modifications to the existing valve box; upgrade to the existing main utility power supply relocation and remounting of the existing SCADA telemetry system, antenna and upgrades to the SCADA system I/O and configuration including additions to the existing remote SCADA monitoring system	Florida Governmental Utility Authority (FGUA)	Dwight Perry	(239) 543-1935	Dperry@cpiengineering.com	9990 Bayshore Road, Suite 28, North Fort Myers, FL 33917	$ 259,180.00	Jul-13	Sep-15
Seven Springs Blvd and Humboldt Ave, 1 S.F. Repairs	Cleaning & TV inspection of sewer line segments, bypass pumping, CIPP	Florida Governmental Utility Authority (FGUA)	Rob Dickson	(239) 543-1935	rdickson@cpiengineering.com	2180 Weldon Springs Road, Suite 2001, Longwood, FL 32779	$ 99,250.00	Nov-14	Jan-15
Seven Springs / Pasco County Replacing Project & Alpha Gardens Clean & TV Collection System	Cleaning & TV inspection of sewer line segments, bypass pumping, CIPP	Florida Governmental Utility Authority (FGUA)	Rob Dickson	(239) 543-1935	rdickson@cpiengineering.com	2180 Weldon Springs Road, Suite 2001, Longwood, FL 32779	$ 48,086.60	Aug-15	Dec-15
South Hutchinson Island Repump #2 Station Modifications	Installation of 2 new split case pumps @ 75 HP, new 150kw Transformer, lighting panel, VFD's for the pumps, outdoor lighting circuit, multiple different instruments, and removal and replacement of existing generator with new 200KW generator with stand alone fuel tank	Fort Pierce Utility Authority	Keith Stephens	(772) 466-1620	kstephens@fpua.com	2055 5th St., Fort Pierce/Hutchinson Island, FL 34950	$ 618,753.25	Jan-15	Dec-15
Lift Stations 28, 87, 127 and 212 Rehabilitation	Remove all interior piping inside the wet well, clean interior walls and repair/fill any voids or exposed seams, coat all new concrete with epoxy, install new base plates, install new HDPE piping and associated support brace.	Loxahatchee River District	Jose Jesteadt	(561) 747-5700	jose.jesteadt@lrecd.com	2500 Jupiter Park Dr., Jupiter FL 33458	$ 28,982.00	May-12	Aug-12
Clearwater Road Trash Repair	Install 36" CIPP liner, hydraulically de-silt the entire storm drain system prior to lining with CIPP liner and prior to installing the pipe liner, inspect the lined pipe	Nassau County	David Hearn	(904) 435-1977	dlhearn@nassaucountyfl.com	96161 Nassau Place, Yulee FL 32097	$ 250,000.00	4/30/15	Apr-15
Rehabilitation of Sanitary Sewer Concrete Structures and Lift Stations	Lining/Coating of Brick or Precast Manhole, Rehabilitation (Repair and Lining) of Wastewater, Bypass Pumping, Reconstruction Manhole Bench and Floor Channels, Remove and Install Existing Pump Base Plate, Elbow and Guide Rails, Furnish and Install PVC, ETC.	Palm Beach County	Joseph Tarascio	(561) 493-6005	jtarascio@pbcgov.org	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 426,546.00	Jan-13	Dec-15
Wastewater Lift Stations Rehab	Construction of 2 new lift stations all new pumps and control panels, small shelters, emergency generators and RTU systems, transformers and electrical services. New Permanent generators were installed at two of the stations along with the corresponding ATS	Palm Beach County	Joseph Tarascio	(561) 493-6000	jtarascio@pbcgov.org	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 7,177,785.00	Oct-12	Oct-14
Strategic Wastewater Infrastructure Project Sewer Collection	Furnishing all materials, labor, supervision, equipment, supplies, fees, expertise, and services necessary for: lining of sewer, manhole repair and lining, inflow protection, repair of gravity sewer and laterals. Repair of 9 wastewater lift stations including wet well, valve vault, coatings, bypass pumping, electrical panels, pumps and concrete pads	Palm Beach County	Joseph Tarascio	(561) 493-6005	jtarascio@pbcgov.org	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 7,319,320.00	Jun-13	Dec-15
Control Panel LS B302	Retrofit control panel at lift station B302	Palm Beach County	Joseph Tarascio	(561) 493-6002	jtarascio@pbcgov.org	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 34,690.00	Jun-13	Aug-13
Lift Station Rehabilitation South Service Area – Phase II	Install 2 new pumps	Palm Beach County	Joseph Tarascio	(561) 493-6005	jtarascio@pbcgov.org	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 368,322.80	Apr-14	Jan-15
I & I Improvements		Palm Beach County	Joseph Tarascio	(561) 493-6005	jtarascio@pbcgov.org	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 552,891.00	Nov-12	May-14
Belle Glade Sewer I & I Improvements		Palm Beach County WUD	Dawn Palombo	(561) 493-6000	dpalombo@pbcgov.org	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$3,343,543.00	Feb-13	Jul-15
Sanitary Sewer & Lift Station Wet Well, Repairs		Palm Beach County Water Utilities Department	Phillip Thompson/Dawn Palombo	(561) 493-6129	pthompson@pbcgov.org; dpalombo@pbcgov.org	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 2,488,751.00		
Lift Station #20 Rehabilitation	Project includes new valve vault, small wet well riser and top slab install. Lift station including entire new flygt pump package with new control panel and junction boxes be mounted separate per plans. Wet well to be coated with tnemec along with two duplex manholes to lift station.	City of St. Pete Beach	Joe Wade	(727) 363-9254	jwade@stpetebeach.org	155 Corey Avenue, St. Pete Beach, FL 33706	$ 178,977.00	Mar-12	Sep-12
C-8 Force main Rehabilitation	C-8 Force main Rehabilitation from Garden Road to Cherry Lane.	Town of Palm Beach	Mitchell Reich	(561) 838-5410	mreich@townofpalmbeach.com	951 Old Okeechobee Rd, West Palm Beach, FL 33401	$ 1,215,700.00	Jul-14	Nov-14
Rehabilitation of Mikes, Dakil Rd., & Professional Plaza Pump Station	Furnishing all labour, equipment and materials for the construction of improvements to the Village's sanitary sewer systems. The work included the complete rehabilitation of three existing pump stations.	Village of Palm Springs	John Rouse	(561) 965-4019	jrouse@vopsfl.com	226 Cypress Lane, Palm Springs, FL 33461	$ 386,100.00	Jan-16	Jun-16
Continuing Contract for Wastewater Gravity Lines Rehabilitation	Rehabilitation of wastewater gravity pipelines utilizing the CIPP or Fold and Form lining method	Palm Beach County WUD	Hasten Hardaway	(561) 493-6000	hhardaway@pbcgov.org	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 2,531,550.60	Nov-14	Mar-17
Deerfield Beach Lift Stations	4 Lift Station dry can conversions	City of Deerfield Beach	Brad Scott	(954) 480-4418	bscott@deerfield-beach.com	150 NE 2nd Ave, Deerfield Beach, FL 33441	$ 350,710.00	Dec-17	Mar-17
Lift Station 41 Upgrades	Lift Station 41 Upgrades, including bypass pumping to allow work to be completed within the wet well; remove and replace pumps, ovation discharge piping, wet well piping, base elbows, pump bases, riser pipes, check valves, plug valves, pressure gauges and pumpout connection; install new floor in wet well and efflucent force main valve vault; remove control panel, power panel; furnish and install control panel, power panel, and emergency generator with belly tank, concrete pad and ATS; provide associated electrical and instrumentation work.	City of Winter Garden	Tim Monahan	(407) 656-4111	tmonahan@cwgdn.com	300 WEST PLANT STREET, WINTER GARDEN, FLORIDA 34787	$ 287,420.55	Oct-17	Jul-18
Pasco Verde Sanitary Sewer Manhole Rehabilitation - Group 1 Master Contract	Rehabilitate 49 sanitary sewers manholes	St. Johns County	James Overton	(904)209-2614	joverton@sjcfl.us	2205 State Road 16, St. Augustine, FL 32084	$ 230,288.00	Oct-17	Nov-18
Punta Verde Sanitary Sewer MH	Rehabilitate fifty (50) sanitary sewers manholes	Board of County Commissioners St. Johns County Florida	James Overton	(904) 209-0159	joverton@sjcfl.us	500 San Sebastian View St. Augustine FL 32084	$ 160,574.00	Dec-17	May-18
Lift Station C-19 Rehabilitation	Installation of new mechanical equipment, piping and appurtenances	Brevard County	Diana Collard	(321) 952-3089	diana.collard@brevardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 330,333.33	Nov-17	Jan-18
Lift Station C-18 Rehab	Rehab of existing wet well and installation of a Generator	Brevard County	Diana Collard	(321) 637-7300	diana.collard@brevardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 265,350.00	Sep-18	Jan-19

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Lift Station V-10 Rehabilitation	Rehabilitation of the existing Lift Station V-10 which included removal of the existing pump house, pipes, valves, floats, electrical cables and connections. Project also included submersible pumps, pipes (force main), power cables, floats, upper brackets, stainless steel guide rail, control panel, transfer switch, tower antenna and electrical connections.	Broward County	Owen Collard	(321) 633-2089	owen.collard@broward.org	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 396,500.00	Jan-17	Jul-17
M-08 Lift Station Replacement	Installation of the proposed Lift Station M-08, including but not limited to the installation of a new wet well, above-grade valving, pumps, hoses, valves, piping, control panel, and associated electrical components, telemetry infrastructure, and the associated instrumentation and controls, as well as converting the existing Lift Station M-08 wet well to a manhole	Broward County	Owen Collard	(321) 633-2089	owen.collard@broward.org	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 354,000.00	May-17	Nov-17
Lift Station 7 & 8 Improvement	Lift Station Improvements	City of Clearwater	Joel Webber	(727) 562-4527	joel.webber@myclearwater.com	100 S Myrtle Ave, Clearwater, FL 33756	$ 1,064,090.00	Oct-17	Aug-18
Master Pump Station Rehabilitation	Modifications to the City of Clewiston's Meadow Lift Station including but not limited to a new lift station, temporary bypass pumping, demolition, electrical improvements, restoration	City of Clewiston	Daisy Williams	(863) 983-1484	daisy.williams@clewiston-fl.gov	115 W Venoro Ave, Clewiston, FL 33440	$ 697,356.30	May-17	Apr-18
Lift Station T-26 Rehabilitation	Rehabilitation of Lift Station T-26 to include rehabilitation of existing wet well; demolition of underground valve box and its replacement with an aboveground valve pad; replacement of the pumps, base elbows, discharge piping, manhole risers, valves and fittings, electrical and SCADA panels; installation of an electrical demarcation box and connection to the existing force main. The project also involves bypass pumping during rehabilitation and site restoration after completion of rehabilitation	Broward County	Craig Helping	(321) 633-2089	Craig.Helping@broward.county.gov	2725 Judge Fran Jamieson Way, A-232, Viera Beach, FL 32940	$ 128,450.61	Jan-18	Jun-18
Lift Station T-26 Rehab	Rehab of lift station including pipes, pumps, and electrical	Broward County	Owen Collard	(321) 617-7390	owen.collard@broward.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 142,450.00	Jan-18	Apr-18
Lift Station S-25 Rehab	Install of new mechanical equipment, piping and appurtenances	Broward County	Owen Collard	(321) 617-7390	owen.collard@broward.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 457,800.00	Apr-18	Aug-18
Master Lift Station Generator Replacement	Remove existing generator and tow over to owner. Remove all wiring associated with existing generator system between generator and ATS and replace with new. Provide new 80kW, 480V, 3phase generator with 200 gallon subbase tank and weather-proof enclosure and critical grade stainless steel silencer	City of Atlantis	Joseph Kamir	(561) 242-8128	jkamir@ci.atlantis.fl.us	260 Orange Tree Drive, Atlantis, FL 33462	$ 97,200.00	Jan-18	Feb-18
Master Lift Generator Replace	Installation of a generator at the master lift station	City of Atlantis	Mo Thornton	(561) 965-0745	mthornton@atlantisfl.gov	260 Orange Tree Dr, Atlantis, FL 33462	$ 97,200.00	Jul-17	Feb-18
Australian Ave Sanitary Sewer & Parking Lot Improvements	Gravity sanitary sewer replacement, pavement removal and reconstruction	Town of Palm Beach	John Colross	(561) 838-5440	mike.pierce@lassnc.com	951 Okeechobee Drive, West Palm Beach, FL 33401	$ 228,590.00	Jun-17	Oct-17
Wastewater Lift Station No. 8 & 15	Rehabilitation of Lift Station No. 8 & 15, including, but not limited to, bypass pumping, excavation of existing wet well, fencing, demolition of the existing manholes, structural repairs, construction of new valve vaults, submersible pumps, associated force main piping and valves, control panel and associated electrical equipment, and instrumentation	City of St. Pete Beach	Jim Wade	(727) 363-9254	JWade@stpetebeach.org	155 Corey Avenue, St. Pete Beach, Florida 33706	$ 544,431.43	Apr-17	Dec-17
Melaleuca & Kirk Road	Remove and Replace approximately 270LF of 60" RCP with new handwall south of the intersection of, Kirk Rd and Melaleuca Lane.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 152,000.00	Aug-17	Nov-17
WO #16 Woolbright Inlets	Remove and Replace 24' of 18" RCP piping and type P6 inlet top and bottom approximately 15' Deep within edge of roadway	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 80,000.00	Apr-17	Jun-17
WO #12 Aladdin	Remove and Replace approximately 72LF of 36" RCP at 3550 Aladdin Avenue.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 75,200.00	Feb-17	Mar-17
WO #13 Kirk Rd Phase 2	Rehabilitation of approximately 442 LF of 48 - 60" RCP south of the intersection of Kirk Rd and Melaleuca Lane. Quote includes rehabilitation of one inline within Melaleuca lane performed.	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 171,700.00	Jul-17	Sep-17
WO#16 Lyon Forest Rd	Drainage improvements per project scope and drawings	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 201,959.32	Jun-17	Sep-17
WO #15 Florida Blvd	Drainage improvements 24"	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 50,453.05	Jul-17	Aug-17
WO#19 Riverside	Drainage improvements 15", Driveway and Curbing Repairs	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 58,350.00	Aug-17	Sep-17
Riverside	Drainage Improvements 18", Asphalt Repairs	Palm Beach County	Mark Kroeger	(561) 616-6800	mkroeger@pbcgov.org	50 South Military Trail, Suite 110, West Palm Beach, FL 33415	$ 31,885.30	Aug-17	Nov-17
Lift Station #22 - Slip Replacement	Conversion of S+C Station to Submersible Lift Station - Lift Station #4 Rehabilitation	City of Cooper City	Steve Blanchard	(954) 434-6300	sblanchard@coopercity.org	9090 SW 50th Place, Cooper City, FL 33328	$ 39,500.00	Aug-17	Feb-18
Lift Station #28	Rehabilitation to lift station M-12	Broward County	Owen Collard	(321) 633-2089	owen.collard@broward.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 128,700.60	Aug-17	Nov-17
Lift Station #1 Rehabilitation	Lift Station #1 Rehabilitation	City of Holly Hill	Walt Smyzer	(386) 490-1249	Wsmyzer@hollyhill.org	3600 East Port Pkwy, Port Orange, FL 32127	$ 530,000.00	Sep-17	Feb-18
Lift Station 7 -17 and 17	Install High Density Polyethylene (HDPE) sheet lining in the lift station/pump station wet wells and manholes, installation, bypass pumping (at Additional Price), removal of any existing deteriorated coating, preparation of lift station structure to be lined, furnishing and applying the specified cementitious and epoxy coating materials to the interior surface areas of the lift station, applicable QA/QC testing, cleanup, and demobilization.	City of Holly Hill	Walt Smyzer	(386) 490-1249	Wsmyzer@hollyhill.org	3600 East Port Pkwy, Port Orange, FL 32127	$ 289,000.00	Nov-17	Mar-18
Seminole County LS Rehab 2017	Rehabilitation to 10 lift stations across the County	Seminole County	Jeff Line	(407) 665-2508	jline@seminolecountyfl.gov	4045 Wayside Dr, Sanford, FL 32771	$ 529,539.66	Oct-17	Nov-17
Palm Beach County Lift Station Rehabilitation Continuing Construction Contract	Complete electrical system at Lift Station No. 21	City of Cooper City	Steve Blanchard	(954) 434-6300	sblanchard@coopercity.org	9090 SW 50th Place, Cooper City, FL 33328	$ 321,541.60	Sep-17	Nov-18

Job Name	Scope of Work	Municipality	Municipality Project Manager	Municipality Phone	Municipality Email	Municipality Address	Original Contract Amount	Start Date	End Date
Replacement Lift Station 21	Replacement of Lift Station 21	City of Cooper City	Steve Blanchard	(954) 434-4909	SBlanchard@CooperCityFL.org	9090 SW 50th Place, Cooper City, FL 33328	$ 930,000.00	Sep-17	Mar-18
Pipe Draining and Video, And Drainage Repair on Various State Roads	Drainage repair district-wide	FDOT	Wayne North	(863) 519-2332	Wayne.North@dot.state.fl.us	N Ronalds Street Suite 1400, Tampa, FL 33602	$ 326,520.00	Oct-17	Jun-17
Lift Station 7-04 Rehab	Rehabilitating existing submersible LS including a new valve pit, tie-into the existing force main, new control panel, new telemetry tower, site grading, new access driveway	Brevard County	Owen Collard	(321) 633-2068	owen.collard@brevardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 295,173.51	Jul-17	Nov-18
Lift Station 29 Replacement	To provide maintenance and construction for water, wastewater and reuse projects	City of Altamonte Springs	Karen McCollem	407-571-8335	kmccollem@altamonte.org	225 Newburyport Avenue, Altamonte Springs, FL 32701	$ 458,800.00	Sep-16	Jul-17
2016 Telemetry Information Management System Upgrade	Furnishing all materials, labor, supervision, equipment, supplies, fees, expertise, and services necessary to provide and install new remote terminal units (RTUs) with programmable logic controllers (PLCs) to control 50 lift station with associated level transducers, transformers, antennas, solar panels with controllers	Palm Beach County WUD	Andre McDonald	(561) 493-6104	amcdonald@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 1,482,251.50	Feb-17	Aug-18
Greenacres Drainage Improvements	Drainage improvements within Jo Street between the 10 feet west of Swain Boulevard to 330 feet west of Jackson Avenue	City of Greenacres	Tarik Ghnaim	(561) 642-2043	tghnaim@greenacresfl.gov	5800 Melaleuca Lane, Greenacres, FL 33463	$ 373,148.50	Jan-17	Oct-17
2017 Storm drain Pipe Lining	perform high pressure water jetting, rodding, flushing, bucketing and flatting of designated sewer lines and manholes	City of Ormond Beach	Allen Schemper	(386) 676-3305	Allen.Schemper@ormondbeach.org	22 South Beach Street, Ormond Beach, FL 32174	$ 269,200.00	Mar-17	Jul-17
Lining - 16-282	10,000 LF Lining	Palm Beach County WUD	Pollop	(561) 493-6125	pollop@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 598,825.55	Nov-16	Apr-17
Lift Station 139 Valve Rehab	Lift Station 139 Valve Rehab	City of Stuarts	Joe Mazzella	(954) 372-1277	jmazzella@cityofstuart.com	3430 NW 36th St, Stuarts, FL 33435	$ 42,200.00	Apr-18	May-18
Sand Dollar LS-3 Rail Repairs	Improvements to the Sand Dollar 3264 Lift Station	St. Johns County Utility Department	James Dreiser	(904) 209-2614	jdreiser@sjcfl.us	1205 State Road 16, St. Augustine, FL 32084	$ 128,480.00	Jul-18	Sep-18
Lift Station #46 - Drive	Install vertical pumps, motors, bad pump control valves, including all accessories	City of West Palm Beach	Carlos Morado	561-494-3091	CMorado@wpb.org	60 South Military Trail, Suite 130, West Palm Beach, FL 33415	$ 698,153.00	May-18	Sep-18
Blue Cypress Lake RD Culvert	replacement of an existing culvert crossing: Elliptical Reinforced Concrete Pipe (RCP); temporary canal bypass, temporary sheet pile, earthwork, pavement replacement, maintenance of traffic, erosion control	Indian River County	Kristen Leiendecker	(772) 226-1416	kleiendecker@ircgov.com	1800 27th Street, Vero Beach, FL 32960	$ 176,000.00	Apr-18	Jun-18
Lift Station # 5 - Lining	Gravity sewer main lining in lift station #5 basin area	City of North Lauderdale	George Kawczyk	(954) 597-4754	gkawczyk@northlauderdale.net	701 Southwest 71st Ave, North Lauderdale, FL 33068	$ 536,656.70	Mar-18	Oct-18
Jensen River Trans Pump Stat	Install a water detection switch in the main mops pump station; install a manufactured pump station in a fiberglass wet well with 2-40 HP main water pumps	Village of North Palm Beach	Arlene Swaney	(561) 691-8412	arlene.swaney@northpalmbeachfl.net	501 US Highway One, North Palm Beach, FL 33408	$ 345,680.00	Aug-18	Sep-18
Manhole Rehab - Tarpon Springs	Rehabilitation of sanitary sewer manholes	City of Tarpon Springs	Rodney Rainey	(727) 942-5615	rrainey@ci.tarpon.fl.us	324 East Pine Street, Tarpon Springs, FL 34689	$ 32,975.00	May-18	Jul-18
Emerg Sewer Repair - Seaport	Mobilization Service Charge to Mobilize and accept to locate/repair leaking sewer. ($2,000 mobilization, and up to 10 hours work included in price. Each additional hour worked after the 10 hours will be billed at $200/hour.)	Village of Seaport Condominium Association Inc.	Barry Welch	(305) 743-5402	VOA-Management@bellsouth.net	1205 Seaport Blvd, Cape Canaveral, FL 32920	$ 4,500.00	Apr-18	May-18
Bass Creek Manhole	Manhole Coating	City of Cooper City	Steve Blanchard	(954) 434-4909	SBlanchard@CooperCityFL.org	9090 SW 50th Place, Cooper City, FL 33328	$ 19,665.00	Apr-18	May-18
Utilities Complex Electrical	Electrical work at storage building	City of Cooper City	Steve Blanchard	(954) 434-4909	SBlanchard@CooperCityFL.org	9090 SW 50th Place, Cooper City, FL 33328	$ 19,780.00	May-18	Jun-18
Lift Station #16 Piping	16 Piping	City of Cooper City	Steve Blanchard	(954) 434-4909	SBlanchard@CooperCityFL.org	9090 SW 50th Place, Cooper City, FL 33328	$ 14,520.00	May-18	Jun-18
Emergency - Belle Glade SEPTIC	Emergency - Belle Glade SEPTIC	Palm Beach County WUD	Gerardo Castellano	(561) 493-6121	gcastellano@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 38,375.00	Jun-18	Jul-18
Garden Lakes	Sanitary Sewer and Stormwater Rehabilitation and Infrastructure repair	Seminole County	David Orgberg	(407) 665-7388	dorgberg@seminolecountyfl.gov	500 West Lake Mary Blvd, Sanford, FL 32773	$ 35,702.60	May-18	Jun-18
Top Slab Replacement	5' diameter concrete top slab, FRP hatch	City of Cooper City	Steve Blanchard	(954) 434-4909	SBlanchard@CooperCityFL.org	9090 SW 50th Place, Cooper City, FL 33328	$ 8,700.00	Jun-18	Jul-18
Construction Services for Brighton Reservation	Construction Services for the installation of cast in place pipe rehabilitation at the Brighton Reservation	Seminole Tribe of Florida	Steven Fuhrman	(954) 966-6800	steven.fuhrman@semtribe.com	6300 STIRLING ROAD, HOLLYWOOD, FLORIDA 33024	$ 109,706.00	Feb-19	Apr-19
Lift Station No. 4 Minor Rehabilitation	Rehabilitate existing submersible-style waste water pump lift station by removing and re-installing existing pumps and discharge equipment, cleaning and relining wet well where needed, replacing existing piping in the wetwell and valve vault, replacing bypass connections, and making other improvements	City of Sewickley	Mark Pachut	(724) 573-2272	mpachut@sewickley.org	20270 West Oakland Park Blvd, Sewickley, Florida 33351	$ 89,947.20	Jan-19	Feb-19
Water and Sewer Lines Abandonment Project	Abandonment of existing water and sewer mains along with service lines with concrete grout within the boundary of Commerce Park including removal of existing fire hydrants	City of Lauderdale Lakes	Margaret Rolle	(954) 535-2700	margaretr@lauderdalelakes.org	4300 NW 36th Street Lauderdale Lakes, FL 33319	$ 81,981.45	Jan-19	Jul-19
Lift Station 188 - Rehabilitation	Lift station rehab for PBS, is required to remove the existing leaking wet well liner, repair walls and wet well.	City of Miramar	Jim Fowler	(954) 602-3115	jfowler@miramarfl.gov	2300 Civic Center Place Miramar, FL 33025	$ 91,580.00	Apr-19	May-19
Gravity Sewer	Gravity sewer main cleaning, bypass pumping, install of 11,027 LF of 8" CIPP liner	City of Zephyrhills	Mike Perry	813-780-0000	Mperry@zephyrhills.com	38535 Alvina Ave Zephyrhills, FL 33542	$ 348,128.30	Oct-18	Dec-18
Big Creek Haven LS Shell Replacement	Remove and replace 35 guide rails and brackets vacuum truck (for cleaning)	Village of Palm Springs	Andrew Glassner	(561) 805-6023	aglassner@vpsfl.org	226 Cypress Lane Palm Springs, FL 33461-1839	$ 9,350.00	Feb-19	Feb-19
Lift Station 5138 Emergency Repairs	Remove and Replace - (2) - 12" Gate Plug from the Base Elbow up to the Check Valve - Water Remove and Replace 3" - Split Supply and Install 2.5" - 30" Plug Re-Anchoring of the Discharge Header	Palm Beach County WUD	Gerardo Castellano	561-493-6121	GCastellano@pbcwater.com	8100 Forest Hill Blvd, West Palm Beach, FL 33413	$ 57,200.00	Jan-19	Feb-19
Palm beach traveler's RV Park	Emergency removal and replacement of up to 25LF of 8" sewer pipe in the Palm Beach Traveler Park.	Palm Beach Trailer RV Park	Bob Wolf	215-905-4203	bobwolf@palmbeachtrailer.com	4536 Lawrence Rd Lake Worth, FL 33462	$ 27,800.00	May-19	Jun-19
Lift Station S-08 Replacement	The Contractor shall furnish all labor, materials, equipment, machinery, tools, apparatus, and transportation and perform all of the work shown on the Drawings and described in the Specifications entitled, Lift Station S-08 Replacement, as prepared by Honeyman & Associates, Inc., acting as, and in the Contract Documents entitled, the Engineer, and shall do everything required by this Contract and the other Contract Documents.	Brevard County	Owen Collard	(321) 637-2068	owen.collard@brevardfl.gov	2725 Judge Fran Jamieson Way, Viera, FL 32940	$ 498,250.00	Aug-18	Aug-19

Daniel A. Duke III
Address: 992 W. 15th Street, Riviera Beach, Florida 33404
Phone Number: 561-640-3503
Email: Dduke1@hinterlandgroup.com
President
Over 12 years in direct development of multiple land use projects in Florida, currently holds Florida General Contractor's License(CGC1520354), Florida Certified Building Contractor's License (CBC1255077) and Certified Underground and Excavation Contractor License (CUC1224634). Oversees daily operations and provides direct support to all personnel.
Working for Hinterland Group, Inc 10.5 years
Project Related Background:
City of Port St. Lucie Pump Station SP41 Rehabilitation
City of Orlando Lift Stations 19, 46, 70 & 71 Rehabilitation
Florida Governmental Utility Authority Golden Gate Lift Stations Rehabilitation (4)
SSNOCWTA Master Services Agreement; Lift Station and Manhole Rehabilitation
City of Dania Beach Lift Station # 5 Rehabilitation
City of Eustis Lift Station # 5 Rehabilitation
City of Auburndale Adams Road Lift Station Rehabilitation
City of St. Cloud Lift Station # 10 Rehabilitation
Village of Palm Springs Lift Stations 38, 32, 25 & Rex Avenue Rehabilitation
City of Lake Worth Pump Station #9 Rehabilitation
Seacoast Utility Authority Pond Lining & Pump Station At PGA WWTP
Palm Beach County Wastewater Lift Station Rehabilitation Project-Phase A
City of West Palm Beach Structural Repair of the Flow Equalization Basin

Daniel A. Duke Jr.
Address: 992 W. 15th Street, Riviera Beach, Florida 33404
Phone Number: 561-640-3503
Email: Dduke2@hinterlandgroup.com
Project Manager
Twenty seven years direct experience in several land development projects including various wastewater lift station installations, gravity and force main sewer installation. Direct daily supervision of superintendents and skilled labor, management of project schedules, asset management and logistics for entire company personnel and equipment fleet. Project procurement and material acquisition duties.
Working for Hinterland Group, Inc. 9 years
Project Related Background:
City of Port St. Lucie Pump Station SP41 Rehabilitation

City of Orlando Lift Stations 19, 46, 70 & 71 Rehabilitation
Florida Governmental Utility Authority Golden Gate Lift Stations Rehabilitation (4)
SSNOCWTA Master Services Agreement; Lift Station and Manhole Rehabilitation
City of Dania Beach Lift Station # 5 Rehabilitation
City of Eustis Lift Station # 5 Rehabilitation
City of Auburndale Adams Road Lift Station Rehabilitation
City of St. Cloud Lift Station # 10 Rehabilitation
Village of Palm Springs Lift Stations 38, 32, 25 & Rex Avenue Rehabilitation
City of Lake Worth Pump Station #9 Rehabilitation
Brevard County M-20 Lift Station Rehabilitation
City of West Palm Beach Phipps Park Booster Pump Station Rehab & Modification
Palm Beach County Wastewater Lift Station Rehabilitation Project – Phase A
University of Florida Pump Station No 1 Renovations, Building 211
FGUA-Lee County Rehabilitation & Improvements to Master Lift Station 01

Jay B. Breig
Address: 992 W. 15th Street, Riviera Beach, Florida 33404
Phone Number: 561-640-3503
Email: JBreig@hinterlandgroup.com
Superintendent
Twelve years experience in the rehabilitation and installation of wastewater structures, gravity and force main pipe installations. Conduct daily labor briefings, safety meetings and coordinates daily labor for successful project completion. Regularly conducts project briefings with project manager and inside support personnel.
Working for Hinterland Group, Inc. 10.5 years
Project Related Background:
City of Port St. Lucie Pump Station SP41 Rehabilitation
City of Orlando Lift Stations 19, 46, 70 & 71 Rehabilitation
Florida Governmental Utility Authority Golden Gate Lift Stations Rehabilitation (4)
SSNOCWTA Master Services Agreement; Lift Station and Manhole Rehabilitation
City of Dania Beach Lift Station # 5 Rehabilitation
City of Eustis Lift Station # 5 Rehabilitation
City of Auburndale Adams Road Lift Station Rehabilitation
City of St. Cloud Lift Station # 10 Rehabilitation
Village of Palm Springs Lift Stations 38, 32, 25 & Rex Avenue Rehabilitation
City of Lake Worth Pump Station #9 Rehabilitation
City of Weston Indian Trace Development District 36 Lift Stations Rehabilitation Toho Water Authority Manhole Raising Project

City of West Palm Beach Phipps Park Booster Pump Station Rehabilitation
University of Florida Pump Station No. 1 Renovations, Building 211
City of Altamonte Spring Lift Station 10 & 11 Rehabilitation
City of St. Pete Beach Lift Station # 10 Rehabilitation
City of St Cloud Lift Station 76 Rehabilitation
City of Mulberry WTP Improvements
Collier County 7th Street SW Booster Pump & VFD Replacement
City of Naples Water Treatment Plant Vacuum Filter Replacement
Palm Beach County Belle Glade Sewer Infiltration & Inflow Improvements Project
City of Altamonte Springs Lift Station No. 29 Rehab
Town of Mangonia Park Lift Station No. 1 Rehab
City of St Pete Beach Lift Station 8 & 16 Rehabilitation
Citrus County Lift Station & Manhole Rehab

Charlie Breig
Address: 992 W. 15th Street, Riviera Beach, Florida 33404
Phone Number: 561-640-3503
Email: CBreig@hinterlandgroup.com
Electrical Superintendent
Forty plus years of commercial electrical experience. Licensed Florida Electrical Contractor (EC13003615).
Working for Hinterland Group, Inc. 10.5 years
Project Related Background:
City of Dania Beach Lift Station #5 Rehabilitation
Village of Palm Springs Lift Stations 38, 32, 25 & Rex Avenue
City of Lake Worth Pump Station #9 Rehabilitation
Seacoast Utility Authority Pond Lining & Pump Station At PGA WWTP
University of Florida Pump Station No. 1 Renovations, Building 211
Florida Governmental Utility Authority Rehabilitation & Improvements to Master Lift Station 01
City of St. Pete Beach Lift Station #10 Rehabilitation

Chase Rogers, E.I.
Address: 992 W. 15th Street, Riviera Beach, Florida 33404
Phone Number: 561-640-3503
Email: CRogers@hinterlandgroup.com
Estimator/ Project Engineer

10 years' experience in the rehabilitation and installation of sanitary sewer structures. 5 years experience working as an electrician at WWTP. Responsible for project scheduling and coordination.
Degree in Civil Engineering.
Working for Hinterland Group, Inc. 9 years.
Project History:
Winter park – Tuskawilla, winter park estates,...
Lake Worth – backwash and PS 9
Seacoast Utility Authority-Reject Water Storage Pond Lining and Pump Station at the PGA WTP.
City of West Palm Beach-Phipps Park Booster Pump Station Rehab & Modifications
Palm Beach County-Wastewater Lift Station Rehabilitation Project- Phase A
City of St. Cloud-Lift Station # 10 Rehabilitation
City of Auburndale- Adams Road Lift Station Rehabilitation
Florida Governmental Utility Authority- Golden Gate Lift Stations Rehabilitation
City of Dania Beach- Lift Station # 5 Rehabilitation
Loxahatchee River District – Lift Station #23 Rehabilitation
City of West Palm Beach – Structural Repair of the Flow Equalization Basin
Florida Governmental Utility Authority –Rehabilitation & Improvements to Master Lift Station 01
City of Boca Raton Lift Station 17 Rehabilitation
Brevard County C-05 & Forcemain Replacement
Brevard County M-6 Replacement
Village of palm Springs Rehabilitation of Pump Stations
City of Boca Raton Lift Station 17 Rehab
City of Clewiston Master Lift Station Replacement
City of Deerfield Beach Rehab of Lift Station No. 20
City of Treasure Island Lift Stations 6,7,8 & 9 Rehab
City of West Palm Beach Lift Station Rehab Annual Contract
Palm Beach County Lift Station Annual Contract

Evello Millares (Superintendent)
Address: 992 W. 15th Street, Riviera Beach, Florida 33404
Phone Number: 305-218-3537
Email: Emillares@hinterlandgroup.com
Estimator/Electrical Superintendent
35 years total electrical experience. Electrical Contractor for 22 years. Florida Certified Electrical Contractor (EC13005750)
Working for Hinterland Group for 2 Years. Electrical Estimations, Purchasing and on site Supervision
Project Related Background:

Florida Keys Aqueduct Authority Main Pump Stations on Cudjoe and Summerland Keys
Palm Beach County Lift Station Rehab Project Priority 2
City of Dania Beach Lift Station #16
City of West Palm Beach Lift Station #10
Brevard County Lift Station M-06, C-5
City of Belle Glade Lift Station 1801
City of Altamonte Springs Lift Station 29 Rehabilitation
City of St Pete Beach Lift Station 8 & 16 Rehab

Brett Konchak Project Manager
Address: 992 W. 15th Street, Riviera Beach. FL 33404
Phone Number: 561-640-3503
Email: BKonchak@hinterlandgroup.com
Project Manager
Over 5 years in direct development of multiple land use projects in Florida, including various gravity and force main CIPP sanitary and storm sewer installations. Direct daily supervision of superintendents and skilled labor, management of project schedules, asset management and logistics for entire company personnel and equipment fleet. Project procurement and material acquisition duties.
Working for Hinterland Group, Inc. 2.5 years
Project Related Background:
Over 180,000 Linear feet successfully televised and CIPP lined involving various entities including:
Palm Beach County Annual CIPP
Manatee County Annual CIPP
Riviera Beach I&I
Seminole County Annual CIPP
Tampa Annual CIPP
City of West Palm Beach Annual CIPP
Clearwater Annual CIPP
Zephyrhills CIPP
Lake Worth CIPP
Bartow CIPP
Maitland CIPP
Nassau County Storm CIPP
Mangonia Park CIPP
Village of Golf CIPP
Lantana CIPP
Miramar CIPP
N Lauderdale CIPP
Palm Beach Gardens CIPP



Hinterland Group Inc
2051 W Blue Heron Blvd.
Riviera Beach, FL 33404

As of: 11/02/2022
CIPP Roster: Position, Experience, Expertise, Licenses

Name	Position	Years of Experience	Expertise	Licenses
Jacob Crowe **Percentage of time Assigned to Work:** - As Needed	General Manager / Project Manager	23 - Utility Construction 8 - Lining	CCTV PACP Liner Installation, Liner Curing Wet-Out Grouting/Pressure Testing Robotic Service Reconnection	PACP MACP LACP
Butch Forrester **Percentage of time Assigned to Work:** - As Needed	Project Manager	22	CCTV PACP Liner Installation, Liner Curing Grouting/Pressure Testing Robotic Service Reconnection	PACP HAZWOPER FDOT MOT Geophysical Survey
Kevin Orlowski **Percentage of time Assigned to Work:** - As Needed	Assistant Project Manager	5	CCTV PACP Liner Installation, Liner Curing Grouting/Pressure Testing Robotic Service Reconnection	PACP LACP
Kaj Rasmussen **Percentage of time Assigned to Work:** - As Needed	Superintendent	23	CCTV PACP Liner Installation, Liner Curing Grouting/Pressure Testing Robotic Service Reconnection	PACP HAZWOPER FDOT MOT
Carlos Angulo **Percentage of time Assigned to Work:** - As Needed	Foreman	5	Liner Curing Liner Installation	FDOT MOT
Ivan Pulido **Percentage of time Assigned to Work:** - As Needed	Robotics Operator / Mechanic Laborer	12	Liner Curing, Liner Installation Wet-Out Grouting/Pressure Testing Robotic Service Reconnection	CDL

PBCWUD

STANDARD DESIGN SPECIFICATION SECTIONS

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SECTION 01 11 00 – SUMMARY OF WORK

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Construct Work as described in the Contract Documents.

1. Provide the materials, equipment, and incidentals required to make the Project completely and fully operable.

2. Only the materials listed in Palm Beach County Water Utilities Department Engineering Services Division - Approved Materials and Equipment List (Latest Version) are approved for use within the PBCWUD service area, or as specified herein.

3. Provide the labor, equipment, tools, and consumable supplies required for a complete Project.

4. Provide the civil, and all other Work required for a complete and operable Project.

5. Test and place the completed Project in operation.

6. Provide the special tools, spare parts, lubricants, supplies, or other materials as indicated in Contract Documents for the operation and maintenance of the Project.

7. Arrange and coordinate with Supplier for deliveries of OWNER purchased products in accordance with construction schedule, coordinate to avoid conflict with work and conditions at the site. Unload the products at the site, and store and protect the products in accordance with the Supplier's instructions.

8. The WORK shall be complete, and all work, materials, and services not expressly indicated or called for in the Contract Documents which may be necessary for the complete and proper construction of the WORK in good faith shall be provided by the CONTRACTOR and coordinated with the ENGINEER as though originally so indicated, at no increase in cost to the OWNER.

9. CONTRACTOR shall comply with all applicable federal, state and local safety regulations, laws and standards, as well as any specific Palm Beach County or Water Utilities Department requirements while completing the work.

10. Except as specifically noted, the CONTRACTOR shall provide and pay for:

    a. Labor, materials, and equipment.

    b. Tools, equipment and machinery.

    c. Water, electricity, and other utilities required to complete project.

d. Other facilities and services necessary for proper execution and completion of the work.

e. Permits, surveys, and testing.

B. The CONTRACTOR and its SUBCONTRACTORS shall meet the qualification requirements as defined in the front end (Appendix B) specifications.

1.2 DESCRIPTION OF WORK

A. Work is described in general, non-inclusive terms as:

1. The work covered by these specifications consists in general of furnishing all labor, supervision, materials, equipment, supplies, tools and manufactured articles of every kind required to furnish and install raw water mains, potable water mains, wastewater force mains, reclaimed water mains, and related appurtenances at the Owner's discretion through multiple work authorizations, to be issued on an as-needed basis over a ~~thirty-six (36)~~ 12-months period with an optional two (2) 12-months contract renewal (see Supplemental General Conditions).

2. The Work shall also include all transportation and all temporary services, utilities, systems and construction, including those not expressly shown or called for in the Contract Documents, necessary to properly accomplish and complete the Work in accordance with the requirements of the Contract Documents. Contractor must submit estimated quantities for Work Authorization approval on an Excel Spreadsheet within 14 days after receiving the plans for each Work Authorization.

3. The Contractor shall be responsible for providing all forms for the Work Authorization. The Owner shall provide a written work description, project location map, project number and budget line item number. The Work Authorizations with bonds shall be completed within 7 days of the Owner's review of the Work Authorization amount.

C. Except as specifically noted, the Contractor shall provide and pay for:

1. Labor, supervision, materials, and equipment.

2. Tools, equipment and machinery.

3. Water, electricity, and other utilities required to complete project.

1.3 CONTRACT METHOD

A. The WORK hereunder will be constructed under a single unit-price contract.

1.4 WORK UNDER OTHER CONTRACTS

A. The following construction work is not included in this Contract, but may impact construction scheduling, testing, and startup:

Owner	Description
Palm Beach County Engineering & Public Works	Road Improvement Projects
Florida Department of transportation (FDOT)	Road Improvement Projects

B. Obtain clarification from the OWNER in the case of a disagreement between the above list and those specified elsewhere in the Contract Documents.

C. Completion of the Work described in this Contract may impact the construction and testing of the items listed above.

1. Coordinate construction activities through the OWNER.

2. Pay claims for damages which result from the late completion of the Project or any specified Milestones.

1.5 WORK BY OTHERS

A. Where 2 or more contracts are being performed at one time on the same Site or adjacent land in such manner that work under one contract may interfere with work under another, the OWNER will determine the sequence and order of the Work in either or both contracts. When the Site of one contract is the necessary or convenient means of access for performance of work under another, the OWNER may grant privilege of access or other reasonable privilege to the CONTRACTOR so desiring, to the extent, amount, and in manner and at time that the OWNER may determine. No OWNER determination of method or time or sequence or order of the work or access privilege shall be the basis for a claim for delay or damage except under provisions of the General Conditions for temporary suspensions of the work. The CONTRACTOR shall conduct its operations so as to cause a minimum of interference with the work of such other CONTRACTOR's, and shall cooperate fully with such CONTRACTOR's to allow continued safe access to their respective portions of the Site, as required to perform work under their respective contracts.

B. Interference With Work On Utilities: The CONTRACTOR shall cooperate fully with all utility forces of the OWNER or forces of other public or private agencies engaged in the relocation, altering, or otherwise rearranging of any facilities which interfere with the progress of the WORK, and shall schedule the WORK so as to minimize interference with said relocation, altering, or other rearranging of facilities.

1.6 WORK SEQUENCE

A. CONTRACTOR shall schedule its construction operations that no interference with an operation of the owners system will occur when directed by owner.

B. Work hours are limited to the hours of 7:00am to 5:00pm during weekdays, unless further restrictions are listed. No work is permitted during holidays.

1.7 CONTRACTOR USE OF SITE

A. The CONTRACTOR's use of the Site shall be limited to its construction operations, including on-site storage of materials, on-site fabrication facilities, and field offices.

B. The CONTRACTOR shall not use any of the private properties or any portion of the Site until and authorization from the property owner is granted for any of its construction operations.

1.8 OUTAGE PLAN AND REQUESTS

A. Unless the Contract Documents indicate otherwise, the CONTRACTOR shall not remove from service, de-energize, or modify settings for any existing pipeline, valve, equipment, structure, road, or any other facility without permission from the ENGINEER.

1. Outages and service connections shall be performed during non-peak times, unless specifically allowed by the OWNER to occur during this times.

B. Where the WORK requires modifications to existing facilities or construction of new facilities and connection of new facilities to existing facilities, the CONTRACTOR shall submit a detailed outage plan and schedule for the OWNERS approval a minimum of 48 hours in advance of the time that such outage is planned.

C. The outage plan shall be coordinated with the construction schedule and shall meet the restrictions and conditions of the Contract Documents. The outage plan shall describe the CONTRACTOR's method for preventing bypassing of system; the length of time required to complete said operation. All costs for preparing and implementing the outage plans shall be at no increase in cost to the OWNER.

D. The ENGINEER shall be notified in writing at least 48 hours in advance of the required outage if the schedule for performing the work has changed or if revisions to the outage plan are required.

E. The CONTRACTOR shall provide written confirmation of the shutdown date and time 48 hours prior to the actual shutdown.

1.9 OWNER USE OF THE SITE AND OCCUPANCY

A. The OWNER may utilize all or part of the existing facilities during the entire period of construction for the conduct of the OWNER's normal operations. The CONTRACTOR shall cooperate and coordinate with the ENGINEER to facilitate the OWNER's operations and to minimize interference with the CONTRACTOR's operations at the same time. In any event, the OWNER shall be allowed access to the Site during the period of construction.

B. Testing of equipment and appurtenances including specified test periods, training, and startup does not constitute acceptance for operation.

C. OWNER may accept the facility for continued use after startup and testing at the option of the Owner. If acceptance is delayed at the option of the OWNER, shut down facilities per approved Operation and Maintenance procedures.

D. The execution of bonds indicates the consent of the surety to these provisions for occupancy of the structures and use of equipment.

E. Provide an endorsement from the insurance carrier permitting occupancy of the structures and use of equipment during the remaining period of construction.

F. Conduct operations to ensure the least inconvenience to the Owner and general public.

1.10 REQUIREMENTS OF OTHER AGENCIES

A. When performing Work on facilities owned by agencies other than OWNER, comply with all requirements of such agencies which are more restrictive than those specified herein.

1.11 PROTECTION OF EXISTING STRUCTURES

A. The CONTRACTOR shall assume full responsibility for the protection of all existing buildings, structures, poles, signs, services to buildings, hydrants, drains, duct banks and electric and telephone cables, whether or not they are shown on the Drawings. The CONTRACTOR shall carefully support and protect all such structures and utilities from injury of any kind. Any damage resulting from the CONTRACTOR's operations shall be repaired by the CONTRACTOR at CONTRACTOR's expense.

B. Protection and temporary removal and replacement of existing structures as described in this Section shall be a part of the Work under the Contract and all costs in connection therewith shall be included in the Bid Price.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01 14 00– WORK RESTRICTIONS

PART 1 -- GENERAL

1.1 THE SUMMARY

A. WORK shall be scheduled, sequenced, and performed in a manner which minimizes disruption to the public and to the operation and maintenance of existing facilities along the pipeline alignment.

B. The CONTRACTOR shall incorporate the construction and schedule constraints of this Section in preparing the construction schedules required under Section 01 32 16 – Construction Progress Schedule.

1.2 BYPASSING

A. Bypassing of untreated or partially treated sewage to surface waters or drainage courses is prohibited during construction. In the event accidental bypassing is caused by the CONTRACTOR's operations, the OWNER shall immediately be entitled to employ others to stop the bypassing and costs incurred therefore will be deducted from the CONTRACTOR's construction progress payments.

1.3 COMPLIANCE WITH NPDES PERMIT

A. If applicable, the NPDES permit specifies the water quality limits that the plant must meet prior to discharging its effluent. A copy of the NPDES permit shall be available at the site by the CONTRACTOR if required. In scheduling and performing the WORK, the CONTRACTOR shall not, directly or indirectly, prevent any piping system from achieving the discharge requirements. Penalties imposed on the OWNER as a result of any discharge violation caused by the actions of the CONTRACTOR or its employees, or subcontractors shall be borne in full by the CONTRACTOR, including fines, legal fees, and other expenses to the OWNER resulting directly or indirectly from such discharge violations. The OWNER may recover such sums by deductions from the construction progress payments.

B. The CONTRACTOR shall take necessary precautions to ensure that no damage occurs to the OWNER'S facilities, including piping, utilities, roads, and structures, that are to remain in operation and are not to be modified or replaced, in accordance with Section 01 76 10 – Protection of Existing Facilities. Any temporary facilities, materials, equipment, and labor required for the project to continue to meet the terms of the NPDES permit during construction shall be provided by the CONTRACTOR as part of the WORK. At the completion of work, such temporary facilities, materials, and equipment shall be removed from the Site as part of the WORK.

1.4 OUTAGE REQUESTS

A. Modifications to existing facilities, the construction of new facilities, and the connection of new to existing facilities may require the temporary outage or bypass of existing facilities. In such cases, the CONTRACTOR shall coordinate WORK with the OWNER as described below. The CONTRACTOR shall submit a detailed outage plan and time schedule for construction activities which will make it necessary to remove a tank,

pipeline, channel, electrical circuit, equipment, structure, road, or other facilities from service.

B. The outage plans shall be submitted to the OWNER for acceptance a minimum of 48 hours in advance of the time that such outages are required. The outage plans shall be coordinated with the construction schedule and shall meet the restrictions and conditions of this Section. The outage plan shall describe the CONTRACTOR's method for preventing bypassing of pump station; the length of time required to complete the operation.

C. The CONTRACTOR shall not begin any alteration affecting existing facilities until specific written approval has been granted by the OWNER in each case.

D. The OWNER shall be notified in writing at least 7 business days in advance of the required outage if the schedule for performing the WORK has changed or if revisions to the outage plan are required. The CONTRACTOR shall provide written confirmation of the shutdown date and time 7 business days prior to the actual shutdown. No shutdown will be scheduled or performed on Friday or holiday's.

1.5 TEMPORARY CONNECTIONS

A. Making connections to existing facilities or other operations that interfere with the operation of the existing equipment shall be thoroughly planned in advance, and required equipment, materials, and labor shall be on hand at the time of undertaking the connections. WORK shall be completed as quickly as possible and with as little delay as possible and shall proceed continuously (24 hours a day and seven days a week) if necessary to complete modifications and/or connections in the minimum time.

B. The cost of any temporary facilities and night, weekend, or holiday activity and overtime payments required during process interruptions shall be included in the WORK, where and when allowed by the owner.

C. Temporary facilities and piping shall be located to minimize interference with CONTRACTOR's construction facilities and OWNER's operation and maintenance of the utility system. Unless otherwise indicated, each temporary pipeline shall be of the same size as its connection to the existing or permanent facility at the downstream end of the pipeline. Piping materials shall be suitable for the material being conveyed and be as required in the Contract Specifications.

D. A plan showing the size and location of the temporary facilities and piping shall be submitted to the OWNER at the same time as the outage plan required under this Section. Costs for design, provision, operation, and removal of temporary facilities and piping shall be part of the WORK.

1.6 CONSTRUCTION SEQUENCING

A. Construction activities shall be scheduled and sequenced to ensure continuous operation of the existing utility system. The CONTRACTOR's scheduling shall develop construction sequencing so that the WORK will not adversely impact the utility system. The CONTRACTOR shall be responsible for development of the construction sequencing. In implementing the construction sequencing, the CONTRACTOR shall

maintain the existing facilities in service until new facilities are constructed and are operational to supplement the existing capacity. When new facilities are operational, the existing facilities may be taken out of service. The following general guidelines shall be used by the CONTRACTOR in planning the sequence of construction.

1. Safe working conditions for personnel shall be maintained during rehabilitation, modification, and demolition WORK. The foregoing includes at least proper trench excavation, the provision of temporary equipment guards, supports, warning signs, walkways, covers over openings, handrailing, and protection of electrical equipment and power supply.

2. Temporary facilities shall be constructed in accordance with applicable codes and regulations to operate safely and properly.

3. Valves to be temporarily shut off during the WORK shall be approved by the owner.

1.7 PERMITS

A. No work shall commence before all necessary permits have been obtained.

B. The CONTRACTOR shall keep himself fully informed of all local ordinances, state and federal laws and regulations, and interpretations of these laws, ordinances and regulations by a governmental body or agency, including but not limited to, the Florida Department of Environmental Regulation, the Technical Advisory Group of the Florida Department of Environmental Regulation, the Environmental Protection Agency, and the South Florida Water Management District, which in any manner affect the work herein specified. The CONTRACTOR shall at all times comply with said ordinances, laws and regulations and protect and indemnify the OWNER, the OWNER, and the respective employees, and their officers and agents against any claim or liability arising from or based on the violation of such laws, ordinances, or regulations. All Design permits and fees have been paid; however, all post-design permits, licenses, and inspection fees necessary for protection and completion of the work for the duration of Construction shall be secured and paid for by the CONTRACTOR unless otherwise specified.

C. The CONTRACTOR shall abide by the conditions of permits and shall obtain proof of satisfaction of conditions from issuers of permits prior to acceptance of the WORK by the OWNER.

1.8 OPERATION OF EXISTING SYSTEM PROHIBITED

A. At no time shall the CONTRACTOR close off any lines or open valves or take any other action which would affect the operation of the existing system, except under direction of the OWNER.

1.9 SEQUENCE AND SCHEDULE CONSTRAINTS

A. General: It is the CONTRACTOR's responsibility to coordinate and plan the construction activities to integrate each schedule constraint into performance of the overall WORK.

B. The listing of sequence and schedule constraints below does not mean that every constraint or special condition has been identified. The list does not substitute for the

CONTRACTOR's coordination and planning for completion of the WORK within the Contract Times.

C. The following constraints affect the construction sequence and schedule. These constraints must be accommodated to minimize or prevent service interruptions, which must be considered in the construction sequence and schedule.

1. Schools normal operations (including School Bus Routes within/adjacent to Project Area)

2. Church normal operations

3. Crop Harvesting Season.

4. Access to Hospitals and Fire Stations

5. Public Transportation

6. Solid Waste Collection

   a. Trash: Wednesday & Saturday

   b. Recycle: Wednesday

   c. Vegetation: Saturday

   d. Debris: Saturday

1.10 PRODUCTS (NOT USED)

PART 2 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01 14 13– ACCESS TO SITE

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The CONTRACTOR shall provide safe access to the project site with minimal disruption to vehicular and pedestrian traffic.

B. Related sections:

1. Section 01 11 00 – Summary of Work

2. Section 01 66 00 – Product Storage and Handling Requirements

1.2 CONTRACTOR SUBMITTALS

A. The CONTRACTOR shall submit 3 copies of a traffic control plan to the appropriate permitting entity for approval a minimum of 6 weeks prior to construction. The appropriate permitting shall be allowed access to observe these traffic control plans in use and to make any changes as field conditions warrant. Any changes required by the appropriate permitting shall supersede these plans and be done solely at the CONTRACTOR's expense.

1.3 HIGHWAY LIMITATIONS

A. The CONTRACTOR shall make its own investigation of the condition of available public and private roads and of clearances, restrictions, bridge load limits, and other limitations affecting transportation and ingress and egress to the site of the WORK. It shall be the CONTRACTOR's responsibility to construct and maintain any haul roads required for its construction operations.

1.4 TEMPORARY CROSSINGS

A. General:

1. Continuous, unobstructed, safe, and adequate pedestrian and vehicular access shall be provided to fire hydrants, commercial and industrial establishments, churches, schools, parking lots, service stations, motels, fire and police stations, and hospitals.

2. Safe and adequate public transportation stops and pedestrian crossings at intervals not exceeding 300-feet shall be provided.

3. The CONTRACTOR shall cooperate with parties involved in the delivery of mail and removal of trash and garbage so as to maintain existing schedules for such services.

4. Vehicular access to residential driveways shall be maintained to the property line except when necessary construction precludes such access for reasonable periods of time.

B. Temporary Bridges:

1. Wherever necessary, to maintain vehicular crossings, the CONTRACTOR shall provide suitable temporary bridges or steel plates over unfilled excavations, except in such cases as the CONTRACTOR shall secure the written consent of the responsible individuals or authorities to omit such temporary bridges or steel plates, which written consent shall be delivered to the OWNER prior to excavation.

2. Such bridges or steel plates shall be maintained in service until access is provided across the backfilled excavation.

3. Temporary bridges or steel plates for street and highway crossing shall conform to the requirements of the authority having jurisdiction in each case, and the CONTRACTOR shall adopt designs furnished by said authority for such bridges or steel plates, or shall submit designs to said authority for approval, as may be required.

C. Street Use:

1. Nothing herein shall be construed to entitle the CONTRACTOR to the exclusive use of any public street, alleyway, or parking area during the performance of the WORK hereunder, and it shall conduct its operations to not interfere unnecessarily with the authorized work of utility companies or other agencies in such streets, alleyways, or parking areas.

2. No street shall be closed to the public without first obtaining permission of the OWNER and proper governmental authority.

3. Where excavation is being performed in primary streets or highways, one lane in each direction shall be kept open to traffic at all times unless otherwise indicated.

4. Toe boards shall be provided to retain excavated material if required by the OWNER or the agency having jurisdiction over the street or highway.

5. Fire hydrants on or adjacent to the WORK shall be kept accessible to fire-fighting equipment.

6. Temporary provisions shall be made by the CONTRACTOR to assure the use of sidewalks and the proper functioning of gutters, storm drain inlets, and other drainage facilities

D. Safety:

1. The CONTRACTOR shall take necessary precautions for the protection of the WORK and the safety of the public.

2. All signs, signals, and barricades shall conform to the requirements of Subpart G, Part 1926, of the OSHA Safety and Health Standards for Construction.

E. Traffic Control:

1. For the protection of traffic in public or private streets and ways, the CONTRACTOR shall provide, place, and maintain necessary barricades, traffic cones, warning signs, lights, and other safety devices in accordance with the requirements of the "Manual

on Uniform Traffic Control Devices," published by American Association of State Highway and Transportation Officials (AASHTO MUTCD-10) and other authorities having jurisdiction over the street or highway.

2. The CONTRACTOR shall take necessary precautions for the protection of the WORK and the safety of the public. Barricades and obstructions shall be illuminated at night, and lights shall be kept burning from sunset until sunrise.

3. The CONTRACTOR shall station such guards or flaggers and shall conform to such special safety regulations relating to traffic control as may be required by the public authorities within their respective jurisdictions.

4. Signs, signals, and barricades shall conform to the requirements of Subpart G, Part 1926, of the OSHA Safety and Health Standards for Construction.

5. The CONTRACTOR shall remove traffic control devices when no longer needed, repair damage caused by installation of the devices, and shall remove post settings and backfill the resulting holes to match grade.

F. Temporary Street Closure:

1. If closure of any street is required during construction, the CONTRACTOR shall apply in writing to the City OWNER and any other jurisdictional agencies at least 30 Days in advance of the required closure. A Detour and Traffic Control Plan shall accompany the application.

G. Temporary Driveway Closure:

1. The CONTRACTOR shall notify the owner or occupant (if not owner-occupied) of the closure of the driveways to be closed more than one 8 hour work day at least 3 working days prior to the closure.

2. The CONTRACTOR shall minimize the inconvenience and minimize the time period that the driveways will be closed. The CONTRACTOR shall fully explain to the owner/occupant how long the closure will take and when closure will start.

1.5 PARKING

A. The CONTRACTOR shall:

1. The CONTRACTOR shall direct its employees to park in areas requested by the OWNER.

2. Traffic and parking areas shall be maintained in a sound condition, free of excavated material, construction equipment, mud, and construction materials. The CONTRACTOR shall repair breaks, potholes, low areas which collect standing water, and other deficiencies.

1.6 SECURITY PROGRAM

A. The CONTRACTOR shall:

1. Protect WORK, existing premises, and OWNER'S operations from theft, vandalism, and unauthorized entry.

2. Initiate program in coordination with OWNER'S existing security system at mobilization.

3. Maintain program throughout construction period until OWNER'S occupancy.

1.7 ENTRY CONTROL

A. The CONTRACTOR shall:

1. Restrict entry of persons and vehicles into Site and existing facilities.

2. Allow entry only to authorized persons with proper identification.

3. Maintain log of workmen and visitors and make log available to OWNER on request.

4. Coordinate access of OWNER'S personnel to Site in coordination with OWNER'S security forces.

B. The CONTRACTOR shall control the entrance of persons and vehicles to those related to the OWNER'S operations.

1.8 PERSONNEL IDENTIFICATION

A. The CONTRACTOR shall:

1. If required by the OWNER, provide identification card to each person authorized to enter premises.

2. Maintain a list of authorized persons and submit copy to OWNER on request.

3. Require return of cards.

B. Card shall include personal photograph, name and assigned number, expiration date and employer.

1.9 RESTRICTIONS

A. The CONTRACTOR shall not allow cameras on site or photographs taken except by written approval of OWNER.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01 20 00– PRICE AND PAYMENT PROCEDURES

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Submit Applications for Payment to the Owner in accordance with the schedule established by the General Conditions of the Contract Documents.

B. The Contract Price is to include costs for:

1. All home office overhead costs and expenses, including profit made directly or indirectly for the Project;

2. Project management, contract administration, field office and field operations staff, including supervision, clerical support, and technology system support;

3. Professional services including design fees, legal fees, and other professional services;

4. Bonds and insurance;

5. Permits, licenses, patent fees, and royalties;

6. Taxes;

7. Providing all documentation and submittals required by the Contract Documents;

8. Facilities and equipment at the Site including:

a. Field offices, office furnishings, and all related office supplies, software, and equipment,

b. Storage facilities for CONTRACTOR's use, storage facilities for stored materials and equipment, including spare parts storage,

c. Shops, physical plant, construction equipment, small tools, vehicles, technology, and telecommunications equipment,

d. Safety equipment and facilities to provide safe access and working conditions for workers and for others working at the Site,

e. Temporary facilities for power and communications,

f. Potable water and sanitation facilities, and

g. Mobilization and demobilization for all of these facilities and equipment;

9. Products, materials, and equipment stored at the Site or other suitable location;

10. Products, materials, and equipment permanently incorporated into the Project;

11. Temporary facilities for managing water, including facilities for pumping, storage, and treatment as required for construction and protection of the environment;

12. Temporary facilities for managing environmental conditions and Constituents of Concern;

13. Temporary facilities such as storage facilities, working areas, and other facilities required for construction of the Project;

14. Temporary and permanent facilities for protection of all overhead, surface, or underground structures or features;

15. Temporary and permanent facilities for removal, relocation, or replacement of any overhead, surface, or underground structures or features;

16. Products, materials, and equipment consumed during the construction of the Project;

17. CONTRACTOR labor and supervision to complete the Project, including that provided through Subcontractors or Suppliers;

18. Correcting Defective Work during the Contract Times, during the Correction Period, or as required to meet any warranty provision of the Contract Documents;

19. Risk associated with weather and environmental conditions, startup, and initial operation of facilities including equipment, processes, and systems;

20. Maintenance of facilities, including equipment, processes, and systems until operation is transferred to OWNER;

21. Providing warranties, extended or special warranties, or extended service agreements;

22. Cleanup and disposal of any and all surplus materials; and

23. Demobilization of all physical, temporary facilities not incorporated into the Project.

C. Include the cost not specifically set forth as an individual payment item but required to provide a complete and functional system in the Contract Price.

D. Submit Payment Application for completed Work and for materials and equipment in accordance with the Contract Documents.

E. Related Sections:

1. Agreement / Work Authorization between the OWNER and the CONTRACTOR.

2. General Conditions of the Contract Documents

3. Section 01 26 63 – Change Orders

4. Section 01 29 00 – Measurement and Payment

5. Section 01 32 16 – Construction Progress Schedule

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Section 01 29 73 – Schedule of Values

B. Section 01 77 00 – Closeout Procedures

1.3 FORMAT AND DATA REQUIRED

A. Submit applications on the form required by and provided by the OWNER, with itemized data typed on 8-1/2 inch X 11-inch white paper continuation sheets, and Excel computer file.

B. Provide itemized data on continuation sheets:

1. Format, schedules, line items and values: Those of the Schedule of Values accepted by the OWNER, Section 01 29 73 – Schedule of Values.

1.4 CONTRACTOR SUBMITTALS

A. Submit a schedule of the anticipated Payment Applications showing the application numbers, submission dates, and the anticipated amount to be requested.

B. Update the schedule of anticipated payments as necessary to provide a reasonably accurate indication of the funds required to make payments each month to the CONTRACTOR for Work performed.

1.5 PROCEDURES FOR SUBMITTING A PAYMENT APPLICATION

A. Submit a draft Payment Application to the OWNER at the end of the payment period as established in the Agreement / Work Authorization. Review the draft Payment Application with the OWNER to determine concurrence with:

1. The earned value for each lump sum item including the value of properly stored and documented materials and equipment for each item in the original Contract;

2. The quantity of Work completed for each unit price item;

3. Values requested for materials and equipment consistent with invoices for materials and equipment; and

B. Submit Payment Applications as a Working File. Do not leave any cells empty or incomplete. If information is not applicable, enter NA in the space provided.

1. Number each application sequentially and include the dates for the application period.

2. Show the total amounts for Earned Value of Original Contract Performed, Earned Value for Work on Approved Contract Modifications, and Net Set-offs. Show total amounts that correspond to totals indicated on the attached tabulation for each.

Execute the Certification with the signature of a responsible officer of the CONTRACTOR's firm. The Certification shall state that "all Work, including materials, covered by this Application for Payment has been completed or delivered and stored in accordance with the Contract Documents, that all amounts have been paid for Work, materials, and equipment for which previous payment has been made by the OWNER, and that the current payment amount shown in this Payment Application is now due."

1.6 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS

A. The CONTRACTOR shall submit suitable information, with a cover letter identifying:

1. Project Name.
2. Application number, date and period of coverage.
3. Detailed list of enclosures.
4. For stored products:
    a. Item number and identification as shown on the application.
    b. Description of specific material.
5. Submit updated Construction Schedule.
6. Provide record drawings for piping installation within the payment period.

B. Submit one (1) copy of data with each original application.

1.7 PREPARATION OF APPLICATION FOR FINAL PAYMENT

A. Fill in Application form as specified for progress payments.

B. Use continuation sheet for presenting the final statement of accounting.

C. Final payment requires additional procedures and documentation per Section 01 77 00 Closeout Procedures.

D. The final Payment Application is to incorporate adjustments to the Contract Price including those for:

1. Adjustments of estimated quantities to actual quantities;
2. Approved Change Orders;
3. Allowances not previously adjusted by Change Order;
4. Deductions for Defective Work that has been accepted by the OWNER;
5. Penalties and bonuses;

6. Deductions for liquidated damages;

7. Deduction for all final Set-offs; and

8. Other adjustments if needed.

1.8 SUBMITTAL PROCEDURE

A. Submit Applications for Payment to the OWNER at the times stipulated.

B. Submit not less than three (3) originals of each Application.

C. When the OWNER finds the Application to be properly completed and correct, it will be processed for payment.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01 25 13 – PRODUCT SUBSTITUTION PROCEDURES

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Section Includes:

1. Furnish and install products specified, under options and conditions for substitutions stated in this Section.

B. Related sections:

1. Section 01 60 00 – Product Requirements

2. Section 01 77 00 – Closeout Procedures

1.2 CONTRACTOR SUBMITTALS

A. Products List:

1. Within thirty days after Award of the Contract, submit to the ENGINEER five copies of a complete list of major products proposed for installation.

2. Tabulate products by Specification Section Number and Title.

3. For products specified only by reference standards, list the following information for each such product:

a. Name and address of manufacturer.

b. Trade name.

c. Model or catalog designation.

d. Manufacturer's data including reference standards and performance test data.

B. CONTRACTOR's Options

1. For products specified only by reference standard, select products meeting that standard, by any manufacturer.

2. For products specified by naming several products or manufacturer's, select any one of those products and manufacturers named which comply with the Specifications.

3. For products specified by naming only one or more products or manufacturers and stating "or equal", submit a request as for substitutions, for any product or manufacturer which is not specifically named.

4. For those specified by naming only one product and manufacturer, there is no option and no substitution will be allowed.

1.3 SUBSTITUTIONS

A. Within a period of thirty days after Award of the Contract, the ENGINEER will consider formal requests from the CONTRACTOR for substitutions of products in place of those specified. The burden of proof as to the type, function, and quality of any such substitution product, material or equipment shall be on the CONTRACTOR.

1. After the end of the thirty day period, requests will be considered only in case of product unavailability or other conditions beyond the control of the CONTRACTOR.

B. Submit a separate request for each substitution. Support each request with the following:

1. Complete data substantiating compliance of the proposed substitution with the requirements stated in the Contract Documents:

a. Product identification, including manufacturer's name and address.

b. Manufacturer's literature identifying:

1) Product description.

2) Reference standards.

3) Performance and test data.

c. Samples, as applicable.

d. Name and address of a minimum of 5 similar projects on which the product has been used, the date of each installation, and contact information for a reference for those projects.

2. An itemized comparison of the proposed substitution with the product specified, listing all variations.

3. Data relating to changes in the construction schedule.

4. Any effect of the substitution on separate contracts.

5. List of changes, if any, required in other work or products.

6. Accurate cost data comparing proposed substitutions with the product specified.

7. Designation of required license fees or royalties.

8. Availability of maintenance services and sources of replacement materials.

C. Substitutions will not be considered for acceptance when:

1. They are indicated or implied on Shop Drawings or product data submittals without a formal request from the CONTRACTOR.

2. They are requested directly by a subcontractor or a supplier.

3. Acceptance will require substantial revisions to the Contract Documents.

4. There is added cost deemed unwarranted by the OWNER.

5. The substitution results in a time delay.

D. The ENGINEER shall evaluate each proposed substitution within a reasonable period of time.

E. The ENGINEER will record the time required by the ENGINEER in evaluating substitutions proposed by the CONTRACTOR and in making changes by the CONTRACTOR in the Contract Documents subject to the substitution.

F. Substitute products shall not be ordered or installed without written acceptance of the ENGINEER.

G. The ENGINEER will be the sole judge as to the type, function, and quality of any such substitution and the ENGINEER's decision shall be final.

H. The ENGINEER may require the CONTRACTOR to furnish additional data about the proposed substitution.

I. The OWNER may require the CONTRACTOR to furnish a special performance guarantee or other surety with respect to any substitution.

J. Acceptance by the ENGINEER of a substitution item proposed by the CONTRACTOR shall not relieve the CONTRACTOR of the responsibility for full compliance with the Contract Documents and for adequacy of substitution.

K. Without any increase in cost to the OWNER, the CONTRACTOR shall be responsible for and pay all costs in connection with proposed substitutions and of inspections and testing of equipment or materials submitted for review prior to the CONTRACTOR's purchase thereof for incorporation in the Work, whether or not the ENGINEER accepts the proposed substitution or proposed equipment, or material. The CONTRACTOR shall reimburse the OWNER for the charges of the ENGINEER for evaluating each proposed substitution.

L. The CONTRACTOR shall pay all costs of implementing accepted substitutions, including redesign and changes to Work necessary to accommodate the substitution.

1.4 QUALITY ASSURANCE

A. Certifications

1. In making formal requests for substitutions, the CONTRACTOR certifies that:

a. CONTRACTOR has investigated the proposed product and has determined that it is equal to or superior in all respects to that specified.

b. CONTRACTOR will provide, at a minimum, the same warranties or bonds for substitute products as for the product specified unless otherwise required by paragraph 1.3.I of this specification section.

c. CONTRACTOR will coordinate installation of accepted substitutions into the Work, and will make such changes required for the Work to be complete in all respects.

d. CONTRACTOR waives claims for additional costs caused by substitutions which may subsequently become apparent.

e. Cost data is complete and includes related costs under this Contract, but not the following:

1) Costs under separate contracts.

2) The ENGINEER's costs of redesign or revision of the Contract Documents.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01 26 63– CHANGE ORDERS

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Promptly implement Change Order procedure.

1. Provide full written data required to evaluate changes.
2. Maintain detailed records of Work done on a time and materials/force account basis.
3. Provide full documentation to the ENGINEER on request.

B. Designate in writing the member of the CONTRACTOR's organization:

1. Authorized to accept changes in the Work.
2. Responsible for informing others in the CONTRACTOR's employ of the authorization of changes in the Work.

C. The OWNER will designate in writing the person authorized to execute Change Orders.

D. Related Sections:

1. Agreement of the Contract Documents
2. General Conditions of the Contract Documents
3. Supplementary Conditions of the Contract Documents
4. Section 01 20 00 – Price and Payment Procedures
5. Section 01 29 00 – Measurement and Payment
6. Section 01 32 16 – Construction Progress Schedule
7. Section 01 77 00 – Closeout Procedures

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Section 01 33 00 – Submittal Procedures

1.3 DEFINITIONS

A. "Change Order": See the General Conditions and the Supplementary Conditions of the Contract Documents.

B. "Field Order": See the General Conditions and the Supplementary Conditions of the Contract Documents.

C. "Work Directive": See the General Conditions and the Supplementary Conditions of the Contract Documents.

D. Construction Change Authorization: A written order to the CONTRACTOR, signed by the OWNER and the ENGINEER (if applicable), which amends the Contract Documents as described, and authorizes the CONTRACTOR to proceed with a change which affects the Contract Sum and/or the Contract Time, for inclusion in a subsequent Change Order.

1.4 PRELIMINARY PROCEDURES AT AN AGREED UPON SUM/TIME

A. The OWNER or the ENGINEER (if applicable) may initiate changes by submitting a written Proposal Request to the CONTRACTOR. Such requests will include the following:

1. Detailed description of the Change, products, and location of the change in the project.

2. Supplementary or revised Drawings and Specifications.

3. The projected time span for making the change, and a specific statement as to whether overtime work is or is not authorized.

4. A specific period of time during which the requested price will be considered valid.

5. Such request is for information only, and is not an instruction to execute the changes, nor to stop Work in progress.

B. The CONTRACTOR may initiate changes by submitting a written notice to the OWNER and the ENGINEER (if applicable) containing the following:

1. Description of the proposed changes.

2. Statement of the reason for making the changes.

3. Statement of the effect on the Contract Sum and the Contract Time.

4. Statement of the effect of the Work on other prime CONTRACTORs.

5. Documentation supporting any change in Contract Sum or Contract Time, as appropriate.

1.5 CONSTRUCTION CHANGE AUTHORIZATIONS AND WORK DIRECTIVES

A. In lieu of a Proposal Request, the OWNER or the ENGINEER (if applicable) may issue a construction change authorization or a Work Directive for the CONTRACTOR to proceed with a change for subsequent inclusion in the next Change Order.

B. The Authorization or Directive will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the

change, and will designate the method of determining any change in the Contract Sum and any change in the Contract Time.

C. The OWNER and the ENGINEER (if applicable) will sign and date the Construction Change Authorization or Work Directive as authorization for the CONTRACTOR to proceed with the changes.

D. The CONTRACTOR shall sign and date the Construction Change Authorization or Work Directive to indicate agreement with the terms therein.

1.6 DOCUMENTATION OF PROPOSALS AND CLAIMS

A. Support each quotation for a lump-sum proposal, and for each unit price which has not previously been established, with sufficient substantiating data to allow the OWNER and the ENGINEER to evaluate the quotation.

B. On request , provide additional data to support time and cost computations for:

1. Labor required.
2. Equipment required.
3. List of materials and equipment to be installed.
4. Products required:
    a. Recommended sources of purchase and unit costs.
    b. Quantities required.
5. Taxes, insurance and bonds.
6. Credit for Work deleted from the Contract, similarly documented.
7. Overhead and Profit.
8. Justification for any change in Contract Time.
9. Consumable supplies, fuels, and materials.
10. Subcontractors or Supplier Costs.
11. Royalties and patent fees.
12. Field office costs; and
13. Other items of cost.

C. Support each claim for additional costs, and for Work done on a time-and-material/force account basis, with documentation as required for a lump sum proposal, plus additional information as follows:

1. Name of OWNER's authorized agent who ordered the Work.

2. The date of the order.

3. Dates and times Work was performed and by whom.

4. Time records, summary of hours worked, and hourly rates paid.

5. Receipts and invoices for:

   a. Equipment used, listing dates and times of use.

   b. Products used, listing quantities.

   c. Subcontractors.

1.7 PREPARATION OF CHANGE ORDERS

A. The OWNER or the ENGINEER (if applicable) will prepare each Change Order on the OWNER's standard form.

B. The Change Order will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the changes.

C. Change Order will provide an accounting of the adjustment in the Contract Sum and/or the Contract Time.

1.8 LUMP-SUM/FIXED PRICE CHANGE ORDER

A. Content of Change Orders will be based on either:

1. The Proposal Request and the CONTRACTOR's responsive Proposal as mutually agreed between the OWNER and the CONTRACTOR.

2. The CONTRACTOR's Proposal for a change, as recommended by the ENGINEER.

B. The OWNER and the ENGINEER (if applicable) will sign and date the Change Order as authorization for the CONTRACTOR to proceed with the changes.

C. The CONTRACTOR shall sign and date the Change Order to indicate agreement with all of the terms therein.

1.9 UNIT PRICE CHANGE ORDER

A. The content of Change Orders will be based on either:

1. The OWNER's and/or the ENGINEER's definition of the scope of the required changes.

2. The CONTRACTOR's Proposal for a change, as recommended by the ENGINEER.

3. Survey of completed Work.

B. The amounts of the unit prices to be:

1. Those stated in the Agreement of the Contract Documents.

2. Those mutually agreed upon between the OWNER and the CONTRACTOR.

C. When quantities of each of the items affected by the Change Order can be determined prior to the start of the Work:

1. The CONTRACTOR will sign and date the Change Order to indicate agreement with the terms therein.

2. The OWNER and the ENGINEER (if applicable) will sign and date the Change Order as authorization for the CONTRACTOR to proceed with the changes.

D. When quantities of the items cannot be determined prior to the start of the Work:

1. The ENGINEER (if applicable) or the OWNER will issue a Construction Change Authorization directing the CONTRACTOR to proceed with the change on the basis of unit prices, and will cite the applicable unit prices.

2. At completion of the change, the OWNER or the ENGINEER (if applicable) will determine the cost of such Work based on the unit prices and quantities used.

a. The CONTRACTOR shall submit documentation to establish the number of units of each item and any claims for a change in Contract Sum and/or Contract Time.

3. The ENGINEER (if applicable) will sign and date the Change Order to establish the change in Contract Sum and/or Contract Time.

4. The OWNER and the CONTRACTOR will sign and date the Change Order to indicate their agreement with the terms therein.

1.10 TIME AND MATERIAL/FORCE ACCOUNT CHANGE ORDER/CONSTRUCTION CHANGE AUTHORIZATION

A. The ENGINEER (if applicable) or the OWNER will issue a Construction Change Authorization directing the CONTRACTOR to proceed with the changes.

B. At completion of the change, the CONTRACTOR shall submit itemized accounting and supporting data as provided in the Article "Documentation of Proposals and Claims" of this Section.

C. The OWNER or the ENGINEER (if applicable) will determine the allowable costs of such Work, as provided in the General Conditions and the Supplementary Conditions of the Contract Documents.

D. The ENGINEER (if applicable) will sign and date the Change Order to establish the change in Contract Sum and/or Contract Time.

E. The OWNER and the CONTRACTOR will sign and date the Change Order to indicate their agreement therewith.

1.11 CORRELATION WITH CONTRACTOR'S SUBMITTALS

A. Periodically revise the Schedule of Values and Application for Payment forms to record each change as a separate item of Work, and to record the adjusted Contract Sum.

B. Periodically revise the Construction Schedule to reflect each change in Contract Time:

1. Revise sub-schedules to show changes for other items of Work affected by the changes.

C. Upon completion of Work under a Change Order, enter pertinent changes in Record Documents.

1.12 OWNER WILL EVALUATE THE REQUEST FOR A MODIFICATION

A. OWNER will issue a Modification per the General Conditions if the Change Proposal is acceptable. OWNER will issue a Change Order or Contract Amendment for any changes in Contract Price or Contract Times.

1. Change Orders and Contract Amendments will be sent to the CONTRACTOR for execution with a copy to the OWNER recommending approval. A Work Change Directive may be issued if Work needs to progress before the Change Order or Contract Amendment can be authorized by the OWNER.

2. Work Change Directives, Change Orders and Contract Amendments can only be approved by the OWNER.

a. Work performed on the Change Proposal prior to receiving a Work Change Directive or approval of the Change Order or Contract Amendment is performed at the CONTRACTOR's risk.

b. No payment will be made for Work on Change Orders or Contract Amendments until approved by the OWNER.

c. No payment can be made on Work authorized by a Work Change Directive until the Work Change Directive is incorporated into a Change Order or Contract Amendment approved by the OWNER.

B. The CONTRACTOR may be informed that the Request for a Change Proposal is not approved and construction is to proceed in accordance with the Contract Documents.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION SPEC 01 29 00 – MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 THE SUMMARY

A. Payment for various items of the Schedule of Bid Prices, as further specified herein, shall be made for the items listed in the Schedule of Bid Prices and shall include all compensation to be received by the CONTRACTOR for furnishing all materials, tools, equipment labor, operations and incidentals appurtenant to the items of work so described or as necessary to actually complete the various items of work, all in accordance with the requirements of the Contract Documents, including all appurtenances and temporary services thereto, and including all costs of compliance with the regulations of public agencies having jurisdiction, including the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA).

B. The omission of reference to any item in this description shall not alter the intent of the Bid Form or relieve the CONTRACTOR of the necessity of furnishing such as a part of the Contract. No separate payment shall be made for any item that is not specifically set forth in the Schedule of Bid Prices, and all costs therefore shall be included in the prices named in the Schedule of Bid Prices for the various appurtenant items of the Work.

C. The quantities set forth in the Schedule of Bid Prices are approximate and are given to establish a uniform basis for the comparison of Bids. The OWNER reserves the right to increase or decrease the quantity of any class or portion of the Work during the progress of the construction in accordance with these Specifications.

D. Unit prices are used as a means of computing final figures for Bid and Contract purposes, for periodic partial payments for Work performed, for determining the value of additions and/or deletions associated with approved Work Authorizations/Supplements/Change Orders to the Contract, and wherever else reasonable.

E. The quantities shown are approximate and are given only as a basis of calculation upon which the award of the Contract is to be made. The OWNER/ENGINEER does not assume any responsibility for the final quantities, nor shall the CONTRACTOR claim misunderstanding because of such estimate of quantities. The OWNER/ENGINEER may change the quantities or delete items in their entirety to match the project budget. Final payment shall be made only for satisfactorily completed quantity of each item.

1.2 LUMP SUM PAYMENT ITEMS

A. Measurement for payment of Lump Sum items shall be based upon completion of the Work on a Lump Sum basis in accordance with the requirements of the Contract Documents.

B. Payment shall be made at the Lump Sum price named in the Schedule of Bid Prices which price shall constitute full compensation for the complete and proper construction of the Work as shown on the Contract Drawings, specified in Work Authorizations/Supplements and as described herein.

C. Where payment of items is shown to be paid for on a Lump Sum basis, no separate payment shall be made for any item of work required to complete the Lump Sum items.

D. Lump Sum contracts shall be complete, tested and fully operable prior to request for final payment. CONTRACTOR may be required to provide a breakdown of the Lump Sum totals.

1.3 UNIT PRICE ITEMS

A. Payment shall be made for work items described in the Bid Form, as Unit Price items. All related work not specifically listed but required for satisfactory completion of the work shall be included in the work item.

1.4 MAINTENANCE OF TRAFFIC

A. In the CONTRACTOR'S use of streets and highways, all work to be done shall conform to all Municipal, County, State and Federal laws and regulations. The CONTRACTOR shall provide, erect and maintain effective barricades, danger signals and signs on all affected streets or highways for protection of the Work and safety of the public. Maintenance of traffic must conform to the guidelines as shown in the Florida Department of Transportation Roadway and Traffic Design Standards, latest revision, Index Nos. 600 through 660 inclusive. All barricades or obstructions, which encroach on or are adjacent to the public rights – of - way, shall be provided with lights, which shall be illuminated at all times from one hour prior to sunset to one hour after sunrise.

B. The CONTRACTOR shall conduct the Work to cause minimum disturbance of normal pedestrian and vehicular traffic and is responsible for providing suitable means of access to all public and private properties during all stages of the construction. Other than for an emergency safety condition, the CONTRACTOR must contact the OWNER and the ENGINEER for approval prior to completely blocking off any street to vehicular traffic during construction.

C. Maintenance of Traffic shall be in accordance with Section 102 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, latest edition, except as follows:

1. The CONTRACTOR shall be responsible for preparing a Maintenance of Traffic Plan as stipulated in Article 102-4, but the CONTRACTOR shall only submit the Traffic Plan at the Pre-Construction Conference if requested to do so by the ENGINEER.

D. Maintenance of Traffic including but not limited to: Submittals of Maintenance of Traffic Plan; barricades; flag persons; sign boards; public notification; and removal of Maintenance of Traffic shall be in accordance with the requirements of the Contract Documents, Technical Specification Section 01 55 26 and all other applicable requirements as mentioned above.

1.5 PAYMENT ITEMS

1. PVC Water Main/Reclaimed Water Main/Force Main (Bid Items 1, 4, 7, 10, 13, 16, 19, 23)

   a. Measurement shall be the horizontal distance along the surface of the trench between the listed stations as shown on the record drawings.

   b. Payment for water main shall be the product of the appropriate unit price bid and the horizontal distance measured per linear foot. The unit price bid per foot for this item

shall be full compensation to provide all clearing, excavation, dewatering, trench safety, pressure testing of pipe, disinfection (water main), backfilling, and grading for the proper construction of the work with all work as shown on the Contract Drawings and Specifications.

2. Ductile Iron Water Main, Reclaimed Water Main (Bid Items 2, 5, 8, 11, 14, 17, 20, 21, 25, 26,28, 30, 32)

   a. Measurement shall be the horizontal distance along the surface of the trench between the listed stations as shown on the record drawings.

   b. Payment for water main shall be the product of the appropriate unit price bid and the horizontal distance measured per linear foot. The unit price bid per foot for this item shall be full compensation to provide all clearing, excavation, dewatering, trench safety, pressure testing of pipe, disinfection (water main), backfilling, and grading for the proper construction of the work with all work as shown on the Contract Drawings and Specifications.

3. Ductile Iron Wastewater Force Main (Bid Items 3, 6, 9, 12, 15, 18, 22, 24, 27, 29, 31)

   a. Measurement shall be the horizontal distance along the surface of the trench between the listed stations as shown on the record drawings.

   b. Payment for force main shall be the product of the appropriate unit price bid and the horizontal distance measured per linear foot. The unit price bid per foot for this item shall be full compensation to provide all clearing, excavation, dewatering, trench safety, pressure testing of pipe, backfilling, and grading for the proper construction of the work with all work as shown on the Contract Drawings and Specifications.

4. Ductile Iron Fittings for Water Main, Reclaimed Water Main, Force Main with Accessories (Bid Items 33 and 34)

   a. Measurement shall be based on the weight of the fittings installed per ton based on manufacture's specifications. The weight of glands, gaskets, nuts, washers, bolts, rods and other accessories will not be measured for payment.

   b. Payment for furnishing and installing said items will be the product of the unit price named in the Bid Form and the weight of the fittings. The unit price for this item shall include, but not be limited to, excavation, dewatering, disposal of excess materials, bracing, sheeting, trench safety, furnishing and installing of ductile iron fittings, bolts, nuts, gaskets, flanges, restraints, markers, backfilling, compaction, thrust restraints, flushing, pressure testing of pipe, disinfection (water main) and grading as shown on the Contract Drawings and Specifications. Fittings within lump sum crossings are to be included in those crossings and will not be paid for separately.

5. HDPE Water Main/Reclaimed Water Main/Wastewater Force Main (Directional Drilling) (Bid Items 35 to 43)

   a. Measurement shall be the horizontal distance between points of tie-in or connection between the listed stations as shown on the record drawings.

   b. Payment for HDPE main shall be the product of the horizontal distance as indicated in paragraph "a" above and the appropriate unit price bid. The unit price bid per foot for

c. this item shall be full compensation to provide a pilot bore plan and frack-out control plan prior to installation, all clearing, pit excavation, sheeting, shoring, dewatering, backfilling, pressure testing of pipe, disinfection (water main), frack-out control, restoration of drilling areas, grading and complete installation by directional boring method; with all work as shown on the Contract Drawings and Specifications.

6. DIP/PVC x HDPE Adapter 4", 6", 8" ,12", 16", 20", 24", 30" (Bid Items 44 to 52)

a. Measurement for payment of said item will be based upon the actual quantity furnished and installed including all gaskets, bolts and nuts in accordance with the requirements of the Contract Documents.

b. Payment for furnishing and installing said item will be made at the unit price named in the Bid Schedule. The unit price shall constitute full compensation for furnishing and installing the item as shown on the Contract Drawings and Specifications, and shall include clearing, excavation, dewatering, bedding, testing, backfilling and grading.

7. Mechanical Joint Restraint for DIP or PVC Pipe (Bid Items 53 to 71)

a. Measurement for payment of said item will be based upon the actual quantity furnished and installed including the restraining device, bolts and nuts in accordance with the requirements of the Contract Documents.

b. Payment for furnishing and installing said item will be made at the unit price named in the Bid Schedule. The unit price shall constitute full compensation for furnishing and installing the item as shown on the Contract Drawings and Specifications, and shall include clearing, excavation, dewatering, bedding, testing, backfilling and grading.

8. Joint Restraint Gasket (Bid Items 72 to 77)

a. Measurement for payment of said item will be based upon the actual quantity furnished and installed, in accordance with the requirements of the Contract Documents.

b. Payment for furnishing and installing said item will be made at the unit price named in the Bid Schedule. The unit price shall constitute full compensation for furnishing and installing the item as shown on the Contract Drawings and Specifications, and shall include clearing, excavation, dewatering, bedding, testing, backfilling and grading.

9. Restraint Harness for DIP and PVC Pipe (Bid Items 78 to 85)

a. Measurement for payment of said item will be based upon the actual quantity furnished and installed, in accordance with the requirements of the Contract Documents.

b. Payment for furnishing and installing said item will be made at the unit price named in the Bid Schedule. The unit price shall constitute full compensation for furnishing and installing the item as shown on the Contract Drawings and Specifications, and shall include clearing, excavation, dewatering, bedding, testing, backfilling and grading.

10. Restrain Existing DIP and PVC Pipe (Bid Items 86 to 101)

a. Measurement for payment of said item shall be based upon the actual quantity furnished and installed (Each), in accordance with the requirements of the Contract Drawings and Documents.

b. Payment for restraining existing water main pipe joints shall be the product of the appropriate size named in the Schedule of Bid Prices.

c. The Unit Price shall be full compensation to provide all restraining devices, bolts, nuts, clearing, excavation, dewatering, disposal of excess materials, bracing, sheeting, rock removal, removal and disposal of unsuitable in-situ material, trench safety, testing, bedding, backfilling with suitable native material, compaction, grading and labor for the proper construction of all work as shown on the Contract Drawings and Specifications.

d. Where required, Roadway, Driveway, Sidewalk, ADA Ramps and/or Curb & Gutter restoration above backfill shall be paid for separately under the appropriate Bid Item. (See Bid Items 247 to 258, 281)

11. Gate Valve with Box (Bid Items 102 to 114)

a. Measurement for payment for valve with box and concrete collar based upon the actual quantity furnished and installed including all gaskets, bolts, nuts and appurtenances in accordance with the requirements of the Contract Documents.

b. Payment for furnishing and installing said item will be made at the unit price named in the Bid Schedule. The unit price shall constitute full compensation for furnishing and

installing the item as shown on the Contract Drawings and Specifications, and shall include clearing, excavation, dewatering, bedding, testing, backfilling and grading.

12. Butterfly Valve with Box (Bid Items 115 to 122)

a. Measurement for payment for valve with box and concrete collar will be based upon the actual quantity furnished and installed including all gaskets, bolts, nuts and appurtenances in accordance with the requirements of the Contract Documents.

b. Payment for furnishing and installing valve with box and concrete collar shall be made at the unit price named in the Bid Schedule. The unit price shall constitute full compensation for furnishing and installing the item as shown on the Contract Drawings and Specifications, and shall include clearing, excavation, dewatering, bedding, testing, backfilling and grading.

13. Tapping Sleeve with Tapping Valve and Valve Box (Bid Items 123 to 150)

a. Measurement for payment of tapping sleeve with tapping valve, box and concrete collar will be based upon the actual quantity furnished, installed and tapped, in accordance with the requirements of the Contract Documents.

b. Payment for furnishing and installing tapping sleeve with tapping valve, box and concrete collar shall be made at the unit price named in the Bid Schedule. The unit price shall constitute full compensation for furnishing and installing the item as shown on the

c. Contract Drawings and Specifications, and shall include clearing, excavation, dewatering, bedding, testing, backfilling and grading.

14. Aerial Canal Crossings Complete (Bid Items 151 to 184)

a. This item is a lump sum and will not be measured. The limits of the lump sum item extend to the flanged pipe and fittings furnished and installed in accordance with the Contract Documents. (Refer to the latest PBCWUD Minimum Design and Construction Standards).

b. Payment for pressure pipe aerial canal crossing and underground piping within the limits of the flanged pipe and fitting will be made at the Contract lump sum price per range of length indicated for each bid line item, which price shall be full compensation for all labor, materials and operations necessary for all excavation, dewatering, fan guards, turbidity barrier, silt fence, air release valve, prestressed concrete pilings, pile caps with strap, painting, furnishing and installing all water main, reclaimed water main and wastewater force main, backfill, compaction, grading, rip-rap, canal bank slope grading and stabilization, sodding, restoration and all other work required to complete the installation as shown on the Contract Drawings and Specifications.

15. Fire Hydrant Assembly with Anchor Tee, Elbow, 6" Gate Valve and 6" DIP (Bid Item 185)

a. Measurement for payment of fire hydrants shall be based upon the actual quantity furnished and installed, in accordance with the requirements of the Contract Documents and shall include 6" DIP, all mechanical restraint joints, gate valve with box, fire hydrant and concrete collars for a complete hydrant assembly.

b. Payment for fire hydrants will be made at the Contract unit price per each for the item, which price shall be full compensation for furnishing, installing, and flow testing the hydrant prior to final completion to determine the fire flow and residual pressures and to report the data on the form supplied by the OWNER, as shown on the Contract Drawings and Specifications.

c. Payment of fitting for tee or anchor tee shall be under the bid item for ductile iron fittings w/accessories, mega-lugs & accessories on the branch of the tee are included in the cost of the hydrant assembly. (Refer to the latest PBCWUD Minimum Design and Construction Standards).

16. Relocation of Existing Fire Hydrant (Bid Item 186)

a. Measurement for payment of fire hydrant relocations shall be based upon the actual quantity of existing fire hydrant moved from one location to another, in accordance with the requirements of the Contract Documents. Any additional pipe needed to complete the relocation shall be measured and compensated under the appropriate bid items.

b. The unit price shall constitute full compensation for relocating the item as shown on the Contract Drawings and Specifications.

17. Fire Hydrant Bollards (Bid Item 187)

a. Measurement for payment of fire hydrant bollards shall be based upon the actual quantity furnished and installed, in accordance with the requirements of the Contract Documents.

b. Payment for fire hydrant bollards will be the product of the quantity installed and the unit price for this item. The unit price shall constitute full compensation for the furnishing and installing the item including excavation, concrete, painting and clean-up and restoration as shown on the Contract Drawings and Specifications.

18. Sample Points with Double Strap Saddle and Corporation Stop (Bid Item 188)

a. Measurement for payment of sample points with double strap saddle and corporation shall be based upon the actual quantity furnished and installed, in accordance with the requirements of the Contract Documents.

b. Payment for furnishing and installing sample points shall be at the unit price indicated for this item in the bid proposal for the actual quantity furnished and installed, in accordance with the requirements of the Contract Drawings and Specifications. Payment shall include the cost of bacteriological testing and removal of the sampling points upon completion of testing.

19. Sample Points on Fire Hydrants (Bid Item 189)

a. Measurement for payment of sample points installed on fire hydrants shall be based upon the actual quantity furnished and installed, in accordance with the requirements of the Contract Documents.

b. Payment for furnishing and installing sample points shall be at the unit price indicated for this item in the bid proposal for the actual quantity furnished and installed, in accordance with the requirements of the Contract Drawings and Specifications. Payment shall include the cost of bacteriological testing and removal of the sampling points upon completion of testing.

20. Sample Points on 2" Blowoffs (Bid Item 190)

a. Measurement for payment of sample points installed on blowoffs shall be based upon the actual quantity furnished and installed, in accordance with the requirements of the Contract Documents.

b. Payment for furnishing and installing sample points shall be at the unit price indicated for this item in the bid proposal for the actual quantity furnished and installed, in accordance with the requirements of the Contract Drawings and Specifications. Payment shall include the cost of bacteriological testing and removal of the sampling points upon completion of testing.

21. 2" Blow-off Piping Assembly with Box (Bid Item 191)

a. Measurement for payment of 2" blow-off assembly including, concrete trust block, valve box and all piping will be based upon the actual quantity furnished and installed in accordance with the requirements of the contract documents.

b. Payment for furnishing and installing 2" blow-off assembly shall be at the unit price indicated for this item in the bid proposal for the actual quantity furnished and installed,

in accordance with the requirements of the Contract Documents. Payment for the plug shall be under the bid item for ductile iron fittings with accessories. The unit price shall constitute full compensation for the furnishing and installing the item including all pipe, fittings, valves and box with lid as shown on the Contract Drawings and Specifications.

22. Automatic Flushing Device/Assembly (Bid Item 192)

a. Measurement for payment of automatic flushing device/assembly including, concrete trust block, valve box and all piping will be based upon the actual quantity furnished and installed in accordance with the requirements of the contract documents.

b. Payment for furnishing and installing automatic flushing device/assembly shall be at the unit price indicated for this item in the bid proposal for the actual quantity furnished and installed, in accordance with the requirements of the Contract Documents. Payment for the plug shall be under the bid item for ductile iron fittings with accessories. The unit price shall constitute full compensation for the furnishing and installing the item including all pipe, fittings, valves and box with lid as shown on the Contract Drawings and Specifications. (Refer to the latest PBCWUD Minimum Design and Construction Standards).

23. Air Release Valve w/Manhole (Bid Items 193 to 197)

a. Measurement for payment for furnishing and installing air release valves with manholes will be based on the actual number of units as shown on the record drawings furnished and installed in accordance with the Contract Documents.

b. Payment for furnishing and installing said item will be the measured quantity at the unit price bid. The unit price shall constitute full compensation for the furnishing and installing the item including manhole, riser, bricks or grade rings, mortar, frame and covers with Palm Beach County Logo and appropriate label as shown on the Contract Drawings and Specifications, and shall include clearing, excavation, dewatering, bedding, testing, backfilling and grading.

24. Doghouse Manhole (Bid Items 198 and 199)

a. Payment shall be based on the number of new precast concrete sanitary sewer manholes installed including ring, cover and approved corrosion barrier.

b. The Contract price and shall include materials, labor, equipment, dewatering, trench safety to replace existing sanitary sewer manholes based upon field inspection. All new concrete manholes shall be 4 feet in diameter and vary in depth from 4 feet to 12 feet deep as named in the Bid Schedule.

a. Payment for furnishing and installing said item will be the measured quantity at the unit price bid. The unit price shall constitute full compensation for the furnishing and installing the item including manhole, riser, bricks or grade rings, mortar, frame and covers with Palm Beach County Logo and appropriate label as shown on the Contract Drawings and Specifications, and shall include clearing, excavation, dewatering, bedding, testing, backfilling and grading.

25. 2" Above Ground Offset Air Release Valve for Wastewater Force Main (Bid Item 200)

a. Measurement for payment for furnishing and installing above ground offset air release valves for wastewater force mains will be based on the actual number of units as shown on the record drawings furnished and installed in accordance with the Contract Documents.

b. Payment for furnishing and installing said item will be the measured quantity at the unit price bid. The unit price shall constitute full compensation for the furnishing and installing the item including manhole, riser, bricks or grade rings, mortar, frame and covers with Palm Beach County Logo and appropriate label as shown on the Contract Drawings and Specifications, and shall include clearing, excavation, dewatering, bedding, testing, backfilling and grading.

26. Air Release Valve Rehabilitation (Bid Item 201 and 202)

a. Payment for furnishing and rehabilitation of said item will be the measured quantity at the unit price bid.

b. Measurement for payment for furnishing and installing air release valves on the aerial crossing will be based on the actual number of units as shown on the record drawings furnished and installed in accordance with the Contract Documents.

c. The unit price shall constitute full compensation for all labor, materials and operations necessary for the removal and disposal of existing air release valve, furnishing and installing the item including double strap saddle, corporation stop, compression fitting for corporation stop, accessories and appurtenances necessary for complete installation of the air release valve. The installation of air release valves shall be consistent and meet the Canal Crossing and Fan Guard Details. (Refer to the latest PBCWUD Minimum Design and Construction Standards).

27. 6" PVC Sewer Lateral Replacement (Bid Item 203)

a. Measurement for payment of said items shall be based upon the actual quantity furnished and installed (Each) in accordance with the requirements of the Contract Documents.

b. Payment for furnishing and installing said item shall be made at the Unit Price named in the Schedule of Bid Prices per each (Up to ~~30~~ 20 LF).

c. The Unit Price shall constitute full compensation for furnishing and installing the item as shown on the Contract Drawings and Specifications including clearing, excavation, disposal of unsuitable excavated material, backfilling with suitable native material, importing clean fill, compaction, bedding, and dewatering as necessary.

d. The cost of materials for connections to existing piping and removal and disposal of existing piping shall be included in the Contract Unit Price Bid.

e. The cost of tanker trucks for disposal of wastewater shall be included in the Contract Unit Price Bid.

28. Short PVC Services (up to 20' long) (Bid Items 204, 206, 213)

a. Measurement for payment said item will be based upon the actual quantity furnished and installed, in accordance with the requirements of the Contract Documents.

b. Payment for furnishing and installing said item will be the measured quantity at the unit price named in the Bid Schedule. The unit price shall constitute full compensation for the furnishing and installing the item as shown on the Contract Drawings and

Specifications and shall include, but not be limited to, double strap saddle, corporation stop, compression fitting for corporation stop, PVC service pipe with fittings, casing (if applicable), control valve with compression couplings, control box with lid, angle locking pack joint yoke curb stops, angle pack joints, branch valves (if applicable), meter yoke assemblies, angle dual check valve or quarter bend coupling, compression adapter, PVC pipe stub outs with fittings for customer connection, meter boxes with lids, all adapters, fittings, accessories and appurtenances necessary for complete water service. Water meter is not included in the installation.

29. Short Polyethylene (HDPE) Services (up to 20' long) (Bid Items 205, 207, 214)

a. Measurement for payment said item will be based upon the actual quantity furnished and installed, in accordance with the requirements of the Contract Documents.

b. Payment for furnishing and installing said item will be the measured quantity at the unit price named in the Bid Schedule. The unit price shall constitute full compensation for the furnishing and installing the item as shown on the Contract Drawings and Specifications and shall include, but not be limited to, double strap saddle, corporation stop, compression fitting for corporation stop, Polyethylene (HDPE) service pipe with fittings, casing (if applicable), angle locking pack joint yoke curb stops, angle pack joints, branch valves (if applicable), meter yoke assemblies, angle dual check valve or quarter bend coupling, compression adapter, PVC pipe stub outs with fittings for customer connection, meter boxes with lids, all adapters, fittings, accessories and appurtenances necessary for complete water service. Water meter is not included in the installation.

30. Long PVC Service Line with Casing (up to 50' long) (Bid Items 208 and 210)

a. Measurement for payment for service lines with casing installed that exceed the normal length required for a 20' wide roadway, said item will be based upon the actual quantity furnished and installed, in accordance with the requirements of the Contract Documents.

b. Payment for furnishing and installing said item will be the measured quantity at the unit price named in the Bid Schedule. The unit price bid under this item shall be full compensation for furnishing and installing including all clearing, excavation, dewatering, installation by jack and bore - pneumatic tool or directional drilling, trench safety, backfilling and grading for the proper construction of the work with all work as shown on the Contract Drawings. Specifications and shall include, but not be limited to, double strap saddle, corporation stop, compression fitting for corporation stop, PVC service pipe with fittings, casing (if applicable), control valve with compression couplings, control box with lid, angle locking pack joint yoke curb stops, angle pack joints, branch valves (if applicable), meter yoke assemblies, angle dual check valve or quarter bend coupling, compression adapter, PVC pipe stub outs with fittings for

customer connection, meter boxes with lids, all adapters, fittings, accessories and appurtenances necessary for complete water service. Water meter is not included in the installation.

31. Long Polyethylene (HDPE) Service Line with Casing (up to 50' long) (Bid Items 209 and 211)

a. Measurement for payment for service lines with casing installed that exceed the normal length required for a 20' wide roadway, said item will be based upon the actual quantity furnished and installed, in accordance with the requirements of the Contract Documents.

~~Payment for furnishing and installing said item will be the measured quantity at the unit price named in the Bid Schedule.~~

b. The unit price bid under this item shall be full compensation for furnishing and installing including all clearing, excavation, dewatering, installation by jack and bore - pneumatic tool or directional drilling, trench safety, backfilling and grading for the proper construction of the work with all work as shown on the Contract Drawings. Specifications and shall include, but not be limited to, double strap saddle, corporation stop, compression fitting for corporation stop, PVC service pipe with fittings, casing (if applicable), control valve with compression couplings, control box with lid, angle locking pack joint yoke curb stops, angle pack joints, branch valves (if applicable), meter yoke assemblies, angle dual check valve or quarter bend coupling, compression adapter, PVC pipe stub outs with fittings for customer connection, meter boxes with lids, all adapters, fittings, accessories and appurtenances necessary for complete water service. Water meter is not included in the installation.

32. Extra Long PVC Service Line with Casing (up to 200' long) (Bid Items 212)

a. Measurement for payment for service lines with casing installed that exceed the normal length required for a 20' wide roadway, said item will be based upon the actual quantity furnished and installed, in accordance with the requirements of the Contract Documents.

b. Payment of water service line with casing shall be the horizontal distance measured along the surface of the asphalt above the source line as stated on the record drawings, less the standard length of PVC service line w/casing for a 20' wide asphalt roadway. The unit price bid per foot under this item shall be full compensation for furnishing and installing including all clearing, excavation, dewatering, installation by jack and bore - pneumatic tool or directional drilling, trench safety, backfilling and grading for the proper construction of the work with all work as shown on the Contract Drawings. Specifications and shall include, but not be limited to, double strap saddle, corporation stop, compression fitting for corporation stop, PVC service pipe with fittings, casing (if applicable), control valve with compression couplings, control box with lid, angle locking pack joint yoke curb stops, angle pack joints, branch valves (if applicable), meter yoke assemblies, angle dual check valve or quarter bend coupling, compression adapter, PVC pipe stub outs with fittings for customer connection, meter boxes with lids, all adapters, fittings, accessories and appurtenances necessary for complete water service. Water meter is not included in the installation.

33. Meter Box (Existing) Relocation and Connection (up to 100' long) (Bid Items 215)

a. Measurement for payment of said item shall be based upon the actual quantity furnished and installed (Each) for the applicable size in accordance with the requirements of the Contract Documents.

b. Payment for furnishing and installing said item shall be the product of the measured quantity and the Unit Price bid per each for the appropriate type named in the Schedule of Bid Prices.

c. The Unit Price shall constitute full compensation for the furnishing and installing of the item as shown on the Contract Drawings and Specifications including clearing, excavation, dewatering, disposal of excess materials, rock removal, removal and disposal of unsuitable in-situ material, backfilling with suitable native material, compaction, grading, meter box bedding, meter box, any necessary appurtenances and labor for the proper construction of each complete water meter box as shown on the Contract Drawings and Specifications. Removal of meter from old location, transfer to new location, and placement into service to be completed under this bid item.

d. Connection of meter shall include any pipe, fittings, curb stop, check valve, coupling, nipple, yoke, pressure testing and all materials and labor to make the connection. Furnishing Water meters is not included in the installation. This shall be done by PBCWUD.

e. All necessary coordination with ENGINEER, OWNER, Regulatory Agencies, SubCONTRACTORs, Subconsultants, and/or Notice to Residents is included in this Bid item.

34. Up to 1 1/12" PVC Water Service within private property from meter box to bldg. up to 200-ft (Plumbing Permit included) (Bid Item 216)

a. Measurement for the water service installation on private property will be the actual number of services rerouted to provide a complete and functional unit.

b. Payment for re-routing of the Water Service on Private Property from meter box to building connection shall be the product of the Unit Price Bid per Each, and the authorized quantity measured as installed, inspected, approved and restored.

c. Payment for water service installation on private property shall be made based on the measured quantity at the unit price indicated in the Bid Schedule. Payment of the applicable Contract unit price shall be full compensation for furnishing all labor, materials and equipment necessary to install the water service including the house connection, water service piping, back flow preventer and pressure reducer as required by plumbing permit. Payment will also include permits, excavation sheeting, shoring and bracing, dewatering, backfill, compaction, grading, pressure testing, restoration, sod and all other items required for a complete, acceptable and operable installation.

d. The Contract Unit Price Bid also includes applying and acquiring grouped/sectioned PBC Building Department Type 9 permits, clearing, excavation, sheeting, shoring and bracing, dewatering, backfilling with suitable native material, importing clean fill as necessary to restore grade, compaction, grading, pressure testing, capping or removal of existing service pipe, appurtenances and all other items required for a complete, connected, acceptable and operable private service installation.

35. Additional Cost for Installation of Tier 15 Traffic Rated Meter Box and Lid (Bid Items 217 and 218)

a. Measurement for payment of said item shall be based upon the actual quantity furnished and installed (Each), in accordance with the requirements of the Contract Documents or

as directed by the OWNER'S Representative.

b. Payment for furnishing and installing said item shall be the product of the measured quantity and the Unit Price bid per each for the appropriate type named in the Schedule of Bid Prices. Payment shall be in addition to each appropriate type of Installed Meter Box. (Bid Item 215)

c. The Unit Price shall constitute full compensation for furnishing and installing the appropriate Traffic rated item as shown on the Contract Drawings and Specifications, including any additional clearing, excavation, meter box, bedding, backfilling with suitable native material, compaction, grading and labor if applicable.

d. Unit Price shall only be for the additional cost of providing and installing the Tier 15 Single Meter or Double Meter Box instead of a standard box.

36. Valve Box Adjustment (Bid Item 219)

a. Measurement for payment of said item shall be based upon the actual quantity furnished and installed (Each), in accordance with the requirements of the Contract Documents or as directed by the OWNER'S Representative. Materials used to adjust valve boxes shall be per the latest PBCWUD Minimum Design Standards.

b. The Unit Price shall constitute full compensation for furnishing and installing the appropriate bid item which include but not limited to, adjusting valve boxes (including valve box lids) to final grade to accommodate FDOT, Palm Beach County Engineering Department or any City/Village road paving projects within the confines of PBCWUD service area more specifically detailed in the FDOT, County Engineering or City/Village construction road plans. Quantity of valve boxes to be adjusted to final grade shall be based on the final road plans or a valve/manhole survey in coordination with PBCWUD and the road OWNER. When adjusting structures in flexible pavement, restore final road surface in accordance with the FDOT Design Standards. Successful bidder shall coordinate all of its work with PBCWUD and the road paving CONTRACTOR.

37. Valve Box Replacement (Bid Item 220)

a. Measurement for payment of said item shall be based upon the actual quantity furnished and installed (Each), in accordance with the requirements of the Contract Documents or as directed by the OWNER'S Representative. The CONTRACTOR shall complete the following valve adjustment:

b. Raising valve boxes in asphalt - Locate the paved over valve, cut asphalt (small cut), jackhammer down to reveal box upper section, adjust box to proposed street level, backfill with concrete and patch with cold patch material. Raising valve boxes in dirt - Locate the buried valve, dig down to the cover, and apply risers to raise the box to proposed ground level and backfill with compacted soil.

c. Replacing valve boxes - Cut asphalt, jackhammer or dig to reveal box upper section, vacuum excavate so that box can be replaced, adjust box over the operating nut, backfill with concrete and patch with cold patch material. Backfill shall be as specified in Section 125 of the latest FDOT Standard Specifications for Road and Bridge Construction, meeting the specific

requirements around valve boxes detailed in Section 125-8.1 and 125-8.2 of the FDOT Standard Specifications to match the proposed roadway grade and slope.

d. After the surface course has been installed, the top surface of the valve boxes adjusted under the Contract shall be within the following limits: ¼" below the adjacent asphalt surface to zero (0) inches above the adjacent asphalt surface. All valve boxes that do not fall within these limits shall be adjusted to fall within the specified tolerances. No extra payment shall be allowed for this re-adjustment. If approved by PBCWUD representative, it will not be necessary to adjust valve boxes as long as they are within the limits described above. A valve box may have been called out on the plans for adjustment, however, only those that actually require adjustment shall be paid.

e. If the CONTRACTOR is not going to follow behind the milling machine with the overlay and the street is reopened to local traffic, the CONTRACTOR shall be required to provide fillets around all valve boxes at uneven sections of pavement.

38. Irrigation Service Line Repair and Replace (up to ~~6~~ 4") (Bid Item 221)

a. Measurement shall be the horizontal distance along the surface of the trench between the listed stations as shown on the record drawings.

b. Payment for ~~water main~~ the irrigation service line shall be the product of the appropriate unit price bid and the horizontal distance measured per linear foot. The unit price bid per foot for this item shall be full compensation to provide all clearing, excavation, dewatering, trench safety, ~~pressure testing of pipe~~, backfilling, and grading for the proper construction of the work with all work ~~as shown on the Contract Drawings~~ and per this Specification.

39. 4", 6", 8", 10",12, and 16" DIP X AC Pipe Adapter (Bid Items 222 to 227)

a. Measurement for payment of DIP X AC pipe adapter shall be based upon the actual quantity furnished and installed, in accordance with the requirements of the Contract Documents.

b. Payment for furnishing and installing said item will be the measured quantity at the unit price named in the Bid Schedule. The unit price shall constitute full compensation for the furnishing and installing the item as shown on the Contract Drawings and Specifications, and shall include clearing, excavation, dewatering, bedding, testing, backfilling and grading.

40. Asbestos Pipe Removal/Abatement for 4", 6" 8", 10",12", and 16" (Bid Items 228 to 233)

a. Measurement for payment said item will be the actual quantity of pipe removed (per linear foot) based on the horizontal measurement, in accordance with the requirements of the Contract Documents.

b. Payment for removing and disposing said item will be the measured quantity at the unit price named in the Bid Schedule. The unit price shall constitute full compensation for asbestos abatement and pipe removal and disposal including clearing, excavation, dewatering, bedding, backfilling, grading, permits, asbestos abatement by licensed asbestos abatement CONTRACTOR with certified workers, legal disposal of pipe and worker protection as shown on the Contract Drawings and Specifications.

41. Connect to existing water main, reclaimed water main or force main (Bid Items 234 to 236)

a. Measurement for payment of said item will be based upon the actual quantity furnished and installed, in accordance with the requirements of the Contract Documents. The connection to existing water mains shall include the Pressure Pipe Tie-In Detail (Refer to the latest PBCWUD Minimum Design and Construction Standard details).

b. Payment for furnishing and installing said item will be the measured quantity at the unit price named in the Bid Schedule. The unit price shall constitute full compensation for the furnishing and installing the item as shown on the Contract Drawings and Specifications, and shall include clearing, excavation, dewatering, bedding, testing, backfilling and grading. The cost of restraining existing piping shall be included under this Bid Item. The cost of tanker trucks for disposal of wastewater for force main connections shall be paid under the additional Work Bid Item and shall not be included in the above.

42. Grouting/Deactivation of Existing 4", 6", 8" ,12", 16", 20", and 24" Pipe (Bid Items 237 to 244)

a. Measurement of grouting/deactivation of pipe will be the horizontal length of the existing pipe to be removed from service in accordance with the requirements of the Contract Documents.

b. Payment for grouting/deactivation of pipe will be the measured quantity at the contract unit price per foot, which price shall be full compensation for all labor, materials and operations necessary for grouting and deactivation of existing pipe, and all associated work as shown on the Contract Drawings and Specifications, and shall include clearing, excavation, dewatering, bedding, testing, backfilling, grading, removal and disposal of existing valves, meter boxes, and fire hydrants and appurtenances.

43. Milling of Asphalt (Bid Item 245)

a. Measurement for payment said item will be based upon the actual quantity milled in accordance with the requirements of the Contract Documents.

b. Payment for milling shall include cleaning of streets, removal of excess material and all work as shown on the Contract Drawings and Specifications.

44. Asphalt Overlay, Type S 9.5 (Bid Item 246)

a. Measurement for payment said item will be based upon invoices from the supplier of the actual quantity furnished and installed in accordance with the requirements of the Contract Documents.

b. Payment for asphalt overlay shall include cleaning of streets, removal of excess sod from the roadway, tack coat, asphalt materials placement and compaction, cleanup of excess sod and asphalt waste, restoration of all pavement markings and all work as shown on the Contract Drawings and Specifications.

45. Asphalt Roadway Removal and Restoration (Bid Item 247)

a. Measurement of asphaltic concrete surface course for asphalt roadway restoration will be the actual area of the surface course replaced in square yard, furnished and installed in accordance with the requirements of the Contract Documents.

b. Payment for open-cut roadway for asphaltic concrete restoration will be the measured quantity at the Contract unit price per square yard with thickness of not less than 2-1/2", which price shall be full compensation for all labor, equipment materials, transportation and necessary preparation including placement and compaction of stabilized sub-grade, placement and compaction of base, tack coat, placement and compaction of surface course, restoring all pavement markings, removal and disposal of existing asphalt including saw cutting and all work as shown on the Contract Drawings and Specifications.

46. Asphalt Roadway Restoration – Additional Thickness (Bid Item 248)

a. Measurement of additional asphaltic concrete surface course for asphalt roadway restoration will be the actual additional thickness per inch of the surface course replaced in square yard, in accordance with the requirements of the Contract Documents.

b. Payment for open-cut roadway for asphaltic concrete restoration will be the measured quantity at the Contract unit price in inch per square yard of additional thickness which price shall be full compensation for all labor, equipment materials, transportation and compaction of surface course, restoring all pavement markings removal and disposal of existing asphalt including saw cutting and all work as shown on the Contract Drawings and Specifications.

47. Asphalt Driveway Removal and Restoration (Bid Item 249)

a. Measurement of asphaltic concrete surface course (1-1/2") driveway restoration will be the actual areas reconstructed and accepted, between the edge of pavement and the edge of right-of-way or easement line, in accordance with the requirements of the Contract Documents.

b. Payment for asphaltic concrete surface course for driveway restoration will be the measured quantity at the Contract unit price per square yard, which price shall be full compensation for all labor, equipment materials, transportation and necessary preparation including placement and compaction of stabilized sub-grade, placement and compaction of base, tack coat, placement and compaction of surface course, removal and disposal of existing asphalt including saw cutting and all work as shown on the Contract Drawings and Specifications.

48. Concrete, Stamped, Painted, Paver Brick Driveway Removal and Restoration (Bid Items 250 to 253)

a. Measurement of Portland cement concrete driveway restoration will be the actual areas reconstructed and accepted in square yard, not to exceed the width from the edge of pavement to the construction joint or to the edge of right-of-way or easement line whichever is less furnished and installed with the exception of stamped and/or painted concrete which may require additional restoration to be determined by the Engineer, in accordance with the requirements of the Contract Documents.

b. Payment for restoration will be made at the contract unit price per square yard, which price shall be full compensation for all labor, materials and operations necessary for cutting, removal and replacement of all portland cement concrete driveways, stamped, painted and paver brick, including wire mesh, expansion joints, necessary sub-grade, satisfactorily restored and all work as shown on the Contract Drawings and Specifications.

49. Limerock/Shell Driveway or Roadway Removal and Restoration (Bid Item 254)

a. Measurement of limerock/shell driveway or roadway removal and restoration will be based upon a maximum payment width of 9 feet and shall not measure greater in width than the existing limits of the limerock/shell driveway or roadway and shall be full compensation for all labor, materials and operations necessary for the delivery, placement, grading and compaction of limerock/shell to the original grade, depth and width to match existing grade and accepted in accordance with the requirements of the Contract Documents.

b. Payment for furnishing and installing said item will be made at the unit price named in the Bid Schedule. The unit price shall constitute full compensation for the furnishing and installing the item as shown on the Contract Drawings and Specifications.

50. Asphalt Sidewalk Removal and Restoration (Bid Item 255)

a. Measurement of asphalt sidewalk restoration will be the actual areas reconstructed and accepted in accordance with the requirements of the Contract Documents.

b. Payment for asphalt sidewalk restoration will be made at the contract unit price per square yard, which price shall be full compensation for all labor, materials and operations necessary for cutting, removal and replacement of all asphalt sidewalk satisfactorily restored, including compaction and base, and all work as shown on the Contract Drawings and Specifications.

51 Concrete Sidewalk Removal and Restoration (Bid Item 256)

a. Measurement of Portland cement concrete sidewalk restoration will be the actual areas reconstructed and accepted in accordance with the requirements of the Contract Documents and FDOT Roadway and Traffic Design Standards Index 310.

b. Payment for portland cement concrete sidewalk restoration will be made at the contract unit price per square yard, which price shall be full compensation for all labor, materials and operations necessary for cutting, removal and replacement of all portland cement concrete sidewalk, including wire mesh and expansion joints, satisfactorily restored and all work as shown on the Contract Drawings and Specifications.

52. Concrete Curb and Gutter Removal and Restoration (Bid Item 257)

a. Measurement of Portland cement concrete curb will be the actual length reconstructed and accepted in accordance with the requirements of the Contract Documents and FDOT Roadway and Traffic Design Standards Index 310 for Type F curb.

b. Payment for portland cement concrete curb restoration will be the measured quantity at the contract unit price per foot, which price shall be full compensation for all labor, materials and operations necessary for cutting, removal and replacement of all portland cement concrete, including steel reinforcement, expansion joints, satisfactorily restored and all work as shown on the Contract Drawings and Specifications.

53. Concrete Flush Header Curb Removal and Restoration (Bid Item 258)

a. Measurement of Portland cement concrete curb will be the actual length reconstructed and accepted in accordance with the requirements of the Contract Documents and the latest Palm Beach County Land Development Flush Header Curb Drawing No. 600.3.

b. Payment for portland cement concrete curb restoration will be the measured quantity at the contract unit price per foot, which price shall be full compensation for all labor, materials and operations necessary for cutting, removal and replacement of all portland cement concrete, including steel reinforcement, expansion joints, satisfactorily restored and all work as shown on the Contract Drawings and Specifications.

54. Floratam Sod and Bahia Sod (Bid Items 259 and 260)

a. Measurement for payment of said item will be based upon the actual quantity measured in the field, furnished and installed in accordance with the requirements of the Contract Documents.

b. Payment for performing all clean up, fine grading and restoration with sod will be made at the Contract unit price for the item upon completion of the work. Said price shall be full compensation for all material, equipment and labor required for finish grading, landscape grading, sodding, general site clean-up, irrigation and fertilization. All grass areas shall be fully sodded as shown on the Contract Drawings and Specifications.

55. Root Barrier (Bid Item 261)

a. Measurement for payment of said item will be based upon the actual quantity furnished and installed upon linear footage furnished and installed in accordance with the requirements of the Contract Documents.

b. Payment for performing all clean up, fine grading and restoration will be made at the Contract unit price for the item upon completion of the work. Said price shall be full compensation for all material, equipment and labor required for installation of root barrier as shown on the Contract Drawings and Specifications.

56. Remove Trees up to 12" diameter (Bid Item 262)

a. Measurement for payment of said item will be based upon the actual quantity removed in accordance with the requirements of the Contract Documents.

b. Payment for removal of trees as directed by the OWNER's Representative shall be made at the Contract unit price for the item upon completion of the work. Said price shall be full compensation for all, equipment and labor, finish grading, landscape

grading, general site clean-up, irrigation and fertilization. Trees to be removed shall be as shown on the Contract Drawings and Specifications.

57. Record Drawings (Bid Item 263)

a. Measurement for payment shall be based on the project limits of the pressure main completed in accordance with the requirements of the Contract Documents.

b. Payment for Record Drawings will be made to the CONTRACTOR to retain a Professional Surveyor Licensed in the State of Florida to perform as-built surveying including: signed and sealed record drawings; AUTO CAD Release 2000 record drawings; record drawing mylars; and other items described in Section 01 72 00, Project Record Drawings. Payment for record drawing information will be made upon completion of all required items in accordance with the requirements of the Contract Documents.

c. Payment for record drawings will be processed after drawings are approved. No partial payments shall be made for record drawings.

58. Construction Survey (Bid Item 264)

a. Measurement for payment shall be based on the project limits of the pressure main completed in accordance with the requirements of the Contract Documents.

b. Payment for Surveying Services will be made to the CONTRACTOR to retain a Professional Surveyor Licensed in the State of Florida to perform construction staking including establishing base-lines and verification of the connecting stations and offset and notification to the OWNER's representative of any discrepancies. Payment will be made for the construction staking and layout information in accordance with the requirements of the Contract Documents.

59. Pre-construction Video Taping (Bid Item 265)

a. Measurement for payment shall be based on the project limits in accordance with the requirements of the Contract Documents.

b. Payment for Pre-Construction Audio Video Services shall be made to the CONTRACTOR to perform videotaping along the entire route of the project prior to construction including all areas to be disturbed. The OWNER shall make payment upon completion, submittal, review and approval of the videotaping by the ENGINEER or OWNER'S Representative.

60. Mailbox Removal and Reinstallation (Bid Item 266)

a. Measurement shall be based on the number removed and reinstalled back to the permanent location and in the condition prior to construction. Mailboxes shall not be measured more than once.

b. Payment shall be in accordance with the Contract Drawings and Specifications.

61. Maintenance of Traffic Residential Street; (Bid Item 267);
62. Maintenance of Traffic Arterial Roadway; (Bid Item 268);
63. Maintenance of Traffic FDOT/Florida Turnpike (Bid Item 269)

    a. Measurement for payment for maintenance of traffic including but not limited to: Submittals of Maintenance of Traffic Plan; barricades; flag persons; sign boards; public notification; and removal of Maintenance of Traffic will be based upon the horizontal length of the project work limits completed in accordance with the requirements of the Contract Documents.

    b. Payment shall be in accordance with the Contract Drawings and Specifications when the project is substantially complete.

64. Density Tests; (Bid Item 269);
    Proctor Tests; (Bid Item 270);
    Concrete Cylinder Tests; (Bid Item 271)

    a. Measurement shall be based on the number completed by an approved Testing Laboratory for passing test results. Failing test results shall be paid by the CONTRACTOR without compensation.

    b. Payment shall be in accordance with the Contract Drawings and Specifications.

    c. Unit Price Bid for each test shall include CONTRACTOR'S effort for the continual digital tracking of passing Density tests performed by approximate Station, labelled by

       Lift/Elevation on a PDF set of the Construction Plans, made available by all parties for reference.

    d. No payment shall be made for Density Tests performed in a frequency that is deemed excessive or unnecessary by the OWNER or ENGINEER.

    e. No payment shall be made until acceptable reports are approved by the ENINEER or OWNER'S Representative.

65. 4'-5' High Fence Removal and Reinstallation (Bid Item 272)

    a. Measurement of removal of existing chain link fence/gate will be based upon linear footage in accordance with the requirements of the Contract Documents.

    b. Payment for removal of existing fence/gate will be made based upon linear footage, which price shall be full compensation for all labor, materials and operations necessary remove the existing fence/gate, and all associated work as shown on the Contract Drawings and Specifications.

66. Demucking with Imported Clean Fill per Lot (Bid Item 273)

    a. Measurement for payment will be per cubic yard based on truck bed measure of clean fill, furnished and installed. The CONTRACTOR shall include cost of hauling and disposal of muck and hauling of imported clean fill.

    b. Payment shall be in accordance with the Contract Drawings and Specifications.

67. Flowable Fill (Bid Item 274)

a. Measurement of Portland cement concrete flowable fill will be the actual volume installed and accepted in accordance with the requirements of the Contract Documents and FDOT Roadway and Traffic Design Standards.

b. Payment for Portland cement flowable fill will be made at the contract unit price per cubic yard, which price shall be full compensation for all labor, materials and operations necessary for Portland cement concrete flowable, including temporary steel traffic plates.

68. Compacted Clean Fill (Bid Item 275)

a. Measurement of clean fill will be the actual volume installed and accepted in accordance with the requirements of the Contract Documents and FDOT Roadway and Traffic Design Standards.

b. Payment for clean fill will be made at the contract unit price per cubic yard, which price shall be full compensation for all labor, materials and operations necessary for clean fill, including temporary steel traffic plates.

69. Protect and Support Utility Poles (Bid Item 276)

a. Measurement shall be based on the number of poles that must be protected and supported during pipe installation. CONTRACTOR shall be responsible for protection of existing overhead and underground utilities. Poles to be held shall not be measured more than once.

b. Payment shall be in accordance with the Contract Drawings and Specifications.

c. CONTRACTOR will contact the concerned utility and pay for any expense required for holding the pole at no additional expense to the OWNER.

70. Rock Removal (Bid Item 277)

a. Payment will be the product of the measured quantity and the unit price bid. The unit price bid shall be in cubic yard, which shall be full compensation for all labor, materials to include all work needed to removal and disposal of unsuitable in-situ material, removal the rocks/excess material as shown on the Contract Drawings and Specifications.

71. Removal and Replacement of Signs (Bid Item 278)

a. Measurement shall be based on the number of signs removed and reinstalled back to the permanent location and in the condition prior to construction complying with the latest FDOT, County or City Roadway and Traffic Design Standards.

b. Payment will be the product of the measured quantity and the unit price bid. The unit price bid shall include all work needed to remove, temporarily store or replace and reinstall a sign in its permanent location.

72. Guardrail Removal and Restoration (Bid Item 279)

a. Measurement of guardrail will be the actual length reconstructed and accepted in accordance with the requirements of the Contract Documents and latest FDOT Roadway and Traffic Design Standards Index 400 for Guardrails. Measurement shall be based on the length removed and reinstalled back to the permanent location and in the condition prior to construction.

b. Payment for guardrail restoration will be the product of the measured quantity and the contract unit price per linear foot, which price shall be full compensation for all labor, materials and operations necessary for removal and replacement of all guardrails satisfactorily restored as shown on the Contract Drawings and Specifications.

73. ADA Concrete Ramp Removal and Restoration (Bid Item 280)

a. Measurement of ADA Portland cement concrete ramp restoration will be the actual number of ADA ramp reconstructed and accepted in accordance with the requirements of the Contract Documents and latest FDOT Roadway and Traffic Design Standards Index 304 and 310.

b. Payment for ADA Portland cement concrete ramps restoration will be made at the unit price named in the Bid Schedule for the respective thickness to match existing but not less than 4", which price shall be full compensation for all labor, materials and operations necessary for cutting, removal and replacement of all Portland cement concrete sidewalk and ramps, including wire mesh, detectable warning surface and expansion joints, satisfactorily restored as shown on the Contract Drawings and Specifications.

74. Silt Fence (Bid Items 281)

a. Measurement for payment of said item will be based upon the actual quantity furnished and installed upon linear footage furnished and installed in accordance with the requirement of the Contract Documents.

b. Payment for performing all NPDES permitting, furnishing and installing silt fence and removal upon completion of the work and approval. Said price shall be full compensation for all material, equipment and labor required for installation.

75. Aerial Canal Crossings Piping (Bid Items 282 to 307)

a. Measurement shall be the horizontal distance as shown on the record drawings. The limits of the said item extend to the flanged pipe and fittings furnished and installed in

accordance with the Contract Documents. (Refer to the latest PBCWUD Minimum Design and Construction Standards).

b. Payment for pressure pipe aerial canal crossing and underground piping within the limits of the flanged pipe and fitting will be made at the Contract unit price per range of length indicated for each bid line item, which price shall be full compensation for all labor, materials and operations necessary for all excavation, dewatering, turbidity barrier, silt fence, painting, furnishing and installing all water main, reclaimed water main and wastewater force main, backfill, compaction, grading, rip-rap, canal bank slope grading and stabilization, sodding, restoration and all other work required to complete the installation as shown on the Contract Drawings and Specifications.

76. Removal of Existing Aerial Canal Crossings (Bid Items 308 to 310)

a. Measurement for payment of said item will be based on the extend of the removal of flanged/mechanical pipe between lower fittings of the existing canal crossing and any piping necessary to be plugged in accordance with the Contract Documents.

b. Payment for the removal of pipe aerial canal crossing will be made at the Contract lump sum price for all appurtenances above and below ground between the lower fittings of the aerial crossing indicated for each bid line item, which price shall be full compensation for all labor, materials and operations necessary for the removal of fan guards, air release valve, pre-stressed concrete pilings, pile caps with strap, pipe brackets, removal of all water or force main, removal of upper and lower fittings, backfill, compaction, grading, canal bank slope grading and stabilization, sodding, silt fence, turbidity barrier, restoration, plugs installation and all other work required to complete the removal as shown on the Contract Drawings and Specifications.

77. Canal Bank Grade and Place Rip-Rap Revetment (Bid Items 311)

a. Measurement for payment said item will be based upon the actual quantity furnished and installed based upon invoices from the supplier furnished and installed in accordance with the requirements of the Contract Documents.

b. Payment for this item shall include cleaning of canal bank, removal of excess sod, placement and compaction, restoration of canal bank and all work as shown on the Contract Drawings and Specifications.

c. The CONTRACTOR shall furnish and install riprap revetment, including geotextile fabric, compacted embankment or other fill material, excavation, and disposal of excess waste material, all in accordance with the requirements of the Contract Documents.

78. 2",4", 6", 8", 10",12", 16", 18", 20", 24", 30", and 36" Single Line Stop for PVC/DIP/CIP/AC Water Main/Reclaimed Water Main/Wastewater Force Main (Bid Items 312 to 323)

a. The unit bid price per line stop (EA) shall include all labor, materials, equipment, and incidentals necessary to furnish and install line stops as shown on the Contract drawings, as specified herein and as directed by the ENGINEER/OWNER, including but not limited to: excavation, disposal of excess materials, bracing, sheeting and dewatering, the furnishing and installation of the line stops, standby time, backfill, maintaining uninterrupted flow in existing utilities, location and protection of utilities, and all other work required for the complete installation of the line stops. All line stops shall be installed at locations shown on the Contract drawings, and as directed by the ENGINEER or OWNER representative.

b. Payment will not be made for failed Line Stop attempts if field verification and recordation of the existing utilities is not performed.

79. 6", 8", 10",12" Double Line Stop with (4", 6", and 8") By-Pass for PVC/DIP/CIP/AC Water Main/Reclaimed Water Main/Wastewater Force Main (Bid Items 324 to 327)

a. The unit bid price for two line stops with a bypass (EA) shall include all labor, materials, equipment, and incidentals necessary to furnish and install both line stops along with the continuous bypass as shown on the Contract drawings, as specified herein and as directed by the ENGINEER or OWNER representative, including but not limited to: excavation, disposal of excess materials, bracing, sheeting and dewatering, the furnishing and installation of the line stops, bypass piping, backfill, maintaining uninterrupted flow in existing utilities, location and protection of utilities, and all other work required for the complete installation of the two line stops and bypass piping. All line stops and bypass piping shall be installed at locations shown on the Contract drawings, and as directed by the ENGINEER or OWNER representative.

b. Payment will not be made for failed Line Stop attempts if field verification and recordation of the existing utilities is not performed.

80. Furnish & Install Insertion Valve for PVC/DIP/CIP/AC Water Main and Wastewater Force Main (Bid Items 328 to 333)

a. The unit bid price per insertion valve (EA) shall include all labor, materials, equipment, and incidentals necessary to furnish and install insertion valve, valve box and extension to finished grade, concrete pad/jacket, concrete collar installed in unpaved areas as shown on the drawings, as specified herein and as directed by the ENGINEER, including but not limited to: excavation, disposal of excess materials, bracing, sheeting and dewatering, the furnishing and installation of the insertion valve, backfill, location and protection of utilities, and all other work required for the complete installation of the insertion valves. All insertion valves shall be installed at locations shown on the Contract drawings, and as directed by the ENGINEER or OWNER Representative.

81. Additional Work Not Included in Bid Items above (Bid Item 334)

a. Measurement for payment of said item will be based upon additional work at a maximum of 15 percent of the subtotal base bid price per Work Authorization. CONTRACTOR will provide a schedule of value for the additional work items not included in the defined bid items. Additional work shall include but not be limited to bacteriological testing of water mains, cost of any permits that are the responsibility of the CONTRACTOR, temporary crossings/bridges as described in Section 01 14 13 of the Technical Specifications.

b. Payment shall be at the unit price when the additional work is complete and accepted.

82. MOBILIZATION/DEMOBILIZATION (Bid Item 335 and 336)

a. Mobilization shall include the cost of the preparatory work and operations to mobilize for beginning Work on the Project, including, but not limited to, those operations necessary

for the movement of personnel, equipment, materials, supplies and incidentals to the Project site, NPDES permitting for construction sites greater than one acre, for the establishment of temporary offices, buildings, safety equipment and first aid supplies, sanitary and other facilities, as required by these Specifications, State and local laws and regulations, the costs of bonds, insurance and any other pre-construction expense necessary for the start of the Work. Payment for mobilization is limited to 2.5 percent of the value of furnished and installed items and services per individual Work Authorization.

b. Demobilization shall include removal of all construction equipment, materials and debris from the site of the work and restoration thereof to its preconstruction condition including repair of all damage caused by the construction. Payment for demobilization is limited to 1.0 percent of the value of furnished and installed items and services per individual Work Authorization.

1.6 MATERIALS DELIVERED AND SUITABLY STORED

a. Payment for materials delivered and suitably stored either on-site or at an off-site location approved by the Engineer, shall be at 90% of value of actual inventory on date of Application for Progress Payment, less retainage.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION

SECTION 01 29 73– SCHEDULE OF VALUES

PART 1 -- GENERAL

1.1 THE SUMMARY

A. This Section defines the process whereby the Schedule of Values (lump sum price breakdown) shall be developed and incorporated into the cost loading function of the CPM Schedule in accordance with the requirements of Section 01 32 16 – Construction Progress Schedule.

B. Upon request of the ENGINEER, the CONTRACTOR shall support the Schedule of Values with data that shall substantiate their correctness.

C. The Schedule of Values, unless objected to by the ENGINEER, may be used for the lump sum portions of the Work as the basis for Payment Applications.

D. Monthly progress payment amounts will be determined from the monthly progress updates of the CPM Schedule activities.

E. Develop the Schedule of Values independent of but simultaneous with the development of the CPM Schedule activities and logic.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Section 01 11 00 – Summary of Work

B. Section 01 32 16 – Construction Progress Schedule

1.3 FORM AND CONTENT OF SCHEDULE OF VALUES

A. The CONTRACTOR shall type Schedule of Values on 8 ½" x 11" or 11" x 17" white paper. The CONTRACTOR's standard forms and automated printout shall be considered for approval by the ENGINEER upon the CONTRACTOR's request. The CONTRACTOR shall identify the Schedule of Values with:

1. Title of Project and Location.

2. ENGINEER and OWNER's Project numbers.

3. Date of Submission.

B. The Schedule of Values shall list the installed value of the components of the Work in sufficient detail to serve as a basis for computing values for partial payments during construction.

C. The CONTRACTOR shall identify each line with the numbers and title of the respective major section of the Specifications.

D. For each major line item, the CONTRACTOR shall list sub-values of major products or operations under the item.

E. For the various portions of the Work:

1. Each item shall include a directly proportional amount of the CONTRACTOR's overhead profit.

2. For items on which partial payments will be requested for stored materials, the Schedule of Values shall conform to the requirements of the General Conditions of these Contract Documents.

F. The sum of each item of the lump sum breakdown shall equal the lump sum in the Proposal. All lump sum values listed in the Schedule of Values plus the sum of the unit price shall equal the Total Contract Price.

1.4 PRELIMINARY SCHEDULE OF VALUES

A. Submit a preliminary Schedule of Values for the major components of the WORK at the Preconstruction Conference in accordance with the requirements of Section 01 11 00 – Summary of Work.

B. At a minimum, submit proposed values for the following major WORK components:

1. Mobilization: 2.5 percent of Contract Price;

2. the total value of electrical WORK;

3. the total value of instrumentation and control WORK;

4. the total value of protective coatings WORK;

5. the total value of yard mechanical WORK inclusive of excavation, pipe installation, testing and backfill of pipe, and all incidental WORK associated with underground pipe installations;

6. the total value of mechanical WORK:

   a. exclusive of yard mechanical WORK included in Item 5 above, but including piping, valves, equipment, tanks, and appurtenances at new and existing structures;

   b. break down this total value into separate values for each new and existing structure constructed or modified as a part of the WORK;

7. the total value of structural reinforced concrete WORK:

   a. inclusive of excavation, dewatering, subgrade preparation, backfill, and incidental WORK for new structures;

   b. break down this total value shall be broken down into separate values for each new structure constructed as a part of the WORK;

   c. miscellaneous and minor concrete WORK may be listed as one item in this breakdown;

8. the total value of pre-engineered metal buildings:

    a. inclusive of architectural WORK, doors, windows and other incidental systems and features;

    b. break down, this total value shall be broken down into separate values for each pre-engineered metal building;

9. the total value of site civil WORK, inclusive of clearing and grubbing, paving, grading and drainage WORK, and;

10. the total value of other WORK not specifically included in the above items.

C. Review and Revisions

1. The CONTRACTOR and ENGINEER shall meet and jointly review the preliminary Schedule of Values and make any adjustments in value allocations if, in the opinion of the ENGINEER, these are necessary to establish fair and reasonable allocation of values for the major WORK components.

2. Front-end loading will not be accepted.

3. The ENGINEER may require reallocation of major WORK components from items in the above listing if in the opinion of the ENGINEER such reallocation is necessary.

4. This review of the preliminary Schedule of Values and discussion of any necessary revisions shall be completed within 15 Days from the date of Notice to Proceed.

1.5 DETAILED SCHEDULE OF VALUES

A. Prepare and submit a detailed Schedule of Values to the ENGINEER within 25 Days from the date of Notice to Proceed.

B. Base the detailed Schedule of Values on the accepted preliminary Schedule of Values for major WORK components.

C. Because the ultimate requirement is to develop a detailed Schedule of Values sufficient to determine appropriate monthly progress payment amounts through cost loading of the CPM Schedule activities, furnish a sufficiently detailed breakdown in order to meet this requirement.

D. The ENGINEER will be the sole judge of acceptable numbers, details and description of values established.

E. If, in the opinion of the ENGINEER, a greater number of Schedule of Values items than proposed is necessary, add the additional items so identified by the ENGINEER.

F. Submit the minimum detail of breakdown of the major WORK components as follows; furnish greater detail if requested by the ENGINEER:

1. Mobilization: no breakdown required;

2. Section 01 32 16 – Construction Progress Schedule: break down by submittal;

3. Break down the electrical WORK by structure and yard facilities, as follows:

   a. Break down structures electrical WORK into conduit and raceway installation, cable and wire installation, electrical equipment installation, terminations, and lighting; and,

   b. Break down yard facilities electrical WORK by duct bank designation and substations;

4. Break down instrumentation and control WORK by structure;

5. Protective Coating WORK:

   a. Break down protective coating WORK by structure and yard area;

   b. Where specific coating WORK at structures or yard areas may be critical to performing the WORK in order to meet milestone and Contract Times, such WORK shall be included as individual pay and Schedule activity items;

6. Yard Piping WORK:

   a. Break down into individual pipelines running from and to Contract termination points.

   b. Each pipeline shall be an individual pay item unless otherwise allowed by the ENGINEER.

7. Break down mechanical WORK within each structure in order to identify individual piping systems, equipment installation by equipment name and number, and equipment testing and checkout.

8. Break down concrete structures into excavation, subgrade preparation, and appurtenant pre-foundation WORK, concrete foundation construction, slabs on grade, walls/columns, suspended slabs, stairs, and the like (provide sufficiently detailed breakdown in order to accommodate necessary Schedule detail), hydrostatic structure testing, where required, and backfill.

9. Break down civil site WORK into individual drainage piping, drainage structures, site concrete, paving, excavation cut and fill, removal of existing pipe, clearing and grubbing, and other items determined to be necessary for the establishment of pay and schedule activity items.

10. Break down pre-commissioning and commissioning based on completion milestones for each.

11. Break down other WORK not specifically included in the above items, as necessary for the establishment of pay and schedule activity items.

G. Adjustments and Acceptance

1 The CONTRACTOR and ENGINEER shall meet and jointly review the detailed Schedule of Values within 14 Days from the date of Notice to Proceed, at which time the value allocations and extent of detail shall be reviewed in order to determine if necessary adjustments to the values are required, and to determine if sufficient detail has been proposed in order to allow acceptable cost loading of the CPM Schedule activities.

2. Make necessary adjustments to the value allocation or level of detail, and submit a revised detailed Schedule of Values within 30 Days from the date of Notice to Proceed.

3. Following acceptance of the detailed Schedule of Values, incorporate the values into the cost loading portion of the CPM Schedule.

4. Concurrently develop the CPM activities and logic with the development of the detailed Schedule of Values; however, it shall be necessary to adjust the detailed Schedule of Values to correlate to individual Schedule activities.

5. It is anticipated that instances will occur, due to the independent but simultaneous development of the Schedule of Values and the CPM Schedule activities, where interfacing these 2 documents will require changes to each document.

6. Schedule activities may need to be added to accommodate the detail of the Schedule of Values, and Schedule of Value items may need to be added to accommodate the detail of the CPM Schedule activities.

7. Where such instances arise, propose changes to the Schedule of Values and to the CPM Schedule activities in order to satisfy the CPM Schedule cost loading requirements.

1.6 CROSS-REFERENCE LISTING

A. To assist in the correlation of the Schedule of Values and the CPM Schedule, provide a cross-reference listing to be furnished in 2 parts:

1. In the first part, list each scheduled activity with the breakdown of the respective valued items making up the total cost of the activity; and,

2. In the second part, list the valued item with the respective schedule activity or activities that make up the total indicated cost.

B. In the case where a number of schedule items make up the total cost for a valued item (shown in the Schedule of Values), indicate the total cost for each Schedule of Value item.

C. Update and submit these listings in conjunction with the CPM monthly submittals as indicated in Section 01 32 16 – Construction Progress Schedule.

D. Incorporate approved Change Orders reflected in the CPM Schedule into the Schedule of Values as a single unit identified by the Change Order number.

1.7 CHANGES TO SCHEDULE OF VALUES

A. Changes to the CPM Schedule which additional activities not included in the original schedule but included in the original WORK (schedule omissions) shall have values assigned as approved by the ENGINEER.

B. Reduce other activity values in order to provide equal value adjustment increases for added activities, as approved by the ENGINEER.

C. In the event that the CONTRACTOR and ENGINEER agree to make adjustments to the original Schedule of Values because of inequities discovered in the original accepted detailed Schedule of Values, increases and equal decreases to values for activities may be made.

1.8 LIQUIDATED DAMAGES

A. See Section 11 of Instruction to Bidders, section 1.6 of the Bid Form and General conditions.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01 31 13– PROJECT COORDINATION

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The CONTRACTOR shall:

1. Coordinate the Work of its employees and all of its subcontractors.
2. Expedite its Work to assure compliance with approved construction schedules.
3. Coordinate its Work with the work of other Prime contractors and work by the OWNER.
4. Comply with the orders and instructions of the ENGINEER and/or the OWNER.

B. Related Sections:

1. Section 01 11 00 – Summary of Work
2. Section 01 52 00 – Construction Facilities
3. Section 01 57 00 – Temporary Controls
4. Section 01 77 00 – Closeout Procedures

1.2 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

1. Section 01 20 00 – Price and Payment Procedures
2. Section 01 26 63 – Change Orders
3. Section 01 32 16 – Construction Progress Schedule
4. Section 01 33 00 – Submittal Procedures
5. Section 01 35 13 – Special Project Procedures

1.3 CONSTRUCTION ORGANIZATION AND START-UP

A. The OWNER shall establish on-site lines of authority and communications:

1. Schedule and conduct pre-construction conference and progress meetings as outlined in Section 1.4 of this specification.
2. Establish procedures for intra-project communications:
   a. Submittals.
   b. Reports and records.

c. Recommendations, Coordination of drawings, Schedules, Resolution of conflicts, Interpret Contract Documents.

d. Transmit written interpretations to the CONTRACTOR and to other concerned parties.

3. Control the use of the Site:

a. Allocate space for the CONTRACTOR's use for field offices, storage trailers, storage areas and the work.

4. Inspection and Testing:

a. Inspect Work to assure performance in accordance with requirements of the Contract Documents.

b. Administer special testing and inspections of suspect work.

c. Reject Work not in compliance with the requirements of the Contract Documents.

d. Coordinate testing laboratory services:

1) Verify that required laboratory personnel are present.

2) Verify that tests are made in accordance with specified standards.

3) Review test reports for compliance with specified criteria.

4) Recommend and administer any required re-testing.

1.4 PROJECT MEETINGS

A. Preconstruction Conference:

1. Attend Preconstruction Conference to cover the following topics;

a. Contract Administration,

b. Design concepts and concerns, review of Shop Drawings and commissioning,

c. Environmental, landowners, permits and utilities,

d. Fair Opportunities in Purchasing and Construction administration and support, and

e. Site Safety.

2. The location of the workshops will be determined by OWNER, but typically will be at the offices of the County;

3. The time of the meeting will be determined by OWNER but will be after the Notice of Award is issued and not later than 30 days after the Notice to Proceed is issued.

4. Participants for the conference may vary but should include the CONTRACTOR's project manager and superintendent, representatives from major Subcontractors and Suppliers as applicable;

5. Provide and be prepared to discuss the following at the conference:

    a. CONTRACTOR's organizational chart and key personnel as it relates to this Project. Key personnel for this section is defined as Project Executive, Project Manager, and Superintendent;

    b. List of Subcontractors and Suppliers;

    c. CONTRACTOR's safety program, including the designated safety representative, requirement for personal protective equipment and safety protocols;

    d. A 30-Day plan of operation and a project overview bar chart in accordance with Section 01 32 16 – Construction Progress Schedule;

    e. Status of building permits and crossing permits and a list of permits and licenses the CONTRACTOR shall obtain, indicating the agency required to grant the permit, the expected date of submittal for the permit, and required date for receipt of the permit;

    f. Requirements for surveying or establishing controls;

    g. Status of Storm Water Pollution Prevention Plans;

    h. Preliminary submittal schedule per Section 01 33 00 – Submittal Procedures;

    i. Preliminary Schedule of Values and anticipated schedule of payments per Section 01 20 00 – Price and Payment Procedures;

    j. Letter indicating the agents of authority for the CONTRACTOR and the limit of that authority with respect to the execution of legal documents, contract modifications and payment requests;

    k. Major equipment deliveries and priorities; and

B. Progress Meetings:

1. Attend meetings with ENGINEER and OWNER.

    a. Meet on a monthly basis or as requested by OWNER to discuss the Project.

    b. Meet at the Site or other location as designated by OWNER.

c. CONTRACTOR's superintendent and other key personnel are to attend the meeting. Other individuals may be requested to attend to discuss specific matters.

d. Notify OWNER of any specific items to be discussed a minimum of 1 week prior to the meeting.

2. Provide information as requested by OWNER concerning this Project. Prepare to discuss:

a. Status of submittals;

b. Status of RFIs;

c. Changes in CONTRACTOR's resources including staffing, major equipment and Subcontractors;

d. Proposed or pending Modifications;

e. Overview of Work completed since the previous meeting with emphasis on planned but not executed Work;

f. CONTRACTOR's detailed schedule for the next 6 weeks, identifying planned efforts on critical path Work;

g. Anticipated delivery dates for equipment;

h. Status of overall project schedule;

i. Coordination with the OWNER on operations;

j. Information or clarification of the Contract Documents;

k. Status on correction of any outstanding Defective Work and maintenance of quality standards;

l. Field observations, problems, or conflicts;

m. Site Management issues;

n. Status of Record Documentation;

o. Proposed pre-submittal, pre-installation or other meetings for specific issues;

p. Other items of old business or concerns; and

q. New business items.

3. OWNER will prepare minutes of meetings. Review the minutes of the meeting and notify the OWNER of any discrepancies within 10 days of the date of the meeting memorandum. The minutes will not be corrected after the 10 days have expired. Corrections will be reflected in revised minutes.

C. Pre-Submittal and Pre-Installation Meetings:

1. Conduct pre-submittal and pre-installation meetings as required in the individual technical Specifications or as determined necessary by OWNER (for example, instrumentation, roofing, concrete mix design, etc.);

2. Set the time and location of the meetings when ready to proceed with the associated Work. Submit a Notification by CONTRACTOR in accordance with Section 1.7 for the meeting 2 weeks before the meeting. OWNER must approve of the proposed time and location;

3. Attend the meeting and require the participation of appropriate Subcontractors and Suppliers in the meeting; and

4. Prepare minutes of the meeting and submit to the OWNER for review. OWNER will review the minutes of the meeting and notify the CONTRACTOR of any discrepancies within 10 days of the date of the meeting memorandum. The minutes will not be corrected after the 10 days have expired. Corrections will be reflected in a revised set of meeting minutes.

D. Monthly Coordination Meetings:

1. Contractor shall meet with OWNER or designated on-site representative of the OWNER to discuss Work planned for the following week, review coordination issues, testing required or other issues.

1.5 PROJECT DECISION AND ACTION ITEM REGISTERS

A. Decisions or action items in the register that require a change in the Contract Documents will have the preparation of a Change Order as an action items if appropriate. The Contract Documents can only be changed by a Change Order.

1.6 REQUESTS FOR INFORMATION

A. Submit Request for Information (RFI) to obtain additional information or clarification of the Contract Documents.

1. Submit a separate RFI for each item. Attach adequate information to permit a response without further clarification. OWNER will return requests to the CONTRACTOR that do not have adequate information. CONTRACTOR is responsible for all delays resulting from RFIs returned for additional information.

2. Resubmit a new RFI when adequate information is available.

B. Do not use RFIs to confirm decisions or directives. Use the Project Decision Register to document decisions or directives in accordance with Section 1.5.

C. Use the Action Item Register to document assignments for actions to be taken in accordance with Section 1.5.

D. Response to an RFI is given to provide additional information, interpretation, or clarification of the requirements of the Contract Documents, and does not modify the Contract Documents. OWNER will initiate a Request for a Change Proposal (RCP) per Section 01 26 63 – Change Orders if the RFI indicates that a Change Order is required.

1.7 NOTIFICATION BY CONTRACTOR

A. Notify the OWNER of:

1. Required testing and inspections including observation required by OWNER, ENGINEER or inspection agencies prior to covering Work;

2. Errors, conflicts or discrepancies in the Contract Documents that require attention;

3. Issues related to delays or disruptions;

4. Site related issues including unforeseen site conditions, potential utility conflicts, work on adjacent properties, by other CONTRACTORs, or Hazardous Environmental Conditions;

5. Issues related to bonds or insurance;

6. Intent to work outside regular working hours;

7. Changes in key personnel, Subcontractors, or Suppliers. Change in key personnel shall not take place until the CONTRACTOR has supplied resumes for the replacement personnel and the OWNER has approved;

8. Request to shut down facilities or utilities;

9. Proposed utility connections;

10. Special meetings; and

11. Training.

B. Provide notification a minimum of 2 weeks in advance in order to allow OWNER time to respond appropriately to the notification, unless a shorter time is agreed to by the OWNER.

1.8 PLANS OF ACTION

A. Submit a Plan of Action prior to critical operations as specified by the OWNER, including, but not necessarily limited to:

1. Road Crossings;

2. Canal Crossings;

3. Rail Road Crossings; and

4. Work elements impacting other designated operations.

B. Describe the following in the Plan of Action:

1. Scheduled dates for construction;
2. Work to be performed;
3. Utilities, piping, or services affected;
4. Length of time the service or utility will be disturbed;
5. Procedures to be used to carry out the Work;
6. Contingency plans for emergencies;
7. List of manpower, equipment, and ancillary supplies;
8. Plans required in Section 01 35 13 – Special Project Procedures;
9. Backups for key pieces of equipment and key personnel; and
10. Contingency plan that will be used if the original schedule cannot be met.

C. Submit the Plan of Action for approval 2 weeks prior to beginning the Work.

D. Conduct a pre-action conference with the members involved in the process prior to implementing the Plan of Action to discuss the implementation of the Plan of Action.

1.9 MONTHLY REPORTS AND SUBMISSION

A. The following documents are to be submitted with an Application for Payment:

1. Small Business Enterprise – Minority/Women Business Enterprise Program as required by *Attachment No.2* in Bid Document;
2. Construction Progress Schedule submitted in accordance with Section 01 32 16 – Construction Progress Schedule;
3. Other periodic reports or documentation required for administration of the Contract.

B. The following Payment Application will not be processed if any of these documents are not submitted within the allotted time, unless OWNER agrees to an extension of time for delivery of these items.

1.10 CONTRACTOR'S DUTIES

A. Construction Schedules:

1. Prepare a detailed schedule of basic operations.
2. Monitor schedules as Work progresses:

a. Identify potential variances between scheduled and probable completion dates for each phase.

b. Recommend to the OWNER adjustments in the schedule to meet required completion dates.

c. Document changes in schedule and submit to the OWNER, the ENGINEER and to involved subcontractors.

3. Observe work of each subcontractor to monitor compliance with the schedule.

a. Verify that labor and equipment are adequate for the Work and the schedule.

b. Verify that product and equipment procurement schedules are adequate, including OWNER furnished materials.

c. Verify that product and equipment deliveries are adequate to maintain the schedule, including OWNER furnished materials.

d. Report non-compliance to the OWNER, with recommendations for changes.

B. Process Shop Drawings, Product Data and Samples:

1. Prior to submittal to the OWNER, review for compliance with the Contract Documents:

a. Field dimensions and clearance dimensions.

b. Relation to available space.

c. Effect of any changes on the work of any subcontractor.

d. Operations and Maintenance Manuals

C. Review drawings prepared by subcontractors:

1. Prior to submittal to the OWNER, review for compliance with the Contract Documents.

D. Prepare coordination drawings as required to resolve conflicts and to assure coordination of the Work of all trades or subcontractors or by special equipment requirements.

1. Submit to the OWNER and the ENGINEER.

2. Reproduce and distribute copies to concerned parties after review by the OWNER and the ENGINEER.

E. Maintain reports and records at the job site:

1. Daily log of the progress of Work.

2. Records:

a. Contracts.

b. Purchase Orders.

c. Materials and Equipment Records, including delivery tickets and invoices for OWNER furnished materials.

d. Approved Field Orders and Change Orders.

e. Applicable handbooks, codes and standards.

3. Maintain a file of record documents.

1.11 CONTRACTOR'S CLOSE-OUT DUTIES

A. Cleaning and testing of piping systems:

1. Coordinate flushing/cleaning of piping systems to remove all construction deposits and debris.

2. Supply Record Drawings for approval prior to pressure testing.

3. Organize hydrostatic pressure testing.

4. Record dates on which specific sections were tested.

5. Submit to the OWNER written notice of beginning of warranty and guarantee periods for equipment installed.

B. Substantial Completion:

1. Conduct an inspection with the ENGINEER and the OWNER to develop a list of Work to be completed or corrected.

2. Assist the OWNER and the ENGINEER in conducting the inspection.

3. Supervise correction and completion of work of subcontractors.

4. Return all unused piping materials desired to be retained by the OWNER to the OWNER's storage yard.

5. Provide operations and maintenance manuals.

6. Provide training as required under this contract.

C. At Final Completion of the Work, conduct an inspection to assure that:

1. Specified cleaning and restoration has been accomplished to the satisfaction of the OWNER or other governmental agencies.

2. Temporary facilities have been removed from the site.

3. Provide release of liens

4. Provide record drawings

5. Provide special warranties

6. Provide spare parts and tools

1.12 ENGINEER'S CLOSE-OUT DUTIES

A. Final Completion:

1. When the CONTRACTOR determines that the Work is finally complete, conduct an inspection with the ENGINEER and the OWNER to verify final completion of the Work.

B. Administration of Contract Close-Out:

1. Receive and review CONTRACTOR's final submittals.

2. Transmit to the OWNER with recommendations for action.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01 32 16- CONSTRUCTION PROGRESS SCHEDULE

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The CONTRACTOR shall schedule the Work in accordance with this Section.

B. Development of the schedule, the cost loading of the schedule, monthly payment requisitions and project status reporting requirements of the Contract shall employ Critical Path Method (CPM) scheduling.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Section 01 11 00 – Summary of Work

B. Section 01 33 00 – Submittal Procedures

C. Section 01 33 00 – Submittal Procedures

1.3 SCHEDULE REQUIREMENTS

A. Progress Schedule is to be in adequate detail to:

1. Ensure adequate planning, scheduling, and reporting during the execution of the Work;

2. Ensure the coordination of the Work of the CONTRACTOR and the various Subcontractors and Suppliers;

3. Assist in monitoring the progress of the Work; and

4. Assist in evaluating proposed changes to the Contract Times and project schedule.

B. Provide the Progress Schedule in the form of a computer generated critical path schedule which includes Work to be performed on the Project. It is intended that the schedule accomplish the following:

1. Give early warning of delays in time for correction.

2. Provide detailed plans for the execution of the Work in the form of future activities and events in sequential relationships.

3. Establish relationships of significant planned Work activities and provide a logical sequence for planned Work activities.

4. Provide continuous current status information.

5. Allow analysis of the CONTRACTOR's program for the completion of the Project.

6. Permit schedules to be revised when the existing schedule is not achievable.

7. Log the progress of the Work as it actually occurs.

C. Provide a time scaled horizontal bar chart which indicates graphically the Work scheduled at any time during the Project. The chart is to indicate:

1. Complete sequence of construction by major activity;

2. Identification of the activity by structure, location, and type of Work;

3. Chronological order of the start of each item of Work;

4. The activity start and completion dates;

5. The activity duration;

6. Successor and predecessor relationships for each activity;

7. A clearly indicated single critical path;

D. Provide a Progress Schedule incorporating the Schedule of Submittals provided in accordance with Section 01 33 00 Submittal Procedures:

1. Specific dates each submittal is to be delivered to the OWNER.

2. Specific dates each submittal must be received in order to meet the proposed schedule.

3. Allow a reasonable time to review submittals, taking into consideration the size and complexity of the submittal, other submittals being processed, and other factors that may affect review time.

4. Allow time for re-submission of the each submittal. CONTRACTOR is responsible for delays associated with additional time required to review incomplete or erroneous submittals and for time lost when submittals are submitted for products that do not meet specification requirements.

E. Provide the Progress Schedule to the OWNER in native format:

1. Provide the baseline schedule in native format.

2. Provide schedule updates in native format.

3. Provide schedule updates for schedule revisions in native format.

1.4 INITIAL SCHEDULE SUBMITTALS

A. Where submittals are required hereunder, the CONTRACTOR shall submit 3 copies of each submittal item.

B. The CONTRACTOR shall submit 2 schedule documents at the Preconstruction Conference which serve as the CONTRACTOR's plan of operation for the initial 60 Day

period of the Contract Times and identify the manner in which the CONTRACTOR intends to complete the Work within the Contract Times.

1. 60 Day Plan of Operation: During the initial 60 Days of the Contract Times, the CONTRACTOR shall conduct operations in accordance with a 60 Day bar chart type schedule. The chart so prepared shall show accomplishment of the CONTRACTOR's early activities (mobilization, permit acquisition, submittals necessary for early material and equipment procurement, submittals necessary for survey, etc.)

2. Project Overview Bar Chart: The overview bar chart shall indicate the major components of the Work and the sequence relations between major components and subdivisions of major components. The overview bar chart shall indicate the relationships and time frames in which the various components of the Work will be made substantially complete and placed into service in order to meet the required milestones. Sufficient detail shall be included to subdivide major components in such activities as (1) pipeline installation, (2) paving/restoration, (3) shut downs, (4) connections to existing mains, (5) service conversions, (6) other important Work for each major facility within the overall project scope.

C. The OWNER, ENGINEER and the CONTRACTOR shall meet to review and discuss the 60 Day plan of operation and project overview bar chart at the pre-construction meeting. The ENGINEER's review and comment on the schedules will be limited to conformance with the sequencing and milestone requirements in the Contract Documents. The CONTRACTOR shall make corrections to the schedules necessary to comply with the requirements and shall adjust the schedules to incorporate any missing information requested by the ENGINEER.

1.5 CPM STANDARDS

A. Construction Schedules: Construction schedules shall include a graphic network diagram and computerized schedule reports as required below for status reporting.

B. Construction and procurement activities shall be presented in a time-scaled format with a calendar time line along the entire sheet length. Each activity arrow or node shall be plotted so that the beginning and completion dates of each activity are accurately represented along the calendar time line. Every activity shall use symbols that clearly distinguish between critical path activities, non-critical activities, and free float for each non-critical activity. Activity items shall be identified by their activity number, responsibility code, duration, and dollar value. Non-critical path activities shall show total float time in scale form by utilizing a dotted line or some other graphical means.

C. Duration Estimates: The duration estimate for each activity shall be computed in Days and shall represent the single best estimate considering the scope of the WORK and resources planned for the activity. Except for certain non-labor activities such as curing of concrete or delivery of materials, activity duration shall not exceed 10 Days nor be less than one Day, unless otherwise accepted by the ENGINEER.

1.6 PROJECT STATUS REPORTING

A. The CONTRACTOR shall furnish monthly project status reports (overview bar chart and a written narrative report) in conjunction with the revised CPM schedules as indicated above. Status reporting shall be in the form below.

B. The CONTRACTOR shall prepare and submit monthly an overview bar chart schedule of the major project components. The overview bar chart schedule shall be a summary of the current CPM schedule (original and as updated and adjusted throughout the entire construction period).

C. The CONTRACTOR shall prepare monthly written narrative reports of the status of the project for submission to the ENGINEER. Status reports shall include:

1. The status of major project components (percent complete, amount of time ahead or behind schedule) and an explanation of how the project will be brought back on schedule if delays have occurred.

2. The progress made on critical activities indicated on the CPM schedule.

3. Explanations for any lack of Work on critical path activities planned for the last month.

4. Explanations for any schedule changes, including changes to the logic and to activity durations.

5. A list of the critical activities scheduled to be performed in the next 2 months.

6. The status of major material and equipment procurement.

7. The value of materials and equipment properly stored at the Site but not yet incorporated into the Work.

8. Any delays encountered during the reporting period.

9. An assessment of inclement weather delays and impacts to the progress of the Work.

D. The CONTRACTOR may include any other information pertinent to the status of the Work. The CONTRACTOR shall include additional status information requested by the ENGINEER.

1.7 INCLEMENT WEATHER PROVISIONS OF THE SCHEDULE

A. The CONTRACTOR's schedule shall include at least the number of Days of delay due to unusually severe weather as required by the Supplementary General Conditions.

1.8 CHANGE ORDERS

A. Upon approval of a Change Order or upon receipt by the CONTRACTOR of authorization to proceed with additional Work, the change shall be reflected in the next submittal of the CPM Schedule. The CONTRACTOR shall utilize a sub-network in the schedule depicting the changed Work and its effect on other activities. This sub-network shall be tied to the main network with appropriate logic so that a true analysis of the critical path can be made. Whenever the CONTRACTOR believes that a Change Order will extend the Contract Times, the sub-network analysis herein shall be submitted with the price proposal for the change. If the CONTRACTOR does not submit the sub-network demonstrating that the change affects the Contract Times, then no subsequent claim for additional time due to the change will be accepted.

1.9 LIQUIDATED DAMAGES

A. If any submittal required by this Section is determined by the ENGINEER to be incomplete or is submitted later than required, the OWNER will suffer financial loss, and accordingly, the CONTRACTOR shall pay liquidated damages in accordance with Article 3 of the Agreement.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01 32 36 – VIDEO MONITORING AND DOCUMENTATION

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The CONTRACTOR shall provide the following:

1. Pre-construction video or photographic documentation of the existing conditions of the site.

1.2 RELATED SECTIONS:

A. Section 01 20 00 – Price and Payment Procedures

B. Section 01 11 00 – Summary of Work

C. Section 01 77 00 – Closeout Procedures

1.3 CONTRACTOR SUBMITTALS

A. The CONTRACTOR shall provide a continuous color video record DVD of the entire length of the proposed project prior to construction. The CONTRACTOR shall furnish to the ENGINEER and the OWNER two (2) copies of the recording, which becomes a project record document. The DVD shall contain at least one (1) hour of recorded information.

1.4 SCHEDULING

A. Video recordings shall not be made more than 30 days prior to construction for each phase. No construction shall begin prior to review and approval of the tapes by the ENGINEER and the OWNER. Video records not conforming to the Specifications shall be resubmitted at no additional charge.

1.5 QUALITY ASSURANCE

A. Provide clear photographs and recordings taken with proper exposure. View photographs and recordings in the field and take new photographs or recordings immediately if photos of an adequate print quality cannot be produced or video quality is not adequate. Provide photographs with adequate quality and resolution to permit enlargements.

1.6 PERFORMANCE REQUIREMENTS

A. The finished products shall be a bright, sharp, clear picture free of distortion.

B. The video record shall be of the DVD format, the picture shall be color and compatible with any standard DVD player.

C. DVD's shall be labeled and identified by project title and project number.

D. Provide digital format on DVD that can be played with Windows Media Player in common format in full screen mode without loss of resolution.

E. Identify Project on video by audio or visual means.

F. Provide video with file size that does not exceed 1 GB.

G. Provide video resolution of at least 1080p.

H. Label the DVD with construction stationing. Stationing is to be annotated in the video.

I. Provide a 360- degree view of the Project from a consistent height and angle.

J. Video coverage shall begin at the lowest station number and be continuous until the highest station number is reached.

K. Video format must allow photographic still shots to be extracted from the video recording.

L. Photograph file format shall be TIFF with a minimum original pixel count of 35 million pixels. The image sensor shall be sized at a minimum of 4500 x 3000 pixels smaller files and image sensors shall not be acceptable. A list of equipment, with specifications, capable of producing this image will be submitted upon request. ENGINEER may request a viewing of the image capturing equipment to ensure format size.

M. All photographs, video recordings and a digital copy of this media are to become the property of the OWNER. Photographs or recording may not be used for publication, or public or private display without the written consent of the OWNER.

1.7 VIDEO RECORDING

A. Provide digital format on DVD that can be played with Windows Media Player in common format in full screen mode without loss of resolution.

B. Identify Project on video by audio or visual means.

C. Provide video with file size that does not exceed 1 GB.

D. Provide video resolution of at least 1080p.

E. The quality of the video must be sufficient to determine the existing conditions of the construction area. Camera panning must be performed while at rest; do not pan the camera while walking or driving. Camera pans should be performed at intervals sufficient to clearly view the entire construction area.

F. Label the DVD with construction stationing. Stationing is to be annotated in the video.

G. The entire construction area recording shall be submitted at once. Sections submitted separately will not be accepted.

H. Linear projects should be recorded linearly from beginning to end.

PART 2 -- EXECUTION

A. The video record shall show all surface features located within the construction zone. These features shall include, but not be limited to, roadways, driveways, culverts, walls, fences and landscaping. The CONTRACTOR shall record the condition of all existing facilities in or abutting the construction area (right-of-way, easement, corridor) including streets, curbs, gutters, utilities, driveways, fencing, landscaping, etc. prior to the beginning of construction. Record after construction staking is complete but prior to any clearing.

END OF SECTION

SECTION 01 33 00 – SUBMITTAL PROCEDURES

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Submit to the Owner, shop drawings, project data, samples and miscellaneous work-related submittals required by the Specification Sections. Individual submittal requirements are specified in applicable sections of these Contract Documents.

B. The Owner's review is for general conformance with the design concept and the Contract Documents.

C. Miscellaneous submittals related directly to the Work (non-administrative) include warranties, guarantees, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical records, statements of applicability, quality testing and certifying reports, copies of industry standards, record drawings, overrun stock, and similar information, devices and materials applicable to the Work and not defined as shop drawings, product data or samples.

D. Within 14 Days after the date of commencement as stated in the Notice to Proceed, submit the following items for review:

1. Submittal Schedule

   a. Submit a preliminary schedule of Shop Drawings, Samples, and proposed Substitutes ("or equal") submittals listed in the Bid.

   b. Base the schedule of submittals on CONTRACTOR's priority, planned construction sequence and schedule, long-lead items, and size of submittal package.

   c. Allow time for resubmittals.

2. Submit a list of permits and licenses the CONTRACTOR shall obtain, indicating the agency required to grant the permit and the expected date of submittal for the permit and required date for receipt of the permit.

E. Related Sections:

1. Section 01 31 13 – Project Coordination

2. Section 01 45 00 – Quality Control

3. Section 01 77 00 – Closeout Procedures

4. Section 01 78 23 – Operation and Maintenance Data

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Section 01 11 00 – Summary of Work

B. Section 01 29 73 – Schedule of Values

C. Section 01 32 16 – Construction Progress Schedule

D. Section 01 33 23 – Shop Drawings, Product Data, and Samples

E. Section 01 52 00 – Construction Facilities

F. Section 01 60 00 – Products Requirements

G. Palm Beach County Water Utility District (PBCWUD) – Engineering Services Division – Approved Materials List (Latest Revision).

H. Florida Department of Transportation (FDOT) – Standard Specifications for Road and Bridge Construction

1.3 PRECONSTRUCTION CONFERENCE SUBMITTALS

A. At the preconstruction conference per Section 01 31 13 – Project Coordination, submit the following items to the ENGINEER for review:

1. CONTRACTOR's organizational chart as it relates to this Project;

2. List of Subcontractors and Suppliers;

3. CONTRACTOR's safety program, including the designated safety representative, requirement for personal protective equipment and safety protocols;

4. A 30-Day plan of operation and a project overview bar chart in accordance with Section 01 32 16 – Construction Progress Schedule;

5. Status of building permits and crossing permits and a list of permits and licenses the CONTRACTOR shall obtain, indicating the agency required to grant the permit, the expected date of submittal for the permit, and required date for receipt of the permit;

6. Requirements for surveying or establishing controls;

7. Status of Storm Water Pollution Prevention Plans, if required;

8. Preliminary submittal schedule per Section 01 33 00 – Submittal Procedures;

9. Preliminary Schedule of Values and anticipated schedule of payments per Section 01 20 00 – Price and Payment Procedures;

10. Letter indicating the agents of authority for the CONTRACTOR and the limit of that authority with respect to the execution of legal documents, contract modifications and payment requests, if required

11. Major equipment deliveries and priorities;

12. Locations, site access and related facilities of the field office required under Section 01 52 00 – Construction Facilities

1.4 CONTRACTOR'S RESPONSIBILITIES

A. Review documents, shop drawings, product data and samples prior to submission. Make certifications as required by the Contract Documents and as indicated on OWNER provided forms.

B. Determine and verify:

1. Field measurements.

2. Field construction criteria.

3. Catalog numbers and similar data.

4. Conformance with the Specifications.

C. Coordinate each submittal with requirements of the Work and of the Contract Documents.

D. Notify the Owner in writing, at the time of submission, of any deviations in the submittals from the requirements of the Contract Documents.

E. Begin no fabrication or work requiring approved submittals until return of submittals by the Owner.

F. Provide a Schedule of Submittals to list the documents that are to be submitted, the dates on which submittals are to be sent to the OWNER for review and proposed dates that submittals must be returned to comply with the project schedule. Use the form provided by the OWNER for this list.

G. Incorporate the dates for processing submittals into the Progress Schedule required by Section 01 32 16 – Construction Progress Schedule.

1. Provide submittals in accordance with the schedule so construction of the Project is not delayed.

2. Allow a reasonable time for the review of submittals when preparing the Progress Schedule. Assume a 14 day review cycle for each submittal unless a longer period of time is indicated in the Contract Documents or agreed to by OWNER and CONTRACTOR.

3. Schedule submittal to provide all information for interrelated Work at one time.

4. Allow adequate time for processing submittals so construction of the Project is not delayed.

1.5 SHOP DRAWINGS

A. Wherever called for in the Contract Documents or where required by the OWNER, furnish four copies of Shop Drawings or where required by the CONTRACTOR, furnish three copies of Shop Drawings.

B. Shop Drawings may include detail design calculations, shop-prepared drawings, fabrication and installation drawings, erection drawings, lists, graphs, catalog sheets, data sheets, and similar items.

C. Whenever the CONTRACTOR is required to submit design calculations as part of a submittal, such calculations shall bear the signature and seal of an ENGINEER registered in Florida and in the appropriate branch, unless otherwise indicated.

D. Drawings shall be presented in a clear and thorough manner.

1. Details shall be identified by reference to sheet and detail and schedule as shown on the Contract Documents.

E. Designate in the construction schedule, or in a separate coordinating schedule, the dates for submission and the dates that reviewed shop drawings, product data and samples are needed.

F. Transmittal Form

1. Shop Drawing submittals shall be accompanied by the ENGINEER's standard submittal transmittal form, a reproducible copy of which is available from the ENGINEER.

2. A submittal without the form, or where applicable items on the form have not been completed, will be returned for resubmittal.

G. Organization

1. Use a single submittal transmittal form for each technical specification Section or item or class of material or equipment for which a submittal is required.

2. A single submittal covering multiple Sections will not be accepted, unless the primary specification references other Sections for components: For example, if a pump Section references other Sections for the motor, shop-applied protective coating, anchor bolts, local control panel, and variable frequency drive, a single submittal would be accepted, whereas a single submittal covering vertical turbine pumps and horizontal split-case pumps would not be accepted.

3. On the transmittal form, index the components of the submittal and insert tabs in the submittal to match the components.

4. Relate the submittal components to specification paragraph and subparagraph, Drawing number, detail number, schedule title, room number, or building name, as applicable.

5. Unless otherwise indicated, match terminology and equipment names and numbers used in the submittals with those used in the Contract Documents.

H. Format

1. Minimum sheet size shall be 8-1/2 inches by 11 inches, and maximum sheet size shall be 24 inches by 36 inches.

2. Number every page in a submittal in sequence.

3. Collate and staple or bind, as appropriate, each copy of a submittal; the ENGINEER will not collate sheets or copies.

4. Where product data from a manufacturer is submitted, clearly mark which model is proposed, with complete pertinent data capacities, dimensions, clearances, diagrams, controls, connections, anchorage, and supports.

5. Present a sufficient level of detail for assessment of compliance with the Contract Documents.

6. Numbering

   a. Assign to each submittal a unique number.

   b. Number the submittals sequentially, with the submittal numbers clearly noted on the transmittal.

   c. Assign original submittals a numeric submittal number followed by a letter of the alphabet in order to distinguish between the original submittal and each resubmittal: For example, if submittal "25-A" requires a resubmittal, the first resubmittal will bear the designation "25-B" and the second resubmittal will bear the designation "25-C," and so on.

I. Disorganized submittals that do not meet the requirements of the Contract Documents will be returned without review.

J. ENGINEER's Review

1. Except as otherwise indicated, the ENGINEER will return prints of each submittal to the CONTRACTOR with comments noted thereon, within 15 Days following receipt by the ENGINEER.

2. It is considered reasonable that the CONTRACTOR shall make a complete and acceptable submittal to the ENGINEER by the first resubmittal on an item.

3. The OWNER reserves the right to withhold monies due to the CONTRACTOR to cover additional costs of the ENGINEER's review beyond the first resubmittal.

4. The ENGINEER'S maximum review period for each submittal or resubmittal will be 30 Days; thus, for a submittal that requires 2 resubmittals before it is complete, the maximum review period could be 60 Days.

K. If a submittal is returned to the CONTRACTOR marked "NO EXCEPTIONS TAKEN," formal revision and resubmission will not be required.

L. If a submittal is returned marked "MAKE CORRECTIONS NOTED," the CONTRACTOR shall make the corrections on the submittal, but formal revision and resubmission will not be required.

M. Resubmittals

1. If a submittal is returned marked "AMEND-RESUBMIT," the CONTRACTOR shall revise the submittal and resubmit the required number of copies.

2. Resubmittal of portions of multi-page or multi-drawing submittals will not be accepted: For example, if a Shop Drawing submittal consisting of 10 drawings contains one drawing noted as "AMEND-RESUBMIT," the submittal as a whole is deemed "AMEND-RESUBMIT," and 10 drawings are required to be resubmitted.

3. Every change from a submittal to a resubmittal or from a resubmittal to a subsequent resubmittal shall be identified and flagged on the resubmittal.

4. Make any corrections or changes in the submittals noted by the Owner or the Engineer and resubmit unless otherwise noted.

5. Shop Drawings, Project Data and Product Data:

   a. Revise initial drawings or data, and resubmit as specified for the initial submittal.

   b. Indicate any changes which are made other than those requested by the Engineer.

6. The Owner will review one (1) re-submittal for each shop drawing or product data. All costs of reviewing additional re-submittals shall be at the Contractor's expense and shall be reflected in the final Change Order.

7. Samples: Submit new samples as required for initial submittal.

N. Rejected Submittals

1. If a submittal is returned marked "REJECTED-RESUBMIT," it shall mean either that the proposed material or product does not satisfy the specification, the submittal is so incomplete that it cannot be reviewed, or is a substitution request not submitted in accordance with Section 01 25 13 – Product Substitution Procedures.

2. In the first 2 cases, the CONTRACTOR shall prepare a new submittal and shall submit the required number of copies.

3. In the latter case, the CONTRACTOR shall submit the substitution request according to the requirements of Section 01 25 13 – Product Substitution Procedures.

4. The resubmittal of rejected portions of a previous submittal will not be accepted.

O. The fabrication of an item may commence only after the ENGINEER has reviewed the pertinent submittals and returned copies to the CONTRACTOR marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED."

P. Corrections indicated on submittals shall be considered as changes necessary to meet the requirements of the Contract Documents and shall not be taken as changes to the contract requirements.

Q. Review by CONTRACTOR

1. Submittals shall be carefully reviewed by an authorized representative of the CONTRACTOR prior to submission to the ENGINEER.

2. Each submittal shall be dated and signed by the CONTRACTOR as being correct and in strict conformance with the Contract Documents.

3. In the case of Shop Drawings, each sheet shall be so dated and signed.

4. Any deviations from the Contract Documents shall be noted on the transmittal sheet.

5. The ENGINEER will only review submittals that have been so verified by the CONTRACTOR.

6. Non-verified submittals will be returned to the CONTRACTOR without action taken by the ENGINEER, and any delays caused thereby shall be the total responsibility of the CONTRACTOR.

R. Conformance

1. Corrections or comments made on the CONTRACTOR's Shop Drawings during review shall not relieve the CONTRACTOR from compliance with Contract Drawings and Specifications.

2. A lack of comments made on the CONTRACTOR's Shop Drawings during review shall not relieve the CONTRACTOR from compliance with Contract Drawings and Specifications.

3. Review is for conformance to the design concept and general compliance with the Contract Documents only.

4. The CONTRACTOR shall be responsible for confirming and correlating quantities and dimensions, fabrication processes and techniques, coordinating WORK with the trades, and satisfactory and safe performance of the WORK.

S. Selection

1. Unless otherwise indicated, the ENGINEER will select colors and textures from the manufacturer's standard colors and standard materials, products, or equipment lines.

1.6 WARRANTIES

A. Refer to individual sections of these Specifications for specific general requirements on the submittal of warranties, guarantees, product/workmanship bonds, and maintenance agreements which are uniquely prepared and executed for the project.

1.7 AS-BUILT DRAWINGS

A. On-Site Drawings Set

1. Maintain one set of Drawings at the Site for the preparation of as-built drawings. Label each document "PROJECT RECORD" in neat large printed letters.

2. On this set, mark every project condition, location, configuration, and any other change or deviation which may differ from the Contract Drawings at the time of award, including buried or concealed construction and utility features that are revealed during the course of construction.

3. Give special attention to recording the horizontal and vertical location of buried utilities that differ from the locations indicated, or that were not indicated on the Contract Drawings.

4. Supplement the as-built drawings by any detailed sketches as necessary or as directed, in order to fully indicate the WORK as actually constructed.

5. The as-built drawings are the CONTRACTOR's representation of as-built conditions, shall include revisions made by addenda and change orders, and shall be maintained up-to-date during the progress of the WORK.

6. Use red ink for alterations and notes.

7. Notes shall identify relevant Change Orders by number and date.

B. Submittal

1. Submit paper copies of the as-built drawings on the 20th Day of every third month after the month in which the Notice to Proceed is given, as well as at completion of the WORK.

2. Failure to submit complete as-built drawings on or before the 20th Day will enact the liquidated damages clause for interim record drawing submittals described in Article 3 of the Agreement.

C. Unacceptable Drawings

1. Disorganized or incomplete as-built drawings will not be accepted.

2. The CONTRACTOR shall revise them and resubmit within 10 Days.

D. In the case of those drawings that depict the detail requirement for equipment to be assembled and wired in the factory, such as motor control centers and the like, update the as-built drawings by indicating those portions which are superseded by Change Order drawings or final Shop Drawings, and by including appropriate reference information describing the Change Orders by number and the Shop Drawings by manufacturer, drawing, and revision numbers

E. As-built drawings shall be accessible to the ENGINEER during the construction period.

1.8 RECORD DRAWINGS

A. Final payment will not be acted upon until the record drawings have been completed and delivered to the ENGINEER.

B. Upon substantial completion of the WORK and prior to final acceptance, the CONTRACTOR shall finalize and deliver a complete set of record drawings to the ENGINEER for transmittal to the OWNER, conforming to the construction records of the CONTRACTOR. This set of drawings shall consist of corrected drawings showing the reported location of the WORK. The information submitted by the CONTRACTOR and incorporated by the ENGINEER into the Record Drawings will be assumed to be correct, and the CONTRACTOR shall be responsible for the accuracy of such information, and shall bear the costs resulting from the correction of incorrect data furnished to the ENGINEER and the OWNER.

C. Legibly mark drawings to record actual construction

1. Provide horizontal location of pipes any time the pipe passes a permanent surface reference point. Permanent reference points are as defined herein. Any deviations from the alignment shown on the Contract Drawings must be noted.

2. Provide vertical locations at 100-foot intervals. Vertical location will be depth of cover or pipe elevation, whichever is called for on the drawings.

3. All fittings, including sleeves, valves, and services are to be located by two measurements to permanent surface reference points.

4. Permanent surface reference points are manholes, catch basins, power poles, concrete sidewalk, or concrete curbs. Edge of pavement and road intersections may not be used without the ENGINEER's approval.

5. Field changes of dimension and detail.

D. Legibly mark each Section of the Specifications and Addenda to record:

1. Manufacturer, trade name, catalog number, and supplier of each item actually installed.

2. Changes made by Field Order, Change Order, or Work Directive.

E. Record drawings for **pipelines** shall address the following:

1. The as-built data on submitted plan sheets (line work, numerical data) must be easily legible, accurate and comply with PBCWUD standards (increase the font size and/or use different font style to improve legibility). Separate water and wastewater as-built plans may be required for projects with a high density of data and/or poor legibility.

2. The Contract Drawings shall be used for as-built presentation.

3. Identify street names, addresses, subdivision, homeowner's association contact for each well site.

4. Existing utility easements shall be identified on record drawings with ORB/Page, Plat Book/Page.

5. Complete title block with current file name (including f/k/a, a/k/a, plat name, etc.). Label drawings "Record Drawings" or "as-builts" and show appropriate entries in the revision block.

6. New main valves must be numbered on the appropriate plan sheets.

7. Horizontal as-built data (stations, offsets, distances between fittings, manholes, pull boxes) are to be rounded off to the nearest foot. Elevation data shall be shown to the hundredth of a foot (top of manhole, inverts), or to the tenth of foot for top of pipe elevations. Slopes shall be rounded off to the nearest one-ten thousandth.

8. As-built data must include stations and offsets and top of pipe elevations for all fittings, valves, hydrants, pipe conflicts, and pipe at 100-foot intervals. Horizontal pipe separation at 100-foot intervals is required for parallel piping systems. Show restrained pipe joints. For "wet tap" or "cut-in" connections into existing system, a distance from the point of connection to an existing in-line valve is required.

9. Completed equipment information, OWNER equipment data sheets included in Attachment A to this Specification Section, and all data lists must be submitted as part of the record drawing review.

10. Completed operation and maintenance manuals must be submitted with final record drawings.

11. A final survey as prepared and sealed by a Professional Land Surveyor registered in the State of Florida. Survey results shall include the longitude and latitude of each new well site, vertical elevation of the top of the outer casing, top of well pad elevation, top and bottom elevations of all well vaults, finished grade elevation, and the centerline elevation of the wellhead piping.

12. The CONTRACTOR shall submit record as-built information for each new well and each existing well modified under the Contract. Information to be provided shall include but not be limited to the following: depth and size of each casing, total depth of well casing, total depth of well, screened interval for well, pump set depth, set depth of level transmitter, total number of hours for air development and pumping development, materials of construction, capacity of well, sand content from final well, and silt density index from final well.

F. Computer generated as-built drawings shall be submitted. Data in tabular form will not be accepted. Initially two (2) signed and sealed paper prints are to be submitted for review. Following review by the ENGINEER and OWNER, any comments are to be addressed. On final submission, the following items shall be provided:

1. All proposed data must be crossed out and the computer generated as-built data must be easy to be identified as such, using different font (larger size, thickness, pitch, etc.). Record data identifiers must be added to the legend and shown on each plan/profile sheet.

2. Manufacturers of equipment including but not limited to valves, hydrants, pumps, motors, control panels, backflow preventors, generators, engines, and meters shall be listed on at least one page of the record drawings.

   a. List of manholes, valves, and hydrants on forms and CD/DVD, as specified by the OWNER. The listing shall match the data shown on record drawings. Sample forms to be completed by the CONTRACTOR are included in Attachment A to this Specification Section.

   b. Data on CD/DVD shall be in Microsoft Excel format.

3. The electronic drawing files must be AutoCAD format or compatible (DWG file or DXF file) submitted on compact disc or DVD (CD/DVD). All fonts and line types shall be from the standard AutoCAD library or be AutoCAD compatible. Reference files and blocks are to be bound to drawings prior to submittal. Layers and drawings created by turning on and off layers are to be documented and submitted in MS Word or ASCII format. As a minimum requirement, electronic files must include all features that were shown on the Contract Drawings.

G. Information submitted by the CONTRACTOR will be assumed to be correct, and the CONTRACTOR shall be responsible for the accuracy of such information.

1.9 QUALITY CONTROL (QC) SUBMITTALS

A. Quality control submittals are defined as those required by the Specifications to present documentary evidence to the ENGINEER that the CONTRACTOR has satisfied certain requirements of the Contract Documents.

B. Unless otherwise indicated, QC submittals shall be submitted:

1. Before delivery and unloading, for the following types of submittals:

   a. Manufacturers' installation instructions

b. Manufacturers' and Installers' experience qualifications

c. Ready mix concrete delivery tickets

d. Design calculations

e. Affidavits and manufacturers' certification of compliance with indicated product requirements

f. Laboratory analysis results

g. Factory test reports

2. Within 30 Days of the event documented for the following types of submittals:

a. Manufacturers' field representative certification of proper installation

b. Field measurement

c. Field test reports

d. Receipt of permit

e. Receipt of regulatory approval

C. The ENGINEER will record the date that a QC submittal was received and review it for compliance with submittal requirements, but the review procedures above for Shop Drawings and samples will not apply.

1.10 INFORMATIONAL SUBMITTALS

A. Informational submittals formalize the flow of information between the CONTRACTOR and the ENGINEER.

B. Paper and/or electronic forms, if applicable, shall be obtained from the ENGINEER for such purpose.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01 35 13 – SPECIAL PROJECT PROCEDURES

PART 1 -- GENERAL

1.1 SERVICES OF MANUFACTURERS' FIELD SERVICE TECHNICIAN

A. After installation of the equipment has been completed and the equipment is presumably ready for operation, but before it is operated by others, the MANUFACTURER's field service technician shall inspect, operate, test, and adjust the equipment. The inspection shall include at least the following points where applicable:

1. Soundness (without cracked or otherwise damaged parts).

2. Completeness in all details, as specified and required.

3. Correctness of setting, alignment, and relative arrangement of various parts.

4. Adequacy and correctness of packing, sealing, and leak proof.

B. The operation, testing, and adjustment shall be as required to prove that the equipment has been left in proper condition for satisfactory operation under the conditions specified.

C. Upon completion of the work, the MANUFACTURER's field service technician shall submit to the ENGINEER a complete, signed report of the results of his inspection, adjustments, and tests. The report shall include detailed descriptions of the points inspected, tests and adjustments made, quantitative results obtained if such are specified, and suggestions for precautions to be taken to ensure proper maintenance.

D. A certificate from the MANUFACTURER stating that the installation of the equipment is satisfactory, that the unit has been satisfactorily tested, and is ready for operation, shall be submitted before final acceptance. The certificate shall indicate date and time inspection was given and names of operating personnel in attendance.

1.2 OPERATING AND MAINTENANCE DATA

A. Operating and maintenance data covering all equipment furnished under these specifications shall be delivered directly to the ENGINEER. Data shall be prepared and submitted in full.

1.3 INSTALLATION OF EQUIPMENT

A. Special care shall be taken to ensure proper alignment of all equipment. The units shall be carefully aligned on their foundations after their sole plates have been shimmed to true alignment. The CONTRACTOR shall be responsible for the exact alignment of equipment with associated piping, and under no circumstances, will pipe deformation be allowed.

B. All wedges, shims, filling pieces, keys, packing, red on white lead grout, or other materials necessary to properly align, level, and secure all equipment in place shall be furnished by the CONTRACTOR. All parts intended to be plumb or level must be proven

exactly so. Any work necessary to bring parts to proper bearing after erection shall be done at the expense of the CONTRACTOR.

1.4 SLEEVES AND OPENINGS

A. The CONTRACTOR shall provide all openings, channels, chases, etc., and install anchor bolts and other items to be embedded in concrete, as required to complete the work under this contract together with all cutting and patching.

B. The CONTRACTOR shall provide all sleeves, inserts, hangers, anchor bolts, etc. of the proper size and material for the execution of the work. The CONTRACTOR shall be responsible for any corrective cutting and refinishing required to make the necessary openings, chases, etc. In no case shall beams, lintels, or other structural members be cut without the written approval of the ENGINEER.

1.5 RELOCATIONS

A. The CONTRACTOR shall be responsible for the relocation of structures, including but not limited to light poles, signs, sign poles, fences, piping, conduits and drains that interfere with the positioning of the Work as set out on the DRAWINGS. The cost of all such relocations shall be included in the bid for the project and shall not result in any additional cost to the OWNER.

1.6 OBSTRUCTIONS

A. The attention of the CONTRACTOR is drawn to the fact that during excavation at the project site, the possibility exists of the CONTRACTOR encountering various water, chemical, electrical, or other lines not shown on the Drawings. The CONTRACTOR shall exercise extreme care before and during excavation to locate and flag these lines so as to avoid damage to the existing lines. Should damage occur to an existing line, the CONTRACTOR shall repair the line at no cost to the OWNER.

B. It is the responsibility of the CONTRACTOR to ensure that all utility or other poles, the stability of which may be endangered by the close proximity of excavation, are temporarily stayed in position while work proceeds in the vicinity of the pole and that the utility or other companies concerned be given reasonable advance notice of any such excavation by the CONTRACTOR.

1.7 ARCHITECTURAL COATINGS

A. Maintain coordination among all Sections requiring PVC and PVF coatings. All coatings shall match to the satisfaction of the ENGINEER with regard to color and texture. Items rejected by the ENGINEER shall promptly be removed from the job site.

1.8 VALVE INDICES

A. The CONTRACTOR shall be responsible for furnishing tags for all valves required on the work, and installing the tags. The CONTRACTOR shall submit to the ENGINEER for approval before start-up, a valve schedule containing all valves required for his work. The schedule shall contain for each valve, the location, type, a number, words to identify the valve's function and the normal operating positions. Tags shall be furnished with

noncorrosive metal wire for attachment thereof. The tag shall not be attached to handwheel or crank operators or any part of the valve which would inhibit operation of the valve.

1.9 UTILITY CROSSINGS

A. It is intended that wherever existing utilities such as water, chemical, electrical or other service lines must be crossed, deflection of the pipe within recommended limits and cover shall be used to satisfactorily clear the obstruction unless otherwise indicated on the Drawings. However, when in the opinion of the OWNER or ENGINEER this procedure is not feasible he may direct the use of fittings for a utility crossing.

1.10 EXISTING UTILITY PROTECTION

A. Existing utilities are shown in their approximate locations. It shall be the CONTRACTOR's responsibility to locate and protect all utilities whether shown on Drawings or not.

B. It shall be the CONTRACTOR's responsibility to contact utility companies 48 hours before starting construction so maintenance personnel can locate and protect facilities, if required by the utility company.

1.11 WARRANTIES

A. All equipment supplied under these Specifications shall be warranted by the CONTRACTOR and the equipment MANUFACTURERS for a period of one (1) year unless other warranty requirements are specified herein. Warranty period shall commence on the date of OWNER acceptance.

B. The equipment shall be warranted to be free from defects in workmanship, design and materials. If any part of the equipment should fail during the warranty period, it shall be replaced and the unit(s) restored to service at no expense to the OWNER.

C. The MANUFACTURER'S warranty period shall run concurrently with the CONTRACTOR's warranty or guarantee period. No exception to this provision shall be allowed. The CONTRACTOR shall be responsible for obtaining equipment warranties from each of the respective suppliers or MANUFACTURERS for all equipment specified under these specifications.

D. In the event that the MANUFACTURER is willing to provide a one (1) year warranty commencing at the time of OWNER acceptance, the CONTRACTOR shall obtain from the MANUFACTURER a two (2) year warranty starting at the time of equipment delivery to the job site. This two year warranty shall not relieve the CONTRACTOR of the one-year warranty starting the time of OWNER acceptance of the equipment.

1.12 FINAL GUARANTEE

A. All work shall be guaranteed by the CONTRACTOR for a period of one year from and after the date of acceptance of the work by the OWNER.

B. If within the guarantee period, repairs or changes are required in connection with guaranteed work, which, in the opinion of the ENGINEER, is rendered necessary as the result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the Contract, the CONTRACTOR shall, promptly upon receipt of notice from the OWNER and without expense to the OWNER do the following:

1. Place in satisfactory condition in every particular all of such guaranteed work and correct all defects therein.

2. Make good all damage to the building or site, or equipment or contents thereof, which, in the opinion of the ENGINEER, is the result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the Contract.

3. Make good any work or material, or the equipment and contents of building, structure of site disturbed in fulfilling any such guarantee.

C. If the CONTRACTOR, after notice, fails within ten days to proceed to comply with the terms of this guarantee, the OWNER may have the defects corrected, and the CONTRACTOR and his surety shall be liable for all expense incurred, provided, however, that in case of an emergency where, in the opinion of the OWNER, delay would cause loss or damage, repairs may be started without notice being given to the CONTRACTOR and the CONTRACTOR shall pay the cost thereof.

D. All special guarantees or warranties applicable to specific parts of the work as may be stipulated in the Contract specification or other papers forming a part of this Contract shall be subject to the terms of this paragraph during the first year of life of each such guarantee. All special guarantees and MANUFACTURERS' warranties shall be assembled by the CONTRACTOR and delivered to the ENGINEER, along with a summary list thereof, before the acceptance of the Work.

1.13 HURRICANE PREPAREDNESS PLAN

A. In the event of inclement weather, or whenever ENGINEER shall direct; CONTRACTOR will protect carefully the Work and materials against damage or injury from the weather. If, in the opinion of the ENGINEER, any portion of Work or materials shall have been damaged or injured by reason of failure on the part of CONTRACTOR to so protect the Work, such Work and materials shall be removed and replaced at the expense of CONTRACTOR.

1.14 SALVAGE

A. Any existing equipment or material, including but not limited to, valves, pipes, fittings, couplings, etc., which is removed or replaced as a result of construction under this project may be designated as salvage by the ENGINEER or OWNER and if so shall be cleaned and stored on or adjacent to the site in a protected place specified by the ENGINEER or loaded onto trucks provided by the OWNER. Any equipment or material not worthy of salvaging, as directed by the OWNER, shall be disposed of by the CONTRACTOR at a suitable location.

1.15 ARCHEOLOGICAL FINDS

A. Notwithstanding anything to the contrary herein, in the event any archeological artifacts within the project are discovered during the course of the work, the OWNER shall have and retain all right, title, and interest to such artifacts and shall have the further right, during the course of Contract, to examine or cause to have examined, the site of the work for any such artifacts and to perform or have performed archeological excavations and all other related work to explore for, discover, recover, and remove such artifacts from the site of work. In the event the work or archeological examination and related work delays the CONTRACTOR's work, he shall be entitled to an extension of time to complete the work equal to the number of days he is delayed.

1.16 EQUIPMENT DATA LIST

A. Obtain, prepare, and submit a complete, detailed listing equipment for all electrical items furnished under this Contract. This listing shall be submitted on Equipment Data Sheets.

1.17 PROTECTION AGAINST ELECTROLYSIS

A. Where dissimilar metals are used in conjunction with each other, suitable insulation shall be provided between adjoining surfaces so as to eliminate direct contact and any resulting electrolysis. The insulating material shall be bituminous impregnated felt, heavy bituminous coating, nonmetallic separators or washers, or other approved materials.

1.18 DAMAGE ON ACCOUNT OF HIGH WATER

A. CONTRACTOR will hold himself responsible for all damage due to his work by heavy rains or floods and he shall take all reasonable precautions to provide against damages by building such temporary dikes, channels, or shoring to carry off storm water as the nature of the work may require.

1.19 TOOLS

A. Any special tools (including grease guns or other lubricating devices) which may be necessary for the adjustment, operation, and maintenance of any equipment shall be furnished with the respective equipment.

1.20 EMERGENCY PHONE NUMBERS AND ACCIDENT REPORTS

A. Emergency phone numbers (fire, medical, police) shall be posted at the CONTRACTOR'S phone and its locations known to all.

B. Accidents shall be reported immediately to the ENGINEER by messenger or phone.

C. All accidents shall be documented and a fully detailed written report submitted to the Engineer after each accident.

1.21 SITE RESTORATION

A. The CONTRACTOR shall remove all excess material and shall clean up and restore the site to its original condition or better. All damage, as a result of work under this Contract,

done to existing structures, pavement, driveways, paved areas, curbs and gutters, sidewalks, shrubbery, grass, trees, utility poles, utility pipelines, conduits, drains, catch basins, flagstones, rocked, graveled or stabilized areas or driveways and including all obstructions not specifically named herein, shall be repaired.

1.22 WATER TIGHTNESS

A. Special precautions shall be taken in the curing of concrete to reduce concrete cracking as called for in Section 03 00 00 - Concrete. Each water or diesel fuel retaining structure (those which are intended to hold liquid) shall be filled and tested for leaks by the CONTRACTOR with clean water prior to surface coating. Procedure and manner in which any leaks are repaired must meet the approval of the ENGINEER.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01 35 29 – HEALTH, SAFETY, AND EMERGENCY RESPONSE PROCEDURES

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The work of this Section includes preparation and implementation of the CONTRACTOR's safety provisions for the WORK.

1.2 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. CONTRACTOR shall comply with all applicable federal, state and local safety regulations, laws and standards, as well as any specific Palm Beach County or OWNERS requirements.

1.3 CONTRACTOR SUBMITTALS

A. Furnish Submittals in accordance with Section 01 33 00 – Submittal Procedures.

1. Submit fifteen (15) days prior to the start of any field work:

a. Copy of the CONTRACTOR'S Project Specific Safety Program;

b. Copy of the CONTRACTOR'S Emergency Response Plan including a description of any prior arrangements made with local authorities or emergency service providers (fire, police, ambulance) to be implemented in the event of an emergency;

c. Copy of the CONTRACTOR'S Confined Space Entry Program, if applicable to the WORK;

d. The names and job positions of the CONTRACTOR Safety Coordinator(s) qualifications and experience. Include a description of the Safety Coordinator's education, safety and first aid training, safety related certifications, if any, and experience with the specific hazards anticipated with implementation of the WORK (for example, confined space entry, trenching and excavation, tunnel and underground construction).

B. Submit, for information only, reports by the Safety Coordinator; and copies of accident reports, Occupational Safety and Health Administration (OSHA) citations, and accident claims; and any other information as specified herein.

C. Emergency Response Plan

1. Prepare an Emergency Response Plan to be implemented in the event of a serious injury or general emergency (such as fire, explosion, collapse), to ensure a rapid, coordinated, and effective response. The CONTRACTOR shall be solely responsible for implementation of the Plan.

2. The Emergency Response Plan shall:

   a. Identify key personnel, and define their roles and responsibilities;

   b. List telephone numbers for key personnel;

   c. Identify the emergency response and communication protocol;

   d. Establish lines of communication between the incident location and the safety coordinator and key personnel;

   e. Identify internal and external support services to be called upon in the event of an emergency (rescue team, fire, police, ambulance, poison control);

   f. Provide a plan of action to speed the transfer of injured persons from working areas and to ensure that ambulances can reach access points quickly;

   g. Define procedures for emergency evacuation for ensuring that injured persons are not left behind or unaccounted for;

   h. Provide immediate notification of the OWNER in the event of an emergency.

D. Public Safety

1. Install and maintain trench safety systems in accordance with the detail specifications set out in the provision of the OSHA Excavations Standard, 29 CFR 1926, Subpart P, (current edition).

2. Maintain railings, barricades, steel plates, or other barriers at openings, obstructions, or other hazards in roadways, walkways, and other travel ways accessible to the public. Place flashing lights and proper signs as necessary to provide adequate warning to the public day and night.

3. Maintain secure fencing around worksites, trenches, excavations, hazardous materials, equipment, or materials stockpiles to prevent unauthorized entry.

E. Safety Coordinator

1. The CONTRACTOR shall designate a safety coordinator qualified in areas of safety related to the WORK under this Contract, having a minimum of two years of construction experience. Such person(s) shall report directly to a corporate officer and shall be regularly at the worksite and authorized to enforce compliance with the CONTRACTOR's safety program.

2. The Safety Coordinator or a qualified and approved designee shall be on site at all times.

3. The Safety Coordinator and their designee shall be familiar with corporate safety policy, management operational instructions, regulations, legislation, OWNER safety

requirements, OSHA requirements and current best management practices and how these relate to site safety.

4. The Safety Coordinator shall be capable of identifying the existing and predictable hazards in the areas surrounding the project or those working conditions at the project that are dangerous to employees or the public or are unsanitary. The Safety Coordinator shall have the authority and shall make prompt corrective measures to eliminate those hazards.

5. The Safety Coordinator's duties shall include:

   a. Hazard recognition, accident prevention, new employee orientation (including subcontractors), and supervising a safety program;

   b. Posting appropriate notices regarding safety and health regulations at locations that afford maximum exposure to affected personnel, and posting appropriate instructions and warning signs with regard to hazardous areas or conditions;

   c. Maintaining safety records and current copies of all pertinent safety rules and regulations.

   d. Conducting daily safety inspections of the WORK.

6. The Safety Coordinator shall submit a safety report to the OWNER for any of the following:

   a. Site visits by OSHA and other regulatory enforcement agencies;

   b. Records of accidents and near-misses;

   c. Status of any citations recieved;

   d. Log of equipment safety checks and calibration records;

F. Notifications to OWNER

1. Notify the OWNER immediately, by telephone or email, of any serious injury or damage, or of any emergency threatening life, limb, or property, resulting from the WORK.

2. Provide a preliminary accident report to the OWNER, in writing, describing any accident involving injury to persons or damage to the WORK or property, within 24 hours of the event.

3. Follow any preliminary accident report with a summary accident report to the OWNER, in writing, describing known details of the accident, and corrective actions to be taken to reduce the possibility of recurrence, to be submitted within two (2) weeks of the event.

4. Submit to the OWNER, within two (2) days of receipt, a copy of any citations concerning safety aspects of the project received from OSHA or any other regulatory enforcement agency.

5. Submit to the OWNER, within two (2) days of receipt, a report of any claim against the CONTRACTOR or Subcontractor resulting from an accident, giving full details of the claim, including investigation and restitution.

1.4 PERFORMANCE REQUIREMENTS

A. Safety requirements of the Contract Documents represent the minimum measures for performance of the WORK. The CONTRACTOR shall implement additional safety measures as necessary to protect persons and property from injury that may result from construction operations or from the passage or encroachment of the general public through the work zones.

B. The CONTRACTOR's obligations to ensure safety under this Contract shall be executed in such a manner that they are understood and carried out by all, including non-English speaking, employees.

C. Compliance with health and safety requirements shall be the responsibility of the CONTRACTOR's managers and work force at every level.

D. The OWNER may bring to the CONTRACTOR's attention any apparent deficiencies in their compliance with the CONTRACTOR's safety program. These deficiencies shall be corrected within 24 hours of notice. A report describing the deficiency and corrective action taken by the CONTRACTOR shall be submitted within 48 hours.

E. The OWNER's review of submittals required under this Section are for the purpose of determining general conformance with Contract requirements, and shall not be construed to alter the CONTRACTOR's responsibility for safety. The contents and adequacy of the safety program and procedures are solely the CONTRACTOR'S responsibility.

PART 2 -- GENERAL (NOT USED)

PART 3 -- GENERAL (NOT USED)

- END OF SECTION -

SECTION 01 35 53 – SECURITY PROCEDURES

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Section includes requirements for securing the site and access procedures.

1.2 CONTRACTOR SUBMITTALS

A. Contractor to submit a security plan including access requirements for the site. If a security service is engaged, provide qualifications and contact information, if required.

1.3 PERFORMANCE REQUIREMENTS

A. SECURITY PROGRAM

1. The CONTRACTOR shall:

a. Protect WORK, existing premises, and OWNER'S operations from theft, vandalism, and unauthorized entry.

b. Initiate program in coordination with OWNER'S existing security system at mobilization.

c. Maintain program throughout construction period until OWNER'S occupancy.

B. ENTRY CONTROL

1. The CONTRACTOR shall:

a. Restrict entry of persons and vehicles into Site and existing facilities.

b. Allow entry only to authorized persons with proper identification.

c. Maintain log of workmen and visitors and make log available to OWNER on request.

d. Coordinate access of OWNER'S personnel to Site in coordination with OWNER'S security forces.

2. The CONTRACTOR shall control the entrance of persons and vehicles to those related to the OWNER'S operations.

C. PERSONNEL IDENTIFICATION

1. The CONTRACTOR shall:

a. Provide identification card to each person authorized to enter premises.

b. Maintain a list of authorized persons and submit copy to OWNER on request.

c. Require return of cards.

2. Card shall include personal photograph, name, expiration date, and employer.

D. SECURITY SERVICE

1. The CONTRACTOR shall:

a. Engage a service to furnish a uniformed guard at the Site during non-working hours.

b. Engage a patrol service to provide uniformed surveillance of Site during non-working hours.

E. RESTRICTIONS

1. The CONTRACTOR shall not allow cameras on site or photographs taken except by written approval of OWNER.

F. CRIMINAL HISTORY RECORDS CHECK

1. The CONTRACTOR shall comply with the Palm Beach County Criminal History Records Check Ordinance for all critical facilities.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01 42 13– ABBREVIATIONS AND ACRONYMS

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Wherever in these Specifications references are made to the standards, specifications, or other published data of the various international, national, regional, or local organizations, such organizations may be referred to by their acronym or abbreviation only. As a guide to the user of the Specifications, the following acronyms or abbreviations which may appear shall have the meanings indicated herein.

B. Unless a particular issue is designated, all references to the above specifications, standards, or methods shall, in each instance, be understood to refer to the issue in effect (including all amendments) on the last published date of the Advertisement for Bids.

1.2 ABBREVIATIONS

AA	Aluminum Association
AABC	Associated Air Balance Council
AAMA	American Architectural Manufacturers Association
AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
AATCC	American Association of Textile Chemists and Colorists
ABMA	American Bearing Manufacturer's Association
ACGIH	American Conference of Governmental Industrial Hygienists
ACI	American Concrete Institute
ACPA	American Concrete Pipe Association
AF&PA	American Forest and Paper Association
AFBMA	Anti-Friction Bearing Manufacturer's Association
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AHA	American Hardboard Association
AHAM	Association of Home Appliance Manufacturers
AHDGA	American Hot Dip Galvanizers Association

AI	The Asphalt Institute
AIA	American Institute of Architects
AIEE	American Institute of Electrical Engineers
AIHA	American Industrial Hygiene Association
AIIM	Association for Information and Image Management
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
AMA	Acoustical Material Association
AMCA	Air Movement and Control Association International, Inc
ANS	American Nuclear Society
ANSI	American National Standards Institute, Inc.
APA	The Engineered Wood Association
API	American Petroleum Institute
APWA	American Public Works Association
ARI	Air-Conditioning and Refrigeration Institute
AREA	American Railway Engineering Association
ASA	Acoustical Society of America
ASAE	American Society of Agricultural Engineers
ASLE	American Society of Lubrication Engineers
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASNT	American Society of Nondestructive Testing
ASQ	American Society for Quality
ASQC	American Society for Quality Control

ASSE	American Society of Sanitary Engineers
ASTM	American Society for Testing and Materials
AWCI	American Wire Cloth Institute
AWPB	American Wood Preservers Bureau
AWI	Architectural Woodwork Institute
AWPA	American Wood Preservers Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BBC	Basic Building Code, Building Officials and Code Administrators International
BHMA	Builders Hardware Manufacturer's Association
CABO	Council of American Building Officials
CBM	Certified Ballast Manufacturer's
CDA	Copper Development Association
CEMA	Conveyors Equipment Manufacturer's Association
CGA	Compressed Gas Association
CISPI	Cast Iron Soil Pipe Institute
CLFMI	Chain Link Fence Manufacturer's Institute
CLPCA	California Lathing and Plastering Contractors Association
CMAA	Crane Manufacturers Association of America, Inc.
CPG	Compressed Gas Association
CRSI	Concrete Reinforcing Steel Institute
DCDMA	Diamond Core Drilling Manufacturer's Association
DER	Florida Department of Environmental Regulation
DHI	Door and Hardware Institute
DIPRA	Ductile Iron Pipe Research Association

EI	Energy Institute
EIA	Electronic Industries Alliance
EPA	Environmental Protection Agency
ETL	Electrical Test Laboratories
FCC	Federal Communications Commission
FCI	Fluid Controls Institute
FDOT	Florida Department of Transportation
FES	Florida Engineering Society
FEMA	Federal Emergency Management Association
FHWA	Federal Highway Administration
FM	Factory Mutual System
FPL	Forest Products Laboratory
FS	Federal Specifications
HI	Hydronics Institute, Hydraulic Institute
HMI	Hoist Manufacturer's Institute
HSWA	Federal Hazardous and Solid Waste Amendments
IAPMO	International Association of Plumbing and Mechanical Officials
IBC	International Building Code
ICBO	International Conference of Building Officials
ICC	International Code Council
ICCES	International Code Council Evaluation Service
ICCEC	International Code Council Electrical Code
ICEA	Insulated Cable Engineers Association
IECC	International Energy Conservation Code
IEEE	Institute of Electrical and Electronics Engineers
IESNA	Illuminating Engineering Society of North America

IFC	International Fire Code
IFGC	International Fuel Gas Code
IMC	International Mechanical Code
IME	Institute of Makers of Explosives
IP	Institute of Petroleum (London)
IPC	International Plumbing Code, Association Connecting Electronic Industries
ICEA	Insulated Cable Engineers Association
IRC	International Residential Code
ISA	International Society of Automation
ISDI	Insulated Steel Door Institute
ISEA	Industrial Safety Equipment Association
ISO	International Organization for Standardization
ITE	Institute of Traffic Engineers
ITU-T	Telecommunications Standardization Sector of the International Telecommunications Union
JIC	Joint Industry Conferences of Hydraulic Manufacturers
LPI	Lightning Protection Institute
LRQA	Lloyd's Register Quality Assurance
LWDD	Lake Worth Drainage District
MBMA	Metal Building Manufacturer's Association
MIL	Military Standards (DoD)
MPTA	Mechanical Power Transmission Association
MSS	Manufacturers Standardization Society
MTI	Marine Testing Institute
NAAMM	National Association of Architectural Metal Manufacturer's
NACE	National Association of Corrosion Engineers
NBHA	National Builders Hardware Association

NBS	National Bureau of Standards Publication
NCCLS	National Committee for Clinical Laboratory Standards
NAPF	National Association of Pipe Fabricators
NBBPVI	National Board of Boiler and Pressure Vessel Inspectors
NCCLS	National Committee for Clinical Laboratory Standards
NCMA	National Concrete Masonry Association
NEC	National Electrical Code
NEMA	National Electrical Manufacturer's Association
NESC	National Electric Safety Code
NETA	International Electrical Testing Association
NFPA	National Fire Protection Association or National Fluid Power Association
NISO	National Information Standards Organization
NIST	National Institute of Standards and Technology
NLGI	National Lubricating Grease Institute
NLMA	National Lumber Manufacturers Association
NRCA	National Roofing Contractors Association
NSF	National Sanitation Foundation
NSPE	National Society of Professional Engineers
NWMA	National Woodwork Manufacturers Association
NWWDA	National Wood Window and Door Association
OSHA	Occupational Safety and Health Administration
PBCBC	Palm Beach County Building Code
PBCDERM	Palm Beach County Department of Environmental Resources Management
PBCHD	Palm Beach County Health Department
PBCPZB	Palm Beach County Planning, Zoning and Building
PBCPHU	Palm Beach County Public Health Unit

PBCWUD	Palm Beach County Water Utilities Department
PCA	Portland Cement Association
PCI	Precast/Prestressed Concrete Institute
PPI	Plastic Pipe Institute
RCRA	Resource Conservation and Recovery Act
RIS	Redwood Inspection Service, a division of the California Redwood Association, CRA
RLM	RLM Standards Institute
RMA	Rubber Manufacturers Association
RVIA	Recreational Vehicle Industry Association
RWMA	Resistance Welder Manufacturer's Association
SAE	Society of Automotive Engineers
SAMA	Scientific Apparatus Manufacturers Association
SDI	Steel Door Institute, Steel Deck Institute
SFBC	South Florida Building Code
SFWMD	South Florida Water Management District
SMA	Screen Manufacturers Association
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SPFA	Steel Plate Fabricator's Association
SPI	Society of the Plastics Industry
SPIB	Southern Pine Inspection Bureau
SPR	Simplified Practice Recommendation
SSA	Swedish Standards Association
SSBC	Southern Standard Building Code, Southern Building Code Congress
SSPC	Society for Protective Coating
SSPWC	Standard Specifications for Public Works Construction
STLE	Society of Tribologists and Lubricating Engineers

TAPPI	Technical Association of the Worldwide Pulp, Paper, and Converting Industry
TCNA	Tile Council of North America
TEMA	Tubular Exchanger Manufacturers Association
TFI	The Fertilizer Institute
TIA	Telecommunications Industries Association
TPI	Truss Plate Institute
UBC	Uniform Building Code
UL	Underwriters Laboratories, Inc.
USEPA	United States of America Environmental Protection Agency
VPS	Voluntary Product Standards Section - U.S. Dept. of Commerce
WCLIB	West Coast Lumber Inspection Bureau
WCRSI	Western Concrete Reinforcing Steel Institute
WDMA	National Window and Door Manufacturers Association
WEF	Water Environment Federation
WI	Woodwork Institute
WOG	Water, Oil and Gas
WRI	Wire Reinforcement Institute, Inc.
WWPA	Western Wood Products Association

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01 42 19 – REFERENCE STANDARDS

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Titles of Sections and Paragraphs: Titles and subtitles accompanying specification sections and paragraphs are for convenience and reference only and do not form a part of the Specifications.

B. Applicable Publications: Whenever in these Specifications references are made to published specifications, codes, standards, or other requirements, it shall be understood that wherever no date is indicated, only the latest specifications, standards, or requirements of the respective issuing agencies which have been published as of the date that the Contract is advertised for Bids shall apply; except to the extent that said standards or requirements may be in conflict with applicable laws, ordinances, or governing codes. No requirements set forth in the Specifications or shown on the Drawings will be waived because of any provision of or omission from said standards or requirements.

C. Specialists, Assignments: In certain instances, specification text requires (or implies) that specific WORK is to be assigned to specialists or expert entities who must be engaged to perform that WORK. Such assignments shall be recognized as special requirements over which the CONTRACTOR has no choice or option. These requirements shall not be interpreted so as to conflict with the enforcement of building codes and similar regulations governing the WORK; also they are not intended to interfere with local union jurisdiction settlements and similar conventions. Such assignments are intended to establish which party or entity involved in a specific unit of WORK is recognized as "expert" for the indicated construction processes or operations. Nevertheless, the final responsibility for fulfillment of the entire set of Contract requirements remains with the CONTRACTOR.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. The CONTRACTOR shall construct the WORK in accordance with the Contract Documents and the referenced portions of those referenced codes, standards, and specifications.

B. References to "Building Code" shall mean the "Palm Beach County Amendments to the Florida Building Code". The latest edition of the codes as approved by the Municipal Code and used by Palm Beach County as of the date that the WORK is advertised for Bids shall apply to the WORK herein, including all addenda, modifications, amendments, or other lawful changes thereto.

C. In case of conflict between codes, reference standards, drawings, and the other Contract Documents, the most stringent requirements shall govern. All conflicts shall be brought to the attention of the ENGINEER for clarification and direction prior to ordering or providing any materials or furnishing labor. The CONTRACTOR shall bid for the most stringent requirements.

D. References to "OSHA Regulations for Construction" shall mean Title 29, Part 1926, Construction Safety and Health Regulations, Code of Federal Regulations (OSHA), including all changes and amendments thereto.

E. References to "OSHA Standards" shall mean Title 29, Part 1910, Occupational Safety and Health Standards, Code of Federal Regulations (OSHA), including all changes and amendments thereto.

1.3 REGULATIONS RELATED TO HAZARDOUS MATERIALS

A. The CONTRACTOR shall be responsible that all WORK included in the Contract Documents, regardless if indicated or not, shall comply with all EPA, OSHA, RCRA, NFPA, and any other federal, state, and local regulations governing the storage and conveyance of hazardous materials, including petroleum products.

B. Where no specific regulations exist and the OWNER has not waived the requirement in writing, chemical, hazardous, and petroleum product piping and storage in underground locations shall be double containment piping and tanks or be installed in separate concrete trenches and vaults with an approved lining that cannot be penetrated by the chemicals.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01 45 00 - QUALITY CONTROL

PART 1 -- GENERAL

1.1 THE SUMMARY

This section provides the CONTRACTOR's requirements and procedures for Quality Control.

A. Specific quality control requirements for the WORK are indicated throughout the Contract Documents. Quality control provisions for manufacturer products are specified in individual work sections and in other related sections. The requirements of this Section are primarily related to performance of the WORK beyond furnishing of manufactured products. The term "Quality Control" includes inspection, sampling and testing, and associated requirements. Quality control and items not specifically listed shall conform to the Palm Beach County Water Utilities Department Minimum Engineering and Construction Standards.

B. Related sections:

1. Section 01 45 29 – Testing Laboratory Services

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Wherever reference is made to any published standards, codes or standard specifications, it shall mean the latest issue, at the time of Award of the Contract, of that standard, code, specification or tentative specification of the technical society, organization, or body referred to, which is in the Specifications by abbreviations in accordance with the list included in Section 01 42 13 – Abbreviations and Acronyms.

B. When no reference is made to a code, standard or specification, the standard specifications for the ASTM, the ASA, the ASME, the AIEE, or the NEMA shall govern.

1.3 INSPECTION AT PLACE OF MANUFACTURE

A. Unless otherwise indicated, all products, materials, and equipment shall be subject to inspection by the ENGINEER at the place of manufacture.

B. The presence of the ENGINEER at the place of manufacturer, however, shall not relieve the CONTRACTOR of the responsibility for providing products, materials, and equipment which comply with all requirements of the Contract Documents. Compliance is a duty of the CONTRACTOR, and said duty shall not be avoided by any act or omission on the part of the ENGINEER.

1.4 SAMPLES/TESTS

A. Unless otherwise indicated, all sampling and testing will be in accordance with the methods prescribed in the current standards of the ASTM, as applicable to the class and nature of the article or materials considered; however, the OWNER reserves the right to use any generally-accepted system of sampling and testing which, in the opinion of the

ENGINEER will assure the OWNER that the quality of the workmanship is in full accord with the Contract Documents.

B. Any waiver by the OWNER of any specific testing or other quality assurance measures, whether or not such waiver is accompanied by a guarantee of substantial performance as a relief from the testing or other quality assurance requirements originally indicated, and whether or not such guarantee is accompanied by a performance bond to assure execution of any necessary corrective or remedial WORK, shall not be construed as a waiver of any requirements of the Contract Documents.

C. Notwithstanding the existence of such waiver, the ENGINEER reserves the right to make independent investigations and tests, and failure of any portion of the WORK to meet any of the requirements of the Contract Documents, shall be reasonable cause for the ENGINEER to require the removal or correction and reconstruction of any such WORK in accordance with the Contract Documents.

1.5 INSPECTION AND TESTING SERVICE

A. Inspection and testing laboratory service shall comply with the following:

1. The CONTRACTOR will employ and pay for the services of an independent testing laboratory for soil testing, concrete testing, asphalt testing and other testing as specified herein. The independent testing laboratory shall be approved by the OWNER.

2. The laboratory testing work will include such inspections and testing required by the Contract Documents, existing laws, codes, ordinances, etc.

3. The testing laboratory, regardless of whether engaged by the OWNER or the CONTRACTOR, will have no authority to change the requirements of the Contract Documents, nor perform or approve any of the CONTRACTOR's WORK.

4. The WORK or actions of the testing laboratory shall in no way relieve the CONTRACTOR of its obligations under the Contract.

5. The OWNER or independent firm will perform inspections, tests, and other services as required by the ENGINEER under Paragraph 1.5C above.

6. Reports of testing, will be submitted to the ENGINEER, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.

7. The CONTRACTOR shall cooperate with the OWNER or independent firm and furnish samples of materials, design mix, equipment, tools, storage, and assistance as requested.

8. The CONTRACTOR shall notify ENGINEER a minimum of 48 hours prior to the expected time for operations requiring inspection and laboratory testing services.

9. Retesting required because of non-conformance to requirements shall be performed by the same independent firm on instructions by the ENGINEER. The CONTRACTOR shall bear all costs from such retesting.

10. The CONTRACTOR shall at all times allow the ENGINEER/OWNER ample time and opportunity for inspection and testing of materials, equipment and workmanship used in completing the WORK.

11. The CONTRACTOR shall advise the ENGINEER/OWNER promptly upon placing orders for materials and equipment so that arrangements may be made, if desired, for inspection before shipment from the place of manufacture.

12. The CONTRACTOR must anticipate that possible delays may occur in the execution of its WORK due to the necessity of materials and equipment being inspected.

13. The CONTRACTOR shall furnish, at its own expense, all samples of materials required by the ENGINEER/OWNER for testing, and shall make its own arrangements for providing labor, water, electric power, or fuel for the various inspections and tests of structures and equipment.

14. The CONTRACTOR shall furnish the services of representatives of the manufacturers of equipment specified in these Specifications.

15. The CONTRACTOR shall place orders for equipment on the basis that after the equipment has been tested and prior to final acceptance of the WORK, the manufacturer will furnish the ENGINEER/OWNER with certified statements that the equipment has been installed properly and is ready to be placed in full operation.

16. Tests and analyses required of equipment shall be paid for by the CONTRACTOR, unless specified otherwise in the appropriate Section of the Specifications which covers that particular item of equipment.

17. The OWNER will bear the cost of all tests, inspections, or investigations undertaken for the purpose of determining conformance with the Contract Documents if such tests, inspections, or investigations are not specifically required by the Contract Documents, and if conformance is ascertained thereby.

18. Whenever non-conformance is determined by the ENGINEER/OWNER as a result of such tests, inspections, or investigations, the CONTRACTOR shall bear the full cost of any additional tests and investigations which are ordered by the ENGINEER/OWNER to ascertain subsequent conformance with the Contract Documents.

19. No failure of test agencies, whether engaged by the OWNER or the CONTRACTOR, to perform adequate inspections of tests or to properly analyze or report results, shall relieve the CONTRACTOR of the responsibility for the fulfillment of the requirements of the Contract Documents.

20. It is recognized and acknowledged that the required inspection and testing program is intended to assist the CONTRACTOR, ENGINEER, OWNER, and governing authorities in the nominal determination of probable compliances with requirements

for certain crucial elements of the WORK. The program is not intended to limit the CONTRACTOR in its regular quality control program, as needed for general assurance of compliance.

1.6 RIGHT OF REJECTION

A. The ENGINEER, acting for or as the OWNER, shall have the right, at all times and at all places, to reject any materials, equipment, or workmanship to be furnished hereunder which, in any respect, fail to meet the requirements of the Contract Documents, regardless of whether the defects in such materials, equipment, or workmanship are detected at the point of manufacture or after completion of the WORK at the project site.

B. If the ENGINEER, or its representative, through an oversight or otherwise, has accepted materials, equipment or WORK which is defective or which is contrary to the Contract Documents, such materials, equipment or WORK, no matter in what stage or condition of manufacture, delivery, or erection, shall be rejected by the ENGINEER for the OWNER.

C. The CONTRACTOR shall promptly remove rejected materials, equipment, or WORK from the site of the WORK after notification of rejection.

D. All costs of removal and replacement of rejected articles or materials, equipment, or WORK as specified herein shall be borne solely by the CONTRACTOR.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION

3.1 INSTALLATION

A. Inspection:

1. The CONTRACTOR shall inspect materials or equipment upon the arrival on the job site and immediately prior to installation, and reject damaged and defective items.

2. The CONTRACTOR shall verify all dimensions in the field and shall check field conditions continuously during construction. The CONTRACTOR shall be solely responsible for any inaccuracies built into the WORK due to its failure to comply with this requirement.

3. The CONTRACTOR shall inspect related and appurtenant WORK and shall report in writing to the ENGINEER/OWNER any condition(s) which will prevent proper completion of the WORK. Failure to report any such conditions shall constitute acceptance of all site conditions and any required removal, repair, or replacement caused by unsuitable conditions shall be performed by the CONTRACTOR within the scope of the Contract.

B. Measurements: The CONTRACTOR shall verify measurements and dimensions of the WORK, as an integral step of starting each installation.

C. Manufacturer's Instructions: Where installations include manufactured products, the CONTRACTOR shall comply with manufacturer's applicable instructions and recommendations for installation, to whatever extent these are more explicit or more stringent than applicable requirements indicated in Contract Documents.

END OF SECTION

SECTION 01 45 29 – TESTING LABORATORY SERVICES

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The CONTRACTOR will employ the services of an independent Testing Laboratory to perform specified testing. The CONTRACTOR shall pay the costs of all testing laboratory services.

1. Employment of the laboratory shall in no way relieve the CONTRACTOR's obligations to perform the WORK in accordance with the requirements of the Contract Documents.

B. Related sections:

1. Section 01 29 00 – Measurement and Payment
2. Section 31 20 00 – Earth Moving
3. Section 31 23 00 – Excavation and Fill
4. Section 31 23 33 – Trenching and Backfilling
5. Section 32 12 16 – Asphalt Paving

1.2 CONTRACTOR REQUIREMENTS

A. Cooperate with laboratory personnel and/or the ENGINEER. Provide access to the WORK or manufacturer's operations.

B. Secure and deliver to the laboratory adequate quantities of representative samples of materials proposed to be used and which require testing.

C. Provide to the laboratory the preliminary design mix to be used for concrete and other mixes which require control by the testing laboratory.

D. Furnish copies of test reports as required.

E. Furnish incidental labor and facilities:

1. To provide access to WORK to be tested.
2. To obtain and handle samples at the project site to be tested.
3. To facilitate inspections and tests.
4. For storage and curing of test samples.

F. Notify the laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.

G. Make arrangements with the laboratory and pay for additional samples and tests required for the CONTRACTOR's convenience.

1.3 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY

A. The Laboratory is not authorized to:

1. Release, revoke alter or enlarge on requirements of the Contract Documents.

2. Approve or accept any portion of the WORK.

3. Perform any duties of the CONTRACTOR.

1.4 QUALITY ASSURANCE

A. Testing of materials and products will be performed by an independent testing laboratory. Testing will be performed to least encumber the performance of the WORK.

B. When the WORK of this Contract or portions thereof are completed, notify the ENGINEER to perform or witness the tests. Do not proceed with additional portions of WORK until test results have been verified.

PART 2 -- PRODUCTS – NOT USED

PART 3 -- EXECUTION – NOT USED

END OF SECTION

SECTION 01 55 26– TRAFFIC CONTROL

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The work specified in this Section consists of maintaining traffic within the limits of the project for the duration of the construction period, including any temporary suspensions of the work.

B. This shall include the construction and maintenance of:

1. Any necessary detour facilities;

2. The provision of necessary facilities for access to residences, businesses, etc., along the project;

3. The furnishing, installation and maintenance of traffic control and safety devices during construction;

4. The control of dust; and,

5. Any other special requirements to provide the safe and expeditious movement of traffic throughout the project.

C. The term "Maintenance of Traffic" shall include all of such facilities, devices and operations as are required for the safety and convenience of the public as well as for minimizing public nuisance.

D. Maintain local traffic and provide local access at all times.

E. A Maintenance of Traffic Plan must be submitted to the Palm Beach County Engineering Department Construction Coordination Division for review and approval by the Traffic Division.

F. Related Sections:

1. Section 01 31 13 – Project Coordination

2. Section 01 57 00 – Temporary Controls

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Florida Department of Transportation "Standard Specifications for Road and Bridge Construction."

B. Federal Highway Administration "Manual on Uniform Traffic Control Devices for Streets and Highways." (MUTCD)

C. Florida Department of Transportation "Design Standards."

D. Florida Department of Transportation "Traffic Engineering Manual"

E. Florida Department of Transportation "Manual of Uniform Minimum Standards for Design, Construction and Maintenance of Streets and Highways"(a.k.a. "Florida Greenbook).

1.3 CONTRACTOR SUBMITTALS

A. Maintenance of Traffic (M.O.T.) plans are required whenever traffic is deviated from its present use (changeover) for a period longer than a daylight operation.

B. M.O.T. plans shall be submitted to the Palm Beach County Traffic Division on paper not larger than 11" x 17", one copy.

C. Plans shall have a north arrow, drawn by, date on which changeover is to occur, lane usage, type and location of all signs, lights, barricades, striping, barriers, traffic signals, all streets within the changeover area, CONTRACTOR's name and twenty-four (24) hour phone number.

D. The plan shall be approved no later than seven (7) days in advance and when a signal is involved no later than ten (10) days in advance of the desired changeover date. Palm Beach County Traffic Division will handle all news releases, notifying police, fire rescue, etc.

E. No changeover shall be allowed on Friday, day before a County holiday, nor during A.M. or P.M. peak.

F. Changeovers are discouraged in signalized intersections.

G. All M.O.T. plans shall be submitted through the Palm Beach County Engineering Department Construction Coordination Division.

H. In no case may the CONTRACTOR begin work until the M.O.T. plan has been approved in writing by Palm Beach County Traffic Engineering.

I. Field modifications may be made with a representative of Palm Beach County Traffic Division present.

J. Failure to comply with the above may result in a partial and/or permanent reduction in payment to the CONTRACTOR.

1.4 PERFORMANCE REQUIREMENTS

A. TRAFFIC SIGNING

1. All signing shall be fabricated with high intensity sheeting.

2. All signs, thirty six inches (36") by thirty six inches (36") or eight square feet (8 sq. ft.) or larger shall be mounted on two (2) posts unless used in conjunction with a temporary condition.

3. The first two (2) advance warning signs shall have flashing amber Type "B" lighting and an eighteen inches (18") by eighteen inches (18") orange flag.

4. The length of construction sign (G20-1) shall be erected at the limits of any road construction or maintenance job greater than two (2) miles in length where traffic is maintained throughout the job.

5. All existing signs are the property of either Palm Beach County or the State of Florida. The CONTRACTOR shall stockpile the above mentioned signs and contact Traffic Operations (sign supervisor) at (561) 684-4030 for pick-up.

B. TEMPORARY PAVEMENT MARKINGS

1. All temporary pavement markings shall be done in a professional manner without weaves or bows.

2. Raised pavement markers shall be placed along the center lines and edge lines of the detour at twenty foot (20') centers in the transition area where the alignment shift is ten feet (10') or greater. All pavement markers shall be approved by Palm Beach County Traffic Engineering Division prior to installation.

3. Temporary pavement markings shall be applied to the intermediate asphalt course, and shall consist of foil-backed tape, paper tape or paint meeting both State and County specifications.

4. Temporary pavement markings shall also be applied to the final asphalt course unless otherwise directed by the Palm Beach County Engineering Department Traffic Engineering Division. All final course pavement markings shall consist of foil-backed tape.

5. All temporary tape skip-line pavement markings shall be at least four feet (4') in length with a maximum gap of thirty-six feet (36'). A two foot (2') stripe with a maximum gap of eighteen feet (18') may be used for roadways with severe curvature, or as directed by the Palm Beach County Engineering Department Traffic Engineering Division.

6. All painted lines size and color shall conform to MUTCD Part III. The thickness shall not be less than 15 mil, with 6 to 6-1/4 lbs. of beads per gallon of paint. Both shall be applied uniformly. All painted lines shall be refurbished if at any time the reflectivity falls below 150 minicandles.

C. FLAG MEN AND VESTS

1. Flag men shall be trained in the proper manner as set forth in the MUTCD and certified as per Section 102-3.2.3 of the FDOT Standard Specifications for Road and Bridge Construction.

2. All construction personnel shall wear a high visibility orange vest when working within fifteen feet (15') of the edge of the traffic way.

D. TRAFFIC SIGNALS

1. A minimum of forty-eight (48) hours' notice must be given to the P.B.C. Engineering Department Traffic Division (561-684-4030) prior to work requiring the realigning of traffic signals.

2. Palm Beach County will re-align traffic signals at each location a maximum of two (2) times for each direction (N/S & E/W). Further re-alignment will be charged to the CONTRACTOR.

3. No material shall be disturbed within six feet (6') of a traffic pole or within the specified distance of a guy wire and anchor to a depth greater than two feet (2') as shown in

Figure I, unless approved by and coordinated with Palm Beach County Traffic Operations.

4. Contact Palm Beach County Traffic Operations at (561) 233-3900, twenty-four (24) hours in advance of any excavation.

5. Failure to comply with the above shall result in the prime CONTRACTOR incurring all costs incurred as a result of damage to the traffic signal installation. These costs shall be paid thirty (30) days from date of invoice or the following pay estimate will be withheld until payment is made, or the cost may be deducted from the pay estimate.

PART 2 -- PRODUCTS

2.1 GENERAL EQUIPMENT REQUIREMENTS

A. BARRICADES, LIGHTS AND CONES

1. All barricades shall utilize high intensity sheeting.

2. When cones are used they shall be a minimum twenty-eight inches (28") high with a six inch (6") wide white band placed a minimum of three inches (3") but not more than four inches (4") from the top of the cone. An additional four inch (4") band should be placed a minimum of two inches (2") below the six inch (6") band.

3. Barricades and lights shall be serviced daily.

B. FLASHING ARROW BOARDS

1. Flashing arrow boards shall be used on any three (3) lane or larger roadway where traffic is being channelized or diverted, or as directed by the Palm Beach County Engineering Department Traffic Engineering Division, Florida Department of Transportation, or Florida Turnpike Authority.

2. Flashing arrow boards shall conform to Section 6E-9 of the MUTCD.

3. Solar arrow boards may be requested by the County at any time.

PART 3 -- EXECUTION

3.1 GENERAL

A. The CONTRACTOR shall keep sufficient cold patch asphalt on the job site to fill pot-holes and to perform other minor pavement maintenance as needed.

B. All highway equipment shall have a "Slow Moving Vehicle" sign with either a flasher or a beacon operating when the equipment is operating.

END OF SECTION

SECTION 01 57 00– TEMPORARY CONTROLS

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Furnish, install and maintain all methods, equipment and temporary utilities as required to provide controls over environmental conditions at the construction site and related areas under the CONTRACTOR's influence. Remove physical evidence of temporary facilities upon completion of the WORK.

B. Providing of adequate facilities at every stage of performing the WORK is the CONTRACTOR's sole responsibility, and is not limited by the requirements hereof.

C. Except as otherwise indicated, the costs of providing and using temporary utility services is to be included in the Contract Sum.

D. The CONTRACTOR may, at its option, provide stand-alone utility plants to provide needed services, in lieu of connected services from available public utilities, provided such stand-alone plant facilities comply with all federal, state and local regulations and are permitted as required by all regulatory agencies.

E. Enforce strict discipline in the use of utility services. Limit availability to essential uses so as to minimize waste. Do not allow the installations to be abused or endangered.

F. Maintain distinct markers for underground lines and protect from damage during excavation operations.

G. Related sections:

1. Section 01 14 13 – Access to Site

2. Section 01 57 13 – Temporary Erosion and Sediment Control

1.2 PERFORMANCE REQUIREMENTS

A. Noise Controls:

1. Between the hours of 6:00 P.M. and 8:00 A.M, Monday through Friday, noise levels shall not exceed ten (10) dbA above the ambient noise level, when measured within 50 feet of the noise source, without written permission of the OWNER.

2. Between the hours of 6:00 P.M. Friday and 8:00 A.M. Monday, noise levels shall not exceed ten (10) dbA above the ambient noise level, when measured within 50 feet of the noise source, without written permission of the OWNER.

3. Between the hours of 6:00 P.M. on the day prior to a recognized County Holiday to 8:00 A.M. on the day after such Holidays, noise levels shall not exceed ten (10) dbA above the ambient noise levels, when measured within 50 feet of the noise source, without written permission of the OWNER. County Holidays for the typical calendar year are herein defined as follows:

a. New Year Day.

b. Martin Luther King's Birthday.

c. George Washington's Birthday.

d. Memorial Day.

e. Independence Day.

f. Labor Day.

g. Columbus Day.

h. Veterans Day.

i. Thanksgiving Day.

j. The day after Thanksgiving Day.

k. Christmas Eve

l. Christmas Day.

B. Dust Abatement

1. The CONTRACTOR shall prevent its operation from producing dust in amounts damaging to property, cultivated vegetation, or domestic animals, or causing a nuisance to persons living in or occupying buildings in the vicinity of the Site. The CONTRACTOR shall be responsible for any damage resulting from dust originating from its operations. Dust abatement measures shall be continued until the CONTRACTOR is relieved of further responsibility by the ENGINEER.

2. Storage Piles: Enclose, cover, water (as needed), or apply non-toxic soil binders according to manufacturer's specifications on material piles (i.e. gravel, sand, dirt) with a silt content of 5 percent or greater.

3. Active Areas of Site: Water active construction areas and unpaved roads as needed and as requested by ENGINEER.

4. Inactive Areas of Site: Apply non-toxic soil stabilizers according to manufacturer's specifications to inactive construction areas, or water as needed to maintain adequate dust control.

5. Vehicle Loads: Cover or maintain at least 2-feet of freeboard vertical distance between the top of the load and the top of the trailer sides on trucks hauling dirt, sand, soil, or other loose materials off of the Site.

6. Roads: When there is visible track-out onto a paved public road, install wheel washers where the vehicles exit and enter onto the paved roads and wash the undercarriage of trucks and any equipment leaving the Site on each trip. Sweep the paved street at

the end of each shift with a mobl Athey or similar water spray pick-up broom-type street sweeper as necessary or as directed.

7. Vehicle Speeds: If watering of unpaved roads is not sufficient to control dust, reduce vehicle speeds to 15 mph or less on such roads.

C. Stormwater Pollution Prevention

1. CONTRACTOR shall minimize stormwater pollution from the Site in accordance with Section 01 57 13 – Temporary Erosion and Sediment Control bound with the Bidding Documents and applicable Codes, Laws and Regulations, and permits.

D. Rubbish Control

1. During the progress of the WORK, the CONTRACTOR shall keep the Site and other areas for which it is responsible in a neat and clean condition and free from any accumulation of rubbish. The CONTRACTOR shall dispose of rubbish and waste materials of any nature and shall establish regular intervals of collection and disposal of such materials and waste. The CONTRACTOR shall also keep its haul roads free from dirt, rubbish, and unnecessary obstructions resulting from its operations. Disposal of rubbish and surplus materials shall be off the Site in accordance with local codes and ordinances governing locations and methods of disposal and in conformance with applicable safety laws and the particular requirements of Part 1926 of the OSHA Safety and Health Standards for Construction.

E. Sanitation

1. Toilet Facilities: Fixed or portable chemical toilets shall be provided wherever needed for the use of employees. Toilets shall conform to the requirements of Part 1926 of the OSHA Standards for Construction.

2. Sanitary and Other Organic Wastes: The CONTRACTOR shall establish a regular daily collection of sanitary and organic wastes. Wastes and refuse from sanitary facilities provided by the CONTRACTOR or organic material wastes from any other source related to the CONTRACTOR's operations shall be disposed of away from the Site in a manner satisfactory to the ENGINEER and in accordance with Laws and Regulations pertaining thereto.

F. Chemicals

1. Chemicals used on the WORK or furnished for facility operation, whether defoliant, soil sterilant, herbicide, pesticide, disinfectant, polymer, reactant, or of other classification, shall show approval of either the U.S. Environmental Protection Agency or the U.S. Department of Agriculture. Use of such chemicals and disposal of residues shall be in strict accordance with the printed instructions of the manufacturer. In addition, see the requirements set forth in the General Conditions.

G. Water Control:

1. Provide methods to control surface water to prevent damage to the project, the site, or to adjoining properties:

a. Control fill, grading and ditching to direct surface drainage away from excavations, trenches, pits and other construction areas, and to direct drainage to proper runoff.

2. Provide, operate and maintain hydraulic equipment of adequate capacity to control surface water.

3. Dispose of drainage water in a manner to prevent flooding, erosion, or other damage to any portion of the site or to adjoining areas.

H. Rodent Control:

1. Provide rodent control as necessary to prevent infestation of construction and storage areas.

a. Employ methods and use materials which will not adversely affect conditions at the site or on adjoining properties.

b. If the use of rodent control chemicals is considered necessary, submit an informational copy of the proposed program to the ENGINEER/OWNER. Clearly indicate:

1) The area or areas to be treated.

2) The rodent control chemicals to be used, with a copy of the manufacturer's printed instructions.

3) The pollution preventative measures to be employed.

2. The use of any rodent control chemicals shall be in full accordance with the manufacturer's printed instructions and recommendations.

I. Pollution Control:

1. Provide methods, means and facilities required to prevent contamination of soil, water or air by the discharge of noxious substances from construction operations.

2. Provide equipment and personnel, perform emergency measures required to contain any spills, and to remove contaminated soils or liquids.

a. Excavate and suitably dispose of any contaminated earth off-site, and replace with suitable compacted fill and topsoil.

3. Take special measures to prevent harmful substances from entering public waters.

a. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams, or in sanitary or storm sewers.

4. Provide systems for control of atmospheric pollutants.

a. Prevent toxic concentrations of chemicals.

b. Prevent harmful dispersal of pollutants into the atmosphere.

1.3 CULTURAL RESOURCES

A. The CONTRACTOR's attention is directed to the National Historic Preservation Act of 1966 (16 U.S.C. 470) and 36 CFR 800 which provides for the preservation of potential historical architectural, archaeological, or cultural resources (hereinafter called "cultural resources").

B. In the event potential cultural resources are discovered during subsurface excavations at the Site, the following procedures shall be instituted:

C. The OWNER will issue a temporary Notice to Suspend Work directing the CONTRACTOR to cease construction operations at the location of such potential cultural resources find.

D. The suspension Notice will contain the following:

1. A clear description of the WORK to be suspended

2. Instructions regarding issuance of further orders by the CONTRACTOR for material services

3. Guidance as to the action to be taken on subcontracts

4. Suggestions to the CONTRACTOR to minimize incurred costs

5. Estimated duration of the temporary suspension.

E. Such suspension shall be effective until such time as a qualified archeologist can assess the value of the potential cultural resources and make recommendations to the State Historic Preservation Office.

F. The OWNER will implement appropriate actions as directed by the State Cultural Resources Officer or Project Manager. The CONTRACTOR shall cease WORK in the area of a discovery until appropriate actions have been determined in accordance with this paragraph.

G. If human remains are discovered, WORK in the immediate vicinity of the find shall stop. The County Coroner shall be notified.

H. If the archeologist determines that the potential find is a bonafide cultural resource, at the direction of the State Cultural Resources Officer, the OWNER will extend the duration of the suspension.

I. Changes to the Contract Price and Contract Times for suspension due to discovery of a potential cultural resource will be made in the following manner:

1. Contract Times

a. If the WORK temporarily suspended is on the "critical path", the total number of Days for which the suspension is in effect will be added to the Contract Times.

b. If a portion of WORK at the time of such suspension is not on the "critical path", but subsequently becomes WORK on the critical path, the Contract Times will be computed from the date such WORK is classified as on the critical path.

2. Contract Price

a. If, as a result of a cultural resources suspension, the CONTRACTOR sustains a loss that could not have been avoided by judicious handling of forces and equipment or redirection of forces or equipment to perform other WORK on the contract, there will be paid an amount based on time and materials for the loss in accordance with the following:

1) Idle Time of Equipment: Compensation for equipment idle time will be determined in accordance with the General Conditions for equipment time and equipment rental time.

2) Idle Time of Labor: Compensation for idle time of workers will be determined in accordance with the General Conditions for labor.

b. Costs of labor will be compensated only to the extent such cost was in fact caused by the suspension.

c. Compensation for loss due to idle time of either equipment or labor will not include markup for profit.

d. The hours for which compensation will be paid will be the actual normal working time during which such suspension lasts, but will in no case exceed eight hours in any single Day.

e. The days for which compensation will be paid exclude Saturdays, Sundays, and legal holidays during the suspension.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01 57 13 – TEMPORARY EROSION AND SEDIMENT CONTROL

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Section Includes:

1. Develop, implement, and maintain a Storm Water Pollution Prevention Plan (SWP3) in compliance with local, state, and federal requirements.

   a. Obtain the FDEP General Permit as the Primary Operator, the entity that has day to day operational control over activities at the Site that are necessary to ensure compliance with the SWP3 for the Site and other permit conditions. Complete all permit applications and pay associated permit fees.

   b. The OWNER will be the Secondary Operator as the entity with the ability to modify the Contract Documents, but not the responsibility for day to day on-site operational control over construction activities at the Site. Provide documentation to be signed by the OWNER as Secondary Operator as part of the permit process.

2. Furnish labor, materials, equipment, and incidentals necessary to provide storm water pollution prevention for the duration of the construction period including furnishing, installing, and maintaining erosion and sediment control structures and procedures and properly removing the features when no longer required.

3. Temporary erosion controls include, but are not limited to, grassing, mulching, watering and seeding on-site surfaces and spoil and borrow area surfaces and providing interceptor ditches at ends of berms and at those locations which will ensure that erosion during construction will be either eliminated or maintained within acceptable limits as established by the OWNER.

4. Temporary sedimentation controls include, but are not limited to, inlet protection, silt dams, barriers, hay bales and appurtenances at the foot of sloped surfaces which will ensure that sedimentation pollution will be either eliminated or maintained within acceptable limits as established by the OWNER.

B. Related sections:

1. Section 01 11 00 – Summary of Work

2. Section 01 77 00 – Closeout Procedures

1.2 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. Regulatory Requirements:

1. Florida Department of Transportation (FDOT)

2. South Florida Water Management District (SFWMD).

3. Lake Worth Drainage District (LWDD).

4. Palm Beach County Land Development (PBCLD)

5. Florida Department of Environmental Protection (FDEP)

6. National Pollutant Discharge Elimination System (NPDES)

7. "State of Florida Erosion and Sediment Control Designer and Reviewer Manual" (Latest Edition)

1.3 CONTRACTOR SUBMITTALS

A. CONTRACTOR to submit a Storm Water Pollution Prevention Plan (SWP3) prior to mobilization.

B. Documentation

1. Prepare SWP3 in accordance with the "State of Florida Erosion and Sediment Control Designer and Reviewer Manual" (Latest Edition).

2. Submit the following to the FDEP:

a. Notice of Intent (NOI) at least 48 hours prior to beginning construction activity. Construction activity may commence 24 hours after the submittal of an electronic NOI.

b. Notice of Change (NOC) letter when relevant facts or incorrect information was submitted in the NOI, or if relevant information in the NOI changes during the course of construction activity.

c. Notice of Termination (NOT) when the construction project has been completed and stabilized.

3. Post a copy of the NOI at the construction site in a location where it is readily available for viewing by the general public and local, state, and federal authorities prior to starting construction activities and maintain the posting until completion of the construction activities.

4. Maintain copies of a schedule of major construction activities, inspection reports, and revision documentation with the SWP3 required under the FDEP General Permit for storm water discharges from construction activities.

C. Quality Assurance

1. Regulatory Requirements

a. Comply with local codes and ordinances.

b. In the event of conflict between the specified requirements and storm water pollution control laws, rules, or regulations, or other local, state, or federal agencies, the more restrictive laws, rules, or regulations shall apply.

PART 2 -- PRODUCTS

2.1 MATERIALS

A. Provide materials for storm water pollution prevention that meet the minimum design and specification requirements identified below for commonly used sediment loss prevention practices referenced from the State of Florida Erosion and Sediment Control Designer and Reviewer Manual. Use appropriate control devices to protect against storm water pollution from construction site activity.

B. Provide erosion control blankets to hold seed and soil in place until vegetation is established on disturbed areas that comply with the following design criteria:

1. The type and class of erosion control mat must be specified as appropriate for the slope of the area to be protected and the anticipated length of service.

2. Erosion control blankets must be listed on the most current annual Approved Products List for Florida Department of Transportation (FDOT) applicable to FDOT Section 985 – Geosynthetic Materials and its Special Provisions.

C. Silt Fences for perimeter controls located downstream of disturbed areas are subject to the following design criteria:

1. Use an apparent opening size (A.O.S.) to retain 85 percent of the soil if 50 percent or less soil by weight passes the U.S. Standard sieve No. 200.

2. Use silt fences if 85 percent or more of soil by weight passes the U.S. Standard sieve No. 200,

3. Silt fence fabric must meet the following minimum criteria:

a. Tensile Strength: ASTM D4632 Test Method for Grab Breaking Load and Elongation of Geotextiles, 90-lbs.

b. Puncture Rating: ASTM D4833 Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products, 60-lbs.

c. Mullen Burst Rating: ASTM D3786 Standard Test Method for Hydraulic Bursting Strength of Textile Fabrics - Diaphragm Bursting Strength Tester Method, 280-psi.

d. Apparent Opening Size: ASTM D4751 Test Method for Determining Apparent Opening Size of a Geotextile, U.S. Sieve No. 70 (max) to No. 100 (min).

e. Ultraviolet Resistance: ASTM D4355. Minimum 70 percent.

4. Provide 1-1/2-inch angular shaped washed stone containing no fine material for filter stone for overflow structures.

5. Provide galvanized steel or equivalent fence posts. Fence posts may be T-section or L-section, 1.3 pounds per linear foot minimum, and 4 feet in length minimum.

6. Support silt fence using galvanized steel wire fence fabric meeting the following requirements:

    a. 4-inch x 4-inch mesh size, W1.4/1.4, minimum 14-gauge wire fence fabric;

    b. Hog wire, 12-gauge wire, small openings installed at bottom of silt fence;

    c. Standard 2-inch x 2-inch chain link fence fabric; or

    d. Other welded or woven steel fabrics consisting of approved equal or smaller spacing as that listed herein and appropriate gauge wire to provide support.

D. Stone Outlet Sediment Traps used in situations where flows are concentrated in a drainage swale or channel are subject to the following design criteria:

1. Provide geotextile fabric on embankments meeting the following minimum criteria:

    a. Tensile Strength: ASTM D4632 Text Method for Grab Breaking Load and Elongation of Geotextiles, 250-lbs.

    b. Puncture Rating: ASTM D4833 Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products, 135-lbs.

    c. Mullen Burst Rating: ASTM D3786 Standard Test Method for Hydraulic Bursting Strength of Textile Fabrics - Diaphragm Bursting Strength Tester Method, 420-psi.

    d. Apparent Opening Size: ASTM D4751 Test Method for Determining Apparent Opening Size of a Geotextile, U.S. Sieve No. 20 (max).

E. Provide sediment basins as treatment devices that have minimum design dewatering time of 36 hours.

F. Provide check dams for long drainage swales or ditches to reduce erosive velocities that comply with the following criteria:

1. Use geotextile filter fabric under check dams exceeding 18 inches in height meeting the material specified for the Stone Outlet Sediment Trap discussed above.

2. Rock Check Dams:

    a. Use stone graded with size range from 1-1/2 to 3-1/2 inches in diameter depending on expected flows.

    b. Provide rock check dams that are triangular in cross-section with side slopes of 1:1 or flatter on the upstream side and 2:1 or flatter on the downstream side.

3. Sand Bag Check Dams:

    a. Provide sand bag check dams that have a maximum flow through rate of 0.1 cfs per square foot of surface with a minimum top width of 16 inches and bottom

width of 48 inches. Fill bags with coarse sand, pea gravel, or filter stone that is clean and free of deleterious material.

b. Provide bags that are 24-inches to 30-inches long, have a width of 16-inches to 18-inches, are 6-inches to 8-inches thick and have an approximate weight of 40 pounds.

c. Provide bags meeting the following criteria:

1) Made of polypropylene, polyethylene, polyamide, or cotton burlap woven fabric;

2) Minimum unit weight 4-ounces-per-square-yard;

3) Mullen burst strength exceeding 300-psi as determined by ASTM D3786 Standard Test Method for Hydraulic Bursting Strength of Textile Fabrics-Diaphragm Bursting Strength Tester Method; and

4) Ultraviolet stability exceeding 70 percent.

d. Install PVC pipes through the Sand Bag Dam near the top to allow for controlled flow through the dam that is schedule 40 or heavier polyvinyl chloride (PVC) having a nominal internal minimal diameter of 4 inches.

G. Stabilized Construction Entrances used for sites in which significant truck traffic occurs on a daily basis are subject to the following design criteria:

1. The geotextile fabric must meet the following minimum criteria:

a. Tensile Strength: ASTM D4632 Test Method for Grab Breaking Load and Elongation of Geotextiles, 300-lbs.

b. Puncture Strength: ASTM D4833 Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products, 120-lbs.

c. Mullen Burst Rating: ASTM D3786 Standard Test Method for Hydraulic Bursting Strength of Textile Fabrics - Diaphragm Bursting Strength Tester Method, 600-psi.

d. Apparent Opening Size: ASTM D4751 Test Method for Determining Apparent Opening Size of a Geotextile, U.S. Sieve No. 40 (max).

H. Stone stabilized entrance pads must comply with the more stringent of the requirements listed above. The stone must be a minimum of 3-inch to 5-inch coarse aggregate.

I. Filter aggregate must meet the more stringent of the requirements listed above.

J. Geotextile materials must meet the more stringent of the requirements listed above.

2.2 EROSION CONTROL

A. Seed is as specified in Section 32 92 19 – Seeding.

B. Sod is as specified in Section 32 92 23 – Sodding.

C. Netting shall be fabricated of material acceptable to the OWNER or other regulatory agencies.

2.3 SEDIMENTATION CONTROL

A. Hay Bales - clean, seed free cereal hay type.

B. Netting - fabricated of material acceptable to the OWNER or other affected regulatory agencies.

C. Filter Stone - crushed stone conforming to FDOT Specifications.

PART 3 -- EXECUTION

3.1 EROSION CONTROL

A. Minimum procedures for grassing are:

1. Scarify slopes to a depth of not less than six inches and remove large clods, rocks, stumps, roots larger than 1/2-inch in diameter and debris.

2. Sow seed within 24 hours after the ground is scarified with either mechanical seed drills or rotary hand seeders.

3. Apply mulch loosely and to a thickness of between 3/4-inch and 1-inch.

4. Apply netting over mulched areas on sloped surfaces.

5. Roll and water seeded areas in a manner which will encourage sprouting of seeds and growing of grass. Re-seed areas which exhibit unsatisfactory growth.

6. Backfill and seed eroded areas.

3.2 SEDIMENTATION CONTROL

A. Install and maintain silt dams, traps, barriers and appurtenances as required. Hay bales which deteriorate and filter stone which is dislodged shall be replaced.

3.3 PERFORMANCE

A. Should any of the temporary erosion and sediment control measures employed by the CONTRACTOR fail to produce results which comply with the requirements of the State of Florida Department of Environmental Regulation, Palm Beach County Health Department, South Florida Water Management District, and Lake Worth Drainage District the CONTRACTOR shall immediately take the necessary to correct the deficiency at its own expense.

END OF SECTION

SECTION 01 60 00 – PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 THE SUMMARY

A. Section Includes: Information on product workmanship, manufacturer's instructions, transportation and handling, storage and protection.

B. Related Sections

1. 01 33 00 – Submittal Procedures

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Section 01 11 00 – Summary of Work

B. Section 01 25 13 – Product Substitution Procedures

C. Section 01 77 00 – Closeout Procedures

1.3 DEFINITIONS

A. The word "Products," as used in the Contract Documents, is defined to include purchased items for incorporation into the WORK, regardless of whether specifically purchased for the project or taken from CONTRACTOR's stock of previously purchased products.

B. The word "Materials," is defined as products which must be substantially cut, shaped, worked, mixed, finished, refined, or otherwise fabricated, processed, installed, or applied to form WORK.

C. The word "Equipment" is defined as products with operational parts, regardless of whether motorized or manually operated, and particularly including products with service connections (wiring, piping, and other like items).

D. Definitions in this paragraph are not intended to negate the meaning of other terms used in the Contract Documents, including "specialties," "systems," "structure," "finishes," "accessories," "furnishings," special construction," and similar terms, which are self-explanatory and have recognized meanings in the construction industry.

E. Neither "Products" nor "Materials" nor "Equipment" includes machinery and equipment used for preparation, fabrication, conveying, and erection of the WORK.

1.4 CONTRACTOR SUBMITTALS

A. The CONTRACTOR shall submit the following:

1. Assembly instructions for parts shipped unassembled.

2. Manufacturer's instructions for unloading, handling, storage, and protection prior to installation, with each shipment of each product type.

3. Copy of manufacturer's notice of shipment for products critical to the project schedule.

4. Documentation of products in storage, submitted with each progress payment request.

5. Written agreement with property OWNER or lessee for storage of products, if offsite storage is necessary.

B. QA/QC SUBMITTALS

1. Source Limitations: To the greatest extent possible for each unit of WORK, the CONTRACTOR shall provide products, materials, and equipment of a singular generic kind from a single source.

2. Compatibility of Options: Where more than one choice is available as options for CONTRACTOR's selection of a product, material, or equipment, the CONTRACTOR shall select an option which is compatible with other products, materials, or equipment. Compatibility is a basic general requirement of product, material and equipment selections.

1.5 PRODUCT DELIVERY AND STORAGE

A. The CONTRACTOR shall deliver and store the WORK in accordance with manufacturer's written recommendations and by methods and means which will prevent damage, deterioration, and loss including theft. Delivery schedules shall be controlled to minimize long-term storage of products at the Site and overcrowding of construction spaces. In particular, the CONTRACTOR shall ensure coordination to ensure minimum holding or storage times for flammable, hazardous, easily damaged, or sensitive materials to deterioration, theft, and other sources of loss.

1.6 PREPARATION FOR SHIPMENT

A. When practical, products shall be factory assembled.

1. Furnish assembly instructions for parts and products that are shipped unassembled.

2. Mark or tag the separate parts and assemblies for field assembly.

3. Cover machined and unpainted parts that may be damaged by the elements with a strippable protective coating.

B. Package or crate products to provide protection from damage during shipping, handling, and storage.

1. Mark or tag the outside of each package or crate to indicate its purchase order number, bill of lading number, contents by name, name of project and CONTRACTOR, equipment number, and approximate weight.

C. Mark spare parts and special tools to identify the associated products by name, equipment, and part number.

D. Package parts for protection against damage from the elements during shipping, handling, and storage.

E. Ship in boxes or containers marked to indicate the contents as stated above.

F. Deliver spare parts and special tools before the associated equipment is scheduled for the initial test run.

G. The CONTRACTOR shall request a minimum 7-day advance notice of shipment from manufacturer's.

H. Where specified for specific products, factory test results shall be reviewed and accepted before such products are shipped.

1.7 TRANSPORTATION AND HANDLING

A. Products shall be transported by methods to avoid damage and shall be delivered in undamaged condition in manufacturer's unopened containers and packaging.

B. The CONTRACTOR shall provide equipment and personnel to handle products, materials, and equipment including those furnished by OWNER, by methods to prevent soiling and damage.

C. The CONTRACTOR shall provide additional protection during handling to prevent scrapping, marring and otherwise damaging products, packaging, and surrounding surfaces.

D. Handle products by methods to prevent bending or stressing

E. Lift heavy components only at designated lifting points

1.8 RECEIVING, INSPECTION AND UNLOADING

A. All OWNER furnished items, if applicable, will be picked up by the CONTRACTOR at the locations specified by the OWNER, and unloaded at the job site.

B. The CONTRACTOR shall record the receipt of products at the jobsite.

C. Upon receipt of products at the jobsite, the CONTRACTOR shall inspect for completeness and evidence of damage during shipment.

1. The OWNER, ENGINEER and manufacturer's representative may be present for inspection.

2. Should there appear to be any damage, notify the ENGINEER immediately and inform the manufacturer and the transportation company.

3. Expedite replacement of damaged, incomplete, or lost items.

D. After completion of inspection, unload products per the manufacturer's instructions.

E. Do not unload damaged or incomplete products to be returned to the manufacturer for replacement, except as necessary to expedite return shipment.

F. The CONTRACTOR shall certify that the materials and quantity received are suitable for installation in accordance with these Contract Documents.

G. The CONTRACTOR shall assume full responsibility for the storage and control of all OWNER supplied materials.

1.9 STORAGE AND PROTECTION

A. Products shall be stored in accordance with manufacturer's written instructions and with seals and labels intact and legible. Sensitive products shall be stored in weather-tight climate controlled enclosures and temperature and humidity ranges shall be maintained within tolerances required by manufacturer's recommendations.

B. For exterior storage of fabricated products, products shall be placed on sloped supports above ground. Products subject to deterioration shall be covered with impervious sheet covering and ventilation shall be provided to avoid condensation.

C. Loose granular materials shall be stored on solid flat surfaces in a well-drained area and shall be prevented from mixing with foreign matter.

D. Storage shall be arranged to provide access for inspection. The CONTRACTOR shall periodically inspect to assure products are undamaged and are maintained under required conditions.

E. Storage shall be arranged in a manner to provide access for maintenance of stored items and for inspection.

F. During such periods of time as are designated by the U.S. Weather Bureau as being a hurricane warning or hurricane alert, construction materials or equipment shall be secured against displacement by wind forces.

G. The CONTRACTOR shall document products in storage to facilitate inspection and to estimate progress payments for products delivered but not installed in the WORK.

1.10 MAINTENANCE OF PRODUCTS IN STORAGE

A. Stored products shall be periodically inspected on a scheduled basis. The CONTRACTOR shall maintain a log of inspections and shall make the log available on request.

B. The CONTRACTOR shall comply with manufacturer's product storage requirements and recommendations.

C. The CONTRACTOR shall maintain manufacturer-required environmental conditions continuously.

D. The CONTRACTOR shall ensure that surfaces of products exposed to the elements are not adversely affected and that weathering of finishes does not occur.

E. For mechanical and electrical equipment, the CONTRACTOR shall provide a copy of the manufacturer's service instructions with each item and the exterior of the package shall contain notice that instructions are included.

F. Products shall be serviced on a regularly scheduled basis, and a log of services shall be maintained and submitted as a record document prior to final acceptance by the OWNER in accordance with the Contract Documents.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01 66 00– PRODUCT STORAGE AND HANDLING REQUIREMENTS

PART 1 -- GENERAL

1.1 THE SUMMARY

A. This section provides CONTRACTOR requirements for Product Storage and Handling Requirements.

B. Related sections:

1. Section 01 60 00 – Product Requirements

1.2 CONTRACTOR'S WORK AND STORAGE AREA

A. The CONTRACTOR will arrange for and secure for its exclusive use in the immediate area of the project during the term of the Contract a storage area for its construction operations relative to this Contract. At completion of WORK, the CONTRACTOR shall return this area to its original condition, including grading and landscaping.

B. The CONTRACTOR shall make its own arrangements for any necessary off-site storage or shop areas necessary for the proper execution of the WORK.

C. Lands to be furnished by the OWNER for field offices, construction operations, concrete aggregate pits, roads, and other purposes are indicated. Should the CONTRACTOR find it necessary to use any additional land for its field offices or for other purposes during the construction of the WORK, it shall arrange for the use of such lands at its own expense.

D. Materials shall be suitably stored as required by the manufacturer to protect from damage and maintain product warranties. Utilize air conditioned, rat and insect proof storage as necessary.

E. The CONTRACTOR shall construct and use a separate storage area for hazardous materials used in constructing the WORK.

1. For the purpose of this paragraph, hazardous materials to be stored in the separate area are products labeled with any of the following terms: Warning, Caution, Poisonous, Toxic, Flammable, Corrosive, Reactive, or Explosive. In addition, whether or not so labeled, the following materials shall be stored in the separate area: diesel fuel, gasoline, new and used motor oil, hydraulic fluid, cement, paints and paint thinners, 2 part epoxy coatings, sealants, asphaltic products, glues, solvents, wood preservatives, sand blast materials, and spill absorbent.

2. Hazardous materials shall be stored in groupings according to the Material Safety Data Sheets.

3. The CONTRACTOR shall develop and submit to the ENGINEER a plan for storing and disposing of the materials above.

4. The CONTRACTOR shall obtain and submit to the ENGINEER a single EPA number for wastes generated at the Site.

5. The separate storage area shall meet the requirements of authorities having jurisdiction over the storage of hazardous materials.

6. The separate storage area shall meet all the requirements of all authorities having jurisdiction over the storage of hazardous materials.

7. Hazardous materials that are delivered in containers shall be stored in the original containers until use. Hazardous materials delivered in bulk shall be stored in containers which meet the requirements of authorities having jurisdiction.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01 71 13– MOBILIZATION

PART 1 -- GENERAL

1.1 THE SUMMARY

A. This section covers the WORK necessary to move in and move out personnel and equipment, set up and remove testing equipment, locate temporary facilitates, and clean site completely. CONTRACTOR shall mobilize as required for the proper performance and completion of the WORK and in accordance with the Contract Documents.

B. Related Sections:

1. Section 01 57 00 – Temporary Controls
2. Section 01 57 13 – Temporary Erosion and Sediment Controls

C. REFERENCE SPECIFICATIONS, CODES AND STANDARDS

1. Section 01 14 13 – Access to Site.

D. Mobilization shall include at least the following items:

1. Moving onto the Site of CONTRACTOR's plant and equipment necessary for the first month of operations.
2. Installing temporary construction power, wiring, and lighting facilities.
3. Establishing fire protection system.
4. Developing construction water supply.
5. Providing field offices for the CONTRACTOR and the ENGINEER, complete with furnishings, equipment, and utility services.
6. Providing on-Site communication facilities, including telephones and fax machines.
7. Providing on-Site sanitary facilities and potable water facilities.
8. Arranging for and erection of CONTRACTOR's WORK and storage yards.
9. Constructing and implementing security features and requirements complying with Section 01 14 13 – Access to Site.
10. Obtaining required permits.
11. Having OSHA required notices and establishing safety programs.
12. Having the CONTRACTOR's superintendent at the Site full time.
13. Submitting initial submittals.

1.2 PAYMENT FOR MOBILIZATION

A. The CONTRACTOR's attention is directed to the condition that no payment for mobilization, or any part thereof, will be recommended for payment under the Contract until mobilization items listed above have been completed.

PART 2 -- PRODUCTS

2.1 GENERAL EQUIPMENT REQUIREMENTS

A. Provide all materials and equipment required to accomplish the WORK as specified.

PART 3 -- EXECUTION

3.1 GENERAL

A. Set up equipment within the area designated on the Drawings. Accomplish all required WORK in accordance with applicable portions, of these Specifications.

3.2 CONTAMINATION PRECAUTIONS

A. Avoid contamination of the project area. Do not dump waste oil, rubbish, or other similar materials on the ground.

3.3 CLEANING

A. Upon completion and acceptance of WORK, remove from the site all equipment, debris, unused materials, temporary construction buildings, and other miscellaneous items resulting from or used in the operations. Replace or repair any facility which has been damaged during the construction WORK. Restore the site as nearly as possible to its original condition.

END OF SECTION

SECTION 01 71 23– FIELD ENGINEERING

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Provide and pay for all field engineering services required for the project, including but not limited to:

1. Surveying work required in execution of the project.

2. Civil, structural, geotechnical or other professional engineering services specified or required to execute the CONTRACTOR's construction methods.

B. The OWNER will identify existing control points on the Contract Drawings, as required or will provide copies of roadway plans indicating the control points.

C. The CONTRACTOR's Surveyor shall complete a survey within the first 30 calendar days to confirm all bearing angles, stations and distances between control points so that WORK is fabricated and installed without project delays.

D. Construction staking shall include all the surveying work required to lay out the Work and to control the location of the finished Project as shown on the Plans and as specified in these Specifications. The CONTRACTOR shall have the full responsibility for constructing the Project to the correct horizontal and vertical alignment, as shown on the Plans, as specified in these Specifications, or as directed by the ENGINEER. The CONTRACTOR shall assume all costs associated with rectifying Work constructed in the wrong location.

E. The CONTRACTOR shall be responsible for setting reference points and/or offsets, establishing baselines and all other layouts, staking, and all other surveying required for the construction of the Project.

F. The CONTRACTOR shall be responsible for all damage done to reference points, stakes, grade marks, horizontal and vertical control points, baselines, center lines, and temporary bench marks, and shall bear the cost of re-establishing same if disturbed as a result of the CONTRACTOR's operations. Baselines shall be defined as the line to which the location of the Work is referenced, i.e., edge of pavement, road centerline, property line, right-of-way, or survey line.

G. The CONTRACTOR shall be responsible for staking out the permanent and temporary easements or the limits of construction to ensure that the Work is not deviating from the limits indicated on the Plans.

H. Related sections:

1. Section 01 11 00 – Summary of Work

2. Section 01 77 00 – Closeout Procedures

1.2 CONTRACTOR SUBMITTALS

A. Submit name and address of Surveyor and if required, Professional Engineer.

B. On request of the OWNER, submit documentation to verify accuracy of field engineering work.

1.3 QUALITY ASSURANCE

A. Qualifications: Qualified Professional Engineer and/or Registered Land Surveyor, acceptable to the OWNER

B. Field Logs: Maintain a complete and accurate log of all control and survey work as it progresses.

C. The CONTRACTOR shall furnish to the ENGINEER documentation, prepared by a surveyor currently registered in the State of Florida indicating that staking is being done to the horizontal and vertical alignment shown in the Plans. This requires that the CONTRACTOR hire, at the CONTRACTOR's own expense, a currently registered surveyor, acceptable to the OWNER, to provide ongoing construction staking or confirmation-of such.

D. Any deviations to the Plans and these Specifications shall be confirmed by the ENGINEER prior to construction of that portion of the Project.

1.4 PROJECT SITE/CONDITIONS

A. The Plans provide the locations and/or coordinates of principal components of the Project. The alignment of some components of the Project may be indicated in these Specifications. The ENGINEER may direct changes to the locations of some of the components of the Project or provide clarification to questions regarding the correct alignment.

B. The survey points, control points, and baseline to be provided to the CONTRACTOR shall be limited to only that information which can be found on the Site of the Work by the CONTRACTOR.

1.5 PERFORMANCE REQUIREMENTS

A. Project Survey Requirements:

1. Establish lines and levels. Locate and layout by instrumentation and similar appropriate means:

a. Site improvements:

1) Stakes for grading, fill and topsoil replacement.

2) Utility slopes and invert elevations.

b. Batter boards for structures.

c. Building foundation, column locations and floor levels.

d. Controlling lines and levels required for mechanical and electrical trades.

2. From time to time verify layouts by same methods.

3. Locate and mark all known underground utilities prior to entrance of any equipment on the site. All such utilities shall be protected from heavy traffic. Establish and maintain barricades around all manholes, drains and similar underground items. Immediately notify the OWNER of any conflicts between operations and any in ground items to remain.

4. Establish a minimum of two (2) permanent bench marks referenced to data established by survey control points and record locations with horizontal and vertical data on record documents.

B. Site Work

1. Staking Precision: The precision of construction staking shall match the precision of a component's location as indicated on the Plans. Staking of utilities shall be done in accordance with generally accepted practices for the type of utility.

2. Paved Surfaces: The CONTRACTOR shall establish a reference point for establishing and verifying the paving subgrade and finished grade elevations. Any variance with the grades shown on the Plans shall be identified by the CONTRACTOR and approved by the ENGINEER prior to constructing the base.

C. Water Mains and Accessories

1. Staking Precision: The precision of construction staking required shall be that which the correct location of the water main can be established for construction and verified by the ENGINEER. Where the location of components of the water main, e.g. fittings, valves, and road crossings are not dimensioned, the establishment of the locations of these components shall be based upon scaling these locations from the Plans with relation to readily identifiable land marks, e.g., survey reference points, power poles, manholes, etc.

2. Reference Points:

a. Reference points shall be placed at no more than three (3) feet from the outside of the construction easement or right-of-way. The location of the reference points shall be recorded in a log with a copy provided to the ENGINEER for use, prior to verifying reference point locations. Distance shall be accurately measured to 0.01 foot.

b. The CONTRACTOR shall give the ENGINEER reasonable notice that reference points are set. The reference point locations must be verified by the ENGINEER prior to commencing clearing and grubbing operations.

~~D. Sewers and Accessories~~

~~1. Staking Precision: The precision of construction staking shall be no less than 1: 10,000. Horizontal distances shall be measured with a precision no less than 0.01 feet, and horizontal angles measured with a precision of no less than ten (10) seconds.~~

2. Reference Points:

a. The CONTRACTOR shall obtain the coordinates on each manhole and provide this information to the ENGINEER.

b. Reference points shall be placed, at or no more than three (3) feet, from the outside of the construction easement or right-of-way. The locations of the reference points shall be recorded in a log with a copy provided to the ENGINEER for use prior to his verifying reference point locations. Distances between reference points and the manhole centerlines shall be accurately measured to the nearest 0.01 foot.

c. The CONTRACTOR shall give the ENGINEER reasonable notice that reference points are set. The reference point locations must be verified by the ENGINEER prior to commencing clearing and grubbing operations.

3. Cut Sheets:

a. Cut sheets shall be prepared by the CONTRACTOR and shall be utilized for basis of payment and for confirming that the profile is as shown on the plans.

b. Prior to beginning installation of any section of the gravity sewer, the CONTRACTOR shall prepare cut sheet from field run ground elevations and submit them to the ENGINEER for approval.

c. The survey, from which cut sheets are prepared, may be performed prior to or after clearing and grubbing operations. Using the elevation of the benchmark shown, the CONTRACTOR shall obtain an elevation on every other benchmark shown on the Plans and provide this information to the ENGINEER.

d. No installation of the sewer shall commence prior to the ENGINEER's approval of the cut sheets.

e. Cut sheets shall provide the station to the nearest one (1) foot and the elevation to the nearest 0.1 foot at maximum one-hundred (100) foot intervals, plus at each change in slope of the ground and at each manhole centerline. The cut sheet shall also show the invert elevation of the sewer at the corresponding sewer station. From a straight line interpolation of the data, the CONTRACTOR shall calculate and record the station of each point where there is a change in the cut brackets indicated in the Bid Form. The CONTRACTOR shall calculate and record the length of the sewer between each change in cut bracket. The CONTRACTOR shall also indicate the pipe material and class as well as the type of bedding. The slope of the sewer shall also be indicated between manholes. At least one (1) offset hub shall be provided by the CONTRACTOR at each manhole and its elevation and the resulting cut from the hub to the manhole invert shown on the cut sheet.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01 72 00 - PROJECT RECORD DRAWINGS

PART 1 - GENERAL

1.1 THE REQUIREMENT

A. The CONTRACTOR shall keep and maintain, at the job site, one record copy of all drawings, specifications, addenda, change orders, and other modifications to the Contract, approved shop drawings, and field test records.

B. The CONTRACTOR shall mark the record drawings to indicate all project conditions, locations, configurations, and any other changes or deviations which may vary from the details represented on the original Contract Drawings, including buried or concealed construction and utility features which are revealed during the course of construction. Special attention shall be given to recording the horizontal and vertical location of all buried utilities that differ from the locations indicated, or which were not indicated on the Contract Drawings. Said record drawings shall be supplemented by any detailed sketches as necessary or directed to indicate, fully, the WORK as actually constructed. These master record drawings of the CONTRACTOR's representation of as-built conditions, including all revisions made necessary by addenda and change orders shall be maintained up-to-date during the progress of the WORK.

C. Record drawings shall be accessible to the ENGINEER at all times during the construction period.

D. Periodic payments must be accompanied by an updated copy of the record drawings. Pay Applications submitted without record drawings shall not be proceeded by the ENGINEER, until the drawings are received. The CONTRACTOR shall submit one set of record drawing, 11 x 17 size shall be acceptable.

E. Final payment will not be acted upon until the CONTRACTOR has prepared and delivered record as-built drawings to the ENGINEER. Said up-to-date record drawings shall be in the form of a set of prints with carefully plotted information overlaid in red.

F. Upon substantial completion of the WORK and prior to final acceptance, the CONTRACTOR shall finalize and deliver a complete set of record drawings to the ENGINEER for transmittal to the OWNER, conforming to the construction records of the CONTRACTOR. This set of drawings shall consist of corrected drawings showing the reported location of the WORK. The information submitted by the CONTRACTOR and incorporated by the ENGINEER into the Record Drawings will be assumed to be correct, and the CONTRACTOR shall be responsible for the accuracy of such information, and shall bear the costs resulting from the correction of incorrect data furnished to the ENGINEER and the OWNER.

1.2 RELATED REQUIREMENTS

A. Section 01 33 00: Submittal Procedures

B. Section 01 77 00: Closeout Procedure.

C. Latest Palm Beach County Water Utilities Department Minimum Design and Construction Standards for Potable Water, Reclaimed Water and Wastewater systems

1.3 MARKING DEVICES

A. The CONTRACTOR shall provide felt tip marking pens for recording information in a color code.

1.4 RECORDING

A. Label each document "PROJECT RECORD" in neat large printed letters.

B. Record information concurrently with the progress of construction.

C. Legibly mark drawings to record actual construction

1. Provide horizontal location of pipes any time the pipe passes a permanent surface reference point. Permanent reference points are as defined herein. Any deviations from the alignment shown on the Contract Drawings must be noted.

2. Provide vertical locations at 100-foot intervals. Vertical location will be depth of cover or pipe elevation, whichever is called for on the drawings.

3. All fittings, including sleeves, valves, and services are to be located by two measurements to permanent surface reference points.

4. Permanent surface reference points are manholes, catch basins, power poles, concrete sidewalk, or concrete curbs. Edge of pavement and road intersections may not be used without the ENGINEER's approval.

5. Field changes of dimension and detail.

6. Changes made by Field Order, Change Order, or Construction Change Directive.

7. Details not shown on the original Contract Drawings.

D. Legibly mark each Section of the Specifications and Addenda to record:

1. Manufacturer, trade name, catalog number, and supplier of each item actually installed.

2. Changes made by Field Order, Change Order, or Work Directive.

1.5 SUBMITTAL

A. Prior to Substantial Completion, submit Record Documents to the ENGINEER for delivery to the OWNER.

B. Accompany submittal with a transmittal letter in duplicate, containing:

1. Date.

2. Project title and number.

3. CONTRACTOR's name and address.

4. Title and number of each record document.

5. Signature of CONTRACTOR or its authorized representative.

C. Computer generated as-built drawings shall be submitted. Data in tabular form will not be accepted. Initially two (2) signed and sealed paper prints are to be submitted for review. Following review by the ENGINEER and OWNER, any comments are to be addressed. On final submission, the following items shall be provided:

1. Two (2) signed and sealed sets of prints (24" x 36")

2. All proposed data must be crossed out and the computer generated as-built data must be easy to be identified as such, using different font (larger size, thickness, pitch, etc.). Record data identifiers must be added to the legend and shown on each plan/profile sheet.

3. Manufacturers of equipment including but not limited to valves, hydrants, pumps, motors, control panels, backflow preventors, generators, engines, and meters shall be listed on at least one page of the record drawings.

a. List of manholes, valves, and hydrants on forms and computer CD / usb, as specified by the OWNER. The listing shall match the data shown on record drawings. Sample forms to be completed by the CONTRACTOR are included in Attachment A to this Specification Section.

b. Data on CD / usb shall be in Microsoft Excel format or alternative program (such as Lotus 1-2-3 (*.wk*), QuattroPro/DOS Files (*.wq*), dBase Files (*.dbf), or Text Files

(*.prn; *.txt; *.csv)) that can be imported into Microsoft Excel without loss of data.

4. The electronic drawing files must be AutoCAD format or compatible (DWG file or DXF file) submitted on compact disc (CD). All fonts and line types shall be from the standard AutoCAD library or be AutoCAD compatible. Reference files and blocks are to be bound to drawings prior to submittal. Layers and drawings created by turning on and off layers are to be documented and submitted in MS Word or ASCII format. As a minimum requirement, electronic files must include all features that were shown on the Contract Drawings.

D. A separate electronic record drawing files require showing only geographically correct locations of main pipes, valves, hydrants, manholes, lift stations, right-of-way lines and property lines.

E. Submit one (1) print highlighting the part of the system requested for Health Department certifications. Any as-built drawing found to be inaccurate or incomplete will be rejected.

F. Record drawings for pipelines shall address the following:

1. The as-built data on submitted plan sheets (line work, numerical data) must be easily legible, accurate and comply with PBCWUD standards (increase the font size and/or use different font style to improve legibility). Separate water and wastewater as-built plans may be required for projects with a high density of data and/or poor legibility.

2. The Contract Drawings shall be used for as-built presentation.

3. Identify street names, addresses, subdivision, homeowner's association contact for each well site.

4. Existing utility easements shall be identified on record drawings with ORB/Page, Plat Book/Page.

5. Complete title block with current file name (including f/k/a, a/k/a, plat name, etc.). Label drawings "Record Drawings" or "as-builts" and show appropriate entries in the revision block.

6. New valves must be numbered on the appropriate plan sheets.

7. Horizontal as-built data (stations, offsets, distances between fittings, manholes, pull boxes) are to be rounded off to the nearest foot. Elevation data shall be shown to the hundredth of a foot (top of manhole, inverts), or to the tenth of foot for top of pipe elevations. Slopes shall be rounded off to the nearest one-tenthousandth.

8. As-built data must include stations and offsets and top of pipe elevations for all fittings, valves, hydrants, pipe conflicts, and pipe at 100-foot intervals. Horizontal pipe separation at 100-foot intervals is required for parallel piping systems. Show restrained pipe joints. For "wet tap" or "cut-in" connections into existing system, a distance from the point of connection to an existing in-line valve is required.

9. Completed equipment information, OWNER equipment data sheets included in Attachment A to this Specification Section, and all data lists must be submitted as part of the record drawing review.
10. Completed operation and maintenance manuals must be submitted with final record drawings.

G. Record drawings for new and rehabilitated production wells shall address the following information:

1. A site sketch shall be prepared for each new well site showing sufficient detail to properly locate the wellhead. The site sketch must indicate the position of the wellhead in the State Planar coordinate system NAD27 and the elevation of the outer casing with reference to feet National Geodetic Vertical Datum.

2. A final survey as prepared and sealed by a Professional Land Surveyor registered in the State of Florida. Survey results shall include the longitude and latitude of each new well site, vertical elevation of the top of the outer casing, top of well pad elevation, top and bottom elevations of all well vaults, finished grade elevation, and the centerline elevation of the wellhead piping.

3. The CONTRACTOR shall submit record as-built information for each new well and each existing well modified under the Contract. Information to be provided shall include but not be limited to the following: depth and size of each casing, total depth of well casing, total depth of well, screened interval for well, pump set depth, set depth of level transmitter, total number of hours for air development and pumping development, materials of construction, capacity of well, sand content from final well, and silt density index from final well.

H. Record drawings for new equipment provided by the CONTRACTOR shall address the following information:

1. Manufacturer, model number, serial numbers for each piece of equipment.

2. For each new pump: pump type, design capacity and TDH, shutoff head, impeller size, manufacturer's pump curve reference number, horsepower, efficiency, motor speed, discharge pipe size, discharge flange pressure rating, diameter of bowls, number of stages, pump column pipe diameter and length.

3. For each new flow meter/flow transmitter: flow range, accuracy, turndown ratio, signal interface, materials of construction, and power supply required.

PART 2 – PRODUCTS - Not Used

PART 3 – EXECUTION - Not Used

END OF SECTION

ATTACHMENT A - OWNER'S EQUIPMENT DATA SUBMITTAL REQUIREMENT

The CONTRACTOR is required to submit this data sheet with each piece/unit of mechanical, electrical, or instrumentation equipment provided on this project. Information shall be submitted with the Record Drawings for review and approval by the OWNER.

GENERAL INFORMATION

Installation Date _____
Replacement Date _____
Deletion Date & Equipment # _____ / _____
System _____
Equipment Description _____
_____
Equipment Location _____
_____
Manufacturer _____

DESCRIPTION INFORMATION

Tag # _____
Asset # _____
Serial # _____
Model # _____
Catalog _____
Size _____
Type _____

REQUIRED INFORMATION

Volts _____
Amps _____
Phase _____
Heater Size _____
KVA _____
KW _____
RPM _____
Horse Power _____
Insulation _____
Enclosure _____
Service Factor _____
Arrangement _____
Frame Size _____
Drive Bearing _____
Opp Dr Bearing _____
Sealed Bearing _____
Fuel Capacity _____
Oil Filter _____
Air filter _____
Coolant Filter _____
Fuel Filter _____
Ratio _____
Torque _____
Input RPM _____
Output RPM _____
TDH _____
Impeller Dia _____
PSI _____

No. of Stages _____
Suction Size _____
Discharge Size _____
Packing Type _____
Packing Size _____
Body Size _____
Port Size _____
PSI Rating _____
Face to Face _____
Body Ends _____

The above listed information shall be provided for the following equipment. One sheet shall be completed for each unit/piece listed below. It is the CONTRACTOR's responsibility to coordinate this equipment list with equipment included in the Contract Documents and technical specifications.

ELECTRICAL AND CONTROL PANELS:

Alternator, Circuit Breaker (control, disconnect, emergency, pump or lighting), Control Circuit, Control Panel, Contactor, Insulator, Electrical Panel, Limit Switch, Main Breaker, Power Capacitor, Pressure Switch, Phase Monitor, Soft Start Controller, Timer, Transfer Switch, Transformer (bank, control, lighting, or current), Variable Frequency Drive, Voltage Regulator, etc.

EMERGENCY EQUIPMENT:

Alarm-Horn Lights, Emergency Lights, Emergency Drop Shower, Exit Signs, Eye Wash Station, Fire Alarm System, Fire Extinguisher, SCBA Air Pack, etc.

GENERATORS:

Air Filter, Battery Charger, Battery, Coolant Filter, Day Tank, Engine, Engine Heater, Portable Generator, Stationary Generator, etc.

INSTRUMENTATION:

Alarm Panel, Flow Controller, Flow Indicator, Flow Transmitter, Flow Recorder, Level Controller, Hydrogen Sulfide Detector, Level Indicator, Level Transmitter, etc.

MOTORS (AC or DC):

Blower, Pump, Valve Actuator, Well, etc.

PUMPS:

Submersible, Sump, etc.

TELEMETRY:

Alarms, Battery Backup Power, Controllers, CPU, Fiber Optics, PLC, Radio, Seiscor, Telemetry, UPS, etc.

VALVES:

Air Relief, Back Pressure, Ball, Ball Check, Butterfly, Gate, Plug, Pneumatic, Pressure Reducing, Pressure Relief, Silent Check, Under Flow, etc.

WELLS:

Raw Water, Monitoring Well, etc.

PROJECT/DEVELOPMENT NAME: _____

DEVELOPER'S ENGINEER OF RECORD : _____

WUD PROJECT NUMBER: _____ FORM BY : _____ DATE: _____

AS-BUILT NO. *(BY WUD)*: _____ GRID SHEET NO. *(BY WUD)*: _____ WUD INSPECTOR : _____

CORROSION BARRIER SYSTEM : _____ APPLICATOR : _____

FIRE/FLUSHING HYDRANT MFG/MODEL : _____ VALVE MFG: _____

*FEATURE CODE (NAME)	PROJECT UNIQUE NUMBER	FL STATE PLANE COORDINATES				WUD NUMBER *(BY WUD)*	VALVE SIZE	CLOSEST STREET ADDRESS
		NORTHING	EASTING	ELEV. (TOP)	LOWEST INVERT			

*FEATURE CODE (NAME)

GV = RESILIENT SEAT GATE VALVE
BFV = BUTTERFLY VALVE
MH = MANHOLE
ARV = AIR RELEASE VALVE
AVR = AIR/VACUUM RELEASE VALVE
MH = MANHOLE
FH = FIRE HYDRANT
FLH = FLUSHING HYDRANT
LSGV= LINE STOP GATE VALVE
AFL = AUTOMATIC FLUSHER

ADD "W" FOR WATER, "S" FOR SEWER & "R" FOR RECLAIM TO ALL FEATURE CODES, IE. WFH, WGV, SGV, SMH, RGV OR RFLH

SECTION 01 73 29– CUTTING AND PATCHING

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Section Includes:

1. CONTRACTOR shall be responsible for all cutting, backfill, base replacement, asphalt replacement, milling required to complete the Work. The Contract Plans list cutting and patching of driveways and roadways. The CONTRACTOR shall maintain traffic and comply with the special conditions as shown on the Contract Plans.

B. Related sections:

1. Section 01 11 00 – Summary of Work
2. Section 01 76 10 – Protection of Existing Facilities
3. Section 31 23 33 – Trenching and Backfilling

1.2 PERFORMANCE REQUIREMENTS

A. Execute cutting and demolition by methods that will prevent damage to other Work and will provide proper surfaces to receive installation of repairs.

B. Perform excavation and backfill by methods that will prevent settlement or damage to other Work.

C. Execute fittings and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes.

D. Minimize disruption of vehicular and pedestrian traffic during cutting and patching. If a property has multiple entrances close only one entrance at a time.

E. Restoration of Pavement:

1. General: All paved areas including asphaltic concrete berms cut or damaged during construction shall be replaced with similar materials of equal thickness to match the existing adjacent undisturbed areas, except where specific resurfacing requirements have been called for in the Contract Documents or in the requirements of the agency issuing the permit. The pavement restoration requirement to match existing sections shall apply to all components of existing sections, including sub-base, base, and pavement. Temporary and permanent pavement shall conform to the requirements of the affected pavement owner. Pavements which are subject to partial removal shall be neatly saw cut in straight lines.

2. Temporary Resurfacing: Wherever permanent resurfacing is not possible immediately after completing the work, the CONTRACTOR shall place temporary surfacing promptly after backfilling and shall maintain such surfacing until final restoration of improvements.

3. Permanent Resurfacing: In order to obtain a satisfactory junction with adjacent surfaces, the CONTRACTOR shall saw cut back and trim the edge so as to provide a clean, sound, vertical joint before permanent replacement of an excavated or damaged portion of pavement. Damaged edges of pavement along excavations and elsewhere shall be trimmed back by saw cutting in straight lines. All pavement restoration and other facilities restoration shall be constructed to finish grades compatible with adjacent undisturbed pavement.

4. Restoration of Sidewalks or Private Driveways: Wherever sidewalks or private roads have been removed for purposes of construction, the CONTRACTOR shall place suitable temporary sidewalks or roadways promptly after backfilling and shall maintain them in satisfactory condition for the period of time fixed by the authorities having jurisdiction over the affected portions. If no such period of time is so fixed, the CONTRACTOR shall maintain said temporary sidewalks or roadways until the final restoration thereof has been made.

PART 2 -- PRODUCTS

2.1 MATERIALS

A. Comply with specifications and standards for each product involved.

PART 3 -- EXECUTION

3.1 INSPECTION

A. Inspect existing conditions of the Project, including elements subject to damage or to movement during cutting and patching.

B. After uncovering the Work, inspect conditions affecting installation of products or performance of the Work.

C. Report unsatisfactory or questionable conditions to the ENGINEER in writing; do not proceed with the Work until the ENGINEER has provided further instructions.

3.2 PREPARATION

A. Provide adequate temporary support as necessary to assure structural integrity of affected portions of the Work.

B. Provide devices and methods to protect other portions of the Work from damage.

C. Provide protection from elements for that portion of the Project which may be exposed by cutting and patching work, and maintain excavations free from water.

END OF SECTION

SECTION 01 74 30 - PRESSURE PIPE TESTING AND DISINFECTION

PART 1 - GENERAL

1.1 THE SUMMARY

A. The CONTRACTOR shall test potable water/wastewater and disinfect potable water pipelines and appurtenant piping, in accordance with the Contract Documents.

B. The CONTRACTOR shall be responsible for obtaining permits for discharging excess testing water/wastewater and disinfection water and dechlorination of such water if required to satisfy permit limits.

1.2 CONTRACTOR SUBMITTALS

A. Furnish submittals in accordance with Section 01 33 00 – Submittal Procedures.

B. Furnish:

1. A testing plan and schedule, including method for water conveyance, control, disposal, and disinfection shall be submitted in writing for approval.

2. Name of certified bacteriological testing laboratory.

3. Resume of experienced technician, if liquid chlorine is proposed.

PART 2 - PRODUCTS

2.1 MATERIAL REQUIREMENTS

A. All test equipment, chemicals for chlorination, temporary valves, bulkheads, and other water control equipment, and choice of disinfectant shall be as determined by the CONTRACTOR. No materials shall be used which would be injurious to the WORK for future conveyance of potable water.

B. Chlorine for disinfection may be in the form of liquid chlorine, sodium hypochlorite solution, or calcium hypochlorite granules or tablets.

1. Liquid chlorine shall be in accordance with the requirements of ANSI/AWWA B301 - Liquid Chlorine, and shall be used only when each of the following conditions are satisfied:

a. Appropriate gas flow chlorinators and ejectors are used.

b. An experienced technician directly supervises.

c. Appropriate safety practices are observed.

2. Sodium and calcium hypochlorite shall be in accordance with ANSI/AWWA B300 - Hypochlorites.

C. Dechlorination agents may be sodium bisulfate, sodium sulfite, or sodium thiosulfate.

PART 3 - EXECUTION

3.1 GENERAL

A. Water for testing and disinfecting water pipelines will be furnished by the OWNER; however, the CONTRACTOR shall convey the water from the OWNER-designated source to the points of use.

B. All pressure pipelines shall be tested; those for potable water shall be disinfected. All chlorinating and testing operations shall be performed in the presence of the ENGINEER.

C. Disposal of flushing water and water containing chlorine shall be by methods acceptable to the ENGINEER.

D. Disinfection operations shall be scheduled as late as possible during the Contract Time to maximize the degree of sterility of the facilities at the time the WORK is accepted by the OWNER. Bacteriological testing shall be performed by a certified testing laboratory accepted by the OWNER. Results of the bacteriological testing shall be satisfactory with the State Department of Health or other appropriate regulatory agency.

3.2 HYDROSTATIC TESTING OF PIPELINES

A. Pipeline 30-inches diameter and larger shall be visually inspected that all debris has been removed prior to flushing.

B. Prior to hydrostatic testing, pipelines shall be flushed or blown out as appropriate. The CONTRACTOR shall test pipelines in sections. Sections to be tested shall be defined by isolation valves in the pipeline. Where such valves are not present, the CONTRACTOR shall install temporary bulkheads or plugs for the purpose of testing. Sections that do not have isolation valves shall be tested in approximate 2,500 feet segments. Sections that have a zero leakage allowance may be tested as a unit. No section of the pipeline shall be tested until field-placed concrete or mortar has attained an age of 14 Days. The test shall be made by closing valves when available or by placing bulkheads and filling the line slowly with water. The CONTRACTOR shall be responsible for ascertaining that test bulkheads are suitably restrained to resist the thrust of the test pressure without damage to or movement of the adjacent pipe. Unharnessed sleeve-type couplings, expansion joints, or other sliding joints shall be restrained or suitably anchored prior to the test to avoid movement and damage to piping and equipment. Remove or protect any pipeline-mounted devices that may be damaged by the test pressure. The CONTRACTOR shall provide sufficient temporary tappings in the pipelines to allow for trapped air to exit. After completion of the tests, such taps shall be permanently plugged. Care shall be taken that air relief valves are open during filling.

C. The pipeline shall be filled at a rate which will not cause any surges or exceed the rate at which the air can be released through the release valves at a reasonable velocity. The air within the pipeline shall be allowed to escape completely. The differential pressure across the orifices in the air release valves shall not be allowed to exceed 5 psi at any time during filling. After the pipeline or section thereof has been filled, it shall be allowed to stand under a slight pressure for at least 24 hours to allow the concrete or mortar lining, as applicable, to absorb water and to allow the escape of air from air pockets. During this

period, bulkheads, valves, and connections shall be examined for leaks. If leaks are found, corrective measures satisfactory to the ENGINEER shall be taken.

D. The hydrostatic test shall consist of holding the indicated test pressure on the pipeline segment for a period of 2 hours for DIP and PVC or 3 hours for HDPE. The test pressure for yard piping shall be measured at the lowest point of the pipeline section being tested. No pressure test will be required for a reservoir overflow line. Visible leaks that appear during testing shall be repaired in a manner acceptable to the ENGINEER. Add water to restore the test pressure if the pressure decreases 5 psi below test pressure during the test period.

E. The maximum allowable leakage for distribution and transmission pipelines shall be The maximum quantity of make-up water that must be supplied into the tested pipe to maintain pressure within 5 psi of the specified test pressure shall not exceed 50% of the applicable AWWA C-600 Standard. Pipe with welded joints shall have no leakage. Exposed piping shall show no visible leaks and no pressure loss during the test. In the case of pipelines that fail to pass the leakage test, the CONTRACTOR shall determine the cause of the leakage, shall take corrective measures necessary to repair the leaks, and shall again test the pipeline, repeating as necessary until the pipeline passes.

3.3 DISINFECTING PIPELINES

A. General: Potable water pipelines except those appurtenant to hydraulic structures shall be disinfected in accordance with the requirements of ANSI/AWWA C651 - Disinfecting Water Mains, using the Continuous-Feed Method as modified herein.

B. Chlorination: A chlorine-water mixture shall be uniformly introduced into the pipeline by means of a solution-feed chlorinating device. The chlorine solution shall be introduced at one end of the pipeline through a tap in such a manner that as the pipeline is filled with water, the dosage applied to the water entering the pipe shall be approximately 50 mg/L. Care shall be taken to prevent the strong chlorine solution in the line being disinfected from flowing back into the line supplying the water.

C. Retention Period: Chlorinated water shall be retained in the pipeline for at least 24 hours. After the chlorine-treated water has been retained for the required time, the free chlorine residual at the pipeline extremities and at other representative points shall be at least 25 mg/L. If testing does not demonstrate a residual of 25 mg/L or greater, the disinfection procedure above shall be repeated.

D. Chlorinating Valves: During the process of chlorinating the pipelines, valves and other appurtenances shall be operated from closed to full open to closed while the pipeline is filled with the heavily-chlorinated water.

E. Sampling Ports: The CONTRACTOR shall provide sampling ports along the pipeline as defined on AWWA C651. Taps may be made at manways and air valves to help facilitate the spacing requirement.

F. Final Flushing: After the applicable retention period, the heavily chlorinated water shall be flushed from the pipeline until chlorine measurements show that the concentration in the water leaving the pipeline is no higher than that generally prevailing in the system or is acceptable for domestic use. Any release of chlorinated water shall comply with federal,

state, and local regulation and the permits for the project. Chlorinated water shall be treated before discharge.

G. Bacteriological Testing: After final flushing and before the pipeline is placed in service, a sample, or samples shall be collected from the end of the line, and shall be tested for bacteriological quality in accordance with the requirements of the State Department of Health or other appropriate regulatory agency. For this purpose, the final flushing water shall be left for a period of 24 hours before any sample is collected. If testing does not demonstrate a free chlorine residual after the 24-hour period, the disinfection procedure above shall be repeated. If the initial disinfection treatment fails to produce satisfactory bacteriological test results, the disinfection procedure shall be repeated until acceptable results are obtained.

3.4 CONNECTIONS TO EXISTING SYSTEM

A. Where connections are to be made to an existing potable water system, the interior surfaces of all pipe and fittings used in making the connections shall be swabbed or sprayed with a one percent hypochlorite solution before installation. Thorough flushing shall be started as soon as the connection is completed and shall be continued until discolored water is eliminated.

END OF SECTION

SECTION 01 76 10 – PROTECTION OF EXISTING FACILITIES

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The CONTRACTOR shall protect all existing utilities and improvements not designated for removal and shall restore damaged or temporarily relocated utilities and improvements to a condition equal to or better than prior to such damage or temporary relocation, all in accordance with the Contract Documents.

B. The CONTRACTOR shall verify the exact locations and depths of all existing utilities, and the CONTRACTOR shall make exploratory excavations of all utilities that may interfere with the WORK.

C. All such exploratory excavations shall be performed as soon as practicable after award of the Contract and a sufficient time in advance of construction to avoid possible delays to the CONTRACTOR's WORK.

D. When such exploratory excavations show the utility location as shown on the Drawings to be in error, the CONTRACTOR shall notify the ENGINEER.

E. The number of exploratory excavations required shall be that number which is sufficient to determine the alignment and grade of the utility.

F. Related Sections:

1. Section 01 11 00 – Summary of Work
2. Section 01 14 00 – Work Restrictions
3. Section 01 73 29 – Cutting and Patching

1.2 RIGHTS-OF-WAY

A. The CONTRACTOR shall not do any WORK that would affect any oil, gas, sewer, or water pipeline; any telephone, communications cable conduits, or electric transmission line; any fence; or any other structure, nor shall the CONTRACTOR enter upon the rights-of-way involved until notified by the ENGINEER that the OWNER has secured authority from the proper party.

B. After authority has been obtained, the CONTRACTOR shall give said party due notice of its intention to begin work, if required by said party, and shall remove, shore, support, or otherwise protect such pipeline, transmission line, ditch, fence, or structure, or replace the same.

C. When two or more contracts are being executed at one time on the same or adjacent land in such manner that work on one Contract may interfere with that on another, the OWNER shall determine the sequence and order of the WORK.

D. When the limits of one Contract are the necessary or convenient means of access for the execution of another Contract, such access or any other reasonable privilege may be

granted by the OWNER to the CONTRACTOR to the extent, amount, in the manner, and at the times permitted.

E. No such decision as to the method or time of conducting the WORK or the use of territory shall be made the basis of any claim for the delay or damage, except as provided for temporary suspension of the WORK.

1.3 PROTECTION OF STREET OR ROADWAY MARKERS

A. The CONTRACTOR shall not destroy, remove, or otherwise disturb any existing survey markers or other existing street or roadway markers without proper authorization.

B. No pavement breaking or excavation shall be started until all survey or other permanent marker points that will be disturbed by the construction operations have been properly referenced.

C. All survey markers or points disturbed by the CONTRACTOR shall be accurately restored after all street or roadway re-surfacing has been completed.

1.4 RESTORATION OF PAVEMENT

A. Restoration of pavement (temporary and permanent resurfacing and sidewalks or private drives) shall be done in accordance with Section – 01 73 29 Cutting and Patching.

1.5 EXISTING UTILITIES AND IMPROVEMENTS

A. General

1. The CONTRACTOR shall protect underground utilities and other improvements which may be impaired during construction operations, regardless of whether or not the Utilities are indicated on the Drawings.

2. It shall be the CONTRACTOR's responsibility to ascertain the actual location of all existing utilities and other improvements that will be encountered in its construction operations, and to see that such utilities or other improvements are adequately protected from damage due to such operations.

3. The CONTRACTOR shall take all possible precautions for the protection of unforeseen utility lines to provide for uninterrupted service and to provide such special protection as may be deemed necessary.

4. Except where the Drawings indicate Utilities have been field located during design or certain Utility locations shall be exposed as part of the WORK, the CONTRACTOR shall be responsible for exploratory excavations as it deems necessary to determine the exact locations and depths of Utilities which may interfere with its work. All such exploratory excavations shall be performed as soon as practicable after Notice to Proceed and, in any event, a sufficient time in advance of construction to avoid possible delays to the CONTRACTOR's progress. When such exploratory excavations show the Utility location as shown on the Drawings to be in error, the CONTRACTOR shall so notify the ENGINEER.

5. CONTRACTOR shall pothole all conflicts within the first 30 days of the Contract to avoid delays while installing the pipelines.

B. Utilities to be Moved:

1. In case it may be necessary to move the property of any public utility or franchise holder, such utility company or franchise holder will, upon request of the CONTRACTOR, be notified by the OWNER to move such property within a specified reasonable time.

2. When utility lines that are to be removed are encountered within the area of operations, the CONTRACTOR shall notify the ENGINEER a sufficient time in advance for the necessary measures to be taken to prevent interruption of service.

C. Temporary Removal and/or Relocation:

1. Where the proper completion of the WORK requires the temporary removal, permanent removal, and/or relocation of an existing utility or other improvement which is indicated, the CONTRACTOR shall remove and, without unnecessary delay, temporarily replace or relocate such utility or improvement in a manner satisfactory to the ENGINEER and the OWNER of the facility.

2. In all cases of such temporary removal or relocation, restoration to the former location shall be accomplished by the CONTRACTOR in a manner that will restore or replace the utility or improvement as nearly as possible to its former locations and to as good or better condition than found prior to removal.

D. Owner's Right of Access:

1. The right is reserved to the OWNER and to the owners of public utilities and franchises to enter at any time upon any public street, alley, right-of-way, or easement for the purpose of making changes in their property made necessary by the WORK of this Contract.

E. Underground Utilities Indicated:

1. Existing utility lines that are indicated or the locations of which are made known to the CONTRACTOR prior to excavation and that are to be retained, and all utility lines that are constructed during excavation operations shall be protected from damage during excavation and backfilling and, if damage, shall be immediately repaired or replaced by the CONTRACTOR.

F. Underground Utilities Not Indicated:

1. In the event that the CONTRACTOR damages existing Utility lines that are not indicated or the locations of which are not made known to the CONTRACTOR prior to excavation, a verbal report of such damage shall be made immediately to the damaged Utility Owner and ENGINEER and a written report thereof shall be made promptly thereafter.

2. If directed by the ENGINEER, repairs shall be made by the CONTRACTOR under the provisions for changes and extra work contained in the General Conditions.

G. All costs of locating, repairing damage not due to failure of the CONTRACTOR to exercise reasonable care, and removing or relocating such utility facilities not shown on the Contract Documents with reasonable accuracy, and for equipment on the project which was actually working on that portion of the work which was interrupted or idled by removal or relocation of such utility facilities, and which was necessarily idled during such work will be paid for as extra work in accordance with the provisions for changes and extra work contained in the General Conditions.

H. All repairs to a damaged utility or improvement are subject to inspection and approval by an authorized representative of the utility or improvement owner being concealed by backfill or other work.

1. All oil and gasoline pipelines, power, and telephone or the communication cable ducts, gas mains, water mains, irrigation lines, sewer lines, storm drainage, poles, and overhead power and communication wires and cables encountered along the line of the work shall remain continuously in service during all the operations under the Contract, unless other arrangements satisfactory to the ENGINEER are made with the OWNER(s) of said pipelines, ducts, main, irrigation lines, sewers, storm drains, poles, wires or cables.

2. The CONTRACTOR shall be responsible for and shall repair all damage due to its operations, and the provisions of this Section shall not be abated even in the event such damage occurs after backfilling or is not discovered until after completion of the backfilling.

1.6 TREES WITHIN ROAD RIGHT-OF-WAY AND PROJECT LIMITS

A. General:

1. The CONTRACTOR shall exercise all necessary precautions so as not to damage or destroy any trees or shrubs, including those lying within street right-of-way and project limits, and shall not trim or remove any trees unless such trees have been approved for trimming or removal by the jurisdictional agency or OWNER.

2. All existing trees and shrubs which are damaged during construction shall be trimmed or replaced by the CONTRACTOR or a certified tree company under permit from the jurisdictional agency and/or OWNER.

3. Tree trimming and replacement shall be accomplished in accordance with the following paragraphs.

B. Trimming:

1. Symmetry of the tree shall be preserved; no stubs or splits or torn branches left; clean cuts shall be made close to the trunk or large branch.

2. Spikes shall not be used for climbing live trees.

3. Cuts over 1 1/2 inches in diameter shall be coated with a tree paint product that is waterproof, adhesive, and elastic, and free from kerosenes, coal tar, creosote, or other material injurious to the life of the tree.

C. Replacement:

1. The CONTRACTOR shall immediately notify the jurisdictional agency/or OWNER if any tree is damaged by the CONTRACTOR's operations.

2. If, in the opinion of said agency or the OWNER, the damage is such that replacement is necessary, the CONTRACTOR shall replace the tree at its own expense.

3. The tree shall be of a like size and variety as the tree damaged, or, if of a smaller size, the CONTRACTOR shall pay to the OWNER of said tree a compensatory payment acceptable to the tree owner, subject to the approval of the jurisdictional agency or the OWNER.

4. The size of the trees shall be not less than 1-inch diameter, nor less than six feet (6') in height.

1.7 NOTIFICATION BY THE CONTRACTOR

A. Prior to any excavation in the vicinity of any existing underground facilities, including all water, sewer, storm drain, gas, petroleum products, or other pipelines; all buried electric power, communications, or television cables; all traffic signal and street lighting facilities; and all roadway and state highway rights-of-way the CONTRACTOR shall notify the respective authorities representing the owners or agencies responsible for such facilities not less than three (3) days nor more than seven (7) days prior to excavation so that a representative of said owners or agencies can be present during such work if they so desire.

B. The CONTRACTOR shall also notify "SUNSHINE UNDERGROUND UTILITIES NOTIFICATION CENTER" at 1-800-432-4770 at lease three (3) days, but not more than ten (10) days prior to such excavation.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01 77 00 – CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 THE SUMMARY

A. Closeout procedures will include, but are not limited to, final site cleanup/restoration, submittal of warranties, operation and maintenance manuals, record drawings, bonds, and final inspections.

B. Related Sections:

1. Section 01 33 00 – Submittal Procedures

1.2 DEFINITIONS

A. Closeout is defined to include the general requirements near the end of the Contract Time, which is between Substantial Completion and final acceptance of the Contract.

1.3 SCHEDULING

A. The CONTRACTOR shall establish dates for equipment testing, acceptance periods, and on-site instructional periods (as required under the Contract). Such dates shall be established not less than one week prior to beginning any of the foregoing items, to allow the OWNER, the ENGINEER, and their authorized representatives sufficient time to schedule attendance at such activities.

1.4 PREREQUISITES FOR SUBSTANTIAL COMPLETION:

A. General: Prior to requesting OWNER's inspection for certification of substantial completion, as required by the General Conditions (for either the entire work or portions thereof), the CONTRACTOR shall complete the following and list known exceptions in request:

1. Submit last progress payment request, with sworn statement showing percent completion of the work, complete with associated warranty of title releases, consents and supports.

2. Submit statement showing changes to the Contract Sum.

3. Obtain and submit occupancy permits, operating certificates, final inspection/test certificates, and similar releases enabling OWNER's full and unrestricted use of the work and access to services and utilities.

4. Submit signed and sealed record drawings, maintenance manuals, final project photographs, damage or settlement survey, property survey and similar final record information.

5. Provide all contractually required operational and maintenance manuals, training and start-up services.

6. Deliver tools, spare parts, extra stocks of materials, and similar physical items to OWNER.

1.5 PREREQUISITES FOR FINAL ACCEPTANCE:

A. General: Prior to requesting OWNER's final inspection for certification of final acceptance and final payment, as required by the General Conditions, complete the following and list known exceptions (if any) in request:

1. Submit final payment request with final warranty of title, consent of surety for final payment, final releases and supports not previously submitted and accepted. Include certificates of insurance for products and completed operations.

2. Submit updated final statement, accounting for additional charges to the Contract Sum.

3. Complete the final cleaning.

4. Submit certified copy of OWNER's final punch list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by the OWNER's.

5. Submit final meter readings for utilities, measured record of stored fuel, and similar data as of the time of substantial completion or when OWNER's take possession of and responsibility for corresponding elements of the work.

6. Submit special guarantees, warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.

7. Change over utilities to the OWNERS name.

8. Touch up and otherwise repair and restore marred exposed finishes.

9. Provide equipment list and details as required.

1.6 CONTRACTOR SUBMITTALS

~~A. Technical Manual Submittal~~

~~1. The CONTRACTOR's attention is directed to the condition that one percent of the Contract Price will be retained from any monies due the CONTRACTOR as progress payments, if at the 75 percent construction completion point, the approved Technical Manual complying with Section 01 33 00 – Submittal Procedures has not been submitted. The aforementioned amount will be retained by the OWNER as the agreed, estimated value of the approved Technical Manual. Any such retention of money for failure to submit the approved Technical Manual on or before the 75 percent construction completion point shall be in addition to the retention of any payments due to the CONTRACTOR.~~

B. FINAL SUBMITTALS

1. The CONTRACTOR, prior to requesting final payment, shall obtain and submit the following items to the ENGINEER for transmittal to the OWNER:

   a. Written guarantees, where required.

   ~~b. Technical Manuals and instructions.~~

   c. New permanent cylinders and key blanks for all locks.

   ~~d. Maintenance stock items; spare parts; special tools.~~

   e. Completed record drawings. (Refer Section 01 33 00 - Submittal Procedures)

   f. Bonds for roofing, maintenance, etc., as required.

   g. Certificates of inspection and acceptance by local governing agencies having jurisdiction.

   h. Releases from all parties who are entitled to claims against the subject project, property, or improvement pursuant to the provisions of law.

   ~~i. OWNER's Equipment Data Sheets – See Attachment A~~

1.7 MAINTENANCE AND GUARANTEE

A. The CONTRACTOR shall comply with the maintenance and guarantee requirements contained in Article 53 of the General Conditions.

B. Replacement of earth fill or backfill, where it has settled below the required finish elevations, shall be considered as a part of such required repair work, and any repair or resurfacing constructed by the CONTRACTOR which becomes necessary by reason of such settlement shall likewise be considered as a part of such required repair work unless the CONTRACTOR shall have obtained a statement in writing from the affected private owner or public agency releasing the OWNER from further responsibility in connection with such repair or resurfacing.

C. The CONTRACTOR shall make all repairs and replacements promptly upon receipt of written order from the OWNER. If the CONTRACTOR fails to make such repairs or replacements promptly, the OWNER reserves the right to do the WORK and the CONTRACTOR and its surety shall be liable to the OWNER for the cost thereof.

1.8 BOND

A. The CONTRACTOR shall provide a bond to guarantee performance of the provisions contained in Paragraph "Maintenance and Guarantee" above, and Article 53 of the General Conditions.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 FINAL CLEANUP

A. The CONTRACTOR shall promptly remove from the vicinity of the completed WORK, all rubbish, unused materials, concrete forms, construction equipment, and temporary structures and facilities used during construction. Final acceptance of the WORK by the OWNER will be withheld until the CONTRACTOR has satisfactorily performed the final cleanup of the Site.

B. Clean project site, including landscape, development areas of litter and foreign substances. Sweep paved areas to a broom clean condition; remove stains, petrochemical spills and other foreign deposits. Rake grounds which are neither planted nor paved, to a smooth, even textured surface.

C. Time of Final Cleaning: Following OWNER's certification of "Substantial Completion," and immediately before his "Final Acceptance" inspection.

D. Removal of Protection: Except as otherwise indicated or requested by OWNER's, remove temporary protection devices and facilities which were installed during the course of the work to protect previously completed work during the remainder of the construction period.

E. Compliances: Comply with safety standards and governing regulations for cleaning operations. Do not burn waste materials at the site, or bury debris or excess materials, or discharge volatile or other harmful or dangerous materials into drainage systems; remove waste materials from the site and dispose of in a lawful manner.

F. Where extra materials of value remaining after completion of the associated work have become the OWNER's property, dispose or store at the site as directed by the OWNER.

ATTACHMENT A - OWNER'S EQUIPMENT DATA SUBMITTAL REQUIREMENT

The CONTRACTOR is required to submit this data sheet with each piece/unit of mechanical, electrical, or instrumentation equipment provided on this project. Information shall be submitted with the Record Drawings for review and approval by the OWNER.

GENERAL INFORMATION

Installation Date _____
Replacement Date _____
Deletion Date & Equipment # _____ / _____
System _____
Equipment Description _____
_____
Equipment Location _____
_____
Manufacturer _____

DESCRIPTION INFORMATION

Tag # _____
Asset # _____
Serial # _____
Model # _____
Catalog _____
Size _____
Type _____

REQUIRED INFORMATION

Volts _____
Amps _____
Phase _____
Heater Size _____
KVA _____
KW _____
RPM _____
Horse Power _____
Insulation _____
Enclosure _____
Service Factor _____
Arrangement _____
Frame Size _____
Drive Bearing _____
Opp Dr Bearing _____
Sealed Bearing _____
Fuel Capacity _____
Oil Filter _____
Air filter _____
Coolant Filter _____
Fuel Filter _____
Ratio _____
Torque _____
Input RPM _____
Output RPM _____
TDH _____
Impeller Dia _____
PSI _____
No. of Stages _____
Suction Size _____
Discharge Size _____
Packing Type _____
Packing Size _____
Body Size _____
Port Size _____
PSI Rating _____
Face to Face _____
Body Ends _____

The above listed information shall be provided for the following equipment. One sheet shall be completed for each unit/piece listed below. It is the CONTRACTOR's responsibility to coordinate this equipment list with equipment included in the Contract Documents and technical specifications.

ELECTRICAL AND CONTROL PANELS:

Alternator, Circuit Breaker (control, disconnect, emergency, pump or lighting), Control Circuit, Control Panel, Contactor, Insulator, Electrical Panel, Limit Switch, Main Breaker, Power Capacitor, Pressure Switch, Phase Monitor, Soft Start Controller, Timer, Transfer Switch, Transformer (bank, control, lighting, or current), Variable Frequency Drive, Voltage Regulator, etc.

EMERGENCY EQUIPMENT:

Alarm-Horn Lights, Emergency Lights, Emergency Drop Shower, Exit Signs, Eye Wash Station, Fire Alarm System, Fire Extinguisher, SCBA Air Pack, etc.

GENERATORS:

Air Filter, Battery Charger, Battery, Coolant Filter, Day Tank, Engine, Engine Heater, Portable Generator, Stationary Generator, etc.

INSTRUMENTATION:

Alarm Panel, Flow Controller, Flow Indicator, Flow Transmitter, Flow Recorder, Level Controller, Hydrogen Sulfide Detector, Level Indicator, Level Transmitter, etc.

MOTORS (AC or DC):

Blower, Pump, Valve Actuator, Well, etc.

PUMPS:

Submersible, Sump, etc.

TELEMETRY:

Alarms, Battery Backup Power, Controllers, CPU, Fiber Optics, PLC, Radio, Seiscor, Telemetry, UPS, etc.

VALVES:

Air Relief, Back Pressure, Ball, Ball Check, Butterfly, Gate, Plug, Pneumatic, Pressure Reducing, Pressure Relief, Silent Check, Under Flow, etc.

WELLS:

Raw Water, Monitoring Well, etc.

END OF SECTION

SECTION 02 00 00 – EXISTING CONDITIONS

PART 1 -- GENERAL

1.1 GENERAL

A. The plans depict the approximate locations of existing subsurface utilities.

B. Related sections:

1. Section 31 23 33 – Trenching and Backfilling

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION

3.1 CONSTRUCTION

A. Notify the owners of utilities at least 48 hours in advance of conducting construction near these existing utilities.

B. Locate cables, ducts, conduits, pipelines, casings, etc., in advance of the proposed construction in cooperation with the owners of such utilities.

C. Notify the ENGINEER of any substantial changes in the vertical or horizontal orientation of existing utilities that would require a deviation in the Contract Documents.

D. Repair all damage done to existing utilities at no additional expense to the OWNER of the project, or the owner of the utility.

PART 4 -- OBSTACLES:

4.1 Obstacles encountered not shown on the Drawings which may cause a revision to final grades may be considered grounds for compensation to the CONTRACTOR on a force account (equipment rental) basis for the time expended to re-perform any WORK necessary. Such compensation will be agreed to by the OWNER prior to proceeding with the modified construction

END OF SECTION

SECTION 02 01 20 HANDLING AND DISPOSAL OF ASBESTOS CEMENT PIPE

PART 1 -GENERAL

1.1 GENERAL REQUIREMENT

If the Contractor during the course of the Work observes, uncovers or otherwise becomes aware of the existence of any asbestos, hazardous waste, or toxic or radioactive material at the site which has not been rendered harmless to which the Contractor or any subcontractor, supplier or other person may be exposed, the Contractor shall immediately stop Work in the affected area and notify the County and the ENGINEER and thereafter confirm any oral notice in writing. In addition, the Contractor shall take reasonable precautions to prevent or contain the movement, spread or disturbance of such materials and to protect persons and property. The County shall promptly consult with the ENGINEER concerning such condition and determine the necessity of County's retaining special consultants or qualified experts to deal therewith. The Contractor shall not perform any Work in connection therewith prior to receipt of special written instructions from the County through the ENGINEER.

1.2 PROCEDURES FOR DEMOLITION OF STRUCTURES

1. Notification:

   Federal and state asbestos regulations require, prior to demolition of any structure:

   (a) An inspection for asbestos-containing materials (ACM);

   (b) Removal of specific ACM; and,

   (c) An asbestos notification of demolition received at least ten (10) business days prior to demolition.

   To meet requirements (a) and (b) above, the County has surveyed the structure(s) in this Contract for the presence of ACM and every effort has been made to remove Regulated Asbestos-Containing Material (RACM) and Category II Non-Friable ACM (e.g. asbestos-cement board and shingles) before releasing this project to the Contractor. Verification of this Work is attached to this Contract. If not attached, it is the Contractor's responsibility to contact the Project Manager of the County Department overseeing this Contract, or the County's Risk Management/Loss Control section to obtain:

   (a) A copy of the pre-demolition asbestos inspection report; and,

   (b) A copy of Risk Management/Loss Control's memo of approval to proceed to the next phase of the project addressed to the County department overseeing this project.

   To meet requirement (c) above, the Contractor is responsible for submitting a

complete and accurate asbestos notification of demolition form titled "Notice of Asbestos Removal Project" [i.e., NESHAP notification, 40 CFR Part 61.145(b)], for each separate address to be demolished to the below listed agencies at least ten (10) business days prior to demolition. The 4-copy forms are available from the Department of Environmental Protection (FDEP) and Palm Beach County Risk Management/Loss Control.

SEND ORIGINAL TO:

State Asbestos Coordinator

FDEP

2600 Blair Stone Road

Tallahassee, FL 32399-5420

SEND YELLOW COPY TO:

Environmental Specialist

FDEP

P.O. Box 15425

West Palm Beach, FL 33416-5425

SEND PINK COPY OR FAX OF ORIGINAL TO:

P.B.C. Risk Management/Loss Control

Attn.: NESHAP

P.O. Box 21229

West Palm Beach, FL 33416-1229

Fax: (561) 233-5420

The Contractor must notify Loss Control (561-233-5430) immediately if the demolition start date changes. No demolition may begin before the start date on the NESHAP notification and no demolition may occur without a notice to proceed from the County department. It is the responsibility of the Contractor to call and submit revised NESHAP notifications to the above listed agencies, adhering to required NESHAP time frames.

The Contractor is responsible for physically checking the structure(s) before submitting the NESHAP notification to ensure that all RACM and Category II ACM, as identified in the pre-demolition asbestos inspection report, have been

removed. If RACM or Category II ACM is discovered, immediately contact the County's Project Manager or Loss Control.

2. Work Practices:

The Contractor will utilize wet methods to control airborne emissions during the demolition process and during loading onto transport vehicles, regardless whether Category I is present or not. The Contractor is responsible for supplying water meters, hoses, and adequate volume of water to the demolition site.

Recycling of substructure with either presumed or confirmed asbestos-containing Category I (e.g. floor tile, sheet vinyl, and/or roofing materials) is not permitted, unless written authorization is provided to the Contractor by Palm Beach County.

3. OSHA and Florida Statutes Compliance:

In accordance with OSHA (ref. 29 CFR 1926.1101) the Contractor must have a competent person on-site who:

(a) Is capable of identifying existing asbestos hazards in the work place;

(b) Is capable of selecting the appropriate control strategy for asbestos exposure;

(c) Has the authority to take prompt corrective action to eliminate them.

This person must be trained in accordance with Chapter 469 Florida Statutes as an on-site supervisor.

Copies of training certificates of the on-site supervisor shall be made available to the County upon request.

PART 2 –PRODUCTS: NOT USED

PART 3 -EXECUTION

3.1. General:

Federal regulations (40 CFR Part 61, Sub-part M) classify asbestos-cement pipe (AC pipe) as Category II non-friable asbestos-containing material. AC pipe must be handled in a manner which will maintain this classification. Therefore, all cutting and disposal of AC pipe must be performed by a Florida licensed Asbestos Contractor.

The County will make every effort to identify and quantify the location of known AC pipe and material prior to onset of the Work.

If during the course of the Work the Contractor observes, uncovers, or otherwise becomes aware of the existence of any AC pipe, pieces, or material at the site to which the Contractor or any subcontractor, supplier, or other person may be exposed, the Contractor shall immediately notify the County and confirm any verbal notice in writing. The County shall promptly consult with the Project ENGINEER concerning such conditions and determine the necessity of the County retaining special consultants or qualified experts. The Contractor shall not perform any Work near or in connection with the suspect material until receipt of special written instructions from the County.

The Contractor will ensure that all subcontractors follow these procedures.

3.2. Pre-Work Submittals:

The Contractor shall submit the name of the Asbestos Contractor and a copy of their Florida Asbestos Contractor license to the Palm Beach County department coordinating this project, prior to start of the Work.

3.3. Worker Protection:

Licensed asbestos contractors will comply with the requirements of OSHA 29 CFR 1926.1101 concerning worker protection.

3.4. Execution of Work:

AC pipe will be kept wet during all phases of removal. No visible emissions are permitted. Wet the pipe using and airless sprayer or utilize available water.

Apply drop cloth of 6-mil polyethylene to the area beneath and a minimum of three feet (3') beyond the section of pipe to be cut.

Break, cut or snap pipe into sections suitable in size to the disposal facility. Abrasive disc saws are prohibited.

Apply lockdown encapsulant to exposed edges of pipe. Pick up all pipe debris that may have fallen outside the drop cloth.

Use of compressed air to clean AC pipes is prohibited.

At no time should AC pipe or pieces be mixed in with fill material.

3.5. Disposal:

Wrap pipe in existing drop cloth. Transfer pipe to a clean drop cloth outside the trench, and wrap and secure in a second layer of 6-mil polyethylene.

Affix the following labels to the exterior of each separately wrapped section of pipe. Labels are to be waterproof, legible, and large enough in size to be readily visible:

First Label: CAUTION
Contains Asbestos Fibers
Avoid Opening or Breaking Container
Breathing Asbestos is Hazardous to Your Health

Second Label: DANGER
Contains Asbestos Fibers
Avoid Breathing Dust
Cancer and Lung Disease Hazard
Breathing Airborne Asbestos, Tremolite,
Anthophyllite or Actinolite Fibers is Hazardous to Your Health

Third Label: RQ HAZARDOUS SUBSTANCE
Solid, NOS
ORM-E, NA9188
(Asbestos)

Fourth Label: Label each container with the name of the generator (OWNER) and the location at which the waste was generated.

Properly dispose of all AC pipe generated each day. All wrapped sections may be stored in a secure, locked enclosure pending disposal, if authorized by the County. At no time are sections or pieces of AC pipe to be left on the project site unwrapped and unsecured at the end of the day.

All vehicles and/or containers used to haul asbestos containing waste material shall be lined with a minimum of 6-mil polyethylene layer.

Label trucks used to transport asbestos-containing waste material during loading and unloading as follows (refer to 29 CFR 1910.145 (d) (4) for sign format):

DANGER

Asbestos Dust Hazard
Cancer and Lung Disease Hazard
Authorized Personnel Only

3.6. Post Work Submittals

The Contractor, or Asbestos Contractor, as waste generator shall complete a Waste Shipment Record (WSR) for each shipment of asbestos-cement pipe disposed. Refer to 40 CFR Part 61, Revision Final Rule for an example of WSR or contact Palm Beach County Risk Management/Loss Control.

The Contractor or its designated subcontractor will submit the following documents to the Palm Beach County department coordinating this project prior to payment:

(a) A copy of the WSR prior to shipment; and,

(b) A copy of the WSR signed by the disposal facility within 35 days of shipment.

3.7. Regulations:

Environmental Protection Agency: 40 CFR Part 61 National Emission Standards for Hazardous Pollutants; Asbestos NESHAP Revision Final Rule, November 20, 1990.

Occupational Safety and Health Administration: 29 CFR 1926.1100 - Asbestos, Construction Industry Standard.

Department of Business and Professional Regulation, Chapter 469 Florida Statutes, Licensure of Consultants and Contractors.

END OF SECTION

SECTION 02 30 00– SUBSURFACE INVESTIGATION

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Subsurface explorations have been made by others and copies of the report(s) are available for examination and reference as provided herein. This information was obtained for use in determining the types of soils that may be encountered in performing the work. The Contractor may draw its own conclusions therefrom. No responsibility is assumed by the Owner or the Engineer for subsoil quality or conditions other than those encountered at the locations specified in the report, and at the time the exploration was made. No claim for extra compensation or for extension(s) of time will be allowed on account of encountering subsurface conditions inconsistent with the data reflected in the report, except as may be provided elsewhere herein.

PART 2 -- PRODUCTS

2.1 SOIL BORINGS

A. Soil borings information are included within the Contract Documents.

PART 3 -- PRODUCTS - NOT USED

END OF SECTION

SECTION 02 41 00 – DEMOLITION

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The CONTRACTOR shall demolish and reconstruct existing civil, landscaping, structural, architectural, mechanical, HVAC, electrical, and instrumentation facilities as indicated, in accordance with the Contract Documents.

B. The CONTRACTOR shall be responsible for requesting, and obtaining all required demolition, hauling, transport, and disposal permits required from local, State, or Federal regulatory agencies. The CONTRACTOR shall be responsible for all permit fees associated with demolition activities.

1.2 TRACTOR SUBMITTALS

A. All submittals shall be in accordance with Section 01 33 00 – Submittal Procedures. Demolition and reconstruction activities and procedures, including operational sequences, shall be submitted to the ENGINEER for approval. The procedures shall provide for safe conduct of the WORK, careful removal and disposition of materials and equipment, protection of existing facilities which are to remain undisturbed, coordination with existing facilities to remain in service, and timely disconnection and reconnection of utility services. The procedures shall include a detailed description and time schedule of the methods and equipment to be used for each operation and the sequence of operation. A storage plan for salvaged items shall be included.

B. Upon completion of the demolition WORK, the CONTRACTOR shall be required to modify the Contract Drawings to indicate the revised "as-built" condition of the site. Additional notes shall be added to the drawings to clearly identify what equipment, structures, piping, and infrastructure have been removed, abandoned, or modified. Record drawings associated with demolition activities shall comply with Section 01 77 00 – Closeout Procedures.

C. Upon completion of the demolition WORK, the CONTRACTOR shall be required to provide the OWNER with copies of all permits and correspondence with local, State, and Federal regulatory agencies documenting the demolition WORK performed by the CONTRACTOR.

1.3 SEQUENCING

A. The CONTRACTOR shall carefully coordinate the WORK in areas where existing facilities are interconnected with new facilities and where existing facilities remain operational. The WORK as indicated is not all-inclusive, and the CONTRACTOR shall be responsible to perform the reconstruction indicated plus that which can be reasonably inferred from the Contract Documents as necessary to complete the Project. The Specifications and Drawings identify the major facilities that shall be demolished and reconstructed, but auxiliary utilities such as water, air, chemicals, drainage, lubrication, fluid power, electrical wiring, controls, and instrumentation are not necessarily shown. The CONTRACTOR shall comply with sequencing requirements in Section 01 14 00 – Work Restrictions.

B. Prior to Bidding, the CONTRACTOR shall conduct a comprehensive survey at the Site to verify the correctness and exactness of the Drawings, the scope of WORK, and the extent of auxiliary utilities.

C. The CONTRACTOR is advised that the OWNER may has previously completed an asbestos and lead containing material report of the site to be demolished by the CONTRACTOR. The CONTRACTOR is encouraged to request a copy of the reports from the OWNER.

D. While demolition and reconstruction are being performed, the CONTRACTOR shall provide adequate access for the continued operation and maintenance of equipment and treatment processes. The CONTRACTOR shall erect and maintain fences, warning signs, barricades, and other devices around the reconstruction as required for the protection of the CONTRACTOR's employees and the OWNER's personnel at the plant. The CONTRACTOR shall remove such protection when reconstruction activities are complete, or as WORK progresses, or when requested by the ENGINEER.

1.4 DEMOLITION

A. Existing pavement, structures, equipment, piping, valves, ductwork, electrical gear, instrumentation, utilities, and related appurtenances such as anchors, supports, and hardware indicated or required to be demolished as part of the WORK shall be removed and disposed of unless otherwise indicated. Removal of buried structures, utilities, and appurtenances includes the related excavation and backfill as required. Removed items shall be disposed of off-site by the CONTRACTOR at no additional cost to the OWNER.

1.5 SALVAGE

A. Items of existing equipment, piping, valves, electrical gear, instrumentation, utilities, and appurtenances indicated to be salvaged shall be removed without any degradation in condition from that prior to removal. Salvaged items shall be stockpiled and protected on the Site at a location chosen by the ENGINEER. The CONTRACTOR shall be responsible to properly safeguard the salvaged items against damage and loss during removal and handling.

1.6 RELOCATION

A. Items of existing equipment, piping, valves, electrical gear, instrumentation, utilities, and appurtenances to be relocated shall be removed without any degradation in condition from that prior to removal. The CONTRACTOR shall be responsible to properly safeguard the relocated items against damage and loss during removal, handling, storage, and installation in the new location.

1.7 ABANDONMENT

A. Items of existing equipment, piping, valves, electrical gear, instrumentation, utilities, and appurtenances to be abandoned shall be prepared by the CONTRACTOR as indicated.

1.8 REHABILITATION

A. Existing civil, landscaping, structural, architectural, mechanical, HVAC, electrical, and instrumentation WORK disturbed or damaged by reconstruction activities shall be repaired and rehabilitated as indicated.

B. Damaged items shall be repaired or replaced with new items to restore items or surfaces to a condition equal to and matching that existing prior to damage.

C. In buildings with reconstruction WORK, the CONTRACTOR shall not use any OWNER equipment (e.g., bridge cranes and monorails) unless authorized in advance in writing by the ENGINEER. Such authorization shall be subject to documentation by the CONTRACTOR of the proposed load on the equipment and be subject to OWNER requirements for usage on operating and maintenance needs. Any damage to a crane shall be repaired or replaced to the ENGINEER's satisfaction.

1.9 DISPOSAL

A. The CONTRACTOR shall be responsible for the offsite disposal of debris resulting from reconstruction in compliance with local, state, and federal codes and requirements. No materials or equipment shall be disposed on-site.

1.10 SCHEDULING

A. The CONTRACTOR shall be required to submit a demolition schedule and complete all demolition activities associated with the site by this schedule, including removal, transportation, and off-site disposal, site regrading and restoration, and sodding. Any penalties incurred by the OWNER after the approved demolition schedule shall be the sole responsibility of the CONTRACTOR in the event all WORK is not completed by demolition completion date.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION

3.1 GENERAL

A. The CONTRACTOR shall coordinate demolition and reconstruction WORK with the OWNER and ENGINEER. Unless otherwise indicated, the CONTRACTOR shall be responsible for the sequence of activities. WORK shall be performed in accordance with applicable safety rules and regulations.

B. The CONTRACTOR shall verify that any utilities connected to structures, equipment, and facilities to be removed, relocated, salvaged, replaced, or abandoned are rendered inoperable, replaced with new utilities, or adequately bypassed with temporary utilities before proceeding with demolition and reconstruction.

C. The CONTRACTOR shall take precautions to avoid damage to adjacent facilities and to limit the WORK activities to the extent indicated. If demolition or reconstruction beyond the scope indicated is required, the CONTRACTOR shall obtain approval from the ENGINEER prior to commencing.

3.2 PREPARATION

A. Protection:

1. Before beginning any WORK, the CONTRACTOR shall carefully survey the existing facilities and examine the Specifications and Drawings to determine the extent of demolition or reconstruction and coordination with the WORK. Existing facilities not subject to demolition or reconstruction shall be protected and maintained in accordance with Section 01 76 10 - Protection of Existing Facilities. Damaged existing facilities shall be repaired to the previous condition or replaced.

2. Persons shall be afforded safe passages around areas of demolition.

3. Structural elements shall not be overloaded. The CONTRACTOR shall be responsible for shoring, bracing, or adding new supports as may be required for adequate structural support as a result of WORK performed under this Section. The CONTRACTOR shall remove temporary protection when the WORK is complete or when so authorized by the ENGINEER.

4. The CONTRACTOR shall carefully consider bearing loads and capacities before placement of equipment and material on Site. In the event of any questions as to whether an area to be loaded has adequate bearing capacity, the CONTRACTOR shall consult with the ENGINEER prior to the placement of such equipment or material.

5. The CONTRACTOR shall provide and maintain temporary safety barriers and other safety and security devices as necessary to protect the public and project personnel from injury due to the WORK. The CONTRACTOR shall protect from damage all existing WORK, equipment, and improvements that are to remain and restore all damage caused by the demolition work at no cost to the OWNER.

B. DEMOLITION, SALVAGE, AND RELOCATION

1. The Contract Documents indicate existing facilities to be demolished, salvaged, and/or relocated. Auxiliary utilities including such services as water, air, chemicals, drainage, lubrication, fluid power, electrical wiring, controls, and instrumentation are not necessarily indicated. The CONTRACTOR shall verify the scope of the WORK to remove the equipment indicated; coordinate its shutdown, removal, replacement, or relocation; and submit an outage plan in accordance with Section 01 14 00 – Work Restrictions. The removal of existing facilities for demolition, salvage, and relocation shall include the following requirements:

   a. Equipment supports, including concrete pads, baseplates, mounting bolts, and support hangers, shall be removed. Damage to the existing structure shall be repaired as indicated.

   b. Exposed piping including vents, drains, and valves shall be removed. Where exposed piping penetrates existing floors and walls, the piping, including wall thimbles, shall be removed to a minimum depth of 2-inches. Resultant openings in the structure shall be repaired as indicated.

c. Electrical control panels, junction boxes, motor control centers, and local switches and pushbuttons shall be removed.

d. Exposed electrical conduits and associated wiring shall be removed. Resultant openings in structures shall be repaired as indicated.

e. Connections to embedded electrical conduits shall be removed a minimum of 2-inches inside the finished surface of the existing structure. Wiring shall be removed and the resulting openings shall be repaired as indicated.

f. Associated instrumentation devices shall be removed.

g. Auxiliary utility support systems shall be removed.

h. The area shall be thoroughly cleaned such that little or no evidence of the previous equipment installation will remain.

i. Asphalt and concrete pavement, curbs, and gutters shall be removed as necessary to perform reconstruction. The limits of removal shall be sawcut. When the required improvements have been constructed, new asphalt and concrete pavement, curbs, and gutters shall be placed to match the original unless otherwise indicated.

j. Footings, foundation walls, below-grade construction and concrete slabs on grade shall be demolished and removed to a depth which will not interfere with new construction, but not less than 36-inches below existing ground surface or future ground surface, whichever is lower.

k. Below-grade areas and voids resulting from demolition of structures shall be completely filled. Fill and compaction shall be in accordance with Section 31 23 00 – Excavation and Fill. After fill and compaction, surfaces shall be graded to meet adjacent contours and to provide flow to surface drainage structures, or as indicated.

l. When existing pipe is removed, the CONTRACTOR shall plug the resulting open ends whether or not so indicated. Where removed piping is exposed, the remaining piping shall be blind-flanged or fitted with a removable cap or plug.

m. When existing piping is removed from existing structures, the CONTRACTOR shall fill resulting openings in the structures and repair any damage such that the finished rehabilitated structure shall appear as a new homogeneous unit with little or no indication of where the new and old materials join. The openings in water-bearing structures shall be filled with non-shrink grout to be watertight and reinforced as required or indicated. In locations where the surface of the grout will be exposed to view, the grout shall be recessed approximately 1/2-inch and the recessed area filled with cement mortar grout.

n. Electrical demolition or reconstruction shall be conducted by the CONTRACTOR in a safe and proper manner to avoid injury from electrical shock to the OWNER's and CONTRACTOR's personnel. Electrical equipment to be shut off for a period of time shall be tagged, locked out, and sealed with a crimped wire and lead seal

and made inoperable. At no time shall electrical wiring or connections which are energized or could become energized be accessible to CONTRACTOR, OWNER, or other personnel without suitable protection or warning signs.

o. The CONTRACTOR shall perform a functional test of existing equipment that is relocated and reinstalled to ensure the equipment functions in the manner documented during the initial inspection. The CONTRACTOR shall inform the ENGINEER in writing a minimum of 5 Days prior to the functional testing in order for the OWNER and ENGINEER to witness the test. If, in the opinion of the ENGINEER, the relocated equipment does not function in a satisfactory manner, the CONTRACTOR shall make repairs and modifications necessary to restore the equipment to its original operating condition at no additional cost to the OWNER.

C. ABANDONMENT

1. Existing facilities to be abandoned shall be prepared as indicated. Where existing buried piping is to be abandoned, the CONTRACTOR shall remove the abandoned pipe for a distance of 5-feet from any connecting structures. Openings at the existing structures shall be repaired. The remaining pipe shall be capped at both ends prior to backfill. Buried piping, 12-inches diameter or greater shall be completely sand-filled prior to closure of the piping ends.

D. REHABILITATION

1. Certain areas of existing structures, piping, conduits, and the like will be affected by WORK necessary to complete modifications under this Contract. The CONTRACTOR shall be responsible to rehabilitate those areas affected by its construction activities.

2. Where new rectangular openings are to be installed in concrete or concrete masonry walls or floors, the CONTRACTOR shall score the edges of each opening (both sides of wall or floor slab) by saw-cutting clean straight lines to a minimum depth of 1-inch and then chipping out the concrete. Alternately, the sides of the opening (not the corners) may be formed by saw cutting completely through the slab or wall. Saw cuts deeper than 1-inch (or the depth of cover over existing reinforcing steel, whichever is less) shall not be allowed to extend beyond the limits of the opening. Corners shall be made square and true by a combination of core drilling and chipping or grinding. Necessary precautions shall be taken during removal of concrete to prevent debris from falling into or entering adjacent tanks in service or from damaging adjacent equipment or piping. Saw cuts allowed to extend beyond the opening shall be repaired by filling with non-shrink grout. The concrete around any exposed reinforcement steel shall be chipped back and exposed reinforcement steel cut a minimum of 2-inches from the finished face of the new opening and be painted with epoxy paint. The inside face of the new opening shall be grouted with an epoxy cement grout to fill any voids and cover the exposed aggregate and shall be trowel-finished to provide a plumb and square opening.

3. Where new piping is installed in existing structures, the CONTRACTOR shall accurately position core-drilled openings in the concrete as indicated or otherwise required. Openings shall be of sufficient size to permit a final alignment of pipelines

and fittings without deflection of any part and to allow adequate space for satisfactory packing where pipe passes through the wall to provide watertightness around openings so formed. The boxes or cores shall be provided with continuous keyways to hold the filling material in place, and they shall have a slight flare to facilitate grouting and the escape of entrained air during grouting. Before placing the non-shrink grout, concrete surfaces shall be sandblasted, thoroughly cleaned of sand and any other foreign matter, and coated with epoxy bonding compound.

4. Pipes, castings, or conduits shall be grouted in place by pouring in grout under a head of at least 4-inches. The grout shall be poured or rammed or vibrated into place to fill completely the space between the pipes, castings, or conduits, and the sides of the openings so as to obtain the same watertightness as through the wall itself. The grouted casings shall then be water cured.

5. In locations where the surface of the grout will be exposed to view, the non-shrink grout shall be recessed approximately 1/2-inch and the recessed area filled with cement mortar grout.

6. When new piping is to be connected to existing piping, the existing piping shall be cut square and ends properly prepared for the connection. Any damage to the lining and coating of the existing piping shall be repaired. Dielectric insulating joints shall be installed at interconnections between new and existing piping.

7. Where existing equipment, piping, and supports, electrical panels and devices, conduits, and associated appurtenances are removed, the CONTRACTOR shall rehabilitate the affected area such that little or no evidence of the previous installation remains. Openings in concrete floors, walls, and ceilings from piping, conduit, and fastener penetrations shall be filled with non-shrink grout and finished to match the adjacent area. Concrete pads, bases associated with equipment, supports, and appurtenances shall be removed by chipping away concrete and cutting any exposed reinforced steel and anchor bolts a minimum of 2-inches below finished grade and be painted with epoxy paint. The area of concrete to be rehabilitated shall be scored by saw cutting clean, straight lines to a minimum depth of 1-1/2 inches, and concrete within the scored lines removed to a depth of 1-1/2 inches (or the depth of cover over reinforcing steel, whichever is less). The area within the scored lines shall be patched with non-shrink grout to match the adjacent grade and finish. Abandoned connections to piping and conduits shall be terminated with blind flanges, caps, and plugs suited for the material, type, and service of the pipe or conduit.

8. Existing reinforcement to remain in place shall be protected, cleaned, and extended into new concrete. Existing reinforcement not to be retained shall be cut-off as follows:

    a. Where new concrete joins existing concrete at the removal line, reinforcement shall be cut-off flush with the concrete surface at the removal line.

    b. Where the concrete surface at the removal line is the finished surface, the reinforcement shall be cut back 2-inches below the finished concrete surface, the ends painted with epoxy paint and the remaining holes patched with a cement mortar grout.

9. Where existing handrailing is removed, post embedments and anchors shall be removed and post holes shall be filled with non-shrink grout flush to the floor surface. At the point of continuation of existing handrailing, a new post with rail connections matching the existing handrailing system shall be installed. New posts in existing concrete floors shall be installed in core-drilled socket holes and the annular space between the post and hole filled with non-shrink grout.

10. Where reconstruction activities damage the painting and coating of adjacent or nearby facilities, the damaged areas shall be surface prepared and coated in accordance with Section 09 96 00 – Protective Coatings to match the original painting and coating with a compatible system. Surfaces of equipment items that are to be relocated shall be prepared and be coated in accordance with Section 09 96 00 – Protective Coatings.

E. DISPOSAL

1. Demolition and removal of debris shall minimize interference with roads, streets, walks, and other adjacent occupied or used facilities that shall not be closed or obstructed without permission from the OWNER. Alternate routes shall be provided around closed or obstructed traffic ways.

2. Site debris, rubbish, and other materials resulting from reconstruction operations shall be legally removed and disposed of. Structures and equipment to be demolished shall be cleaned prior to demolition and the wash water properly disposed of. No trace of these structures shall remain prior to placing of backfill in the areas from which structures were removed.

3. Refuse, debris, and waste materials resulting from demolition and clearing operations shall not be burned.

F. OCCUPANCY AND POLLUTION CONTROL

1. Water sprinkling, temporary enclosures, chutes, and other suitable methods shall be used to limit dust and dirt rising and scattering in the area. The CONTRACTOR shall comply with government regulations pertaining to environmental protection.

2. Water shall not be used if it creates hazardous or objectionable conditions such as ice, flooding, or pollution.

G. CLEANING

1. During and upon completion of WORK, the CONTRACTOR shall promptly remove tools and equipment, surplus materials, rubbish, debris, and dust and shall leave areas affected by WORK in a clean, approved condition.

2. Adjacent structures shall be cleaned of dust, dirt, and debris caused by reconstruction, as requested by the ENGINEER or directed by governing authorities, and adjacent areas shall be returned to condition existing prior to start of WORK.

3. The CONTRACTOR shall clean and sweep the access roadways and plant roadways used during the WORK on a daily basis. The CONTRACTOR shall be responsible

for keeping all materials on the project site. In the event materials are carried over onto off-site roadways, the CONTRACTOR shall sweep and clean such roadways.

4. All interrupted utilities shall be returned to their pre-demolition state and temporary services shall be disconnected, unless otherwise specified.

END OF SECTION

SECTION 02 41 13.23 – UTILITY LINE REMOVAL

PART 1 -- GENERAL

1.1 THE REQUIREMENT

A. Removal or abandonment of existing utilities and underground structures shall include, but not necessarily be limited to, the removal, salvage, demolition in place, abandonment, or other disposition of existing utilities, underground structures, or other facilities shown on the Plans, encountered in the course of the work, and/or as directed by the Engineer and in accordance with the Contract Documents.

B. This Section includes abandonment in place of existing sewers, junction structures, manholes, service lines, and force mains. It also includes water lines, fire hydrants, valves and valve boxes. Abandonment using flowable fill will be at the direction of the Owner as field conditions dictate, or as specified on the Drawings.

1.2 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. The following standards are referenced in this specification:

1. ASTM C 150 - Standard Specification for Portland Cement
2. ASTM C 494 - Standard Specification for Chemical Admixtures for Concrete
3. ASTM C 618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
4. ASTM C 937 - Standard Specification for Grout Fluidifier for Preplaced-Aggregate Concrete
5. ASTM C 940 - Standard Test Method for Expansion and Bleeding of Freshly Mixed Grouts for Preplaced-Aggregate Concrete in the Laboratory
6. ASTM C 1017 - Standard Specification for Chemical Admixtures for Use in Producing Flowing Concrete
7. ASTM C 1107 - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink)

B. The following sections are referenced in this specification:

1. Section 01 33 00 - Submittal Procedures
2. Section 31 23 33 – Trenching and Backfilling
3. Section 32 16 00 – Curbs and Gutters
4. Section 32 16 23 – Sidewalks

5. Section 32 16 33 – Driveways

1.3 CONTRACTOR SUBMITTALS

A. Conform to requirements of Section 01 33 00 – Submittal Procedures.

B. Submit product data for proposed plugs for approval.

C. Flowable fill mix design report:

1. Flowable fill type and production method. Describe if fill will be mixed to final proportions and consistency in batch plant or if constituents will be added in transit mixer at placement location.

2. Use of ballast. Provide percentage of ballast of total placement and size limits for ballast if fill is intended to be used with ballast.

3. Aggregate gradation of fill. Aggregate gradation of mix (excluding ballast) shall be used as pilot curve for quality control during production.

4. Fill mix constituents and proportions including materials by weight and volume, and air content but excluding ballast. Give types and amounts of admixtures including air entrainment or air generating compounds.

5. Fill densities and viscosities, including wet density at point of placement.

6. Initial time of set.

7. Bleeding and shrinkage.

8. Compressive strength.

D. Technical information for equipment and operational procedures including projected slurry injection rate, grout pressure, method of controlling grout pressure, bulkhead and vent design, and number of stages of grout application.

E. Experience record for proposed crew, showing minimum of 100 cubic yards of flowable fill placed using proposed or similar equipment and methods.

F. At least 60 days prior to commencing abandonment activities, submit plan for abandonment, describing proposed grouting sequence, bypass pumping requirements and plugging, if any, and other information pertinent to completion of work.

1.4 QUALITY ASSURANCE

A. The Engineer will inspect all materials and work to ensure compliance with the Contract Documents.

PART 2 -- PRODUCTS

2.1 FLOWABLE FILL

A. Design Mix Criteria. Provide design of one or more mixes to meet design criteria and conditions for placement. Present information required by Paragraph 1.05.B in mix design report including following:

1. Cement: ASTM C 150 Type I or II. Volume and weight per cubic yard of fill. Provide minimum cement content of 100 pounds per cubic yard.

2. Fly ash: ASTM C 618 Class C or F. Volume and weight per cubic yard of fill. Provide minimum Fly ash content of 200 pounds per cubic yard.

3. Potable water: Volume and weight per cubic yard of fill. Amount of water determined by mix design testing.

4. Aggregate gradation: 100 percent passing 3/8-inch sieve and not more than 10 percent passing No. 200 sieve. Mix design report shall define pilot gradation based on following sieve sizes 3/8-inch, Nos. 4, 8, 16, 30, 50, 100, and 200. Do not deviate from pilot gradation by more than plus or minus 10 percentage points for any sieve for production material.

5. Aggregate source material: Screened or crushed aggregate, pit or bank run fine gravels or sand, or crushed concrete. If crushed concrete is used, add at least 30 percent of natural aggregate to provide workability.

6. Admixtures: Use admixtures meeting ASTM C 494 and ASTM C 1017 as needed to improve pumpability, to control time of set, and reduce bleeding.

7. Fluidifier: Use fluidifier meeting ASTM C 937 as necessary to hold solid constituents in suspension. Add shrinkage compensator if necessary.

8. Performance additive: Use flowable fill performance additive, such as Darafill or approved equal, to control fill properties.

B. Flowable Fill Requirements

1. Unconfined compressive strength: minimum 75 psi and maximum 150 psi at 56 days as determined based on an average of three tests for same placement. Present at least three acceptable strength tests for proposed mix design in mix design report.

2. Placement characteristics: self-leveling.

3. Shrinkage characteristics: non-shrink.

4. Water bleeding for fill to be placed by grouting method in sewers: not to exceed 2 percent according to ASTM C 940.

5. Minimum wet density: 90 pounds per cubic foot.

2.2 BALLAST

A. Ballast Material: Natural rock or concrete pieces with minimum size equal to at least 10 times maximum aggregate size of flowable fill and maximum size of 24 inches. Maximum dimension shall not be more than 20 percent of minimum dimension of space to be filled.

B. Ballast Composition: Free of regulated waste material.

2.3 PLUGS

A. Grout Plugs: Cement-based dry-pack grout conforming to ASTM C 1107, Grade B or C.

B. Manufactured Plug: Commercially available plug or cap specifically designed and manufactured to be used with pipe being abandoned

PART 3 -- EXECUTION

3.1 CUTTING AND CAPPING OF MAINS

A. Do not begin cut, plug, and abandonment operations until replacement utility has been constructed and tested, and all service connections have been installed.

B. Install plug, clamp, and concrete reaction block and make cut at location shown on drawings.

C. Main to be abandoned shall not be valved off and shall not be cut or plugged other than as shown on drawings.

D. After main to be abandoned has been cut and capped, check for other sources feeding abandoned pipeline. If sources are found, notify Construction Manager immediately. Cut and cap abandoned main at point of other feed as directed by Construction Manager.

E. Plug or cap ends or opening in abandoned main in manner approved by Construction Manager. Install concrete around cap and over pipe to ensure its not penetrable by groundwater. Before backfilling of a capped service line is started, the capping must be observed by a representative of the Owner

F. Removed and dispose of surface identifications such as valve boxes. Valve boxes in improved streets, other than shell, may be filled with concrete after removing cap.

G. Backfill excavations in accordance with Section 31 23 33 – Trenching and Backfilling.

H. Repair street surfaces in accordance with Section 32 16 13 – Curbs and Gutters, Section 32 16 23 – Sidewalks, and Section 32 16 33 – Driveways.

I. Mark location of abandoned sewer laterals on drawings and provide to Owner.

3.2 CUTTING AND CAPPING OF SERVICES

A. Do not begin cut, plug, and abandonment operations until replacement service, if necessary, has been constructed and tested, and all service connections have been installed.

B. Service lines shall be cut and capped in two locations. The service line shall be cut and capped as close to the main as practical but no more than 5' from the main unless obstacles exist to prevent the same (pavement, other utilities, etc.). Services shall also be cut and capped 5' from the building envelope.

C. Before backfilling of a capped service line is started, the capping must be observed by a representative of the Owner.

D. After service to be abandoned has been cut and capped, check for any other sources feeding abandoned service. When sources are found, notify Construction Manager immediately. Cut and cap abandoned main at point of other feed as directed by Construction Manager.

E. Plug or cap ends or opening in abandoned service in manner approved by Construction Manager. Install concrete around cap and over pipe to ensure it's not penetrable by groundwater.

F. Removed and dispose of surface identifications such as cleanouts or meter boxes. Clean-outs in improved streets, shall be filled with concrete.

G. Backfill excavations in accordance with Section 31 23 33 – Trenching and Backfilling.

H. Repair paved surfaces in accordance with Section 32 16 13 – Curbs and Gutters, Section 32 16 23 – Sidewalks, and Section 32 16 33 – Driveways.

I. Mark location of abandoned service on drawings and provide to Owner.

3.3 ABANDONMENT OF FORCE MAINS

A. Do not begin cut, plug and abandonment operations until replacement force main has been constructed and tested, and all service connections have been installed.

B. Install plug, clamp, and concrete reaction block and make cut at location shown on drawings.

C. Main to be abandoned shall not be valved off and shall not be cut or plugged other than as shown on Drawings.

D. After force main to be abandoned has been cut and plugged, check for other sources feeding abandoned force main. When sources are found, notify Construction Manager immediately. Cut and plug abandoned force main at point of other feed as directed by Construction Manager.

E. Plug or cap ends or openings in abandoned force main in manner approved by Construction Manager.

F. Remove and dispose of surface identifications such as valve boxes. Valve boxes in improved streets, other than shell, may be filled with concrete after removing cap.

G. Backfill excavations in accordance with Section 31 23 33 - Trenching and Backfilling.

H. Repair street surfaces in accordance with Section 32 16 13 – Curbs and Gutters, Section 32 16 23 – Sidewalks, and Section 32 16 33 – Driveways.

3.4 PREPARATION FOR FLOWABLE FILL

A. Have fill mix design reports and other submittals required by Section 01 33 00 – Submittal Procedures accepted by the Construction Manager prior to start of placement. Notify the Construction Manager at least 24 hours in advance of grouting with flowable fill.

B. Select fill placement equipment and follow procedures with sufficient safety and care to avoid damage to existing underground utilities and structures. Operate equipment at pressure that will not distort or imperil portion of work, new or existing.

C. Clean sewer lines and video with closed circuit television to identify connections, locate obstructions, and assess condition of pipe. Locate previously unidentified connections, which have not been redirected and reconnected as part of this project, and report them to the Construction Manager. During placement of fill, compensate for irregularities in sewer pipe, such as obstructions, open joints, or broken pipe to ensure no voids remain unfilled.

D. Perform demolition work prior to starting fill placement. Clean placement areas of sewers and manholes of debris that may hinder fill placement. Remove excessive amounts of sludge and other substances that may degrade performance of fill. Do not leave sludge or other debris in place if filling more than 2 percent of placement volume.

E. Remove free water prior to starting fill placement.

3.5 EQUIPMENT FOR FLOWABLE FILL

A. Mix flowable fill in automated batch plant and deliver it to site in ready-mix trucks. Performance additives may be added at placement site if required by mix design.

B. Use concrete or grout pumps capable of continuous delivery at planned placement rate.

3.6 DEMOLITION OF SEWER MANHOLES, PIPELINE STRUCTURES, AND FORCE MAINS PRIOR TO ABANDONMENT

A. Remove manhole frames and covers and castings from other existing pipeline structures. Deliver castings to nearest maintenance facility for future use. Alternatively, salvaged castings may be used upon approval by the Construction Manager, for constructing new manholes on this project.

B. Demolish and remove precast concrete adjustment rings and corner section, or brick and mortar corbel and chimney, or other pipeline structure, to minimum depth of 4 feet below finished grade. Structure may be removed to greater depth, but not deeper than 18 inches above crown of abandoned sewer.

C. When adjacent sewer lines are not to be filled, place temporary plugs in each line connecting to manhole, in preparation for filling manhole.

D. Excavate overburden from force mains to be abandoned at locations indicated on Drawings, conforming to Section 31 23 33 - Trenching and Backfilling. Cut existing force main, when necessary, to provide an end surface perpendicular to axis of pipe and suitable for plug to be installed. Remove force main piping material remaining outside of segment to be abandoned.

3.7 INSTALLATION OF FLOWABLE FILL

A. Abandon sewer lines by completely filling sewer line with flowable fill. Abandon manholes and other structures by filling with flowable fill, together with ballast as applicable, within depth of structures left in place.

B. Place flowable fill to fill volume between manholes. Continuously place flowable fill from manhole to manhole with no intermediate pour points, but not exceeding 500 feet in length.

C. Have filling operation performed by experienced crews with equipment to monitor density of flowable fill and to control pressure.

D. Temporarily plug sewer lines which are to remain in operation during pouring/pumping to keep lines free of flowable fill.

E. Pump flowable fill through bulkheads constructed for placement of two 2-inch PVC pipes or use other suitable construction methods to contain flowable fill in lines to be abandoned. These pipes will act as injection points or vents for placement of flowable fill.

F. Place flowable fill under pressure flow conditions into properly vented open system until flowable fill emerges from vent pipes. Pump flowable fill with sufficient pressure to overcome friction and to fill sewer from downstream end, to discharge at upstream end.

G. Inject flowable fill through replaced ballast using grouting equipment and series of grout pipes discharging at bottom of placement, allowing fill to rise through ballast effectively filling all voids. Alternatively, sequentially place individual pieces of ballast at same time as flowable fill is placed. Do not fill with ballast more than 50 percent of volume at any level, to prevent nesting and void formation.

H. Remediate placement of flowable fill which does not fill voids in sewer, in manhole or other structures, or where voids develop due to excessive shrinkage or bleeding of fill, by using pressure grouting either from inside sewer or from surface.

I. Plug each end of force main being abandoned.

J. Force main abandonment

1. Clean inside surface of force main at least 12 inches from ends to achieve firm bond and seal grout plug or manufactured plug to pipe surface. Similarly, clean and prepare exterior pipe surface if manufactured cap is to be used.

2. When using grout plug, place temporary plug or bulkhead approximately 12 inches inside pipe. Fill pipe end completely with dry-pack grout mixture.

3. When using manufactured plug or cap, install fitting as recommended by manufacturer's instructions, to form water tight seal.

K. Backfill to surface, above pipe or structures left in place, with flowable fill in restricted areas, compacted bank run sand in unrestricted areas to be paved or select fill in unrestricted areas outside of pavement. Place and compact backfill, other than flowable fill, in compliance with Section 31 23 33 - Trenching and Backfilling.

L. Collect and dispose of excess flowable fill material and other debris as directed by the Construction Manager.

3.8 FIELD QUALITY CONTROL

A. Provide batch plant tickets for each truck delivery of flowable fill. Note on tickets addition of admixtures at site.

B. Check flow characteristics and workability of fill as placement proceeds.

C. Obtain at least three test cylinders for each placement area for determination of 56-day compressive strength and bleeding. Acceptance of placement will be based on average strength of three tests.

D. Record volume of ballast together with flowable fill placement for same space to demonstrate that voids have been filled.

3.9 PROTECTION OF PERSONS AND PROPERTY

A. Provide safe working conditions for employees throughout demolition and removal operations in accordance with Section 01 35 53 – Security Procedures. Observe safety requirements for work below grade.

B. Maintain safe access to adjacent property and buildings. Do not obstruct roadways, sidewalks or passageways adjacent to work.

- END OF SECTION -

SECTION 03 00 00– CONCRETE

PART 1 -- GENERAL

1.1 WORK INCLUDED

A. Formwork, shoring, bracing and anchorage.

B. Concrete reinforcement and accessories.

C. Cast-in-Place concrete.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. ACI 301 - Specifications for Structural Concrete for Buildings.

B. ANSI/ASTM A185 - Welded Steel Wire Fabric for Concrete Reinforcement.

C. ASTM A615 - Deformed and Plain Billet-Steel for Concrete Reinforcement.

D. ASTM C33 - Concrete Aggregates.

E. ASTM C94 - Ready Mixed Concrete.

F. ASTM C150 - Portland Cement.

G. ASTM C260 - Air Entraining Admixtures for Concrete.

H. ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete.

I. ASTM D2103 - Polyethylene Film and Sheeting.

J. FS TT-C-800 - Curing Compound, Concrete, for New and Existing Surfaces.

K. ACI 350 - Concrete Sanitary Engineering Structures

1.3 QUALITY ASSURANCE

A. Perform work in accordance with ACI 301.

B. Unless otherwise noted in the Contract Documents, reinforced concrete shall be designed to develop a minimum compressive strength of 4,000 pounds per square inch after 28 days.

C. Unless otherwise noted in the Contract Documents, unreinforced concrete shall be designed to develop a minimum compressive strength of 3,000 pounds per square inch after 28 days.

1.4 REGULATORY REQUIREMENTS

A. Conform to the Standard Building Code, with Palm Beach County Amendments.

1.5 TESTS

A. Testing and analysis of concrete will be performed under the provisions of Section 01 45 00 - Quality Control.

B. Submit proposed mix design for each class of concrete prior to commencement of work.

C. Testing firm will take cylinders and perform both slump and air entrainment tests in accordance with ACI 301. Three concrete test cylinders are to be taken for every 75 cubic yards or less of each class of concrete placed each day. One slump test will be taken for each set of test cylinders taken.

1.6 SHOP DRAWINGS

A. Submit shop drawings of reinforcing steel.

B. Indicate reinforcement sizes, spacing, locations and quantities of reinforcing steel and wire fabric, bending and cutting schedules, splicing, supporting and spacing devices.

C. Indicate form dimensioning, materials and arrangement of joints and ties.

1.7 STORAGE

A. Cement shall be stored in a thoroughly dry, weathertight and properly ventilated building with adequate provisions for the prevention of the absorption of moisture. Storage shall be such as to permit easy access for inspection and definite identification of each shipment.

B. Cement which has hardened or is otherwise unfit for use shall not be used.

C. Fine and coarse aggregates shall be stored separately and in such a manner as to avoid the inclusion of any foreign material in the concrete.

PART 2 -- PRODUCTS

2.1 FORM MATERIALS

A. Conform to ACI 301.

2.2 REINFORCING STEEL

A. Reinforcing steel conforming to ASTM A615, 40 ksi and 60 ksi yield grade billet steel deformed bars with uncoated finish.

B. Welded Steel Wire Fabric, plain type, ANSI/ASTM A185, in coiled rolls with uncoated finish.

2.3 CONCRETE MATERIALS

A. Type II Portland cement, grey color, conforming to ASTM C150. Fine and coarse aggregates conforming to ASTM C33. Clean water not detrimental to concrete.

2.4 ADMIXTURES

A. Air entrainment admixture conforming to ASTM C260-77. Air entrained concrete shall have an air content of 4.5%, plus or minus 1.5% of the volume of the concrete.

B. A water reducing retarder shall be one that acts as a cement dispersing agent and retards the setting of the concrete in the early stages. Retarder shall conform to ASTM Designation C494-77a and shall be added to concrete according to the manufacturer's recommendations.

C. All admixtures may be used only with the written approval of the ENGINEER.

2.5 ACCESSORIES

A. Premixed non-shrink grout compound with non-metallic aggregate, cement, water reducing and plasticizing agents, capable of minimum compressive strength of 3,000 psi.

B. Chemical Hardware: Burke Company "Burk-O-Lith"; Sonebonn "Lapidolith"; Anti-Hydro "Armortap".

2.6 CURING MATERIALS

A. Clean, drinkable water.

B. Membrane curing compound conforming to ASTM C309.

2.7 CONCRETE MIX

A. Mix concrete in accordance with ASTM C94.

B. Compressive strength of 3,000/4,000 psi at 28 days; Slump of 3 inches plus or minus 1 inch; Water-Cement ratio of 0.48.

2.8 WATERSTOPS

A. Not used.

PART 3 -- EXECUTION

3.1 FORMWORK ERECTION

A. Verify lines, levels and measurements before proceeding with formwork.

B. Align form joints.

C. Do not apply form release agent where concrete surfaces receive special finishes or applied coatings which may be affected by agents.

D. Coordinate work of other Sections in forming and setting openings, slots, recesses, sleeves, bolts, anchors and other inserts.

3.2 REINFORCEMENT

A. Place, support and secure reinforcement against displacement.

B. All reinforcement shall be entirely free of rust, scale, grease or other coating which might destroy or reduce its bond with the concrete.

C. Bars shall conform to the requirements of the "Standard Specifications for Deformed Billet-Steel Bars for Concrete Reinforcement," ASTM designation A615-76a, Grade 60.

D. Wire mesh reinforcement shall conform to ASTM designation A185-73.

3.3 PLACING CONCRETE

A. Notify the ENGINEER at least 24 hours prior to the commencement of concrete operations.

3.4 FLOOR SLABS

A. Not used.

3.5 TOLERANCES

A. Not used.

END OF SECTION

SECTION SPEC 03 11 00– CONCRETE FORMING

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The CONTRACTOR shall furnish all materials for concrete formwork, bracing, shoring, and supports and shall design and construct all falsework, all in accordance with the provisions of the Contract Documents.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Section 01 33 00 – Submittal Procedures

B. Section 03 15 16 – Concrete Construction Joints

C. Section 03 20 00 – Concrete Reinforcing

D. Section 03 30 00 – Cast-in-Place Concrete

1.3 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. Codes:

1. The Building Code, as referenced herein, shall be the Southern Standard Building Code (SSBC) as specified in Section 01 42 19 – Reference Standards.

B. Government Standards:

1. PS 1-74 U.S. Product Standard for Concrete Forms, Class I.

C. Commercial Standards:

1. ACI 347-78 Recommended Practice for Concrete Formwork.

1.4 QUALITY ASSURANCE

A. Tolerances

1. The variation from established grade or lines shall not exceed 1/4-inch in 10 feet and there shall be no offsets or visible waviness in the finished surface.

2. All other tolerances shall be within those specified in Section 203 of ACI 347.

PART 2 -- PRODUCTS

2.1 GENERAL EQUIPMENT REQUIREMENTS

A. Except as otherwise expressly accepted by the ENGINEER, all lumber brought on the job site for use as forms, shoring, or bracing shall be new material.

B. All forms shall be smooth surface forms and shall be of the following materials:

1. Walls

2. Steel or plywood panel

3. Columns

4. Steel, plywood or fiber glass

5. Roof and floor

6. Plywood

7. All other work

8. Steel panels, plywood or tongue and groove lumber

2.2 FORM AND FALSEWORK MATERIALS

A. Materials for concrete forms, formwork, and falsework shall conform to the following requirements:

1. Lumber shall be Douglas Fir or Southern Pine, construction grade or better, in conformance with U.S. Product Standard PS20.

2. Plywood for concrete formwork shall be new, waterproof, synthetic resin bonded, exterior type Douglas Fir or Southern Pine plywood manufactured for concrete formwork, conforming to the requirements of PS 1 for Concrete Forms, Class I, and shall be edge sealed.

3. Form materials shall be metal, wood, plywood, or other approved material that will not adversely affect the concrete and will facilitate placement of concrete to the shape, form, line, and grade shown. Metal forms shall be an approved type that will accomplish such results. Wood forms for surfaces to be painted shall be Medium Density Overlaid plywood, MDO Ext. Grade.

B. Unless otherwise shown, exterior corners in concrete members shall be provided with 3/4-inch chamfers. Re-entrant corners in concrete members shall not have fillets unless otherwise shown.

C. Forms and falsework to support the roof and floor slabs shall be designed for the total dead load, plus a minimum live load of 30 psf.

2.3 FORM TIES

A. Form ties with integral waterstops shall be provided with a plastic cone or other suitable means for forming a conical hole to insure that the form tie may be broken off back of the face of the concrete. The maximum diameter of removable cones for rod ties, or of other removable form-tie fasteners having a circular cross-section, shall not exceed 1-1/2 inches; and all such fasteners shall be such as to leave holes of regular shape for reaming.

B. Form ties for water-retaining structures shall have integral waterstops. Removable taper ties may be used when approved by the ENGINEER. A preformed neoprene or

polyurethane tapered plug sized to seat at the center of the wall shall be inserted in the hole left by the removal of the taper tie.

PART 3 -- EXECUTION

3.1 GENERAL

A. Forms to confine the concrete and shape it to the required lines shall be used wherever necessary. The CONTRACTOR shall assume full responsibility for the adequate design of all forms, and any forms which are unsafe or inadequate in any respect shall promptly be removed from the WORK and replaced at the CONTRACTOR's expense.

B. A sufficient number of forms of each kind shall be provided to permit the required rate of progress to be maintained. The design and inspection of concrete forms, falsework, and shoring shall comply with applicable local, State, and Federal regulations.

C. Plumb and string lines shall be installed before concrete placement and shall be maintained during placement. Such lines shall be used by the CONTRACTOR's personnel and by the ENGINEER and shall be in sufficient nuymber and properly installed. During concrete placement, the CONTRACTOR shall continually monitor plumb and string line form positions and immediately correct deficiencies.

D. Concrete forms shall conform to the shape, lines, and dimensions of members as called for on the Contract Drawings, and shall be substantial, free from surface defects, and sufficiently tight to prevent leakage.

E. Forms shall be properly braced or tied together to maintain their position and shape under a load of freshly-placed concrete. If adequate foundation for shores cannot be secured, trussed supports shall be provided.

3.2 FORM DESIGN

A. All forms shall be true in every respect to the required shape and size, shall conform to the established alignment and grade, and shall be of sufficient strength and rigidity to maintain their position and shape under the loads and operations incident to placing and vibrating concrete.

B. Suitable and effective means shall be provided on all forms for holding adjacent edges and ends of panels and sections tightly together and in accurate alignment so as to prevent the formation of ridges, fins, offsets, or similar surface defects in the finished concrete.

C. Plywood, 5/8-inches and greater in thickness, may be fastened directly to studding if the studs are spaced close enough to prevent visible deflection marks in the concrete. The forms shall be tight so as to prevent the loss of water, cement, and fines during placing and vibrating of the concrete.

D. The bottom of wall forms that rest on concrete footings or slabs shall be provided with a gasket to prevent loss of fines and paste during placement and vibration of concrete. Such gasket may be a 1 to 1-1/2 inch diameter polyethylene rod held in position to the underside of the wall form.

E. Adequate clean-out holes shall be provided at the bottom of each lift of forms. The size, number, and location of such clean-outs shall be acceptable to the ENGINEER.

3.3 CONSTRUCTION

A. Vertical surfaces of concrete members shall be formed, except where placement of the concrete against the ground is shown. Not less than 1-inch of concrete shall be added to the thickness of the concrete member as shown where concrete is permitted to be placed against trimmed ground in lieu of forms. Such permission will be granted only for members of limited height and where the character of the ground is such that it can be trimmed to the required lines and will stand securely without caving or sloughing until the concrete has been placed.

B. Construction joints will not be permitted at locations other than those shown or specified, except as deemed acceptable by the ENGINEER. When a second lift is placed on hardened concrete, special precautions shall be taken in the way of the number, location, and tightening of ties at the top of the old lift and bottom of the new to prevent any unsatisfactory effect on the concrete. Pipe stubs and anchor bolts shall be set in the forms where required.

C. Form Ties:

1. Embedded Ties:

a. Holes left by the removal of form tie cones shall be reamed with suitable toothed reamers so as to leave the surface of the holes clean and rough before being filled with mortar.

b. Wire ties for holding forms will not be permitted. No form-tying device or part thereof, other than metal, shall be left embedded in the concrete.

c. Ties shall not be removed in such a manner as to leave a hole extending through the interior of the concrete members. The use of snap-ties which cause spalling of the concrete upon form stripping or tie removal will not be permitted.

d. If steel panel forms are used, rubber gromets shall be provided where the ties pass through the form in order to prevent loss of cement paste.

e. Where metal rods extending through the concrete are used to support or to strengthen forms, the rods shall remain embedded and shall terminate not less than 1-inch back from the formed face or faces of the concrete.

2. Removable Ties:

a. Where taper ties are approved for use, the larger end of the taper tie shall be on the wet side of walls in water retaining structures.

b. After the taper tie is removed, the hole shall be thoroughly cleaned and roughened for bond. A precast neoprene or polyeurethane tapered plug shall be located at the wall centerline. The hole shall be completely filled with non-shrink grout for above-grade walls which are dry on both sides.

c. Exposed faces of walls shall have the outer 2-inches of the exposed face filled with a cement grout which shall match the color and texture of the surrounding wall surface

3.4 REUSE OF FORMS

A. Forms may be reused only if in good condition and only if acceptable to the ENGINEER.

B. Light sanding between uses will be required wherever necessary to obtain uniform surface texture on all exposed concrete surfaces. Exposed concrete surfaces are defined as surfaces which are permanently exposed to view.

C. Forms for the inside wall surfaces of hydraulic/water retaining structures, unused tie rod holes in forms shall be covered with metal caps or shall be filled by other methods acceptable to the ENGINEER.

3.5 REMOVAL OF FORMS

A. Careful procedures for the removal of forms shall be strictly followed, and this work shall be done with care so as to avoid injury to the concrete.

B. No heavy loading on green concrete will be permitted.

C. In the case of roof slabs and above-ground floor slabs, forms shall remain in place until test cylinders for the roof concrete attain a minimum compressive strength of 75% of the 28-day strength specified in Section 03 30 00 - Cast-in-Place Concrete, provided that no forms shall be disturbed or removed under an individual panel or unit before the concrete in the adjacent panel or unit has attained 75% of the specified 28-day strength and has been in place for a minimum of 7 days.

D. The time required to establish said strength shall be as determined by the ENGINEER based on several test cylinders made by the CONTRACTOR for this purpose from concrete used in the first group of roof panels placed. If the time so determined is more than the 7 day minimum, then that time shall be used as the minimum length of time.

E. Forms for all vertical walls and columns shall remain in place at least 2 days after the concrete has been placed. Forms for all parts of the WORK no specifically mentioned herein shall remain in place for periods of time as determined by the ENGINEER.

3.6 MAINTENANCE OF FORMS

A. Forms shall be maintained at all times in good condition, particularly as to size, shape, strength, rigidity, tightness, and smoothness of surface. When in place, forms shall conform to the established alignment and grades.

B. Before concrete is placed, forms shall be thoroughly cleaned. Form surfaces shall be treated with a non-staining mineral oil or other lubricant acceptable to the ENGINEER.

C. Any excess lubricant shall be satisfactorily removed before placing the concrete. Where field oiling of forms is required, the CONTRACTOR shall perform the oiling at least 2

weeks in advance of their use. Care shall be exercised to keep oil off the surfaces of steel reinforcement and other metal items to be embedded in concrete.

3.7 FALSEWORK

A. The CONTRACTOR shall be responsible for the design, engineering, construction, maintenance, and safety of all falsework, including staging, walkways, forms, ladders, and similar appurtenances, which shall equal or exceed the applicable requirements of the provisions of the OSHA Safety and Health Standards for Construction, and the requirements specified herein.

B. All falsework shall be designed and constructed to provide the necessary rigidity and to support the loads. Falsework for the support of a superstructure shall be designed to support the loads that would be imposed if the entire superstructure were placed at one time.

C. Falsework shall be placed upon a solid footing, safe against undermining, and protected from softening.

D. When the falsework is supported on timber piles, the maximum calculated pile loading shall not exceed 20 tons.

E. When falsework is supported on any portion of the structure which is already constructed, the load imposed by the falsework shall be spread, distributed, and braced in such a way as to avoid any possibility of damage to the structure.

END OF SECTION

SECTION 03 15 16– CONCRETE CONSTRUCTION JOINTS

PART 1 -- GENERAL

1.1 REQUIREMENTS INCLUDED

A. The CONTRACTOR shall construct all joints in concrete at the locations shown. Joints required in concrete structures are of various types and will be permitted only where shown, unless otherwise pre-approved by the ENGINEER.

B. Construction joints, expansion joints, contraction joints, and control joints shall be provided at the locations shown and formed in accordance with the details shown.

C. Waterstops shall be provided in all water-bearing joints in hydraulic structures unless specifically noted otherwise. Shapes of the waterstops shall be as shown.

1.2 RELATED WORK

A. Section 03 11 00 – Concrete Forming.

B. Section 03 20 00 – Concrete Reinforcing.

C. Section 03 30 00 – Cast-in-Place Concrete.

1.3 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. Federal Specifications:

1. TT-S-00227E(3) Sealing Compound, elastomeric type, multi-component (for caulking, sealing, and glazing buildings and other structures).

B. U.S. Army Corps of Engineers Standard Specifications:

1. CRD-C572

C. Commercial Standards:

1.	ASTM C 920-79	Specification for Elastomeric Joint Sealants
2.	ASTM D 624-81	Test Method for Rubber Property – Tear Resistance
3.	ASTM D 638-84	Test Method for Tensile Properties of Plastics
4.	ASTM D 746-79	Test Method for Brittleness Temperature of Plastics and Elastomers by Impact.
5.	ASTM D 747-84a	Test Method for Apparent Bending Modulus of Plastics by Means of a Cantilever Beam.
6.	ASTM D 1752-84	Specification for Preformed Sponge Rubberand Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.

7. ASTM D 2240-84 Test Method for Rubber Property - Durometer Hardness.

1.4 TYPES OF JOINTS

A. Construction joints occur when fresh concrete is placed against a hardened concrete surface. Unless otherwise specified, all joints in water bearing members shall be provided with a waterstop and/or sealant groove of the shape specified. The surface of the first pour may also be required to receive a coating of bond breaker.

B. Contraction joints are similar to construction joints except that the fresh concrete shall not bond to the hardened surface of the first pour, which shall be coated with a bond breaker. The slab reinforcement shall be stopped 4-1/2 inches from the joint; which is provided with a sleeve-type dowel to allow shrinkage of the concrete of the second pour. Waterstop and/or sealant groove shall also be provided when specified or shown.

C. Expansion Joints: To allow the concrete to expand freely, a space is provided between the two pours, the joint shall be formed as shown. This space is obtained by placing a filler joint material against the first pour, which acts as a form for the second pour. Unless otherwise specified, all expansion joints in water bearing members shall be provided with a center-bulb type waterstop.

D. Pre-molded expansion joint material shall be installed with the edge at the indicated distance below or back from finished concrete surface, and shall have a slightly tapered, dressed, and oiled wood strip secured to or placed at the edge thereof during concrete placement, which shall later be removed to form space for sealing material.

E. The space so formed shall be filled with a joint sealant material. In order to keep the two wall or slab elements in line, the joint shall also be provided with a sleeve-type dowel.

F. Shall provide a weaker plane in the concrete where shrinkage cracks are likely to occur. A groove is formed or saw-cut in the concrete. This groove is later filled with a joint sealant material.

1.5 CONTRACTOR SUBMITTAL

A. Waterstops: Prior to production of the material required, qualification samples shall be submitted. Samples shall consist of extruded or molded sections of each size or shape to be used, and shall be accomplished so that the material and workmanship represents in all respects the material to be furnished. The balance of the material to be used shall not be produced until after the ENGINEER has reviewed the qualification samples.

B. Joint Sealant: Prior to ordering sealant material, the CONTRACTOR shall submit to the ENGINEER for review sufficient data to show general compliance with the requirements of the Contract Documents.

C. Certified test reports from the sealant manufacturer on the actual batch of material being supplied indicating compliance with the above requirements shall be furnished to the ENGINEER before the sealant is used on the job.

D. The CONTRACTOR shall provide written certification from the manufacturer as an integral part of the shipping form, to show that all of the material shipped to the project meets or

exceeds the physical property requirements of the Contract Documents. Supplier certificates are not acceptable.

E. The CONTRACTOR shall submit placement shop drawings showing the location and type of all joints for each structure.

1.6 QUALITY ASSURANCE

A. All waterstop field joints shall be subject to rigid inspection, and no such work shall be scheduled or started without having made prior arrangements with the ENGINEER to provide for the required inspections. Not less than 24 hours notice shall be provided to the ENGINEER for scheduling such inspections.

B. All field joints in waterstops shall be subject to rigid inspection for misalignment, bubbles, inadequate bond, porosity, cracks, offsets, and other defects which would reduce the potential resistance of the material to water pressure at any point.

C. All defective joints shall be replaced with material passing inspection, and all faulty material shall be removed from the site and disposed of by the CONTRACTOR at its own expense.

D. The following defects represent a partial list of defects which shall be grounds for rejection:

1. Offsets at joints greater than 1/16-inch or 15% of material thickness at any point, whichever is less.

2. Exterior crack at joint, due to incomplete bond, which is deeper than 1/16-inch or 15% of material thickness at any point, whichever is less.

3. Any combination of offset or exterior crack which will result in a net reduction in the cross section of the waterstop in excess of 1/16-inch or 15% of material thickness at any point, whichever is less.

4. Misalignment of joint which result in misalignment of the waterstop in excess of 1/2-inch in 10 feet.

5. Porosity in the welded joint as evidenced by visual inspection.

6. Bubbles or inadequate bonding which can be detected with a pen-knife test. (If while prodding the entire joint with the point of a pen knife the knife breaks through the outer portion of the weld into a bubble, the joint shall be considered defective.)

E. Waterstop Samples:

1. Prior to use of the waterstop material in the field, a sample of a fabricated mitered cross and a tee constructed of each size or shape of material to be used shall be submitted to the ENGINEER for review.

2. Samples shall be fabricated so that the material and workmanship represent in all respects the fittings to be furnished under this Contract.

3. Field samples of fabricated fittings (crosses, tees, etc.) will be selected at random by the ENGINEER for testing by a laboratory at the OWNER's expense. When tested, they shall have a tensile strength across the joints equal to at least 600 psi.

F. Construction Joint Sealant: The CONTRACTOR shall prepare adhesion and cohesion test specimens as specified herein, at intervals of 5 working days while sealants are being installed.

G. The sealant material shall show no signs of adhesive or cohesive failure when tested in accordance with the following procedure in laboratory and field tests:

1. Sealant specimen shall be prepared between 2 concrete blocks (1-inch by 2-inch by 3-inch). Spacing between the blocks shall be 1/2-inch. Coated spacers (2-inch by 1-1/2 inch by 1/2 inch) shall be used to insure sealant cross-sections of 1/2-inch by 2-inches with a width of 1/2-inch.

2. Sealant shall be cast and cured according to manufacturer's recommendations except that the curing period shall not exceed 24 hours.

3. Following the curing period, the gap between blocks shall be widened to 1-inch. Spacers shall be used to maintain this gap for 24 hours prior to inspection for failure.

PART 2 -- PRODUCTS

2.1 PVC WATERSTOPS

A. General

1. Waterstops shall be extruded from an elastomeric PVC compound containing the plasticizers, resins, stabilizers, and other materials necessary to meet the requirements herein.

2. No reclaimed or scrap material shall be used.

3. The CONTRACTOR shall obtain from the waterstop manufacturer and shall furnish to the ENGINEER for review, current test reports and a written certification of the manufacturer that the material to be shipped to the job site meets the physical requirements outlined in the U.S. Army Corps of Engineers Specification CRD-C572.

B. Flatstrip and Center-Bulb Waterstops:

1. Shall be as manufactured by **Kirkhill Rubber Company, Water Seals, Inc., Progress Unlimited, Inc.**, or approved equal.

2. At no place shall the thickness of flat strip waterstops, including the center-bulb type, be less than 3/8-inch.

C. Multi-Rib Waterstops:

1. Shall be as manufactured by **Water Seals, Inc., Progress Unlimited, Inc.**, or approved equal.

2. Prefabricated joint fittings shall be used at all intersections of the ribbed-type waterstops.

D. When other types of waterstops not listed above are required they shall be subject to the same requirements described herein.

E. When tested in accordance with the specified test standards, the waterstop material shall meet or exceed the following requirements:

Physical Property, Sheet Materials	**Value**	**ASTM Standard**
Min. Tensile Strength (psi)	1750	D 638-82a, Type IV
Min. Ultimate Elongation (%)	350	D 638-82a, Type IV
Max. Low Temp. Brittleness (deg. F)	-35	D 746-79
Min. Stiffness in Flexure (psi)	400	D 747-70
Accelerated Extraction (CRD-C572)	**Value**	**ASTM Standard**
Min. Tensile Strength (psi)	1500	D 638-82a, Type IV
Min. Ultimate Elongation (%)	300	D 638-82a, Type IV
Effect of Alkalies (CRD-C572)	**Value**	**ASTM Standard**
Change in Weight (%)	+0.25/-0.1	-
Change in Durometer, Shore A	+5	D 2240-81
Finish Waterstop	**Value**	**ASTM Standard**
Min. Tensile Strength (psi)	1400	D 638-82a, Type IV
Min. Ultimate Elongation (%)	280	D 638-82a, Type IV

2.2 JOINT SEALANT

A. Joint sealant shall be polyurethane polymer designed for bonding to concrete which is continuously submerged in water. No material will be acceptable which has an unsatisfactory history as to bond or durability when used in the joints of water retaining structures.

B. Joint sealant material shall meet the following requirements:

1. Work Life — 45 to 90 minutes
2. Time to Reach 20 Shore Hardness (at 77°F, 200 gr quantity) — 24 hours, maximum
3. Ultimate Hardness — 30 to 40 Shore A
4. Tensile Strength — 250 psi, minimum
5. Color — Light gray

C. All polyurethane sealant for waterstop joints in concrete shall conform to the following requirements:

1. Sealant shall be 2-part polyurethane with the physical properties of the cured sealant conforming to or exceeding the requirements of ANSI/ASTM C 920, or Federal Specification TT-S-0027 E(3) for 2-part material, as applicable.

2. For vertical joints and overhead horizontal joints, only non-sag compounds shall be used; all such compounds shall conform to the requirements of ANSI/ASTM C 920 Class B, or Federal Specification TT-S-0027 E(3), Type II.

3. For plane horizontal joints, the self-leveling compounds which meet the requirements of ANSI/ASTM C 920 Class A, or Federal Specification TT-S-0027 E(3), Type I shall be used. For joints subject to either pedestrian or vehicular traffic, a compound providing non-tracking characteristics, and having a Shore A hardness range of 25 to 35 shall be used.

4. Primer materials, if recommended by the sealant manufacturer, shall conform to the printed recommendations of the sealant manufacturer.

D. All sealant required hereunder shall be as manufactured by **Products Research Company, General Sealant Corp.**, or approved equal.

2.3 PREFORMED JOINT FILLER

A. Shall be of the preformed non-extruding type joint filler constructed of cellular neoprene sponge rubber or polyurethane of firm texture.

B. Bituminous fiber type will not be permitted.

C. All non-extruding and resilient-type preformed expansion joint fillers shall conform to the requirements and tests set forth in ASTM D 1752, Type I, except as otherwise specified herein.

2.4 BACKING ROD

A. Shall be an extruded closed-cell, polyethylene foam rod. The material shall be compatible with the joint sealant material used and shall have a tensile strength of not less than 40 psi and a compression deflection of approximately 25% at 8 psi.

B. The rod shall be 1/8-inch larger in diameter than the joint width except that a 1-inch diameter rod shall be used for a 3/4-inch wide joint.

2.5 BOND BREAKER

A. Shall be as manufactured by the **Burke Company, Hunt Process Company, Select Products Company**, or approved equal.

B. Shall contain a fugitive dye so that areas of application are readily distinguishable.

2.6 BENTONITE WATERSTOP

A. Shall expand in the presence of water to form a watertight joint seal without damaging the concrete in which it is cast.

B. Shall be composed of 75% bentonite. The balance of the material shall be butyl rubber-hydrocarbon with less than 1.0% volatile matter.

C. The waterstop shall contain no asbestos fibers or asphaltics.

D. The manufacturer's rated application temperature range shall be from 5 to 125 degrees F. The service temperature range shall be from -40 to 212 degrees F.

E. The cross sectional dimensions of the unexpanded waterstop shall be 1-inch by 3/4-inch.

F. The waterstop shall be provided with an adhesive backing which will provide excellent adhesion to concrete surfaces.

PART 3 -- EXECUTION

3.1 GENERAL

A. Unless otherwise shown, waterstops of the type specified herein shall be embedded in the concrete across joints. All waterstops shall be fully continuous for the extent of the full joint.

B. Splices necessary to provide continuity shall be accomplished in conformance to printed instructions of the waterstop manufacturer.

C. The CONTRACTOR shall take suitable precautions and means to support and protect waterstops during the progress of the WORK and shall repair or replace at its own expense any waterstops damaged during the progress of the WORK.

D. All waterstops shall be stored so as to permit free circulation of air around the waterstop material.

E. When any waterstop is installed in the concrete on one side of a joint, while the other half or portion of the waterstop remains exposed to the atmosphere for more than 2 days, suitable precautions shall be taken to shade and protect the exposed waterstop from direct rays of the sun during the entire exposure and until the exposed portion of the waterstop is embedded in concrete.

3.2 SPLICES IN WATERSTOPS

A. Splices in waterstops shall be performed by heat sealing the adjacent waterstop sections in accordance with the manufacturer's printed instructions. Unless specified otherwise, it is essential that:

1. The material not be damaged by heat sealing.

2. The splices have a tensile strength of not less than 60% of the unspliced materials tensile strength.

3. The continuity of the waterstop ribs and of its tubular center axis be maintained.

B. Butt joints of the ends of 2 identical waterstop sections may be made while the material is in the forms.

C. All joints with waterstops involving more than 2 ends to be jointed together, and all joints which involve an angle cut, alignment change, or the joining of 2 dissimilar waterstop sections shall be prefabricated by the CONTRACTOR prior to placement in the forms, allowing not less than 24-inch long strips of waterstop material beyond the joint. Upon being inspected and approved, such prefabricated waterstop joint assemblies shall be installed in the forms and the ends of the 24-inch strips shall be butt welded to the straight run portions of waterstop in place in the forms.

3.3 JOINT CONSTRUCTION

A. Setting Waterstops: To eliminate faulty installation that may result in joint leakage, care shall be taken of the correct positioning of the waterstops during installation. Adequate provisions must be made to support the waterstops during the progress of the WORK and to insure the proper embedment in the concrete. The symmetrical halves of the waterstops shall be equally divided between the concrete pours at the joints. The center axis of the waterstops shall be coincident with the joint openings. Maximum density and imperviousness of the concrete shall be insured by thoroughly working it in the vicinity of all joints.

B. In placing flat-strip waterstops in the forms, means shall be provided to prevent them from being folded over by the concrete as it is placed. Unless otherwise shown, all waterstops shall be held in place with light wire ties on 12-inch centers which shall be passed through the edge of the waterstop and tied to the curtain of reinforcing steel. Horizontal waterstops, with their flat face in a vertical plane, shall be held in place with continuous supports to which the top edge of the waterstop shall be tacked. In placing concrete around horizontal waterstops, with their flat face in a horizontal plane, concrete shall be worked under the waterstops by hand so as to avoid the formation of air and rock pockets.

C. Joint Location: Construction joints, and other types of joints, shall be provided where shown. When not shown, construction joints shall be provided at 25-foot maximum spacing for all concrete construction, unless noted otherwise. Where joints are shown spaced greater than 40 feet apart, additional joints shall be provided to maintain the 25-foot maximum spacing. The location of all joints, of any type, shall be submitted for acceptance by the ENGINEER.

D. Joint Preparation: Special care shall be used in preparing concrete surfaces at joints where bonding between two sections of concrete is required. Unless otherwise shown, such bonding will be required at all horizontal joints in walls. Surfaces shall be prepared in accordance with the requirements of Section 03 30 00: Cast-In-Place Concrete.

E. Except on horizontal wall construction joints, wall to slab joints, or where otherwise shown or specified, at all joints where waterstops are required, the joint face of the first pour shall be coated with a bond breaker as specified herein.

F. Adequate means shall be provided for anchoring the waterstop in concrete. Waterstops shall be positioned so that they are equally embedded in the concrete on each side of the joint.

G. Sealant application shall be in accordance with the manufacturer's printed instructions. The surfaces of the groove for the sealant shall not be coated. Concrete next to waterstops shall be placed in accordance with Section 03 30 00: Cast-In-Place Concrete.

H. Construction Joint Sealant:

1. Construction joints in water-bearing floor slabs, and elsewhere as shown, shall be provided with tapered grooves which shall be filled with a construction joint sealant.

2. The material used for forming the tapered grooves shall be left in the grooves until just before the grooves are cleaned and filled with joint sealant.

3. After removing the forms from the grooves, all laitance and fins shall be removed, and the grooves shall be sand-blasted.

4. The grooves shall be allowed to become thoroughly dry, after which they shall be blown out; immediately thereafter, they shall be primed and filled with the construction joint sealant.

5. The primer used shall be supplied by the same manufacturer supplying the sealant. No sealant will be permitted to be used without a primer.

6. Care shall be used to completely fill the sealant grooves. Areas designated to receive a sealant filler shall be thoroughly cleaned, as outlined for tapered grooves, prior to application of the sealant.

I. The primer and sealant shall be placed strictly in accordance with the printed recommendations of the manufacturer, taking special care to properly mix the sealant prior to application. All sealant shall cure at least 7 days before the structure is filled with water.

J. All sealant shall be installed by a competent waterproofing specialty contractor with a successful record of performance in similar installations. Before WORK is commenced, the crew doing the WORK shall be instructed in the proper method of application by a representative of the sealant manufacturer.

K. Thorough, uniform mixing of 2-part, catalyst-cured materials is essential; special care shall be taken to properly mix the sealer before its application. Before any sealer is placed, the CONTRACTOR shall arrange to have the crew performing the WORK carefully instructed as to the proper method of mixing and application by a representative of the sealant manufacturer.

L. Any joint sealant which, after the manufacturer's recommended curing time for the job conditions of the WORK hereunder, fails to fully and properly cure shall be completely removed; the groove shall be thoroughly sandblasted to remove all traces of the uncured or partially cured sealant and primer, and shall be re-sealed with the specified joint sealant. All costs of such removal, joint treatment, re-sealing, and appurtenant work shall be at the expense of the CONTRACTOR.

M. Bentonite Waterstop:

1. Where a bentonite waterstop is called for in the Contract Documents, it shall be installed with the manufacturer's instructions and recommendations, except as modified herein.

2. When requested by the ENGINEER, the manufacturer shall provide technical assistance in the field.

3. The bentonite waterstop shall be located as near as possible to the center of the joint and it shall be continuous around the entire joint.

4. Where a bentonite waterstop is used in combination with PVC waterstop, the bentonite waterstop shall overlap the PVC waterstop for a minimum of 6-inches and shall be placed in contact with the PVC waterstop.

5. The bentonite waterstop shall not be placed when the temperature of the waterstop material is below 40 degrees F. The waterstop material may be warmed so that it shall remain above 40 degrees F during placement; however, means used to warm the material shall in no way harm the material or its properties. The waterstop shall not be installed where the air temperature falls outside the manufacturer's recommended range.

6. The bentonite waterstop shall be secured in place with concrete nails and washers at 12-inch maximum spacing. This shall be in addition to the adhesive backing provided with the waterstop.

END OF SECTION

SECTION 03 20 00– CONCRETE REINFORCING

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The work shall consist of fabricating and placing all concrete reinforcement as required for concrete construction in accordance with the details shown.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Section 03 30 00 – Cast-in-Place Concrete

1.3 QUALITY ASSURANCE

A. Furnish reinforcement materials from manufacturer's regularly engaged in the production of steel bar and welded wire fabric reinforcing.

B. Installer Qualifications:

1. Three years' experience in installation of steel bar and welded wire fabric reinforcing.

2. Welders qualified in accordance with AWS D12.1-72.

C. Testing agency shall be an independent testing lab licensed by the State of Florida.

D. Allowable Tolerances (Reinforcing Steel):

1. Fabrication:

a. Sheared length not more than 1-inch.

b. Depth of truss bars between 0 and 1/2-inch.

c. Stirrups, ties and spirals not more than 1/2-inch.

d. All other bends not more than 1-inch.

2. Placement and Handling:

a. Concrete cover to form surfaces not more than 1/4-inch.

b. Minimum spacing between vertical bent bars not more than 3/4-inch.

c. Crosswise of members to be spaced evenly within 2 inches of stated separation.

d. Lengthwise of members not more than 2 inches.

e. Maximum bar movement to avoid interference with other reinforcing steel, conduits or embedded items shall be 4 inches.

E. Source Quality Control:

1. Mill test certificates identifying chemical and physical analysis of each load of reinforcing steel delivered.

1.4 SUBMITTALS

A. Furnish shop drawings showing sizes and dimensions for fabrication and placing of reinforcing steel, bar supports and welded wire fabric. Indicate bar schedules, stirrup spacing and diagrams of bent bars.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING:

A. Deliver reinforcement to the project or pre-casting site in bundles or rolls marked with metal tags indicating bar size and length.

PART 2 -- PRODUCTS

2.1 MATERIALS

A. Bars

1. Round carbon steel: ASTM A306 (latest edition), Grade 45.

2. Deformed billet steel: ASTM A615-79, Grade 40.

B. Wire

1. Cold drawn steel: ASTM A82-72.

2. Deformed steel: ASTM A496-72.

C. Wire Fabric:

1. Welded steel: ASTM A185-72.

2. Welded deformed steel: ASTM A497-79.

D. Tie Wire:

1. FS QQ-W-461 (latest edition), annealed steel, black, 16 gage minimum.

E. Welding Electrodes

1. AWS A 5.1-72, low hydrogen, E70 Series.

2.2 FABRICATION

A. In accordance with CRSI Manual of Standard Practice.

PART 3 -- EXECUTION

3.1 INSTALLATION

A. Concrete coverage over reinforcing steel and welded wire fabric shall be in strict accordance with the clearances shown on the plans and details.

B. All reinforcing steel placed against the ground shall have a concrete coverage of 3 inches.

C. The use of proper reinforcing steel support chairs or other supports will be required to rigidly locate the reinforcement within the concrete at the dimensions indicated. No concrete will be placed until all steel is rigidly secured in its proper position.

D. Steel reinforcing shall be free of loose rust, scale or other coatings.

E. Placing of all reinforcing steel shall be in accordance with the American Concrete Institute Building Code (ACI 318-71).

F. Wire Fabric:

1. Install in longest practicable length.

2. Lap adjoining pieces one full mesh minimum and lay splices with 16 gage wire.

3. Bend all tie wire away from the outer surface to maintain minimum cover or greater.

4. Offset end laps in adjacent widths to prevent continuous laps.

G. Unless otherwise shown on the Contract Drawings, the minimum overlap for a lapped splice shall be in accordance with ACI 318-77 Chapter 12 (12.15). Lapped splices shall be made only at locations approved by the ENGINEER.

END OF SECTION

SECTION 03 30 00– CAST-IN-PLACE CONCRETE

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Performing all cast-in-place concrete work and related items as shown on the Contract Drawings and as specified herein.

B. Notify the ENGINEER at least 24 hours in advance of the placement of all concrete. No concrete is to be placed without the prior approval of the ENGINEER.

C. Related sections:

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Section 03 00 00 – Concrete.

1.3 CODES

A. All work shall comply with the current edition of the Palm Beach County Building Code.

1.4 CONTRACTOR SUBMITTALS

A. Provide original test reports of concrete compression, yield and slump tests.

B. Certificates:

1. Manufacturer's certification that materials meet the specification requirements.

2. Material content per cubic yard of each class of concrete furnished:

a. Dry weights of cement.

b. Saturated surface-dried weights of fine and coarse aggregate.

c. Quantities, types and names of admixtures.

d. Weight of water.

3. Ready-mix delivery tickets, ASTM C94-72.

1.5 ENVIRONMENTAL REQUIREMENTS

A. Allowable Concrete Temperatures:

1. Cold weather maximum and minimum per ASTM C94-72.

2. Hot weather maximum of 90 degrees Fahrenheit, unless otherwise approved by the ENGINEER.

B. Do not place concrete during rain unless protection is provided.

PART 2 -- PRODUCTS

2.1 PORTLAND CEMENT

A. ASTM C-150 - Type II Portland cement shall be used for all precast items.

2.2 FINE AGGREGATE SAND

A. Meeting the requirements of F.D.O.T. Section 902.1 Standard Specifications (latest edition).

2.3 COARSE AGGREGATE

A. Grade 9, meeting the requirements of Section 901 of the F.D.O.T. Standard Specifications.

2.4 MIXING WATER

A. Furnish clean potable water from a source approved by the ENGINEER.

2.5 MIX PROPORTIONING

A. All cast-in-place concrete shall have a minimum 28-day compressive strength of 4,000 psi (f'c=4,000psi) and shall conform to F.D.O.T. Section 345, Class II Portland cement concrete.

B. All Class II concrete shall be made using Type III high early strength Portland cement.

C. Concrete slump shall be between 2-1/2 inches minimum and 5 inches maximum.

2.6 MIXES

A. Equivalent to ASTM C94-72.

B. Mix concrete only in quantities sufficient for immediate use. Do not re-temper or use set concrete.

2.7 EXPANSION JOINT FILLERS

A. Asphalt impregnated fiberboard conforming to ASTM C-1751 shall extend the full depth of joints. Thickness where not indicated shall be 1/2-inch.

2.8 CURING

A. Approved curing compounds shall be used and shall be such as to not strain or cause imperfection on the finished concrete.

PART 3 -- EXECUTION

3.1 INSPECTION

A. Assure that excavations and forms are complete. Check that reinforcement is secure.

B. Verify that joint material, anchors and other embedded items are secured in position. Check that forms are sufficiently tight to prevent leakage of mortar.

3.2 INSTALLATION

A. Placing Concrete:

1. Convey concrete from mixer to final position by a method that will prevent separation or loss of material.

2. The maximum allowable height of concrete free fall is 8 feet. Where free fall exceeds 4 feet, the CONTRACTOR shall first place a minimum of 2 inches of neat cement grout in the bottom of forms prior to placing concrete.

3. Regulate the rate of placement so concrete remains plastic and flows into position.

4. Deposit concrete in a continuous operation until each panel or section is completed. Place concrete in horizontal layers of 18 inches maximum thickness.

5. All concrete must be placed in the dry. All forms must be free of standing water.

6. All other items of handling and placing concrete shall be in accordance with ACI 318-71.

B. Consolidating Concrete:

1. Use mechanical vibrating equipment for consolidation.

2. No placement of concrete will be allowed to commence unless the CONTRACTOR has a minimum of two operable vibrators on the job.

3. Vertically insert and remove hand-held vibrators at points 18 to 30 inches apart.

4. Do not use vibrators to transport concrete in forms.

5. Vibrators shall be 2-1/4 inches to 2-5/8 inches in diameter and shall have a minimum frequency of 10,000 impulses per minute. Vibrate concrete the minimum amount required for consolidation.

C. Construction Joints:

1. Clean and roughen the surface of concrete and remove lattice.

2. Wet concrete surfaces and flush with neat cement before placing additional concrete.

3. Construction joints and/or expansion joints not shown on the plans will be made only with the approval of the ENGINEER.

D. Curing:

1. Keep concrete moist by keeping surfaces continually dampened and continuing for a minimum of 78 hours, or apply an approved (white pigmented) membrane curing compound - AASHTO M148 Type 2.

3.3 PROTECTION OF COMPLETED WORK

A. During curing periods, protect concrete from damage due to mechanical disturbances, water flow, loading, shock and vibration.

3.4 TESTS FOR CONCRETE

A. An independent testing laboratory shall make all concrete tests at locations designated by the ENGINEER. The CONTRACTOR shall pay for all testing.

B. When the ultimate compressive strength of any test cylinder falls below the specified strength for the class of concrete, the design mix and water content shall be adjusted to produce the specified strength for concrete that is subsequently placed. In addition, the ENGINEER may order additional curing for the portion of the work where the questionable concrete has been placed.

C. In the event the additional curing does not give the strength required as determined by load tests made in accordance with ACI 318, or cored cylinder tests, and if such tests indicate the necessity, the defective parts shall be removed and replaced, or shall be reinforced as directed by the ENGINEER, at the CONTRACTOR's expense, including the expense of the tests.

3.5 CONSTRUCTION TOLERANCES:

A. The CONTRACTOR shall set and maintain concrete forms and perform finishing operations so that the concrete is within the tolerances herein. Surface defects and irregularities are defined as finishes and are to be distinguished from tolerances. Tolerance is the permissible variation from lines, grades, or dimensions indicated. Where tolerances are not indicated, permissible deviations will be in accordance with ACI 117 - Standard Tolerance for Concrete Construction and Materials.

1. The variation from required lines or grades shall not exceed 1/4-inch in 10-feet and there shall be no offsets or visible waviness in the finished surface.

END OF SECTION

SECTION 03 60 00– GROUTING

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The Contractor shall furnish provide grout, complete and in place, in accordance with the Contract Documents.

B. The following types of grout are covered in this Section:

1. Non-Shrink Grout: This type of grout is to be used wherever grout is indicated, unless another type is specifically referenced.

2. Cement Grout

3. Epoxy Grout

4. Topping Grout and Concrete Fill

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Specifications, codes, and standards shall be as listed in Section 03 30 00 – Cast-In-Place Concrete, and as indicated herein.

1.3 CONTRACTOR SUBMITTALS

A. Furnish submittals in accordance with Section 01 33 00 – Submittal Procedures.

B. **Shop Drawings:** Include certified test results verifying compliance with the compressive strength, shrinkage, and expansion requirements herein; and manufacturer's literature containing instructions and recommendations on the mixing, handling, placement, and appropriate uses for each type of non-shrink and epoxy grout proposed for the WORK.

1.4 QUALITY ASSURANCE

A. **Field Tests:**

1. Compression test specimens will be taken during construction from the first placement of each type of grout, and at intervals thereafter selected by the ENGINEER to insure continued compliance with these specifications. The specimens will be made by the independent testing laboratory.

2. Compression tests and fabrication of specimens for cement grout and non shrink grout will be performed in accordance with ASTM C 109 - Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2 in or 50 mm Cube Specimens) at intervals during construction selected by the ENGINEER. A set of three specimens will be made for testing 7 days, 28 days, and each additional time period as appropriate.

3. Compression tests and fabrication of specimens for epoxy grout will be performed in accordance with ASTM C 579 - Test Methods for Compressive Strength of Chemical

Resistant Mortars and Monolithic Surfacing, Method B, at intervals during construction selected by the ENGINEER. A set of three specimens will be made for testing at 7 days, and each earlier time period as appropriate.

4. All grout which fails to meet requirements is subject to removal and replacement at no increased cost to the OWNER.

5. The cost of all laboratory tests on grout will be borne by the CONTRACTOR. The CONTRACTOR shall be responsible for the cost of testing and inspection of Defective Work which has been replaced. The CONTRACTOR shall furnish all materials necessary for fabricating the test specimens.

B. **Construction Tolerances:** Construction tolerances shall be in accordance with Section 03 30 00 – Cast-in-Place Concrete, unless indicated otherwise.

PART 2 -- PRODUCTS

2.1 CEMENT GROUT

A. **Cement Grout:** Cement grout shall be composed of one part cement, three parts sand, and the minimum amount of water necessary to obtain the desired consistency. Where needed to match the color of adjacent concrete, white portland cement shall be blended with regular cement as needed. The minimum compressive strength at 28 days shall be 4000 psi.

B. Cement grout materials shall be as indicated in Section 03 30 00 – Cast-in-Place Concrete, except that no cement from kilns burning metal-rich hazardous waste fuel shall be used.

2.2 PREPACKAGED GROUTS

A. **Non-shrink grout:**

1. Non-shrink grout shall be a prepackaged, inorganic, non-gas liberating, non-metallic, cement based grout requiring only the addition of water. Cement from kilns burning metal rich hazardous waste fuel shall not be used. Manufacturer's instructions shall be printed on each bag or other container in which the materials are packaged. The specific formulation for each class of non-shrink grout herein shall be that recommended by the manufacturer for the particular application.

2. Class A non-shrink grouts shall have a minimum 28 days compressive strength of 5000 psi; shall have no shrinkage (0.0 percent) and a maximum 4.0 percent expansion in the plastic state when tested in accordance with ASTM C 827-Test Method for Early Volume Change of Cementitious Mixtures; and shall have no shrinkage (0.0 percent) and a maximum of 0.2 percent expansion in the hardened state when tested in accordance with CRD C 621-Corps of Engineers Specification for Non-shrink Grout.

3. Class B non-shrink grouts shall have a minimum 28-day compressive strength of 5000 psi and shall meet the requirements of CRD C 621.

4. Application:

   a. Class A non-shrink grout shall be used for the repair of all holes and defects in concrete members which are water bearing or in contact with soil or other fill material, grouting under all equipment base plates, and at all locations where grout is required by the Contract Documents except where Class B non-shrink grout and epoxy grout are specifically required. Class A non-shrink grout may be used in place of Class B non-shrink grout for all applications.

   b. Class B non-shrink grout shall be used for the repair of all holes and defects in concrete members which are not water bearing and not in contact with soil or other fill material, grouting under all base plates for structural steel members, and grouting railing posts in place.

B. Epoxy Grout:

1. Epoxy grout shall be a pourable, non-shrink, 100 percent solids system. The epoxy grout system shall have three components: resin, hardener, and specially blended aggregate, all premeasured and prepackaged. The resin component shall not contain any non reactive diluents. Resins containing butyl glycidyl ether (BGE) or other highly volatile and hazardous reactive diluents are not acceptable. Variation of component ratios is not permitted unless specifically recommended by the manufacturer. Manufacturer's instructions shall be printed on each container in which the materials are packaged. Epoxy grout shall be **BurkEpoxy Anchoring Grout** by The Burke Company.

2. The chemical formulation of the epoxy grout shall be that recommended by the manufacturer for the particular application.

3. The mixed epoxy grout system shall have a minimum working life of 45 minutes at 75 degrees F.

4. The epoxy grout shall develop a compressive strength of 5000 psi in 24 hours and 10,000 psi in seven days when tested in accordance with ASTM C 579, Method B. There shall be no shrinkage (0.0 percent) and a maximum 4.0 percent expansion when tested in accordance with ASTM C 827.

5. The epoxy grout shall exhibit a minimum effective bearing area of 95 percent. This shall be determined by a test consisting of filling a 2-inch diameter by 4-inch high metal cylinder mold covered with a glass plate coated with a release agent. A weight shall be placed on the glass plate. At 24 hours after casting, the weight and plate shall be removed and the area in plan of all voids measured. The surface of the grout shall be probed with a sharp instrument to locate all voids.

6. The peak exotherm of a 2-inch diameter by 4-inch high cylinder shall not exceed 95 degrees F when tested with 75 degree F material at laboratory temperature. The epoxy grout shall exhibit a maximum thermal coefficient of 30 x 10 6 inches/ inch/degree F when tested according to ASTM C 531-Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical Resistant Mortars, Grouts, and Monolithic Surfacing or ASTM D 696-Test Method for Coefficient of Linear Thermal Expansion of Plastics.

7. Application: Epoxy grout shall be used to embed all anchor bolts and reinforcing steel required to be set in grout, and for other applications specifically required in the Contract Documents.

2.3 TOPPING GROUT AND CONCRETE FILL

A. Grout for topping of slabs and concrete fill for built up surfaces of tank, channel, and basin bottoms shall be composed of cement, fine aggregate, coarse aggregate, water, and admixtures. All materials and procedures for concrete in Section 03 30 00 Cast-in-Place Concrete shall apply except as noted otherwise herein.

B. Topping grout and concrete fill shall contain a minimum of 564 pounds of cement per cubic yard with a maximum water cement ratio of 0.45. Where concrete fill is thicker than 3 inches, site work concrete in accordance with Section 03 30 00 Cast-in-Place Concrete may be used if accepted by the ENGINEER.

C. Coarse aggregate shall be graded as follows:

U.S. Standard Sieve Size	Percent by Weight Passing
1/2"	100
3/8"	90-100
No. 4	20-55
No. 8	5-30
No. 16	0-10
No. 30	0

D. Final mix design shall be determined by trial mix design under supervision of the approved testing laboratory.

E. Strength: Minimum compressive strength of topping grout and concrete fill at the end of 28 days shall be 3000 psi.

2.4 CURING MATERIALS

Curing materials shall be in accordance with Section 03 30 00 – Cast-in-Place Concrete for cement grout and be as recommended by the manufacturer of prepackaged grouts.

2.5 CONSISTENCY

A. The consistency of grout shall be as necessary to completely fill the space to be grouted for the particular application. Dry pack consistency is such that the grout is plastic and moldable but will not flow. Where "dry pack" is required by the Contract Documents, it shall mean a grout of that consistency; the type of grout to be used shall be as indicated herein for the particular application.

B. The slump for topping grout and concrete fill shall be adjusted to match placement and finishing conditions but shall not exceed 4 inches.

2.6 MEASUREMENT OF INGREDIENTS

A. Measurements for cement grout shall be made accurately by volume using containers. Shovel measurement shall not be allowed.

B. Prepackaged grouts shall have ingredients measured by means recommended by the manufacturer.

PART 3 -- EXECUTION

3.1 GENERAL

A. All surface preparation, curing, and protection of cement grout shall be in accordance with Section 03 30 00 – Cast-in-Place Concrete. The finish of the grout surface shall match that of the adjacent concrete.

B. The manufacturer of Class A non-shrink grout and epoxy grout shall provide On-Site technical assistance upon request.

C. Base concrete or masonry must have attained its design strength before grout is placed, unless authorized by the ENGINEER.

3.2 GROUTING PROCEDURES

A. Prepackage Grouts: All mixing, surface preparation, handling, placing, consolidation, curing, and other means of execution for prepackaged grouts shall be done according to the instructions and recommendations of the manufacturer.

B. Base Plate Grouting:

1. For base plates, the original concrete shall be blocked out or finished off a sufficient distance below the plate to provide for a one inch thickness of grout or a thickness as indicated on the Drawings.

2. After the base plate has been set in position at the proper elevation by steel wedges or double nuts on the anchor bolts, the space between the bottom of the plate and the original pour of concrete shall be filled with non-shrink type grout. The mixture shall be of a trowelable consistency and be tamped or rodded solidly into the space between the plate and the base concrete. A backing board or stop shall be provided at the back side of the space to be filled with grout. Where this method of placement is not practical or where required by the ENGINEER, alternate grouting methods shall be submitted for acceptance.

C. Topping Grout

1. All mechanical, electrical, and finish work shall be completed prior to placement of topping or concrete fill. The base slab shall be given a roughened textured surface by sandblasting or hydroblasting, exposing the aggregates to ensure bonding to the base slab.

2. The minimum thickness of grout topping and concrete fill shall be one inch. Where the finished surface of concrete fill is to form an intersecting angle of less than 45 degrees with the concrete surface it is to be placed against, a key shall be formed in the concrete surface at the intersection point. The key shall be a minimum of 3-1/2 inches wide by 1-1/2 inches deep.

3. The base slab shall be thoroughly cleaned and wetted prior to placing topping and fill. No topping concrete shall be placed until the slab is completely free from standing pools or ponds of water. A thin coat of neat cement grout shall be broomed into the surface of the slab just before topping of fill placement. The topping and fill shall be compacted by rolling or tamping, brought to established grade, and floated. Grouted fill for tank and basin bottoms where scraping mechanisms are to be installed shall be screeded by blades attached to the revolving mechanism of the equipment in accordance with the procedures outlined by the equipment manufacturer after the grout is brought to the established grade.

4. Topping grout placed on sloping slabs shall proceed uniformly from the bottom of the slab to the top, for the full width of the placement.

5. The surface shall be tested with a straight edge to detect high and low spots which shall be immediately eliminated. When the topping and fill has hardened sufficiently, it shall be steel troweled to a smooth surface free from pinholes and other imperfections. An approved type of mechanical trowel may be used as an assist in this operation, but the last pass over the surface shall be by hand troweling. During finishing, no water, dry cement, or mixture of dry cement and sand shall be applied to the surface.

3.3 CONSOLIDATION

A. Grout shall be placed in such a manner, for the consistency necessary for each application, so as to assure that the space to be grouted is completely filled.

END OF SECTION

SECTION 31 10 00 – SITE CLEARING

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The work of this Section includes all those measures required during the CONTRACTOR's initial move onto the sites to protect existing fences, houses and associated improvements, streets, and utilities downslope of construction areas from damage due to boulders, trees or other objects dislodged during the construction process; clearing, grubbing and stripping; and re-grading of certain areas to receive embankment fill.

1.2 PROJECT/SITE CONDITIONS

A. Prior to moving onto the project sites, the CONTRACTOR shall visit and inspect the site conditions and review maps of the existing pipeline routes and facilities delineating the property and right-of-way lines.

1.3 CONTRACTOR SUBMITTALS

A. If the proximity of existing structures will require construction of an appropriate safety barrier such as temporary fencing, berms, acoustic barriers, or similar facilities, the CONTRACTOR shall prepare a submittal to the ENGINEER with drawings that define the proposed safety measures prior to any construction activity.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION

3.1 PRIMARY SITE ACCESS

A. Subject to constraints and conditions identified in the contract documents, the CONTRACTOR shall develop any necessary access to the site, including barrier facilities to be installed at the beginning of construction in order to prohibit entry of unauthorized persons.

B. Utility Interference: Where existing utilities interfere with the WORK of this Section, the WORK shall be stopped and the ENGINEER notified of such interference before proceeding in accordance with the Contract Documents.

3.2 CLEARING, GRUBBING, AND STRIPPING

A. All construction areas identified on the contract plans shall be cleared and grubbed in accordance with the provisions of Section 31 11 00 – Clearing and Grubbing.

3.3 OVER EXCAVATION, REGRADING, AND BACKFILL UNDER FILL AREAS

A. After the fill areas have been cleared, grubbed, and excavated as specified, the areas to receive fill will require over-excavation, re-grading, and backfill, consisting of the removal and/or stockpiling of undesirable soils. The ground surface shall be re-contoured for keying the fill and removing severe or abrupt changes in the topography of the site. The over-excavated volumes to a level of one foot below the existing ground contours shall be backfilled.

END OF SECTION

SECTION 31 11 00 – CLEARING AND GRUBBING

PART 1 -- GENERAL

1.1 THE SUMMARY

The work to be performed consists of the clearing of or the clearing and grubbing of the area along the alignment of construction designated on the Contract Drawings

A. Clearing - Where clearing only is required it shall consist of the cutting and removal of all trees, stumps, shrubs, brush, logs, hedges, and the removal and subsequent replacement of all fences, posts, mail boxes, newspaper boxes, plant life, landscaping, grass and other loose or projecting material from the designated area. Also included is the removal of asphalt and concrete pavement, sidewalks, bicycle paths and other such transportation corridors constructed of stone or other materials.

B. Clearing and Grubbing - Clearing and grubbing shall consist of clearing the surface of the ground of the designated areas to a depth of at least six inches of all trees, stumps, down timber, logs, snags, brush, undergrowth, hedges, grass, weeds, rocks, fences, structures, surface and subsurface debris and rubbish of any nature, natural obstructions or such material which, in the opinion of the ENGINEER, is unsuitable, including grubbing of stumps, roots, matted roots, foundations. All spoil materials resulting from clearing and grubbing shall be disposed of in accordance with all applicable legal and permitting requirements.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Section 02 00 00 – Existing Conditions.

B. Section 31 23 33 – Trenching and Backfilling.

C. FDOT Standard Specifications for Road and Bridge Construction.

1.3 REGULATORY REQUIREMENTS

A. Conform to all federal, state, regional and local codes applicable to the removal, transportation and disposal of debris.

B. Coordinate all clearing work with utility companies having facilities within the immediate area.

PART 2 -- PRODUCTS

2.1 MATERIALS

A. All materials required to be brought to the site for filling of holes caused by grubbing or otherwise shall be consistent with materials of the surrounding area.

PART 3 -- EXECUTION

3.1 SCHEDULE

A. The CONTRACTOR shall schedule clearing and grubbing work a satisfactory distance in advance of the construction operations. All scheduling shall be coordinated with the ENGINEER.

3.2 PREPARATION

A. Existing plant life and features designated to remain are to be tagged or clearly identified in an acceptable manner.

3.3 PROTECTION

A. Protect existing utilities and other improvements to remain in place from damage. Protect survey bench marks and existing structures from damage or displacement.

B. Protect existing trees, shrubs, bushes, brush, hedges, other plant growth and features designated to remain after work in the immediate area is complete. Avoid unnecessary cutting, breaking or skinning of roots, skinning or bruising of bark, and smothering by stockpiling construction materials or excavated materials.

C. Restore damaged improvements to their original condition. Provide temporary guards as necessary to protect trees and vegetation to be left standing.

D. Water trees and other vegetation to remain within the limits of the Contract Work as required to maintain their health during the course of construction.

E. Protect roots over 1-1/2" diameter cut during construction. Coat the cut faces with an emulsified asphalt, or other acceptable coating, formulated for use on damaged plant tissues. Temporarily cover exposed roots with wet burlap to prevent roots from drying out.

3.4 SPOIL MATERIALS

A. All materials to be disposed of by removal from the site shall be disposed of by the CONTRACTOR at the CONTRACTOR's sole expense. The CONTRACTOR shall obtain and file with the ENGINEER, permission obtained in writing from the property OWNER for the use of private property for this purpose. In no case shall any discarded materials be left in windrows or piles adjacent to or within the project limits. The manner and location of disposal of materials shall be subject to review by the ENGINEER and shall not create an unsightly or objectionable view.

3.5 CLEARING

A. Clear the area of all objectionable materials. Trees unavoidably falling outside the area of work must be cut up, removed and disposed of in a satisfactory manner. Trees, stumps and brush shall be cut to a height of not more than twelve inches (12") above the ground. The grubbing of stumps and roots is required.

B. Fences shall be removed and disposed of as directed by the ENGINEER. Fence wire shall be neatly rolled and the wire and posts stored on the project if they are to be used again, or stored at a designated location if the fence is to remain the property of the OWNER.

C. Clear all areas required for access to the site and execution of the Work or where otherwise noted on the Contract Drawings. Remove paving, curbs, sidewalks and paths where required and replace where specified.

3.6 CLEARING AND GRUBBING

A. In areas designated to be cleared and grubbed, all stumps, roots, buried logs, rocks, brush, grass and other unsatisfactory materials shall be removed.

B. All holes remaining after the grubbing operation in embankment areas shall have the sides broken down to flatten out the slopes, and shall be filled with acceptable material, moistened and properly compacted in layers to the density required. The same construction procedure shall be applied to all holes remaining after grubbing in excavation areas where the depth of holes exceeds the depth of the proposed excavation.

C. Carefully and cleanly cut roots and branches of trees indicated to be left standing, only where such roots and branches obstruct the new construction.

D. Strip topsoil to whatever depths encountered in a manner to prevent intermingling with the underlying subsoil or other objectionable material. Remove heavy growths of grass from areas before stripping.

E. Where trees are indicated to be left standing, stop topsoil stripping a sufficient distance away to prevent damage to the main root system.

F. Fill depressions caused by clearing and grubbing operations with satisfactory soil material. Place fill material in horizontal layers not exceeding 6" loose depth, and thoroughly compact to a density equal to adjacent undisturbed ground.

3.7 REMOVAL

A. Remove debris, rock and extracted plant life from the site and dispose of appropriately.

END OF SECTION

SECTION 31 20 00– EARTH MOVING

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Perform the following earth excavation, backfill, fill and grading as indicated or specified:

1. Make excavations for piping installation and repairs.

2. Provide materials for backfilling excavations as indicated and specified.

3. Grade surfaces to meet finished grades required.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. American Society for Testing and Materials (ASTM) Publications:

1. C33: Specification for Concrete Aggregates.

2. C136: Sieve Analysis of Fine and Coarse Aggregates.

3. D421: Practice for Dry Preparation of Soil Samples for Particle Size Analysis and Determination of Soil Constants.

4. D422: Test Method for Particle-Size Analysis of Soils.

5. Dl 140: Test Method for Amount of Material in Soils Finer than the No. 200 (75 Em) Sieve.

6. D1556: Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.

7. D1557: Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lb/ft3 (600 kN-m/m3)).

8. D2167: Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.

9. D2922: Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods. (Shallow Depth).

10. D3017: Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

11. D4318: Test Method for Liquid Limit, Plastic Limit and Plasticity Index of Soils.

12. D4718: Practice for Correction of Unit Weight and Water Content for Soils Containing Oversized Particles.

13. D4944: Test Method for Field Determination of Water (Moisture) Content of Soil by the Calcium Carbide Pressure Tester Method.

14. D4959: Test Method for Field Determination of Water (Moisture) Content of Soil by Direct Heating Method.

15. D5080: Test Method for Rapid Determination of Percent Compaction.

B. Occupational Safety and Health Administration (OSHA) Standards and Regulations contained in Title 29: Subpart P - Excavations, Trenching and Shoring.

1.3 DEFINITIONS

A. Percentage of Compaction: Defined as the ratio of the field dry density, as determined by ASTM D1556 to the maximum dry density determined by ASTM D1557 Procedure C, multiplied by 100.

B. Proof Roll: Compaction with a minimum of 4 passes of a vibratory steel drum or rubber tire roller. Vibratory plate compactors shall be used in small areas where vibratory steel drum or rubber tire roller cannot be used.

C. Acceptable Material: Material which does not contain organic silt or organic clay, peat, vegetation, wood or roots, stones or rock fragments over 6-inches in diameter, porous biodegradable matter, loose or soft fill, excavated pavement, construction debris, or refuse. Stones or rock fragments shall not exceed 40 percent by weight of the backfill material.

D. Unacceptable Materials: Material which does not comply with the requirements for the acceptable material or which cannot be compacted to the specified or indicated density.

1.4 CONTRACTOR SUBMITTALS

A. Prior to backfilling and filling, if so directed by the OWNER, facilitate OWNER's acquisition of laboratory testing results of gradation and moisture-density relationship for proposed backfill material, unless reuse of excavated materials is authorized by the OWNER (reference 1.6. E., below).

B. During construction, if so directed by the OWNER, facilitate OWNER's acquisition of confirmation of fill lift thickness, in-place soil, moisture content, and percentage; of compaction (reference 1.6. E., below).

1.5 QUALITY ASSURANCE

A. Excavations shall be performed in the dry, and kept free from water during construction. The CONTRACTOR is responsible for dewatering and groundwater control. Bedding and backfill material shall not be placed in water. Water shall not be allowed to rise upon or flow over the bedding and backfill material.

B. The CONTRACTOR shall be solely responsible for making all excavations in a safe manner. All excavation, trenching, and related sheeting, bracing, etc. shall comply with the requirements of OSHA excavation safety standards (29 CFR Part 1926 Subpart P) and State requirements. Where conflict between OSHA and State regulations exists, the more stringent requirements shall apply.

C. Formulate excavation, backfilling, and filling schedule arid procedures to eliminate possibility of undermining or disturbing foundations of structures, pipelines and embankments.

D. Backfill and compaction in roadways shall meet FDOT specifications.

E. The CONTRACTOR shall employ an independent testing laboratory to perform particle size and gradation analyses, to determine compactability for all the proposed backfill and fill materials, and to monitor field compaction operations.

F. Testing shall be performed at the OWNER's discretion and paid for by the CONTRACTOR. The OWNER may or may not elect to perform the testing described below.

1. Testing Facilities: Tests shall be performed by an approved commercial testing laboratory. Testing of Backfill Materials: Characteristics of backfill materials shall be determined in accordance with particle size analysis of soils ASTM D 422 and moisture-density relations of soils ASTMD 1557. The OWNER may elect to perform a minimum of one particle size analysis and one moisture-density relation test on each different type of material proposed for bedding and backfill, unless reuse of excavated soil is authorized by the OWNER.

2. Field Density Tests: Field in-place density shall be determined in accordance with ASTM D1556, ASTM D2167, or ASTM D2922. Field in-place moisture content shall be determined in accordance with ASTM D3017, ASTM D4944, or ASTM D4959. The calibration checks of both the density and moisture gauges shall be made at the beginning of a job, on each different type of material encountered, at intervals as directed by the OWNER: The OWNER may elect to perform tests in sufficient numbers to ensure that the specified density is being obtained, with a minimum of one field density test per lift of backfill, and one moisture density relationship for every 1,500 cubic yards used. Trenches improperly compacted shall be reopened to the depth directed, then refilled and compacted to the density specified at no additional cost to the OWNER.

G. Displacement of Sewers: After other tests have been performed and the trench backfill compacted to the finished grade surface, the pipe shall be inspected by the CONTRACTOR using television cameras passed through the pipe to determine whether significant displacement has occurred. If, in the judgment of the OWNER, the interior of the pipe shows poor alignment or any other defects that would cause improper functioning of the system, the defects shall be remedied as directed at no additional cost to the OWNER.

H. Cut pavement with a saw or pneumatic tools to prevent damage to remaining pavement without extra compensation. Where pavement is removed in large pieces, dispose of pieces before proceeding with excavation.

I. Pipes, drains, and other utilities may exist in certain locations not indicated in advance of the work. Completeness or accuracy of information given is not guaranteed. It is the responsibility of the Contractor to obtain utility locations and clearances via Sunshine State One Call.

J. It is the responsibility of the CONTRACTOR to carefully support and protect from damage, existing pipes, poles, wires, fences, curbing, property line markers, and other structures, which the OWNER determines must be preserved in place without being temporarily or permanently relocated. Should such items be damaged, the CONTRACTOR shall restore such items without compensation, to at least as good condition as that in which they were found immediately before the work was begun.

K. In removing existing pipes or other structures, include for payment only those new materials which are necessary to replace those unavoidably damaged as determined by the OWNER.

L. Restore existing property or structures as promptly as practicable.

M. Haul away and properly dispose of surplus excavated materials at no additional cost to the OWNER.

N. During progress of work, conduct earth moving operations and maintain work site so as to minimize the creation and dispersion of dust.

Provide suitable and safe bridges and other crossings where required for accommodation of travel, and to provide access to private property during construction, and remove said structures thereafter.

PART 2 -- PRODUCTS

TRENCH SAFETY SYSTEM

A. The CONTRACTOR shall follow the provisions of the "Florida Trench Safety Act," which incorporates OSHA Standards in 29 CFR 1926.650, Subpart P as the State's trench safety standards. Trench excavation 5 feet or deeper shall have an adequate safety system consisting of sheeting and shoring, suitable trench box, or other suitable system meeting the requirements of the Act.

B. The CONTRACTOR shall be solely responsible for making all excavations in a safe manner. Provide appropriate measures to retain side slopes to ensure that persons working in or near the excavation are protected.

2.2 TRENCH BACKFILL

A. Granular backfill: Clean granular material well graded from course to fine, free from roots or organic material, maximum size 1.5 inches with maximum of 8% passing the No. 200 sieve.

B. Flowable fill for trench backfill: material conforming to the requirements specified in Division HI of the FDOT Standard Specification for Road and Bridge Construction, latest edition. Flowable fill material shall be proportioned to produce a 28-day compressive strength of approximately 50 to 150 psi.

C. Fine granular backfill: Sand or other granular backfill that is 0.5 inches or less in diameter and free from rocks, sharp objects and debris.

2.3 EQUIPMENT

A. The compaction equipment shall be selected by the CONTRACTOR, and shall be capable of consistently achieving the specified compaction requirements.

PART 3 -- EXECUTION

3.1 EXCAVATION

A. Execution of any earth excavation shall not commence until the related dewatering, excavation support systems, and backfill and fill materials are reviewed by the OWNER and all OWNER's comments satisfactorily addressed.

B. Carry out program of excavation, dewatering, and excavation support systems to eliminate possibility of undermining or disturbing foundations of existing structures or of work previously completed under this contract.

C. Excavate to widths that give suitable room for laying and jointing piping.

D. Establish limits of excavation to allow adequate working space for installing forms and for safety of personnel.

E. Exercise care to preserve material below and beyond the lines of excavations.

F. Place excavated material no closer than 3 feet from edge of excavations to prevent cave-ins.

3.2 SEPARATION OF EXCAVATED MATERIALS FOR REUSE

A. Remove only existing pavement that is necessary for performance of work.

B. Carefully remove acceptable material from excavated areas and store separately for further use as backfill material.

3.3 TRENCH EXCAVATION

A. When pipe is to be laid in gravel bedding or concrete cradle, excavate trench by machinery to, or just below designated subgrade. If material remaining at bottom of trench is disturbed, recompaction shall be required.

B. When pipe is to be laid directly on bottom of trench, do not excavate lower part of trenches by machinery to subgrade. Remove remainder of material to be excavated just before placing of pipe by use of hand tools. Form a flat or shaped bottom, true to grade, so pipe will have a uniform and continuous bearing. Support on firm and undisturbed material between joints, except for limited areas where use of pipe slings have disturbed bottom.

3.4 DEPTH OF TRENCH

A. Excavate trenches to depths so as to permit pipe to be laid at uniform slopes between indicated elevations.

3.5 WIDTH OF TRENCH

A. Make pipe trenches as narrow as practicable and do not widen by scraping or loosening materials from the sides. Make every effort to maintain sides of trenches firm and undisturbed until backfilling has been placed and compacted.

B. Excavate trenches with approximately vertical sides between springline of pipe and elevation 1 ft. above top of pipe.

3.6 EXCAVATION NEAR EXISTING STRUCTURES

A. Discontinue digging by machinery when excavation approaches pipes, conduits, or other underground structures. Continue excavation by use of hand tools.

B. Excavate test pits when determination of exact location of pipe or other underground structure is necessary for doing work properly.

3.7 REUSE AND DISPOSAL OF SURPLUS EXCAVATED MATERIALS

A. Reuse surplus acceptable excavated materials for backfill as approved by the OWNER; deposit neatly and grade so as to make or widen fills, flatten side slopes, or fill depressions; or legally dispose off-site; all as directed or permitted and without additional compensation.

3.8 SUBGRADE PREPARATION AND PROTECTION

A. Utilize excavating equipment equipped with a toothless or smooth edged, excavating bucket to expose the pipe trench foundation subgrade to avoid disturbance of the bearing surface. Tamp the exposed subgrade with the excavating bucket prior to backfilling and filling operation, or placing soil-supported pipeline.

3.9 CARE AND RESTORATION OF PROPERTY

A. Operate machinery with care to prevent injury to trees not to be cut and particularly to overhanging branches and limbs.

B. Cut all branches, limbs, and roots smoothly and neatly without splitting or crushing. Neatly trim, cut the injured portions and cover with an application of grafting wax or tree healing paint as directed.

C. Protect cultivated hedges, shrubs, and plants which might be injured by the CONTRACTOR's operations by suitable means.

D. Do not use or operate tractors, bulldozers, or other power-operated equipment on paved surfaces when their treads or wheels of which are so shaped as to cut or otherwise damage such surfaces.

E. Surfaces and items damaged by the CONTRACTOR's operations, where such damage was not unavoidable as determined by the OWNER, shall be restored by the CONTRACTOR to a condition at least equal to that in which they were found immediately

before work commenced, at the CONTRACTOR's expense. Suitable materials and methods shall be used for such restoration.

3.10 BACKFILLING – GENERAL

A. Do not place, spread, roll or compact fill material during unfavorable weather conditions. If interrupted by heavy rain or other unfavorable conditions, do not resume until ascertaining that the moisture content and density of the previously placed soil are as specified.

B. Do not use puddling, ponding or flooding as a means of compaction.

C. Backfill and compact indicated material under, around, and above pipes to the indicated or specified compaction density requirement. Utilize compaction devices which will not damage the pipe within the trench.

D. Do not drop backfill material into trench from a height of more than 5 ft., or in a manner which will damage the pipe within the trench.

E. Compacting Around Pipes: Compact material around circumference of pipe and the area between the trench wall and the pipe by hand tamping in 6-inch layers.

F. Compacting Above Pipe: Compact material by hand tamping. If trench width is wide enough to accommodate power tools and the compacted material over the pipe will support the load of the power tools without damage to the pipe, use rollers or other powered compaction equipment able to more readily achieve compaction requirements.

3.11 MATERIAL PLACEMENT AND COMPACTION REQUIREMENTS

A. Bedding: Place carefully selected granular backfill or fine granular backfill for pipe bedding to provide uniform longitudinal support under the pipe.

B. Initial backfill (bottom of pipe to 12 inches above top of pipe).

1. Under pipe: Trenches shall be backfilled from the bottom of the trench to the centerline of the pipe with granular or fine granular material free from rocks or stones, placed in 6-inch layers and compacted to 98% of the maximum density, as determined by AASHTO T-180 using the appropriate equipment, under and on each side of the pipe and between the pipe and wall of trench. Where bell and spigot pipe is used, the bell holes shall be deep enough to ensure that the bell does not bear on the bottom of the excavation.

2. Over pipe: From the centerline of the pipe to 12-inches above the top of the pipe, backfill shall be granular or fine granular material free from rocks or stones, placed in 6-inch layers and compacted to 98% of the maximum density, as determined by AASHTO T-180 using the appropriate equipment.

C. Remaining backfill: the remainder of the backfill, to the bottom of road base or existing ground, shall be granular or fine granular material deposited and compacted to achieve 98% of the maximum density, as determined by AASHTO T-180. The backfill shall be deposited and compacted in 9-inch layers when mechanical tampers are used to achieve

compaction. Excavatable flowable fill may be used as an alternative to granular backfill for Remaining Backfill. At the OWNER's direction, the CONTRACTOR shall provide and place flowable fill as backfill without additional expense to the OWNER.

D. Backfilling and filling operation shall be suspended in areas where tests are being made until tests are completed and the testing laboratory has advised the OWNER that adequate densities are obtained.

3.12 COMPACTION CONTROL OF BACKFILL, FILL, AND EMBANKMENT

A. Compact to density specified and indicated for various types of material. Control moisture content of material being placed as specified or if not specified, at a level slightly lower than optimum.

3.13 ALLOWANCE FOR SHRINKAGE

A. Supply specified materials and build up low places as directed, without additional cost if backfilling settles so as to be below the indicated level for proposed finished surface at any time before final acceptance of the work.

END OF SECTION

SECTION 31 22 13– ROUGH GRADING

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Grade and rough contour the site of the work in accordance with the contract plans.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Section 02 00 00 – Existing Conditions

B. Section 31 10 00 – Site Clearing

C. Section 31 20 00 – Earth Moving

D. Section 31 23 00 – Excavation and Fill

E. Section 31 22 19 – Finish Grading

1.3 PROJECT RECORD DOCUMENTS

A. Submit documents which accurately record the locations of utilities remaining, rerouted utilities, and new utilities by horizontal dimensions, elevations, inverts and slope gradients.

1.4 PROTECTION CONTRACTOR SUBMITTALS

A. Protect trees, shrubs, lawns and other features to remain as a portion of the final landscaping as defined on the contract drawings.

B. Protect survey bench marks, existing structures, fences, roads, sidewalks, paving, curbs and other surface and subsurface objects not specifically identified for removal.

C. Protect both above and below ground utilities that are to remain.

D. Repair all damage incurred to existing utilities at no additional expense to the OWNER.

PART 2 -- PRODUCTS

2.1 GENERAL EQUIPMENT REQUIREMENTS

A. Topsoil shall be excavated material, graded free of roots, rocks larger than one inch, debris, large weeds and meeting the requirements of these specifications.

B. Subsoil shall be excavated material, graded free of lumps larger than six inches, rocks larger than three inches and debris.

PART 3 -- EXECUTION

3.1 DELIVERY, STORAGE AND HANDLING

A. Identify required lines, levels, contours and reference datum.

B. Identify known below grade utilities. Stake and flag their locations.

C. Identify and flag above grade utilities.

D. Protect existing utilities which pass through the work area.

E. Notify all affected utility companies for locations of existing utilities not less than 48 hours in advance of performing work in the area of such utilities.

F. Expedite the removal or relocation of other utilities far enough in advance so as to not unnecessarily delay the work to be performed under this Contract.

G. Upon discovering unknown utilities or concealed conditions, immediately discontinue the affected work and notify the ENGINEER.

3.2 TOPSOIL EXCAVATION

A. Excavate topsoil from areas to be further excavated, re-landscaped or re-graded and remove excess topsoil not being reused from the site. Do not excavate wet topsoil.

3.3 SUBSOIL EXCAVATION

A. Excavate subsoil from areas to be re-landscaped or re-graded and remove excess subsoil not being reused from the site. Do not excavate wet subsoil.

3.4 TOLERANCES

A. Top surface of subgrade, plus or minus one inch.

END OF SECTION

SECTION 31 22 19– FINISH GRADING

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Finish grade subsoil and proof roll. Place, level and compact topsoil.

1.2 PROTECTION

A. Protect landscaping and other features remaining as part of the completed work. Protect existing structures, fences, roads, sidewalks, pavement and curbs.

PART 2 -- PRODUCTS

2.1 GENERAL EQUIPMENT REQUIREMENTS

A. Topsoil shall be imported friable loam, free of subsoil, roots, grass, stone and foreign matter, with an acidity range (pH) between 5.5 and 7.5, containing a minimum of 4% and a maximum of 25% organic matter.

PART 3 -- EXECUTION

3.1 SUBSOIL PREPARATION

A. Eliminate uneven areas and low spots. Remove all debris, roots, branches and stones in excess of 1/2 inch in size. Remove subsoil contaminated with petroleum products. Scarify subgrade to a depth of three inches where topsoil is to be placed. Scarify areas where equipment used for hauling and spreading topsoil has compacted subsoil.

3.2 PLACEMENT OF TOPSOIL

A. Place topsoil in areas where landscape grading is scheduled. Use topsoil in a dry state and place during dry weather. Fine grade topsoil eliminating rough or low areas. Maintain levels, profiles and contours. Remove stones, roots, grass, weeds, debris and foreign material prior to spreading topsoil.

B. Manually spread topsoil around trees, plants and buildings to prevent damage. Lightly compact placed topsoil. Remove surplus subsoil and topsoil from the site. Leave the stockpile area clean and raked, ready to receive landscaping.

END OF SECTION

SECTION 31 23 00– EXCAVATION AND FILL

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The CONTRACTOR shall perform all earthwork indicated and required for construction of the WORK, complete and in place, in accordance with the Contract Documents.

1.2 CONTRACTOR SUBMITTALS

A. The CONTRACTOR shall submit samples of all materials proposed to be used in the work in accordance with the requirements in Section 01 33 00 – Submittal Procedures. Sample sizes shall be as determined by the testing laboratory.

PART 2 -- PRODUCTS

2.1 SUITABLE FILL AND BACKFILL MATERIAL REQUIREMENTS

A. **General:** Fill, backfill, and embankment materials shall be suitable selected or processed clean, fine earth, rock, or sand, free from grass, roots, brush, or other vegetation.

B. Fill and backfill materials to be placed within 6 inches of any structure or pipe shall be free of rocks or unbroken masses of earth materials having a maximum dimension larger than 3 inches.

C. **Suitable Materials:** Materials not defined as unsuitable below are defined as suitable materials and may be used in fills, backfilling, and embankment construction subject to the indicated limitations. In addition, when acceptable to the ENGINEER, some of the material listed as unsuitable may be used when thoroughly mixed with suitable material to form a stable composite.

D. Suitable materials may be obtained from on-site excavations, may be processed on-site materials, or may be imported. If imported materials are required to meet the quantity requirements of the project, the CONTRACTOR shall provide the imported materials at no additional expense to the OWNER, unless a unit price item is included for imported materials in the bidding schedule.

E. The following types of suitable materials are defined:

1. Type A (three-quarters inch minus granular backfill): Crushed rock or gravel, and sand with the gradation requirements below. The material shall have a minimum sand equivalent value of 28 and a minimum R-value of 78. If the sand equivalent value exceeds 35 the R-value requirement is waived.

Sieve Size	Percentage Passing
3/4-inch	100
No. 4	30 - 50
No. 200	0 – 10

2. Type B (Class I crushed stone): Manufactured angular, crushed stone, crushed rock, or crushed slag with the following gradation requirements. The material shall have a minimum sand equivalent value of 75.

Sieve Size	Percentage Passing
3/4-inch	100
No. 4	30 - 50
No. 200	0 - 5

3. Type C (sand backfill): Sand with 100 percent passing a 3/8-inch sieve, at least 90 percent passing a Number 4 sieve, and a sand equivalent value not less than 30.

4. Type D: Not used.

5. Type E (pea gravel backfill): Crushed rock or gravel with 100 percent passing a 1/2-inch sieve and not more than 10 percent passing a Number 4 sieve.

6. Type F (coarse drainrock): Crushed rock or gravel meeting the following gradation requirements:

Sieve Size	Percentage Passing
2-inch	100
1-1/2-inch	90 - 100
1-inch	20 - 55
3/4-inch	0 - 15
No. 200	0 - 3

7. Type G (aggregate base): Crushed rock aggregate base material of such nature that it can be compacted readily by watering and rolling to form a firm, stable base for pavements. At the option of the CONTRACTOR, the grading for either the 1-1/2-inch maximum size or 3/4-inch maximum size gradation shall be used. The sand equivalent value shall be not less than 22, and the material shall meet the following gradation requirements:

	Percentage Passing	
Sieve Size	1-1/2-inch Max. Gradation	3/4-inch Max. Gradation
2-inch	100	-
1-1/2-inch	90 - 100	-
1-inch	-	100
3/4-inch	50 - 85	90 - 100
No. 4	25 - 45	35 - 55
No. 30	10 - 25	10 - 30
No. 200	2 - 9	2 - 9

8. Type H (graded drainrock): Drainrock shall be crushed rock or gravel, durable and free from slaking or decomposition under the action of alternate wetting or drying. The material shall be uniformly graded and shall meet the following gradation requirements:

Sieve Size	Percentage Passing
1-inch	100
3/4-inch	90 - 100
3/8-inch	40 - 100
No. 4	25 - 40
No. 8	18 - 33
No. 30	5 - 15
No. 50	0 - 7
No. 200	0 - 3

The drainrock shall have a sand equivalent value not less than 75. The finish graded surface of the drainrock immediately beneath hydraulic structures shall be stabilized to provide a firm, smooth surface upon which to construct reinforced concrete floor slabs. The CONTRACTOR shall use, at its option, one of the asphalt types listed below:

	Type 1	Type 2	Type 3
Designation	SC-800	SC-250	RS-1
Spray Temperature (°F)	175-255	165-200	70-120
Coverage (gal/sq yd)	0.50	0.50	0.50

If the surface remains tacky, sufficient sand shall be applied to absorb the excess asphalt.

9. Type I: Any other suitable material as defined herein.

10. Type J (cement-treated backfill): Material which consists of Type H material, or any mixture of Types B, C, G, and H materials which has been cement-treated so that the cement content of the material is not less than 5 percent by weight when tested in accordance with ASTM D 2901 - Test Method for Cement Content of Freshly Mixed Soil Cement. The ultimate compressive strength at 28 days shall be not less than 400 psi when tested in accordance with ASTM D 1633 - Test Method for Compressive Strength of Molded Soil - Cement Cylinders.

11. Type K (topsoil): Stockpiled topsoil material obtained at the site by removing soil to a depth not exceeding 2 feet. Removal of the topsoil shall be done after the area has been stripped of vegetation and debris.

12. Type L (controlled low strength material): Controlled low strength material, if required, shall be in accordance with Section 33 23 23.33 Flowable Fill.

13. Type M (aggregate subbase): Crushed rock aggregate subbase material that can be compacted readily by watering and rolling to form a firm stable base. The sand equivalent value shall be not less than 18 and the material shall meet the following gradation requirements:

Sieve Size	Percentage Passing
3-inch	100
2-1/2 inch	87 - 100
No. 4	35 - 95
No. 200	0 - 29

14. Type N (trench plug): Low permeable fill material, a non-dispersible clay material having a minimum plasticity index of 10.

2.2 UNSUITABLE MATERIAL

A. Unsuitable materials include the materials listed below.

1. Soils which, when classified under ASTM D 2487, fall in the classifications of Pt, OH, CH, MH, or OL.

2. Soils which cannot be compacted sufficiently to achieve the density specified for the intended use.

3. Materials that contain hazardous or designated waste materials including petroleum hydrocarbons, pesticides, heavy metals, and any material which may be classified as hazardous or toxic according to applicable regulations.

4. Soils that contain greater concentrations of chloride or sulfate ions, or have a soil resistivity or pH less than the existing on-site soils.

5. Topsoil, except as allowed below.

2.3 USE OF FILL, BACKFILL, AND EMBANKMENT MATERIAL TYPES

A. The CONTRACTOR shall use the types of materials as designated herein for all required fill, backfill, and embankment construction hereunder.

B. Where these Specifications conflict with the requirements of any local agency having jurisdiction or with the requirements of a pipe material manufacturer, the ENGINEER shall be immediately notified. In case of conflict between types of pipe embedment backfills, the CONTRACTOR shall use the agency specified backfill material if that material provides a greater degree of structural support to the pipe, as determined by the ENGINEER. In case of conflict between types of trench or final backfill types, the CONTRACTOR shall use the agency-specified backfill material if that material provides the greater in-place density after compaction.

C. Fill and backfill types shall be used in accordance with the following provisions:

1. Embankment fills shall be constructed of Type I material, as defined herein, or any mixture of Type I and Type A through Type H materials.

2. Pipe zone backfill, as defined under "Pipe and Utility Trench Backfill" below, shall consist of the following materials for each pipe material listed below.

a. Mortar coated pipe, concrete pipe, and uncoated ductile iron pipe shall be provided Type A or B pipe bedding and embedment backfill material.

b. Coal tar enamel coated pipe, polyethylene encased pipe, tape wrapped pipe, and other non-mortar coated pipe shall be backfilled with Type C bedding and embedment zone backfill material.

c. Plastic pipe and vitrified clay pipe shall be backfilled with Type B bedding and embedment zone backfill material. Vitrified clay pipe shall be backfilled with Type B material to the top of the pipe zone.

d. Where pipelines are installed on grades exceeding 4 percent, and where backfill materials are graded such that there is less than 10 percent passing a Number 4 sieve, trench plugs of Type J, L, or N material shall be provided at maximum intervals of 200 feet unless indicated otherwise

3. Trench zone backfill for pipelines as defined under "Pipe and Utility Trench Backfill" shall be Type I backfill material or any of Types A through H backfill materials or any mixture thereof, except:

   a. Type K material may be used for trench zone backfill in agricultural areas unless otherwise shown or specified.

4. Final backfill material for pipelines under paved areas, as defined under "Pipe and Utility Trench Backfill" shall be Type G backfill material. Final backfill under areas not paved shall be the same material as that used for trench backfill, except that Type K material shall be used for final backfill in agricultural areas unless otherwise indicated.

5. Trench backfill and final backfill for pipelines under structures shall be the same material as used in the pipe zone, except where concrete encasement is required by the Contract Documents.

6. Aggregate base materials under pavements shall be Type G material constructed to the thicknesses indicated. Aggregate subbase shall be Type M material.

7. Backfill around structures shall be Type I material, or Types A through Type H materials, or any mixture thereof, except as shown.

8. Backfill used to replace pipeline trench over-excavation shall be a layer of Type F material with a 6-inch top filter layer of Type E material or filter fabric to prevent migration of fines for wet trench conditions or the same material as used for the pipe zone backfill if the trench conditions are not wet.

9. The top 6 inches of fill on reservoir roofs, embankment fills around hydraulic structures, and all other embankment fills shall consist of Type K material, topsoil.

10. Filter fabric shall be **Mirafi 140 N, Mirafi 700X,** or approved equal.

2.4 MATERIALS TESTING

A. All soils testing of samples submitted by the CONTRACTOR will be done by a testing laboratory of the CONTRACTOR'S choice approved by the OWNER at the CONTRACTOR'S expense. At its discretion, the ENGINEER may request that the CONTRACTOR supply samples for testing of any material used in the work.

B. Particle size analysis of soils and aggregates will be performed using ASTM D 422 - Method for Particle-Size Analysis of Soils.

C. Determination of sand equivalent value will be performed using ASTM D 2419 - Test Method for Sand Equivalent Value of Soils and Fine Aggregate.

D. **Unified Soil Classification System:** References in this Section to soil classification types and standards shall have the meanings and definitions indicated in ASTM D 2487 - Classification of Soils for Engineering Purposes. The CONTRACTOR shall be bound by all applicable provisions of said ASTM D 2487 in the interpretation of soil classifications.

E. The testing for chloride, sulfate, resistivity, and pH will be done in accordance with accepted State laboratory standards and procedures.

PART 3 -- EXECUTION

3.1 EXCAVATION - GENERAL

A. **General:** Except when specifically provided to the contrary, excavation shall include the removal of all materials of whatever nature encountered, including all obstructions of any nature that would interfere with the proper execution and completion of the WORK. The removal of said materials shall conform to the lines and grades indicated or ordered. Unless otherwise indicated, the entire construction site shall be stripped of all vegetation and debris, and such material shall be removed from the site prior to performing any excavation or placing any fill. The CONTRACTOR shall furnish, place, and maintain all supports and shoring that may be required for the sides of the excavations. Excavations shall be sloped or otherwise supported in a safe manner in accordance with applicable State safety requirements and the requirements of OSHA Safety and Health Standards for Construction (29CFR1926).

3.2 REMOVAL AND EXCLUSION OF WATER

A. The CONTRACTOR shall remove and exclude water, including stormwater, groundwater, irrigation water, and wastewater, from all excavations. Dewatering wells, wellpoints, sump pumps, or other means shall be used to remove water and continuously maintain groundwater at a level at least two feet below the bottom of excavations before the excavation work begins at each location. Water shall be removed and excluded until backfilling is complete and all field soils testing has been completed.

B. The CONTRACTOR shall dispose of water from the WORK in a suitable manner without damage to adjacent property. CONTRACTOR shall be responsible for obtaining any permits that may be necessary to dispose of water. No water shall be drained into work built or under construction without prior consent of the ENGINEER. Water shall be filtered using an approved method to remove sand and fine-sized soil particles before disposal into any drainage system.

3.3 STRUCTURE, ROADWAY, AND EMBANKMENT EXCAVATION

A. **Excavation Beneath Structures and Embankments:** Except where otherwise indicated for a particular structure or ordered by the ENGINEER, excavation shall be carried to the grade of the bottom of the footing or slab. Where indicated or ordered, areas beneath structures or fills shall be over-excavated. The subgrade areas beneath embankments shall be excavated to remove not less than the top 6 inches of native material and where such subgrade is sloped, the native material shall be benched. When such over-excavation is indicated, both

over-excavation and subsequent backfill to the required grade shall be performed by the CONTRACTOR. When such over-excavation is not indicated but is ordered by the ENGINEER, such over-excavation and any resulting backfill will be paid for under a separate unit price bid item if such bid item has been established; otherwise payment will be made in accordance with a negotiated price. After the required excavation or over-excavation has been completed, the exposed surface shall be scarified to a depth of six inches, brought to optimum moisture content, and rolled with heavy compaction equipment to obtain 95 percent of maximum density.

B. **Excavation Beneath Paved Areas:** Excavation under areas to be paved shall extend to the bottom of the aggregate base or sub-base, if such base is called for; otherwise it shall extend to the paving thickness. After the required excavation has been completed, the top twelve inches of exposed surface shall be scarified, brought to optimum moisture content, and rolled with heavy compaction equipment to obtain 95 percent of maximum density. The finished subgrade shall be even, self-draining, and in conformance with the slope of the finished pavement. Areas that could accumulate standing water shall be re-graded to provide a self-draining subgrade.

C. **Notification of ENGINEER:** The CONTRACTOR shall notify the ENGINEER at least 3 days in advance of completion of any structure excavation and shall allow the ENGINEER a review period of at least one day before the exposed foundation is scarified and compacted or is covered with backfill or with any construction materials.

3.4 PIPELINE AND UTILITY TRENCH EXCAVATION

A. **General:** Unless otherwise indicated or ordered, excavation for pipelines and utilities shall be open-cut trenches with widths as indicated.

B. **Trench Bottom:** Except when pipe bedding is required, the bottom of the trench shall be excavated uniformly to the grade of the bottom of the pipe bedding. Excavations for pipe bells and welding shall be made as required.

C. **Open Trench:** The maximum amount of open trench permitted in any one location shall be 500 feet, or the length necessary to accommodate the amount of pipe installed in a single day, whichever is greater. All trenches shall be fully backfilled at the end of each day or, in lieu thereof, shall be covered by heavy steel plates adequately braced and capable of supporting vehicular traffic in those locations where it is impractical to backfill at the end of each day. The above requirements for backfilling or use of steel plate will be waived in cases where the trench is located further than 100 feet from any travelled roadway or occupied structure. In such cases, however, barricades and warning lights meeting safety requirements shall be provided and maintained.

D. **Trench Over-Excavation:** Where trenches are indicated to be over-excavated, excavation shall be to the depth indicated, and backfill shall be installed to the grade of the bottom of the pipe bedding.

E. **Over-Excavation:** When ordered by the ENGINEER, whether indicated on the Drawings or not, trenches shall be over-excavated beyond the depth and/or width shown. Such over-excavation shall be to the dimensions ordered. The trench shall then be backfilled to the grade of the bottom of the pipe bedding. Over-excavation less than 6 inches below the limits on the Drawings shall be done at no increase in cost to the OWNER. When the over-

excavation ordered by the ENGINEER is 6 inches or greater below the limits shown, or wider, additional payment will be made to the CONTRACTOR. Said additional payment will be made under separate unit price bid items for over-excavation if such bid items have been established; otherwise payment will be made in accordance with a negotiated price.

F. Where pipelines are to be installed in embankments, fills, or structure backfills, the fill shall be constructed to a level at least one foot above the top of the pipe before the trench is excavated.

G. If a moveable trench shield is used during excavation operations, the trench width shall be wider than the shield so that the shield is free to be lifted and then moved horizontally without binding against the trench sidewalls. If the trench walls cave in or slough, the trench shall be excavated as an open excavation with sloped sidewalls or with trench shoring, as indicated and as required by the pipe structural design.

3.5 OVER-EXCAVATION NOT ORDERED OR INDICATED

A. Any over-excavation carried below the grade ordered or indicated, shall be backfilled to the required grade with the indicated material and compaction. Such work shall be performed by the CONTRACTOR at no additional cost to the OWNER.

3.6 EXCAVATION IN LAWN AREAS

A. Where excavation occurs in lawn areas, the sod shall be carefully removed. Excavated material shall be placed in a manner not to damage any additional lawn area as necessary. Immediately after completion of backfilling and testing of the pipeline, new sod shall be placed and lightly rolled in a manner so to restore the lawn as near as possible to its original condition. CONTRACTOR shall provide new sod in kind.

3.7 EXCAVATION IN VICINITY OF TREES

A. Except where trees are indicated to be removed, trees shall be protected from injury during construction operations. No tree roots over 2 inches in diameter shall be cut without express permission of the ENGINEER. Trees shall be supported during excavation by any means previously reviewed by the ENGINEER.

3.8 EXPLOSIVES AND BLASTING

A. Blasting is not permitted.

3.9 DISPOSAL OF EXCESS EXCAVATED MATERIAL

A. The CONTRACTOR shall remove and dispose of all excess excavated material at a site selected by the CONTRACTOR and reviewed by the ENGINEER.

B. The CONTRACTOR shall obtain all required permits, landowner and agency approvals for disposal of excess material, and pay all costs associated with the removal and disposal.

3.10 BACKFILL - GENERAL

A. Backfill shall not be dropped directly upon any structure or pipe. Backfill shall not be placed around or upon any structure until the concrete has attained sufficient strength to withstand the loads imposed. Backfill around water retaining structures shall not be placed until the structures have been tested, and the structures shall be full of water while backfill is being placed.

B. Except for drainrock materials being placed in over-excavated areas or trenches, backfill shall be placed after all water is removed from the excavation, and the trench sidewalls and bottom have been dried to a moisture content suitable for compaction.

C. If a moveable trench shield is used during excavation, pipe installation, and backfill operations, the shield shall be moved by lifting the shield free of the trench bottom or backfill and then moving the shield horizontally, The CONTRACTOR shall not drag trench shields along the trench causing damage or displacement to the trench sidewalls, the pipe, or the bedding and backfill.

D. Immediately prior to placement of backfill materials, the bottoms and sidewalls of trenches and structure excavations shall have all loose sloughing, or caving soil and rock materials removed. Trench sidewalls shall consist of excavated surfaces that are in a relatively undisturbed condition before placement of backfill materials.

3.11 PLACING AND SPREADING OF BACKFILL MATERIALS

A. Backfill materials shall be placed and spread evenly in layers not exceeding 18 inches. When compaction is achieved using mechanical equipment, the layers shall be evenly spread so that when compacted each layer shall not exceed 6 inches in thickness.

B. During spreading, each layer shall be thoroughly mixed as necessary to promote uniformity of material in each layer. Pipe zone backfill materials shall be manually spread around the pipe so that when compacted the pipe zone backfill will provide uniform bearing and side support.

C. Where the backfill material moisture content is below the optimum moisture content, water shall be added before or during spreading until the proper moisture content is achieved.

D. Where the backfill material moisture content is too high to permit the specified degree of compaction the material shall be dried until the moisture content is satisfactory.

3.12 COMPACTION OF FILL, BACKFILL, AND EMBANKMENT MATERIALS

A. Each layer of Types A, B, C, G, H, I, and K backfill materials as defined herein, where the material is graded such that at least 10 percent passes a No. 4 sieve, shall be mechanically compacted to the indicated percentage of density. Equipment that is consistently capable of achieving the required degree of compaction shall be used and each layer shall be compacted over its entire area while the material is at the required moisture content.

B. Each layer of Type E, F, and J backfill materials shall be compacted by means of at least 2 passes from a flat plate vibratory compactor. When such materials are used for pipe zone

backfill, vibratory compaction shall be used at the top of the pipe zone or at vertical intervals of 24 inches, whichever is the least distance from the subgrade.

C. Flooding, ponding, or jetting shall not be used for fill on roofs, backfill around structures, backfill around reservoir walls, for final backfill materials, or aggregate base materials.

D. Equipment weighing more than 10,000 pounds shall not be used closer to walls than a horizontal distance equal to the depth of the fill at that time. Hand operated power compaction equipment shall be used where use of heavier equipment is impractical or restricted due to weight limitations.

E. Backfill around and over pipelines that is mechanically compacted shall be compacted using light, hand operated, vibratory compactors and rollers. After completion of at least two feet of compacted backfill over the top of pipeline, compaction equipment weighing no more than 8,000 pounds may be used to complete the trench backfill.

F. **Compaction Requirements:** The following compaction test requirements shall be in accordance with ASTM D 1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 10 lb Rammer and 18-in. Drop for Type A, B, C, G, H, I, K, M, and N materials and in accordance with ASTM D 4253 - Test Methods for Maximum Index Density of Soils Using a Vibratory Table, and D 4254 - Test Methods for Maximum Index Density of Soils and Calculation of Relative Density, for Type B, E, F, and J materials. Where agency or utility company requirements govern, the highest compaction standards shall apply.

Location or Use of Fill	Percentage of Maximum Density	Percentage of Relative Density
Pipe embedment backfill for flexible pipe	95	70
Pipe bedding and over-excavated zones under bedding for flexible pipe, including trench plugs	95	70
Pipe embedment backfill for rigid pipe	90	55
Pipe zone backfill portion above embedment for rigid pipe	95	70
Pipe bedding and over-excavated zones under bedding for rigid pipe	95	70
Final backfill, beneath paved areas or Structures	98	70
Final backfill, not beneath paved areas or structures	90	55
Trench zone backfill, beneath paved areas and structures, including trench plugs	98	70

Trench zone backfill, not beneath paved areas or structures, including trench plugs	95	70
Embankments and fills	90	55
Embankments and fills beneath paved areas or structures	98	70
Topsoil (Type K material)	80	N/A
Aggregate base or subbase (Type G or M material)	95	N/A

3.13 PIPE AND UTILITY TRENCH BACKFILL

A. Pipe Zone Backfill

1. The pipe zone is defined as that portion of the vertical trench cross-section lying between a plane 6 inches below the bottom surface of the pipe and a plane at a point 6 inches above the top surface of the pipe. The bedding is defined as that portion of pipe zone backfill material between the trench subgrade and the bottom of the pipe. The embedment is defined as that portion of the pipe zone backfill material between the bedding and a level line as indicated.

2. After compacting the bedding the CONTRACTOR shall perform a final trim using a stringline for establishing grade, such that each pipe section when first laid will be continually in contact with the bedding along the extreme bottom of the pipe. Excavation for pipe bells and welding shall be made as required.

3. The pipe zone shall be backfilled with the indicated backfill material. The CONTRACTOR shall exercise care to prevent damage to the pipeline coating, cathodic bonds, and the pipe itself during the installation and backfill operations.

4. If a moveable trench shield is used during backfill operations the shield shall be lifted to a location above each layer of backfill material prior to compaction of the layer. The CONTRACTOR shall not displace the pipe or backfill while the shield is being moved.

B. Trench Zone Backfill: After the pipe zone backfills have been placed, backfilling of the trench zone may proceed. The trench zone is defined as that portion of the vertical trench cross-section lying between a plane 6 inches above the top surface of the pipe and a plane at a point 18 inches below the finished surface grade, or if the trench is under pavement, 18 inches below the roadway subgrade.

C. Final Backfill: Final backfill is all backfill in the trench cross-sectional area within 18 inches of finished grade, or if the trench is under pavement, all backfill within 18 inches of the roadway subgrade.

3.14 FILL AND EMBANKMENT CONSTRUCTION

A. The area where a fill or embankment is to be constructed shall be cleared of all vegetation, roots and foreign material. Following this, the surface shall be moistened, scarified to a depth of 6 inches, and rolled or otherwise mechanically compacted. Embankment and fill material shall be placed and spread evenly in approximately horizontal layers. Each layer shall be moistened or aerated, as necessary. Unless otherwise approved by the ENGINEER, each layer shall not exceed 6 inches of compacted thickness. The embankment, fill, and the scarified layer of underlying ground shall be compacted to 95 percent of maximum density.

B. When an embankment or fill is to be made and compacted against hillsides or fill slopes steeper than 4:1, the slopes of hillsides or fills shall be horizontally benched to key the embankment or fill to the underlying ground. A minimum of 12 inches normal to the slope of the hillside or fill shall be removed and re-compacted as the embankment or fill is brought up in layers. Material thus cut shall be re-compacted along with the new material at no additional cost to the OWNER. Hillside or fill slopes 4:1 or flatter shall be prepared in accordance with Paragraph A, above.

C. Where embankment or structure fills are constructed over pipelines, the first 4 feet of fill over the pipe shall be constructed using light placement and compaction equipment that does not damage the pipe. Heavy construction equipment shall maintain a minimum distance from the edge of the trench equal to the depth of the trench until at least 4 feet of fill over the pipe has been completed.

3.15 FIELD TESTING

A. **General:** All field soils testing will be done by a testing laboratory of the CONTRACTOR's choice approved by the OWNER at the CONTRACTOR's expense.

B. Where soil material is required to be compacted to a percentage of maximum density, the maximum density at optimum moisture content will be determined in accordance with Method C of ASTM D 1557. Where cohesionless, free draining soil material is required to be compacted to a percentage of relative density, the calculation of relative density will be determined in accordance with STM D 4253 and D 4254. Field density in-place tests will be performed in accordance with ASTM D 1556 - Test Method for Density of Soil in Place by the Sand-Cone Method, ASTM D 2922 - Test Methods for Density of Soil and Soil-Aggregate in Place By Nuclear Methods (Shallow Depth), or by such other means acceptable to the ENGINEER.

C. In case the test of the fill or backfill show non-compliance with the required density, the CONTRACTOR shall accomplish such remedy as may be required to insure compliance. Subsequent testing to show compliance shall be by a testing laboratory approved by the OWNER and shall be at no additional cost to the OWNER.

END OF SECTION

SECTION 31 23 13 – SUBGRADE PREPARATION

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The work specified in this Section consists of the construction of a stabilized roadway subgrade where required as part of roadway re-construction. Construction shall be to the uniformity, density, and bearing ratio specified herein.

B. Roadways to be re-constructed shall be stabilized to a compacted depth of 12-inches below the base course, and to the original dimensions of the existing roadway. The stabilizing shall be FDOT Type B. The required bearing ratio shall be obtained by constructing the subgrade of select materials salvaged from the existing roadway, or by stabilizing the subgrade material with the addition and mixing in of suitable stabilizing material.

PART 2 -- PRODUCTS

2.1 MATERIALS

A. The type of stabilizing material shall be in accordance with Paragraph 2.1.D herein and shall meet the following requirements:

1. When the utilizing materials from an existing base, this work shall be done prior to the spreading of any additional commercial or local materials. Removal of any section of existing base will not be required until the need for it in maintaining traffic is fulfilled.

2. The use of materials from an existing base may be in combination with the designated type of stabilizing.

B. Commercial Materials:

1. Materials to be used may be either commercial limerock, limerock overburden, or crushed shell.

2. Limerock and Limerock Overburden:

a. The percentage of carbonates of calcium and magnesium shall be at least 10%.

b. The plasticity index shall not exceed 10%.

c. The gradation shall be such that 0.97% of these materials will pass a 1-1/2" sieve.

3. Crushed Shell shall be mollusk shell meeting the following:

a. The use of steamed shell is not permitted.

b. At least 97% by weight of the total material shall pass a 1-inch screen and at least 50% by weight of the total material shall be retained on a No. 4 sieve.

c. Not more than 7.5% by weight of the total material shall pass the No. 200 sieve.

d. If the shell meets the above requirements without crushing, then crushing will not be required.

C. Local Material:

1. Local materials used for stabilizing may be high-bearing-value soils or sand-clay material.

2. The material passing the 40-mesh sieve shall have a liquid limit not greater than 30 and a plasticity index not greater than 10.

3. No blending of materials to meet these requirements will be permitted unless authorized by the ENGINEER.

4. When blending is permitted, the blended material shall be tested and approved before being spread on the roadway.

D. Type B Stabilization:

1. The type of materials, commercial or local, shall be at the CONTRACTOR's option.

2. Bearing value determinations shall be made by the Limerock Bearing Ratio Method.

3. It is the CONTRACTOR's responsibility that the finished roadbed section meets the bearing value requirements, regardless of the quantity of stabilizing materials added.

4. After the roadbed grading operations have been substantially completed, the CONTRACTOR shall make its own determination as to the quantity, if any, of stabilizing materials necessary for compliance with the bearing value requirements.

5. The CONTRACTOR shall notify the ENGINEER of the approximate quantity of stabilizing material to be added. The spreading and mixing in of such materials shall meet the approval of the ENGINEER as to uniformity and effectiveness.

PART 3 -- EXECUTION

3.1 PREPARATION

A. Prior to the beginning of stabilizing operations, the area to be stabilized shall have been constructed to an elevation such that upon completion of stabilizing operations the completed stabilized subgrade will conform to the lines and grades of the existing road subgrade.

B. Prior to the spreading of any additive stabilizing material, the surface of the roadbed shall be brought to a plane approximately parallel to the plane of the proposed finished surface.

C. The subgrade to be stabilized may be processed in one course, unless the equipment and methods being used do not provide the required uniformity, particle size limitation, compaction, and other desired results, in which case, the processing shall be done in more than one course.

3.2 APPLICATION

A. Stabilizing Material:

1. When additive stabilizing materials are required, they shall be spread uniformly over the area to be stabilized.

2. When materials from an existing base are to be utilized, such materials shall be placed and spread prior to the addition of other stabilizing additives.

3. Commercial stabilizing material shall be spread by the use of mechanical spreaders except that where use of such equipment is not practical, other means of spreading may be used, but only upon written approval of the proposed alternate method.

B. Mixing:

1. Mixing shall be done with rotary tillers or other suitable equipment. The area to be stabilized shall be thoroughly mixed throughout the entire depth and width of the stabilizing limits.

2. Mixing will be required regardless of whether the existing soil, or any select soils placed within the limits of the stabilized sections, have the required bearing value without the addition of stabilizing materials.

3. As an exception to the above, where the subgrade is of rock, the Engineer may direct that mixing be waived and no payment made for stabilization of such sections of the roadway.

C. At the completion of mixing, all particles of material within the limits of the area to be stabilized shall pass a 3-1/2-Nc ring. Any particles not meeting this requirement shall be removed from the stabilized area or shall be broken down so as to meet this requirement.

D. After mixing is complete and requirements for bearing value, uniformity, and particle size have been satisfied, the stabilized area shall be compacted in accordance with Paragraph 3.3.B.

E. Materials shall be compacted at a moisture content permitting the specified compaction. If the moisture content of the material is improper for attaining the specified density, either water shall be added or the material shall be permitted to dry until the proper moisture content for the specified compaction is reached.

F. The completed stabilized subgrade shall be shaped to conform with the finished lines, grades, and cross section indicated on the Contract Drawings. The subgrade shall be checked by the use of elevation stakes, or other means approved by the ENGINEER.

G. Requirements For Condition Of Completed Subgrade:

1. After stabilization and compaction, subgrade shall be firm and substantially unyielding to the extent that it will support construction equipment and have the required bearing value.

2. All soft and yielding material, and any other portions of the subgrade that will not compact readily, shall be removed and replaced with suitable material and the whole subgrade brought to line and grade, with proper allowance for subsequent compaction.

H. After completion of the subgrade, the CONTRACTOR shall maintain it free from ruts, depressions, and damage resulting from the hauling or handling of materials, equipment, tools, etc.

I. The CONTRACTOR shall maintain the required density until the base is placed. Such responsibility shall include any repair or replacement of curb and gutter, sidewalk, etc., which may be necessary in order to re-compact the subgrade in the event of underwash or other damage occurring to the previously compacted subgrade.

3.3 FIELD QUALITY CONTROL

A. Bearing Value Requirements:

1. Bearing value samples will be obtained and tested at completion of satisfactory mixing of the stabilized area.

2. For any area where the bearing value is deficient or in excess of the tolerances established herein, additional stabilizing material shall be spread and mixed in accordance with 3.2.B. This shall be done for the full width of the roadway being stabilized and laterally for a distance of 50 feet beyond the limits of the area in which the bearing value is deficient.

3. The following undertolerances from the specified bearing value will be allowed as based on tests performed on samples obtained after mixing operations have been completed:

Specified Bearing Value	Undertolerances
LBR 40	5.0

B. Density Requirements:

1. Within the entire limits of the width and depth of the areas to be stabilized, the minimum density acceptable at any location will be 98% of the maximum density as determined by AASHTO T 180, Test Method D.

END OF SECTION

SECTION 31 23 19 – DEWATERING

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The WORK covered by this Section consists of furnishing all permits, labor, equipment, appliances and materials, and performing all operations required for dewatering excavations as required to ensure that all work is performed in the dry. The contract plans may include specific requirements limiting the controlling dewatering near areas of known contamination by VOC's and VOH's.

B. The CONTRACTOR shall not discharge water from dewatering operations in any manner that will:

1. Adversely affect the water quality of adjoining water bodies.

2. Violate Federal, State, or local laws and regulations.

3. Allow discharge to flow onto private property.

4. Hamper the movement of traffic.

5. Damage portions of the WORK previously constructed.

C. Related sections:

1. Section 31 23 33 – Trenching and Backfilling.

1.2 CONTRACTOR SUBMITTALS

A. Furnish submittals in accordance with Section 01 33 00 – Submittal Procedures.

B. Prior to commencement of excavation, the CONTRACTOR shall submit a detailed plan and operation schedule for dewatering of excavations. The detailed plan shall include mitigation measures to prevent settlement of nearby structures and a contingency plan for restoring nearby structures if settlement is observed as a result of the CONTRACTOR's dewatering operations. The CONTRACTOR may be required to demonstrate the system proposed and to verify that adequate equipment, personnel, and materials are provided to dewater the excavations at all locations and times. The CONTRACTOR's dewatering plan is subject to review by the ENGINEER.

1.3 QUALITY ASSURANCE

A. It shall be the sole responsibility of the CONTRACTOR to control the rate and effect of the dewatering in such a manner as to avoid all objectionable settlement and subsidence.

B. All dewatering operations shall be adequate to assure the integrity of the finished project and shall be the responsibility of the CONTRACTOR.

C. All structures or facilities that are located within the radius of influence of the CONTRACTOR's dewatering operation shall have reference points established and

observed at frequent intervals to detect any settlement which may develop. The responsibility for conducting the dewatering operation in a manner which will protect adjacent structures and facilities rests solely with the CONTRACTOR. The CONTRACTOR shall survey, record and report the reference points on a daily basis, and submit the written log to the ENGINEER at the completion of construction. The ENGINEER shall be immediately notified should any sign of settlement is observed. The cost of repairing any damage to adjacent structures and restoration of facilities shall be the responsibility of the CONTRACTOR.

PART 2 -- PRODUCTS

2.1 EQUIPMENT

A. Dewatering, where required, may include the use of well points, sump pumps, temporary pipelines for water disposal, rock or gravel placement, and other means. Standby pumping equipment shall be maintained on the Site.

PART 3 -- EXECUTION

3.1 DELIVERY, STORAGE AND HANDLING

A. The CONTRACTOR's proposed method for dewatering pipe trenches shall be reviewed by the ENGINEER prior to instituting any such operations. Methods may include wellpoints, sump pumps, bedding rock or other methods approved by the ENGINEER. If a dewater sock method is used, the sock must be grouted in place when work is complete. Wellpoint holes must be grouted or sand wash backfilled.

B. The CONTRACTOR shall provide all labor, materials, tools and equipment necessary to properly control the quality of the discharge from dewatering operations. The CONTRACTOR shall comply with all applicable laws, rules and regulations governing the discharge of water from dewatering operations. The CONTRACTOR shall have on hand, at all times, sufficient pumping equipment and machinery in good working condition and shall have available, at all times, competent workmen for the operation of the pumping equipment. Adequate standby equipment shall be kept available at all times to insure efficient dewatering and maintenance of dewatering operation during power failure.

C. All dewatering shall be accomplished by the use of sanded well points and other techniques deemed necessary by the CONTRACTOR to properly dewater the trench excavations. Well points shall be adequately spaced to provide the necessary dewatering and shall be sandpacked and/or other means used to prevent pumping of fine sands or silts from the subsurface. A continual check by the CONTRACTOR shall be maintained to ensure that the subsurface soil is not being removed by the dewatering operation.

A. Dewatering for structures and pipelines shall commence when groundwater is first encountered, and shall be continuous until such times as water can be allowed to rise in accordance with the provisions of this Section or other requirements.

B. At all times, site grading shall promote drainage. Surface runoff shall be diverted from excavations. Water entering the excavation from surface runoff shall be collected in shallow ditches around the perimeter of the excavation, drained to sumps, and be pumped or drained by gravity from the excavation to maintain a bottom free from standing water.

C. Dewatering shall at all times be conducted in such a manner as to preserve the undisturbed bearing capacity of the subgrade soils at proposed bottom of excavation.

D. If foundation soils are disturbed or loosened by the upward seepage of water or an uncontrolled flow of water, the affected areas shall be excavated and replaced with drain rock.

E. The CONTRACTOR shall maintain the water level below the bottom of excavation in all work areas where groundwater occurs during excavation construction, backfilling, and up to acceptance.

F. Flotation shall be prevented by the CONTRACTOR by maintaining a positive and continuous removal of water. The CONTRACTOR shall be fully responsible and liable for all damages which may result from failure to adequately keep excavations dewatered.

G. Upon removal of the wellpoints, the CONTRACTOR must protect the holes and fill with flowable fill within 24 hours. Flowable fill for backfill of wellpoints shall not be measured for payment and shall not be included in the cost of installing the pipe.

H. The CONTRACTOR is responsible for controlling the bacteriological quality of well point discharges into existing bodies of water. The maximum allowable level for fecal coliform in the wellpoint discharge is a mean MPN of 14 per 100 ML with not more than ten percent (10%) of the samples exceeding an MPN of 43 per 100 ML.

I. The CONTRACTOR shall dispose of water from the WORK in a suitable manner without damage to adjacent property. CONTRACTOR shall be responsible for obtaining any permits that may be necessary to dispose of water. No water shall be drained into work built or under construction without prior consent of the ENGINEER. Water shall be filtered using an approved method to remove sand and fine-sized soil particles before disposal into any drainage system.

J. The release of groundwater to its static level shall be performed in such a manner as to maintain the undisturbed state of the natural foundation soils, prevent disturbance of compacted backfill and prevent flotation or movement of structures, pipelines, and sewers.

K. Dewatering of trenches and other excavations shall be considered as incidental to the construction of the WORK and all costs thereof shall be included in the various contract prices in the Bid Forms, unless a separate bid item has been established for dewatering.

END OF SECTION

SECTION 31 23 23.33– FLOWABLE FILL

GENERAL

1.1 THE SUMMARY

A. The CONTRACTOR shall provide Controlled Low Strength Material (CLSM), complete and in place, in accordance with the Contract Documents.

B. CLSM shall be placed where indicated and may be used, if the ENGINEER approves, for the following purposes:

1. Normal CLSM with high slump, non-segregating consistency that readily flows and fills voids and difficult to reach places: pipe zone fill, trench zone fill, pipe abandonment, structure backfill, and structure cavity fill.

2. Foundation CLSM is used where higher early strengths are required and future excavation is not likely to be required.

1.2 DEFINITIONS

A. Flowable Fill: is defined as Controlled Low Strength Material or CLSM.

1.3 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Furnish submittals in accordance with Section 01 33 00 – Submittal Procedures.

B. FDOT Standard Specifications for Road and Bridge Construction - Section 121

1.4 CONTRACTOR SUBMITTALS:

A. CLSM mix designs which show the proportions and gradations of materials proposed for each type of CLSM indicated. Each mix design shall be accompanied by independent laboratory test results of the indicated properties.

B. If the CONTRACTOR proposes to provide lower strength CLSM with aggregates that do not conform to ASTM C 33 - Concrete Aggregate, Shop Drawings shall include a testing program that will be used to control the variability of the aggregates. The testing program shall be acceptable to the ENGINEER.

1.5 QUALITY ASSURANCE

A. Testing will be performed by a testing laboratory selected by CONTRACTOR, except as otherwise indicated in the Contract Documents.

B. If tests of the CLSM show non-compliance with the specifications, the CONTRACTOR shall make changes as may be required to achieve compliance. Performing and paying for subsequent testing to show compliance shall be the CONTRACTOR's responsibility.

C. Correlation Tests

1. The CONTRACTOR shall perform a field correlation test for each mix of CLSM used in pipe zone, trench zone, or backfill used in amounts greater than 100 cubic yards or when CLSM is required to support traffic or other live loads on the fill less than 7 days after placing CLSM.

2. Laboratory and field tests shall be performed on samples taken from the same CLSM batch mix. Tests shall be performed by a laboratory at the CONTRACTOR's expense.

3. Testing shall be performed once each 24 hours for 2 days and once per week thereafter until the CLSM mix reaches the maximum design strength.

   a. Compression testing shall be in accordance with ASTM D 4832 - Preparation and Testing of Soil-Cement Slurry Test Cylinders.

   b. Setting test shall be in accordance with ASTM C 403 - Time of Setting of Concrete Mixtures by Penetration Resistance.

   c. Density tests shall be in accordance with ASTM C 138 - Unit Weight, Yield and Air Content (Gravimetric) of Concrete.

PART 2 -- PRODUCTS

2.1 CONTROLLED LOW STRENGTH MATERIAL

A. CLSM shall be a mixture of cement, pozzolan, coarse and fine aggregate, admixtures, and water, mixed in accordance with ASTM C 94 - Ready Mixed Concrete.

B. Composition: The following parameters shall be within the indicated limits and as necessary to produce the indicated compressive strengths.

   1. Mix proportions as necessary.

   2. Entrained air content shall be between 5 percent minimum and 35 percent maximum.

   3. Water reducing agent content as necessary.

C. Properties

   1. Density shall be between 100 PCF minimum and 145 PCF maximum.

   2. Slump shall be as required by the CONTRACTOR's methods, but shall not promote segregation nor shall slump exceed 9 inches.

   3. Compressive strength at 28 Days:

      a. Normal CLSM: Between 100 psi minimum and 300 psi maximum. Unless specifically indicated otherwise, CLSM shall be Normal CLSM.

      b. Foundation CLSM: 1,000 psi minimum.

2.2 CEMENT

A. Cement shall be Type I or II in accordance with ASTM C 150 - Portland Cement.

2.3 POZZOLAN

A. Pozzolan shall be Type F or C in accordance with ASTM C 618 - Flyash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete. Pozzolon content, by weight, in Normal CLSM shall not be greater than cement content.

2.4 AGGREGATE

A. Aggregate shall consist of a well graded mixture of crushed rock, soil, or sand, with a nominal maximum size of 3/8-inch. One hundred percent shall pass the 1/2-inch sieve; no more than 30 percent shall be retained on the 3/8-inch sieve; and no more than 12 percent shall pass the number 200 sieve. If more than 5 percent of the aggregate passes the number 200 sieve, the material passing the number 200 sieve shall have a plasticity index of less than 0.73 (liquid limit-20), when tested in accordance with ASTM D 4318 - Liquid Limit, Plastic Limit, and Plasticity Index of Soils. Aggregate shall be free from organic matter and shall not contain more alkali, sulfates, or salts than the native materials at the Site.

2.5 ADMIXTURES

A. Air entraining admixtures shall be in accordance with ASTM C 260 - Air-Entraining Admixtures for Concrete.

B. Water reducing admixtures shall be in accordance with ASTM C 494 - Chemical Admixtures for Concrete.

2.6 WATER

A. Water shall be potable, clean, and free from objectionable quantities of silt, organic matter, alkali, salt, and other impurities.

PART 3 -- EXECUTION

3.1 PREPARATION

A. Subgrade and compacted fill to receive CLSM shall be prepared according to Section 31 23 00 – Excavation and Fill.

3.2 BATCHING, MIXING AND DELIVERY

A. Batching, mixing, and delivery of CLSM shall conform to ASTM C 94. CLSM shall be mixed at a batch plant acceptable to the ENGINEER and shall be delivered in standard transit mix trucks.

3.3 PLACEMENT

A. CLSM shall be placed by tailgate discharge, conveyor belts, pumped, or other means. CLSM shall be directed in place by vibrator, shovel, or rod to fill crevices and pockets. Avoid over-consolidation which causes separation of aggregate sizes.

B. CLSM shall be continuously placed against fresh material unless otherwise approved by the ENGINEER. When new material is placed against existing CLSM, the placement area shall be free from loose and foreign material. The surface of the existing material shall be soaked a minimum of one hour before placement of fresh material but no standing water shall be allowed when placement begins.

C. Temperature of the CLSM shall be between 50 and 90 degrees F, when placed. CLSM shall not be placed when the air temperature is below 40 degrees F. No CLSM shall be placed against frozen subgrade or other materials having temperature less than 32 degrees F.

3.4 FINISHING

A. The finish surface shall be smooth and to the grade indicated or directed by the ENGINEER. Surfaces shall be free from fins, bulges, ridges, offsets, and honeycombing. Finishing by wood float, steel trowel, or similar methods is not required.

3.5 CURING

A. CLSM shall be kept damp for a minimum of 7 Days or until final backfill is placed.

3.6 PROTECTION

A. CLSM shall be protected from freezing for 72 hours after placement.

B. No fill or loading shall be placed on CLSM until probe penetration resistance, as measured in accordance with ASTM C 803 - Standard Test Method for Penetration Resistance of Hardened Concrete, meets the design strength.

C. CLSM shall be protected from running water, rain, and other damage until the material has been accepted and final fill completed.

END OF SECTION

SECTION 31 23 33 – TRENCHING AND BACKFILLING

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Furnish labor, materials and equipment to excavate for all underground piping and conduit.

B. Place and compact granular bedding and fill over pipelines and conduits.

C. Dewater excavations as required to maintain dry conditions.

D. In order to avoid existing operational utilities, it may be necessary for pipe to be laid up to twelve inches deeper than the cover specified. At such time the CONTRACTOR is not allowed extra compensation for additional excavation involved, whether the utilities were indicated on the Contract Drawings or not.

E. Density tests for determination of the specified compaction shall be made by a testing laboratory approved by the ENGINEER.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Section 33 05 23.16 – Utility Pipe Jacking

B. Section 31 23 19 – Dewatering

C. Section 31 20 00 – Earth Moving

D. Section 31 23 00 – Excavation and Fill

1.3 QUALITY ASSURANCE

A. Testing of compacted fill materials is required in accordance with these specifications.

B. If results of tests taken during the progress of the work indicate compacted materials do not meet specified requirements, such defective work will be removed, replaced and re-tested as directed by the ENGINEER and at the CONTRACTOR's sole expense.

C. Compacted fill is to be tested before proceeding with the placement of surface materials.

1.4 PROTECTION

A. Protect trees, hedges, shrubs, and lawn areas to receive plantings, rock out-croppings and other features remaining as part of the final landscaping.

B. Protect survey bench marks and existing structures, roads, sidewalks, paving and curbs against damage from vehicular or foot traffic. Install and maintain proper bridging, planking and to provide access to buildings. Maintain access to streets and driveways.

C. Protect excavations by shoring, bracing, sheet piling underpinning, or by other methods, as required to prevent cave-ins or loose soil from falling into excavations.

D. Underpin or otherwise support adjacent structures which may be damaged by excavation work. This includes other utilities.

E. Notify the ENGINEER of any unexpected sub-surface conditions. Discontinue work in the area until the ENGINEER provides notification to resume work.

PART 2 -- PRODUCTS

2.1 BEDDING AND FILL MATERIALS

A. Bedding Materials: Provide granular material, 100% passing a No. 4 sieve, free of organic matter and compacted to 95% density. Use a minimum of six inches of bedding material as measured from the bottom of the pipe bell to natural earth. Bedding material shall support the pipe as shown in the details of the Contract Drawings.

B. Selected Backfill: After pipe joints have been inspected and given preliminary approval by the ENGINEER, and sufficient time has elapsed for setting of joints, if necessary, backfilling shall be performed, together with tamping, until fill is placed to an elevation at least one foot above the top of the pipe bell. During this initial stage of backfilling, approved granular materials or loose free soil from lumps, clods or stones shall be deposited in layers approximately six inches thick and compacted by manually operated machine tampers actuated by compressed air, or by other suitable means. Tampers and machines shall be suitable for the work and subject to approval by the ENGINEER prior to use.

C. Backfill Material: Furnish excavated material, free from roots and rocks larger than 3-1/2 inches in size and building debris.

D. Fill Under Landscaped Areas: Provide material free from alkalis, salts and petroleum products. Use sub-soil excavated from the site only if it conforms to the specified requirements.

PART 3 -- EXECUTION

3.1 PREPARATION AND LAYOUT

A. Establish the limits of excavations by area and elevation. Identify datum elevation.

B. Set lines and levels. Maintain survey benchmarks, monuments and other reference points.

C. Clear the site of all trees, shrubs, paving and objectionable material which interfere with the prosecution of the Work. Vegetation not interfering with the construction shall be protected from damage.

3.2 UTILITIES

A. Before starting excavation operations, establish the location and extent of underground utilities existing in the area of work.

B. Notify the ENGINEER if utility lines which are in the way of the excavation are uncovered.

C. Protect active utility services uncovered by the excavation.

D. Remove abandoned utility lines from areas of excavation. Cap, plug or seal such lines as directed by the ENGINEER and identify at grade.

E. Accurately locate and record the location of abandoned utility lines and active utility lines that are re-routed, re-located or extended on Project Record Documents.

F. Accurately locate and record the location on Project Record Documents of active utility lines whose locations are not accurately reflected on the Contract Drawings.

3.3 TRENCHING

A. Ensure that trenching does not interfere with normal 45 degree bearing splay of any building foundation.

B. Excavate in accordance with lines and grades shown on the Contract Drawings or specified in these Specifications.

C. Cut trenches sufficiently wide to enable safe and proper installation of pipe and to allow for thorough inspection. Trim and shape the trench bottom and leave it free of irregularities, lumps and projections. Excavate whatever substances are encountered to the dimensions and depths specified or shown on the Contract Drawings.

D. Do not disturb soil within the branch spread of existing trees or shrubs that are to remain. If it is necessary to excavate through roots, perform work by hand and cut roots with a sharp axe.

E. When complete, notify the ENGINEER for inspection of excavations. Correct unauthorized excavations as directed, at no cost to the OWNER.

F. Where encountered in the trench bed, rock shall be excavated to a depth of 1/2 of the pipe diameter, but in no case less than 6" below the bottom of the pipe. All undercut trench excavations shall be backfilled and tamped with suitable materials.

G. Unsuitable materials encountered at or below the excavation depth specified or shown on the Contract Drawings shall be removed and replaced to a depth of six inches below the excavation depth and replaced with suitable material.

H. Keep pipe laying operations as close to the excavation operation as possible.

I. All trench excavations shall comply with OSHA Standards.

J. The CONTRACTOR shall provide all trench and structural bracing, sheeting or shoring necessary to construct and protect the excavation, existing utilities, structures and private property as required. Sheeting shall be removed or cut off by the CONTRACTOR during backfilling.

3.4 DEWATERING

A. Keep trenches dry. Provide necessary dewatering equipment including wellpoints, pumps, piping and temporary drains.

B. Do not discharge drainage water into municipal sewers without municipal approval. Ensure water does not contain unacceptable levels of suspended solids.

C. Direct surface drainage away from excavated areas in such a manner as to not create a nuisance to adjacent property or public thoroughfares.

D. Control the grading in and adjacent to excavations to prevent water from running into excavated areas or onto adjacent properties or into public thoroughfares.

E. Direct surface drainage away from excavated areas in such a manner as to not create a nuisance to adjacent property or public thoroughfares.

3.5 BACKFILLING

A. Do not start backfilling until piping has been inspected by the ENGINEER.

B. Maintain trenches free of debris, wood, rocks over 3-1/2 inches in diameter and water.

C. Backfill as early as possible after pipe installation to allow maximum time for natural settlement and compaction. Backfill on both sides of the pipe simultaneously.

D. After backfill has reached a point one foot above the top of the pipe, a variation in the procedure of the placement and amount of compaction of fill may be permitted by the ENGINEER, depending upon the location of the work and the danger from subsequent settlement, as follows:

1. For backfilling in unimproved areas (along utility easements and beyond the edge of driveways and graveled parking areas) from an elevation of one foot above the top of pipe to the surface of the ground, backfill may be deposited by equipment. Depositing in layers or tamping will not be required. Sufficient surplus excavated material shall be neatly rounded over the trench to compensate for settlement. All surplus excavated materials beyond that required above shall be disposed of by the CONTRACTOR.

2. For backfilling beneath driveways and parking areas, alleys and streets where non-rigid type surfacing is to be replaced (including dirt, gravel or cinder driveways and alleys):

   a. Backfill material shall be carefully deposited in uniform layers not to exceed six inches in thickness and each layer shall be compacted to 98% of maximum density in accordance with AASHTO T-180 with manually operated machine tampers.

   b. Excavated material may not be compacted by the water jetting method.

   c. In lieu of the foregoing compaction method, the backfill material and procedure used may be as specified under Method 3, below.

3. For backfilling across and beneath driveways, sidewalks, parking areas or streets where a rigid type paving is to be replaced (i.e., concrete, asphaltic concrete and brick or block surfaces):

a. All backfill material shall be approved granular material of high weight and density. The material shall be carefully deposited in uniform layers not to exceed six inches in thickness (loose measure) and each layer shall be compacted to a density of at least 100% of the maximum density as determined by AASHTO Method T-99, by ramming or tamping with tools approved by the ENGINEER in a manner that does not disturb the pipe. Where necessary, granular base material of the type and thickness specified shall be used for the last layer prior to surfacing.

END OF SECTION

SECTION 31 37 00– RIPRAP

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The CONTRACTOR shall furnish and install riprap, including geotextile fabric, compacted embankment or other fill material, excavation, and disposal of excess waste material, all in accordance with the requirements of the Contract Documents.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. **Commercial Standards:**

1. ASTM C 88: Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate.

2. ASTM C 535: Test Method for Resistance to Degradation of Large Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.

3. AASHTO T 85: Method of Test for Specific Gravity and Absorption of Coarse Aggregate.

4. AASHTO T 210: Method of Test for Aggregate Durability Index.

1.3 CONTRACTOR SUBMITTALS

A. Testing certificates from a qualified testing agency shall be submitted prior to acceptance of the rock source to verify conformity to the requirements of the Contract Documents. The submittal shall be in conformance with the requirements of Section 01 33 00 – Submittal Procedures.

PART 2 -- PRODUCTS

2.1 STONE FOR RIPRAP

A. Average rock size shall be 12 inches. The greatest dimension of 50 percent of the riprap stone shall be at least two-thirds but not more than 1-1/2 times the diameter of the average rock size. The stones shall be graded in size to produce a reasonably dense mass. Riprap shall consist of dense, natural rock fragments. Stone shall be resistant to weathering and to water action; free from overburden, spoil, shale and organic material; and shall meet the gradation requirements specified. Shale and stone with shale seams are not acceptable.

B. Rock shall consist of durable, sound, hard, angular rock meeting the following requirements for durability absorption ratio, soundness test, and abrasion test:

Durability Absorption Ratio	Acceptability
Greater than 23	Passes
10 to 23	Passes only if Durability Index is 52 or greater
Less than 10	Fails

Durability Absorption Ratio	$\frac{\text{Durability Index (Coarse)}}{\text{\% absorption} + 1}$

C. The durability index and percent absorption shall be determined by AASHTO T 210 and AASHTO T 85, respectively. The minimum specific gravity of the stone shall be 2.5 as determined by AASHTO T 85.

D. Rock riprap shall have less than 10 percent loss of weight after five cycles, when tested per ASTM C 88.

E. Riprap stone or rock shall have a wear not greater than 40 percent, when tested per ASTM C 535.

F. Neither the breadth nor thickness of any piece of riprap shall be less than one-third its length. Material shall be of shapes which will form a stable protection structure of required depth as shown. Rounded boulders or cobbles shall not be used.

G. Rock riprap shall conform to the sizes shown as follows:

1. Type II (12-inch Average Rock Size):

Diameter	Percentage Passing
18-inch	95 – 100
12-inch	25 – 75
6-inch	0 – 10

H. Control of gradation shall be by visual inspection. The CONTRACTOR shall provide a sample of the specified riprap gradation of at least 5 tons or 10 percent of the total riprap weight, whichever is less. The sample at the construction site may be a part of the finished riprap covering. This sample shall be used as a frequent reference for judging the gradation of riprap supplied. Any difference of opinion between the ENGINEER and the CONTRACTOR shall be resolved by checking the gradation of two random truckloads of stone. Mechanical equipment, a sorting site, and labor needed in checking gradation shall be provided by the CONTRACTOR at no additional cost to the OWNER.

I. The acceptability of the stone shall be determined by the ENGINEER prior to construction.

2.2 GEOTEXTILE FABRIC

A. Geotextile fabric shall conform to the requirements of Section 31 34 19 – Geotextiles.

PART 3 -- EXECUTION

3.1 SURFACE PREPARATION

A. Surfaces to receive riprap shall be smooth and firm, free of brush, trees, stumps and other objectionable material, and shall be brought to the line and grade shown.

B. If a boulder is encountered during excavation of areas where large riprap is to be placed, the CONTRACTOR shall excavate around the boulder. If the boulder is larger than the largest allowable stone size for that area, the CONTRACTOR shall break up the boulder to an acceptable size or remove it entirely.

C. Prior to placement of the geotextile, the surface shall be prepared to a smooth condition free of debris, depressions, or obstructions which may damage the geotextile. The geotextile shall be overlapped a minimum of 2 feet at all longitudinal and transverse joints. Upstream sheets shall overlap downstream sheets. For slope placement, each strip shall overlap the next downhill strip. The geotextile shall be anchored using key trenches or aprons at the crest and toe of the slope. Pins may be used in securing the geotextile during installation. In no instance shall the geotextile be left exposed to sunlight longer than 7 calendar days.

3.2 PLACEMENT OF RIPRAP

A. Placement of riprap shall begin at the toe of the slope and proceed up the slope. The rock may be placed by dumping and may be spread by bulldozers or other suitable equipment as long as the underlying material is not displaced or damaged. Rock shall be placed to provide a minimum of voids. Smaller stones shall be uniformly distributed throughout the mass. Sufficient hand-work shall be done to produce a neat and uniform surface, true to the lines, grades, and sections shown.

B. Where riprap is placed over a geotextile fabric, the riprap shall be placed so as to avoid damage to the geotextile. Stones shall not be dropped from a height greater than 3 feet, nor shall large stones be allowed to roll downslope.

3.3 GROUTED RIPRAP

A. After the riprap has been placed, sand or fine gravel shall be swept into the interstices to fill them to within 4 inches of the mean surface of the riprap. After wetting the stones, the remaining volume of the interstices shall be filled with a well-mixed grout composed of 1 part Portland cement and 3 parts of sand, mixed to a workable consistency. The grout shall be kept wet by sprinkling or covering with wet material for at least 3 days. The grout shall be protected from flowing water or any other disturbances during this curing period, and shall not be placed in freezing weather or when conditions are unfavorable.

END OF SECTION

SECTION 32 01 18– PAVEMENT REPAIR AND RESURFACING

PART 1 - GENERAL

1.1 THE SUMMARY

A. Cutting, removing, protecting and replacing existing pavements encountered including roadways, driveways, sidewalks, curbs and combination curb and gutter.

B. Restoration work shall be kept current with the backfilling operation so as to maintain pedestrian and vehicular traffic.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. AASHTO M-81 - Penetration Graded Asphalt Cement.

B. AASHTO M-140 - Emulsified Asphalt.

C. FDOT Road and Bridge Construction - Section 330 – Hot Mix Asphalt - General Construction Requirements.

D. FDOT Road and Bridge Construction - Section 916 – Bituminous Materials.

E. FDOT Road and Bridge Construction - Section 346 – Portland Cement Concrete.

F. Section 32 16 13 – Curbs and Gutters

G. Section 32 16 23 – Sidewalks

H. Section 32 16 33 – Driveways

1.3 QUALITY ASSURANCE

A. Testing and inspection of asphalt pavement mixes and testing of placed stabilizing base course and asphalt pavement will be performed by an independent testing laboratory appointed and paid for in accordance with these Specifications. Testing and inspection will be performed so as to minimize disruption of the work.

B. Provide the testing laboratory with access to the mixing plant for verification of weights or proportions, character of materials used and determination of temperatures used in the preparation of asphalt concrete mix.

C. When required by the ENGINEER, the testing laboratory will perform laboratory tests on proposed asphalt pavement mixes to determine conformity with the Specifications.

D. The testing laboratory will perform one series of compaction tests for stabilizing base course and for asphalt pavement. The CONTRACTOR shall pay for costs of additional testing as required due to improper performance of the work.

E. When stabilizing base course or a portion thereof that has been placed and compacted in accordance with these specifications, notify the testing laboratory to perform density tests.

Do not place asphalt pavement until the results of tests have been verified and base course installation has been approved by the ENGINEER.

F. If compaction tests indicate that stabilizing base course or asphalt paving do not meet specified requirements, the defective work shall be removed and replaced with acceptable work and the costs thereof, including all additional testing, will be paid by the CONTRACTOR.

PART 2 -- PRODUCTS

2.1 GENERAL EQUIPMENT REQUIREMENTS

A. Materials shall be of the same or better grade, type and quality as those removed.

B. Temporary paving shall consist of cold mixed, sand/asphalt pavement. Liquid asphalt shall be grade RC-70 and sand shall conform to the requirements of D.O.T. Specifications for fine aggregates.

C. Tack coat shall be Emulsified Asphalt, Grades RS-2 or CRS-2 conforming to FDOT Standard Specifications. The application rate shall be from 0.02 to 0.08 gallons per square yard.

D. Prime coat, if applied, shall consist of one coat of RC-70 or RC-250 applied at the rate of not less than 0.10 gallons per square yard for limerock bases, and not less than 0.15 gallons per square yard for shell bases.

PART 3 -- EXECUTION

3.1 ASPHALTIC CONCRETE

A. Pavements, including all surface courses and base courses, shall be removed to a line back three feet from each edge of the trench, unless otherwise approved by the ENGINEER, cut straight, clean and square with a power saw or other tools and equipment suitable for the work; and in State roads, removal shall comply with the requirements set forth in the FDOT Utility Permit.

B. Street, roadway or alley pavements cut and removed in connection with trench excavations shall be replaced and restored using one of the appropriate methods described as follows:

1. For pavement repair and resurfacing within County road right-of-way, the CONTRACTOR shall excavate the previously placed and compacted backfill and temporary paving to the required depth below the road surface, and replace or restore the cut base course with a limerock base compacted to a minimum thickness of eight inches placed in two layers unless otherwise specified. Alleys shall be restored with a minimum six inch thick base course. During rolling, the base course shall be wetted as necessary to secure the greatest possible compaction. After rolling, the entire surface shall be thoroughly scarified to a depth of not less than three inches and shaped to conform to the required line and grade, then watered and rolled again. Rolling and watering shall continue until the entire depth of the base course is bonded and compacted into an unyielding mass.

a. Asphaltic Concrete repair in County road right-of-way shall comply all applicable requirements of the County.

b. If at any time the subgrade material becomes mixed with the base course materials, the CONTRACTOR shall dig out and remove the mixture, reshape and compact the subgrade and replace the materials removed with clean shell base which shall be watered and rolled until satisfactorily compacted, all at the CONTRACTORs sole expense.

c. After the base course is completed, a surface course of asphaltic concrete shall be placed in the restoration section and the thickness of the new section shall not be less than the existing surface, or one inch, whichever provides for the greatest depth. Existing surfacing of other types shall be replaced with asphaltic concrete, except rigid pavement shall be restored in kind unless otherwise directed by the ENGINEER.

d. The upper surface of the completed base course shall be compacted to an elevation to permit the full depth of the surface course to be constructed without deviation from the grade of the pavement surface. The completed surface shall match the line and grade of the existing surface. When pavement is removed to the edge of the roadway, the replaced base course shall extend at least twelve inches beyond the edge of the surfacing.

e. When the trench parallels an asphalt surfaced arterial roadway, the width of the surface replacement shall extend the full width of a traffic lane. Beyond the normal trench limits, the existing surface course shall be removed to a depth of at least one inch and replaced with the new surface course. The lane edges shall be cut straight and square with a power saw before removal of the existing surface course and the new surfacing material shall be placed to form a straight, smooth and neat joint. If the surface replacement extends into two traffic lanes, then both lanes shall be resurfaced. When surface replacement is required over the full width of a traffic lane or more, the surfacing shall conform to the requirements of Asphaltic Concrete referenced in Section 32 12 16 – Asphalt Paving.

2. For pavement repair and resurfacing within existing F.D.O.T right-of-way, the CONTRACTOR may place a flowable fill base slab in lieu of the limerock base as specified under Paragraph "1." above. The slab shall be at least eight inches thick and not less than two feet wider than the trench or excavation in order to provide a minimum bearing on undisturbed subgrade of one foot on each side of the trench. The slab shall be constructed with F.D.O.T approved flowable fill mix. The finished grade of the slab shall be two inches below the existing pavement surface. The surface course shall then be restored with a SP 9.5 asphaltic concrete surface course three inches in compacted thickness.

3. Non-surfaced streets, alleys, parking areas and driveways shall be restored with six inches of compacted base material placed in the top of the trench.

4. Pavement restoration in State roads shall conform to all requirements of the State of Florida Department of Transportation as set forth in active Utility Permits.

5. Temporary paving will be required along the entire route of the work where the original paved surface is removed, and the temporary paving shall be placed the same day the trench is backfilled. The trench shall be backfilled up to a level one inch below the existing pavement surface and a temporary cold-mixed sand/asphalt pavement shall be constructed up to the level of the existing pavement surface. The temporary pavement shall be maintained by the CONTRACTOR in a condition satisfactory to the ENGINEER until its removal and replacement, which will be made within 60 days with permanent pavement.

3.2 CONCRETE

A. Concrete sidewalks, curbs, combination curb and gutter, walks, drive ribbons, or driveways shall be removed by initially sawing the structure with a suitable power saw not more than one foot beyond the edge of the trench or excavation. When a formed joint in the concrete exists within three feet of the proposed saw cut and parallels the proposed saw cut, the removal line shall be extended to the formed joint. After sawing, the material shall be removed.

B. Concrete sidewalks, walkways, driveways, and curbs shall be restored using Class I concrete. Expansion joint materials shall conform to the requirements of ASTM-D1751.

C. Replaced portions of these items shall conform to the lines, grades and cross sections of the removed portions. Concrete sidewalks and walkways shall be four inches thick; concrete driveways and driveway ribbons shall be six inches thick. Replaced concrete curb and/or gutter shall joint neatly to the remaining sections. All concrete shall be finished to match adjacent construction and be in conformance with the requirements of the FDOT Concrete Specification

D. Rigid pavement shall be replaced in kind with Class I concrete, using high early-strength cement. The base course for rigid pavement shall be replaced with limerock base material and compacted to a thickness to match the existing base. The CONTRACTOR may place a flowable fill base course in lieu of the limerock base course.

3.3 MISCELLANEOUS ITEMS

A. Pedestrian or School Crossings: Where the pipe route crosses or interferes with school or pedestrian crossings, extreme care shall be taken by the CONTRACTOR to insure the safety of school children and other pedestrians.

B. Pavement Marking: Pavement markings removed or obliterated by the CONTRACTOR's operations shall be replaced at the CONTRACTOR's expense.

3.4 GRASS SHRUBBERY, TREES, ETC.

A. Grass and shrubbery shall be restored to the condition existing prior to making the excavation. All shrubbery, ornamental trees and other plantings shall be fully protected. If it is necessary for the CONTRACTOR to remove grass, shrubbery or plants to accomplish the work, they shall be satisfactorily replaced before the work will be accepted or paid for.

3.5 PROTECTION OF EXISTING IMPROVEMENTS

A. The CONTRACTOR is responsible for the protection of all pavements, sidewalks and other improvements within the work area. All damage done to such improvements as a result of the CONTRACTOR's operations, beyond the limits of the work of pavement replacement as described herein, shall be repaired by the CONTRACTOR at its own expense. The CONTRACTOR, for its own protection should advise the ENGINEER, in writing, of any damaged pavement or other facilities prior to working in an area where such damage exists.

3.6 CLEANUP

A. Cleanup is a part of this Contract. No payment will be made until the cleanup is complete to the satisfaction of the OWNER and the ENGINEER.

END OF SECTION

SECTION 32 10 00– BASES, BALLASTS, AND PAVING

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Furnishing all labor, materials, equipment and supplies and performing all operations for the construction of pavement under this Contract.

B. Related sections:

1. Section 31 23 33 – Trenching and Backfilling.
2. Section 32 01 18 – Pavement Repair and Resurfacing.
3. Section 32 16 13 – Curbs and Gutters.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. FDOT Standard Specifications for Road and Bridge Construction, latest edition.

1.3 QUALITY ASSURANCE

A. Quality control is the CONTRACTOR's responsibility. Make every effort to produce the best quality work as specified on the Contract Drawings and in these Specifications.

B. Obtain the services of an independent testing laboratory to perform density tests on the compacted subgrade at locations designated by the ENGINEER.

PART 2 -- PRODUCTS

2.1 BASE MATERIAL

A. Limerock meeting the requirements of Section 911 of the FDOT Standard Specifications.

2.2 PRIME AND TACK COATS

A. Supply prime and tack coats conforming to Section 300 of the FDOT Standard Specifications.

2.3 ASPHALTIC CONCRETE

A. Use materials for type S-1, modified asphaltic concrete meeting the requirements of Section 334 of the FDOT Standard Specifications.

B. Restrict oversized aggregate by scalping screens having an opening of 3/4" square. Coarse aggregate: 3/4" passing, 1/2" retained - 0% by weight. Balance the % weight of coarse aggregate by adjusting the remaining size.

2.4 CONCRETE FOR CURBS AND SIDEWALKS

A. Meet the requirements of FDOT Section 346 for Class I concrete.

2.5 EQUIPMENT

A. Use equipment suitable for the operations of pavement replacement and related work.

PART 3 -- EXECUTION

3.1 SUBGRADE STABILIZATION

A. Prepare, grade, stabilize and compact the pavement subgrade to the lines and grades as shown on the Contract Drawings.

B. Compact subgrade to not less than 98% of the maximum density as determined by AASHTO T-99. Subgraded to provide a minimum 75 psi Florida Bearing Value.

3.2 LIMEROCK BASE

A. Prepare, grade and compact all base materials to the required lines and grades in accordance with Section 200 of the FDOT Standard Specifications.

B. Compact base to not less than 98% of the maximum density per AASHTO T-180.

3.3 PRIME AND TACK COATS

A. Apply to the base a prime coat with cover material in accordance with Section 300 of the FDOT Standard Specifications.

B. If required by the ENGINEER, apply a tack coat in accordance with Section 300 of the FDOT Standard Specifications.

3.4 ASPHALTIC CONCRETE SURFACE COURSE (ACSC)

A. Construct asphaltic concrete surface course to the thickness specified.

B. Construct asphaltic concrete surface course in accordance with Sections 320 and 330 of the FDOT Standard Specifications.

3.5 CONCRETE CURBING

A. Form, place and cure concrete curbs in accordance with Section 520 of the FDOT Standard Specifications.

END OF SECTION

SECTION 32 11 29– LIME TREATED BASE COURSES

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The work specified in this Section consists of the construction of a compacted base course composed of lime treated base course (limerock). It shall be constructed upon the prepared subgrade in accordance with these specifications and in conformity with the lines and grades of the existing road to be re-constructed.

1.2 QUALITY ASSURANCE

A. Laboratory analysis shall be completed and the material accepted by the ENGINEER prior to placement.

PART 2 -- PRODUCTS

2.1 MATERIALS

A. The material used in limerock base courses shall be material classified as either Miami Oolite Formation or Ocala Formation. However, only one formation may be used on the contract.

B. Composition:

1. The limerock material shall contain not more than 0.5% of organic material or objectionable matter and shall show no tendency to air slake or undergo any chemical change under exposure to weather.

2. Limerock material shall contain not less than 60% of carbonates of calcium and magnesium. The maximum percentage of water sensitive clay material shall be 3%.

C. Gradation:

1. At least 97% by weight of the material shall pass a 3-1/2" sieve and the material shall be graded uniformly down to dust.

2. Fine material shall consist entirely of dust.

3. All crushing required to meet such size requirements shall be done before the material is placed within the right-of-way.

D. Limerock Material:

1. Limerock shall be uniform in quality and shall not contain cherty or other extremely hard pieces or lumps, balls, or pockets of sand or clay size material in sufficient quantity as to be detrimental to prevent proper bonding, finishing or strength of the limerock base.

2. Limerock shall be non-plastic and the liquid limit shall not exceed 35%.

3. Limerock shall have an average limerock bearing ratio (LBR) value not less than 100.

PART 3 -- EXECUTION

3.1 GENERAL

A. All equipment necessary for the proper construction of the work shall be used on the project and shall be in first class working condition.

B. Base shall be constructed to the full width of the existing road to be re-constructed.

3.2 PERFORMANCE

A. Limerock shall be transported to the site, over rock previously placed, and dumped on the end of the preceding spread. No hauling over the subgrade or dumping on the subgrade shall be done.

B. Spreading Limerock:

1. Limerock shall be spread uniformly, and all segregated areas of fine or coarse rock shall be removed and replaced with well-graded rock.

2. The total compacted thickness of the base shall be 8-inches. The base shall be constructed in two courses, each not more than 5-inches in compacted thickness.

3. The thickness of the first course shall be approximately one-half the total thickness of the finished base, or enough additional to bear the weight of the construction equipment without disturbing the subgrade.

C. Compacting and Finishing Base:

1. For single course base, after spreading is completed, the entire surface shall be scarified and shaped to produce the required grade and cross section after compaction.

2. For double course base, the first course shall be cleaned of foreign material, bladed and brought to a surface cross section approximately parallel to that of the finished base. Prior to spreading material for the upper course, density tests for the lower course shall be made to determine that the required compaction has been obtained. After spreading the second course, its surface shall be finished and shaped so as to produce the required grade and cross section after compaction and free of scabs and laminations.

D. Moisture Content:

1. When the material does not have the proper moisture content to insure the required density, wetting or drying will be required.

2. If the material is deficient in moisture, water shall be added and uniformly mixed in by disking base course to its full depth.

3. If the material contains excess moisture, such excess shall be reduced or removed until the required moisture content is attained before being compacted.

4. Wetting or drying operations shall involve manipulation of the entire width and depth of the base.

E. When proper conditions of moisture are attained, the material shall be compacted to a density of not less than 98% of the maximum density as determined by AASHTO Designation T 180.

F. Density Tests:

1. During final compaction, if blading is necessary to obtain the true grade and cross section, the compacting operations shall be completed prior to making the density determinations on the finished base.

2. At least three density determinations shall be made on each day's final operations on each course, and the density determinations shall be made at more frequent intervals if deemed necessary by the ENGINEER.

G. Correction of Defects:

1. If at any time the subgrade should become mixed with the base course, the CONTRACTOR shall dig out and remove the mixture, reshape and compact the subgrade, and replace the materials removed with clean base material, which shall be shaped and compacted as specified above.

2. If cracks appear in the base either before or after priming which in the opinion of the ENGINEER would impair the structural integrity of the base course, the CONTRACTOR shall remove such cracks by re-scarifying, re-shaping, adding base material where necessary, and re-compacting.

H. The finished surface of the base course shall be checked with a template cut to required crown and cross section and with a 10-foot straight-edge laid parallel to the centerline of the road.

I. All irregularities greater than 1/4" shall be corrected by scarifying and removing or adding limerock as required, after which the entire area shall be re-compacted as specified above.

J. Thickness Determinations:

1. The thickness of the compacted base shall be measured at intervals of not more than 200 feet. Measurements shall be taken at various points on the cross sections prior to the application of the prime coat.

2. Measurements shall be taken in holes through the base of not less than 3" in diameter.

3. Where the compacted base is deficient by more than 1/2" from the thickness specified, the CONTRACTOR shall correct such areas by scarifying and adding limerock. The base shall be scarified and rock added for a distance of 100 feet in each

direction from the edge of the deficient area. The affected areas shall then be brought to the required state of compaction and to the required thickness and cross section.

K. Priming and Maintaining:

1. The prime coat shall be applied only when the base meets the specified density requirements and the moisture content in the top half of the base does not exceed 90% of the optimum moisture content of the base material. At the time of priming, the base shall be firm and unyielding.

2. The CONTRACTOR is responsible for assuring that the true crown and grade are maintained with no rutting or other distortion, and that the base meets all the requirements at the time the surface course is applied.

END OF SECTION

SECTION 32 12 16– ASPHALT PAVING

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The work to be performed shall include the furnishing of all materials, equipment and labor required to construct an asphalt pavement as herein described and as shown on the Contract Drawings. The asphalt pavement shall be any surface that is composed of a limerock base course and an asphaltic concrete surface course. The CONTRACTOR shall perform all subgrade preparation required for the construction of this asphalt pavement. The work shall be in accordance with these Specifications and shall conform to the dimensions, lines, grades and cross sections shown on the Contract Drawings.

B. Related sections:

1. Section 31 23 00 – Excavation and Fill.
2. Section 31 22 13 – Rough Grading.
3. Section 31 23 33 – Trenching and Backfilling.
4. Section 32 16 33 – Driveways.
5. Section 32 01 18 – Pavement Repair and Resurfacing

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Florida Department of Transportation (F.D.O.T.):

1. F.D.O.T. Standard Specifications for Road and Bridge Construction (latest edition).

B. American Association of State Highway and Transportation Officials (AASHTO):

1. AASHTO T-99 The Moisture-Density Relations of Soils Using a 5.5-lb (2.5 kg) Rammer and a 12-inch (305 mm) Drop.
2. AASHTO T-180 The Moisture-Density Relations of Soils Using a 10-lb (4.54 kg) Rammer and an 18-inch (457 mm) Drop.

C. Palm Beach County Engineering Design Specifications and Drafting Standards.

1.3 TESTING AND INSPECTION

A. Testing and inspection of asphalt pavement mixes and testing of placed stabilized base course and asphalt pavement will be performed by an independent testing laboratory as required in accordance with these specifications. Testing and inspection will be performed so as to minimize disruption of the work.

B. Furnish the testing laboratory with access to the mixing plant for verification of weights or proportions, character of materials used and determination of temperatures used in the preparation of asphalt concrete mix.

C. The testing laboratory will perform laboratory tests on proposed asphalt pavement mixes to determine conformity with these requirements.

D. When stabilized base course or portions thereof have been placed and compacted in accordance with the requirements of these Specifications, notify the testing laboratory to perform density tests. Do not place asphalt until results have been verified and base course installation has been approved by the ENGINEER.

E. If compaction tests indicate that stabilized base course or asphalt pavement do not meet specified requirements, remove the defective work and replace it with acceptable work that has been retested, all at the CONTRACTOR's sole expense.

1.4 QUALITY ASSURANCE

A. Quality control is the CONTRACTOR's responsibility. The CONTRACTOR shall make every effort to produce the best quality of work as specified on the Contract Drawings and in these Specifications.

B. The CONTRACTOR shall retain the services of an independent testing laboratory to perform tests at locations designated by the ENGINEER.

PART 2 -- PRODUCTS

2.1 LIMEROCK

A. Limerock shall comply with F.D.O.T. Standard Specifications Section 911 "Base and Stabilized Base Materials". The limerock shall come from a source previously approved by F.D.O.T.

2.2 PRIME COAT

A. Bituminous material used shall be in accordance with F.D.O.T. Section 300-2.1., "Prime Coat" as approved by the ENGINEER or as shown on the Contract Drawings. The temperature of the material shall be between 100 and 150 degrees Fahrenheit, the exact temperature being that which will ensure uniform distribution.

2.3 TACK COAT

A. Tack coat shall conform to F.D.O.T. Section 300-2.3, "Tack Coat".

2.4 ASPHALTIC CONCRETE

A. Asphaltic concrete surface course shall consist of asphaltic concrete Type S-1 or S-III, conforming to Section 334 of the F.D.O.T. "Standard Specifications for Road and Bridge Construction".

B. Restrict oversized aggregate by scalping screens having an opening of 3/4-inch square. Coarse aggregate: 3/4-inch passing, 1/2-inch retained - 0% by weight. Balance the % weight of coarse aggregate by adjusting the remaining size.

2.5 EQUIPMENT

A. Use equipment suitable for the operations of pavement placement and related work.

2.6 QUALITY CONTROL

PART 3 -- EXECUTION

3.1 GENERAL

A. The top of all fills shall be shaped to conform to the grades, lines and cross-sections shown on the plans. The entire area where any layer of limerock base is to be constructed shall be thoroughly compacted by rolling with a power roller weighing not less than 5 tons. If necessary to ensure thorough compaction, water shall be used. The top twelve inches of the subgrade shall be stabilized to an LBR of 40 and compacted to an average density of 100% of the maximum density as determined by AASHTO T-99 (Standard Proctor). The subgrade, prepared as specified, shall be maintained by the CONTRACTOR free from ruts, depressions or other irregularities until the rock base material is spread. A completed subgrade equal to the length of rock base to be constructed on the next day shall be maintained at all times.

3.2 SUBGRADE

A. Prepare, grade, stabilize and compact subgrade to the lines and grades shown on the Contract Drawings.

B. Compact subgrade to not less than 98% of the maximum density as determined by AASHTO T-99. Subgrade shall provide not less than 75 psi Florida Bearing Value.

3.3 LIMEROCK

A. Transporting Limerock: Limerock shall be transported to the point of use, over rock previously placed, if practicable, and dumped on the end of the preceding spread. In no case shall rock be dumped directly on the subgrade.

B. Spreading Limerock: Limerock shall be spread uniformly and graded using equipment suitable for such purpose and subject to approval by the ENGINEER. All segregated areas of fine or coarse rock shall be removed and replaced with well graded rock. The limerock base shall be spread and compacted in three equal layers.

C. Shaping Right-of-Way: The complete right-of-way cross section shown by the Contract Drawings shall be rough graded after the rock has been spread. All work shall be in accordance with Section 200 of F.D.O.T. Standard Specifications.

D. Finishing the Limerock:

1. Equipment: Equipment to be used shall include a self-propelled blade grader weighing not less than 3 tons, with a wheel base not less than fifteen feet and a blade length not less than ten feet; scarifiers shall have teeth space not to exceed 4-1/2 inches apart; at least one three-wheel roller weighing not less than 10 tons; provisions for furnishing water at the site by tank truck or hose at a rate not less than 50 gallons per minute.

2. Compacting Base: After spreading is completed, the entire surface shall be scarified and shaped so as to produce the exact grade and cross section after compaction. The full depth of base shall be compacted to an average density of 98% of maximum density as determined by AAASHO T-180 (Modified Proctor). Where the base is constructed in two courses, the bottom course need only be bladed to secure a uniform thickness.

3. Finishing Base: The finished surface of the rock base shall be true to the required cross section throughout. Any irregularities in the grade greater than 1/4-inch, as determined by placing a ten foot straight edge parallel with the centerline, shall be corrected by scarifying to a depth of three inches, removing or adding rock as may be required and again watering, rolling and compacting the scarified area.

3.4 PRIMING

A. Preparation of Surface: Before any bituminous material is applied, all loose material, dust, dirt and other foreign matter which might prevent proper bonding shall be removed from the base for the full width of application. The surface to be primed shall have the glazed finish removed by "hard-planing" prior to the application.

B. Application: Apply prime coat in accordance with Section 300 of the D.O.T. Standard Specifications. The surface to be primed shall be clean and dry. No bituminous material shall be applied when the ambient temperature of the air is less than 40 degrees Fahrenheit in the shade, or when the weather conditions or the condition of the existing surface is unsuitable. The rate of application shall be not less than 0.1 gallon per square yard, and shall be sufficient to coat the surface thoroughly and uniformly without having any excess to puddle on or flow off the base. Application shall be by self-propelled pressure distributor, operating under a pressure not less than 20 pounds per square inch.

C. Sanding: A uniform application of clean sand shall be applied prior to opening the prime base to traffic, in which case the sand shall be rolled with a traffic roller in conjunction with traffic to cure the prime coat. The sand to be used shall be free of silt, rock particles, sticks, trash, vegetation or other deleterious materials.

3.5 TACK COAT

A. Tack coat shall be applied if a primed surface is determined to be unsuitable to receive the surface course without tacking. Apply the tack coat in accordance with Section 300 of the F.D.O.T. Standard Specifications. Existing asphalt pavement that is to be resurfaced shall also receive a tack coat. A tack coat shall be applied in between the one inch course of a two inch asphaltic concrete course as shown on the Contract Drawings.

3.6 ASPHALTIC CONCRETE

A. Transporting Asphaltic Concrete: Asphaltic concrete mixture shall be transported in tight vehicles previously cleaned of all foreign material and each load shall be covered with a waterproof canvas cover of sufficient size to protect it from weather conditions. The inside surface of the truck body may be thinly coated with soapy water, or a mixture of water with not more than 10% of lubricating oil. After coating the bodies, they shall be raised so that all excess water will drain out before placing any mixture therein. Kerosene, gasoline or similar products shall not be used.

B. Placing Asphaltic Concrete:

1. Machine Spreading: Upon arrival, the mixture shall be dumped into an approved mechanical spreader and immediately spread and struck off to the full width required and to such appropriate loose depth that when work is completed, the specified thickness will be secured. An excess amount of mixture shall be carried ahead of the screed at all times. Hand raking shall be done behind the machine as required.

2. Hand Spreading: In limited areas where, on account of irregularities or unavoidable obstacles, the use of mechanical spreading and finishing equipment is impracticable, the mixture may be spread by hand.

    a. When hand spreading is authorized, upon arrival the mixture shall be dumped on approved steel dump sheets outside of the area on which it is to be spread and shall then be immediately distributed into place by means of suitable shovels and other tools and spread with rakes in a uniformly loose layer of such depth as shown templet cut to proper crown as will result in a complete course having the thickness required. Any deviation from standard crown or section shall be immediately remedied by placing additional material or removing surplus as directed. The ENGINEER may direct other means of placing the material in addition to the use of rakes, to insure a better control of the depth of material and the surface finish.

    b. During spreading and raking, the workmen shall avoid standing or walking on the mixture to the greatest extent possible, and where this is not possible, the mixture walked upon shall be re-raked and combed to the full depth.

3. General: The mixture shall be laid in accordance with Sections 320 and 330 of the F.D.O.T. Standard Specifications and only when the surface to be covered is dry. No mixture shall be laid when weather conditions are unsuitable or when the ambient air temperature in the shade is below 40 degrees Fahrenheit, except by written permission of the ENGINEER. All defective areas in the foundation shall be replaced as directed at least ten days in advance of laying the mixture.

    a. Any mixture caught in transit by a sudden rain may be laid at the CONTRACTOR's risk, if the surface to be covered is determined by the ENGINEER to be in a suitable condition. In no case shall the mixture be laid while rain is falling or when there is water on the surface to be covered. If, in the opinion of the ENGINEER, the CONTRACTOR made no effort to anticipate the rain and have only a minimum of mixture caught in transit, then no material caught in the rain shall be used.

    b. The temperature of the mixture at the time of spreading shall be within 25 degrees Fahrenheit of the temperature set by the ENGINEER for this stage of the operations, such temperatures to be set between 250 and 340 degrees Fahrenheit.

    c. Before rolling is started, the finished surface shall be checked, any inequalities adjusted, and all drippings, sandy accumulations from the screed, and all fat spots from any source shall be removed and replaced with satisfactory material.

d. Straight edging and back-patching shall be done after initial compaction has been obtained and while the material is still hot.

e. No skin patching shall be done. When a depression is to be corrected while the mixture is hot, the surface shall be well scarified before the addition of fresh mixture. If irregularities occur greater than the limits specified herein, and are not corrected while the mixture is still hot, the irregularities shall be cut out the full depth of the layer and replaced with fresh mixture.

4. Compacting Mixture: After spreading as specified above, the mixture shall be rolled when it has set sufficiently or come to the proper condition to be rolled, and when the rolling does not cause undue displacement or shoving.

a. The motion of the roller shall at all times be slow enough to avoid displacement of the mixture and any displacements shall at once be corrected by the use of rakes and fresh mixture where required. To prevent adhesion of the mixture to the roller, the wheels shall be kept properly moistened, but an excess of water shall not be used. In all places inaccessible to a roller, the required compaction shall be secured with tamps. Depressions which may develop before the completion of the rolling shall be remedied by loosening the mixture laid and adding new material to bring such depressions to a true surface.

b. Should any depressions remain after final compaction has been obtained, the mixture shall be removed sufficiently and new material added to form a true and even surface. All high spots, high joints, and honeycombs shall be adjusted as directed by the ENGINEER.

c. After compaction, the surface shall not show an excess of asphalt, and any spot showing such excess or other defect, shall be cut out and replaced with fresh mixture and immediately compacted to conform with the surrounding area. Any mixture which becomes loose or broken, mixed or coated with dirt, or in any way defective prior to laying the wearing course shall be removed and replaced with fresh mixture which shall be immediately compacted to conform with the surrounding area. The density of the compacted surface course shall not be less than 95% of the laboratory-compacted density of the surface course mixture.

d. Gasoline or oil from rollers shall not be allowed to deposit on the pavement and all places damaged by such deposits shall be removed and replaced as directed by the ENGINEER.

e. Any mixture remaining un-bonded after rolling shall be removed and replaced.

3.7 FIELD QUALITY CONTROL

A. A. Surface Requirements: The finished surface shall be uniform and conform to the lines and grades as shown on the Contract Drawings. Depressions greater than 1/4-inch under a 16 foot straightedge which develop after the initial rolling shall be remedied by loosening or removing the mixture laid and adding new material to bring the depression to a true surface.

B. Protection of Pavement: After the completion of the pavement, no vehicular traffic shall be permitted on the pavement until it has set sufficiently to prevent detriment therefrom

END OF SECTION

SECTION 32 16 13– CURBS AND GUTTERS

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The work to be performed includes the installation of all concrete curb and/or valley gutter removed and/or damaged during the course of construction of the work.

B. The CONTRACTOR shall exercise reasonable care in removing curb and gutter and shall dispose of all removed materials appropriately.

C. If any portion of concrete curb and/or gutter is damaged or cut, the entire length of curb and/or gutter must be replaced. No patching of existing curb or gutter will be allowed.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Florida Department of Transportation (F.D.O.T.) Standard Specifications for Road and Bridge Construction, Section 346, "Portland Cement Concrete".

PART 2 -- PRODUCTS

2.1 GENERAL EQUIPMENT REQUIREMENTS

A. The concrete used shall be Class I (3,000 psi in 28 days) in accordance with F.D.O.T. Standard Specification Section 346.

PART 3 -- EXECUTION

3.1 GENERAL

A. The curb face shall be equal to the face of the adjacent undisturbed curb, and the type (i.e., stand up curb or gutter curb) shall be replaced in kind to a condition equal to or better than that which existed previously. Curb that is broken or cracked during construction operations shall be removed and disposed of by the CONTRACTOR at his own expense

END OF SECTION

SECTION 32 16 23 – SIDEWALKS

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The work to be performed shall include the installation of concrete sidewalk that has been removed or damaged during the course of construction of the work. The sidewalk shall be replaced to the same width as the original sidewalk that was removed.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Florida Department of Transportation (F.D.O.T.) Standard Specifications for Road and Bridge Construction, Section 346, "Portland Cement Concrete".

B. Palm Beach County Standards for sidewalk construction.

PART 2 -- PRODUCTS

2.1 ACCEPTABLE MATERIALS

A. The concrete used shall be Class I (3,000 psi in 28 days) in accordance with F.D.O.T. Standard Specification Section 346.

PART 3 -- EXECUTION

3.1 GENERAL

A. The Contractor shall exercise reasonable care in removing sidewalks and shall dispose of removed materials appropriately.

B. All materials, labor, forms, tools and equipment for restoration of the sidewalk shall be supplied by the Contractor. All disturbed sidewalk shall be replaced with four inch (4") thick 3,000 psi concrete (6" thick at driveways and within major road right-of-way) to the widths required.

C. The sidewalk finish shall match as near as possible the original finish.

D. Sidewalk broken or cracked as a result of the construction operations shall be removed and disposed of by the Contractor at his own expense.

END OF SECTION

SECTION 32 16 33– DRIVEWAYS

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Driveways Within County Road Right-of-Way:

1. All residential and commercial driveways within County road right-of-way that are paved with concrete or asphalt and cut by the construction shall have a minimum of 8-inches of limerock base.

2. The thickness of the base from the property back and in all easements shall be equal to the thickness of the original base.

3. The base course for asphalt driveways shall be compacted to a minimum of 98% of the maximum density as determined by AASHTO Method T-180.

4. Limerock for pavement base shall conform to the FDOT Standard Specifications.

5. The substitution of shell will not be permitted where the existing base material is limerock.

6. The cost of all asphalt, concrete or other driveway material replacements, and other removals and replacements, shall be included in the cost of the various applicable items of Work, unless a separate bid item is provided.

B. Driveways Within State and Federal Road Right-of-Way:

1. All residential and commercial driveways within State and Federal road right-of-way that are paved with concrete or asphalt and cut by the construction shall have a minimum of 6-inches of flowable fill base.

2. The thickness of the base from the property back and in all easements shall be equal to the thickness of the original base.

3. The flowable fill base course for asphalt driveways shall be permitted to compact and harden to the minimum F.D.O.T. specifications.

4. Flowable fill for pavement base shall conform to the FDOT Standard Specifications and requirements.

5. The cost of all asphalt, concrete or other driveway material replacements, and other removals and replacements, shall be included in the cost of the various applicable items of Work, unless a separate bid item is provided.

PART 2 -- PRODUCTS

2.1 ASPHALT DRIVEWAYS

A. The wearing surface for asphalt residential and commercial driveways within County right-of-way shall be 1-3/4 inches of Type II asphalt.

B. The wearing surface for asphalt driveway turnouts within FDOT right-of-way shall be 2-inches of Type S-1 asphalt.

2.2 CONCRETE

A. Concrete for driveways shall be 3,000 psi.

B. The concrete shall be a minimum of 4-inches thick from the property line back and 6-inches thick from the property line to the edge of pavement.

C. The concrete driveway replacement shall be no less than the thickness removed, but not less than that specified above. Concrete shall be cut with a saw.

2.3 OTHER REMOVALS

A. All driveways other than asphalt or concrete within County right-of-way shall be restored with a minimum depth of 8-inches of shell or limerock base.

B. Driveway surface course shall be replaced with like materials.

C. Road shoulders and alleys of shell, limerock, stabilized soil or gravel, where disturbed, shall be restored with like materials as removed. There shall be no mixing of unlike materials. The disturbed area shall be replaced with the appropriate materials to a minimum depth to restore it to a condition equal to or better than conditions existing prior to beginning work.

D. Roadways other than paved streets where disturbed shall be replaced with like materials to a minimum compacted thickness of 8-inches. There shall be no mixing of unlike materials. These roadways shall be compacted to a minimum of 98% of the maximum density as determined by AASHTO Method T-180.

PART 3 -- EXECUTION

3.1 STABILIZED SHOULDER RESTORATION

A. Provide a stabilized shoulder to a thickness and width indicated on the Contract Drawings and having a minimum bearing value of 50 psi Florida Bearing Value.

B. Stabilizing shall be Type C Stabilization as defined in the FDOT Standard Specifications.

C. Compaction shall be by rolling with a combination of steel wheel and rubber tire rollers until a minimum density of 98% of the maximum density is reached as tested under AASHTO T-180.

D. Compaction and finishing shall be in accordance with the FDOT Standard Specifications.

3.2 SWALES AND DRAINAGE DITCHES

A. The right-of-way shall be left in as good or better condition than prior to construction.

B. The finished excavated area shall be replaced with the same material as existed when work began.

C. Where swales, shoulders and ditches are disturbed, they shall be stabilized in a manner that will afford protection against erosion.

D. Existing elevations on all drainage ditches and culverts affected by this construction must be measured prior to construction.

E. As-built elevations shall be submitted upon completion of this construction.

END OF SECTION

SECTION 32 17 23– PAVEMENT MARKINGS

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Provide all pavement stripping, traffic signs, and parking stall wheel stops as indicated on the Contract Drawings or specified herein, and as required for a complete installation.

1.2 CONTRACTOR SUBMITTALS

A. The CONTRACTOR shall submit shop drawings and other information to the ENGINEER for review in accordance with Section 01 33 00 – Submittal Procedures.

1.3 QUALTIY CONTROL

A. The phrase "DOT Specifications" shall refer to the Florida Department of Transportation Standard Specifications for Road and Bridge Construction. The DOT Specifications, are referred to herein and are hereby made a part of this Contract to the extent of such references, and shall be as binding upon the CONTRACTOR as though reproduced herein in their entirety.

1.4 CERTIFICATIONS

A. The CONTRACTOR shall furnish the manufacturer's certification that all signs furnished conform to these Specifications and shall replace or repair at its expense all signs that fail to meet this requirement.

PART 2 -- PRODUCTS

2.1 PAVEMENT MARKING

A. Paint for pavement strips shall be Sherwin-Williams or Tnemec traffic paint or approved equal.

2.2 PARKING STALL WHEEL STOPS

A. Parking stall wheel stops shall be precast concrete units painted with lettering or numbers as designated by the ENGINEER.

2.3 REFLECTIVE MARKERS

A. Reflective markers shall be installed in the pavement in accordance with OSHA, DOT and County requirements.

2.4 TRAFFIC SIGN

A. General

1. Traffic regulating signs shall conform to the colors, dimensions and requirements of the Manual on Uniform Traffic Control Devices (MUTCD) and displaying the lettering and symbols indicated on the Contract Drawings.

B. Sign Panels and Support members:

1. Sign panels and support members shall conform to Aluminum Association Alloy 6061-T6.

C. Bolts;

1. Bolts shall conform to Aluminum Association Alloy 2024-T4 with an anodic coating 0.0002-inches thick minimum and chromate sealed.

D. Nuts:

1. Nuts shall conform to Aluminum Association Alloy 6269-T9.

E. Reflective Sheeting:

1. Reflective sheeting shall conform to DOT Type "A" requirements.

F. Construction Warning Signs:

1. The CONTRACTOR shall install traffic and warning signs during construction in accordance with OSHA, DOT and County requirements.

PART 3 -- EXECUTION

3.1 FABRICATION

A. Preparation of sign blanks and fabrication of reflectorized faces shall conform to the applicable requirements of DOT Sections 700-4 and 700-5.

3.2 INSTALLATION

A. Signs and supports shall be erected in accordance with the details shown on the Contract Drawings and as specified herein.

END OF SECTION

SECTION 32 31 13– CHAIN LINK FENCES AND GATES

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The CONTRACTOR shall furnish and install vinyl coated chain link fencing and gates as shown and specified including all appurtenant work, complete, all in accordance with the requirements of the Contract Documents.

1.2 CONTRACTOR SUBMITTALS

A. Shop drawings of gates and typical fence and fence corner post construction shall be submitted prior to fabrication according to the provisions of Section 01 33 00 - Submittal Procedures.

PART 2 -- PRODUCTS

2.1 GENERAL EQUIPMENT REQUIREMENTS

A. Fencing shall be six feet high unless otherwise shown. All fencing materials, including gates, shall be hot-dip galvanized and vinyl-coated after fabrication. All materials and components shall be new, first quality items specifically manufactured for the intended application.

2.2 MATERIAL

A. Fence fabric shall be No. 9 gage galvanized steel wire, 2-inch mesh. The fabric shall have a knuckled finish on the top edge and a twisted and barbed finish on the bottom edge. Galvanized wire shall be black vinyl coated unless specified otherwise on the drawings.

B. Fabric ties shall be No. 9 galvanized steel wire, spaced 14 inches apart on posts and 24 inches apart on rails. Aluminum ties will not be permitted. A continuous No. 7 gage galvanized steel wire shall be interlaced with the fabric or attached to the fabric with clips along the extreme bottom of the fence.

C. All posts shall be one-piece without circumferential welds, and shall be as follows:

1. Line posts shall be 2-inch Schedule 40 pipe, 3.65 lb./ft.

2. End and corner posts shall be 2-1/2-inch Schedule 40 pipe, 5.79 lb./ft.

3. Gate posts shall be 3-1/2-inch Schedule 40 pipe, 9.1 lb/ft.

D. Top rail and braces shall be 1-1/4-inch Schedule 40 pipe, 2.27 lb./ft.

E. Stretcher bars shall be 1/4-inch by 3/4-inch steel bars and steel bands for fastening stretcher bars to the posts shall be 1/8-inch by 3/4-inch.

F. Nuts, bolts and screws shall be of steel, hot-dipped galvanized after fabrication, minimum size 3/8-inch diameter.

G. Swing gate frames shall be constructed of pipe at least as heavy as the top rails for the fence and shall be fabricated by welding with all welds ground smooth prior to hot-dip galvanizing and black vinyl coating. Each gate leaf shall be provided with at least one diagonal brace. Frames shall be galvanized after fabrication. Galvanized malleable iron fittings for latching the gate shall be provided. Swing gates shall be hung by at least two steel or malleable iron hinges not less than 3 inches in width. Fabric shall match the fabric used in the fence. Each pair of gates shall be provided with a heavy drop rod latch assembly with a locking device for a padlock.

H. Concrete shall have a minimum compressive strength of 2,000 psi at 28 days.

2.3 VINYL-COATED FENCE

A. Vinyl fabric, posts, and accessories shall meet Federal Specification RR-F-f191/GEN.

B. Vinyl coated posts, rails, and gates shall be Schedule 40 or SS40 construction.

C. Fence fabric, posts, and accessories shall be polyvinylchloride (PVC) coated over 2.9 zinc coated steel or polyvinylchloride (PVC) coated over aluminum high tensile steel wire.

D. Fabric: Mesh shall be 2-inch gauge specified.

E. PVC coated wire shall be uniform color and capable of being woven into fabric without the PVC coating cracking, crazing or peeling.

F. PVC coating shall not shrink more than 1/16-inch per foot of length, demonstrate a significant visual change in color or gloss, or exhibit breaks, cracks, crazing, crumbling, or other visual forms of failure.

2.4 VINYL FENCE FABRIC

A. All vinyl fence fabric shall be applied in a manner that results in a fused and bonded adherence.

B. Fabric, posts, rails, and accessories shall be black in color.

C. Vinyl fence fabric shall meet the following specifications:

	Core Inches 0.005	Finish Wire Gauge	Minimum PVC Thickness (in.)	Minimum Breaking Strength
Zinc Coated Steel	0.148	9	0.006	1,290
Aluminum Coated Steel	0.130	9	0.006	1,290

D. Accessories and hardware are to include latches, hinges, stops, and keepers and shall be vinyl coated over zinc-coated steel or aluminum-coated steel in conformance with the materials being used to accomplish the installation.

E. Gates shall include all applicable accessories to provide a fully functional installation.

F. Gate frames shall be constructed from applicable materials Schedule 40 or SS40.

PART 3 -- EXECUTION

3.1 INSTALLATION

A. All earth, brush, or other obstructions which interfere with the proper alignment of construction of fences shall be removed and disposed of at the expense of the CONTRACTOR.

B. Line posts shall be spaced at not more than 10-foot intervals, measured from center to center of the posts and generally parallel to the ground slope. Posts shall be set plumb and shall be centered in 12-inch diameter concrete encasement extending 36 inches into the ground.

C. Gate post shall be provided with concrete foundation.

D. Changes in the fence lines, where the horizontal angle is 15 degrees or more, shall be considered as corners and corner posts shall be installed.

1. Bracing shall be provided at all end, gate, and corner posts, the latter in both directions. Horizontal brace rails shall be set midway between top rail and ground running from the corner, end, or gate post to first line post. Diagonal tension members shall connect tautly between posts below horizontal braces.

2. Corner posts shall be installed in lieu of line posts at intervals not exceeding 500 feet and shall be braced horizontally in both directions.

3. The chain-link fabric shall be fastened on the side of the posts as shown or as designated by the ENGINEER. The fabric shall be stretched and securely fastened to the posts, and, between the posts, the top and bottom edges of the fabric shall be fastened to the top rail and tension wire, respectively. The tension wires shall be stretched tight with turnbuckles at the end and corner posts. The bottom tension wire shall be installed on a straight grade between posts.

4. The fabric shall be fastened to the end, corner, and gate posts with stretcher bars and stretcher bar bands spaced at approximately 14 inches on line posts and at approximately 18 inches on tension wires.

5. Encasement concrete for footings shall be placed immediately after mixing in a manner such that there will be no concentration of the large aggregates. The concrete shall be consolidated by tamping or vibrating in an approved manner. Concrete for footings may be placed without forms, providing the ground is firm enough to permit excavation to neat line dimensions. Prior to placing the concrete, the earth around the hole shall be thoroughly moistened. The concrete shall completely fill the hole and top surfaces of the concrete encasement shall be sloped outward to shed water and shall have a neat appearance. Not less than 7 days shall elapse after placing the concrete footings before the fence fabric is fastened to the posts.

6. Any galvanized coating damaged during construction of the fencing shall be repaired by application of molten **Galvo-Weld; Galvinox**; or approved equal.

E. Any black vinyl coating damaged during construction of the fencing shall be repaired to a condition acceptable to the OWNER.

END OF SECTION

SECTION 32 90 00– PLANTING

GENERAL

1.1 THE SUMMARY

A. The CONTRACTOR shall perform all the landscaping and all appurtenant work, complete, in accordance with the requirements of the Contract Documents.

B. Scope of Work: Landscaping as referred to herein shall include, but not be limited to the following WORK: soil preparation, weed control, installation of headers, finish grading, furnishing and installing plant materials, tree staking and tying, cleanup, maintenance, guarantee.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. **Codes:** All codes, as referenced herein, are specified in Section 01 42 19 – Reference Standards.

B. **Federal Specifications:**

1. FS O-F-241D Fertilizer, Mixed, Commercial.

2. FS Q-P-166E Peat, Moss; Peat, Humus; And Peat, Reed Sedge.

C. **Commercial Standards:**

1. ANSI/ASTM D 422 Method for Particle-Size Analysis of Soils.

2. ANSI Z60.1 Nursery Stock.

3. American Association of Nurserymen, Inc.: Rules and Grading Provisions

D. Grades and Standards for Florida Department of Agriculture and Consumer Nursery Plants Services

1.3 PLANT MATERIALS

A. Quality: Trees, palms, shrubs, and other plants shall conform to the standards for Florida Fancy or better as given in the latest edition of Grades and Standards for Nursery Plants, State Plant Board of Florida.

B. Deciduous Trees: Provide trees of height and caliper listed or shown and with branching configuration for Florida Fancy or better as given in the latest edition of Grades and Standards for Nursery Plants for types and species required. Provide single stem trees except where special forms are shown or listed. Call condition variable.

C. Coniferous and Broadleafed Evergreens: Provide evergreens of sizes shown or listed. Dimensions indicate minimum height and spread. Provide specialized quality evergreens with well-balanced form complying with requirements for other size relationships to the primary dimension shown.

D. Existing on-site plant material to be relocated will be tagged by the ENGINEER.

1.4 CONTRACTOR SUBMITTALS

A. **General:** The CONTRACTOR shall furnish a certificate with each delivery or bulk material delivery, stating source, quantity, and type of material. All materials shall conform to specification requirements. All certificates shall be delivered to the ENGINEER at time of each delivery. All bulk delivered materials shall be delivered with level load volume plainly marked on the truck bed.

1.5 QUALITY ASSURANCE

A. General: All plants furnished by the CONTRACTOR shall be true to type or name as shown in the Contract Documents and shall be tagged in accordance with the standard practice recommended by the Agricultural Code of the State of California; however, determination of plant species or variety will be made by the ENGINEER.

B. All plants shall comply with Federal and State laws requiring inspection for plant diseases and infestations. Inspection certificates required by law shall accompany each shipment of plants, and certificates shall be delivered to the ENGINEER.

C. All inspections herein specified will be made by the ENGINEER or its representative. The CONTRACTOR shall request inspection at least 24 hours in advance of the time inspection is required. Inspection will be required on the following stages of the WORK:

1. During preliminary grading, soil preparation, and initial weeding.

2. When trees are spotted for planting, but before planting holes have been excavated.

3. When finish grading has been completed.

4. When all specified work, except the maintenance period has been completed.

5. Final inspection at the completion of the maintenance period.

D. Plants shall be subject to inspection and approval or rejection by the ENGINEER at place of growth and upon delivery to the site at any time before or during progress of the WORK based on.

1. Quantity, quality, size, and variety;

2. Ball and root condition; and

3. Latent defects and injuries resulting from handling, disease, and insects.

E. Plants approved at pre-planting inspection shall still be subject to rejection during planting if found to be below specifications.

F. Rejected plants shall be identified in an obvious manner, removed from the site and replaced with acceptable equals.

G. Plants shall have been grown in nurseries which have been inspected by the governing authorities. Inspection of plant materials required by City, County, State, or Federal authorities shall be the responsibility of the CONTRACTOR, who shall have secured permits or certificates prior to delivery of plants to site.

1.6 CLEANUP

A. Upon completion of all planting operations, the portion of the project site used for a work or storage area by the CONTRACTOR shall be cleaned of all debris, superfluous materials, and equipment. All such materials and equipment shall be entirely removed from the project site as specified in Section 01 77 00 – Closeout Procedures.

B. All walks or pavement shall be swept or washed clean upon completion of the WORK of this section.

C. During the entire contract period, plant containers that have been cut or removed from plant materials shall be removed from the project site daily, in accordance with the provisions for maintenance and guarantee as specified in Section 01 77 00 – Closeout Procedures.

D. **General:** The CONTRACTOR shall be responsible for protecting, watering, and maintaining all planting and irrigation systems until final acceptance of all WORK under the contract.

1. Warrant lawns through specified maintenance period, and until final acceptance. The required period is one full year following installation of lawn areas.

2. Warrant trees for a period of one year after date of substantial completion against defects including death and unsatisfactory growth, except for defects resulting from neglect by OWNER, abuse or damage by others, or unusual phenomena or incidents which are beyond the CONTRACTOR's control.

3. Warrant shrubs for one full year after date of substantial completion.

4. Remove and replace trees, shrubs, or other plants found to be dead or in unhealthy condition during warranty period. Make replacements during growth season following end of warranty period. Replace trees and shrubs which are in doubtful condition at end of warranty period; unless, in opinion of the ENGINEER, it is advisable to extend warranty period for a full growing season.

    a. Another inspection will be conducted at end of extended warranty period, to determine acceptance or rejection. Only one replacement will be required at end of warranty period, except for losses or replacement due to failure to comply with specified requirements.

E. At time of acceptance of the complete project, the lawn shall be totally established with no bare spots, mowed a minimum of 4 times, and the grass shall be at least 1-1/4 to 2 inches in height.

F. **Watering:** Trees and shrubs shall be thoroughly soaked after planting and provided with additional water at intervals as necessary to provide for good health and growth of the planting.

G. Upon completion of lawn seeding, the entire area shall be soaked to saturation by a fine spray. The new planting shall be kept watered by the sprinkling system existing on the site during dry weather or whenever necessary for proper establishment of the lawn. Care shall be taken to avoid excessive washing or puddling on the surface and any such damage caused thereby shall be repaired by the CONTRACTOR at its own expense.

H. **Protection:** The CONTRACTOR shall provide adequate protection to all newly seeded areas including the installation of approved temporary fences to prevent trespassing and damage, as well as erosion control, until the end of the one-year correction period.

I. The CONTRACTOR shall replace any materials or equipment it has damaged or which has been damaged by its employees or subcontractors.

J. Partial utilization of the project shall not relieve the CONTRACTOR of any of the requirements contained in the Contract Documents.

K. **Mowing of Lawn Areas:** First mowing of lawn areas shall begin as soon as the grass has reached a height of 3 inches and subsequent mowing shall be at least once a week, or as often as necessary to maintain all lawn areas at a uniform height of 1-1/2 to 2 inches.

L. For lawns, provide fertilizer with not less than 6 percent phosphoric acid, and 6 percent potassium, and percentage of nitrogen required to provide not less than 1 pound of actual nitrogen per 1,000 square feet of lawn area. Provide nitrogen in a form that will be available to lawn during initial period of growth.

M. Plants shall be maintained in a vigorous, thriving condition by watering, cultivating, weeding, pruning, spraying, and other operations necessary. No trees or shrubs will be accepted unless they are healthy and show satisfactory foliage conditions.

N. All planted areas shall be cultivated at least every 2 weeks and raked smooth, to present a neat appearance, and additional mulch shall be added where necessary.

O. Maintenance shall include, in addition to the foregoing, cleaning, edging, repairs to stakes, wire, and wrappings, the repair of erosion, and all other necessary work of maintenance. Sidewalks and other paved areas shall be kept clean while planting and maintenance are in progress.

P. Any and all sprinkler lines broken or disrupted during this construction shall be replaced to proper working order prior to contract WORK and be acceptable to the OWNER.

1.7 FINAL INSPECTION AND GUARANTEE

A. Inspection of work of lawns and planting will be made at conclusion of maintenance.

B. Final Acceptance: The CONTRACTOR shall notify the ENGINEER within 20 days of the date for final inspection at the end of the maintenance period and an inspection will be

arranged within 15 days of this date. Before final acceptance, the terms of the plant guarantee must be met and the project site must be in the condition stipulated.

C. Sodded lawns will be acceptable provided requirements, including maintenance, have been complied with, and healthy, well-rooted, even-colored viable lawn is established, free of weeds, open joints, and bare areas (95 percent coverage required for acceptance). Where inspected landscape work does not comply with requirements, replace rejected work and continue specified maintenance until re-inspected by the ENGINEER and found to be acceptable. Remove rejected plants and materials promptly from project site.

D. Final acceptance of the WORK prior to guarantee period of the contract will be accepted upon written approval by the ENGINEER, on the satisfactory completion of all WORK, including maintenance, but exclusive of the replacement of plant material.

E. Any delay in the completion of any item of WORK in the planting operation which extends the planting into more than one season shall extend the correction period in accordance with the date of completion given above.

F. The CONTRACTOR shall replace, as soon as weather conditions permit, all dead plants and all plants not in a vigorous, thriving condition which are noted at the end of the one-year correction period.

G. Plants used for replacement shall be of the same size and variety specified in the plant list. Plants shall be furnished, planted, staked, and mulched as specified.

H. All WORK done under this contract shall be left in good order to the satisfaction of the OWNER and the ENGINEER and the CONTRACTOR shall, without additional expense to the OWNER, replace any trees, shrubs, etc., which develop defects or die during the one-year correction period.

1.8 MAINTENANCE AND GUARANTEE FOLLOWING ACCEPTANCE OF PROJECT

A. **General:** The CONTRACTOR shall be responsible for a period of one year after date of acceptance of all WORK under the Contract, for maintaining all plantings, including all necessary plant or tree replacements, weeding, cultivating, fertilizing, pruning, controlling insects and diseases, re-guying, and performing all other operations incident thereto, as well as maintenance of the irrigation system specified in Section 32 84 00 – Planting Irrigation. The CONTRACTOR shall provide a written guarantee to the OWNER from the landscaping subcontractor, embodying the provisions of this Section of the Specifications.

B. The WORK covered by the maintenance and guarantee portions of these specifications consists of providing all replacements of plants, labor, materials, equipment, and supplies and in performing all operations in connection with maintenance and guarantees.

C. The inspection of lawn areas is independent of the final inspection and maintenance period. After the lawn has been accepted and has been mowed 4 or more times, the responsibility for mowing and irrigation will be turned over to the OWNER. However, the weeding, fertilizing, and controlling of diseases of the lawn areas shall remain the responsibility of the CONTRACTOR for the remainder of the one-year maintenance and correction period.

D. All planting, plant materials, and irrigation systems required under this contract shall be in a condition acceptable to the OWNER or its representative at the end of the maintenance guarantee period.

E. All water required during the maintenance and correction period will be furnished by the OWNER.

F. **Maintenance:** Watering and mowing of the lawn during the maintenance and correction period will be performed by the OWNER in accordance with written instructions which shall be furnished by the CONTRACTOR.

G. The CONTRACTOR shall make any changes or adjustments necessary to the automatic sprinkler system during the maintenance and correction period.

H. The CONTRACTOR shall replace any dead or diseased plants during the maintenance and correction period.

I. All lawn and planting areas shall be fertilized during the maintenance and correction period with 16-6-4 chemical fertilizer. Amount of fertilizer applied shall be per fertilizer's written instructions on bag. Fertilizers applied to planting areas shall be cultivated into the top 2 inches of topsoil.

J. The CONTRACTOR shall clean-up and remove unused or waste materials from the site and leave the area in a neat condition (satisfactory to the OWNER) whenever it performs work during the maintenance period.

K. **Final Inspection:** The OWNER and CONTRACTOR shall make a final inspection at the end of the one-year correction period. Any plants and materials found defective at time of final inspection shall be replaced within a time agreed upon by both parties.

L. Begin maintenance immediately after each plant is installed and continue to maintain for 8 weeks until the end of the guarantee period.

M. Perform the following operations: watering as often as required to maintenance capillary water within 2 inches of the soil surface around plants, weeding of plant beds, planting saucers to keep free of weeds using selective approved herbicide according to the MANUFACTURER's directions for use, and/or weeding by hand methods, mulching monthly to replenish mulch and keep at required 2-inch minimum depth, tightening and repairing guys to keep trees erect and supported without damage to bark, resettling plants to proper grades or upright position, restoration of planting saucers, seasonal spraying to control disease or insect pests that may impair plant vigor.

N. Remove and replace excessively pruned or malformed stock resulting from improper pruning.

O. Maintain lawns for not less than the period stated below, and longer as required to establish an acceptable lawn:

    1. Sodded lawn, not less than 30 days after substantial completion.

P. Maintain lawns by watering, fertilizing, weeding, mowing, trimming, and other operations such as rolling, regrading, and replanting as required to establish a smooth, acceptable lawn, free of eroded or bare areas.

PART 2 -- PRODUCTS

2.1 GENERAL EQUIPMENT REQUIREMENTS

A. All landscaping materials for soil conditioning, weed abatement, or planting shall be first-grade, commercial quality and shall have certificates indicating the source of material, analysis, quantity, or weight attached to each sack or container or provided with each delivery. Delivery certificates shall be given to the ENGINEER as each shipment of material is delivered. A list of the materials used, together with typical certificates of each material, shall be submitted to the ENGINEER prior to the final acceptance of the job.

2.2 TERMINOLOGY AND QUALIFICATIONS

A. Plants or plant material having characteristics not conforming to terms as defined will not be accepted. The terms "plant material" or "plants" refer to all vegetation, whether trees, shrubs, ground cover, or herbaceous vegetation.

B. Quality refers to structure and form, as evidenced by density and number of canes and branches, compactness, symmetry, and general development without consideration of size or condition. Standard quality indicates the least acceptable quality. Plants shall be typical of the species and variety of good average uniform growth, shall be well formed and uniformly branched, and shall have the minimum number of canes specified, free from irregularities, or shall conform to minimum quality index. Where the number of canes is not specifically stated in describing this grade, the standards of the "Horticultural Standards" as adopted by the American Association of Nurserymen, shall apply. In this case, the number of canes and other factors for the appropriate classification under "quality definition" in the Horticultural Standards shall be the Quality index. Plant material below this standard will be considered "culls" and are not acceptable. Plants shall be nursery grown.

C. Specimen means an exceptionally heavy, symmetrical, tightly-knit plant, so trained or favored in its development and appearance as to be outstanding, superior in form, number of branches, compactness, and symmetry.

D. Size is the factor controlled by dimensions representing height or spread, or both, without consideration of quality or conditions. For standard quality, a dimension is given for height or container size, or a dimension is given for height as well as container size.

E. Height is usually indicated with a tolerance. The smaller dimension is the minimum acceptable. The larger dimension represents the maximum permissible. The average dimension of all plants must equal the average of the tolerance figures shown on each item.

F. Condition is the factor controlled by vitality and ability to survive and thrive and be comparable with normal plants of the same species and variety in the vicinity, at the same season of the year. In addition, plants shall be free from physical damage or adverse conditions that would prevent thriving. Conditions also sometimes refer to state of growth,

i.e., whether "dormant condition" or "growing condition" and this state shall be comparable to plants of similar species in the vicinity or leaves, formation of buds, and the like.

G. Cane means a primary stem which starts from the ground, or close to the ground, at a point not higher than 1/4 the height of the plant.

H. Caliper shall be taken 12 inches above the finish grade or ground, as a guide, or where a dimension in trunk appears to form the head of the tree.

I. Foliage line is maximum dimension in case of specimen plants. It measures from ground to lowest part of body of plant.

J. Collected plants shall not be used.

2.3 TOPSOIL

A. Topsoil shall be obtained from naturally drained areas and shall be fertile, friable loam suitable for plant growth. Topsoil shall be subject to inspection and approval at the source of supply and upon delivery. Top soil may be obtained from the required excavation of the site given that it either naturally meets, or is treated by the CONTRACTOR to meet, the requirements of this section.

B. The topsoil shall be of uniform quality, free from subsoil stiff or lumpy clay, hard clods, hardpan, rocks, disintegrated debris, plants, roots, seeds, and any other materials that would be toxic or harmful to plant growth. Topsoil shall contain no noxious weeds or noxious weed seeds.

C. The topsoil shall contain at least 3 to 5 percent organic matter as determined by loss of weight after ignition of dried (moisture-free) samples in accordance with current methods of the Association of Official Agricultural Chemists.

D. The acidity range of the topsoil shall be (pH 5.5 to pH 7.5). The salinity level shall be less than 3 millimhos/cm.

E. Clay, as determined by the Bouyoucous hydrometer or by the decantation method, shall not exceed 5 to 25 percent of the topsoil material.

F. Mechanical analysis shall be performed and shall conform to ANSI/ASTM D 422.

G. Soil mix for interior plants shall be sphagnum moss or an approved soil mix furnished in bags or other standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon. The soil mix shall be a mix designed specifically for interior container or potted planting.

H. If topsoil is not available on-site, it must be furnished as specified. Throughout all parts of site where finish grades and contour lines differ from existing contour lines, bring to finish grade contours shown on "Grading Plan".

I. Topsoil shall be friable fertile soil with representative characteristics of area soils. It should be free of heavy clay, silt, stone, extraneous lime, plant roots, and other foreign matter greater than 1-1/2 inches in diameter. It shall not contain noxious plant growth (such as

bermuda or nut grass). It shall test in neutral pH range of 5.0 to 6.75 and contain no toxic substance that can be deemed to impeded plant growth. The CONTRACTOR shall supply sufficient amounts of the topsoil to the ENGINEER for testing. Testing expenses shall not be borne by the CONTRACTOR. Topsoil shall comply with the following quantitative analysis.

Volume Measure Particle Size Components	Percent	Millimeter
Organic Matter	3 to 5	0.05 to 0.002
Silt	10 to 30	0.02 to 0.05
Sand	25 to 75	0.002 and below

2.4 FERTILIZER AND ADDITIVES

A. If necessary to bring soil into above specified limits:

1. **Lime:** Natural limestone (Dolomite) containing not less than 85 percent of total carbonates, ground so that not less than 90 percent passes a 10-mesh sieve and not less than 50 percent passes a 100-mesh sieve.

2. **Peat Humus or Peat Moss:** Texture, moisture and pH range suitable for intended use.

3. **Commercial Fertilizer:** A complete plant food containing 20 percent nitrogen, 26 percent available phosphoric acid, and 6 percent potash, conforming to applicable state fertilizer laws, availability of plant nutrients conforming to standards of the Association of Official Agricultural Chemists (AOAC), uniform in composition, dry, free-flowing, and delivered in original, unopened containers bearing manufacturer's guaranteed analysis.

    a. For trees, palms, and shrubs, provide fertilizer with not less than 6 percent available phosphoric acid, 6 percent nitrogen, and 6 percent soluble potash.

B. Fertilizer shall be furnished in bags or other standard containers with name, weight, and guaranteed analysis of contents clearly marked thereon.

C. Chemical fertilizers shall be a mixed commercial fertilizer conforming to FS O-F-241D, Type I, with percentages of nitrogen, phosphoric acid, and potash at 20-26-6. The combined N-P-K content shall be following percentages of total weight: 5 percent nitrogen, 10 percent phosphoric acid and 5 percent potash. Fertilizers shall be uniform in composition, dry, and free flowing.

D. Tablets shall be 12 grams each 20-10-5, **"Agriform," "Lesslie," or approved equal.**

E. Agricultural gypsum shall be approved standard brand agricultural calcium sulfate (CaSO4) as applied to soils and shall contain 19 percent combined sulfur.

2.5 PLANT MATERIALS

A. Plants shall meet requirements of the Contract Documents and shall be in accordance with the botanical names and applicable standards of quality, size, condition, and type. They shall be true to name, genera, species, and variety in accordance with reference publications.

B. Plant names are defined in "Standardized Plant Names" and "Bailey's Encyclopedia of Horticulture." When a name is not found in either reference, the accepted name used in the nursery trade shall apply.

C. Plants shall be marked for identification. Each bundle of plants and at least 25 percent of each species and variety of separate plants in any one shipment shall have legible labels securely attached before delivery to the site.

D. All trees and shrubs shall be measured while their branches are in their normal position. Height and spread dimensions specified refer to the main body of the plant and not from branch or root tip to tip. No trees will be accepted with their leaders cut, or so damaged that cutting is necessary.

E. All plants shall be symmetrical and shall conform to the size, age, and condition as specified on the plant list shown in the Contract Documents. Exceptions are as follows:

1. Plants larger than specified in the plant list may be used if approved by the ENGINEER, but use of such plants shall not increase the contract price. If the use of larger plants is approved, the spread of roots or ball earth shall be increased in proportion to the size of the plant. Bare root plants furnished in size greater than specified shall be balled and burlapped when required by the ENGINEER.

2. Where caliper or other dimensions of any plant materials are omitted from the Plant List, it shall be understood that such plant materials shall be normal stock for type listed.

F. Plants shall be of sound health, vigorous, and free from plant disease and shall be well-branched, shall have full foliage when in leaf, and shall have a healthy well-developed normal root system. Cold storage plants will not be accepted. Plants that are sensitive to shock from elevation change shall be grown at elevations close enough to site to alleviate any plant damage due to such change for at least 2 years.

G. The following abbreviations as used in Specification shall mean:

1. B&B - Balled and burlapped

2. BR - Bare root

3. CG - Container grown

4. BP - Balled, burlapped, and fixed to platform

H. Bare rooted (BR) plants shall have well-developed branch systems and vigorous root systems. They shall be dug to sufficient depth to insure full recovery and development of the plants. Roots of these plants shall be covered with a uniformly thick coating of mud being puddled immediately after they are dug.

I. Balled and burlapped (BB) plants shall have firm, natural balls of earth, or diameter not less than that specified and of sufficient depth to include all the fibrous and feeding roots. No plant moved with a ball will be accepted if the ball is cracked or broken before or during plant operations, except on special approval of the ENGINEER.

J. Roots or balls of all plants shall be adequately protected at all times from sun and/or drying winds.

K. Plants (indicated to be in marked cans, pots, or other containers on the plant list) shall have been grown in the containers for a minimum of 6 months and a maximum of 2 years. Roots shall fill the containers but show no evidence of being or having been root bound.

L. Trees shall have straight trunks and all old abrasions and cuts shall be completely callused over. In no case shall trees be topped before delivery.

M. Plants shall have been transplanted or root-pruned at least once in the 2 years. Plants shall not be pruned prior to delivery except as authorized by the ENGINEER.

2.6 SEED MIXTURES

A. All seed shall conform to applicable City, County, State, and Federal regulations. Seed shall be mixed by dealer. The CONTRACTOR shall furnish dealer's guaranteed germination of each variety. Grass seed shall not be delivered to the site until samples have been approved in writing by the ENGINEER or his authorized landscape representative. Approval of samples, however, shall not affect the right of the ENGINEER, or the authorized landscape representative to reject seed upon or after delivery. Seed which has become wet, moldy, or otherwise damaged prior to use will not be accepted.

B. Grass shall be fresh, clean, and new-crop seed, composed of the following varieties mixed in the proportions by weight, as shown, and tested for the minimum percentage of purity and germination specified.

Common Names	By Weight	Proportion Purity (percent)	Germination
Type 1: Bahia	100	90	90

2.7 SOD GRASS

A. Provide St. Augustine "Floratum" grass sod from a certified sod farm.

B. Sod shall be strongly rooted, free of pernicious weeds, mow to a height of 3 inches below lifting, deliver to the site in strips 12 inches wide at least 3 feet long, rolled, and with a uniform thickness between 3/8 inch and 5/8 inch of soil.

C. **Delivery and Protection of Sod:**

1. Deliver sod immediately on lifting and after lawn bed is prepared for planting.

2. Give advance notice to ENGINEER of days on which deliveries of sod will be made.

3. Protect sod from drying by covering during delivery to protect from sun and wind.

2.8 WOOD EDGING

A. Wood edging shall be 2-inch x 4-inch redwood construction heart stock.

2.9 STAKING MATERIALS

A. Stakes and Guys: When required provide stakes and deadmen of sound new hardwood, treated softwood, or redwood, free of knot holes and other defects. Provide wire ties and guys of 3-strand, twisted, pliable galvanized iron wire not lighter than 12 gage with zinc-coated turnbuckles. Provide not less than 1/2-inch hose, cut to required lengths to protect tree trunks from damage by wires.

B. Hose for covering wire shall be new or used black or green 2-ply fiber-bearing garden hose, not less than 1/2-inch inside diameter.

C. Wire for tree bracing and guying shall be double strand pliable No. 10-gage galvanized steel wire or vinyl-coated steel wire.

D. Tree ties of other materials may be used with prior approval of ENGINEER.

2.10 MISCELLANEOUS MATERIALS

A. Wrapping material for trees, 2-inch diameter or larger, shall be 2 thicknesses of crinkled paper cemented together with bituminous material in strips 4-inch wide. Twine for tying shall be medium or coarse sisal yarn with a light impregnation of oil condensate from asphalt or tar.

B. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations and outline areas and secure the ENGINEER's acceptance before start of planting WORK. Make adjustments as may be required.

PART 3 -- EXECUTION

3.1 GENERAL

A. The landscape work shall not be performed at any time when it may be subject to damage by climatic conditions.

B. The CONTRACTOR shall carefully scale or otherwise verify all dimensions in the Contract Documents. Dimensions and plant locations shown shall be coordinated with ENGINEER and final location shall be site-oriented by the planter and ENGINEER. Any discrepancies or inconsistencies discovered shall be brought to the attention of the ENGINEER.

C. In case of conflict between the plant list totals and total plant count of the Contract Documents, the CONTRACTOR shall provide the higher number of plants.

D. Delivery of materials may begin only after samples and tests have been approved by the ENGINEER. All materials furnished for the WORK shall be not less than the approved sample.

E. Substitutions for the indicated plant materials may be permitted pursuant to the Contract Documents.

F. The CONTRACTOR shall provide temporary fencing, barricades, covering, or other protections to preserve existing landscaping items indicated to remain and to protect the adjacent properties and other structures when they may be damaged by the landscape work.

G. Trees and vegetation to be protected as shown on the Drawings.

H. The following minimum standards for trees and vegetation protection shall be applied to any area designated for protection:

1. Protection of Individual Trees: A suitable protective barrier, constructed of metal, wood, or other durable material, shall be placed around individual protected trees at a distance of 6 feet of greater, or at a distance of the radius of the dripline of all protected existing trees, whichever is greater.

2. Supplemental Vegetation Protection Standards: In addition to the minimum standard established above, supplemental standards may be imposed by the ENGINEER as a special condition of a vegetation removal permit. These supplemental standards shall be based upon the suggested standards in the latest edition of the Tree Protection Manual for Builders and Developers published by the Division of Forestry of the Florida Department of Agriculture and consumer Affairs, or similar recognized reference manual.

I. The CONTRACTOR shall retain the services of a tree surgeon approved by the ENGINEER to repair damage to existing trees. Existing trees which are to be saved and which cannot be restored to full growth, as determined by tree surgeon, shall be removed and replaced with a new similar tree of 24-inch box size unless otherwise approved by the ENGINEER.

J. The CONTRACTOR shall remove and/or relocate landscape items such as trees, shrubs, grass, other vegetation, improvements, and obstructions as shown on Drawings or otherwise specified.

K. Waste materials shall be removed and disposed of off the OWNER's property, unless otherwise indicated.

L. It shall be the responsibility of the CONTRACTOR to avail itself of any information regarding utilities which are in the area of work and to prevent damage to the same. The CONTRACTOR shall provide protection to the utilities as necessary.

M. Burning of combustible materials on the site shall not be permitted.

N. The CONTRACTOR shall provide protection to structures, sidewalks, pavements, and other facilities in areas of work which are subject to damage during landscape work. Open excavations shall be provided with barricades and warning lights which conform to the requirements of governing authorities and the State's OSHA safety requirements from dusk to dawn each day and when needed for safety.

O. Planting areas include all areas to be landscaped unless, specified or shown, otherwise.

3.2 SOIL PREPARATION

A. The landscape WORK shall not begin until all other trades have repaired all areas of settlement, erosion, rutting, etc., and the soils have been re-established, re-compacted, and refinished to finish grades. The ENGINEER shall be notified of all areas which prevent the landscape work from being executed.

B. Areas requiring grading by the landscaper including adjacent transition areas shall be uniformly level or sloping between finish elevations to within 0.10-ft above or below required finish elevations.

C. The landscape work shall not proceed until after walks, curbs, paving, edging, and irrigation systems are in place. The contract operations shall be completed to a point where the landscape areas will not be disturbed. The subgrade shall be cleaned free of waste materials of all kinds.

D. During grading waste materials in the planting areas such as weeds, rocks (2 inches and larger) building materials, rubble, wires, cans, glass, lumber, sticks, etc., shall be removed from the site. Weeds shall be dug out by the roots.

E. Fertilizers, additives, seed, peat, etc. subject to moisture damage shall be kept in a weatherproof storage place in such a manner that they will be kept dry.

F. **Preparation of Subgrade:** After rough grading is completed and before topsoil is spread, thoroughly scarify ground to a minimum depth of 6 inches with a toothed ripping machine by running in two directions at right angles over the entire surface to be planted. Limit preparation of subgrade to areas to be planted immediately.

G. **Preparation of Topsoil:**

1. Before mixing, clean topsoil of roots, plants, sods, stones, clay lumps, and other extraneous material harmful or toxic to plant growth.

2. Mix specified soil amendments with topsoil at rates required to meet specification. Delay mixing of planting mix if planting will not follow placing of topsoil within 1 week.

3. For planting beds, mix topsoil either prior to planting or apply on surface and mix thoroughly before planting.

H. **Spreading of Topsoil:** Spread natural or prepared topsoil over the prepared rough grade to a minimum depth of 4 inches.

I. **Fertilizing:** Apply commercial fertilizer at the rate of 50 pounds per 10,000 square feet distributing uniformly with a mechanical spreader, or at a rate determined from soil test.

J. **Finish Grading:**

1. 1. Rake the top soiled area to uniform grade so that all areas drain, as indicated on the grading plan.

2. Remove all trash and stones exceeding 2 inches in diameter from area to a depth of 2 inches prior to preparation and planting areas.

K. After removal of waste materials the planting areas subgrade shall be scarified and pulverized to a depth of not less than 6 inches and all surface irregularities below the cover of topsoil removed.

L. Finish grading shall consist of:

1. Final contouring of the planting areas.

2. Placing 4 inches of topsoil over all areas to be planted unless shown or specified otherwise.

3. Placing all soil additives and fertilizers.

4. Tilling of planting areas.

5. After tilling, bring areas to uniform grades by floating and/or hand raking.

6. Making minor adjustment of finish grades as directed by the ENGINEER.

7. Removing waste materials such as stones, roots, or other undesirable foreign material and raking, disking, dragging, and smoothing soil ready for planting.

M. Any unusual subsoil condition that will require special treatment shall be reported to the ENGINEER.

N. Topsoil shall be uniformly distributed over all areas where required. Subgrade and topsoil shall be damp and free from frost.

O. Surface drainage shall be provided as shown by molding the surfaces to facilitate the natural run-off of water. Low spots and pockets shall be filled with topsoil and graded to drain properly.

P. Finish grade of all planting areas shall be 1-1/2 inches below finish grades of adjacent pavement of any kind.

Q. In all shrub planting areas, 1-1/2 inches of peat moss or soil-aid shall be raked into the top 3 inches of soil.

3.3 DELIVERY, STORAGE, AND HANDLING OF PLANT MATERIALS

A. No plants other than the required samples shall be dug or delivered to the site until the required inspections have been made and the plant samples are approved.

B. Plants shall not be pruned prior to delivery except upon approval by the ENGINEER.

C. Plant material shall be planted on the day of delivery if possible. The CONTRACTOR shall protect the stock in a temporary nursery at the project site where it shall be protected from sun and drying winds and shall be shaded, kept moist, and protected with damp soil, moss, or other acceptable material. Plants shall be planted within 2 days after delivery.

D. All balled and burlapped plants which cannot be planted immediately in delivery shall be set on the ground and shall be well protected with soil, wet moss, or other acceptable material. Bare rooted plants, which cannot be planted immediately, shall be planted on heeled-in trenches immediately upon delivery. No material heeled-in more than one week may be used. Bundles of plants shall be opened and the plants separated before the roots are covered. Care shall be taken to prevent air pockets among the roots.

E. During planting operations, bare roots shall be covered with canvas, wet straw, or other suitable materials. No plants shall be bound with wire or rope at any time so as to damage the bark or break branches.

F. Plants shall not be picked up or moved by stem or branches, but shall be lifted and handled from the sides of the containers.

G. Plants shall be lifted and handled from the bottom of the ball or container. Plants with balls cracked or broken before or during planting operations will not be accepted and shall be immediately removed from the site.

3.4 TREE AND PLANT LOCATIONS

A. The CONTRACTOR shall locate and stake all tree and shrub locations and have the locations approved by the ENGINEER before starting excavation for same. The plant locations shall be observed, and their locations shall be adjusted as directed by ENGINEER before final approval.

B. No trees shall be located closer than 72 inches to structures unless otherwise shown. Ground covers and shrubs may be planted up to structures or curbs.

3.5 PLANT PITS

A. Plant pits, centered on location stakes, shall be excavated circular pits with vertical sides and flat or saucer shape bottom in accordance with the following sizes unless shown otherwise:

1. Tree pits shall be at least 2 feet greater in diameter than the specific diameter of ball or spread of roots, and at least 6 inches below depth of ball or roots. A 3-inch layer of manure shall be worked thoroughly to a depth of 6 inches below the pit bottom.

2. Shrubs shall be planted in pits or holes of soil 24 inches deep below finished grade, or as much deeper as necessary to properly set the plant at finished grade with a minimum of 6 inches of planting soil under balls of all plants. Shrubs with balls shall be planted in pits that are at least 24 inches greater in diameter than the bottom of ball. Bare root shrubs shall be planted in pits at least 12 inches below the roots of the plant.

3.6 PREPARED BACKFILL

A. Tree and shrub pit backfilling soil shall consist of 4 parts topsoil, and 1 part peat or soil-aid by volume. Commercial fertilizer shall be sparingly mixed with the prepared topsoil, using 5 lb/cu yd or as required by manufacturer's printed recommendations.

B. Planting pit, bin, and trench filling and bedding soil shall consist of 4 parts by volume topsoil mixed with 1 part manure and 5 lb of commercial fertilizer per cubic yard.

C. Materials shall be thoroughly rotary-mixed on the site before placement. Mixing of materials in pits, bins, trenches or beds will not be permitted.

D. Tree and shrub pits shall be provided with fertilizer tablets as follows:

1. 1 per one-gallon can plant
2. 3 per 5-gallon can plant
3. 5 per 15-gallon can plant

3.7 ROCKS OR UNDERGROUND OBSTRUCTIONS

A. In the event that rock or underground obstructions are encountered in the excavation of plant pits, alternative locations shall be selected by the ENGINEER. Moving of trees to alternative locations shall not entail additional costs to the OWNER.

3.8 SETTING PLANT MATERIALS

A. The soil shall not be worked when the moisture content is so great that excessive compaction will occur, nor when it is so dry that a dust will form in the air or that clods will not break readily. Water shall be applied if necessary to provide ideal moisture for filling and for planting as herein specified.

B. Plants shall be set in center of pits as shown in the Contract Documents. They shall be set plumb and straight, and at such a level that after settlement that the crown of the plant will be 2 inches above the finished grade.

C. Balled and burlapped trees shall have planting soil placed and compacted around base of ball to fill all voids. All burlap ropes or wires shall be removed from the sides and tops of balls.

D. Roots of bare root plants shall be properly spread out and planting soil carefully worked in among them. All broken or frayed roots shall be cut off clean.

E. All vines shall be removed from stakes, untied, and securely fastened in an approved manner to wall or fence next to which they are planted.

F. All ground cover plants shall be evenly spaced, staggered in rows, and set at intervals specified, so as to produce a uniform effect. Plants shall be watered immediately after planting operations have been completed.

G. All shrubs and vines shall be pruned to remove damaged branches. All bare root shrubs shall be pruned and shaped to compensate for transplant root loss.

H. Planting soil around roots or balls shall be thoroughly compacted and watered. After planting, the soil in the shrub beds shall be cultivated between shrubs, raked smooth, and neatly outlined. Muddy soil shall not be used for backfilling. All broken or frayed roots shall be properly cut off.

I. Trees and shrubs on slopes steeper than 6 to 1 shall be provided with watering dams or berms at least 6 inches high and 8 inches wider than planting pit (hole) unless specified or shown otherwise.

J. All trees shall be thoroughly watered immediately after planting.

K. Remove all tags and labels when directed by ENGINEER.

L. Trees shall have trunks wrapped in acceptable tree wrap material from base up to and above at least the second scaffold branch.

3.9 STAKING

A. Staking of trees shall be done immediately after they are planted. Plants shall stand plumb after staking. Staking shall be as specified unless shown or indicated otherwise.

B. Trees of 2-inch caliper and over shall be guyed at points of branching with 3 wire guys spaced equally around and outside the perimeter of the ball. Guy wires shall be covered with rubber hose at the bark, protected by approved material at points of contact. Each guy shall be positioned below crotches and fastened to a 4-inch diameter by 18-inch wood deadman, 12 inches below grade. One turnbuckle shall be provided for each guy.

C. Trees less than 2-inch caliper shall be supported by 2 stakes placed diametrically opposite at perimeter line of ball and to sufficient depth to hold tree rigid. Stakes shall be driven vertically and not twisted or pulled. Trees shall be wired to each stake as indicated on staking details. Trees shall be protected with rubber hose over wires at points of contact. All evergreen trees shall be guyed.

3.10 PRUNING AND MULCHING

A. Each tree and shrub shall be pruned in accordance with standard horticultural practice to preserve the natural character of the plant in the manner fitting its use in the landscape design, as approved by the ENGINEER.

B. All dead wood or suckers and all broken or badly bruised branches shall be removed by thinning out and shortening branches. Deciduous bare-rooted plants shall have not less than 1/3 of their respective leaf surfaces removed. All cuts shall be made just above a healthy bud. Pruning shall be done with clean, sharp tools.

C. Cuts over 3/4-inch diameter shall be painted with an approved tree paint. Paint shall cover all exposed cambium as well as other living tissue. Paint shall be waterproof, adhesive, and elastic antiseptic; shall be free from kerosenes, coal tar, creosote, or other materials injurious to the life of the tree; and shall be approved before it is used.

D. Plants shall be mulched after planting and cultivating have been completed. A layer of mulch materials, as hereinbefore specified, shall be spread on finished landscaping grade within all planting areas to a depth of 2 inches. The mulch around isolated plants shall be 6 inches greater in diameter than the planting hole. All shrub and ground cover beds shall be completely covered with the mulch.

E. All deciduous tree trunks shall be thoroughly sprayed with a methoxychlor or similar insecticide, and wrapped immediately after planting, with wrapping material overlapping (1-1/2 inches, wound from ground line to the second branch, and securely taped in at least 5 places, including the top, middle, and bottom).

3.11 SODDING

A. Grass sod shall be provided where shown or specified and shall be maintained.

B. The soil shall be prepared and fertilized before sodding. The CONTRACTOR shall prepare only enough ground that can be planted within 24 hours thereafter.

C. Soil preparation shall consist of the following:

1. Preparation of sub-grade grading shall be per "Part 3 -- Execution" in Paragraphs entitled "General" and "Soil Preparation," herein.

2. Finish grading shall be per "Part 3 -- Execution" in Paragraph entitled "Soil Preparation," herein. Topsoil required at areas to be sodded shall be 1-1/2 inches. The soil additives and fertilizer for finish grading shall consist of mulch at 5 cu yd/1000 sq. ft and commercial fertilizer at 20 lb/1000 sq ft.

D. Sod shall be cut and laid on site the same day.

E. The sod shall be placed over leveled, compacted, and prepared finish graded soil. The topsoil and sub-base shall be moist enough to resist shifting.

F. The surface on which the sod is to be laid should be firm and free from footprints or other depressions. A string or line of boards may be used as a guide for setting the first line of sod across the area. Sods of the next course are matched against the edge of this first line in such a way the joints between the individual sod pieces in the 2 lines do not coincide. Successive courses are matched against the last line laid, in the same manner. Sod shall be laid on indicated areas.

G. Sod joints shall be closely laid and filled with a mixture of grass seed and screened topsoil at the rate of 2 lbs. of seed to each cubic yard of topsoil. Sod fill soil shall be thoroughly tamped to a true and even surface at the required finished grade.

H. Sod shall always be laid across slopes.

I. All new sod shall be rolled or firmly but lightly, tamped with a suitable wooden or metal tamper, sufficiently to set or press sod into underlying soil.

J. After sodding has been completed, the sodded area shall be cleaned up and thoroughly moistened by sprinklers.

3.12 SEEDING-GENERAL

A. Grass seeds shall be provided where lawn is shown or indicated and shall be maintained.

B. The soil shall be prepared and fertilized before seeding or shall be prepared per hydro-seeding instructions. The CONTRACTOR shall prepare only enough ground that can be planted within 24 hours thereafter.

C. Soil preparation shall consist of the following:

1. Preparation of sub-grade grading shall be per Paragraphs entitled "General" and "Soil Preparation," respectively, herein.

2. Finish grading of soil per Paragraph entitled "Soil Preparation", herein. The soil additives and fertilizer for finish grading shall consist of mulch at 5 cu yd/1000 sq ft and commercial fertilizer at 20 lb/1000 sq ft.

D. Sow seed at the rate of 2 lbs to 1000 sq ft of area. Equal quantities of seed shall be sown in the directions at right angles to each other to produce an even distribution of seed over the entire area.

E. No seeding shall be done when wind velocity exceeds 4 mph, within 24 hours after rain, or if the surface has been compacted, without first loosening the ground.

F. The seed shall then be covered with a fine layer of soil to a depth not greater than 1/4-inch.

G. All lawn areas shall be covered with sphagnum peat moss or clean straw uniformly at a rate of 1-1/2 standard bales per 1000 sq ft.

H. After covering the seeds with soil and peat or straw, the planted area shall be rolled in 2 directions with a 200-lb roller or other roller designed for lawn seeding.

I. All lawn slopes greater than 5 percent, or places where erosion is a problem, shall be mulched with straw at a rate of 2 bales per 1000 sq ft.

J. This seeding method may be utilized if weather conditions allow as determined by the ENGINEER.

3.13 MISCELLANEOUS ITEMS

A. Wood chip mulch shall be placed in all shrub areas where shown, spread carefully and evenly to a minimum depth of 4 inches over planted areas.

END OF SECTION

SECTION 32 91 13– SOIL PREPARATION

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Work included: soil preparation; berm preparation; fertilizing; topsoil; grading; testing.

B. Related work herein:

1. Special Conditions

2. Section 32 90 00 – Planting

C. Landscape CONTRACTOR of record to be provided to OWNER within 90-calendar days or contract execution.

1.2 QUALITY ASSURANCE

A. Testing Agency: INDEPENDENT TESTING LABORATORY, OR Florida Cooperative Extension Service or Florida Department of Agriculture, Division of Plant Industry.

B. Requirements of regulatory agencies: conform to requirements of City, County, and State Agencies.

1.3 CONTRACTOR SUBMITTALS

A. Test Reports: results of soil analysis.

B. Certificates: testing laboratory certificate that content of soil conditioners meet specifications requirements.

C. Soil samples and product labels for specified fertilizers and soil conditioners.

1.4 PROJECT/SITE CONDITIONS

A. Protection: protect and avoid damage to existing walks, pavements, curbs, and any existing site improvement.

PART 2 -- PRODUCTS

2.1 SOIL

A. Planting Soil (backfill material) – specified planting soil for trees and palms shall be a mixture of 50% bio-solids co-compost and 50% topsoil (sandy loam). Mixture shall use indigenous materials only and be manufactured specifically for backfill planting of trees and palms. Bio-solids co-compost shall be "AllGro" (screened to ½" maximum size) or approved equivalent.

1. Bio-solids co-compost shall consist of a stabilized mixture of ground yard trimmings and bio-solids processed according to State of Florida Department of Environmental Protection Guidelines for the Processing and Distribution of Sewage Sludge

Compost. Composted bio-solids shall only be obtained from facilities operating in compliance with a valid permit for the composting of bio-solids, producing a Class AA residual product, and storing product on a pad with a current nematode certification from Florida Department of Agriculture.

2. "AllGro" or the equivalent composted bio-solids, shall have the following characteristics:

   a. Screened to ½" maximum particle size

   b. Weed free

   c. Moisture content: 50% by weight maximum

   d. Water holding capacity: 200% by weight minimum

   e. Carbon to nitrogen ratio: less than 25:1

   f. Organic matter content: 40% by dry weight minimum

   g. Soluble salts: less than 3 mmhos / cm

   h. pH: 7.0 to 7.9

   i. Stability (respiration / CO_2 evolution): 4.0 maximum

   j. Minimum nutrient levels as follows:

      1) Macro nutrients

         a) Nitrogen (N) – 1.0% minimum, water insoluble nitrogen 90% minimum

         b) Phosphorous (P) - .05% minimum

         c) Potassium (K) – 0.2% minimum

      2) Other macro and micro nutrients

         a) The compost shall contain levels of those micronutrients necessary for plant growth. These include Calcium, Magnesium, Sulfur, Boron, Copper, Iron, Manganese, and Molybdenum.

      3) Compost not meeting these requirements will not be accepted.

3. Topsoil shall be fertile, friable, without mixture of subsoil materials, and obtained from a well-drained, arable site with representative characteristics of area soils (sandy loam texture). It shall be free from heavy clay, limerock, shellrock, stones, lumps, plants, roots, or other foreign material or noxious grass (such as Bermuda or nut grass) and noxious weeds. It shall not contain toxic substances which may be harmful to plant growth. The pH range shall be 5.0 to 7.0 inclusive. CONTRACTOR may be required to submit results of soil test for topsoil proposed for use under this Contract for approval by the OWNER's Representative.

4. Berm fill materials: Soil materials for Berm shall be free of rock or gravel larger than one (1 inch) in any dimension, debris, waste, vegetable, muck, marl, and other deleterious matter. Use excavated or borrow material that has been sampled, tested and certified as satisfactory soil material.

B. The planting soil shall be sampled and tested for pH value (as determined in accordance with ASTM E 70) and shall be between 5.0 and 7.0 inclusive. The desired pH shall be achieved by applying fertilizer (Aluminum sulfate) or dolomitic limestone, in quantities necessary to adjust the pH to the specified range.

C. Maximum soluble salts for any specified soil materials: 550 ppm.

D. Soil mixtures shall be free of weeds, plants, seeds, insects, nematodes, or any undesirable materials, before delivery to the site. Sterilization shall not affect viability of soil to new plant material

2.2 SOIL CONDITIONERS

A. Dolomitic limestone: approved product, designated for agriculture use.

B. Aluminum sulfate: manufacturer's standard commercial grade.

C. Pesticides: as recommended by Florida State and County Agricultural Agencies. To be approved by the OWNER's Representative before use.

D. Diehard TM transplant – one step – use in accordance with supplier's instruction and recommendations.

E. Fertilizer: commercial grade fertilizer to comply with State of Florida fertilizer laws with at least 50% of the nitrogen derived from natural organic sources and all potash to be derived from sulfate forms. The following minor elements should be included:

32.2% ZnO	0.25% CuO
4.0% MgO	0.005% Fe203
0.5% MnO	0.1% B203

F. Soil sterilizers: as recommended by the State and local agricultural agencies. Sand: clean, sharp builder's sand and free of substances harmful to growth of plants.

PART 3 -- EXECUTION

3.1 PREPARATION

A. The landscape work shall not begin until all other trades have repaired all areas of settlement, erosion, rutting, etc., and the soils have been established, re-compacted, and refinished to finish grades. The landscape architect shall be notified of all areas which prevent the landscape work from being executed.

B. Areas requiring grading by the landscaper including adjacent transition areas shall be uniformly level or sloping between finish elevations to within 0.10-ft above or below required finish elevations.

C. The landscape work shall not proceed until after walks, curbs, pavings, edging, and irrigation systems are in place. The contract operations shall be completed to a point where the landscape areas will not be disturbed. The subgrade shall be cleaned free of waste materials of all kinds.

D. During grading, waste materials in the planting areas such as weeds, rocks (2 inches and larger) building materials, rubble, wires, cans, glass, lumber, sticks, etc. shall be removed from the site. Weeds shall be dug out by the roots.

E. Fertilizers, additives, seed, peat, etc. subject to moisture damage shall be kept in a weatherproof storage place in such a manner that they will be kept dry.

F. After removal of waste materials, the planting area subgrade shall be scarified and pulverized to a depth of not less than 6 inches and all surface irregularities below the cover of topsoil removed.

G. Finish grading shall consist of:

1. Final contouring of the planting areas.

2. Placing planting soil (backfill material) over all areas to be planted unless shown or specified otherwise. Placing 2 inches of topsoil over all areas to be sodded.

3. Placing all soil additives and fertilizers.

4. Tilling of planting areas. A minimum of 6-8" in depth.

5. After tilling, bring areas to uniform grades by floating and/or hand raking.

6. Making minor adjustment of finish grades as directed by the landscape architect.

7. Removing waste materials such as stones, roots, or other undesirable foreign material and raking, disking, dragging, and smoothing soil ready for planting.

H. Any unusual subsoil condition that will require special treatment shall be reported to the landscape architect.

I. Topsoil shall be uniformly distributed over all areas where sod is required. Topsoil shall be as described above.

J. Surface drainage shall be provided as shown by molding the surfaces to facilitate the natural run-off of water. Low spots and pockets shall be filled with topsoil and graded to drain properly.

K. Finish grade of all planting areas shall be 1-½ inches below finish grades of adjacent pavement of any kind.

END OF SECTION

SECTION 33 05 23.13 – UTILITY HORIZONTAL DIRECTIONAL DRILLING

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Section Includes:

1. The CONTRACTOR shall furnish all labor, equipment, and materials necessary to install pipes, conduits, and cables by horizontal directional drilling (HDD).

B. Related sections:

1. 33 95 51 – HIGH DENSITY POLYETHYLENE (HDPE) PIPE, FITTINGS AND JOINING/FUSION

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Installation of Pipelines by Horizontal Directional Drilling, Pipeline Research Committee, American Gas Association, PR-227-9424, April 1995.

B. Horizontal Directional Drilling Good Practices Guidelines, 2004, 2001, HDD Industry Consortium, 300pp.

C. API Bulletin 13D, 1985. Bulletin on the Rheology of Oil-Well Drilling Fluids, Second Edition, Dallas, Texas, American Petroleum Institute.

D. API Recommended Practice 13B-1, 1990. Standard Procedures for Field Testing Water-Based Drilling Fluids, First Edition, Dallas, Texas, American Petroleum Institute.

E. Installation of Pipelines Beneath Levees Using Horizontal Directional Drilling, US Army Corps of Engineers, Waterways Experiment Station, Final Report, CPAR-GL-98-1, April 1998.

F. API Specification 13A, 1993. Specification for Drilling Fluid Materials, Fifteenth Edition, Dallas, Texas. American Petroleum Institute.

G. IADC Drilling Manual, 1992. Eleventh Edition, Houston, Texas, International Associated of Drilling Contractors.

H. Pressure Pipeline Design for Water and Wastewater, American Society for Civil Engineers, 2nd ed., 1992.

I. Tables for Hydraulic Design of Pipes and Sewers, American Society for Civil Engineers, 5th ed., 1990.

J. Handbook of PE Pipe, Plastic Pipe Institute, 2nd ed., 2009

1.3 DEFINITIONS

A. Annular Space: The space between the excavated HDD final reamed bore diameter and the product pipe.

B. Bent Sub: A bent sub is a section of drill pipe behind the cutting tools that is inclined at an angle of one to three degrees from the axis of the bore in the desired direction of steering. The bent sub allows steering while rotating the cutting tools.

C. Conductor Casing: A steel casing pipe installed at the entry and/or exit locations of the borehole to stabilize the borehole.

D. Horizontal Directional Drilling: Horizontal Directional Drilling (HDD) is a guided, steerable drilling system used for the trenchless installation of pipes, conduits, and cables. A pilot bore path is excavated in a shallow arc from a surface-launched drill rig. Excavation takes place with fluid assisted cutting from a drilling tool on the drill string. The pilot bore is directed by the positioning of a bent sub. Tracking of the drill string is achieved by using a downhole wireline survey tool that may be augmented by using an energized wire grid at the surface. The bore is filled with drilling mud/fluid for stabilization. The bore path is enlarged with subsequent multiple reaming passes until the desired diameter is achieved. As a final step, the product pipe, conduit, or cable is pulled into the fluid-stabilized bore.

E. Drilling Fluid/Mud: A mixture of water, bentonite, and/or polymers continuously pumped to the drilling tool or bit cutting head to facilitate the removal of soil cuttings, and stabilization of the bore. These fluids also cool the cutting tools and lubricate the pipe string.

F. Pilot Bore: The action of creating the first guided pass of the HDD process which is then reamed in one or more passes to the size required to allow pullback of the product pipe.

G. Drilling Tool/Bit: Any tool or system of tools that excavate at the face of a bore.

H. Pullback: That part of a horizontal directional drilling process in which the drill string and product pipe are pulled back through the bore to the entry.

I. Pullback Loads: The tensile load (force) applied to a drill string and product pipe during the pullback process.

J. Obstruction: Any object lying completely or partially within the design pathway of the bore and pipeline that prevents further advancement of the drill pipe, pre-reamer, reamer, and/or product pipe, after all reasonable CONTRACTOR attempts to advance past the object or re-drill around the object have failed.

K. Product pipe: The permanent pipe to be installed by HDD and to lie in direct contact with the ground. Includes casing pipe, carrier pipe, conduits, and cables.

L. Settlement Point: A point with elevation and spatial location established by survey prior to construction. The point is re-surveyed daily, or as requested by the ENGINEER, starting the first day of the drilling operation, to monitor ground movements. The point may be a nail, pin, subsurface settlement rod, borehole extensometer, or other device that can be readily located and surveyed. The location of this point, or points, is to be coordinated with the ENGINEER.

1.4 CONTRACTOR SUBMITTALS

A. Submit the following in accordance with the requirements of Section 01 33 00 –Submittal Procedures, providing sufficient detail to allow the ENGINEER to review and determine

whether the proposed equipment, materials, and procedures are in compliance with the Contract requirements. The ENGINEER's review of submitted details and data will be based on consideration of requirements for the completed work, utilities, and the possibility of unnecessary delays in the execution of the WORK to be constructed under this Contract. Review and acceptance of the CONTRACTOR's Submittals by the ENGINEER shall not be construed in any way as relieving the CONTRACTOR of its responsibilities under this Contract.

B. Product Data:

1. Description of Methods, Equipment and Materials: The CONTRACTOR shall submit detailed descriptions of all methods, equipment, and materials to be used for the product pipe installation. Descriptions of drilling fluid additives shall be accompanied by Materials Safety Data Sheets (MSDS) and manufacturers' descriptions and warranties. Descriptions of equipment shall include manufacturers' specifications, calibrations, appropriate drawings, photographs, and descriptions of any modifications since manufacture.

C. Shop Drawings:

1. The drawings shall include all equipment, equipment setup areas, pipe layout areas, and any excavations or mud recirculating pits. The CONTRACTOR shall confirm that all operations shall be completely contained within the project limits, available easements, rights-of-way or temporary easement as secured by the CONTRACTOR.

2. The drawings shall include a plan and profile of the planned HDD alignment, including coordinates and elevations of key locations along the alignment.

D. QA/QC Submittals:

1. Horizontal Directional Drilling Work Plan: Submit an HDD Work Plan complete with drawings and written description identifying all details of the proposed method of construction and the sequence of operations to be performed during construction. The work plan shall also include details of the proposed method of construction for the conductor casing and sequence of operations.

2. Surveying, Equipment and Procedures: The CONTRACTOR shall submit records of equipment calibrations and certifications for all equipment used for downhole surveys and tracking of the drill head. Procedures for operating the downhole survey tools shall be described, including measures to verify the accuracy of the equipment readings.

3. Pipe Filling Methods: The CONTRACTOR shall submit methods and procedures for filling the product pipe with clean potable water during pull back. The submittal shall also include methods and procedures for disposal of any water drained from the filled pipe.

4. Equipment Layout: The CONTRACTOR shall submit sketches depicting the layout and locations of equipment within the rig side work area and pipe side work area, including any proposed drilling fluid containment and recirculation pits.

5. Calculations for Pullback: The CONTRACTOR shall submit calculations for pullback loads on the product pipe for the conditions and operating practices anticipated. All assumptions used in the calculations shall be provided. These calculations shall be prepared and signed and sealed by a licensed Professional Engineer registered in the State of Florida.

6. Pipe Stress Calculations: The CONTRACTOR shall submit calculations for product pipe stresses expected to result from the pullback, bending, fluid buckling loads, earth loads, groundwater loads, break-over stresses during entry into the bore, and any other installation and service loads expected to be exerted on the product pipe. All assumptions used in the calculations shall be provided. These calculations shall be prepared and signed and sealed by a licensed Professional Engineer registered in the State of Florida.

7. Calculations of Maximum Allowable Drilling Fluid Pressure: The CONTRACTOR shall submit calculations identifying the critical downhole pressure that would cause hydrofracture or inadvertent drilling fluid returns. The calculations shall identify the critical points in the alignment. The calculations shall identify all parameters used and state all assumptions made in the calculations. The CONTRACTOR shall submit an annular pressure diagram for the length of the alignment based on the drill path depth, return drilling fluid viscosity, and the diameter of the borehole. The pressure diagram shall show upper and lower bound pressures, indicating maximum allowable pressure and minimum pressure required to maintain fluid circulation through the borehole. The calculations shall be prepared and signed and sealed by a licensed Professional Engineer registered in the State of Florida.

8. Downhole Fluid Pressure and Pullback Load Monitoring: The Contractor shall submit information for the pilot bore down-hole fluid pressure monitoring device and pullback load measuring tool including: equipment calibrations, pressure and load limits, certifications, and list of HDD projects where the pressure and load monitor tools have been used.

9. Frac-Out and Surface Spill Contingency Plan: The CONTRACTOR shall submit a Frac-Out and Surface Spill Contingency Plan describing procedures for preventing drilling fluid losses or spills into water ways and/or fluid returns to the surface. The plan shall address roles and responsibilities of involved parties, monitoring, prevention, containment, cleanup, and documentation procedures, and observations to be made and plans for containment and cleanup, if spills or hydrofracture occur. The plan shall also address changes that may be required to CONTRACTOR's operations to avoid recurrences. Containment and cleanup equipment shall be provided at both entry and exit locations and shall include at a minimum:

    a. Heavy weight plastic gravel filled and sealed bags

    b. Geotek filter bags

    c. Splash board

    d. Several 5-gallon hard plastic pails

    e. Heavy duty push brooms and several flat blade shovels

f. Silt fence and T post or straw bales

g. Straw logs

h. Portable pumps

i. Hose

j. Vacuum truck (available for response within one hour of a frac out event)

10. Rig Capacity: The CONTRACTOR shall submit details on the capacity of the drill rig verifying that the pullback capacity is greater than the required pullback calculated and submitted by the CONTRACTOR.

11. Soil Separation Plant: The CONTRACTOR shall submit details on the pump and cleaning plant. Include dimensions, manufacturer's specifications, pump capacity, noise rating, and soundproofing details on the system.

    a. Pump capacity should be specified for water at sea level elevation, and adjusted for actual elevation and fluid viscosity.

    b. Provide details on the generator, including dimensions, noise ratings at twenty-five feet, and soundproofing.

12. Radius of Curvature: The CONTRACTOR shall confirm that the bore can be completed using the radius of curvature shown on the Drawings along with calculations showing that installation stresses do not exceed allowable pipe stresses. The calculations shall be prepared and signed and sealed by a licensed Professional Engineer registered in the State of Florida.

13. Plans for Disposal of Spoils and Drilling Fluids: The CONTRACTOR shall submit plans for disposal of waste materials resulting from the construction, including drilling fluids, cuttings, waste oil, fuel, discharge water, etc. The CONTRACTOR shall identify the disposal site and submit a letter indicating willingness and legal authority to accept the described and anticipated waste products.

14. Contingency Plans for Potential Problems: The CONTRACTOR shall submit contingency plans for remediation of potential problems that may be encountered during the drilling operations. The contingency plans shall address the observations that would lead the discovery of the problem and the methods that would be used to mitigate the problem. Potential problems that shall be addressed include:

    a. Obstructions encountered

    b. Utility strike

    c. Loss of circulation

    d. Deviation from planned bore path

    e. Hydrolock

f. Drill or product pipe twisted off or broken off in borehole

g. Product pipe collapses, or pipe deformations exceed maximum allowable tolerances

h. Excessive ground settlement

15. Survey Measurements: Survey measurements of settlement points shall be submitted to the ENGINEER by noon of the day following the shift for which the measurements were taken. Measurements shall made during the drilling operation and shall continue for two (2) days following the completion of the pipe installation.

16. Protection of Adjacent Structures: Provide details on measures to be taken to monitor and protect adjacent utilities, structures, and roadways.

17. Safety Plan: The CONTRACTOR shall submit a Safety Plan, including the name of the CONTRACTOR's Site Safety Representative, emergency telephone numbers for medical facilities, and precautions for handling and disposal of any hazardous or flammable materials. The Safety Plan shall include a code of safe practices and an emergency plan in accordance with OSHA and Florida/OSHA requirements.

18. The following shall be submitted as construction progresses and at the completion of construction.

    a. Daily Logs and Records: The CONTRACTOR shall submit complete, legible, written daily logs and records as called for in Paragraph 1.4 C of this specification and as directed by the ENGINEER, by noon of the following day to which the records correspond.

    b. Variations in Plan and Profile: The CONTRACTOR shall document any variations between the actual plan and profile of the bore path and the location shown on the Drawings and specifications herein. The CONTRACTOR shall notify the ENGINEER immediately upon discovery of any deviations that exceed design tolerances.

    c. Mud Weights: The CONTRACTOR shall submit measured drilling fluid viscosity and density at least three times per shift with at least two hours between readings, using calibrated Marsh funnel and mud balance. Measurements shall be made during each stage of the drilling process. These measurements shall be included in daily logs submitted to the ENGINEER. The CONTRACTOR shall document modifications to the drilling fluids, by noting the types and quantities of drilling fluid additives and the dates and times when introduced. The reason for the addition of drilling fluid additives or other modifications shall be documented and reported.

    d. Submit maximum drilling and reaming rates for pilot bore and each reaming pass and confirm that pump capacity is adequate for these anticipated drilling rates for the drilling fluid weights anticipated.

    e. Pilot Bore As-Built Profile: The CONTRACTOR shall submit an as-built profile of the pilot bore within 24 hours of completion of the pilot bore.

19. The CONTRACTOR is required to bring to the attention of the ENGINEER any known design discrepancies with actual tunneling methods that the CONTRACTOR will be performing. This shall be stated in writing to the ENGINEER no later than the pre-construction meeting.

1.5 QUALITY ASSURANCE

A. Qualifications:

1. The HDD CONTRACTOR shall demonstrate expertise in large diameter (30-inch diameter pipe and larger) trenchless pipe installation via horizontal directional drill methods by providing a listing of five (5) projects where similar work (large diameter HDD's) has been performed in the last five (5) years, The listing shall include a reference for each project with correct contact name, phone number and address, the CONTRACTOR's project manager and supervisor involved with the project, a description of the project, project location, OWNER's name and contact information, quantity, size, length, and type of pipe installed by HDD. Conventional trenching experience will not be considered applicable.

2. HDD CONTRACTOR shall submit the names and resumes of all project managers and all field supervisors proposed to be involved with the project. All supervisory personnel must be adequately trained and shall have at least four (4) years of experience in large diameter (greater than 30-inches) directional boring.

3. HDD CONTRACTOR shall submit an overview of the firm, including the number of offices, number of partners and professionals, number and type (city, county, district, private) of entities served by the CONTRACTOR, disciplinary actions or lawsuits proposed against the CONTRACTOR in the last three years and the current bonding capacity, name of surety company and telephone numbers.

4. HDD CONTRACTOR shall demonstrate that the firm owns or has access to equipment capable to construct the project.

5. Submit evidence of OSHA certification for the Site Safety Representative.

6. Daily logs and records shall be maintained by the CONTRACTOR and shall include drilling lengths, location of drill head, installation loads, drilling fluid pressures and flow rates, drilling fluid losses, inadvertent returns, drilling times required for each pipe joint, any instances of retraction and re-drilling of the pilot bore or segments thereof, and any other relevant observations, including any hard drilling zones, steering problems, circulation problems, observed settlement, heave, fracouts, or surface spills. The installation loads and drilling fluid pressures shall be measured at the entry point and recorded at least once per drill pipe length or every 30 feet, whichever is more frequent. These records shall be maintained and provided daily to the ENGINEER. The position of the drill head shall be continuously tracked and recorded by a downhole wireline tracking locator system and supplemented by an energized wire grid at the surface. During the pilot bore, reaming passes, and pipe pullback the CONTRACTOR shall electronically record the following information once per drill pipe or every 30 feet, whichever is more frequent. The information shall be submitted to the Engineer by noon of the day following the shift for which the records were taken.

a. Rate of Penetration

b. Rotational Torque

c. Thrust

d. Pump Rates

e. Calculated Depth

f. Annular Pressure

g. Flow (Metered Returns in Suction Line) CONTRACTIOR to verify measurement method prior to construction.

h. If torque and thrust are recorded as gage pressures, the conversion factors for pound-feet of torque and pounds of thrust shall be provided.

B. Regulatory Requirements:

1. Advance Notice and Inspections: The CONTRACTOR shall provide written notice to the ENGINEER at least 72 hours in advance of the planned inception of major drilling activities, including pilot bore launch, pre-reaming, reaming, and product pipe pullback. The CONTRACTOR shall immediately notify the ENGINEER, in writing, when any significant problems are encountered or if ground conditions are considered by the CONTRACTOR to be materially and significantly different from those represented within the Contract Documents. All work by the CONTRACTOR shall be performed in the presence of the ENGINEER, unless ENGINEER grants prior written approval to perform such work in ENGINEER's absence.

1.6 SCHEDULING

1. In accordance with Section 01 32 16 – Construction Progress Schedule, the CONTRACTOR shall submit a detailed schedule for the HDD installation showing all major construction activities and durations, with starting and completion dates shown. The schedule shall be updated at least every 2 weeks or more frequently, and include:

a. "One call" utility locate requests and visual confirmation of all crossing utilities and all parallel utilities within twenty feet laterally of the bore centerline.

b. Site preparation.

c. Rig mobilization and setup.

d. Installation of conductor casing.

e. Pilot bore drilling.

f. Pre-reaming and reaming.

g. Layout and jointing of product pipe.

h. Pressure testing of product pipe prior to pullback.

i. Cutting of conductor casing stick-out into drill rig pit.

j. Final reaming and pullback of product pipe.

k. Pressure testing of product pipe after installation.

l. Survey after installation.

m. Annulus backfill grouting during pullback of product pipe.

n. Mandrel/pig test to confirm deformations of product pipe are within allowable tolerances.

o. Cleanup, surface restoration, and demobilization.

PART 2 -- PRODUCTS

2.1 EQUIPMENT

A. The CONTRACTOR shall provide all equipment, materials, and personnel necessary for completing the installation as shown on the Drawings and specified herein. The equipment and materials shall include but are not limited to:

1. Directional drilling rig with all ancillary equipment, including drill pipe, drilling fluid, cutting tools, reaming bits, swivels, expanders, motors, generator, pumps, hoses, mixing equipment, drilling fluid processing equipment (cuttings separation equipment), downhole survey equipment, energized surface grid, fluid pressure and flow rate monitoring equipment, spare parts, pipe handling equipment, crane, backhoe, roller, side boom tractors, control cabin, control equipment, and office equipment.

2. Drilling fluids, water, fuel, lubricant, polymers, or other additives.

3. Any other expendable or reusable materials, supplies, and equipment needed for the installation.

B. Two (2) #6 AWG stranded copper wires with white non-metallic insulation shall be pulled with the pipeline for pipeline locating purposes. The wires shall be terminated in a wire access box at both ends. The CONTRACTOR shall attach the wires to the outside of the product pipe in such a way as to not break the wires during the pullback of the pipe.

C. The drilling equipment shall be capable of advancing through the geologic conditions to be encountered at the site, as described in the Geotechnical Baseline Report and as anticipated by the CONTRACTOR.

D. The drilling fluid shall be designed for the geologic conditions to be encountered at the site, as described in the Geotechnical Baseline Report and as anticipated by the CONTRACTOR.

E. The drilling system shall include a fluid pump and separation plant that can achieve the rates of drilling fluid pumping, spoil separation, and slurry cleaning required by the CONTRACTOR to achieve planned production rates for the soils described in the Geotechnical Baseline Report, and as anticipated by the CONTRACTOR. Shaker screens and hydrocyclones may be required for efficient separation of spoils. The CONTRACTOR is advised that the separation plant must fit within the allowable work areas shown on the Drawings.

F. All spoil and slurry must be contained in trucks, tanks, approved recirculation pits, or other containers at all times. Dumping of spoil or slurry on the ground, discharge into sewers, or discharge into the water bodies shall not be permitted. All spoils shall be transported and disposed of off-site at an approved disposal facility that meets all State and local requirements.

G. Perform all work within work areas shown on the Drawings.

H. The product pipe shall be installed using the radii of curvatures and entry and exit angles shown on the Drawings, unless deviations are approved in writing by the ENGINEER during the contractor submittal review process.

I. Pipe rollers and lifters shall be used to help the transition of the product pipe into the bore. The number of pipe rollers and lifters shall be determined by the CONTRACTOR and submitted as part of the work plan.

J. Surface settlement or heave of utilities and other features above the HDD centerlines and within the zone influenced by the HDD construction shall be limited to values that avoid damage. The CONTRACTOR shall repair any damage resulting from settlement or heave caused by HDD activities at no additional cost to the OWNER. The CONTRACTOR shall grout any voids caused by or encountered during drilling.

K. The CONTRACTOR shall allow access to the ENGINEER and shall furnish necessary assistance and cooperation to aid the ENGINEER in observations, data and sample collection, including, but not limited to the following:

1. The CONTRACTOR shall allow the OWNER and/or ENGINEER full access to the operator control container prior to, during, and following all HDD operations. This shall include, but not be limited to, providing visual access to real-time operator control screens, gauges, and indicators.

2. The CONTRACTOR shall allow the OWNER and/or ENGINEER full access to the slurry separation plant prior to, during, and following all HDD operations. This shall include, but not be limited to, full access to shaker screens, hydrocyclones, conveyor belts, and slurry and spoil holding tanks. The CONTRACTOR shall allow the ENGINEER to collect soil samples from the shaker screens and/or spoil holding tanks on the slurry separation plant a minimum of once per drill pipe, and whenever changes in conditions are observed or suspected.

2.2 MATERIALS

1. Reference section 33 95 51for High Density Polyethylene (HDPE) Pipe, Fittings and Joining/Fusion specifications.

2. Water: The CONTRACTOR shall secure a suitable source of water, and shall be responsible for transporting, storing, and disposing of any water required. Potable water shall be used to fill the product pipe during its installation.

3. Drilling Fluids: The CONTRACTOR shall select drilling fluid mixture proportions to ensure continuous circulation, bore stability, reduce drag on pipe, and completely fill the annular space between the bore and pipe to control settlement. Management and disposal of drilling fluids shall be the CONTRACTOR's responsibility. Drilling fluids shall not be disposed of on-site or discharged to sanitary storm sewers, or water ways.

4. Annulus backfill grout: Annulus backfill grout shall consist of a mixture of bentonite and water and appropriate additives (to be determined by the CONTRACTOR), having a minimum nominal density of 9 lbs/gal.

5. Drill Pipe: The CONTRACTOR shall provide high quality drill pipes that has been inspected and determined to be adequate for the project requirements. Bent, cracked, or fatigued drill pipes shall not be used. Threads must be in good condition. The lengths of each drill pipe shall be measured and recorded.

PART 3 -- EXECUTION

3.1 GENERAL

A. The CONTRACTOR shall provide adequate control of surface water and drilling fluids drainage and runoff as well as any disposed test water, and provide silt fences, hay bales, and wattles to prevent surface water, drilling fluids or test water from entering water ways or wetland areas.

B. The CONTRACTOR shall not initiate HDD until all submittals are received, reviewed, and accepted by the ENGINEER.

C. The CONTRACTOR shall not initiate HDD until all required permits are obtained.

D. The CONTRACTOR shall have the equipment listed in the submitted and approved Frac-Out and Surface Spill Contingency Plan prior to commencing drilling operations.

3.2 DELIVERY, STORAGE AND HANDLING

A. Reference section 33 95 51for High Density Polyethylene (HDPE) Pipe, Fittings and Joining/Fusion specifications.

3.3 INSTALLATION

A. Drill Rig Capacity: The capacity of the directional drilling rig used by the CONTRACTOR shall be adequate to install the specified product pipe.

B. Pump Capacity: The pump used by the CONTRACTOR shall be adequate to supply the required flow rate and pressures at the anticipated drilling fluid viscosity at all times. Drilling speeds shall not exceed pump capacity.

C. Bore Tracking and Monitoring: At all times during the pilot bore the CONTRACTOR shall provide and maintain a bore tracking system that is capable of accurately locating the position of the drill head in the x, y, and z axes. The CONTRACTOR shall record this data at least once per drill pipe length or every thirty feet or thirty minutes, whichever is more frequent.

1. Downhole Wireline and Surface Grid Tracking System: CONTRACTOR shall monitor and record x, y, and z coordinates relative to an established surface survey bench mark, from downhole survey data using a downhole wireline system. Tru-tracker energized surface grid, or equivalent, shall be installed and used to augment the downhole wireline tracking system. The grids shall be surveyed to establish horizontal and vertical position to 0.1 feet accuracy. The data shall be continuously monitored and recorded at least once per drill pipe length or at thirty (30) feet or thirty (30) minute intervals during drilling, whichever is most frequent.

2. Deviations between the recorded and design bore path shall be calculated and reported on the daily report. If the deviations exceed tolerances specified in Paragraph 3.3.G.1, such occurrences shall be reported immediately to the ENGINEER. The CONTRACTOR shall undertake all necessary measures to correct deviations and return to design line and grade.

3. Drilling Fluid Pressures and Flow Rates: Drilling fluid pressures and flow rates shall be continuously monitored and recorded by the CONTRACTOR. The pressures shall be monitored at the pump. These measurements shall be made during pilot bore drilling, reaming, and pullback operations. Maximum allowable drilling speeds shall be calculated for pilot boring and each reaming pass and shall not be exceeded for pilot boring or reaming passes. Measurements shall be taken every thirty feet or thirty minutes, whichever is more frequent.

4. Drilling Fluid Viscosity and Density (Mud Weight): The CONTRACTOR shall measure and record drilling fluid viscosity and density at least three times per shift with at least two hours between readings, using calibrated Marsh funnel and mud balance. These measurements shall be included in daily logs submitted to the ENGINEER. The CONTRACTOR shall document modifications to the drilling fluids, by noting the types and quantities of drilling fluid additives and the dates and times when introduced. The reason for the addition of drilling fluid additives or other modifications shall be documented and reported.

D. Location of Entry and Exit Points: Entry and exit points shall be as shown on the Drawings, unless otherwise approved in writing by the ENGINEER. The CONTRACTOR shall employ licensed, experienced surveyors to locate the entry and exit points, and to establish horizontal

and vertical datum for the bore and the product pipe layout and fabrication areas.

E. Entry and Exit Angles: Drill entrance and exit angles shall be as shown on the Drawings, unless otherwise approved in writing by the ENGINEER during the contractor submittal review process.

F. Conductor Casing (Optional): Steel conductor casing shall be installed if the contractor determines that the casing would be beneficial to the drilling process. The casing shall meet the following minimum requirements:

1. The minimum length shall be determined by the CONTRACTOR.
2. The CONTRACTOR shall ensure the casing is installed at the designed entry angle along the designed drill path.
3. The casing shall remain in place, or be removed during pilot bore drilling, reaming, and pullback operations at the discretion of the CONTRACTOR.
4. Methods used to install the conductor casing shall prevent settlement or heave of surface features and subsurface utilities.

G. Pilot Bore: The pilot bore shall follow the design path of the bore shown on the Drawings or as amended or approved during the contractor submittal review process.

1. The pilot hole shall be drilled on bore paths with no deviations greater than 5 feet horizontaly and no greater than 5 percent of depth over the length of the bore unless previously agreed to by the ENGINEER. The CONTRACTOR shall continuously monitor horizontal and vertical position and record the position at least once per drill pipe length, or at thirty feet or thirty minute intervals, whichever is most frequent. In the event that pilot does deviate from the bore path more than 5 percent of depth over the length of the bore, CONTRACTOR will notify the ENGINEER who may require the CONTRACTOR to pull-back and re-drill from the location along bore path before the deviation. Upon completion of pilot hole phase of the operation, a complete set of "as-built" records shall be submitted in duplicate to the ENGINEER. These records shall include copies of the pilot bore path plan and profile record drawing, as well as directional survey reports as recorded during the drilling operation. Upon approval of the pilot hole location by the ENGINEER the hole opening or enlarging phase of the installation shall begin.
2. Radius of Curvature: The radius of curvature shall not be less than that shown on the Drawings. The radius of curvature shall be calculated over any three joint segments using the following formula:

$$R_{drilled} = (L_{Drilled} / A_{Average}) \times 57.32$$

Where: $R_{Drilled}$ is the drilled radius over $L_{Drilled}$,
$L_{Drilled}$ is the length drilled, no less than 75 feet and no greater than 100 feet, and
$A_{Average}$ is the total change in angle (degrees) over $L_{Drilled}$.

3. Entry and Exit Tolerances: The location of the entry and exit points shall be as shown on the Drawings. The CONTRACTOR shall be solely responsible for all work necessary to correct excessive deviations from line and grade, including re-drilling, redesigning connections, and acquiring additional easement, at no additional cost to the OWNER and without schedule extension.

H. Pre-reaming and Reaming: The pilot bore shall be pre-reamed and reamed using equipment and methods submitted by the CONTRACTOR. The CONTRACTOR shall completely ream the bore to the final diameter prior to pullback.

I. Product pipe Pullback:

1. The pipe shall be installed by pulling it into the reamed bore path in a continuous operation, behind a final reaming tool selected by the CONTRACTOR.

2. The pipe shall be isolated from excessive torsional and axial stresses by a swivel device with a pre-established breakaway tensile capacity that is lower than the allowable tensile strength of the pipe.

3. The pipe shall be filled with potable water as it enters the bore to reduce pullback loads and to ensure that adequate internal pressure is maintained at all points to counter balance collapse pressures. Water shall be added at the back of the pipe string.

4. The CONTRACTOR shall monitor and inspect pipe rollers and method for suspending pipe at entry during the pullback operation to avoid damage to the pipe.

5. The CONTRACTOR shall monitor and record installation loads once per drill pipe or every 30 feet, whichever is more frequent.

6. The CONTRACTOR shall cease operations if the pipe is damaged and shall remove the pipe from the bore and repair the pipe using the manufacturer's recommended procedure or replace the damaged pipe before resuming installation.

7. The bore annulus between the carrier pipeline and the bore diameter shall be backfill grouted during pipeline pullback, in a manner to fully displace drilling fluids and water.

8. Damage to the pipe resulting from installation is the responsibility of the CONTRACTOR, including costs for replacement and labor and materials. To confirm no damage to the pipe, upon completion of pull back, the CONTRACTOR shall perform the following test on the completed pipeline:

   a. A sphere or pig, which is capable of allowing water to pass through it, complete with a pulling cable on either side of sphere or pig, shall be pulled through the entire length of the pipeline. If the pig or sphere cannot pass, the pipe shall be considered collapsed and damaged. The sphere or pig shall be sized to confirm the pipe is deformed to no less than 95 percent of its original inside diameter.

3.4 FIELD ASSEMBLY

A. Work Staging Area

1. Work Staging: The CONTRACTOR shall limit staging and work operations to the available easement, rights-of-way and temporary easements secured by the CONTRACTOR, or as otherwise accepted in writing by the ENGINEER, for storage of equipment and materials, parking, product pipe layout, drilling, and other work.

2. Control of Drilling Fluids: The CONTRACTOR shall follow all requirements of the Frac-Out and Surface Spill Contingency Plan and control operational pressures, drilling mud weights, drilling speeds, and any other operational factors required to avoid hydrofracture fluid losses into the surrounding formations, and control drilling fluid spillage. This includes any spillages, inadvertent fluid, or slurry returns at entry and exit locations or at any intermediate point. All inadvertent returns or spills shall be promptly contained and cleaned up. The CONTRACTOR shall maintain on-site mobile spill containment and removal equipment at both the entry and exit points during all drilling, pre-reaming, reaming, and pullback operations. The CONTRACTOR shall be capable of quickly containing and removing spills. The CONTRACTOR shall immediately notify ENGINEER of any inadvertent returns or spills and immediately clean up the inadvertent return or spill.

3. Combustible Materials: Combustible materials (fuel, oil, lubricants, etc.) shall be stored off-site or in a well-ventilated storage facility removed from the immediate vicinity of the drilling area by at least twenty feet.

4. Site Security: The CONTRACTOR shall secure the site to prevent entry of unauthorized persons.

3.5 FIELD QUALITY CONTROL

A. Site Tests:

1. Final Hydrostatic Test: The CONTRACTOR shall conduct a final hydrostatic test of the installed conductor casing. Final test shall be in accordance with Section 01 74 30 - Pressure Pipe Testing and Disinfection. The CONTRACTOR shall repair any defects discovered during this test, and repeat until the casing passes the test.

B. Inspection:

1. Obstructions: The CONTRACTOR shall notify the ENGINEER immediately in the event that any obstruction is encountered that prevents further advancement of the drill pipe, or pullback of the pre-reamer, reamer, and/or product pipe. The CONTRACTOR shall make all diligent and reasonable efforts to advance past the object by drilling slowly through the object, pulling back, and drilling along a new bore path that avoids the object, or excavating and exposing and removing the object, and all other reasonable attempts to continue the bore. The CONTRACTOR shall notify the ENGINEER of proposed measures to attempt to advance past the object, prior to initiating the attempt. If the CONTRACTOR attempts to pullback and re-drill, the CONTRACTOR shall adhere to line and grade tolerances established in this specification unless the ENGINEER approves variance, in writing, prior to the

CONTRACTOR's attempt to re-drill. The CONTRACTOR and ENGINEER shall investigate the cause and together determine an appropriate response. Appropriate response may include revisions to equipment or methods, retraction and re-drilling of a portion of the bore, or abandonment of the hole. If abandonment is deemed necessary, the CONTRACTOR shall recover, to the extent practicable, any drill pipe, product pipe, and tools in the bore, and properly abandon the bore, unless otherwise directed in writing by the ENGINEER. If the bore is abandoned, the CONTRACTOR shall pressure-grout the abandoned bore with a lean cement-sand grout mixture, or other approved materials. If the bore is abandoned, the CONTRACTOR shall be allowed to begin a second attempt to install the product pipe at an alternate location subject to approval, in writing, by the ENGINEER and OWNER. The CONTRACTOR shall take all reasonable actions to complete the installation with minimal delays. The extra costs and payments associated with encountering a confirmed obstruction will be negotiated between the OWNER and CONTRACTOR, based on reasonable time and materials.

3.6 CLEANING

A. Site Restoration and Demobilization: The CONTRACTOR shall remove all equipment, materials, drilling fluids, muck, waste, and debris from the site and restore the site to its original condition upon completion of the installation. Restoration and demobilization shall be completed by the CONTRACTOR within seven days of the completion of the product pipe installation.

END OF SECTION

SECTION 33 05 23.16 – UTILITY PIPE JACKING

PART 1 -- GENERAL

1.1 SUMMARY

A. Section Includes:

1. Requirements for the furnishing and installation of jack and bore carrier pipes to be completed in place, all in accordance with the requirements of the Contract Documents and the Florida Department of Transportation (F.D.O.T.) requirements, as outlined in the F.D.O.T. Utility Accommodation Guide. Where differences exist, the more stringent shall govern.

2. The work to be performed in this section includes design calculations, detailing and fabrication of steel casing pipes for jack and bore installation.

3. This specification covers the technical requirements for the installation of the steel casing pipe. The CONTRACTOR's Work shall include, but not necessarily be limited to, providing all items of labor, material, and equipment necessary to handle and install the casing pipe.

4. Other work performed under this section includes: locating the jack and bore and receiving pits, excavating the jacking and receiving pits, welding of the casing pipe, and installation of the spacers/insulators and end seals.

B. Related sections:

1. Section 01 74 20 – Gravity Pipeline Testing

2. Section 01 74 30 – Pressure Pipeline Testing and Disinfection

3. Section 02 00 00 – Existing Conditions

4. Section 31 22 19 – Finish Grading

5. Section 31 23 19 – Dewatering

6. Section 31 23 33 – Trenching and Backfilling

7. Section 32 16 23 – Sidewalks

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. American Society of Testing Materials (ASTM):

1. ASTM A283 - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates.

B. American National Standards Institute (ANSI) / American Welding Society (AWS)

1. ANSI/AWS D1.1 – Structural Welding Code

C. ANSI/AWWA C200 Steel Water Pipe 6" and Larger.

D. Geotechnical Reports

1. Geotechnical Data Report

1.3 DEFINITIONS

A. Carrier Pipe: a pipe designed to carry water, sewage, or utilities.

B. Casing Pipe: a pipe that is jacked into place, and within which the carrier pipe is placed. Casing pipe may be specially designed to carry surface live loads, and to protect an overlying structure from the effects of leakage out of the carrier pipe.

C. Pipe Jacking: Method of installation of carrier pipe by methods of hand mining, boring or cutting an opening in soil material while simultaneously forcing casing pipe through with hydraulic jacks.

D. Carrier Pipe Spacers/Insulators: Fabricated item for placing carrier pipe inside casing pipe.

E. End Seals: Material placed between carrier and casing pipe at end of casing pipe to seal the annular space.

F. Jacking Pipe: Carrier pipe or casing specially designed to be installed using pipe jacking or microtunneling techniques.

G. Settlement Threshold: Maximum Allowable Values of Surface and Services Settlement as defined by the ENGINEER.

H. Thrust Wall: An engineered structure located between the jacking frame and the shaft wall intended to spread the jacking force developed by the hydraulic cylinders over a larger surface area.

I. Jacking Frame: A structural component, fitted with hydraulic cylinders, which is used to push the shield and pipe string into the ground. The jacking frame serves to distribute the thrust load to the pipe string and the reaction load to the shaft wall or thrust wall.

1.4 CONTRACTOR SUBMITTALS

Submit in accordance with Section 01 33 00 – Submittal Procedures.

A. Product Data:

B. Shop Drawings:

1. The CONTRACTOR shall submit shop drawings of pipe casing in accordance with the requirements in Section entitled, "CONTRACTOR Submittals" and the following supplemental requirements as applicable.

2. The CONTRACTOR, prior to beginning any trench or structure excavation 5 feet deep or over, shall submit to the ENGINEER/OWNER and shall be in receipt of the

ENGINEER's/OWNER's written acceptance of the CONTRACTOR's detailed plan showing design of all shoring , sheeting, bracing, sloping of the sides of excavation against the hazard of caving ground during the excavation of such trenches or structure excavation

3. Casing installation schedules which include schedules of excavation, pipeline installation, and backfill operation.

4. Material list including:

   a. Diameter, thickness and class of steel casing

   b. Method of steel pipe fabrication

   c. Detail of field joints

5. Detailed locations and sizes of all boring or jacking and receiving pits.

6. All permits associated with the boring or jacking operation.

7. Product data for carrier pipe spacers/insulators and end seals

8. Casing installation schedule, which shall include schedules of excavation, pipeline installation, and backfill operations.

9. A description and details of the equipment, accessories, and means and methods proposed for installing the pipe casing.

10. A list of welding procedures.

C. Samples:

D. QA/QC Submittals:

1. Describe the Pipe Jacking Plan, including the following information:

   - Layout of jacking and receiving pits, showing distance to near face of pits measured at right angles to roadway or utility being crossed.

   - Jacking equipment and methods, including jack arrangement and capacity, thrust ring design, and thrust block design and capacity.

   - Lubricant composition, injection locations, and pump capacity (pressure and volume).

   - Anticipated maximum jacking load.

   - Jacking head details, including length, outside diameter, and dimensions of overcut.

- Jacking pipe design details, including outside diameter, wall thickness, material properties, joint and gasket detail; information provided shall be sufficient to show conformance with appropriate ASTM standards under which the pipe was manufactured.

2. Describe the groundwater control system specific to Pipe Jacking operations, in conformance with Section 31 23 19 - Dewatering.

3. Describe procedures and equipment for installing carrier pipe inside casing pipe, methods for placing pipe in the vertical alignment shown on the Drawings, and methods for maintaining carrier pipe in alignment during backfill grouting.

4. Describe backfill grouting equipment and methods, including grout hole pattern, grout mix design, injection procedures and pressures, means of controlling heat of hydration, bulkheading ends of pipe, and preventing floatation or displacement of pipe.

5. Provide copies of grout injection records including quantities placed, and pressures used.

1.5 QUALITY ASSURANCE

1. WELDING REQUIREMENTS

a. All welding procedures used to fabricate steel casings shall be pre-qualified under the provisions of ANSI/AWS D1.1. Welding procedures shall be required for, but not necessarily limited to, longitudinal and girth or special welds for pipe cylinders, casing joint welds, reinforcing plates and grout coupling connections.

b. All welding shall be done by certified welders, welding operators, and tackers who have had adequate experience in the type of materials to be used. Welders shall be qualified under the provisions of ANSI/AWS D1.1 by an independent local, approved testing agency not more than 6 months prior to commencing work on the casing or pipeline. Machines and electrodes similar to those used in the work shall be used in qualification tests. The CONTRACTOR shall furnish all material and bear the expense of qualifying welders.

B. Regulatory Requirements:

1. The CONTRACTOR shall give the ENGINEER a minimum of ten days advance notice of the start of excavation or boring operations.

2. The CONTRACTOR shall give all utilities which provide service in the vicinity of construction or have existing facilities located in the affected area of construction, a minimum of two weeks notice of the start of an excavation of boring operation.

3. All work shall be performed in the presence of the ENGINEER and other public agency representatives as required by permits or regulatory requirements.

4. Crossing Permit Requirements

a. Comply with crossing permit requirements of the agency responsible for structures or services being crossed by Pipe Jacking, such as public transportation agencies, railway companies, and public utility OWNERs.

b. A permit for the required crossing has been obtained by the OWNER and is included in the Supplementary Conditions. Note that this permit requires some time notice prior to crossing and/or installation of a steel casing in advance of carrier pipe. CONTRACTOR to carry additional insurance.

c. If required by the agency, a permit for the required crossing shall be obtained by the CONTRACTOR.

5. If the CONTRACTOR is not ready to install the carrier pipe in the casing within 48 hours, the CONTRACTOR must backfill the hole.

6. The CONTRACTOR shall be responsible for maintaining the specified line and grade, and for preventing settlement of overlying structures, or other damage due to the boring and jacking operations.

7. The CONTRACTOR is responsible for field adjustments in the grade up to +/- 2 feet (as directed by the ENGINEER) without additional costs to the OWNER.

8. Upon completion of the bore, the ends shall be bulkheaded, or sufficiently barricaded and sloped to protect the surrounding areas and prevent any access to this facility, until the CONTRACTOR is ready to place the carrier pipe in the casing.

C. Certifications:

1. Certifications of all welders to be used on the project.

2. The CONTRACTOR shall furnish a certified affidavit of compliance for all pipes and other products or materials furnished under this Section of the Specifications and the following supplemental requirements:

Physical and chemical in making samples for certification of tests shall be borne by the CONTRACTOR.

PART 2 -- PRODUCTS

2.1 GENERAL EQUIPMENT REQUIREMENTS

A. Casings shall be welded steel pipe of the diameter necessary to carry the carrier pipe and shall conform to ANSI/AWWA C200. The CONTRACTOR shall be fully responsible for the sufficiency of the casing provided and may select a greater diameter or thickness for the method of work, loading characteristics, site conditions, or possible interferences at no additional cost to the OWNER. Pipe manufacturer shall perform an analysis checking for possible flotation for water depths above the top of pipe of 2, 4, 6, 8, 10, and 12 feet.

B. The annular space between the carrier pipe and the casing shall be filled with grout, unless shown otherwise on the Drawings.

C. All voids around the outside of casing pipe of nominal 36 inches in diameter or larger shall be filled with grout.

2.2 MATERIALS

A. Casing Pipe

1. The casing pipe shall be smooth-walled and in accordance with ASTM A283, Grade C and shall meet the requirements of the agency having jurisdiction over the crossing. Casing shall be of welded steel construction, shall be of new material with a minimum yield point of 35,000 psi, and shall meet the requirements of the highway authority having jurisdiction. It shall be the CONTRACTOR's responsibility for selecting the casing size so that the jacking can be done with sufficient accuracy to allow installation of the carrier pipes to the grade shown on the Contract Documents. All increased costs resulting from the CONTRACTOR's use of steel casing pipe with a larger diameter or thickness than the minimum specified shall be borne solely by the CONTRACTOR.

2. Inside diameter of casing pipe shall be a minimum of 12-inches larger than the largest outside diameter of the carrier pipe. No part of the carrier pipe or casing pipe shall extend into this diameter.

3. Casing section joints shall be butt-welded, lap welded, or welded using butt straps in the field.

B. Carrier Pipe

1. The carrier pipe shall have an inside diameter equal to pipe placed in adjacent open cut excavation so as to present a uniform bore through the crossing.

2. The carrier pipe to be installed inside a casing pipe shall conform to requirements for pipe placed in adjacent open cut excavation, unless otherwise shown on the Drawings.

3. The carrier pipe to be jacked into place shall be as detailed in Division 40. Pipe shall be of sufficient class, as determined by the CONTRACTOR, to carry jacking loads without overstress or damage. In no case shall class of pipe be lower than that shown on the Drawings for adjacent open cut construction. Assembled joints shall be flush with the outside diameter of the pipe. The use of clay pipe for Tunneling and Pipe Jacking under roadways or railways is prohibited.

4. Contact surfaces of concrete casing pipe joints that transmit axial jacking forces shall be separated by a precut cushioning material of plywood, chipboard, soft lumber, or equal that can transmit jacking forces uniformly. Materials used shall be unaffected by moisture. Cushion material shall exhibit minimum lateral expansion to avoid transfer of tensile splitting force to the pipe. Cushioning shall be held back from the edges of the joint sufficiently to prevent edge spalling, a minimum of 1/8-inch. Secure cushioning rings in position using mastic or equivalent measures.

C. Contact Grout: Contact Grout shall be provided as specified in Section 03 60 00 - Grouting.

1. Coordinate size and number of grout holes in pipe with the backfill grouting program.

D. Carrier Pipe Spacers/Insulators: Provide carrier pipe spacers, as specified below.

1. Carrier pipe shall be supported within the casing by use of casing spacers specifically designed for the application. Casing spacers shall be constructed of circular stainless steel bands which bolt together to form a shell around the carrier pipe. Spacers shall be designed with runners to support the carrier pipe and to maintain a minimum clearance of 1 inch between the casing ID and the spacer OD.

2. Bands shall be manufactured of 14 gage T-304 stainless steel, and shall be supplied with stainless steel bolts, nuts, and washers.

3. Abrasion resistant runners shall be attached to each band to minimize friction on the carrier pipe as it is installed. Ends of runners shall be bevelled to facilitate installation over rough weld beads or the ends of misaligned or deformed casing pipe.

4. Position spacers 1 to 2 feet on each side of the bell joint and 7 to 9 feet thereafter, unless otherwise recommended by the spacer manufacturer or the pipe manufacturer.

5. The CONTRACTOR may propose alternative casing spacings, and the ENGINEER will evaluate the proposal against these specifications. Timber skids will not be considered as an alternative.

E. End Seals Closure:

1. The end seals shall be standard pull-on type, sized to fit the carrier pile and casing configuration. The seals shall be a minimum of 1/8-inch thick synthetic rubber with stainless steel banding to seal the end seal to both the carrier pipe and casing.

F. BACKFILL GROUT

1. Backfill grout shall consist of a mixture of water and portland cement, with sand fillers or admixtures as necessary to achieve a non-shrink, non-bleed, non-corrosive, flowable grout. The grout shall have a minimum 24-hour compressive strength of 100 psi. Bentonite or other clay-like materials shall not be used as an admixture.

2. Sand for backfill grout shall be clean natural silica sand, graded such that 100 percent of the material passes the No. 20 sieve and not more than 20 percent passes the No. 200 sieve.

PART 3 -- EXECUTION

3.1 GENERAL REQUIREMENTS

A. In the performance of the work, the CONTRACTOR shall comply with the lawful requirements of the affected county and state roadways, public agencies, and OWNERs of public utilities or other facilities respecting the safeguarding of traffic and improvements which might be endangered by the Pipe Jacking operations. The approach trenches in public streets will not be permitted to remain open for extended periods of time.

B. Necessary or desirable miscellaneous items, appurtenances, and structures not mentioned or described shall be furnished in accordance with the intent of the Drawings

and Specifications and as accepted by the ENGINEER, as necessary to complete the work.

C. The CONTRACTOR shall install the pipeline complete, including bends, couplings, valves, and other associated work and appurtenances, as shown on the Drawings or as herein specified. Make all necessary connections to the lines and grades shown on the Drawings and in accordance with the Specifications. The CONTRACTOR shall furnish all construction materials and equipment required for installation and backfill.

D. All areas disturbed by excavation of the bore and jack and receiving pits will be restored in accordance with these Specifications, the Drawings, and shall include slope protection, revegetation, and road restoration.

E. The CONTRACTOR shall repair or replace culverts that are damaged, removed or interfere with the work as part of his restoration effort, at no additional cost to the OWNER.

F. Pipe Jacking in cohesionless soils below the water table is prohibited. The groundwater table shall be lowered below the base of excavation anywhere that flowing ground conditions could occur at the face of the jacked pipe excavation.

3.2 DELIVERY, STORAGE AND HANDLING

A. Packaging, Shipping, Handling and Unloading:

1. The CONTRACTOR shall abide by the required handling techniques specified by the Manufacturer.

2. The CONTRACTOR shall provide suitable quantities of all lifting equipment to handle the pipe.

B. Storage and protection:

1. All materials shall be transported and stored according to the recommendations of the Manufacturer.

2. All products shall be stored to permit ready access for identification and inspection by the ENGINEER

3.3 INSTALLATION

A. Casing Pipe Installation

1. Casing shall be installed by jacking and/or boring methods, without the use of water or air, at the locations and grades shown on the Contract Documents and subject to the approval of the ENGINEER. The methods and equipment used for installing the casing pipe shall be selected by CONTRACTOR, subject to the review and concurrence of the ENGINEER. Such concurrence, however, shall not relieve the CONTRACTOR of the responsibility for performing a satisfactory installation meeting all specified requirements, including the following:

a) The diameter of the excavated hole shall be not more than 1 inch greater than the outside diameter of the casing pipe.

b) Sluicing or jetting with water will not be allowed as a method of excavation.

c) The casing pipe shall be installed in a manner that will prevent loss of ground, ground deformation, and any damage to the existing facilities, existing utilities, railroad, and the roadway.

d) If loss of ground should occur at any time during the casing installation, CONTRACTOR shall backfill the voids immediately, to the extent practical, with soil cement. Soil cement shall consist of a slightly moistened mix of 1 part cement to 5 parts granular material. Soil cement shall be thoroughly mixed and packed into all voids. The CONTRACTOR is responsible to repair all damage caused by loss of ground during casing installation.

e) The joints of sections of casing pipe to be installed shall be welded.

2. Jacking equipment shall be capable of advancing the pipe in a controlled manner without overstressing the pipe. Jacking capacity shall be at least 20 percent higher than the maximum estimated jacking load.

3. Equip jacking system with a device to measure jacking loads being applied. Provide means to prevent the main jacks from exceeding maximum allowable concentric jacking load for the pipe.

4. Thrust block capacity shall be at least 50 percent greater than the anticipated maximum jacking load.

5. Provide seals at the pipe penetration in launch shafts and in reception shafts as necessary to minimize loss of lubricant, groundwater, and soil into the shaft. Seals shall prevent binding of the pipe due to lubricant and groundwater losses near the shaft, and shall sufficiently control ground movement or settlement outside the shaft to prevent damage to structures.

6. Inject lubricant between the pipe and the ground to minimize friction loads on the pipe, and to minimize loss of ground into the annular space surrounding the pipe. Lubricant shall consist of water mixed with bentonite, polymers, or other lubricants having no deleterious effect on the pipe or groundwater.

7. Inject lubricant at the leading pipe, and at regular intervals along the pipe string not to exceed 100 feet. Inject sufficient lubricant to fill the annular space. Replace lubricant lost into the surrounding formation. Control injection pressure to minimize loss of lubricant into utility trench backfill or to the ground surface.

8. Avoid overstressing the pipe. Where jacking loads on the pipe exceed 80 percent of the maximum allowable concentric jacking load for the pipe, continue the drive 24 hours per day until completed.

9. The jacking system shall continuously monitor jacking pressure, rate of advancement, and distance jacked. The jacking system shall develop a uniform distribution of jacking forces around the end of the pipe.

10. Provide a pipe lubrication injection system to inject pipe lubricants into the annulus around the outside of the pipe.

11. Jacking Head: A steel jacking head shall be fitted to the lead section of the casing in such a manner that it extends around the entire outer surface of the steel casing and projects at least 18 inches beyond the driving end of the casing. The jacking head shall not protrude more than 0.5 inches outside of the outer casing surface. The head shall be securely anchored to prevent any wobble or alignment variation during the boring or jacking operations. To minimize voids outside the casing, excavation shall be carried out entirely within the jacking head and not in advance of the head. Excavated materials shall be removed from the casing as the boring or jacking operation progresses and no accumulation of excavated materials within the casing shall be permitted.

12. Casing End Seals: Each end of the casing shall be capped with an end seal. The end seal shall be installed per manufacturer's requirements.

B. Casing Pipe Tolerances

1. Place casing pipe to within 1 inch of vertical alignment and 3 inches of horizontal alignment shown on Drawings.

2. Limit annular space, between excavated material and outside diameter of casing pipe, to maximum of 0.5-inch.

3. Outside diameter of microtunnel boring machine (MTBM) not to exceed outside diameter of casing pipe by more than 1 inch.

4. Redesign of pipeline or associated structures if jacked casing pipe is off design line or grade, will be at no additional cost to OWNER.

C. Construction Pits

1. Jacking Pit: CONTRACTOR shall determine the location of the jacking pit. The excavations for the boring or jacking operations shall be adequately shored and dewatered to safeguard existing substructures and surface improvements and to ensure against ground movement in the vicinity of the jack supports. Heavy guide timber, structural steel, or concrete cradles of sufficient length shall be provided to assure accurate control of boring or jacking alignment. The CONTRACTOR shall provide adequate space within the excavation to permit the insertion of the lengths of casing to be bored or jacked. Timbers and structural steel sections shall be anchored to ensure action of the jacks in line with the axis of the casing. A bearing block, consisting of a timber or structural steel framework, shall be constructed between the jacks and the end of the casing to provide uniform end bearing over the perimeter of the casing and distribute the jacking pressure evenly. Any interfering utilities shown on the contract drawings within jacking pits shall be relocated at the CONTRACTOR'S expense.

2. Receiving Pit: CONTRACTOR shall determine the location of the receiving pit. The excavations shall be adequately shored and dewatered to safeguard existing substructures and surface improvements and to ensure against ground movement.

3. Closing of Pits: After jacking equipment and excavated materials from boring or jacking operations have been removed from the jacking and receiving pits, the CONTRACTOR shall backfill the bottom of the jacking pit in accordance with Section 31 23 33 – Trenching and Backfilling.

D. Carrier Pipe Installation

1. Joints

a. All joints of the carrier pipe within the casing shall be Ductile iron Restrained Joint Pipe on Cascade of APS Spacing System (or approved equal) per manufacturers requirements for each joint. CONTRACTOR shall check the grade of the lead pipe by instrument once in each 4 feet of advance or more often if necessary to determine pipe alignment. A jack shall be used at the head end to control grade, if required. Alignment shall be controlled by guide rails set in the jacking pit

b. When the installation of the casing pipe is completed, CONTRACTOR shall install the carrier pipe. Carrier pipe may be jacked through the steel casing pipe or may be pulled through with a cable, but under no circumstances shall it be driven or stuck. The method selected by the CONTRACTOR shall exert no tensile force on any joint in the pipeline.

2. Testing of Carrier Pipes

a. Hydrostatic testing shall be performed in accordance with the specification Section 01 74 20 – Gravity Pipeline Testing and/or 01 74 30 – Pressure Pipeline Testing and Disinfection.

3.4 WELDING

A. Where steel casing pipe is specified or shown on the Drawings, joints shall be welded in conformance with AWS D1.1 and in a manner to carry full forces generated during jacking without distress to joint or pipe. Welding procedures shall be suited to the grade of steel and service intended.

B. Welders shall be qualified under provisions of AWS D1.1 by an independent testing agency approved by AWS.

C. Weld steel casing pipe joints watertight. Welds shall be fully penetrating, continuous around the full circumference of the pipe, and capable of carrying all construction loads.

3.5 CONSTRUCTION

A. Special Techniques:

1. Control of Alignment and Grade: The casing installation shall be performed true to line and grade, such that the carrier pipe can be installed as shown on the Contract Drawings. Allowable grade deviations in horizontal and vertical alignments shall be no greater than 0.2 feet per 100 feet in any direction over the length of the jacking or boring to a maximum deviation of 6 inches.

   If required by the ENGINEER, the augers shall be removed from the casing, for every 100 feet of casing length, to check for correct line and grade. Corrections shall be made as required to keep the casing within the required horizontal and vertical tolerances. The grade and alignment shall be checked by optical surveying or laser equipment.

   The CONTRACTOR shall control the application of the jacking pressure and excavation of materials ahead of the casing as it advances to prevent the casing from becoming earthbound or deviating from the required line and grade.

   The CONTRACTOR shall restrict the excavation of the materials to the least clearance necessary to prevent binding in order to avoid loss of ground and consequent settlement or possible damage to the overlying pipeline and road.

B. Control of Water

   1. Install and operate dewatering wells as necessary to lower the water table to a minimum of 3 feet below the depth of excavation, wherever cohesionless soils are expected to be encountered within at least 1/3 of the excavated face, as indicated in the Geotechnical Baseline Report.

C. Backfill Grouting: Immediately after completion of the boring or jacking operations, the CONTRACTOR shall inject as specified in Section 33 60 00 – Grouting.

   1. General

      a. Perform backfill grouting in a manner to fill with grout all voids in the annular space.

      b. Provide grout holes to inject grout, and vent holes to release air and water from crown, invert, or other cavities, as necessary to ensure complete grouting of the annular space. Form or drill holes through pipe to make a clean hole, to minimize damage to the pipe and to facilitate patching. After completion of the grouting operations, the CONTRACTOR shall close the grout connections with cast iron threaded plugs.

      c. Secure grout pipes in grout holes to prevent grout return around the perimeter of the pipe. Set grout pipes so that grout can flow freely to voids behind the lining.

      d. The grout mixing system and grout pump shall be specifically designed to provide continuous flow of grout without interruption due to inadequate batching capacity. Grout pump shall be capable of delivering grout to the point of injection at specified pressures. Provide means for accurately determining the amount of grout injected.

e. Continuously agitate grout in mixer and holding tanks. Portland cement grout which is not injected into the hole within 2 hours after mixing shall be removed from the mixer, holding tank, and supply line, and shall be wasted.

f. Inject grout in continuous progression of grout holes along the length of the pipe. Where grout holes extend around the tunnel periphery, make connections to higher grout holes after grout has completely filled the space below.

g. Pump grout until material discharging from next hole in sequence is similar in consistency to that at the point of injection. Exercise care to completely fill voids on each side of any obstruction to the passage of grout.

h. Prevent the setting of grout that escapes to the interior of the pipe, and remove such grout and restore the surface to its original condition.

i. Make one set of four compressive test specimens for each 100 cubic yards of grout placed, or a minimum of one set per day.

2. Jacked Pipe

a. Jacked pipe 48 inches in inside diameter and larger shall be backfill grouted.

b. Provide three grout holes at equal circumferential spacing at intervals not to exceed 20 feet, as a minimum.

c. Begin backfill grouting within 1 day of completing the jacked pipe drive.

d. Displace all lubricant from the annular space between casing and surrounding ground.

e. Control grout pressure to avoid movement of the surrounding ground. Limit grout pressures at the injection point to 10 psi or less.

f. On completion of backfill grouting, seal grout holes with a 1:3 cement:sand mortar with plasticizer, or a purpose made plug.

3. Carrier Pipe – Two Pass

a. Employ grouting procedures that avoid damaging the carrier pipe by heat of hydration.

b. Place a temporary watertight bulkhead at the limits of grout placement, between the casing pipe and the carrier pipe, prior to grouting.

c. Begin grouting at a bulkhead and proceed in one direction, so as to cause any water remaining in the invert to move ahead of, and not mix with or become trapped by, the grout. Provide means to allow water and thinned or contaminated grout at the leading edge of the lift to escape.

d. Limit grout pressures at the injection point to 10 psi or less.

e. Remove temporary bulkhead after grout has set, and fill any remaining space with 1:3 cement:sand mortar.

4. Seals

a. Where filling the annular space between the casing pipe and carrier pipe is prohibited, seal completely the ends of casing pipe to the outside of the carrier pipe to prevent intrusion of foreign material which might prevent ready removal of the carrier pipe.

3.6 CLEANING

A. The CONTRACTOR shall keep the site clean and tidy at all times. Site improvements shall be protected from damage or becoming soiled through suitable temporary covering.

B. Upon completion of the work, all waste shall be removed from the site and the site restored to as near its original condition as possible. Any remnants of slurry or bentonite that may have splattered on improvements shall be removed.

C. Perform restoration as the Work progresses and when completed. Do not delay restoration work, and complete restoration no later than 30 days after the carrier pipe is in place. Any testing or further inspection necessary for final completion and inspection of the carrier pipe is not cause for any delay of restoration work required under this Contract. Include all property that was affected by the construction operations. Such final restoration that cannot be performed within the 30-day period due to adverse weather conditions may, upon written request and including a proposed procedure and time schedule, be performed as approved by the ENGINEER. Any delayed restoration will be contingent upon providing suitable safe temporary facilities without inconvenience or nuisance.

END OF SECTION

SECTION 33 05 13.19 – TRENCHLESS CONSTRUCTION

PART 1 -- GENERAL

1.1 SUMMARY

A. Section Includes:

1. This section includes the requirements for the installation of permanent (carrier) pipe using a trenchless method of construction.

2. This is a performance specification. The CONTRACTOR shall develop the means and methods, and complete the work for each trenchless crossing subject to the limitations specified herein. The scope of work performance requirements are as follows:

   a. Designing, detailing, fabricating, and installing casing and carrier pipes using trenchless construction methods as shown on the Contract Drawings and to the line and grade tolerances specified herein.

   b. The CONTRACTOR shall be responsible for the design of the equipment for the selected trenchless method to successfully complete the drive(s) in the ground conditions described in the GBR.

   c. The CONTRACTOR shall design the trenchless methods to accommodate the full range of soil and rock conditions anticipated along the drive(s) as described in the GBR.

   d. Welding or mating the steel casing pipe joints, as appropriate.

   e. Labor, material, tools, equipment, and incidentals necessary to complete the work described above.

   f. Spoil hauling and disposal.

B. Related sections:

1. Section 31 23 00 – Excavation and Fill

2. Section 31 23 33 – Trenching and Backfilling

3. Section 31 22 13 – Rough Grading

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. American Society of Testing Materials (ASTM):

1. ASTM A283 - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates, Grade B, C, or D.

B. American National Standards Institute (ANSI) / American Association of State Highway and Transportation Officials (AASHTO) / American Welding Society (AWS)

1. ANSI/AASHTO/AWS D1.1 - Structural Welding Code.

C. Occupational Safety and Health Administration (OSHA)

1. 29 CFR Part 1926, Subpart S (Underground Construction).

D. Geotechnical Reports

1. Geotechnical Data Report

1.3 DEFINITIONS

A. Auger Boring: A technique for forming a bore from a launching shaft to a reception shaft, by means of a rotating auger inside a pipe.

B. Casing Pipe: Pipe in which carrier pipe will be placed as required by the Contract Drawings. Typically steel but other pipe materials can be used.

C. Conventional Tunnel Boring Machine (TBM): A wheeled excavator with a circular shield equipped with a motor driven rotating cutter head.

D. GBR: Geotechnical Baseline Report.

E. Intermediate Jacking Stations: Series of hydraulic jacks spaced around jacking pipe circumference and temporarily installed between two jacking pipe segments inside a steel casing fabricated to the same outside diameter as the jacking pipe.

F. Jacking Frame: A structural component in the launching shaft, fitted with hydraulic cylinders, which is used to push the cutting head and jacking pipe string into the ground. The jacking frame serves to distribute the thrust load to the pipe string and the reaction load to the thrust block.

G. Jacking Pipe: Pipe, either casing or carrier, specially designed to be installed using pipe jacking techniques. Jacked Pipe includes the pipe used for pipe ramming operations.

H. Microtunneling: A trenchless method of construction that involves installation of pipe by jacking pipe sections into place from a launching shaft using hydraulic jacks. Excavation is carried out with a microtunnel tunnel boring machine (MTBM).

I. One-pass Installation: Involves directly jacking the carrier pipe.

J. Two-pass Installation: Involves jacking of the larger diameter casing pipe with the later installation of the selected carrier pipe as detailed in Section. The two-pass method will be required where steel casing pipe is specified.

K. Microtunneling Boring Machine (MTBM): A closed-face, remotely operated, steerable, laser-guided, articulated shield that is capable of exerting a continuous and controllable pressure at the tunnel heading to prevent groundwater inflows and soil movement into the heading.

L. Pipe Ramming: A non-steerable system of forming a bore by driving an open-ended casing using a percussive hammer from a pit and only displacing the wall thickness of the casing. The soil will remain in the casing until the bore has been completed and then may be removed by water, augering, jet-cutting or compressed air.

M. Shield Tunneling: A tunneling method where protective structures are used during excavation serving as a temporary support structure for the tunnel while it is being excavated usually by hand mining methods.

N. Drive: The section of pipeline installed by trenchless construction methods between a launching and receiving shaft.

O. Thrust block: An engineered structure located between the jacking frame and the shaft wall intended to spread the jacking force developed by the hydraulic cylinders over a sufficiently large area to prevent distortion of the shaft support system.

1.4 CONTRACTOR SUBMITTALS

A. Submit in accordance with Section 01 33 00 – Submittal Procedures.

B. All submittals, including drawings and calculations, shall be required for the sole purpose of providing ENGINEER sufficient details to confirm that the CONTRACTOR'S planned work and work in progress is in accordance with Contract Documents. ENGINEER'S review shall not be construed to relieve CONTRACTOR in any way of responsibilities under the Contract. Do not begin work on any item requiring a submittal until the required relevant submittals have been reviewed and approved by the ENGINEER. All structural designs and other engineered components shall be signed and sealed by a Professional Engineer licensed in the State of Florida.

C. At least four weeks prior to the start of the WORK, submit a health and safety plan/accident prevention program, including a code of safe practices and an emergency plan.

D. At least four weeks prior to the start of the WORK, submit Jacking Frame and Thrust Block shop drawings and calculations stamped by a Professional Engineer registered in the State of Florida. Demonstrate that the anticipated jacking forces will be safely transmitted to the launching shaft shoring and are coordinated with the launch shaft shoring design.

E. At least four weeks prior to the start of the WORK, submit a Trenchless Construction Work Plan, including the following:

1. A detailed description of the trenchless construction equipment and procedures to be employed. Provide manufacturer's literature describing trenchless systems in detail including machine type, any design modifications, spoil removal system, guidance system, and provisions for injecting pipe lubricants. Describe method capabilities and procedures for exerting a stabilizing pressure at the tunnel heading as necessary and minimizing loss of ground. Indicate range of pressures anticipated to stabilize the heading, and methods and equipment to be used to monitor and control pressures as required. Provide descriptions of projects on which this system has been successfully used including names, addresses, and telephone numbers of the owner's representatives for these projects as well as length, diameter, and pipe material used.

2. A schedule for trenchless construction work identifying all major construction activities as independent items. Include as a minimum the following activities: mobilization; excavation and excavation support; and concrete plugs at the bottom of the shafts; jacking equipment setup; trenchless method for each drive; site restoration; demobilization; and cleanup. Include working hours for each activity, and a written description of construction methods and equipment, to be employed in completing work activities shown on the schedule. Review schedule with the ENGINEER and update and resubmit as required by these Specifications.

3. Details of the jacking pipe to be used indicating pipe wall thickness, reinforcement details, joint details, joint cushioning materials, and gaskets, as applicable. Indicate the required fabrication tolerances to prevent damage to the pipe during installation, and provide a certification from the pipe manufacturer indicating that the jacking pipe is designed adequately for the project requirements and will perform acceptably. Details and proposed cushion materials to distribute jacking forces at pipe joints, as required. The CONTRACTOR shall be responsible for the design of the jacking pipe and shall consider both the permanent loading of external soil and groundwater loading, as well as temporary construction loads related to jacking operations, handling of the pipe, and other construction impacts.

4. Design calculations demonstrating that the proposed jacking pipe is capable of supporting the maximum stresses to be imposed on the pipe during jacking. The calculations shall take into account maximum ground and hydrostatic loads, jacking forces, external loads such as live loads due to traffic, and any other loads which may be reasonably anticipated. All loads shall be shown and described. Include assumed maximum drive length. Maximum compressive bearing stresses shall not exceed specified limits. Upgrade of the strength of the pipe and pipe joints as necessary to withstand the stresses imposed by the pipe jacking operations shall be at no additional cost to OWNER. The calculations shall include design for allowable deflection and buckling. All calculations shall be signed and sealed by a licensed State of Florida Professional Engineer.

5. Jacking and Receiving Pits.

    a. Submit station specific Working Drawings to include but not limited to:

        1) Jacking and receiving pit configurations.

        2) Design and construction of jacking and receiving pits.

        3) Details for ground support system.

        4) Special requirements for jacking and receiving pit penetrations, thrustblocks, backstops or other reactions required for Microtunneling, casing pipe jacking or any other jacking.

        5) Full calculations supporting maximum jacking capacity that jacking pit will withstand without movement exceeding 0.5 inches with an appropriate factor of safety.

6) Areas for storage, material and spoil handling, dewatering, ground stabilization if required, excavation procedures, and backfilling.

7) Dewatering and ground water control plans for all jacking and receiving pits.

6. Settlement Monitoring Plan.

   a. Submit surveying and monitoring plan for review before construction. Identify location of settlement monitoring points, reference benchmarks, survey schedules and procedures, and reporting formats.

   b. Submit Building and Structures Assessment Plan for review before construction. Provide pre-construction and post-construction assessment for building and structures located within a distance of 100 feet from centerline of proposed tunnel, and jacking and receiving pits. Include photographs or a video of existing damage to structures near alignment.

7. A description of the alignment control and steering systems. Provide manufacturer's literature, drawings showing set up and support provisions, and other details for alignment control. Submit a description of surveying methods during construction. Confirm that systems can achieve required pipeline line-and-grade within specified tolerances for the microtunneling lengths shown on the Contract Drawings.

8. Capacity, number, and arrangement, of main jacks and intermediate jacks. Provide details of thrust ring, jacking controls, and pressure gauges. Provide an estimate of the maximum jacking force expected to be required to complete each drive.

9. Details of pipe lubrication injection system and pipe lubricants used during pipe jacking including manufacturer's literature.

10. Spoil and slurry handling, separation, transport, and disposal equipment and procedures including details of slurry additives, slurry separation plant, and the location of slurry and spoil disposal sites. Include calculations for volume of spoil removed per foot of pipe and project total. Provide manufacturers description for slurry additives and Material Safety Data Sheets (MSDSs). Spoil and slurry disposal shall be the responsibility of the CONTRACTOR. Provide written documentation from the disposal site(s) indicating that they will accept the spoil or slurry and are in compliance with applicable regulations. Provide a contingency plan describing procedures for containing and cleaning up any slurry spills or unintentional releases.

11. Record Drawings

    a. Maintain at construction site a complete set of field drawings for recording of as-built conditions.

    b. Mark or note thereon up-to-date as-built conditions properly dated.

12. TUNNELING RECORDS

a. During tunneling operations keep the following records as a minimum, at least one record per pipe length:

b. Rate of advance.

c. Shield or boring machine deviation from design line and grade, and attitude including square, plumb, and roll

d. Boring machine cutterhead torque, rpm, and direction.

e. Settlement monitoring readings.

f. Brief description of soil, rock, and groundwater conditions

13. During slurry-face machine (SFM) or microtunnel boring machine (MTBM) operation keep the following additional records as a minimum, at least one record per pipe length:

    a. Volumetric flow rates in supply side and return side of slurry loop.

    b. Slurry bypass valve position.

    c. Fluid pressure in slurry chamber in cutterhead.

14. During pipe jacking operations keep the following additional records as a minimum, at least one record per pipe length:

    a. Jacking load exerted on pipe at each jacking station.

    b. Lubricant injecting pressure.

    c. Volume of lubricant injected, location, and frequency of injection.

15. Where Microtunneling system utilizes an electronic data logger, set up so that the above information is recorded and can be readily identified.

16. Identify known errors with recorded data and explain in daily log submittal.

1.5 QUALITY ASSURANCE

A. Qualifications:

1. The ENGINEER will make a determination as to whether the CONTRACTOR's stated experience meets the required qualifications.

2. Qualifications for CONTRACTOR Performing Trenchless Construction Work:

    a. Cover sheet: Date, company name, address, telephone and fax numbers, email address, and contact person.

    b. Resumes of managerial, supervisory and operational key personnel:

1) Experience in a minimum of 3 previous trenchless construction projects of similar size and scope.

2) Detailed descriptions of their trenchless construction Projects.

c. Summary sheet of previous projects performed using trenchless construction methods that demonstrates expertise and experience. Named projects may be used more than once under separate paragraphs if their criteria apply.

1) Minimum of 3 years experience performing trenchless construction of similar size and scope.

2) List 3 separate projects completed using trenchless construction methods to be used on this project.

d. Submit for each named project above, and in same order, following detailed information:

1) Date, full name of project, and location.

2) OWNER's name, address, telephone and fax numbers, email address, and contact person.

3) Client's name, address, telephone and fax numbers, and contact person.

4) Employees in charge of work at both head office and site.

5) Description of relevant work successfully completed, including ground conditions.

6) Features under which pipe passed, depth below the water table, photos, and published articles if available.

7) Additional information as necessary.

B. Regulatory Requirements:

1. The CONTRACTOR shall give the ENGINEER a minimum of ten days advance notice of the start of WORK.

2. Perform all WORK in the presence of the ENGINEER, unless the ENGINEER has granted prior approval in writing to perform such work in his/her absence.

3. Perform trenchless construction so as not to interfere with, interrupt or endanger surface and activity thereon, and minimize subsidence of surface, structures, and utilities above and near tunnel. Repair and restore damaged property from tunnel operation settlement to its condition before being disturbed at no cost to the OWNER.

4. Review available geotechnical reports in order to enable proper design to alignments and locations shown on Drawings and other requirements of Contract Documents. CONTRACTOR responsible to judge geotechnical conditions and their effects on means, methods, and progress of work.

5. Comply with applicable ordinances, codes, statutes, rules, and regulations of State of Florida, applicable County building codes, affected highway department, and applicable regulations of Federal Government, OSHA 29CFR 1926, and applicable criteria of ANSI A1 0.16- 1995 (R2001), "Safety Requirements for Tunnels, Shafts, and Caissons."

PART 2 -- PRODUCTS

2.1 GENERAL EQUIPMENT REQUIREMENTS

A. Select trenchless construction equipment compatible with the subsurface conditions as provided in the Geotechnical Baseline Report. Trenchless methods shall prevent loss of ground as well as settlement or heave of ground surface.

2.2 EQUIPMENT

A. GENERAL

1. The CONTRACTOR may use the following equipment for microtunneling, within the limitations given in the following sections:

a. Microtunnel Boring Machines (MTBM): The MTBM shall be a slurry machine or an earth pressure balance machine, manufactured by a company that specializes in design and fabrication of this type of equipment and has at least 10 years of experience. The MTBM is defined as a machine with the following features:

1) Capable of installing the specified pipe size for each microtunneling drive.

2) Equipped with a closed excavation chamber containing slurry under pressure.

3) Equipped with a pressure gauge allowing operator to monitor pressure in chamber. System shall be capable of making adjustments required to balance earth and groundwater pressures to prevent loss of ground.

4) Balances slurry or paste pressures with groundwater and soil pressures at tunnel face.

5) Capable of dealing with soil conditions given in the GBR.

2. Earth Pressure Balance Machine:

1) An earth pressure balance boring machine (EPBM) shall satisfy microtunnel boring machine requirements.

2) An EPBM shall feature a bulkhead located behind the face to form a pressure chamber, in which excavated material is retained to stabilize the face. The EPBM regulates pressure on the face by extracting material from the chamber in a controlled operation integrated with excavation, by means

of an inner set of muck doors or by an auger, possibly assisted by application of air pressure to the chamber.

3. Slurry Face Machine:

   1) A slurry face machine (SFM) shall satisfy microtunnel boring machine requirements.

   2) A SFM shall feature a bulkhead located behind the face to form a pressure chamber, into which bentonite slurry (or other medium) injected to stabilize the face. The SFM regulates pressure on the face by pumping slurry and excavated material from the chamber in a controlled operation integrated with excavation, possibly assisted by application of air pressure to the chamber.

4. Pipe Jacking:

Pipe jacking methods utilized as part of microtunneling methods are described in the Specification 33 05 23.16 – Utility Pipe Jacking.

B. ILLUMINATION

1. Provide lighting for the entire length of tunnel whenever the tunnel is occupied. Lighting shall be sufficient to ensure the safety of those entering the tunnel, and shall conform to OSHA requirements as a minimum.

2. Provide temporary portable lighting in tunnel and shafts as necessary for ENGINEER to evaluate conformance with Contract requirements.

2.3 MATERIALS

A. Jacking Pipe: Pipe shall be specifically designed for pipe jacking, conforming to appropriate specifications. Pipes used for jacking shall be round, have smooth, even outer surfaces. Jacking pipe joints shall be square and smooth so that jacking loads are evenly distributed around the entire pipe joint. Jacking pipes shall be capable of withstanding the jacking forces imposed during installation, and the final in-place loading conditions. The ends of the jacking pipe shall be protected against damage during installation. Jacking pipe shall be designed in accordance with Specification 33 05 23.16 – Utility Pipe Jacking.

B. Jacking pipes shall be fabricated in accordance with the ASTM Standards unless the CONTRACTOR determines that smaller tolerances are required to avoid damage to the pipe during installation and successfully complete the tunnel drive lengths.

PART 3 -- EXECUTION

3.1 GENERAL

A. The CONTRACTOR shall install the pipe complete as shown on the Contract Drawings and as herein specified. Make all necessary connections to the lines and grades shown on the Contract Drawings and in accordance with the Specifications. The CONTRACTOR shall furnish all construction materials and equipment required for installation.

B. All area disturbed by excavation of the shafts shall be restored in accordance with these Specifications, the Contract Drawings, and shall include slope protection, revegetation, and road restoration.

C. Any interfering utilities shown on the Contract Drawings within launching and receiving shafts shall be relocated, or supported in place.

D. Control ground settlement or heave to the limits below. Repair damage resulting from surface deformation caused by shaft excavation or trenchless methods.

1. Control ground settlements as necessary to prevent settlement damage to existing utilities and structures along the alignment. Ground settlements include settlements due to lost ground and to dewatering.

2. Except where more stringent requirements are specified, the average ground settlement measured over any distance of 100 feet along tunnel centerline shall not exceed 0.10 foot, and the maximum ground settlement measured at any point shall not exceed 0.20 foot.

3. Ground settlement on tunnel centerline at roadways shall not exceed 0.10 foot at any point within 100 feet of the pavement.

a. If ground settlements reach allowable settlements less 0.5 inch, the CONTRACTOR shall immediately implement a contingency plan to limit settlements to within specified requirements.

b. In the event that specified allowable ground settlements are reached or exceeded, or lesser ground settlements cause or threaten to cause damage to utilities or structures, as indicated by settlement monitoring or direct observation, cease trenchless construction immediately.

c. Submit a plan, for the ENGINEER's review, for modifying the methods of construction to enable trenchless construction to resume while protecting utilities or structures from damage.

E. The CONTRACTOR shall repair or replace all utilities that are damaged, removed or interfere with the work as part of his restoration effort.

F. Do not begin trenchless construction at any drive until following is completed:

1. Required geotechnical instrumentation is installed and initial instrumentation readings and surveying are completed.

2. Launching and receiving pits excavation and support are completed.

G. Launching and Receiving Pits: The conceptual location of the launching and receiving shafts are shown on the Contract Drawings. The excavations for the shafts shall be adequately shored and dewatered, where allowed, per the requirements of Section 31 23 33 – Trenching and Backfilling and Section 31 23 19 – Dewatering to safeguard existing substructures and surface improvements and to ensure against ground movement in the vicinity of the jack supports.

H. Closing of Pits: After trenchless construction equipment and excavated materials have been removed from the launching and receiving shafts, the CONTRACTOR shall backfill the shafts in accordance with Section 31 23 33 – Trenching and Backfilling.

I. Perform work in accordance with current applicable regulations of federal, state, and local agencies. In the event of conflict, comply with more stringent requirement.

J. Perform work in a manner that controls ground loss and surface settlement or heave.

K. Provide launching and receiving seals to prevent loss of ground, groundwater inflows, and loss of lubricants at launching and receiving shafts.

L. Conduct operations so that trucks and other construction vehicles do not create a dust nuisance in roadways and adjacent properties. Promptly clean up, remove, and dispose of any spoil or slurry spillage.

3.2 INSTALLATION

A. Pipe shall be installed at the locations and grades shown on the Contract Drawings. The equipment used for installing the jacking pipe shall be selected by CONTRACTOR.

1. Sluicing or jetting with water will not be allowed as a method of excavation.

2. Use suitable end protection to provide uniform bearing over the perimeter of the jacking pipe to distribute the jacking pressure evenly.

3. The pipe shall be installed in a manner that will prevent loss of ground, ground deformation, and any damage to the existing facilities, existing utilities, and the roadway.

4. If loss of ground should occur at any time during pipe installation, CONTRACTOR shall immediately notify the ENGINEER and backfill the voids immediately with grout.

5. Jacking pipe 36 inches in inside diameter or larger shall be contact grouted after installation in accordance with Section 03 60 00 - Grouting.

B. Placing Pipe in Tunnel

1. Prior to placing permanent (carrier) pipe inside the tunnel initial ground support system, clean all surfaces against which annular space backfill will be placed, and remove muck, ponded water, spilled oils, and other debris from the tunnel.

2. Isolate groundwater inflows by panning to drainage channels, or by equally effective means, to prevent dilution of grout.

3. Carry each carrier pipe into position, or slide on rails suited to the purpose. Sliding or dragging pipe in a manner that could damage the pipe is prohibited.

4. Survey invert grade of each carrier pipe as it is placed, and adjust pipe as necessary to maintain pipe within tolerances.

5. Block each length of carrier pipe to fix the correct line and grade and to prevent movement during installation of subsequent pipe sections; and to prevent floatation, deformation, and overstress of the pipe during backfill grouting. Do not block carrier pipe on joint bells.

6. Fill the annular space between casing pipe and carrier pipe with backfill grout in conformance with these Specifications.

C. DAMAGED PIPE

1. Examine pipe for defects on arrival on site and just prior to incorporating into the Work. Remove defective pipe from the site within one day of arrival and replace with sound pipe.

2. Pipe that has been damaged during installation shall be repaired in a manner acceptable to the ENGINEER. Damage includes cracking at the surfaces of joints, displaced joint couplings, displaced gaskets, leaking joints, microcracking that could give rise to corrosion, and damage to protective coatings or linings. Jacking pipe that has been damaged beyond repair, as determined by the CONTRACTOR, shall be removed from the excavation by jacking it through to the receiving shaft.

3.3 CONSTRUCTION

A. Special Techniques:

1. Control of Alignment and Grade

a. Benchmarks and other primary survey control shall be established by the CONTRACTOR. CONTRACTOR shall verify accuracy of the benchmarks at beginning of construction and use correct benchmarks to furnish and maintain reference lines and grades for microtunneling methods. If deformation of ground surface occurs during construction which will affect the accuracy of either temporary or permanent benchmarks, it shall be the CONTRACTOR's responsibility to detect and report such movement, and reestablish benchmarks.

b. Use lines and grades to establish location of pipe using a laser guidance system. Mount laser independently from the thrust block and jacking frame to maintain its alignment. If laser alignment shifts or is moved off design alignment and grade, stop microtunneling operations and reset laser. Use qualified surveying personnel to reset laser. Monitor line and grade continuously during microtunneling operations. Record deviation from design line and grade at least once every 5 ft. Record and submit exact position of MTBM at 50-ft or smaller intervals or at a minimum of once per shift to ensure alignment is within specified tolerances.

c. If the excavation is off line or grade, the CONTRACTOR shall continuously correct, and return to design alignment and grade at a rate of not more than 1 inch per 25 ft.

d. If the pipe installation exceeds specified tolerances, correct installation, including redesign of pipeline or structures if necessary. Perform corrective work as approved by the ENGINEER.

e. The CONTRACTOR shall submit to the ENGINEER daily records of the deviation of the alignment of the selected microtunneling machine. The installed pipe may not deviate more than 2 in. from the design line and grade.

3.4 SAFETY REQUIREMENTS

A. Methods of construction shall be such as to ensure the safety of the workers, project participants, the public, third parties, and adjacent property, whether public or private. The CONTRACTOR is solely and completely responsible for maintaining safe working conditions at the site at all times.

B. The Safety Supervisor shall administer a health and safety plan/accident prevention program, including a code of safe practices and an emergency plan. The CONTRACTOR shall hold safety meetings and provide safety instruction for new employees.

C. All work shall conform to the requirements of OSHA. Perform all work in accordance with the current applicable regulations of the Federal, State, and local agencies. In the event of conflict, comply with the more restrictive applicable requirements.

D. Conduct all construction by methods and with equipment that will control noise, dust, fumes, vapors, gases, fibers, fogs, mists, and other atmospheric impurities in accordance with applicable Federal, State, and local laws, safety codes, regulations, and ordinances. CONTRACTOR shall provide adequate ventilation, as necessary, and shall design the ventilating system to include such factors as the volume required to furnish fresh air and the volume to remove dust and vapor to safe levels.

E. All work areas shall have sufficient lighting to facilitate proper performance and inspection of work in accordance with applicable Federal, State, and local laws, safety codes, regulations, and ordinances.

F. EMERGENCY MEASURES

1. Provide emergency electric power supply that is independent of the primary electric power supply, and which is capable of powering the tunnel lighting, ventilation, and dewatering systems.

2. Whenever there is a condition which is likely to endanger the stability of the excavation or adjacent work or structures, operate with a full crew for 24 hours per day including weekends and holidays without interruption until those conditions are mitigated.

3.5 MAINTENANCE

A. The CONTRACTOR shall keep the site clean and tidy at all times. Site improvements shall be protected from damage or becoming soiled through suitable temporary covering.

B. Upon completion of the work, all waste shall be removed from the site and the site restored to as near its original condition as possible. Any remnants of slurry or bentonite that may have splattered on improvements shall be removed.

C. CONTRACTOR is responsible for maintaining and repairing all trenchless construction equipment and protecting the pipe.

D. Where measurements and observations indicate possibility of failure or excessive movement of excavation support, take appropriate action immediately and provide a plan and calculations for immediate repair and reinforcing of excavation shoring system that is signed and sealed by a Professional Engineer licensed in the State of Florida.

3.6 CLEANING

A. Clean up any slurry or muck discharges immediately. Wash paved areas with water to avoid tracking of slurry or muck away from work areas. Transport and dispose of excavated materials away from construction site. Do not stockpile at work sites.

1. For slurry spoil removal, control slurry pressure and avoid excessive pumping pressures to prevent heave or discharge of slurry at ground surface.

2. For auger spoil removal, control face pressure to prevent settlement, heave, or fracturing of the ground. Balance tunnel advance with spoil removal.

3. Spoils shall be disposed of appropriately at an accepted location.

B. Spoils shall be transported off site by the CONTRACTOR at the end of every shift.

C. Perform restoration as the WORK progresses and when completed. Do not delay restoration work, and complete restoration no later than 30 days after the carrier pipe is in place. Any testing or further inspection necessary for final completion and inspection of the carrier pipe is not cause for any delay of restoration work required under this Contract. Include all property that was affected by the construction operations. Such final restoration that cannot be performed within the 30-day period due to adverse weather conditions may, upon written request and including a proposed procedure and time schedule, be performed as approved by the ENGINEER. Any delayed restoration will be contingent upon providing suitable safe temporary facilities without inconvenience or nuisance.

END OF SECTION

SECTION 33 05 23.26– UTILITY IMPACT MOLING

PART 1 -- GENERAL

1.1 THE SUMMARY

A. Impact Moling is a trenchless installation method for placement of small diameter (up to 10" in diameter) underground pipes, ducts and cables over distances up to 200 ft. The method uses a compaction principle by the use of an enclosed steel tube containing an air-powered piston (striker) to create a bore by compaction and displacing of soil. This method is viable for compressible (sandy) soils.

B. The product pipe is usually installed after the bore is completed, but can also be pulled in place while the bore is being moled (recommended for loose, sandy soils where there is a potential of collapse of the bore hole after moling). Ground conditions can greatly affect the performance of Impact Moling. Adverse ground conditions may include cobbles, dense dry clays, and other non-compactible soils.

1.2 WORK INCLUDED

A. The contractor shall, as an alternative to open cutting an asphalt roadway), utilize Impact Moling to install water service lines.

1. Perform all necessary excavating work (insertion and receiving pit for non-steerable moling), including barricades as necessary.
2. Provide an air compressor with hose to drive the mole (20 to 200 cfm at pressure recommended by manufacturer).
3. Provide continuous in-line lubrication (oil type recommended by manufacturer) between the compressor and the tool (bore head) for optimal performance.
4. Provide protective auxiliary 4" P.V.C. casing to encase 2" P.V.C. water service line (product pipe).
5. Provide replaceable boring heads (fixed or moving), made adaptable for different soil conditions.
6. Arrange for pressure tests according to P.B.C.W.U.D. standards.
7. Provide backfilling and compaction of pits after installation.
8. Provide maintenance of traffic as necessary.
9. Arrange and pay for all permits, licenses and inspection fees.
10. Provide adequate labor.
11. Provide any weather protection required.

1.3 RELATED WORK

A. Section 01 11 00 – Summary of Work.

B. Section 01 33 00 – Submittals Procedures

C. Section 01 74 30 – Pressure Pipeline Testing and Disinfection

D. Section 31 23 33 – Trenching and Backfilling

1.4 CONTRACTOR SUBMITTALS

A. Submit shop drawings and other information for review in accordance with Section 01 33 00 – Submittal Procedures, including air compressor model, bore head and steel tube type/model, size and material of protective sleeve or casing, and location of excavation pits, pipe/fittings, and other applicable information provided by manufacturer for the specific chosen moling device.

PART 2 -- PRODUCTS

2.1 GENERAL EQUIPMENT REQUIREMENTS

A. Impact moles consist of an enclosed steel tube containing an air-powered piston or compressor that strikes the nose of the tool (bore head) driving it forward. A bore is formed by displacing and compacting the soil laterally.

B. There are non-steerable and steerable moling systems available. The non-steerable systems require careful alignment into the insertion pit, because once in the pit the bore advances in a straight line and the operator can control the alignment only through the tool's air supply.

PART 3 -- EXECUTION

3.1 INSTALLATION PROCEDURE FOR NON-STEERABLE MOLES

A. Non-steerable moles involve the excavation of two pits: an insertion pit and a receiving pit. The insertion pit shall be 4 to 6 ft long and at least 2 ft wide. The depth of the pits shall be at least 4 ft and the pits shall be back sloped or shored to conform to OSHA requirements. The mole must be carefully aligned in the insertion pit and advanced through in a straight line. Non-steerable moles are provided with replaceable bore heads for different soil conditions.

B. Non-steerable moles shall have a tracking device by which the depth and location of the mole will be tracked with a walkover receiver. A sonde (beacon probe) shall be placed in a special housing between the "hose whip" (short hose) at the back of the tool and the air supply hose, or in a special housing at the nose of the mole as per manufacturer's specifications. This allows the operator to determine if the unit is on the correct line path.

3.2 INSTALLATION PROCEDURE FOR STEERABLE MOLES

A. An excavation pit for insertion and retrieval are not required for this method. A steerable mole uses a walkover tracking and remote steering device similar to that utilized in

horizontal directional drilling. A sonde is to be integrated within the forward end of the tool body. The bore head shall be immovable thus having the continuous tendency to steer. In order to bore approximately straight the mole has to be rotated as it advances.

B. The accuracy of steerable moles depends on the accuracy of the tracking system in the mole and the skill of the operator. The stated accuracy of a tracking system is usually 2 to 5 percent of the depth. Expected accuracy should be within 1 to 3 inches from designed bore path.

3.3 DEPTH/CLEARANCE

A. The mole shall be installed between 3 to 4 ft below grade. A minimum of 2 feet of clearance shall be maintained between the designed bore path and any adjacent existing underground utilities.

3.4 TOOL SIZE, ALIGNMENT AND LAUNCHING

A. The diameter of the mole is determined by the pipe outer diameter. The created bore should be approximately 15 to 25 percent larger in diameter than the product pipe to allow for borehole shrinkage and to reduce the friction between the pipe and the soil. The borehole should be further enlarged as per manufacturer's specifications for product pipes with bell joints. Sizes for moles vary from 1-3/4 to 8 inches, creating boreholes from 1-3/4 to 10 inches. Moles vary in length from 35 to 130 inches and weigh between 20 and 500 pounds depending on size and model.

B. The mole shall be placed on the bottom of the insertion pit and point at the receiving pit. Due care must be taken to properly align the mole in the pit. Bore accuracy cannot be achieved (especially for non-steerable moling) without the correct starting alignment.

3.5 AIR SUPPLY

A. A standard air compressor shall be used to operate the impact mole. The air consumption depends on the size and type of mole utilized. Operating ranges are between 20 to 200 cfm. The operating pressure at the point where air hose is connected to the mole should not exceed the manufacturer's recommended value. The air hose should be lightweight, flexible, and collapse resistant. For steerable moling, the hose shall also have a high torsional stiffness.

3.6 BORING SPEED

A. Penetration rate of the mole will depend on soil conditions and can vary considerably in just one crossing. Speed can affect the accuracy of boring if it is too high. The average penetration rate for non-steerable moling is 1 to 5 ft/min. The penetration rate may be increased if the required bore accuracy is not sufficient. The penetration rate may be increased to a maximum of 10 ft/min. in optimum soil conditions. In sandy soils speed can be increased by utilizing a smooth coned bore head. The average speed for steerable moling is 1 ft/min.

3.7 TOOL LUBRICATION

A. The mole requires continuous lubrication for optimal performance. Follow the manufacturer's recommendation as to quantity and type of oil.

END OF SECTION

SECTION 33 26 25 – WET TAPPING AND LINE STOPPING FOR DIP/CIP/PVC PIPE AND ASSOCIATED VALVES

Part 1 GENERAL

1.01 THE SUMMARY

A. Furnish all labor, materials, equipment and incidentals required to complete and make ready for operation wet taps and line stops for DIP/CIP/PVC pipe and associated valve installations as specified herein.

B. Only the materials listed in Palm Beach County Water Utilities Department Engineering Services Division - Approved Materials and Equipment List (Latest Version) are approved for use within the PBCWUD service area, or as specified herein.

C. The equipment shall include, but is not limited to, the following:

1. Butterfly Valves
2. Valve Operator Accessories
3. Tapping Sleeves and Valves
4. Valve Boxes
5. Line Stops

1.02 CONTRACTOR SUBMITTALS

A. Submit to the Engineer within seven (7) days prior to mobilization a list of materials to be furnished, the names of the suppliers and the date of delivery of materials to the site, except for emergency work.

B. Complete shop drawings of all valves and appurtenances shall be submitted to the Engineer for approval in accordance with Section 01 33 00 of these Specifications. Clearly indicate make, model, location, type, size and pressure rating.

1.03 Quality Assurance

The manufacturer shall provide written certification to the Engineer that all equipment furnished complies with all applicable requirements of these Specifications.

Part 2 PRODUCTS

2.01 GENERAL

A. Provide valves of same manufacturer throughout where possible.

B. Provide valves with manufacturer's name and pressure rating clearly marked on the outside of the valve body.

C. All exposed bolts, nuts, and washers for buried or submerged valves shall be stainless steel. All exposed nuts, bolts, springs, washers, and miscellaneous hardware shall be zinc plated in accordance with ASTM B 633, Type II unless specified otherwise.

2.02 Shop Painting

A. All exterior ferrous metal surfaces of exposed or submerged valves and appurtenances shall receive a coating of rust-inhibitive primer compatible with the finish paint specified in Section 09 96 01 of these Specifications. The exterior of all buried valves shall have a factory applied, two coat coal tar epoxy coating system. The coal tar epoxy shall be Tnemec Tneme-Tar 46-413, Indurall Ruffstuff 2100 Coal Tar Epoxy or KopCoat Bitumastic No. 300-M. Each coating shall have a dry film thickness of 8-10 mils.

B. All interior ferrous metal surfaces of valves, except for finished or bearing surfaces, and appurtenances shall be provided with two coat, interior epoxy coating conforming to the requirements of AWWA C550 and NSF 61. The coating shall be equal to Tnemec Series 20 Pota Pox, Valspar Series 78 Hi-Build Epoxy, or KopCoat Hi-Gard Epoxy. The coating system shall have a dry film thickness of 4 - 6 mils.

2.02 Butterfly Valves

A. Butterfly valves shall be resilient seated, short body design, and shall be designed, manufactured, and tested in accordance with all requirements of AWWA C504, and as modified below. Valves shall be designed for a rated working pressure of 250 psi. Class B, AWWA C504 Section 5.2 testing requirements are modified as follows:

1. the leakage test shall be performed at a pressure of 150 psi;

2. the hydrostatic test shall be performed at a pressure of 250 psi; and

3. proof of design tests shall be performed and certification of such proof of design test shall be provided to the Engineer.

B. Valve bodies shall be ductile iron conforming to ASTM A 536, Grade 65-45-12 or ASTM A 126, Grade B cast iron. Shafts and shaft hardware shall be ASTM A 564, Type 630 stainless steel, machined and polished. Valve discs shall be ductile iron, ASTM A 536, Grade 65-45-12. The resilient valve seat shall be located either on the valve disc or in the valve body and shall be fully field adjustable and field replaceable.

C. Valves shall be installed with the valve shafts horizontal. Valves and actuators shall

have seals on all shafts and gaskets on valve actuator covers to prevent the entry of water. Actuator mounting brackets shall be totally enclosed and shall have gasket seals.

D. Actuators

1. Valves shall be equipped with traveling nut, self-locking type actuators designed, manufactured and tested in accordance with AWWA C504. Actuators shall be capable of holding the disc in any position between full open and full closed without any movement or fluttering of the disc.
2. Actuators shall be furnished with fully adjustable mechanical stop-limiting devices. Actuators that utilize the sides of the actuator housing to limit disc travel are unacceptable.

3. Valve actuators shall be capable of withstanding a minimum of 450 foot pounds of input torque in either the open or closed position without damage.

E. Operators: Valves for buried service shall have a 2-inch square operating nut and shall be equipped with a valve box and stem extension, as required. Valves shall open left and have vee ring stem seals.

F. Valve ends shall be mechanical joint type, except where flanged or restrained joint ends are shown. Flange joints shall meet the requirements of ANSI B16.1, Class 125.

G. Butterfly valves shall be from approved material list.

2.03 GATE VALVES

A. Valves shall be double-disc type conforming to the requirements of AWWA C500. Valves shall be designed for horizontal installation with tracks and rollers, bypass valves, and bevel gear type operator. Valves shall be rated for 250 psi working pressure.

B. Valve ends shall be mechanical joint type except where flanged or restrained joint ends are shown. Flanged joints shall meet the requirements of ANSI B16.1, Class 125.

C. Buried valves shall be equipped with valve boxes unless access to the operator is provided by a manhole.

D. Manually operated valves, including geared valves, shall be non-rising stem type having O-ring seals.

F. Valves shall have 2-inch square operating nuts, be non-rising stem type and shall open left.

2.04 TAPPING SLEEVES AND VALVES

Tapping sleeves shall be cast or ductile iron of the split-sleeve, mechanical joint type. The Contractor shall be responsible for determining the outside diameter of the pipe to be connected to prior to ordering the sleeve. Valves shall be gate valves furnished in accordance with the specifications shown above, with flanged connection to the tapping sleeve and mechanical joint connection to the branch pipe. The tapping sleeve and valve shall be supplied by the valve manufacturer. Tapping sleeves shall be from approved material list.

2.05 VALVE BOXES (VB) AND EXTENSION STEMS

A. All valves shall be equipped with valve boxes. The valve boxes shall be cast iron two-piece screw type with drop covers. Valve boxes shall have a 5.25-inch inside diameter. Valve box covers shall weigh a minimum of 13 pounds. The valve boxes shall be adjustable to 6-inches up or down from the nominal required cover over the pipe. Valve boxes shall be of sufficient length that bottom flange of the lower belled portion of the box is below the valve operating nut. Ductile or cast iron extensions shall be provided as necessary. Covers shall have "WATER VALVE" or "WATER" cast into them. Valve boxes shall be manufactured in the United States. A cast-in-place concrete collar shall be provided around the valve box.

B. All valves shall be furnished with extension stems, as necessary, to bring the operating nut to within 30-inches of the top of the valve box. Connection to the valve shall be with a wrench nut coupling and a set screw to secure the coupling to the valve's operating nut. The coupling and square wrench nut shall be welded to the extension stem. Extension stems shall be equal to Mueller A-26441 or M & H Valve Style 3801.

2.06 LINE STOPS

A. Line stops shall be manufactured by JCM or approved equal. Line stops shall be temporary. [1]The 30-inch line stop shall provide a minimum 16-inch bypass. The 8-inch line stop shall provide no bypass.

B. Description: The Line Stopping procedure is a means of temporarily plugging a pressurized pipe without disrupting pressure or service upstream of the Line Stop. A Pressure tap is first made into the main, allowing insertion of the Line Stop plugging device into the main under pressure.

C. Line Stop Fittings and Accessories: Fitting shall be full encirclement type, split tee. It shall consist of two halves: (1) an upper line stop flange saddle half. The interior of the saddle plate adjacent to and concentric with the O.D. of the nozzle shall be grooved to retain a gasket which shall seal the saddle plate to the exterior of the main. This gasket shall constitute the only seal between the main and the fitting. (2) A lower bottom solid half with bolting arrangement for fastening to upper half.

1. Line Stop Flange: The outlet of each fitting shall be machined from a 150 lb forged steel flange (ASTM A181 or A105) or from pressure vessel quality steel plate (ASTM A285, Grade C); flat faced and drilled per ANSO B16.5. Suitable independently operated locking devices shall be provided in the periphery of the

flange to secure the completion plug.

2. Line Stop Nozzle: The nozzle, which lies between the saddle and the flange shall be fabricated from steel pipe (ASTM A234). After welding and stress relief, the nozzle shall be accurately machine bored to receive and lock a suitable completion plug.

3. Completion Plug: The completion plug shall be machined from a stress relieved carbon steel weldment. It shall contain two (2) circumferential grooves: one to receive the locking devices from the Line Stop flange, and the second to contain a compressible "O" ring to seal pressure tight against the bore of the flange.

4. Blind Flange: Each Line Stop fitting shall be closed with a blind flange that is compatible with the line stop flange.

5. Saddle Alignment Marking: Each saddle half shall be matched and marked with serial numbers, to insure proper alignment in the field.

6. The Manufacture will exercise extreme care to insure that weldments are of adequate strength, properly shaped, securely reinforced, and free from distortion that could stress the ductile iron main during installation, pressure tapping, or Line Stopping operations. All steel shall meet the requirements of ASTM A36, as a minimum. All weldments shall be braced and stress relieved.

7. Gaskets: Shall be molded from elastomer compounds that resist compression setting and are compatible with water in the 32 to 140 degree Fahrenheit temperature range.

8. Upper Line Stop Flange Saddle: Shall consist of saddle plate, a Line Stop flange, and a Line Stop nozzle.

   a. Saddle plate shall be of a minimum of 0.375-inches in thickness. It shall be shaped to be concentric to the outside of the ductile iron main.

   b. A Line Stop nozzle for the 0.375-inches minimum wall thickness shall be securely welded to the saddle plate.

   c. The Line Stop flange shall be securely welded to the nozzle. After welding, the assembly shall be braced, stress relieved, and bored to receive the completion plug.

   d. Bolt, nut, and washer assemblies shall be furnished to draw the upper and lower saddles together for sealing. Bolting brackets shall be gusseted.

9. Lower Saddle Plate: Saddle plate shall be of a minimum 0.375" thickness and shall be shaped to be concentric to the outside of the ductile main. Gusseted bolting brackets shall match upper half.

10. Coating: After fitting has been stress relieved and machined, the exterior and

unmachined interior surfaces shall be sandblasted and coated with coal tar epoxy to a final minimum cured thickness of 0.020".

11. Drilling Equipment shall be in good condition and equipped with power drive to insure smooth cutting and to minimize shock and vibration. Cutting equipment shall be carbide tipped and capable of being replaced without removal from the jobsite.

12. Hydra Stop Machinery: The line stop equipment shall consist of a full size, solid plugging head attached to a carrier body. The body is advanced and retracted from the main by means of a linear actuator. When retracted, the plugging head and carrier are housed in an adapter, bolted pressure tight between the tapping valve and the actuator.

    a. Plugging Head: The plugging head shall be full size and articulated with a carrier body. When completely seated the head shall lie in a perpendicular plan to the bore of the main.

    b. Sealing Element: The element shall be monolithically molded from a suitable polyurethane compound or other acceptable method as determined by the Owner. The element shall be flat in a plane perpendicular to the flow in the main and shaped so that upstream water pressure shall increase contact between the periphery of the seal and the interior of the main.

    c. Deposits in Bore of Main: The plugging head shall be designed to break and dislodge tuberculation and other deposits in the bore of the main which might interfere with a satisfactory Line Stop

Part 3 EXECUTION

3.01 INSTALLATION

A. All valves and appurtenances shall be installed in the locations shown on the Drawings, true to alignment and properly supported. Any damage to the above items shall be repaired to the satisfaction of the Engineer before they are installed.

B. Buried flanged or mechanical joints shall be made with cadmium plated bolts. All exposed bolts shall be made with cadmium plated bolts. All exposed bolts and nuts shall be heavily coated with two coats of bituminous paint.

C. Prior to assembly of split couplings, the grooves as well as other parts shall be thoroughly cleaned. The ends of the pipes and outside of the gaskets shall be moderately coated with petroleum jelly, cup grease, soft soap or graphite paste, and the gasket shall be slipped over one pipe end. After the other pipe has been brought to the correct position, the gasket shall be centered properly over the pipe ends with the lips against the pipes. The housing sections shall then be placed. After the bolts have been inserted, the nuts shall be tightened until the housing sections are firmly in

contact without excessive bolt tension.

3.02 FIELD PAINTING

All metal valves and appurtenances specified herein and exposed to view shall be surface prepared and painted as part of the work in Section 09 96 01 of these Specifications.

3.03 INSPECTION AND TESTING

Following installation, operating tests will be performed to demonstrate to the Engineer that all equipment and accessories will function in a satisfactory manner. The Contractor shall make, at Contractor's own expense, all necessary changes, modifications and/or adjustments required to ensure satisfactory operation.

3.04 LINE STOP INSTALLATION

A. The existing mains, upstream and downstream of the Line Stops, cannot be shut down or taken out of service (not including the sections between the line stops). To insure that the entire operation shall be accomplished without interruption of service or flow, or the reduction of pressure, the installation shall be accomplished by Contractor personnel skilled and experienced in the procedures specific to Line Stops of this size.

B. Drain Nozzles: At Owner's direction, Contractor shall provide drain pressure taps between Line Stops. These pressure connections will allow quick determination of shutdown adequacy.

1. In order to remove a Line Stop plugging head, equalization will be required.

2. Contractor shall have the option of recovering the drain valves by using Line Stop-type tapping nozzles with completion plugs, or abandoning the valves by leaving them attached to the nozzles. In either case, the outlet of each nozzle or valve shall be sealed with a blind flange, mechanical joint plug, or a screwed pipe cap.

C. Extent of shutdowns: Shutdowns will be accomplished by using Line Stops. Because of possible internal corrosion and deposits in mains, "bottle tight" shut-downs may not occur. A satisfactory shutdown in one which allows the work to be accomplished using drainage pumps to dewater excavations.

D. Preliminary Field inspection of mains:

1. It is necessary to know the exact main O.D., ovality, and bore diameter before Line Stop fittings and plugging head sealing elements can be manufactured.

2. Prior to ordering material, Contractor shall excavate at each proposed locations, and caliper the header O.D. along at least four (4) diameters to determine ovality.

3. Contractor shall determine main wall thickness, uniformity, and structural integrity by means of ultrasonic testing. Data shall be taken to determine extent of internal deposits, tuberculation, etc.

    a. If Owner determines that the Contractor's data are not adequate, the Owner may direct the Contractor to make one or more pressure taps on the main to obtain test pipe coupons for the Owner's evaluation.

    b. Minimum size of test coupon shall be determined by WUD Engineer.

4. If in the Owner's opinion, the proposed location is unsatisfactory; he will direct excavation at another site. Excavating, dewatering, inspections, backfill, and restoration will be separate pay items.

E. Installation of Line Stop fittings: Contractor shall power wire brush and grind the exterior of the main to remove any debris, corrosion deposits, or other surface irregularities that might interfere with proper seating and sealing of each Line Stop fitting against each main. Any structural defects in the main, service connections, appurtenances, adjacent utilities, etc., that could interfere with the Line Stop installation shall be immediately reported to Owner.

1. Inspection: Contractor shall fit upper and lower saddle plate assemblies to the main, thoroughly checking for proper fit to the main.

2. Assembly to Main: Under no circumstances shall the Contractor attempt to force, reshape, or bend saddle plates by excessive tightening of saddle studs while Line Stop fitting is assembled around the main.

    a. Any retrofitting shall be accomplished with the fitting removed from the main.

    b. Any damage to fitting, accessories, or main shall be repaired at the Contractor's expense to the satisfaction of Owner.

F. Completion: Final closure shall be accomplished by insertion of a completion plug.

1. The test of the completion plug sealing shall be accomplished through bleed-off in the machine housing.

2. The temporary valve shall be removed and the installation of the blind flange shall be complete.

3. The Contractor shall coat the entire assembly with a coal tar epoxy to a final minimum cured thickness of 0.02-inches.

END OF SECTION

SECTION 33 26 40 - VALVES AND APPURTENANCES

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Gate Valves.
B. Knife Gate Valves.
C. Plug Valves.
D. Corporation and Curb Stops.
E. Sampling Cocks and Hose Bibs.
F. Globe or Angle Valves.
G. Air Release Valves.
H. Air-Vacuum Valves.
I. Tapping Sleeves and Valves.
J. Tapping Saddles.
K. Dresser Type Couplings.
L. Valve Boxes.
M. Check Valves.
N. Butterfly Valves.
O. Air and Vacuum Valves.
P. Guage Cocks.
Q. Back Pressure Sustaining Valves.
R. Pressure Reducing Regulator Valves.
S. Valve Connections.
T. Valve Operators.
U. Automatic Pinch Valves.
V. Drain Valves.
W. Strainers.
X. Backflow Preventers.
Y. Ball Valves.
Z. Solenoid Valves.
AA. Shear Gate Valves.
BB. Flap Valves.
CC. Surge Relief Valves.
DD. Extension Stems.
EE. Gauge Cocks.
FF. Needle Valves.
GG. Diaphragm Valves.
HH. Floor Stands.

1.2 RELATED WORK

A. Section 02610: Pipe and Fittings.

1.3 REFERENCES

A. AWWA - American Water Works Association.

B. ASTM - American Society for Testing and Materials.

C. FS - Federal Specification.

1.4 CONTRACTOR SUBMITTALS

A. Submit copies of valve ordering schedule for approval before ordering valves.

B. Submit detailed Shop Drawings in accordance with Section 01 33 00. Clearly indicate the make, model, location, type, size and pressure rating.

C. Certified copies of reports covering proof of design testing.

D. Submit manufacturer supplied operation and maintenance instructions for each type of valve larger than 4" in diameter.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Provide valves and operators of same manufacturer throughout, where possible.

B. Provide valves with manufacturer's name and pressure rating clearly marked on the outside of the body.

C. Acceptable Manufacturer's as noted herein. Substitutions in accordance with Section 01630.

2.2 VALVE CONNECTIONS

A. Provide valves suitable to connect to adjoining piping as specified for pipe joints. Use pipe size valves.

B. Thread pipe sizes 2-1/2 inches and smaller.

C. Flange and/or mechanical joint ends for pipe sizes three inches (3") and larger.

2.3 GATE VALVES

A. Gate valves three inches (3") and larger in size shall be of the non-rising stem type and shall conform to AWWA C500, latest revision, and Federal Specification WW-V-58B for Class I, Type I, with handwheel or wrench nut, extension stems and other appurtenances as required. Valves shall be rated for 150 psi working pressure.

1. Shall open counter-clockwise.

2. Shall be iron body, fully bronze mounted, double disk, parallel seat; non-rising stem valves with O-ring seals and with end connections as called for in the Contract Drawings.

3. Shall be as manufactured by Mueller, American, Kennedy, M&H, Clow, Nappco Daigle, Waterous, and U.S. Pipe.

B. Gate valves smaller than three inches (3") shall be 125 lb. bronze body, double disc, rising stem, solid wedge, inside screw, screwed bonnet, 150 pound S.P., 300 W.O.G. with stuffing boxes capable of being repacked under pressure when the valve is fully open. Valves shall conform to the requirements of Federal Specification WW-V-54 for Class B, Type II. The valves shall be as manufactured by Crane Co., Walworth Co., Lunkenhelmer Co., or approved equal.

C. Quick-opening valves shall be iron body, fully bronze mounted, double disk, parallel seat, sliding stem gate valves with quick-opening type operators. The valves shall be as manufactured by Iowa Valve Co., M&H Valve and Fittings Co., Crane Co., or approved equal.

D. Where required, gate valves shall be provided with a box cast in the slab and a cover. The box cover shall be for the valve stem and nut. The floor box and cover shall be equal to those manufactured by Rodney Hunt Machine Company, or approved equal.

E. Valves for buried service shall be non-rising stem type and valves above grade and valves for interior service shall be outside screw and yoke (OS&Y) type. Valves above grade shall be provided with handwheels and shall open counter-clockwise.

F. Valves below grade shall be iron body, resilient seat, non-rising stem conforming to AWWA C509, with double O-ring stem seal. Valve ends shall be flanged, mechanical joint, or "ring-tite" joint as required for the type of pipe used, and provided with two inch (2") square operating nuts, extension stems and valve boxes.

2.4 CHECK VALVES

A. Check valves smaller than three inches (3"):

1. Unless otherwise indicated, check valves less than three inches (3") in size shall be standard, all-bronze, horizontal or vertical-swing check valves, with screwed ends.

B. Check valves three inches (3") and larger:

1. Check valves three inches (3") and larger shall be swing check type with outside lever and weight.

2. Check valves shall have Class 125 flanged ends faced and drilled in accordance with ANSI Standard.

3. Check valves shall have cast iron bodies, with the following components of stainless steel:

a. Body ring.

b. Disc ring.

c. Clapper hinge shaft.

d. Hinge shaft key.

e. Clapper spacers.

f. Disc stud.

g. Disc stud nut and bushing.

h. Disc retaining washer and cotter pin.

4. The hinge pin shall extend outside the cast iron body through lubricated stainless steel bushings and outside packed glands on each side of the valve.

5. Each bushing shall be provided with a buttonhead grease fitting.

6. Stainless steel shall be at least 18-8 nickel-chromium content.

7. Check valves shall be tested at the factory and shall be drip tight under a hydrostatic pressure of 200 psi applied to the downstream side of the disc. A certified test report shall be furnished with each valve.

C. PVC and CPVC Check Valves:

1. Valves shall be swing type check or ball type check manufactured from PVC or CPVC compounds.

2. PVC check valves shall be provided on PVC and fiberglass piping.

3. CPVC check valves shall be provided on CPVC piping.

4. Swing type check valves shall be provided on piping three inches (3") in diameter and larger and furnished with teflon seats, teflon seals and flanged end connections.

5. Ball type check valves shall be provided on piping less than three inches (3") in diameter and furnished with Viton seats, Viton seals and threaded ends.

6. Check valves shall be as manufactured by Asahi/America, or approved equal.

D. Slanting Disc Check Valves:

1. Check valves on the discharge side of pumps shall be slanting disc type.

2. The body shall be heavy two piece cast iron, not fabricated steel.

3. The two body halves and body seat shall be O-ring sealed and bolted together in a manner to sandwich the body seat on a 55 degree angle.

4. Each body half must have an access covered hole for internal inspection and each body half and disc fully machined to accept attachment of a top mounted oil dash pot.

5. The seat ring and disc ring must be of the design that permits replaceability in the field without need for special tools or machining. The pivot pins in the body and the bushings, in the disc lugs, must be stainless steel, but of different hardnesses to prevent galling. The bushings shall be press fit to prevent wear.

6. An indicator shall be provided to show the position of the disc.

7. The area throughout the valve body must be equal to the full pipe area. The area through the seat section shall be 40% larger than the inlet and outlet of the valve to achieve lowest head loss.

8. Valve materials shall be certified conforming to the following ASTM specifications:

Bodies	Cast Iron	ASTM A126 Gr. B
Disc (2" thru 10")	Bronze	ASTM B584 C83700
Disc (12" & Larger)	Ductile Iron	ASTM A536
Seat Ring & Disc Ring	Bronze	ASTM A271 C92200
Pivot Pins (2" thru 10")	Aluminum Bronze	ASTM B150 Alloy 2
Pivot Pins (12" & Larger)	Stainless Steel	ASTM A582 T303
Pivot Pin Bushings	Stainless Steel	ASTM A269 T304
Exterior Paint	Phenolic Primer	FDA Approved for
Red Oxide	Potable Water	
Contact		

9. Each valve shall have a top mounted oil dashpot to control opening and closing cycles of the valve in order to prevent surge and water hammer.

10. The dashpot must have two (2) control flow rates, each rate infinitely and independently adjustable:

a. 90% rapid rate.

b. 10% slow rate during shut-down and start-up.

11. The dashpot must be a self contained oil system, separate and independent from the water line media. The oil reservoir for closing cycle shall be open to atmosphere with an air breather cap to prevent dust and other media from contaminating the oil.

12. The oil reservoir for opening cycle must be hermetically sealed to contain pressure if necessary (air over oil) and be equipped with a pressure gauge and pneumatic air valve.

13. Slanting disc valves shall be as manufactured by APCO Series 800, or by Valve Primer Corporation, or approved equal.

2.5 BUTTERFLY VALVES

A. Provide Class 150 A mechanical joint butterfly valves conforming to the latest edition of AWWA C-504, suitable for buried service, for all valves larger than 12" (except tapping valves).

B. Furnish butterfly valves with "O" ring shaft seals and cast iron body and disc.

C. Valves shall be Class 150 B for valves with nominal pipe sizes twenty inches (20") and smaller.

D. Valves shall be Class 75 B for valves with nominal pipe sizes twenty-four inches (24") and larger.

E. Actual port diameter shall not be less than one inch (1") smaller than the nominal pipe size to which it is attached.

F. Valves shall be equipped with adjustable mechanical stop limiting devices in the operator to prevent over travel of the valve disc in the open and closed position. Disc position stops located in the valve body are not acceptable.

G. Valve bodies shall be constructed of ASTM A126 Class B cast iron and shall have two (2) integrally cast trunnions for shaft bearings.

H. Valve discs shall operate through a 90-1/4 degree angle from full closed to full open position.

I. Valve discs shall be alloy cast iron ASTM A436 Type 1, or ASTM A48, or ASTM A126 for valves on lines of nominal pipe sizes of twenty inches (20") and smaller.

J. Valve discs shall be ASTM A48 cast iron or ASTM A536 ductile iron for valves on lines of nominal pipe sizes of twenty-four inches (24") or larger.

K. Valve discs shall also be provided with a type 316 stainless steel seating edge for ASTM A48, A126 or A536 cast iron discs, and shall not have any hollow chambers which can entrap water.

L. Valve shafts shall be type 316 stainless steel. Shaft diameter shall meet minimum requirements established by AWWA Standard C504 for Class 150 B.

M. Valve shafts shall be one (1) piece for valves with nominal pipe sizes twenty inches (20") and smaller.

N. Valve shafts shall be two (2) piece for valves with nominal pipe sizes twenty-four inches (24") and larger.

O. Valve seats shall have the bond with the valve body tested with a seventy-five pound (75 lb.) pull in accordance with test procedures ASTM D-429 method B for valves with nominal pipe sizes twenty inches (20") and smaller.

P. For valves twenty-four inches (24") and larger, seats shall be retained in the body by mechanical means without retaining rings, segments, screws or hardware of any kind in the flow streams.

Q. Valve seats shall be field adjustable around the full circumference of the valve body without interruption for valves with nominal pipe sizes twenty-four inches (24"0 and larger.

R. Valve seats shall be replaceable without dismantling the operator, disc or shaft and without removing the valve from the line. The manufacturer shall certify that the valve seat is field replaceable as specified for valves with nominal pipe sizes twenty-four inches (24") and larger.

S. Valve bearings shall be sleeve type bearings, and shall be 100% nylon or teflon for valves with nominal pipe sizes twenty inches (20") and smaller.

T. Valve bearings shall be teflon lining with fiberglass backing for valves with nominal pipe sizes twenty-four inches (24"0 and larger. Valve bearings shall be self lubricating and bearing loads shall not exceed 20% of the compressible strength of the bearing or shaft material.

U. Valve shaft seals shall be self compensating split V-type, and shall be adjustable and replaceable without removing the operator and/or the shaft.

V. Valve shaft seals shall be the same elastomer as specified for the valve seats for the intended service.

W. Manual operators shall conform to AWWA C504, except where modified or supplemented herein, and shall be of the worm gear or traveling nut type and shall be self-locking to prevent the valve disc from creeping or fluttering when in any intermediate position between open and closed.

X. Manual operators shall be totally enclosed and permanently lubricated, and shall have a gear ratio and handwheel diameter designed to produce an output torque equivalent to the maximum valve shaft torque required to operate the valve under actual line pressures, velocities and flow direction with a minimum pull of forty pounds (40 lbs.) on the handwheel. The manufacturer shall submit calculations verifying compliance with this standard.

Y. For buried service, valves shall be totally enclosed, fully gasketed, grease packed and shall be designed to operate indefinitely when submerged under twenty feet (20') of water. Buried service operators shall be provided with a valve extension stem, AWWA Standard operating nut and valve box. The extension stem for buried service shall be sufficiently long to extend to within twelve inches (12") of the ground surface. Where required, valves shall be furnished with extension bonnets.

Z. Laying length of all classes shall be Table 2, short body.

AA. Valves shall be rated at 150 psi working pressure.

BB. Valves shall be the manually operated type opening counterclockwise.

CC. Valves shall be as manufactured by Mueller Lineseal, Kennedy, Clow, U.S. Pipe, American/Darling, Pratt, or Dresser.

DD. PVC Butterfly Valves:

1. Shall be manufactured from PVC compounds and provided on PVC and fiberglass piping as indicated.

2. Valves shall be wafer style with PVDF disc, Teflon or Viton seal and 316 stainless steel shaft.

3. Valves shall be as manufactured by G.F. Plastics Type 367, Asahi/America Type 75, or approved equal.

2.6 PLUG VALVES

A. Plug valves shall be of the bi-directional, non-lubricated, eccentric type with a balanced resilient faced plug suitable for service in sewage and sludge piping. Acceptable manufacturers

shall be DeZurik Corporation, Sartell, Minn., Series 100; Keystone/Drum-Owen Valve Co., Lehigh Valley, PA, Ballcentric, or approved equal.

B. Valve construction shall require the opening movement of the valve to cause the plug to rise off the seat contact rather than sliding from its seat. Valve bodies shall be of ASTM-A126 Class B cast iron in compliance with ANSI/AWWA Standard C504 and AWWA/ANSI Standard C507. Valve bonnets shall be bolted.

C. Valves three inches (3") and larger shall have seats of a welded-in overlay of not less than 90 percent pure nickel. Valves less than three inches shall have plastic or epoxy covered seats.

D. Port areas shall be unobstructed when open and have smoothly shaped waterways. Valves 4" and smaller shall have a port area capable of passing a spherical solid having a diameter not less than 100% of the nominal pipe diameter. Valves 6" and larger shall have a port area capable of passing a spherical solid having a diameter not less than 87% of the nominal pipe diameter.

E. Plug valves less than three inches (3") shall have screwed ends. Plug valves three inches and larger shall have:

1. Flanged ends, faced and drilled in accordance with the 125 pound ANSI Standard B16.1.

2. Mechanical joint ends in accordance with ANSI/AWWA C111/A21.11.

F. Resilient plug facings shall be ASTM A126 Grade B cast iron with neoprene on a single-piece plug. The plug shall be of sufficient construction so that no strengthening member is required opposite the plug face.

G. Valves shall be furnished with permanently lubricated stainless steel or oil-impregnated bronze upper and lower stem bushings in accordance with ANSI/AWWA C-507.

H. Shaft seals or packing shall be self-adjusting or adjustable and replaceable without removing the valves from service or interrupting service with flow in either direction in accordance with ANSI/AWWA C-507.

I. Valve pressure ratings shall be as follows and shall be established by hydrostatic tests as specified by ANSI Standard B16.1. Pressure ratings shall be 175 psi for valves up to 12 inches, 150 psi in sizes 14 through 54 inches. Valves shall be capable of providing drip-tight shutoff to the full valve rating with the pressure in either direction.

J. Valves shall be provided with limit stops and rotate 90 degrees from fully open to fully closed and shall be capable of providing shut-off up to the full test pressure of 150 psi for all valve sizes. Valve operators shall be as specified herein.

K. Valve seats shall be corrosion resistant consisting of a welded-in overlay of 90% pure nickel.

L. Valve bearings shall be replaceable type 316 series stainless steel for both the upper and lower journals.

M. Shaft seals shall be multiple ring V-type Buna-N packing. The stuffing box shall be designed to allow the packing to be adjusted and replaced when the valve is in service.

N. Valves on interior and exposed piping shall have flanged end connections conforming to ANSI B16.1 Class 125. Valves shall have the standard face to face dimensions of AWWA gate valves for nominal pipe sizes of three inches (3") to twelve inches (12") with flanged end connections.

O. Valves for exterior buried service shall have mechanical joint bells conforming to AWWA C111.

P. Interior coating shall be in accordance with Section 09900 - Painting - Wastewater Systems.

Q. All nuts, bolts, springs, washers, etc. shall be type 316 stainless steel.

R. Interior and exposed service with nominal pipe sizes eight inches (8") and larger shall be provided with totally enclosed worm gear actuators. The actuators shall be properly sized to suit the maximum differential across the valve.

S. For buried or submerged service, valves shall be provided with an AWWA operating nut. Valves with nominal pipe sizes eight inches and larger shall have permanently lubricated totally enclosed worm gear actuators with permanently lubricated bronze bearings, and shall be designed to handle the seating and unseating torque at the specified handwheel pull for applications with the maximum pressure differential in either direction.

T. Manual actuators for buried service shall be provided with AWWA operating nut and a completely enclosed mounting bracket and actuator cover and extension stem sufficiently long to extend within twelve inches (12") of the ground surface and shall be housed in a valve box and cover.

U. Valves may be used in testing portions of piping systems in accordance with Section 01670 - Testing Piping Systems, with the full test pressure on either side.

2.7 VALVE OPERATORS

A. Valve operators shall be sized for operation at the pressure and flow conditions as indicated hereinafter.

B. Valves eight inches (8") and larger shall have gear operators. All gearing shall be enclosed in a cast-iron housing and be suitable for running in a lubricant with seals provided on all shafts and gaskets on the valve and actuator covers to prevent entry of dirt and water.

C. Manual operators shall be of the totally enclosed worm gear type in accordance with ANSI/AWWA C-504.

1. Actuators shall be properly designed and sized to handle the seating and unseating torque at the specified handwheel pull for applications with the maximum pressure differential across either direction of the valve. Design conditions shall be:

    a. Design Velocity: 15 fps.

    b. Design Pressure Differential: 150 psig.

2. Gear actuators shall have permanently lubricated bronze bearings.

3. Actuators shall be equipped with a handwheel for interior and exposed service and an AWWA operating nut for buried or submerged service.

4. Actuators shall clearly indicate the valve position with an adjustable stop to set closing.

D. A suitable wrench shall be provided for each six (6) wrench operated valves. Wrenches shall be of suitable size and sufficient length for easy operation of the valves at their rated working pressure. A suitable lever shall be provided for each lever operated valve with suitable method for securing the lever to the valve stem.

E. Valve boxes shall be as specified in Item 2.32.

F. Floor stands shall be as specified in Item

2.8 CORPORATION AND CURB STOPS

A. Corporation cocks for connection to cast-iron, ductile iron or steel piping shall be all brass or bronze suitable for 150 psi operating pressure and similar to Mueller Co. H-9969 or equal by Clow Corp., Ford, or Grand Co., and shall be of sizes required and/or noted on the Contract Drawings.

B. Corporation stops shall be "O" ring sealed, balance pressure, plug type valves having a full open unobstructed flow way.

C. Corporation stops shall be suitable for buried service and shall have threaded inlet and outlet connections unless otherwise indicated.

2.9 AUTOMATIC PINCH VALVES

Not Used.

2.10 SAMPLING COCKS AND HOSE BIBBS

A. Potable Water System:

1. Hose bibs shall be 3/4" brass, rough chrome plated, with vacuum breaker and loose key stop. Hose bibs shall be Chicago No. 998, Sloan, or approved equal.

2. Provide permanent, plastic or brass name tags located above the hose bibs which state "POTABLE WATER". Letters on the tags shall be not less than 3/4" high.

B. Reuse Water System:

1. Hose bibs shall be 1" bronze body angle valves with screwed inlet, hose outlet, quick connect coupling, cap and chain.

2. Hose bibs shall have a minimum 200 psi non-shock, cold water pressure rating.

3. Hose bibs shall be No. 117 as manufactured by Crane Co., Walworth, or approved equal.

4. Provide permanent, plastic or brass name tags located above the hose bibs which state "REUSE WATER - DO NOT DRINK". Letters on the tags shall be not less than 3/4" high.

2.11 GLOBE OR ANGLE VALVES

A. Valves less than three inches (3") shall be bronze body, stem and bonnet, steel disc and seat ring type having screwed ends and designed for a minimum 300 psi cold water non-shock service. Valves shall be No. 14-1/2 P as manufactured by Crane Co., Mueller Co., or approved equal.

B. Valves three inches (3") and larger shall be iron body and bonnet with bronze stem, disc and trim. Valves shall be of the O.S. & Y type, renewable composition disc, with flanged ends. Valves shall be designed for a minimum 200 psi cold water non-shock service. Valves shall be No. 351 as manufactured by Crane Co., Powell Valves, or approved equal.

2.12 DRAIN VALVES

Not Used.

2.13 STRAINERS

A. Strainers shall be Y-Pattern bronze or iron body, with threaded end connections, and shall be provided with a cylindrical 20 mesh monel screen.

B. Strainers shall be rated for 200 psi cold water pressure and shall be Model No. 988 1/2 by Crane Co., No. 3699 1/2 by Walworth, or approved equal.

2.14 BACKFLOW PREVENTORS

A. Reduced pressure backflow preventers shall be of the size indicated on the Contract Drawings and shall contain two (2) spring loaded vertical check valves and one (1) spring loaded, diaphragm actuated, differential pressure relief valve.

B. The unit shall include tightly closing shutoff valves located at each end of the device and shall be fitted with properly located test cocks.

C. Operation shall be completely automatic. All parts must be removable or replaceable without removal of the unit from the line.

D. All materials shall be protected against corrosion.

E. One (1) fully stocked device repair kit shall be provided to the Owner for each size, type and model of backflow device installed.

2.15 BALL VALVES

A. Bronze Ball Valves:

1. Ball valves for all service unless otherwise indicated shall be bronze with screwed or flanged ends as appropriate.

2. Valves shall have Teflon ball seats and Viton stem and body seals.

3. Valves shall be supplied with manual levers or "T" handles.

B. Ball Valves for PVC Pipe:

1. Ball valves shall be manufactured from PVC or CPVC compounds and shall have viton or Teflon seals and "O"-ring seals to suit the intended chemical service requirements.

2. PVC valves shall be provided on PVC and fiberglass piping.

3. CPVC valves shall be provided on CPVC piping.

4. Valves shall be full port type with flanged or threaded union ends.

C. Ball Valves for Stainless Steel Pipe:

1. Ball valves shall be 316 stainless steel body, with 316 stainless steel ball and stem, Teflon seats and seals, threaded ends, lever operated and 150 Class.

2. Valves used as moisture drain valves shall be installed at low points of the line and at plugged or capped ends for draining piping.

D. Ball Valves for Hydrogen Peroxide Service:

1. Valves shall be two-way or three-way type constructed of B-356 cast aluminum with Teflon seat and seals, of the full bore type, stainless steel trim, lever operated, specifically designed for hydrogen peroxide duty.

2. Valves shall be type AK44-33TT (screwed ends) or AK150F44-36TT (flanged) as manufactured by Jamesbury Corporation or similar units of equal quality by Wooster Corporation or Whitey. Screwed or flanged end connections shall be provided as indicated.

E. Ball Valves for Pressurized Chlorine Gas and Liquid Chlorine Lines:

1. Valves shall be designed for the intended service and shall meet all requirements of the Chlorine Institute and these Specifications.

2. Valves shall have a cast steel body, Monel or Hastelloy "C" ball and stem, Teflon seats, with manual lever operator and shall be provided with threaded end connections.

3. Valves shall be rated at 300 pounds ANSI for pressures of minus 30 inches W.C. to 300 psig and temperatures of minus 20 degrees to 300 degrees Fahrenheit.

4. Valve sizes shall be as shown on the Contract Drawings and shall be Jamesbury "Double Seal" Series 3000 Ball Valves, or equivalent models as manufactured by Whitey, Hills McCanna, or WKM.

2.16 SOLENOID VALVES

A. Solenoid valves shall be 2 way or 3 way as required, with a NEMA 4X water-tight, dust-tight, corrosion resistant enclosure.

B. Valves shall be of the type that are normally closed, energized to open, closed on failure, and can be opened manually on failure.

C. Plunger assembly and tube shall be 316 stainless steel.

D. Disc shall be Viton or Teflon.

E. Valves shall have a molded epoxy resin, Class B temperature range coil for continuous duty, and a NEMA 4X water-tight coil housing.

F. Valves shall be suitable for operation on a 120 volt, 60 hertz power supply or 24 volt DC power supply.

G. Valves shall be as manufactured by Automatic Switch Co., Magnatrol Corp., or approved equal.

2.17 BACK PRESSURE SUSTAINING VALVES

A. Back Pressure Sustaining Valves less than three inches (3"):

1. Valves shall maintain constant upstream pressure by passing or relieving excess pressure, and shall maintain close pressure limits without causing surges.

2. Valves shall be a direct acting, adjustable, spring-loaded, diaphragm valve, designed to permit flow when controlling pressure exceeds the spring setting.

3. Valves shall be bronze body with stainless steel diaphragm and all stainless steel trim, with plugged outlet and a pressure adjustment range of 40-200 psi.

4. Valves shall be as manufactured by Cash-Acme Type FR, or approved equal.

B. Back Pressure Sustaining Valves three inches (3") and Larger:

1. Valves shall be designed to protect the pressure integrity of the upstream pressure system by only opening when the upstream pressure exceeds an adjustable pilot setting.

2. Valves shall modulate as required to maintain a pre-set pressure on the upstream side of the valve. If upstream pressure drops below the valve setting, the valve shall close.

3. Valves shall be designed such as turning clockwise on the sustaining pilot handwheel will increase the setting and turning counter-clockwise will decrease the setting.

4. Needle valves shall be furnished to provide independent and adjustable control of the main valve opening and closing speed.

5. The valve shall be shipped completely piped and ready for installation.

6. The main valve shall operate on the differential piston principle such that the area on the underside of the piston is no less than the pipe area, and the area on the upper surface of the piston is of greater area than the underside of the piston.

7. The valve piston shall be guided on its outside diameter by long stroke stationary Vee ports which shall be downstream of the seating surface to minimize the consequences of throttling. Throttling shall be done by the valve Vee ports and not the valve seating surfaces.

8. The valve shall be capable of operating in any position and shall incorporate only one flanges cover at the valve top from which all internal parts shall be accessible. There shall be no stems, stem guides, or spokes within the waterway. There shall be no springs to assist the valve operation.

9. The valve body shall be of cast iron ASTM A126 with flanges conforming to the latest ANSI Standards. The valve shall be extra heavy construction throughout.

10. The valve interior trim shall be bronze B-62 as well as the main valve operation.

11. The valve seals shall be easily renewable while no diaphragm shall be permitted within the main valve body.

12. All controls and piping shall be of non-corrosive construction.

13. A visual valve position indicator shall be provided for observing the valve position at any time

14. Valves shall be as manufactured by Golden-Anderson Industries Figure 6700-DR, Clayton, or approved equal.

2.18 KNIFE GATE VALVES

A. Valves shall be of the bonnetless non-rising stem wafer knife gate type with face flange connections.

B. Flanges shall be drilled to the ANSI B16.1 125 pound standard.

C. W.O.G. valve rating shall be 125 psi non-shock pressure.

D. Valves shall provide bubble-tight shutoff against a 30 psi downstream pressure.

E. Valve body and all wetted parts shall be 304 stainless steel with carbon steel flanges.

F. Valves shall be provided with resilient neoprene D-shape O-ring in the seat for bubble-tight shutoff in both directions.

G. The stainless steel gate shall have a square bottom with a knife edge.

H. Both sides of the gate shall be finish ground.

I. The valve stem shall be stainless steel and shall have double pitch threads.

J. Valve packing shall be multiple layers of square, braided flax and shall be impregnated with marine or petroleum base lubricants.

K. The packing gland shall be plastic coated.

L. The valve body port shall be no less than 95% of the nominal pipe diameter.

M. The valve body shall be complete with two (2) flush ports consisting of not less than 1-1/2" diameter pipe taps.

N. Valves shall be as manufactured by Fabri-Valve, DeZurik, or approved equal.

2.19 SHEAR GATE VALVES

Not Used.

2.20 FLAP VALVES (Circular)

A. Flap valves shall be flanged framed with bolt holes and bolt patterns conforming to ANSI B16.1, Class 125, and ASTM A126 B cast iron with bronze trim.

B. Valve seats shall be bronze placed in detailed grooves and machines for maximum water tightness.

C. Valves shall have ASTM B584 high tensile bronze hinge arms which shall have two pivot points and shall have silicon bronze, ASTM B98 or type 316 stainless steel hinge pins which shall be designed in double shear.

D. The lower hinge pivot point shall have an adjustment to limit rotation and the upper pivot point shall be capable of adjusting the valve sensitivity.

E. Valves shall be supplied with lubrication fittings at each pivot. Lubricant lines shall be supplied to the surface for easy access.

F. Valves shall be mounted to standard flange or to a cast iron wall thimble as recommended by the manufacturer.

G. Valves shall be series FV-AC as manufactured by Rodney Hunt Co., Clow, or approved equal.

2.21 PRESSURE RATINGS

A. Unless otherwise indicated, use valves suitable for 125 minimum psig WSP and 450 degrees F., and 200 psig and 250 degrees F.

2.22 SURGE RELIEF VALVES

Not Used.

2.23 EXTENSION STEMS

A. Extension stems shall be provided and installed on all valves in buried locations and where indicated on the Contract Drawings.

B. Extension stems shall be fabricated from solid steel shafting capable of withstanding the torque imposed, but not smaller than 1.25 inches in diameter.

C. Stem couplings shall be keyed and of approved design and construction.

D. Extension stems for buried valves shall extend to within six inches (6") of the surface of the ground. Each extension stem shall be connected to the valve operator with a suitable universal joint type of coupling. All connections shall be pinned.

E. Each extension stem shall be provided with spacers which will center the stem in a valve box having an inside diameter of six inches (6"), and shall be equipped with a standard AWWA wrench nut as described in AWWA C500, except where handwheels are indicated on the Contract Drawings.

F. A position indicator shall be provided with each buried valve which shows the valve position, number of turns to go from full open to full closed, and type and size of valve. The entire unit shall be constructed of non-corrosive materials.

2.24 AIR RELEASE VALVES

A. Air release/vacuum valves shall be 2" minimum, shall have a cast iron body, cover and baffle, stainless steel float and lever pins, bronze water diffuser, Buna-N or Viton seat and stainless steel trim. Valves shall be provided with a vacuum check to prevent air from re-entering the line. The fittings shall be threaded.

B. Valves shall be specifically designed for use on sewage force mains and properly coated for contact with hydrogen sulfide and its byproducts.

C. Valves shall allow unrestricted venting on the re-entry of air through it.

D. The valve inlet and outlet shall be 2" NPT.

E. The valve shall be designed and equipped for flushing and include inlet and outlet blow-off valves, isolation drain, flushing water valves, and quick disconnect couplings.

F. Air release valves shall be Model 445 by APCO Valve & Primer Corporation, Schaumbert, Illinois, or approved equal.

2.25 AIR-VACUUM RELEASE VALVES

A. Valves shall be furnished with 2" screwed inlet and outlet fittings, a 1/4" orifice.

B. Valves shall incorporate two (2) stainless steel floats directly connected by a stainless steel float guide, to maintain an air gap between the bottom concave float and top shut-off float. The air gap shall retard waste solids from fouling or clogging the top shut-off float.

C. The internal baffle shall be fitted with a guide bushing and act to protect the shut-off float from direct airflow. The baffle shall retain the 45 degree Durometer Buna-N seat in place, without distortion, for tight shut-off.

D. All internals shall be easily removable through the top cover without removing the main valve from the line.

E. The complete valve shall withstand 500 psi test pressure.

F. Furnish inlet and blowoff valves, quick disconnect couplings, and a minimum five foot (5') length of 2" diameter hose for flushing.

G. Valve body, cover and baffle shall be constructed of cast iron conforming to ASTM A126, Grade B.

H. The upper float, lower float, stem, and guide bushing shall be stainless steel conforming to ASTM A240.

I. The valve seat shall be of Buna-N nitrile rubber.

J. Exterior paint shall be a phenolic red oxide primer that is FDA approved for use in potable water systems.

2.26 AIR AND VACUUM VALVES

A. Slow closing air and vacuum valves shall be three (3) valves furnished assembled and tested as a single unit.

B. Valves shall have a stainless steel float guided at each end with stainless steel stems. The stems shall be guided through stainless steel bushings inside the body and cover. The seat must be Buna-N fastened to the cover with stainless steel shoulder screws without distortion to allow drip tight closure.

C. The cover shall have a male lip to fit the female body register for positive float guide direction into the seat. Cover outlets shall be flanged.

D. The surge check valve shall be a normally open spring loaded valve consisting of a body, seat and plug bolted to the inlet of the air and vacuum valve.

E. The surge check shall operate on the interphase between the kinetic energy and the relative velocity flows of air and water, allowing air to pass through, but water shall close the surge check, reducing the rate of water flow by means of throttling orifices in the plug to prevent shock closure of the air and vacuum valve. The surge check orifices must be adjustable type to suit operating conditions in the field.

F. The inlet isolation butterfly valve shall be wafer (compact) style constructed to AWWA Standards with hand level and variable position locking device. The seat is to be freely interchangeable from the body without need for special tools or skills. The seat must be Buna-N, molded with a steel flanged insert for high strength and tight seating. The disc must pivot eccentrically from closed position to clear center valve area.

G. Valves shall be flow tested in the field, substantiated by test data to show reduction of surge pressure in the valve.

H. Air & vacuum valve and air release valve cover and body, surge check body, and butterfly valve body shall be cast iron conforming to ASTM A126, Grade B.

I. Floats and springs shall be Stainless Steel conforming to ASTM A240.

J. Surge check seat and disc shall be bronze conforming to ASTM B584.

K. Air release valve needle shall be Buna-N.

L. Air & vacuum valve seat shall be Buna-N (4" through 12") conforming to ASTM A240.

M. Leverage assembly shall be Delrin conforming to ASTM A270.

N. Butterfly valve shaft shall be stainless steel conforming to ASTM A270.

O. Exterior paint shall be phenolic primer red oxide, FDA approved for contact with potable water.

P. Air and vacuum valves shall be as manufactured by APCO Series 1300, Valve and Primer, or approved equal.

2.27 GAUGE COCKS

A. Gauge cocks shall be screwed, all bronze, tee handle, as manufactured by Crane Co., Model No. 712 or 744, or approved equal.

2.28 NEEDLE VALVES

A. Needle valves shall be bronze, rising bronze stem, Class 200, globe style needle valve with threaded end connections.

B. Valves shall conform to Federal Specifications WW-V-51, Class C, Type 1 (Globe) for nominal pipe sizes up to one inch (1").

C. Needle valves shall be Model No. 88 as manufactured by Crane Co., Model No. 180 by Powell, Model No. 120 by Walworth, or approved equal.

2.29 DIAPHRAGM VALVES

A. Diaphragm valves shall be manufactured from PVC and shall be provided on PVC and fiberglass piping as indicated.

B. Valves shall be weir type with Teflon diaphragm and seals, handwheel operator, and flanged or threaded end connections to suit the piping.

C. Valves shall be as manufactured by Assahi/America, G.F. Plastics, or approved equal.

2.30 PRESSURE REDUCING REGULATOR VALVES

A. Less than three inches (3"):

1. Valves shall be direct acting, adjustable, spring-loaded, normally open diaphragm valves, which close when downstream pressure exceeds the spring setting.

2. Valve body and cover shall be bronze with reinforced Buna-N diaphragm, Buna-N seat, and bronze piston and cylinder. Valves shall have screwed ends.

3. The outlet pressure range of the valve shall be adjustable between 10 and 30 psi.

4. Valves shall be as manufactured by Cash-Acme Type B, or approved equal.

B. Three inches (3") and larger:

Not used.

2.31 DRESSER TYPE COUPLINGS

A. Couplings shall be as manufactured by the Dresser Manufacturing Division, or approved equal, and of a style as specified on the Contract Drawings.

B. The couplings shall be placed to evenly cover the ends of the pipe and tightened without damage to the gaskets or pipe coating. The nuts on all bolts shall be started and tightened evenly around the entire circumference of the pipe. No one nut shall be tightened more than 1/4 turn tighter than the remainder of the nuts on the coupling. A 1/4 inch space shall be left between the ends of the pipe.

2.32 VALVE BOXES

A. All buried valves shall be provided with valve boxes as indicated on the Contract Drawings, with a minimum thickness of 1/2" and constructed so that the removable cover will not be thrown out by travel over it.

B. Valve boxes shall be of sufficient length to operate all valves buried in the ground.

C. Valve boxes shall be the telescope extension type with not less than a five-inch (5") diameter shaft and with cast iron covers marked "SEWER". Boxes shall Model No. F-2452 as manufactured by James B. Clow & Sons, Mueller, or approved equal.

D. The valve boxes and valve box covers shall be of sound close grained cast iron, free from flaws and defects, and built strong and rugged enough to withstand the shock of street traffic.

E. Two (2) valve operating wrenches shall be supplied in 4-foot lengths with handles. Valve wrenches shall be model No. F2520 as manufactured by James B. Clow & Sons, Mueller Co., or approved equal.

2.33 TAPPING VALVES AND SLEEVES

A. Tapping valves and sleeves shall be used for all taps four-inches (4") in diameter or greater.

B. Sleeves shall be the mechanical joint type constructed from cast iron with a recessed flat face flange to accept the tapping valve.

C. Gaskets shall be neoprene or other materials compatible with potable water.

D. Valves shall conform to all the applicable requirements of AWWA C-500 and shall be rated for a minimum of 150 psi.

E. Tapping valves shall be the non-rising stem type designed for buried service in accordance with paragraph 2.03.

F. Sleeves and valves shall be as manufactured by Dresser or approved equal.

2.34 TAPPING SADDLES

A. Tapping saddles shall be used for all taps three inches (3") in diameter or less.

B. Tapping saddles shall be the double-strap, steel-constructed type conforming to AWWA C-800 requirements.

C. Saddles shall be brass with stainless steel hardware with extra wide bearing surfaces furnished with a flanged or NPT threaded outlet.

D. Saddles shall be rated for 150 psi working pressure and shall be furnished with extra thick and wide neoprene gasket.

E. Service saddles shall be as manufactured by Clow or approved equal.

2.35 FLOOR STANDS

A. Shall be cast iron, non-rising stem type with lockable handwheel operator, valve position indicator and steel extension stem.

B. The handwheel shall be lockable in the full closed position.

C. The floor stand shall be furnished with an armored padlock and six (6) keys. Locks shall be as manufactured by Master, Schlage, or approved equal.

D. Floor stands shall be standard pattern type as manufactured by Clow Corporation, or approved equal.

PART 3 - EXECUTION

3.1 GENERAL

A. The Contractor shall furnish and install in the appropriate locations as shown on the Contract Drawings, all valves and special fittings as specified.

B. Where required for satisfactory operation of valves or gates, extension stems, stem guides, valve boxes, floor boxes and other valve appurtenances shall be provided.

C. Extension stems shall be complete with guide bearings, wrench nut, and tee handle wrench.

D. All valve stems where packing is specified shall be packed with material properly selected for the service intended.

E. Valves shall be suitable for safe working pressure as required in each application. Manufacturer's name and service and pressure marking shall be cast into the body.

F. Valves shall be constructed for not less than 125 pounds per square inch working pressure, (200 pound cold water, oil or gas, non-shock, except as otherwise specified), and shall be so designed and installed that they can be packed under pressure. Shut-off valves shall be gate valves, except where other type valves are specifically indicated or specified.

F. All valves shall be manually opened and closed before installation to check their operation, and the interior of the valve shall be cleaned.

G. Valves shall be placed in the positions indicated on the Contract Drawings. Joints shall be made as directed under the piping specifications.

3.2 INSTALLATION

A. Install valves with stems upright or horizontal, not inverted.

B. Use plug valves for wastewater unless otherwise noted.

C. Install valves so that they are easily accessible for operation, visual inspection and preventative maintenance.

D. Buried valves shall be firmly set on a foundation or footing of solid concrete, not less than eight inches (8") nor less than one cubic foot (1 cu. ft.) in volume, which shall have been placed on firmly compacted ground.

E. All buried valves shall be provided with valve boxes. The riser shall rest on the valve and be adjusted so that the cover may be set flush with existing sidewalk, bike path, paved streets, unpaved streets, driveways, road right-of-way, etc. The valve box shall be set to allow equal movement above and below finished grade when located in utility easements not subject to street traffic. The riser shall be centered over the valve. The entire assembly shall be plumb.

F. All valves shall be tested at the same test pressure as the line in which they are installed. Any leakage or "sweating" of joints shall be stopped and all joints shall be water tight with no visible leaks.

END OF SECTION

SECTION 33 30 54 – FIRE HYDRANTS

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The CONTRACTOR shall provide fire hydrants and appurtenances, complete and operable, in accordance with the Contract Documents.

PART 2 -- PRODUCTS

2.1 DRY-BARREL FIRE HYDRANTS

A. Construction: Unless otherwise indicated, hydrants shall be the dry-barrel type according to AWWA C 502, with a minimum of one 4-1/2 inch pumper nozzle, two each 2-1/2 inch hose connection, except where otherwise required by the local fire department. Nozzles are to be threaded, not leaded, and set with the centerline of the 4-1/2 inch nozzle 18" above finished grade.

B. Provide fire hydrants as shown on the Contract Drawings.

C. Hydrants are to be capable of delivering a flow of 500 gallons per minute with a residual pressure of not less than 20 psi.

D. Furnish hydrants with an interior valve opening of 5-1/4 inch with a brass-to-brass threaded stationary seat.

E. Hydrants are to be fitted with a mechanical joint connection per ANSI A21.11/AWWA C-111 with a bury depth not less than 30 inches.

F. Fire hydrant branches (from the water main to the hydrant) are not to be less than six inches in diameter, with a gate valve located as close as possible to the main.

G. Hydrants are to be suitably restrained with a thrust block and 5/8" diameter bituminous coated tie rods and bolts. If thrust blocks installation are not possible or cannot provide sufficient restraint, megalugs or approved equal shall be installed together with tie rods.

H. Furnish hydrants that are free of corrosion and properly lubricated.

I. Paint hydrants the color as directed by the OWNER prior to a final walk-through inspection.

J. Submit to the OWNER a "Certificate of Compliance" from the hydrant manufacturer stating that the hydrant provided meets the Specifications stated herein.

K. Hydrants shall be placed so as to minimize their vulnerability to traffic. Provide four-inch diameter Schedule 40 galvanized steel pipe stanchions around hydrants where shown on the Contract Drawings or as required by the OWNER. Set pipe stanchion bases in concrete and fill each stanchion with concrete.

L. Hydrants are to be located at or near road right-of-way lines with the pumper discharge nozzle facing the roadway.

M. Hydrants are not to be placed in sidewalks, bicycle paths or parking areas.

N. Bolts, nuts, and washers shall be Type 316 stainless steel, except where otherwise required for structural reasons. The hydrants shall be tested to 300 psig and shall be suitable for a working pressure of 150 psig.

O. Interior and exterior surfaces shall be coated in accordance with AWWA C 550 and Section 09 96 01 - Protective Coatings.

P. Manufacturers: Refer to the Palm Beach County Water Utilities Department Engineering Services Division – Approved Materials List (Latest Version).

PART 3 -- EXECUTION

3.1 INSTALLATION

A. Fire hydrants shall be installed in strict accordance with the manufacturer's published recommendations, AWWA standards, applicable codes, and the applicable provisions of Section 33 26 40 - Valves and Appurtenances. Installations shall be to the satisfaction of the local fire and building department.

B. Hydrant isolating valves with slip joints, friction type, or caulked joint connections shall be harnessed to the main pipe by means of welded steel harness sets or clamps and steel rods designed for this purpose. Hydrants with other than flanged inlets shall be installed with a concrete thrust block, calculated for the maximum expected water pressure. Dry-barrel fire hydrants shall be set on a bed of pea gravel not less than 18-inches deep and 3 feet square for drainage or as required by local regulations and conditions.

END OF SECTION

SECTION 33 95 45 – DUCTILE IRON PRESSURE PIPE AND FITTINGS

PART 1 -- GENERAL

1.1 THE SUMMARY

A. The WORK covered by this section and the related sections following consists of providing all labor, equipment, material and supplies and performing all operations required to install ductile iron piping and fittings, complete, with appurtenances for pressure systems (e.g., lift stations, potable water and force mains), as specified and shown on the contract drawings

B. Related sections:

1. Section 01 11 00 – Summary of Work
2. Section 01 33 00 – Submittals Procedures
3. Section 01 74 30 – Pressure Pipe Testing and Disinfection
4. Section 03 30 00 – Cast-in-Place Concrete
5. Section 31 23 00 – Excavation and Fill
6. Section 31 23 13 – Subgrade Preparation
7. Section 31 23 19 - Dewatering
8. Section 31 23 33 – Trenching and Backfilling
9. Section 33 26 60 – Water Transmission Systems

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. AWWA C105 Polyethylene Encasement for Ductile-Iron Pipe Systems

B. AWWA C110 Ductile-Iron and Gray-Iron Fittings, 3-in through 48-in for Water

C. AWWA C111 Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings

D. AWWA C115 Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges

E. AWWA C116 Protective Fusion-Bonded Epoxy Coatings for the Interior and Exterior Surfaces of Ductile-Iron and Gray-Iron Fittings for Water Supply Service.

F. AWWA C150 Thickness Design of Ductile-Iron Pipe

G. AWWA C151 Ductile-Iron Pipe, Centrifugally Cast for Water

H. AWWA C153 Ductile-Iron Compact Fittings. for Water Service

I. AWWA C600 Installation of Ductile Iron Water Mains and Their Appurtenances

J. AWWA C606 Grooved and Shouldered Joints

1.3 CONTRACTOR SUBMITTALS

A. Furnish Submittals in accordance with Section 01 33 00 – Submittal Procedures and the following supplemental requirements:

B. Shop Drawings

1. Certified dimensional drawings of valves, fittings, and appurtenances.

2. For pipe 24-inches diameter and larger, line layout and marking diagrams which indicate the specific number of each fitting and the location and the direction of each fitting in the completed line. In addition, the line layouts shall include: the pipe station and invert elevation at changes in grade or horizontal alignment; elements of curves and bends, both in horizontal and vertical alignment; and the limits of each reach of restrained joints, or of concrete encasement.

C. **Certifications:** Certified affidavit of compliance for pipe and other products or materials furnished under this Section and as specified in the referenced standards and the following supplemental requirements:

1. Physical and chemical properties.

2. Hydrostatic test reports.

D. The CONTRACTOR shall be responsible for performing and paying for sampling and testing as necessary for the certifications.

E. QUALITY ASSURANCE

1. Where local building and/or plumbing codes conflict with the use of any material, pipe, or type of fittings, or where the local code is more restrictive or specific than this Specification, the material, pipe or type of fitting producing a better quality or greater quality product and not prohibited by the code shall be utilized.

2. To aid in the proper performance and inspection of the subaqueous work, the Contractor shall furnish the services of competent and registered commercial divers and helpers complete with equipment in such numbers as may be necessary.

3. The Contractor shall at any time permit the Engineer access to the site and provide all equipment and necessary assistance for making subaqueous inspections, including the services of a diver to accompany and assist the Engineer on such inspections.

4. Diving equipment and procedures shall conform with the Bureau of Ship's Diving Manuals NAVSHIPS 0994-001-9010 Occupational Safety and Health Act (OSHA) and all regulations pertaining to underwater construction.

5. The Contractor shall provide or make arrangements for air re-filling facilities and other auxiliary equipment and shall arrange for any emergency facilities needed.

6. **Tests:** Except as modified herein, materials used in the manufacture of the pipe shall be tested in accordance with the requirements of the referenced standards as applicable.

7. The CONTRACTOR shall perform said material tests as part of the WORK. The ENGINEER shall have the right to witness testing conducted by the CONTRACTOR; provided, that the CONTRACTOR's schedule is not delayed for the convenience of the ENGINEER.

8. In addition to those tests specifically required, the ENGINEER may request additional samples of any material including lining and coating samples for testing by the OWNER. The additional samples shall be furnished as a part of the WORK.

9. **Inspection:** Pipe shall be subject to inspection at the place of manufacture in accordance with the provisions of the referenced standards, as supplemented by the requirements herein. The CONTRACTOR shall notify the ENGINEER in writing of the manufacturing starting date not less than 14 Days prior to the start of any phase of the pipe manufacture.

10. During the manufacture of the pipe, the ENGINEER shall be given access to areas where manufacturing is in process and shall be permitted to make inspections necessary to confirm compliance with the Specifications.

11. Three certified records of the tests made by the manufacturer or by a reliable commercial laboratory shall be submitted with each shipment of pipe of any type used for force mains.

1.4 WORK INCLUDED

A. In general, the Work under this Section shall include but is not limited to furnishing and installing the following:

1. Raw Water Transmission Main:

a. Flanged ductile iron pipe and fittings with an interior cement mortar lining for use on aerial crossings.

b. Ductile iron restrained mechanical joint pipe and fittings with an interior cement mortar lining for use on subaqueous crossings.

c. Ductile iron restrained mechanical joint pipe and fittings with an interior cement mortar lining for use on road crossings.

d. Ductile iron push-on pipe with an interior cement mortar lining.

e. Ductile iron restrained mechanical joint pipe and fittings with an interior cement mortar lining.

2. Potable Water Transmission and distribution Main:

a. Flanged ductile iron pipe and fittings with an interior cement mortar lining for use on aerial crossings.

b. Ductile iron restrained mechanical joint pipe and fittings with an interior cement mortar lining for use on subaqueous crossings.

c. Ductile iron restrained mechanical joint pipe and fittings with an interior cement mortar lining for use on road crossings.

d. Ductile iron push-on pipe with an interior cement mortar lining.

e. Ductile iron restrained mechanical joint pipe and fittings with an interior cement mortar lining.

3. Domestic Wastewater Force Main:

a. Flanged ductile iron pipe and fittings with an interior ceramic epoxy coating for use on aerial crossings.

b. Ductile iron restrained mechanical joint pipe and fittings with an interior ceramic epoxy coating for use on subaqueous crossings.

c. Ductile iron restrained mechanical joint pipe and fittings with an interior ceramic epoxy coating for use on road crossings.

d. Ductile iron push-on pipe with an interior ceramic epoxy coating.

e. Ductile iron restrained mechanical joint pipe and fittings with an interior ceramic epoxy coating.

4. Membrane Concentrate Force Main: (Not used.)

B. The Work shall also include the furnishing of all labor, materials, equipment including buoys, sounding equipment, lights, transportation, and performing all operations necessary for the proper construction of the project in accordance with these Specifications and as shown on the Contract Drawings.

C. Where the term "subaqueous work" is used herein or where "subaqueous" is referred to, this shall be understood to mean work under water using equipment and methods that are accepted practice for such work.

D. Where the term "aerial crossing" is used herein, this shall be understood to mean work over water using equipment and methods that are accepted practice for such work.

E. Where the term "road crossing" is used herein, this shall be understood to mean work under or across an existing paved roadway or thoroughfare using equipment and methods that are accepted practice for such work.

PART 2 -- PRODUCTS

2.1 GENERAL EQUIPMENT REQUIREMENTS

A. Lined and polyethylene-wrapped ductile iron pipe shall conform to AWWA C151 and C105, subject to the supplemental requirements in this Section. The pipe shall be of the diameter and class indicated, shall be provided complete with rubber gaskets, specials, and fittings as required under the Contract Documents.

B. **Markings:** The CONTRACTOR shall legibly mark specials 24-inches diameter and larger in accordance with the laying schedule and marking diagram. Each fitting shall be marked at each end with top field centerline.

C. **Handling and Storage:** The pipe shall be handled as a minimum at the 1/3 points by use of wide slings, padded cradles, or other devices designed and constructed to prevent damage to the pipe coating/exterior. The use of chains, hooks, or other equipment that might injure the pipe coating/exterior will not be permitted. Stockpiled pipe shall be supported on padded skids, sand or earth berms free of rock exceeding 3-inches diameter, sand bags, or suitable means so that the coating will not be damaged. The pipe shall not be rolled and shall be secured to prevent accidental rolling

D. **Laying Lengths:** Nominal pipe laying lengths shall be 20-feet.

E. **Finish:** The pipe shall have smooth dense interior surfaces and shall be free from fractures, excessive interior surface crazing, and roughness.

F. **Closures and Correction Pieces:** Closures and correction pieces shall be provided as required so that closures may be made due to different headings in the pipe laying operation and so that correction may be made to adjust the pipe laying to conform to pipe stationing on the Drawings. The locations of correction pieces and closure assemblies are indicated. Any change in location or number of said items shall only be as accepted by the ENGINEER.

2.2 MATERIALS

A. Ductile Iron Pipe:

1. Ductile Iron Pipe shall be centrifugally cast in metal or sand lined molds conforming to ANSI/AWWA C151 A21.51, latest revision. Minimum pressure class as per ANSI/AWWA C150/A21.50, shall be as follows:

Pipe Size	Rated Working Pressure (psi)	Rated Working Plus Surge Pressure (psi)
3" and 4"	350	500
6" to 18"	350	500
20"	300	450
24"	250	400
≥30"	200	350

a. All ductile iron pressure pipe shall be manufactured to withstand an additional 100 psi surge allowance over and above the rated water working pressure specified herein.

b. All piping shall be factory pressure tested, including end connections and weld-on outlets.

2. Minimum Special Thickness Class 53 is required for all flanged pipe.

3. All ductile iron pipe and fittings installed for potable water transmission mains and/or raw water transmission main shall be furnished with an interior cement mortar lining per AWWA C-104 A21.50. All flanges shall be made of ductile iron. Flanged piping shall use Toroseal gaskets or approved equal.

4. All ductile iron pipe and fittings installed for domestic wastewater force mains shall be furnished with an interior ceramic epoxy coating.

5. Types of Joints:

a. Push-On Joint - ANSI/AWWA C111 A21.11.

b. Flanged Joint - ANSI/AWWA C110 A21.10 or C115 A21.15.

c. Restrained Mechanical Joints - ANSI/AWWA Standard C111/A21.11 using T-head bolts, coupling nuts and threaded studs.

B. Polyethylene Encasement Material:

1. Ductile Iron Pipe furnished and installed under this Contract shall be polyethylene encased in the areas shown on the Contract Drawings and in the field as directed by the Engineer. The Contractor shall supply all encasement materials.

2. The material shall be extruded tube form, flat sheets of high quality virgin polyethylene, 8 mils thick, pigmented with 2.0% to 2.5% of well dispersed carbon black with stabilizers. Minimum tensile strength will be 500 volts per mil thickness.

3. A plastic adhesive tape approximately two inches wide will be used to close seams and overlaps. The tape must bond securely under water to polyethylene and metal surfaces. Approved types are Polyken No. 900 Polyethylene, Scotchrap No. 50 Polyvinyl, or equal. The tape material and installation procedures shall conform to ASTM A674.

2.3 FITTINGS

A. Ductile Iron Fittings shall be as shown on the Contract Drawings and shall conform to the following:

1. Mechanical Joint and Flanged Fittings - ANSI/AWWA C110 A21.10, AWWA C-153, and ANSI/AWWA C111 A21.11.

2. Ductile Iron Fittings shall be centrifugally cast in metal or sand lined molds and conform to ANSI/AWWA C151 A21.51, latest revision. Minimum pressure rating shall be as follows:

Fitting Size	Rated Working Pressure (psi)	Rated Working Plus Surge Pressure (psi)
3" to 20"	350	500
24"	250	400
≥ 30"	200	350

All ductile iron fittings shall be manufactured to withstand an additional 100 psi surge allowance over and above the rated water working pressure specified herein.

B. Welded-on outlets may be used in place of reducing tees and reducing crosses, if the nominal outlet diameter is not more than 2 DIP sizes less than the nominal pipe diameter. If welded-on outlets are used, show and note on the line laying drawings and submit with shop drawings for the Engineer's approval prior to fabrication.

2.4 RESTRAINED JOINTS

A. Mechanical joint restraint shall be incorporated in the design of the follower gland and shall include a restraining mechanism which, when actuated, imparts multiple wedging action against the pipe, increasing its resistance as the pressure increases.

B. Lengths of pipe restraint specified on the drawings are approximations only. Actual lengths of restrained joint pipe required for installation shall be based on the calculation specified herein. The Contractor and the pipe manufacturer shall coordinate to ensure that adequate lengths of joint restraint are called out on the line laying schedule.

C. Flexibility of the joint shall be maintained after burial. Glands shall be manufactured of ductile iron conforming to ASTM A 536-80.

D. Restraining devices shall be of ductile iron heat treated to a minimum hardness of 370 BHN. Dimensions of the gland shall be such that it can be used with the standardized mechanical joint bell and tee-head bolts conforming to ANSI/AWWA A21.11 and ANSI/AWWA C153/A21.53 (latest revision).

E. Twist-off nuts shall be used to insure proper actuating of the restraining devices.

F. The mechanical joint restraint device shall have a water working pressure of at least 250 psi with a minimum safety factor of 2:1.

2.5 CERAMIC EPOXY COATING

A. The interior of all domestic wastewater force main ductile iron pipe and fittings shall be furnished with a factory applied ceramic epoxy coating.

B. Condition of the Pipe Prior to Surface Preparation:

1. All pipe and fittings shall be delivered to the application facility without asphalt, cement mortar lining, or any other coating or lining on the interior surface.

C. Coating Material:

1. The material shall be an amine cured novalac epoxy containing at least 20% by volume of ceramic quartz pigment.

2. Coating shall be "Protecto 401 Ceramic Epoxy", "Linerguard 100", or PERMITE 9043 type 2", no equal.

D. Coating Application:

1. Coating shall be applied by a competent firm with a successful history of applying coatings to the interior of pipe and fittings.

2. Prior to abrasive blasting, the entire area to receive the protective compound shall be inspected for oil, grease, etc. Any areas where oil, grease, or any substance which can be removed by solvent is present shall be solvent cleaned using the guidelines outlined in DIPRA-1 Solvent Cleaning.

3. After the surface has been solvent cleaned, all areas to receive the protective compounds shall be abrasive blasted using compressed air nozzles with sand or grit abrasive media. The entire surface to be lined shall be struck with the blast media so that all rust, loose oxides, etc., are removed from the surface.

4. Only slight stains and tightly adhering annealing oxide may be left on the surface. Any area where rust reappears before lining must be re-blasted.

5. Within eight hours after completion of surface preparation, the interior of the pipe and fittings shall receive 40 mils nominal dry film thickness of Protecto 401. No coating shall take place when the substrate or ambient temperature is below 40° F. The surface must be dry and dust free.

6. If flange pipe or fittings are included in the project the coating shall not be applied on the face of the flange.

7. The gasket area and spigot end up to six inches back from the end of the spigot end must be coated with 6 mils nominal, 10 mils maximum Protecto Joint Compound. The joint compound shall be applied by brush to ensure coverage. Care shall be taken to ensure that the joint compound is smooth without excess buildup in the gasket seat or on the spigot ends. Coating of the gasket seat and spigot ends shall be done after application of the pipe coating.

8. The number of coats applied to achieve 40 mils nominal DFT shall be as recommended by the coating manufacturer. In no case shall the material be applied above the DFT per coat recommended by the coating manufacturer in printed literature. The maximum or minimum time between coats shall be as recommended by the coating material manufacturer. No material shall be used for coating that is not indefinitely re-coatable with itself without roughening of the surface.

9. Procedures for sealing cut ends and repairing field damaged areas of interior coated pipe and fittings shall be in accordance with the coating manufacturers procedures and recommendations.

10. Protecto Joint Compound shall be used for touch-up or repair in accordance with the coating manufacturer's recommendations.

E. Inspection and Certification:

1. Coating shall be checked for thickness using a magnetic film thickness gauge. The thickness testing shall be done using the method outlined in SSPC-PA-2 Film Thickness Rating.

2. The interior coating of all pipe and fittings shall be tested for pinholes with a non-destructive 2,500 volt test. Any defects found shall be repaired prior to shipment.

3. Each pipe joint and fitting shall be marked with the date of application of the coating system along with its numerical sequence of application on that date and records maintained by the applicator of his work.

4. The pipe or fitting manufacturer shall supply a certification attesting to the fact that the applicator met the requirements of this specification, and that the material used was as specified.

F. Handling:

1. Interior coated pipe and fittings shall be handled only from the outside. No forks, chains, straps or hooks shall be placed inside the pipe and fittings for lifting, positioning, or laying.

2.6 POLYETHYLENE LINING

NOT USED.

2.7 MANUFACTURERS

A. Refer to the Palm Beach County Water Utilities Department Engineering Services Division – Approved Materials and Equipment List (Latest Version)

PART 3 -- EXECUTION

3.1 GENERAL

A. Pipe must be delivered to the job site by means which will adequately support it, and not subject it to undue stresses. Pipe shall be unloaded carefully and strung or stored as close to the final point of placement as practical.

B. Utmost care shall be exercised in loading and placing of all pipe, fittings, valves, etc., in order to avoid shock and/or damage. Lifting shall be by hoist or skids when hand lifting is not feasible. Dropping will not be permitted. Pipe handled on skidways must not be skidded or rolled against pipe already on the ground.

C. Any pipe, special casting, or other appurtenances broken or damaged after delivery to the site shall be replaced by the Contractor at its own expense. All pipes and special castings shall be carefully examined for defects, and no pipe or special casting shall be laid which is known to be defective. If any such pipe or special casting shall be

discovered to be defective after being laid, it shall be removed and replaced with a sound casting by the Contractor at its own expense.

3.2 PREPARATION

A. The layout of some of the piping systems shown on the Contract Drawings is diagrammatic, but shall be followed as closely as the work will permit.

B. Clean off scale and dirt both inside and outside before assembly. Remove welding slag or other foreign material from piping.

C. Before running lines, the Contractor shall carefully verify the location, depth, type of joint needed, and size of pipe to which connection is proposed. The Contractor shall then assure itself that the lines can be run as contemplated without interfering with footings, walls, other piping, fixtures, etc. Any necessary deviations shall be referred to the Engineer for final adjustment before lines are run.

D. All lengths of pipe shall be dimensioned accurately to measurements established at the site, and shall be worked into place without springing or forcing. Cut sections of pipe shall be reamed to remove all burrs.

E. The Contractor shall cut all pipe and drill all holes that may be necessary, whenever and wherever so required. This work shall be done in a thorough and workmanlike manner.

F. All field-cut or drilled pipe shall be hermetically sealed along the cut edge and for a distance of six inches inside and outside of the pipe with at least 15 mils of coal tar epoxy such as Koppers Bitumastic 300M or equal applied in no less than two coats, each coat having a different color.

G. Changes in direction, unless otherwise noted on the Contract Drawings or approved by the Engineer, shall be made with restrained mechanical joint fittings. The bending of pipe is strictly prohibited.

H. Any transition from one pipe size to another shall be made with a reducing fitting. Reducing bushings are prohibited except where specifically called for on the Contract Drawings.

I. Deflection of piping at joints is permitted. The maximum allowable deflection shall be 50% of the maximum allowable deflection recommended by the pipe manufacturer.

3.3 INSTALLATION OF PIPING

A. Lines, Grades, Stakes and Templates:

1. The Contractor shall, at its own expense, furnish all stakes, templates, patterns, platforms, and labor required in the layout of any part of the Work.

2. The line and grade of all piping, as well as the location of all appurtenances, will be as shown on the Contract Drawings, or as directed by the Engineer.

3. The Contractor shall give the Engineer a minimum of 48 hours notice for any engineering or inspection necessary to continue or complete the Work.

4. The Contractor shall establish all limit marks and bench marks reasonably necessary for the execution of the Work. The locations of all such marks so established shall be indicated and identified on the project record drawings as maintained by the Contractor.

B. Excavation:

1. The Contractor shall perform all excavation required for the installation of all parts of the project. All excavation shall be in strict accordance with the requirements of Section 31 23 00.

2. The excavation of the trench shall not advance more than 100 feet ahead of the completed pipe work except where in the opinion of the Engineer it is necessary to drain wet ground, or for other reasons as approved by the Engineer.

3. All excavations shall be made by open cut except as shown on the Contract Drawings. The sides of the trench shall be kept as nearly vertical as possible, especially from the trench floor to a level of one foot above the top of the pipe. Trench bottoms shall not be less than 16 inches wider nor more than 24 inches wider than the outside diameter of the pipe laid therein, and shall be excavated true to line, so that a clear space of not less than eight inches nor more than twelve inches in width is provided on each side of the pipe.

4. The bottom of trenches shall be accurately graded to provide uniform bearing and support for each section of pipe on undisturbed soil at every point along its entire length, except for portions of the pipe sections where it is necessary to excavate for bell holes. Bell holes shall be excavated only to an extent sufficient to permit accurate work in the making of the joints and to ensure that the pipe, for a maximum of its length, will rest upon the prepared bottom of the trench.

5. Excavation carried beyond or below grades specified by the Engineer shall be backfilled at the Contractor's expense with earth, sand, or gravel as directed by the Engineer, and shall be thoroughly tamped.

6. The materials excavated shall be deposited on the sides of the trenches and beyond the reach of slides, with the banks trimmed up so as little inconvenience as possible is made to public travel or occupants of adjoining property.

7. Sidewalks, roads, streets, and pavements shall not be obstructed by excavated materials, except as authorized by the Engineer. In this case, adequate temporary provisions will be made for a satisfactory temporary passage of pedestrians and vehicles.

8. Adequate bridging and planked crossings must be provided and maintained across all open trenches for pedestrians and vehicles. Barriers, lights, flares and any other necessary warning devices shall be provided and maintained by the Contractor at trenches, excavations and embankments, at no additional compensation.

9. In case it is necessary to place excavated material adjacent to buildings, the Contractor shall erect barriers to keep the earth at least four feet from the front of such buildings. In case earth is deposited on grass plots, the Contractor shall

remove it carefully when backfilling so as to not destroy the grass. All shade trees, shrubs, etc., along the line of construction shall be reasonably protected.

10. The Contractor shall, without additional expense, provide suitable temporary channels for any water that may flow along or across the site of the Work.

11. Where the bottom of the trench is found to consist of material which is unstable to such a degree that, in the opinion of the Engineer, it cannot be removed and shaped to adequately support the pipe, the trench bottom shall be stabilized by the Contractor to the satisfaction of the Engineer, without extra compensation.

12. The Contractor shall excavate the trench for subaqueous crossings to the elevations and typical sections shown on the Contract Drawings:

    a. Trench bottoms shall be excavated to the bottom grade at which the pipe is to be laid, plus over dig as necessary. Excavation in water shall be made from equipment by use of approved methods. The trench will remain open until the pipe can be properly laid.

    b. Excavated material shall be stored in such a manner as not to interfere with the progress of the Work. Excavated material may be used to refill the trench, subject to the requirements outlined herein.

    c. Excess materials shall be spread over the top of the trench to bring areas to final finished grade. If additional material is required, the Contractor will furnish acceptable material from other sources.

    d. All unsuitable material will be stock-piled and disposed of by the Contractor in a manner meeting the approval of the Engineer.

    e. The Contractor shall anticipate that the work will be performed under the vigilance and periodic inspection of the Lake Worth Drainage District (LWDD), the Palm Beach County Public Health Unit (PBCPHU), the Palm Beach County Department of Engineering and Public Works, the Florida Department of Transportation (FDOT), and the Florida Department of Environmental Protection (FDEP), and shall be assumed to have acquainted himself not only with the conditions of their permits and/or approvals, but with the laws, statutes and regulations pertaining to this and similar work, with particular regard to allowable levels of turbidity in adjacent waters, disposal of normal and excess excavation, ecological aspect, and restoration.

    f. Upon completion of the Work, all trenches shall have been backfilled to a level equal to the original contour of the site before the start of construction and at least three feet above the top of the new pipeline. Backfilling shall be accomplished as the Work progresses.

C. Pipe Clearances in Rock:

1. Ledge rock, boulders and large stones shall be removed to provide a clearance of at least six inches below and on each side of all pipe, valves and fittings. Before the pipe is laid, all irregularities of the rock are to be filled with earth or sand well rammed into place and the bottom of the trench brought to proper grade.

2. The specified minimum clearances are the minimum clear distances which will be permitted between any part of the pipe and appurtenances being laid and any part, projection, or point of such rock, boulder or stone.

D. Blasting:

1. Blasting for rock excavation will not be permitted.

E. Bracing and Shoring:

1. The Contractor shall do all bracing, sheeting and shoring necessary to perform and protect all excavations as required for safety and as otherwise directed by the Engineer.

F. Dewatering:

1. The Contractor shall at all times during construction of the Work, provide and maintain ample means and devices with which to promptly and efficiently remove and properly dispose of all water entering trenches and excavations and keep said excavations dry until the structures to be built thereon are completed.

2. No pipe joints shall be made in water, nor shall water be allowed to rise over masonry or mortar until the concrete or mortar has set for at least 24 hours. Dewatering operations shall be in strict accordance with the requirements of Section 31 23 19.

G. Bedding and Base Fill:

1. After pipe joints have been inspected and given preliminary approval, and sufficient time has elapsed for setting of joints, backfilling shall be performed by hand, together with tamping, until fill has progressed to an elevation at least one foot above the top of the pipe.

2. During this initial stage of backfilling, approved granular materials or loose soil free from lumps, organic materials or stones shall be deposited in layers six inches thick and compacted by hand, or with manually operated machine tampers actuated by compressed air or other suitable means. Tamps and machines shall be suitable for the Work.

3. It is the intention of these Specifications to lay the subaqueous crossing pipe on a sand or crushed gravel foundation. Should rock be encountered above the trench bottom it shall be excavated to a depth of twelve inches under the pipe to allow for placing sand or crushed gravel bedding material.

4. In no case shall the gradient or alignment of any aerial, subaqueous, or road crossing be changed from that indicated on the Contract Drawings without the permission of the Engineer.

H. Backfilling:

1. The Contractor shall perform all backfilling that may be required for the installation of any and all parts of the Project. Backfilling shall be performed in accordance with Section 31 23 33.

2. After the pipe is laid as specified herein, the trench shall be backfilled with selected fine materials from the excavation or borrow.

I. Clean-Up:

1. The Contractor shall clean up and legally dispose of all trash, wood forms and other debris and restore the job site to a condition acceptable to the Owner.

2. Excess excavated material within the FDOT right-of-ways shall be hauled to a located designated by the Engineer, within 20 miles. The Contractor shall include in the cost of the pipe installation removal and disposal of all excess excavated material.

3. Pipe laying operations shall not be permitted to extend excessive distances ahead of clean-up. Unless otherwise directed by the Engineer, clean-up activities shall not lag behind pipe installation by more than 500 feet.

J. Tees, Crosses, Bends, Plugs, Caps, Blind Flanges, Etc.:

1. Standard plugs shall be inserted into the bells of all dead end pipes, tees or crosses; spigot ends shall be capped; flanged ends shall have suitable blind flanges.

2. All tees, crosses, bends, plugs, and other fittings shall be mechanically restrained in accordance with the pipe manufacturers design manual for restrained joints.

3. In addition to full mechanical restraint, concrete reaction or thrust blocks may be used for supplemental restraint at all tees, crosses, plugs, caps, and at bends deflecting 11-1/4 degrees or more.

4. Concrete reaction or thrust blocks shall have a 28-day compressive strength of not less than 2,500 psi. The concrete mix shall consist of one part cement, two parts sand and five parts stone or gravel, by weight.

5. Concrete reaction or thrust blocks are to be poured between undisturbed solid ground and the fitting. The concrete will be so placed that pipe joints and fitting joints will be accessible for repair.

K. Temporary Plugging:

1. Piping shall be temporarily plugged at the end of each day's work. Plugging shall be adequate to prevent the entry of animals into the pipe or the entrance or insertion of deleterious materials. Plugs installed for pressure testing shall be fully secured and blocked to withstand the test pressure.

2. Where plugging is required because of contract division or phasing for later connection, the ends of such lines shall be equipped with a permanent type plug or blind flange. Installation or removal of such plugging shall be considered incidental to the Work.

L. Flanged Joints:

1. Care shall be taken in bolting flanged joints that there is no restraint on the opposite end of the that would prevent pressure from being evenly and uniformly applied on the gasket.

2. Bolts shall be gradually tightened, each in turn, at a uniform rate of gasket compression around the entire flange.

M. Pipe Laying in Cinders:

1. Where pipe must be laid through cinder fill, garbage dumps, slag piles, or where harmful corrosive conditions exist in the soil, notify the Engineer immediately.

2. At the Engineer's direction, encase the pipe in accordance with subsection 2.1.C of these specifications and backfill with sand, limestone, or shell material.

N. Subaqueous Crossing:

1. Subaqueous piping shall be placed by suitable means to the line and grade shown on the profile. The actual work of laying the pipe shall be accomplished by experienced personnel well qualified in this type of work.

2. Sand bags may be used to support the pipe in the ditch but no pipe shall be laid on blocks. Before backfilling, the barrel of the pipe shall be firmly supported along its entire length by the sand or crushed bedding.

3. The Engineer shall approve each section of pipe installed prior to and after placing backfill. Such approval shall not relieve the Contractor of the responsibility of re-excavating for and repairing any leaks discovered when the hydrostatic pressure test is applied.

4. Precautions shall be taken during installation to prevent silt and other foreign matter from entering the pipeline. Sheet piling may be required where the trench is in muck.

5. Before assembling the pipe all lumps, blisters and excess coal tar coating shall be removed from the mating ends of each pipe, and both bell and spigot ends shall be wire-brushed and wiped clean and dry.

6. The method of assembly of the locked joint type of fittings and the ball type joints shall be in accordance with these Specifications and the Manufacturer's recommendations and standards.

7. Where required, the Contractor shall use a non-toxic type lubricant for assembly of rubber gasket joints in accordance with the manufacturer's recommendations.

O. Turbidity Control:

1. The Contractor shall take adequate precautions to minimize siltation and bank erosion in waterways.

2. The Contractor must control turbidity on subaqueous and aerial crossing work so that it does not exceed established background turbidity by more than 50 Jackson Turbidity Units (JTU's) at a distance greater than 100 feet from the point of work.

3. This shall be done by the use of four turbidity screens suspended by floats or other methods approved by the Engineer. The turbidity screens shall be spaced twenty-five feet apart, with two screens on each side of the crossing.

P. Conformity with Permits and Regulations:

1. The subaqueous and aerial construction is licensed under formal permits issued by the Lake Worth Drainage District and the State of Florida Department of Environmental Regulation. Permits shall be obtained by the Owner with copies provided to the Contractor.

2. The Contractor shall comply with all regulations, conditions and other requirements promulgated under these permits or by other governmental agencies having jurisdiction.

Q. Crossing Signs:

1. The Contractor shall install a sign at each location where the pipeline crosses the shoreline.

2. The sign shall be 3/32 inches thick aluminum and shall conform to Sections 700-1 through 700-7 of the F.D.O.T. Specifications, latest revision. The signs shall be painted with baked enamel.

3. All sign dimensions and design shall be in accordance with the U.S. Department of Transportation, Federal Highway Administration Manual of Uniform Traffic Control Devices and as specified on the Contract Drawings.

4. All sign installations shall conform to the F.D.O.T. Specifications, Section 700-8 and 700-9, and as approved by the Engineer.

R. Restrained Joints:

1. Restrained joints shall be provided as shown on the Contract Drawings.

2. Restrained joint fittings shall be constructed using a PBCWUD approved field installed joint restraint system capable of holding against line pressures up to the rated water working pressure as specified below (with a 2:1 safety factor):

Nominal Pipe Size	Rated Working Pressure (psi)	Rated Working Plus Surge Pressure (psi)
3" to 20"	350	500
24"	250	400
≥ 30"	200	350

3. The minimum number of restrained joints required for resisting forces at fittings and changes in direction of pipe is shown on the Contract plans. The pipe manufacturer will verify that the length of restraint indicated on the plans is adequate. The parameters that shall be used to verify the minimum length of restraint will be calculated based on "Thrust Restrain Design for Ductile Iron Pipe", developed by "The Ductile Iron Pipe Research Association", program version 3.2 (7/27/99) with cover according to profile, laying condition type 5, soil designation as sand-silt and safety factor 1.5 design pressure of 150 psi.

3.4 PIPELINE TESTING

A. All pipe shall be hydrostatically tested in accordance with Section 01670.

B. Before testing, all parts of the pipeline must be backfilled and braced sufficiently to prevent movement under pressure. If concrete thrust blocks are used, ample curing time must be provided prior to pressure testing to allow time for concrete to gain strength. Test ends shall be capped and braced to withstand the thrust developed under test pressure.

C. All sections of lines must be thoroughly flushed and filled with clean water obtained from an approved source. Air shall be vented from all high points in the pipeline before conducting pressure and leakage tests. Prior to beginning testing, the temperature of the pipeline and of the test water shall be allowed to equalize.

D. All pipelines shall be disinfected and bacteriologically cleared to potable water main standards of the Palm Beach County Public Health Unit (PBCPHU) and the State of Florida Department of Environmental Protection (FDEP).

3.5 PIPELINE CLEANING

~~A.~~ The entire length of pipeline shall be cleaned and flushed. ~~using the progressive poly pig method in accordance with Section 02661.~~

B. Potable water supplied by the Owner shall be used for flushing the pipeline.

3.6 DISINFECTION

A. Disinfection of the pipeline shall be accomplished after successful pressure testing in accordance with Section 01 74 30 and cleaning in accordance with Section 01 74 40.

B. The disinfecting agent shall be liquid chlorine or sodium hypochlorite solution. Dry hypochlorite, similar or equal to "HTH" may also be used.

C. The piping shall be disinfected by the introduction of a disinfecting agent into potable water being pumped into the system, in such a manner that the entire system is filled with water containing a minimum chlorine concentration of 50 PPM throughout the pipeline.

D. The disinfected water will be allowed to remain in the pipeline for a minimum contact period of eight hours before the system is flushed. After the disinfecting agent has been permitted to remain for the specified contact period, the pipeline and valves will be

thoroughly flushed with potable water until the residual chlorine concentration is less than 3.0 mg/l.

E. After the system has been disinfected and flushed as specified herein, samples of water will be taken from the sample points specified on the Contract Drawings, collected in suitable sterilized containers, and forwarded to an independent testing laboratory for bacterial examination.

F. If the analyzed samples show the presence of coliform bacteria, the disinfection procedure will be repeated by the Contractor until tests indicate the absence of coliforms.

G. Two consecutive daily samples shall be satisfactorily tested before the system is placed into service. The Contractor is responsible for collection of samples and paying for tests.

END OF SECTION

SECTION 33 95 50 - POLYVINYLCHLORIDE (PVC) PRESSURE PIPE

PART 1 - GENERAL

1.1 THE SUMMARY

A. The Work under this Section shall include furnishing and installing Polyvinyl Chloride (PVC) Pressure Pipe, complete, with appurtenances.

B. All fittings furnished hereunder with PVC pipe shall be ductile iron restrained mechanical joint with an interior lining in accordance with Section 33 95 45.

1.2 WORK INCLUDED

A. The Work under this Section shall also include, but is not limited to, the furnishing of all labor, materials, equipment, transportation, and temporary services of every nature necessary for the proper construction of the project in accordance with these Specifications and as shown on the Contract Documents.

B. Wherever the term "subaqueous work" is used herein or where "subaqueous" is referred to, this shall be understood to mean work under water using equipment and methods that are accepted practice for such work.

C. Wherever the term "aerial crossing" is used herein, this shall be understood to mean work over water using equipment and methods that are accepted practice for such work.

D. Wherever the term "road crossing" is used herein, this shall be understood to mean work under or across an existing paved roadway or thoroughfare using equipment and methods that are accepted practice for such work.

1.3 RELATED REQUIREMENTS

A. Section 01 11 00: Summary of Work

B. Section 01 33 00: Submittal Procedures

C. Section 01 74 30: Pressure Pipe Testing and Disinfection

D. Section 31 23 00: Excavation and Fill

E. Section 31 23 13: Subgrade Preparation

F. Section 31 23 19: Dewatering

G. Section 31 23 33: Trenching and Backfilling

H. Section 33 26 60: Water Transmission Systems

1.4 REFERENCES

ASTM D618, D1598, D1599, D1784, D1785, D2122, D2152, D2241, D2412, D2774, D2837,

D3139, and F477.

ANSI 21.11 and 21.53.

National Sanitation Foundation (NSF) Testing Laboratory Standard No. 14.

AWWA C900-88, C900-89, C111, C153, and M23.

Department of Commerce PS22-70 (SDR-PR) (pressure rated pipe).

PPI Standard TR3.

1.5 SUBMITTALS

A. Furnish submittal in accordance with the requirements of Section 01 33 00 -Submittal Procedures.

B. Submit to the Engineer within thirty (30) days a listing of all PVC pipe and ductile iron restrained joint fittings with an interior polyethylene lining which the Contractor requires to complete the Work.

C. PVC pipe physical and chemical data sheets shall be submitted to the Engineer for approval prior to purchase of the pipe.

D. The Contractor shall furnish an Affidavit of Compliance as provided by the PVC pipe manufacturer certifying that all materials delivered conform to the requirements of this Specification.

1.6 CONNECTION TO WORK BY OTHERS OR EXISTING LINES

A. Piping installed under this Contract must connect to lines installed under other Contracts. The Contractor under this Contract shall perform the following work and include the cost thereof in the contract price and at no additional cost to the Owner:

1. Remove the temporary plug and thrust restraint provided in the pipe installed under another Contract.

2. Furnish and install necessary pipe, fittings, specials and appurtenances to make proper connections to pipes installed by others.

B. Connection to existing lines, to which piping of this Contract must connect, the following work shall be performed:

1. Expose buried lines to confirm pipe diameter, end connection, and pipe material.

2. Furnish and install appropriate pipe, fittings, specials, and appurtenances to make proper connections.

PART 2 - PRODUCTS

2.1 PIPE MATERIALS

A. GENERAL

1. PVC pressure pipe shall conform to ASTM D1785 and shall be made from a 12454A or 12454B virgin PVC compound which is a Type 1, Grade 1 plastic as defined by ASTM D1784. Rerun or reclaimed materials are not acceptable.

2. Pipe to be used shall comply with the National Foundation Standard No. 14 and shall have markings on the pipe to indicate that it has been tested and is in compliance with this Standard.

3. Rubber gaskets shall conform to ASTM D1869. One (1) gasket shall be furnished with each length of elastomeric-gasket bell-end pipe.

4. Elastomeric gaskets shall be manufactured to conform to the requirements of ASTM F477. Gaskets shall be made from materials that are compatible with the PVC pipe material and with the lubricant to be used with the gasket.

5. Gaskets shall not support bacterial growth or affect the quality of the water to be transported.

6. All PVC material for pipe and couplings shall be white in color and as uniform as commercially practical in density and other physical properties.

7. PVC pipe shall be homogeneous throughout and free from voids, cracks, holes, foreign inclusions and other defects. Pipe surfaces shall be free of nicks and scratches.

8. Joining surfaces of spigots and joints shall be free of gouges and imperfections that could cause leakage.

9. Standard lengths of pipe shall be available of 18 feet, plus or minus one inch (1").

10. At least 85% of the total footage of pipe of any class and size shall be furnished in standard lengths. The remaining 15% in random lengths. Random lengths shall not be less than ten feet (10') long.

11. Wall thickness shall be in accordance with PS22-70, ASTM D2122, and ASTM D-2241.

12. PVC pipe shall be furnished with ductile iron pipe equivalent outside diameters.

13. Pipe ends shall be tapered to accept the gasket coupling.

14. Pipe shall bear identification markings that will remain legible after normal handling, storage, and installation. Markings shall be applied in a manner that will not weaken or damage the pipe. Marking shall be applied at intervals of not more than five feet on the pipe. Pipe markings shall include the following information:

    a. Manufacturer's Name or Trademark.

    b. Nominal Size and O.D. base.

    c. PVC

    d. Dimension Ratio (DR).

    e. AWWA Pressure Rating (PR).

    f. AWWA standard designation number (AWWA C900 or C905) for gasketed pipe.

    g. NSF Logo.

B. GASKETED PVC PIPE

1. PVC pipe intended for buried service shall be push-on type in accordance with the following:

Pipe Size	Standard	Pressure Class	DR
4" to 12"	AWWA C-900	235	18
14" to 16"	AWWA C-905	165	25
18" to 24"	AWWA C-905	165	25

2. All PVC pipe shall utilize ductile iron retainers for restraining joints and fittings. PVC pipe 14" and larger shall be designed with a minimum internal surge pressure of 100 psi.

3. All above ground pipe and fittings four inches in diameter and larger shall be flanged ductile iron with an interior lining in accordance with Section 33 95 45 - Ductile Iron Pipe and Fittings. Socket type flange adapters shall be provided.

4. All fittings for use with push-on type PVC pipe shall be ductile iron restrained mechanical joint with an interior polyethylene lining in accordance with Section 33 95 50.

5. Restrained joints for connection of PVC push-on pipe to ductile iron fittings shall be mechanical joint retainer glands. The mechanical joint restraint shall have a working pressure of at least 150 psi with a minimum safety factor of 2:1. Dimensions of the glands shall permit the glands to be used with standard mechanical joint bells and the head bolts conforming to ANSI A21.11 and A21.53 and AWWA C111 and C153.

6. Retainer glands for four-inch mechanical joint ductile iron fittings shall be cast from 60-42-10 ductile iron. The glands shall have serrations on the I.D. sufficient to hold the working and test pressures. Retainer glands shall be MEGALUG Series as manufactured by EBBA Iron, Inc.

7. Retainer glands for six-inch and larger ductile iron mechanical joint fittings shall consist of a plurality of individually activated gripping surfaces to maximize restraint capability. Glands shall be manufactured of ductile iron conforming to ASTM A536. Twist off nuts sized the same as the head bolts shall be used to insure proper actuating of the restraining devices. Retainer glands shall be MEGALUG Series as manufactured by EBBA Iron, Inc.

8. Insertion depth of the pipe in the coupling shall be controlled by an internal PVC mechanical stop in the coupling which will allow for thermal expansion and contraction.

9. Coupling method shall allow for half of the expansion or contraction of each pipe section to be taken up at each end of the pipe.

10. Couplings shall permit five degrees of deflection (2-1/2 degrees each side) of the pipe without any evidence of infiltration, exfiltration, cracking or breaking.

11. Lubrication shall be water soluble, non-toxic, non-objectionable in taste and odor imparted to the fluid, be non-supporting of bacterial growth, and have no deteriorating effect on the PVC or rubber gaskets.

C. SOLVENT WELD PVC PIPE

1. All PVC pipe three inches or smaller in diameter intended for buried service shall be socket weld joint.

2. Wall thickness shall be Schedule 40 minimum, unless otherwise specified or noted.

3. For above ground piping, joints shall be socket welded for nominal pipe sizes less than three inches in diameter. Where threaded connections are required, socket type threaded adapters shall be provided.

4. Socket type joints shall be made up in accordance with ASTM D2855 with a PVC solvent cement complying with ASTM D2564. The cement shall have a minimum viscosity of 2,000 cps.

5. Socket type pipe fittings for Schedule 40 pipe shall conform to ASTM D2466.

6. Socket type pipe fittings for Schedule 80 pipe shall conform to ASTM D2467.

7. Fittings shall be extruded and shall have the same schedule designation, joint type, and be made of the same PVC compound as the connecting pipe.

8. The dry fit of fittings and coupling sockets must be snug. If the fit is such that it is loose, the pipe and/or fittings shall be rejected as faulty because of improper size. Building up the joint to overcome a loose fit with multiple layers of filler solvent is not permitted.

9. Elbows shall be of the long radius type with minimum walls equal to that of the pipe joining. Tapered welding sockets shall be equal to those required for couplings.

10. Mechanical joint adapters at least 12" long and made of Schedule 80 PVC shall be furnished. One end shall be built up to an O.D. equal to that required by the mechanical joint fitting.

11. Service tees smaller than two inches shall be a molded type fitting. Service tees 2" and larger shall be tapped couplings. Couplings shall be similar to the line couplings with equal socket depth and shall be made with regular pipe section welded in the middle for extra strength. The area around the tapped outlet shall be reinforced with a weld-on saddle, if necessary. The construction of the coupling shall be adequate for securing the corporation stop without the possibility of splitting or cracking around the tapped hole. Depth of threads shall not be less than 5/8".

12. Threaded PVC adapters will not be accepted.

13. Tees shall be a molded fitting with deep socket adapters having a socket depth equal to the coupling. The socket and wall must be equal to the coupling requirements.

14. Plastic meter setters shall be single or double as specified. Materials shall be PVC Schedule 80, 1120 or 1220, meeting ASTM Standard D-1785.

15. Welding solvent must be in accordance with the latest approved materials list.

2.2 GASKETED PVC PRESSURE PIPE MANUFACTURERS

A. All PVC pipe installed for membrane concentrate force main shall be as manufactured by:

1. JM Pipe*
2. Diamond Plastic Corporation*
3. CertainTeed*
4. NAPCO*
5. IPEX**
6. National Pipe and Plastics
7. Sanderson Pipe**
8. Refer to approved Materials list for all manufacturers.

* No Pipe deflection at the joint allowed

** Up to two (2) degrees deflection at pipe joint allowed.

PART 3 - EXECUTION

3.1 GENERAL

A. Pipe must be delivered to the job site by means which will adequately support it, and not subject it to undue stresses.

B. Loads shall be supported so that the bottom rows of pipe are not damaged by crushing.

C. Pipe shall be unloaded carefully and strung or stored as close to the final point of placement as practical.

3.2 PREPARATION

A. The layout of some of the piping systems shown on the Contract Drawings is diagrammatic, but shall be followed as closely as the work will permit.

B. Clean off scale and dirt both inside and outside before assembly. All interior surfaces of bells and couplings and the male ends of the pipe shall be free of foreign matter.

C. Before running lines, the Contractor shall carefully verify the location, depth, type of joint needed, and size of pipe to which connection is proposed. The Contractor shall then assure itself that the lines can be run as contemplated without interfering with footings, walls, other piping, fixtures, etc. Any necessary deviations shall be referred to the Engineer for final adjustment before lines are run.

D. All lengths of pipe shall be dimensioned accurately to measurements established at the site, and shall be worked into place without springing or forcing.

E. The Contractor shall cut all pipe and drill all holes that may be necessary, whenever and wherever so required. This work shall be done in a thorough and workmanlike manner.

3.3 INSTALLATION

A. PVC pipes shall be installed in accordance with ASTM D 2321 and ASTM D 2774.

B. All changes in direction, unless otherwise noted on the Contract Drawings or approved by the Engineer, shall be made with restrained mechanical joint fittings. The bending of pipe is strictly prohibited.

C. Any transition from one pipe size to another shall be made with a reducing fitting. Reducing bushings are prohibited except where specifically called for on the Contract Drawings.

D. Deflection of piping at joints is only permitted as described in section 2.2 above.

E. Lines, Grades, Stakes and Templates:

1. The Contractor shall, at its own expense, furnish all stakes, templates, patterns, platforms, and labor required in the layout of any part of the Work.

2. The line and grade of all piping, as well as the location of all appurtenances, will be as shown on the Contract Drawings, or as directed by the Engineer.

3. The Contractor shall give the Engineer a minimum of 48 hours notice for any engineering or inspection necessary to continue or complete the Work.

4. The Contractor shall establish all limit marks and bench marks reasonably necessary for the execution of the Work. The locations of all such marks so established shall be indicated and identified on the project record drawings as maintained by the Contractor.

F. Excavation:

1. The Contractor shall perform all excavation required for the installation of all parts of the project. All excavation shall be in strict accordance with the requirements of Section 31 23 00.

2. The excavation of the trench shall not advance more than 100 feet ahead of the completed pipe work except where, in the opinion of the Engineer, it is necessary to drain wet ground, or for other reasons as approved by the Engineer.

3. All excavations shall be made by open cut except as shown on the Contract Drawings. The sides of the trench shall be kept as nearly vertical as possible, especially from the trench floor to a level of one foot above the top of the pipe. Trench bottoms shall not be less than 16 inches wider nor more than 24 inches wider than the outside diameter of the pipe laid therein, and shall be excavated true to line, so that a clear space not less than eight inches nor more than twelve inches in width is provided on each side of the pipe.

4. The bottom of trenches shall be accurately graded to provide uniform bearing and support for each section of pipe on undisturbed soil at every point along its entire length, except for portions of the pipe sections where it is necessary to excavate for bell holes. Bell holes shall be excavated only to an extent sufficient to permit accurate

work in the making of the joints and to ensure that the pipe, for a maximum of its length, will rest upon the prepared bottom of the trench.

5. Excavation carried beyond or below grades specified by the Engineer shall be backfilled at the Contractor's expense with suitable earth, sand, or gravel as directed by the Engineer, and shall be thoroughly tamped.

6. The materials excavated shall be deposited on the sides of the trenches and beyond the reach of slides, with the banks trimmed up so as little inconvenience as possible is made to public travel or occupants of adjoining property.

7. Sidewalks, roads, streets, and pavements shall not be obstructed by excavated materials, except as authorized by the Engineer. In this case, adequate temporary provisions will be made for a satisfactory temporary passage of pedestrians and vehicles.

8. Adequate bridging and planked crossings must be provided and maintained across all open trenches for pedestrians and vehicles. Barriers, lights, flares and any other necessary warning devices shall be provided and maintained by the Contractor at trenches, excavations and embankments, at no additional compensation.

9. In case it is necessary to place excavated material adjacent to buildings, the Contractor shall erect barriers to keep the earth at least four feet from the front of such buildings. In case earth is deposited on grass plots, the Contractor shall remove it carefully when backfilling so as to not destroy the grass. All shade trees, shrubs, etc., along the line of construction shall be reasonably protected.

10. The Contractor shall, without additional expense, provide suitable temporary channels for any water that may flow along or across the site of the Work.

11. Where the bottom of the trench is found to consist of material which is unstable to such a degree that, in the opinion of the Engineer, it cannot be removed and shaped to adequately support the pipe, the trench bottom shall be stabilized by the Contractor to the satisfaction of the Engineer, without extra compensation.

12. The Contractor shall excavate the trench for subaqueous crossings to the elevations and typical sections shown on the Contract Drawings:

    a. Trench bottoms shall be excavated to the bottom grade at which the pipe is to be laid, plus over dig as necessary. Excavation in water shall be made from equipment by use of approved methods. The trench will remain open until the pipe can be properly laid.

    b. Excavated material shall be stored in such a manner as not to interfere with the progress of the Work. Excavated material may be used to refill the trench, subject to the requirements outlined herein.

    c. Excess materials shall be spread over the top of the trench to bring areas to final finished grade. If additional material is required, the Contractor will furnish acceptable material from other sources.

    d. All unsuitable material will be stock-piled and disposed of by the Contractor in a manner meeting the approval of the Engineer.

e. The Contractor shall anticipate that the work will be performed under the vigilance and periodic inspection of Canal owner and/or property owner (the Lake Worth Drainage District (LWDD), the Palm Beach County Public Health Unit (PBCPHU), the Palm Beach County Department of Engineering and Public Works, the Florida Department of Transportation (FDOT), the Florida Department of Environmental Protection (FDEP) or other applicable regulatory agency and shall be assumed to have acquainted himself not only with the conditions of their permits and/or approvals, but with the laws, statutes and regulations pertaining to this and similar work, with particular regard to allowable levels of turbidity in adjacent waters, disposal of normal and excess excavation, ecological aspect, and restoration.

f. Upon completion of the Work, all trenches shall have been backfilled to a level equal to the original contour of the site before the start of construction and at least two and one half feet above the top of the new pipeline. Backfilling shall be accomplished as the Work progresses.

G. Pipe Clearances in Rock:

1. Ledge rock, boulders and large stones shall be removed to provide a clearance of at least six inches below and on each side of all pipe, valves and fittings. Before the pipe is laid, all irregularities of the rock are to be filled with earth or sand well rammed into place and the bottom of the trench brought to proper grade.

2. The specified minimum clearances are the minimum clear distances which will be permitted between any part of the pipe and appurtenances being laid and any part, projection, or point of such rock, boulder or stone.

H. Blasting:

1. Blasting for rock excavation will not be permitted.

I. Bracing and Shoring:

1. The Contractor shall do all bracing, sheeting and shoring necessary to perform and protect all excavations as required for safety and as otherwise directed by the Engineer.

J. Dewatering:

1. The Contractor shall at all times during construction of the Work, provide and maintain ample means and devices with which to promptly and efficiently remove and properly dispose of all water entering trenches and excavations and keep said excavations dry until the structures to be built thereon are completed.

2. All dewatering operations shall be in strict accordance with the requirements of Section 31 23 19.

K. Bedding and Base Fill:

1. After pipe joints have been inspected and given preliminary approval, and sufficient time has elapsed for setting of joints, backfilling shall be performed by hand, together with tamping, until fill has progressed to an elevation at least one foot above the top of the pipe.

2. During this initial stage of backfilling, approved granular materials or loose soil free from lumps, clods, organic materials or stones shall be deposited in layers or approximately six inches thick and compacted by hand, or with manually operated machine tampers actuated by compressed air or other suitable means.

3. Tamps and machines shall be suitable for the Work, and subject to the approval of the Engineer.

4. Subaqueous crossing pipe shall be laid on a sand or crushed gravel foundation. Should rock be encountered above the trench bottom it shall be excavated to a depth of twelve inches under the pipe to allow for placing sand or crushed gravel bedding material.

5. In no case shall the gradient or alignment of any aerial, subaqueous, or road crossing be changed from that indicated on the Drawings without permission of the Engineer.

L. Backfilling:

1. The Contractor shall perform all backfilling that may be required for the installation of any and all parts of the Project.

2. Backfilling shall be performed in strict accordance with Section 31 23 33 - Trenching, Backfilling and Compaction, or as directed by the Engineer.

3. After the pipe is laid as specified herein, the trench shall be backfilled with selected fine materials from the suitable excavation or borrow.

M. Clean-Up:

1. The Contractor shall clean up and dispose of all excess excavated material, trash, wood forms and other debris and restore the job site to a condition acceptable to the Owner.

2. Pipe laying operations shall not be permitted to extend excessive distances ahead of clean-up. Unless otherwise directed by the Engineer, clean-up activities shall not lag behind pipe installation by more than 500 feet.

N. Plugs, Caps, Blind Flanges, Anchorage and Thrust Blocks:

1. Standard plugs shall be inserted into the bells of all dead end pipes, tees or crosses; spigot ends shall be capped; flanged ends shall have suitable blind flanges.

2. Approved pipe joint restrain shall be required on all valves and pipelines involving a change of direction with fittings (at tees, plugs, caps, and at bends).

3. Thrust blocks consisting of poured-in-place concrete having a minimum compressive strength of 2,500 psi after 28 days cure may be utilized only with prior approval for connections to existing un-restrained piping

4. Thrust blocks shall be installed on any slopes exceeding ten degrees from horizontal, using one block at least three cubic feet in volume for each successive three lengths of pipe on such slope.

5. Concrete reaction or thrust blocks shall have a 28-day compressive strength of not less than 2,500 psi. The concrete mix shall consist of one part cement, two parts sand and five parts stone or gravel, by weight.

6. Blocks are to be poured between solid ground and the fitting. The concrete will be so placed that pipe joints and fitting joints will be accessible for repair.

7. The dimensions of concrete thrust blocks shall be as shown on the Contract Drawings, but in no case less than two cubic feet in volume.

O. Temporary Plugging:

1. Installed piping systems shall be temporarily plugged at the end of each day's work. Plugging shall be installed in a manner satisfactory to the Engineer, and shall be adequate to prevent the entry of animals into the pipe or the entrance or insertion of deleterious materials.

2. Plugs installed for pressure testing shall be fully secured and blocked to withstand the test pressure.

3. Where plugging is required because of contract division or phasing for later connection, the ends of such lines shall be equipped with a permanent type plug or blind flange. Installation or removal of such plugging shall be considered incidental to the Work.

P. Pipe Laying in Cinders:

1. Where pipe must be laid through cinder fill, garbage dumps, slag piles, or where harmful corrosive conditions exist in the soil, notify the Engineer immediately.

2. At the Engineer's direction, encase the pipe in accordance with subsection 2.1.C of these specifications and backfill with sand, limestone, or shell material.

Q. Subaqueous Crossing:

1. Subaqueous piping shall be placed by suitable means to the line and grade shown on the profile. The actual work of laying the pipe shall be accomplished by experienced personnel well qualified in this type of work.

2. Sand bags may be used to support the pipe in the ditch but no pipe shall be laid on blocks. Before backfilling, the barrel of the pipe shall be firmly supported along its entire length by the sand or crushed bedding.

3. The Engineer shall approve each section of pipe installed prior to and after placing of the backfill. Such approval shall not relieve the Contractor of the responsibility of re-excavating for and repairing any leaks discovered when the hydrostatic pressure test is applied.

4. Every precaution shall be taken during installation to prevent silt and other foreign matter from entering the pipeline. Sheet piling may be required where the trench is in muck.

5. Before assembling the pipe all lumps, blisters and excess coal tar coating shall be removed from the mating ends of each pipe, and both bell and spigot ends shall be wire-brushed and wiped clean and dry.

6. The method of assembly of fittings and joints shall be in accordance with these Specifications and the Manufacturer's recommendations and standards.

7. Where required, the Contractor shall use a non-toxic type lubricant for assembly of rubber gasket joints in accordance with the manufacturer's recommendations.

R. Turbidity Control:

1. The Contractor shall take adequate precautions to minimize siltation and bank erosion in waterways.

2. The Contractor must control turbidity on subaqueous and aerial crossing work so that it does not exceed established background turbidity by more than 50 Jackson Turbidity Units (JTU's) at a distance greater than 100 feet from the point of work.

3. This shall be done by the use of four turbidity screens suspended by floats or other methods approved by the Engineer. The turbidity screens shall be spaced twenty-five feet apart, with two screens on each side of the crossing.

S. Conformity with Permits and Regulations:

1. The subaqueous construction is licensed under formal permits issued by the Lake Worth Drainage District and the State of Florida Department of Environmental Regulation. These permits shall be obtained by the Owner with copies provided to the Contractor.

2. The Contractor shall comply with all regulations, conditions and other requirements promulgated under these permits or by other governmental agencies having jurisdiction; the cost of all such compliance having been included in the original contract price.

T. Crossing Signs:

1. The Contractor shall install a sign at each location where the pipeline crosses the shoreline.

2. The sign shall be 3/32 inches thick aluminum and shall conform to Sections 700-1 through 700-7 of the F.D.O.T. Specifications, latest revision. The signs shall be painted with baked enamel.

3. All sign dimensions and design shall be in accordance with the U.S. Department of Transportation, Federal Highway Administration Manual of Uniform Traffic Control Devices and as specified on the Contract Drawings.

4. All signing installations shall conform to the D.O.T. Specifications, Section 700-8 and 700-9, and as approved by the Engineer.

U. Recommended Solvent-Weld Instructions:

Not used.

3.3 RESTRAINTS AT BENDS, FITTINGS, AND VALVES

A. Mechanical Restraints or other approved thrust restraint system shall be used wherever the pipeline:

1. Changes direction at tees, bends, crosses, and wyes.

2. Changes size as at reducers.

3. Stops as at a dead end.

4. Has a valve installed.

B. Refer to the Restraint table in Contract Drawings.

3.4 TESTING

A. All pipe shall be hydrostatically tested in accordance with Section 01 74 30 Pressure Pipe Testing and Disinfection.

B. Before testing, all parts of the pipeline must be backfilled and braced sufficiently to prevent movement under pressure. All pipe trench densities must be complete to finish rock and accepted by the ENGINEER prior to testing. If concrete thrust blocks are used, ample curing time must be provided prior to pressure testing to allow time for concrete to gain strength.

C. Test ends shall be capped and braced to withstand the thrust developed under test pressure.

D. All sections of lines must be thoroughly flushed and filled with clean water obtained from an approved source. Air shall be vented from all high points in the pipeline before conducting pressure and leakage tests.

E. Prior to beginning testing, the temperature of the pipeline and of the test water shall be allowed to equalize.

F. The manufacturer shall perform the "Stiffness Test", "Hoop Tensile Strength Test" and "Axial Tensile Strength Tests" as required in Section 3 of AWWA C950 Specifications.

G. All pipelines shall also be disinfected and bacteriologically cleared to potable water main standards of the Palm Beach County Public Health Unit (PBCPHU) and the State of Florida Department of Environmental Protection (FDEP).

3.5 PIPELINE CLEANING

A. The entire length of pipeline shall be cleaned and flushed. Potable water supplied by the Owner shall be used for flushing the pipeline.

3.6 DISINFECTION

A. Disinfection of the pipeline shall be accomplished after successful pressure testing in accordance with Section 01 74 30 Pressure Pipe Testing and Disinfection.

END OF SECTION

SECTION 33 95 51 – HIGH DENSITY POLYETHYLENE (HDPE) PIPE, FITTINGS AND JOINING/FUSION

PART 1 – GENERAL

1.1 THE SUMMARY

A. This specification covers the material (pipe and fittings), joining methods and general installation practice for high density polyethylene pipe (HDPE) piping systems for water and wastewater utility use as indicated on the Contract Drawings.

1.2 RELATED SECTIONS:

A. Section 33 05 23.13: Utility Horizontal Directional Drilling

B. Section 01 33 00: Submittal Procedures

C. Section 01 74 30: Pressure Pipe Testing and Disinfection

D. Section 31 23 33: Trenching and Backfilling

E. Section 31 23 19: Dewatering

1.3 SUBMITTALS

A. Submit product data to the ENGINEER for review in accordance with the Section 01 33 00 Submittal Procedures for all pipe, fittings, and appurtenances.

B. CONTRACTOR shall also submit the following to the ENGINEER for approval:

1. Certified dimensional as-built drawings/profile of all installed pipe, specials and fittings.

2. Details of fittings and specials such as elbows, tees, outlets, connections, test bulkheads, nozzles or other special items where shown on the Contract Drawings. All connections to jointed gasketed pipe materials, valves or fire hydrants must be restrained and supported independently to withstand the pressure transients, soil settlement, and external loading conditions.

3. The Supplier of the material shall submit, through the CONTRACTOR, a Certificate of Compliance that the HDPE pipe and fittings furnished for this project are FM approved materials that meet or exceed the standards set forth in this specification. The CONTRACTOR shall submit these certificates to the ENGINEER prior to installation of the pipe materials.

4. Provide a statement that personnel responsible for fusing the pipe have been trained and qualified.

C. For items that do not meet all of the requirements of this specification, the bid/submittal shall include a written description of the deviations, along with data that show the magnitude and the justification for the deviation from the specification. The decision to

accept material deviating from this specification shall be the responsibility of the specifying ENGINEER and must be approved in writing.

1.4 REFERENCE DOCUMENTS AND STANDARDS THE STANDARDS AND DOCUMENTS LISTED BELOW MAY APPLY TO THE MATERIALS AND PRACTICES IN THIS SPECIFICATION. IN THE EVENT OF A CONFLICT, THE REQUIREMENTS OF THIS SPECIFICATION PREVAIL. UNLESS OTHERWISE SPECIFIED, REFERENCES TO DOCUMENTS SHALL MEAN THE LATEST PUBLISHED EDITION OF THE REFERENCED DOCUMENT IN EFFECT AT THE PROJECT BID DATE.

A. ANSI/AWWA C901 Polyethylene (PE) Pressure Pipe and Tubing, ½ In. (13 mm) Through 3 In. (76 mm) for Water Service

B. ANSI/AWWA C906 Polyethylene (PE) Pressure Pipe and Fittings, 4 In. (100 mm) Through 63 In. (1,600 mm), for Water Distribution and Transmission

C. ANSI/AWWA C651 Standard for Disinfecting Water Mains

D. AWWA M55 Manual of Water Supply Practices, PE Pipe–Design and Installation

E. Plastics Pipe Institute, PPI Handbook of Polyethylene Pipe – 2009 (2ndEdition)

F. Plastics Pipe Institute, PPI Municipal Advisory Board (MAB) Generic Electrofusion Procedure for Field Joining of 12 Inch and Smaller Polyethylene (PE) Pipe

G. Plastics Pipe Institute, PPI Material Handling Guide for HDPE Pipe and Fittings

H. Plastics Pipe Institute, PPI TR-34 Disinfection of Newly Constructed Polyethylene Water Mains

I. Plastics Pipe Institute, PPI TR-38 Bolt Torque for Polyethylene Flanged Joints

J. Plastics Pipe Institute, PPI TN-42 Recommended Minimum Training Guidelines for PE Pipe Butt Fusion Joining Operators for Municipal and Industrial Projects

K. Plastics Pipe Institute, PPI TR-46 Guidelines for Use of Mini-Horizontal Directional Drilling for Placement of High Density Polyethylene Pipe

L. ASTM D 2321 Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications

M. ASTM D 2683 Standard Specification for Socket-Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing

N. ASTM D 2737 Standard Specification for Polyethylene (PE) Plastic Tubing

O. ASTM D 2774 Standard Practice for Underground Installation of Thermoplastic Pressure Piping

P. ASTM F 2880 Standard Specification for Lap-Joint Type Flange Adapters for Polyethylene Pressure Pipe in Nominal Pipe Sizes 3/4 in. to 65 in.

Q. ASTM D 3035 Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter

R. ASTM D 3261 Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing

S. ASTM D 3350 Standard Specification for Polyethylene Plastics Pipe and Fittings Materials

T. ASTM F 585 Standard Guide for Insertion of Flexible Polyethylene Pipe Into Existing Sewers

U. ASTM F 714 Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter

V. ASTM F 905 Standard Practice for Qualification of Polyethylene Saddle-Fused Joints

W. ASTM F 1055 Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene and Crosslinked Polyethylene (PEX) Pipe

X. ASTM F 1290 Standard Practice for Electrofusion Joining Polyolefin Pipe and Fittings

Y. ASTM F1417 Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air

Z. ASTM F 1962 Standard Guide for Use of Maxi-Horizontal Directional Drilling for Placement of Polyethylene Pipe or Conduit under Obstacles, Including River Crossings

AA. ASTM F 2164 Standard Practice for Field Leak Testing of Polyethylene (PE) Pressure Piping Systems Using Hydrostatic Pressure

BB. ASTM F 2206 Standard Specification for Fabricated Fittings of Butt-Fused Polyethylene (PE) Plastic Pipe, Fittings, Sheet Stock, Plate Stock, or Block Stock

CC. ASTM F 2620 Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings

DD. ASTM F 3124 Standard Practice for Data Recording the Procedure Used to Produce Heat Butt Fusion Joints

EE. ASTM F 3183 Standard Practice for Guided Side Bend Evaluation of Polyethylene Pipe Butt Fusion Joint

FF. ASTM F 3190 Standard Practice for Heat Fusion Equipment (HFE) Operator Qualification on Polyethylene (PE) and Polyamide (PA) Pipe and Fittings

PART 2 -- PRODUCTS

2.1 HIGH DENSITY POLYETHYLENE MATERIALS

A. Resin and Material Requirements

1. All material shall be manufactured from a PE 4710 resin listed with the Plastic Pipe Institute (PPI) as TR-4. The resin material shall meet the specifications of ASTM D 3350 with a minimum cell classification of 445474C. HDPE pipe and fittings shall contain no recycled compounds except that generated in the manufacturer's own plant from resin of the same specification from the same raw material. HDPE products shall be homogeneous throughout and free of visible cracks, holes, foreign inclusions, voids, or other injurious defects.

B. HDPE Pipe

1. Pipe shall be made of HDPE material with a minimum material designation code of PE4710 and with a minimum Cell Classification as noted in 2.1.A. The polyethylene compound shall be suitably protected against degradation by ultraviolet light by means of carbon black of not less than 2 percent. The manufacture of the HDPE resin shall certify the cell classification indicated.

2. Pipe sizes 3" and larger shall have a manufacturing standard of ASTM F 714, while pipe smaller than 3" shall be manufactured to the dimensional requirements listed in ASTM D 3035. Dimension Ratio (DR) and Outside Diameter (IPS/DIPS) shall be as specified on plans.

3. Pipe shall meet AWWA C901 (1/2" to 3") or AWWA C906 (4" to 63") and shall be listed as meeting NSF-61.

4. Pipe shall be manufactured by an ISO 9001 certified manufacturer. The pipe manufacturer shall have an ongoing Quality Control program for incoming and outgoing materials and shall assure that the pipe will meet the material requirements of this specification. HDPE resins for manufacturing of pipe shall be checked for density, melt flow rate, and contamination. The facility shall have the necessary testing equipment to verify that pipe meets the AWWA and NSF standards. Pipe shall be checked for outside diameter, wall thickness, length, and surface finish on the inside and outside. The Manufacturer's production facilities shall be open for inspection by the OWNER or ENGINEER.

5. All pipe shall be color coded for the intended service. The color coding shall be permanently coextruded stripes on the pipe outside surface as part of the pipe's manufacturing process. Painting HDPE pipe to accomplish color coding is not permitted. Color coding shall be as follows:

   a. Sanitary Sewer – green

   b. Potable Water – blue

   c. Reclaimed Water – purple

C. HDPE Fittings

1. Butt Fusion Fittings- Fittings shall be made of HDPE material with a minimum material designation code of PE4710 and with a minimum Cell Classification as noted in 2.1.A. Fittings shall have a minimum pressure rating equal to or greater than the pipe to which they are joined unless otherwise specified on the plans or accepted by OWNER/ENGINEER. All fittings shall meet the requirements of AWWA C901 or C906.

   a. Molded fittings shall comply with the requirements of ASTM D 3261.

   b. All fabricated elbows, tees, reducing tees and end caps shall be produced and meet the requirements of ASTM F 2206, as manufactured by ISCO Industries, Inc or other approved manufacturer holding an ISO 9001 quality system certificate. Each fitting will be marked per ASTM F 2206 section 10 including the nominal size and fitting EDR, which will meet or exceed the pipe DR identified for the project. Fabricated fittings shall be manufactured using a McElroy DataLogger to record fusion pressure and temperature and shall be stamped with unique joint number that corresponds to the joint report. A graphic representation of the temperature and pressure data for all fusion joints made producing fittings shall be maintained for a minimum of 5 years as part of the quality control and will be available upon request of OWNER. Test results to validate ASTM F 2206 section 7.3 and 9 shall be provided to OWNER or OWNER's representative upon request.

   c. Socket fittings shall meet ASTM D 2683.

2. Electrofusion Fittings - Fittings shall be made of HDPE material with a minimum material designation code of PE 4710 and with a minimum Cell Classification as noted in 2.1.A. Electrofusion Fittings shall have a manufacturing standard of ASTM F1055. Fittings shall have a minimum pressure rating equal to or greater than the pipe to which they are joined unless otherwise specified on the plans. For potable water systems, all electrofusion fittings shall have AWWA approval

3. Bolted Connections – Flanged and Mechanical Joint Adapters can be made to ASTM D 3261 or if machined, must meet the requirements of ASTM F 2206. Flanges and MJ Adapters shall be fused onto the pipe and have a minimum pressure rating equal to or greater than the pipe unless otherwise specified on the plans.

   a. Flange Adapters shall meet the dimensional and material requirements of ASTM F 2880.

   b. Metallic back-up rings (Van-Stone style lap joint flanges), shall have a radius on the inside diameter of the bore so as to be compatible with HDPE Flanges. Back up rings shall have bolt pattern that will mate with AWWA C207 Class D (or B or E), ASME/ANSI B 16.5 Class 150, ASME/ANSI B 16.1 Class 125, or ASME/ANSI B16.47 Series A.

   c. Flange assemblies shall be assembled and torqued according to PPI TN-38, "Bolt Torque for Polyethylene Flanged Joints."

d. Where shown on the drawings, 4" and larger transitions to mechanical joint fittings and valves shall be accomplished using a MJ Adapter with kit. The D.I./HDPE mechanical joint adaptor shall consist of:
   1) A molded or fabricated HDPE mechanical joint transition fitting.
   2) A rubber gasket.
   3) A mechanical joint backup drive ring.
   4) Corten mechanical joint tee bolts.

4. Mechanical Fittings: The use of mechanical coupling and saddles shall be approved by the OWNER or ENGINEER prior to installation. Mechanical Fittings shall be designed for use and compatible with HDPE pipe. Mechanical fittings shall have a pressure rating equal to or greater than the pipe.

   a. Couplings without self-restraining capabilities (integrated serrated teeth or grippers) shall include a plan for external restraint or isolation from pipeline generated forces.

   b. Mechanical Saddles shall have wide straps for distribution of clamping loads. No U-bolts shall be allowed.

   c. When required by mechanical coupling manufacturer, pipe stiffeners shall be employed to support the interior wall of the HDPE. The stiffeners shall support the pipe's end and control the "necking down" reaction to the pressure applied during normal installation. The pipe stiffeners shall be formed of 316 stainless steel, with a wedged style design to fit the HDPE manufacturers published average inside diameter of the specific size and DR of the HDPE.

D. Fusion Unit Requirements

1. All Fusion Equipment, whether new or used, rented or owned, shall comply with the requirements of ISO 12176-1 "Equipment for Fusion Jointing Polyethylene Systems".

2. Butt fusion equipment must be in satisfactory working order and the hydraulic system must be leak free. Heater plates shall be free from scrapes, gouges, and have a consistent clean coated surface. The pressure gage and thermometer should be checked for accuracy. When requested by the OWNER, records showing a maintenance service/inspection within 3 months prior to use for this project shall be provided.

3. Rental Butt Fusion Equipment must be maintained by a McElroy Authorized Service and Repair Center with at least one McElroy Certified Master Mechanic on staff. When requested by OWNER or his authority, an inspection report detailing the components inspected within 3 months prior to arrival at jobsite will be provided.

4. Electrofusion Processors shall be maintained and calibrated per manufacturer's requirements and recommendations.

E. Approved Suppliers

1. All Pipe, Fittings, and Fusion Equipment shall be provided by one supplier. Approved suppliers are ISCO Industries, Inc. or approved equal.

2.2 PIPELINE LOCATING MATERIALS

A. Detectable Marker Tape- Plastic marker tape shall be 5 mil minimum thickness with a solid aluminum core of .35mil minimum thickness and a minimum width of 2". The background of the tape shall be colored based on pipe service with black lettering continuously printed. Marker tape shall have a minimum 35 lbs./inch tensile strength. The installation of the tape shall be at 18 inches below finish grade.

B. Tracer Wire- All HDPE pipe 4" and greater shall be installed with an extra high-strength, copper clad steel tracer wire including 45 mil HDPE jacket that has a minimum average break load of at least 1150 lbs. The jacket shall be colored based on pipe service, with blue for potable water, green for sanitary sewer or purple for reclaimed water. Tracer wire gauge shall be 12 AWG, 10 AWG, or 8 AWG depending upon application and installation procedure. This wire shall to be continuous and brought up in the valve boxes at the ends of each line segment with splices made only by methods per the equipment manufacturer's recommendation. All miscellaneous splicing components shall be furnished and installed by the CONTRACTOR.

PART 3 -- EXECUTION

3.1 GENERAL

A. All HDPE pipe and fittings shall be cut, joined, and installed in accordance with the manufacturer's recommendations. Joining, laying, and pulling of polyethylene pipe shall be accomplished by personnel experienced in working with polyethylene pipe systems.

3.2 TRANSPORTATION, UNLOADING, AND STORAGE

A. The manufacturer shall package product in a manner designed to deliver the pipe and fittings to the project neatly, intact and without physical damage. During transportation each pipe shall rest on suitable pads, strips skids, or blocks securely wedged or tied in place.

B. During loading, transportation, and unloading, every precaution should be taken to prevent damage to the pipe. The handling of the pipeline shall be in such a manner that the pipe is not damaged by dragging it over sharp and cutting objects. Cuts or gouges that reduce the wall thickness by more than 10% are not acceptable and must be cut out and discarded.

C. Handle the pipe in accordance with the PPI Handbook of Polyethylene Pipe (2nd Edition), Chapter 2. All pipe and accessories shall be loaded and unloaded by lifting with hoists or by skidding in order to avoid shock or damage. Under no circumstances shall materials be dropped. Pipe handled on skidways shall not be rolled or skidded against pipe on the ground. Slings, hooks or pipe tongs shall be padded and used in such a manner as to prevent damage to the exterior surface or interior of the pipe. All pipe and fittings shall be subjected to visual inspection at time of delivery and before they are lowered into the trench to be laid.

D. Materials, if stored, shall be kept safe from damage and shall not be stacked higher than the limits recommended by the manufacturer. The bottom tiers shall be kept off the ground on timbers, rails, or concrete. Pipe shall not be stored close to heat sources. The CONTRACTOR shall be responsible for all security, damage and loss of pipe, excluding Acts of God.

E. The interior of the pipe as well as all sealing surfaces of mating components (i.e. flange faces) shall be kept free from dirt or foreign matter at all times. The open ends of all sections of joined and/or installed pipe (not in service) shall be plugged to prevent insects, animals, or foreign material from entering the pipe line or pipe section. The practice of stuffing cloth or paper in the open ends of the pipe will not be permitted. Use waterproof nightcaps to prevent the entrance of any type of natural precipitation into the carrier or containment pipe and will be secured to the pipe in such a manner that the wind cannot blow them loose. Where possible, the pipe shall be raised and supported at a suitable distance from the open end such that the open end will be below the level of the pipe at the point of support.

3.3 RECEIPT INSPECTION

A. All pipe and fittings shall be subjected to visual inspection at time of delivery and before they are installed or lowered into the trench to be laid. Defective, damaged, or unsound pipe will be rejected. Cuts, punctures, or gouges that penetrate or reduce the wall thickness by 10% or more are not acceptable and must be removed and discarded. Joints or fittings that do not conform to these specifications will be rejected and must be removed immediately by the CONTRACTOR.

3.4 FUSION AND JOINING

A. Fusion Joining Requirements:

1. All HDPE pipe shall be joined to itself by the heat fusion process which produces homogeneous, seal, leak tight joints. Tie-ins between sections of HDPE pipe shall be made by butt fusion whenever possible.

2. Butt Fusion: The pipe shall be joined by the butt fusion procedure outlined in ASTM F 2620 or PPI TR-33. All fusion joints shall be made in compliance with the pipe or fitting manufacturer's recommendations. Fusion joints shall be made by qualified fusion technicians per PPI TN-42. A record or certificate of training for the fusion operator must be provided that documents training to the fundamentals of ASTM F 2620. Considerations should be given to and provisions made for adverse weather conditions, such as temperatures below freezing, precipitation, or wind, which is accepted by the OWNER/ENGINEER.

3. Electrofusion: Electrofusion joining shall be done in accordance with the manufacturers recommended procedure. Other sources of electrofusion joining information are ASTM F 1290, PPI TN 34, and PPI Municipal Advisory Board (MAB) Generic Electrofusion Procedure for Field Joining of 12 Inch and Smaller Polyethylene (PE) Pipe. The process of electrofusion requires an electric source, commonly called an electrofusion processor that has wire leads and a method to read electronically (by laser) or otherwise input the barcode of the fitting. The electrofusion processor must be capable of reading and storing the input parameters and the fusion

results for later download to a record file. Qualification of the fusion technician shall be demonstrated by evidence electrofusion training within the past year on the equipment to be utilized for this project.

B. Fusion Operators:

1. The employer of the fusion machine operator is responsible for the fusion joint quality of the fusion weld made by that individual. The employer is responsible for documenting all training and qualification records for that individual, including compliance to any code requirements for fusion/bonder operators.

2. All HDPE fusion equipment operators shall be qualified to the procedure used to perform pipe joining. Fusion equipment operators shall have current, formal training on all fusion equipment employed on the project. Training received more than two years prior to operation with no evidence of activity within the past 6 months shall not be considered current.

3. For Projects with at least 5,000 feet or with pipe larger than 24 inches, operators or their supervisor must have a current McElroy Fusion Training Certificate for the equipment to be used on the project.

4. When the fusion machine operator is employed by the HDPE pipe and fusion machine supplier, the supplier shall maintain an ISO 9001 Certified Quality Management System.

C. Butt Fusion Equipment:

1. For 6" and larger pipe sizes, the pipe butt fusion machine shall be a self-contained hydraulic fusion machine capable of butt fusing HDPE pipe. The carriage must be removable from the chassis for in-ditch use. The machine must be compatible with an electronic data recording device. Accessories will include all butt fusion inserts for the specified range of pipe sizes, a pyrometer kit for checking the surface temperature of the heater, extension cord of appropriate gauge (25' minimum), and hydraulic extension hoses (minimum of four). The butt fusion machine will be McElroy, or approved equivalent.

2. In areas where there may be insufficient space to layout the entire length of fused pipe to be pulled-back, the CONTRACTOR shall utilize a continuous HDPE pipe fusion equipment such as a PolyHorse by McElroy or other means in order to fuse the length of pipe necessary for the installation. The CONTRACTOR shall be responsible for securing and obtaining permission/permits from adjacent property if necessary, for staging and/or fusing of the pipe and HDD equipment at no additional cost to the OWNER.

D. Fusion Data Recording:

1. For 6" and larger pipe sizes, McElroy DataLogger or equivalent fusion data recorder shall be used to record all fusion welds on hydraulically operated fusion machines. The device shall be capable of meeting the requirements of ASTM F 3124, "Standard Practice for Data Recording the Procedure used to Produce Heat Butt Fusion Joints

in Plastic Piping Systems or Fittings". The device, or combination of devices, shall record the following variables of each fused joint:

1) Heater surface temperature- immediately before inserting the heater plate, measure with a pyrometer and manually enter into the weld record.
2) Gauge pressure during the initial heat cycle
3) Gauge pressure and elapsed time during the heat-soak cycle
4) Heater removal (dwell) time
5) Gauge pressure and elapsed time during the fusing/cool cycle
6) Drag pressure
7) Pipe diameter and wall thickness
8) Type of HDPE material (Specification and Classification) and manufacturer
9) Fusion Machine Identification

2. The device shall record the operator name and a unique operator ID number, along with the date and time of each weld.

3. Records showing the device is up to date on all required calibration should be available for presentation when requested.

4. All fusion welds should be traceable to the report (via operator and weld ID) with an indentation weld stamp or by permanent paint marker/pen next to fusion weld.

5. A weld location map may be requested, prior to commencement of work, by the OWNER or OWNER's representative.

E. Butt Fusion Examination and Testing:

1. Examinations

a. Visual: For pipe sections, examine the full exterior circumference for bead uniformity before cutting. After cutting the pipe section, review the interior bead. All beads should have visually acceptable bead formation as shown in Fig 4 and Appendix X2 of ASTM F 2620. In addition, the following characteristics are expected:

1) There shall be no evidence of cracks or incomplete fusing
2) There shall be no evidence of captured objects (e.g., pipe shavings, facer ribbons) between bonded surfaces.
3) Variations in upset bead heights on opposite sides of the cleavage and around the circumference of fused pipe joints are acceptable.
4) The apex of the cleavage between the upset beads of the fused joint shall remain above the base material surface
5) Fused joints shall not display visible angular misalignment, and outside diameter mismatch shall be less than 10% of the nominal wall thickness
6) Fusion data record review that meet criteria of section 3.04.D.1 can be used as additional verification of visual indicators.

b. Fusion Data Record Review The fusion date record for each fused joint shall be compared to the approved fusion procedure. The reviewer shall verify the following:

1) That all data required by section 3.4.D.1 was recorded
2) Interfacial pressure was within the acceptable range

3) Heater surface temperature was within the acceptable range
4) Butt fusion pressure applied during the fusing/cool cycle was correctly calculated to include drag pressure, fell within the acceptable range for the applicable size and agrees with the recorded hydraulic fusing pressure.
5) Butt fusing pressure was reduced to a value less than or equal to drag pressure at the beginning of the heat soak cycle.
6) Fusing machine was opened at the end of the heat soak cycle, the heater was removed, and the end were brought together at the fusion pressure with the acceptable time range
7) Cooling time at butt fusing pressure met the minimum time specified

c. If the recorded data in section 3.4.D.1 is outside the limits of the acceptable range, the joint is unacceptable, and must be removed and replaced.

d. Frequency. Records for test fusion joints should be reviewed immediately after the joint is completed. Fusion joints for jobsite fusions should be reviewed daily or before being covered with backfill.

2. Mechanical Tests

a. CONTRACTOR shall mechanically test the first fusion of each operator and each machine used on the project. Installation shall not continue until a fusion test has passed the test. Additional mechanical test are not required as long as long as the fusion are reviewed with the frequency specified in section 3.4.E.1.4) Testing of fusion joints with no fusion data record review shall be at a frequency specified by the OWNER or ENGINEER.

b. The fusion shall be allowed to cool completely, then fusion test straps shall be cut out.

c. All samples shall be labeled with operator information. Testing must be done at 73 degrees F plus or minus 5 degrees. The test temperature and sample size are critical to testing. Testing performed at cold or elevated temperatures may not give similar results to tests performed at ambient temperatures.

d. Each pipe sample weld shall be subjected to testing at two locations 180 degrees apart from each other in the joint weld. All specimens shall be tested by one of the following methods:

1) Reverse Bend Test are allowed for pipe sizes 4" IPS or smaller. The specimens shall be prepared and tested in accordance with ASTM F 2620, Appendix X4.

2) Guided Side Bend Test are allowed for all wall thicknesses of 1" or greater. The specimens shall be removed and tested in accordance with ASTM F 3183.

3) Hydrostatic Burst Test is allowed for pipe sizes 2"-24". The specimen length should measure 6 times pipe diameter with the butt fusion joint in the center of the specimen. The specimen should be tested in a tank filled with water, and testing conditions monitored and recorded with computerized equipment.

The specimen will be tested at 4 times pipe rated pressure for 5 minutes with no failure of joint allowed.

e. Results of any mechanical test should be documented. Information on the weld and operator should be transferred from the sample to the testing record.

3.5 PREPARATION

A. The layout of some of the piping systems shown on the Contract Drawings is diagrammatic but shall be followed as closely as the work will permit.

B. Before running lines, the Contractor shall carefully verify the location, depth, and size of pipe to which connection is proposed. The Contractor shall then assure itself that the lines can be run as contemplated without interfering with footings, walls, other piping, fixtures, etc. Any necessary deviations shall be referred to the ENGINEER for final adjustment before lines are run.

C. All lengths of pipe shall be dimensioned accurately to measurements established at the site, and shall be worked into place without springing or forcing.

D. The Contractor shall cut all pipe and drill all holes that may be necessary, whenever and wherever so required. This work shall be done in a thorough and workmanlike manner.

3.6 INSTALLATION

A. Pipe shall be placed within the limits as depicted on the Contract Drawings.

B. All pipe must be laid clean and free of debris.

C. Deflection from a straight line or grade required due to field conditions will not exceed the manufacturer's recommendations.

D. Lines, Grades, Stakes and Templates:

1. The Contractor shall, at its own expense, furnish all stakes, templates, patterns, platforms, and labor required in the layout of any part of the Work.

2. The line and grade of all piping, as well as the location of all appurtenances, will be as shown on the Contract Drawings, or as directed by the ENGINEER.

3. The Contractor shall give the ENGINEER a minimum of 48 hours notice for any engineering or inspection necessary to continue or complete the Work.

4. The Contractor shall establish all limit marks and bench marks reasonably necessary for the execution of the Work. The locations of all such marks so established shall be indicated and identified on the project record drawings as maintained by the Contractor.

E. Dewatering:

1. The Contractor shall at all times during construction of the Work, provide and

maintain ample means and devices with which to promptly and efficiently remove and properly dispose of all water entering trenches and excavations and keep said excavations dry until the structures to be built thereon are completed.

2. All dewatering shall be in strict accordance with the requirements of Section 31 23 19 - Dewatering.

F. Clean-Up:

1. The Contractor shall clean up and dispose of all excess excavated material, trash, wood forms and other debris and restore the job site to a condition acceptable to the OWNER.

G. Turbidity Control:

1. The Contractor shall take adequate precautions to minimize siltation and bank erosion in waterways.
2. The Contractor must control turbidity on subaqueous and aerial crossing work so that it does not exceed established background turbidity by more than 50 Jackson Turbidity Units (JTU's) at a distance greater than 100 feet from the point of work.

3. This shall be done by the use of four (4) turbidity screens suspended by floats or other methods approved by the ENGINEER. The turbidity screens shall be spaced twenty-five feet (25') apart, with two (2) screens on each side of the crossing.

H. Conformity with Permits and Regulations:

1. The subaqueous construction is licensed under the formal permits within the Contract Documents.

2. The Contractor shall comply with all regulations, conditions and other requirements promulgated under these permits or by other governmental agencies having jurisdiction over the Work; the cost of all such compliance having been included in the original contract price.

I. Crossing Signs:

1. The Contractor shall install a sign at each location where the pipeline crosses the shoreline.

2. The sign shall be 3/32 inches thick aluminum and shall conform to Sections 700-1 through 700-7 of the F.D.O.T. Specifications, latest revision. The signs shall be painted with baked enamel.

3. All sign dimensions and design shall be in accordance with the U.S. Department of Transportation, Federal Highway Administration Manual of Uniform Traffic Control Devices and as specified on the Contract Drawings.

4. All signing installations shall conform to the D.O.T. Specifications, Section 700-8 and 700-9, and as approved by the ENGINEER.

J. Excavation:

1. The Contractor shall perform all excavation required for the installation of all parts of the project. Excavation shall be performed in strict accordance with Section 31 23 33 – Trenching and Backfilling.

2. The excavation of the trench shall not advance more than 100 feet ahead of the completed pipe work except where, in the opinion of the ENGINEER, it is necessary to drain wet ground, or for other reasons as approved by the ENGINEER.

3. All excavations shall be made by open cut except as shown on the Contract Drawings. The sides of the trench shall be kept as nearly vertical as possible, especially from the trench floor to a level of one foot (1') above the top of the pipe. Trench bottoms shall not be less than 16 inches wider nor more than 24 inches wider than the outside diameter of the pipe laid therein, and shall be excavated true to line, so that a clear space of not less than eight inches (8") nor more than twelve inches in width is provided on each side of the pipe.

4. The bottom of trenches shall be accurately graded to provide uniform bearing and support for each section of pipe on undisturbed soil at every point along its entire length

5. Excavation carried beyond or below grades specified by the ENGINEER shall be backfilled at the Contractor's expense with earth, sand, or gravel as directed by the ENGINEER, and shall be thoroughly tamped.

6. The materials excavated shall be deposited on the sides of the trenches and beyond the reach of slides, with the banks trimmed up so as little inconvenience as possible is made to public travel or occupants of adjoining property.

7. Sidewalks, roads, streets, and pavements shall not be blocked or obstructed by excavated materials, except as authorized by the ENGINEER. In this case, adequate temporary provisions will be made for a satisfactory temporary passage of pedestrians and vehicles.

8. Adequate bridging and planked crossings must be provided and maintained across all open trenches for pedestrians and vehicles. Barriers, lights, flares and any other necessary warning devices shall be provided and maintained by the Contractor at trenches, excavations and embankments, at no additional compensation.

9. In case it is necessary to place excavated material adjacent to buildings, the Contractor shall erect barriers to keep the earth at least four feet (4') from the front of such buildings. In case earth is deposited on grass plots, the Contractor shall remove it carefully when backfilling so as to not destroy the grass. All shade trees, shrubs, etc., along the line of construction shall be reasonably protected.

10. The Contractor shall, without additional expense, provide suitable temporary channels for any water that may flow along or across the site of the Work.

11. Where the bottom of the trench is found to consist of material which is unstable to such a degree that, in the opinion of the ENGINEER, it cannot be removed and shaped to adequately support the pipe, the trench bottom shall be stabilized by the Contractor to the satisfaction of the ENGINEER, without extra compensation.

K. Pipe Clearances in Rock:

1. Ledge rock, boulders and large stones shall be removed to provide a clearance of at least six inches (6") below and on each side of all pipe, valves and fittings. Before the pipe is laid, all irregularities of the rock are to be filled with earth or sand well rammed into place and the bottom of the trench brought to proper grade.

2. The specified minimum clearances are the minimum clear distances which will be permitted between any part of the pipe and appurtenances being laid and any part, projection, or point of such rock, boulder or stone.

L. Blasting:

1. Blasting for rock excavation will not be permitted.

M. Bracing and Shoring:

1. The Contractor shall do all bracing, sheeting and shoring necessary to perform and protect all excavations as required for safety and as otherwise directed by the ENGINEER.

N. Bedding and Base Fill:

1. After pipe joints have been inspected and given preliminary approval, and sufficient time has elapsed for setting of joints, backfilling shall be performed by hand, together with tamping, until fill has progressed to an elevation at least one foot (1') above the top of the pipe.

2. During this initial stage of backfilling, approved granular materials or loose soil free from lumps, clods, organic materials or stones shall be deposited in layers or approximately six inches (6") thick and compacted by hand, or with manually operated machine tampers actuated by compressed air or other suitable means.

3. Tamps and machines shall be suitable for the Work, and subject to the approval of the ENGINEER.

4. It is the intention of these Specifications to lay subaqueous crossing pipe on a sand or crushed gravel foundation. Should rock be encountered above the trench bottom it shall be excavated to a depth of twelve inches (12") under the pipe to allow for placing sand or crushed gravel bedding material.

5. In no case shall the gradient or alignment of any aerial, subaqueous, or road crossing be changed from that indicated on the Contract Drawings without the express permission of the ENGINEER.

O. Backfilling:

1. The Contractor shall perform all backfilling that may be required for the installation of any and all parts of the Project.

2. Backfilling shall be performed in strict accordance with Section 31 23 33 – Trenching and Backfilling, or as directed by the ENGINEER.

3. After the pipe is laid as specified herein, the trench shall be backfilled with selected fine materials from the excavation or borrow.

P. Horizontal Directional Drilling (HDD):

1. Polyethylene pipe shall be installed by the Horizontal Directional Drilling method is accordance with Section 33 05 23.13

Q. Appurtenances

1. All appurtenances (tees, elbows, services, valves, air relief valves, fire hydrants, etc.), must be independently supported and shall not rely on the pipeline and its connections for this support. Excessive stresses may be encountered when appurtenances are inadequately supported.

2. Hydrant Assemblies shall be installed and field tested according to the requirements of AWWA M17.

3. Installation of Tracer Wire. When tracer wire is required, the CONTRACTOR shall install along the entire section of pipeline and along all service connections as listed below. The tracer wire shall be installed simultaneously with the polyethylene piping system. Tracer wire shall be installed by the CONTRACTOR once backfill has been placed and compacted to at least 12 inches above the top of the pipe and not more than 18 inches above the top of the pipe. Tracer wire shall be properly spliced at each end connection and each service connection. Care should be taken to adequately wrap and protect wire at all splice locations. No bare tracer wire shall be accepted. Provide Magnesium alloy anode for cathodic protection that conforms to the requirements of ASTM B843. Install tracer wire per local and manufacturer's requirements.

3.7 TESTING

A. All pipe shall be hydrostatically tested in accordance with Section 01 74 30 – Pressure Pipe Testing and Disinfection, and the guidelines for "System Testing" of the pipe manufacturer.

B. Before testing, all parts of the pipeline must be backfilled and braced sufficiently to prevent movement under pressure.

C. If concrete thrust blocks are used, ample curing time must be provided prior to pressure testing to allow time for concrete to gain strength.

D. Test ends shall be capped and braced to withstand the thrust developed under test pressure.

E. All sections of lines must be thoroughly flushed and filled with clean water obtained from an approved source.

F. Air shall be vented from all high points in the pipeline before conducting pressure and leakage tests.

G. Prior to beginning testing, the temperature of the pipeline and of the test water shall be allowed to equalize.

H. All pipelines shall also be disinfected and bacteriologically cleared to potable water main standards of the Palm Beach County Public Health Unit (PBCPHU) and the State of Florida Department of Environmental Protection (FDEP).

I. All tests must be made in the presence of the ENGINEER or the ENGINEER's designated representative, unless waived in writing.

J. The Contractor shall schedule tests not less than 72 hours in advance. Scheduling of tests is subject to the availability of the ENGINEER or his designated representative.

3.8 PIPELINE CLEANING

A. The entire length of pipeline shall be cleaned and flushed using the progressive poly pig method in accordance with Section 01 74 40 - Pipeline Cleaning.

B. Potable water supplied by the OWNER shall be used for flushing the pipeline.

3.9 DISINFECTION

A. Disinfection of the pipeline shall be accomplished after successful pressure testing and cleaning in accordance with Section 01 74 30 – Pressure Pipe Testing and disinfection and in accordance with Section 01 74 40 - Pipeline Cleaning.

B. The disinfecting agent shall be liquid chlorine or sodium hypochlorite solution. Dry hypochlorite, similar or equal to "HTH" may also be used.

C. The piping shall be disinfected by the introduction of a disinfecting agent into potable water being pumped into the system, in such a manner that the entire system is filled with water containing a minimum chlorine concentration of 50 PPM throughout the pipeline.

D. Potable water for filling the pipeline shall be provided by the OWNER.

E. The disinfected water will be allowed to remain in the pipeline for a minimum contact period of eight (8) hours before the system is flushed.

F. After the disinfecting agent has been permitted to remain for the specified contact period, the pipeline and valves will be thoroughly flushed with potable water until the residual chlorine concentration is less than 3.0 mg/l.

G. After the system has been disinfected and flushed as specified herein, samples of water will be taken from the sample points specified on the Contract Drawings, collected in suitable sterilized containers, and forwarded to an independent testing laboratory for bacterial examination.

H. If the analyzed samples show the presence of coliform bacteria, the disinfection procedure will be repeated by the Contractor until tests indicate the absence of coliforms.

I. Two consecutive daily samples shall be satisfactorily tested before the system is placed into service. The Contractor is responsible for collection of samples and paying for tests.

END OF SECTION

33 95 53 – PRESTRESSED CONCRETE CYLINDER PIPE

PART 1 - GENERAL

1.1 REQUIREMENTS INCLUDED

A. The Contractor shall furnish and install Prestressed Concrete Cylinder Pipe (PCCP) including all fittings, specials, gaskets, grout bands, lubricant, lining, accessories and appurtenances, complete and in place, all in accordance with the requirements of the Contract Documents.

1.2 RELATED REQUIREMENTS

A. Section 01 33 00: Submittals Procedure.

B. Section 01 74 30: Pressure Pipe Testing and Disinfection

C. Section 31 23 33: Trenching And Backfilling

D. Section 33 05 23.16: Utility Pipe Jacking

E. Section 31 23 19: Dewatering

F. Section 33 95 45: Ductile Iron Pipe and Fittings

G. Section 33 26 60: Water Transmission Systems

H. Section 03 00 00: Concrete

I. Section 33 26 40: Valves, and Appurtenances

1.3 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. Without limiting the generality of other requirements of these specifications, all work specified herein shall conform to or exceed the applicable requirements of the following standards:

1. Commercial Standards:

ANSI/AWWA C301-92	Prestressed Concrete Pressure Pipe, Steel Cylinder Type, for Water and Other Liquids.
ANSI/AWWA C304-92	Design of Prestressed Concrete Cylinder Pipe
AWWA M-9	Concrete Pressure Pipe

1.4 SUBMITTALS

A. Shop Drawings:

1. The Contractor shall submit shop drawings of pipe and fittings in accordance with the requirements of Section 01300 and the following supplemental requirements:

a. Certified dimensional drawings of all fittings and appurtenances.

2. Joint and pipe/fitting wall construction details which indicate the type and thickness of the wall; manufacturing tolerances; concrete core thickness; steel cylinder thickness; size and location of prestressing wires and anchors; joint details, dimensions and tolerances; details showing the electrical bonding of the wire to the cylinder; wall cross section which includes the mortar over the prestressing wires; and all other pertinent information required for the manufacture of the product.

3. Details of fittings and specials such as elbows, wyes, tees, outlets, connections, test bulkheads, and nozzles or other specials where shown on the Contract Drawings which indicate amount and position of all reinforcement. All fittings and specials shall be properly reinforced to withstand the internal pressure, both circumferential and longitudinal, and the external loading conditions indicated in the Contract Documents. Clearly detail special castings indicating all pertinent dimensions.

4. Design calculations including a complete stress analysis of each critical section of pipe wall, joint reinforcing, girth joints, and specials, all sufficient to show conformance of pipe and fittings with the Specification.

5. Material lists and steel reinforcement schedules which include and describe all materials to be utilized.

6. Line laying schedule and marking diagrams which indicate the specific identification number of each special and fitting and the location and the direction of each fitting in the completed line. In addition, the laying schedule shall include:

a. Pipe station and invert elevation at all changes in grade or horizontal alignment;

b. Station and invert elevation to which the bell end of each pipe will be laid;

c. All elements of curves and bends, both in horizontal and vertical alignment; and,

d. Limits of each reach of restrained and/or welded joints, or of concrete encasement.

7. Detailed calculations of required joint restraint length computed as indicated in the Contract Documents.

8. Full and complete information regarding location, type, size, and extent of all welds shall be shown on the shop drawings. Shop drawings shall indicate by welding symbols or sketches the details of the welds to be made. Joints or groups of joints in which welding sequence or technique are especially important shall be carefully controlled to minimize shrinkage stresses and distortion.

9. Laying schedules and marking diagrams shall be submitted. Drawings of special details such as reinforcement, etc., shall be at a scale that clearly depicts the item being detailed and in general shall be at a scale not less than 1/8" = 1'.

B. The Contractor shall provide a certified affidavit of compliance for all pipe and other products or materials furnished, along with the following:

1. Hydrostatic test reports of steel cylinders after installation of the steel joint rings;

2. Concrete tests for compressive strength at time of prestressing and at 28 days;

3. Certified copies of concrete mix designs;

4. Certified analysis of both fine and coarse aggregates.

1.5 QUALITY ASSURANCE

A. The pipe manufacturer shall provide notarized statements certifying that all inspections and tests performed in conformance with these Specifications and the referenced governing standards have been made and met on all pipe, fittings and specials furnished.

B. The manufacturer shall submit an Affidavit of Compliance certifying that the pipe and fittings furnished comply with all applicable provisions of AWWA Standard C301-92 and these Specifications.

C. All pipe shall be subject to inspection at the place of manufacture. The Contractor shall notify the Engineer in writing of the manufacturing start date not less than 14 calendar days prior to the start of any phase of the pipe manufacture.

D. During manufacture of the pipe, the Engineer shall be given access to all areas where manufacturing is in process and shall be permitted to make all inspections necessary to confirm compliance with the Specifications.

E. The Engineer may request samples of any materials used in the manufacture of the pipe for testing by the Owner. Such samples shall be furnished at no additional cost to the Owner.

1.6 CONNECTION TO WORK BY OTHERS OR EXISTING LINES

A. Piping installed under this Contract must connect to lines installed under other Contracts. The Contractor under this Contract shall perform the following work and include the cost thereof in the contract price and at no additional cost to the Owner:

1. Remove any temporary plugs and thrust restraint provided in the pipe installed under another Contract.

2. Furnish and install necessary pipe, fittings, specials and appurtenances to make proper connections to pipes installed by others.

B. Connection to existing lines, to which piping of this Contract must connect, the following work shall be performed:

1. Expose buried lines to confirm or determine pipe diameter, end connection, and pipe material.

2. Furnish and install appropriate pipe, fittings, specials, and appurtenances to make proper connections.

PART 2 - PRODUCTS

2.1 GENERAL

A. Prestressed concrete cylinder pipe shall conform to AWWA Specification C301, except as otherwise modified herein.

B. Pipe shall be furnished in 20-foot nominal lengths, except where shorter lengths are required for closures and specials. The pipeline shall be constructed with a minimum number of joints. The use of shorter nominal lengths requiring an excessive number of joints is not permitted.

2.2 DESIGN CRITERIA

A. Pressure Pipe:

1. General:

a. All pressure pipe and fittings furnished shall be manufactured to withstand the specified full internal design pressure. The core shall remain in compression to avoid cracking, except under surge conditions.

2. Potable Water Main:

a. Shall be designed for an internal water working pressure of 200 psi with an additional surge pressure of .50 psi, for a full internal design pressure of 350 psi.

b. Shall be furnished with a concrete lining on the interior surface of all pipe, fittings, and specials in accordance with AWWA C301-92.

3. Raw Water Main:

a. Shall be designed for an internal water working pressure of 150 psi with an additional surge pressure of 100 psi, for a full internal design pressure of 300 psi.

b. Shall be furnished with a concrete lining on the interior surface of all pipe, fittings, and specials in accordance with AWWA C301-92.

4. Domestic Wastewater Force Main:

a. Shall be designed for an internal water working pressure of 200 psi with an additional surge pressure of 100 psi, for a full internal design pressure of 350 psi.

b. Shall be furnished with a ceramic epoxy coating on the interior concrete surface of all pipe, fittings, and specials.

5. Membrane Concentrate Force Main:

Not used.

B. Pressure Fittings, Specials and Accessories:

1. Potable Water Main:

a. Shall be manufactured to withstand the full internal design pressure specified below:

Pipe Size	Internal Water Working Pressure (psi)	Additional Surge Pressure	Full Internal Design Pressure (psi)
≥16"	200	100	300

b. Shall be furnished with an interior concrete lining per AWWA C301-92.

2. Raw Water Main:

a. Shall be manufactured to withstand the full internal design pressure specified below:

Pipe Size	Internal Water Working Pressure (psi)	Additional Surge Pressure	Full Internal Design Pressure (psi)
≥16"	150	100	250

b. Shall be furnished with an interior concrete lining per AWWA C301-92.

3. Reclaimed Water Main:

a. Shall be manufactured to withstand the full internal design pressure specified below:

Pipe Size	Internal Water Working Pressure (psi)	Additional Surge Pressure	Full Internal Design Pressure (psi)
≥16"	200	100	300

b. Shall be furnished with a ceramic epoxy coating on the surface of the interior concrete lining of all fittings, specials and accessories as specified herein.

4. Membrane Concentrate Force Main (Not used)

C. Non-Pressure Pipe:

Not used.

D. Pipe shall be designed for a minimum of three feet (3') of cover to a maximum of fifteen feet (15') of cover with trench bedding conditions of Type R-3.

E. When calculating dead loads on the pipe, the weight of the soil overburden shall be calculated at 125 pounds per cubic foot.

F. Live loads shall be calculated based on an HS-20 truck live load with an impact factor of 1.5 when the pipe is dewatered.

G. Pipe shall be designed for a bedding angle of 60 degrees and the maximum combination of dead load plus live load.

2.3 MARKINGS

A. Each length of pipe, fittings and specials shall indicate the manufacturer's name or trade mark, size, year of manufacture, design pressure, and the strength classification in figures one-inch high stenciled inside the pipe.

B. Each length of pipe and fitting shall have an identification number painted on the inside coating of a size and color to be easily read.

C. Each special such as bevels, outlets, etc., shall be coded with a colored band, multiple bands, or other method to assist in identifying the various types.

D. Bends shall also have deflection angles marked, and beveled pipe in the amount of bevel and point of maximum pipe length marked on each piece. Each fitting or special shall be sufficiently marked to indicate its position in the pipeline.

E. Pipe sections with steel cylinders thicker than standard shall be clearly marked.

2.4 SPECIALS, FITTINGS, AND ACCESSORIES

A. All specials and fittings required for bends, branches, closures, and connections shall be as described in AWWA C301-92, and capable of withstanding the internal pressures and external loads as described above.

B. Outlets and other connections shall be capable of withstanding the pressures and loads described above and shall be suitably reinforced.

C. Long radius curves or small angular changes in the pipeline can be formed by deflecting joints of straight pipe or by using pipe sections with one end beveled not more than 4.5 degrees to the axis of the pipe.

D. The minimum radius of elbows shall be 1.0 times the nominal pipe diameter and the maximum miter angle on each section of the elbow shall not exceed 22-1/2 degrees.

2.5 FLANGES

A. All flanges and gaskets shall be in accordance with AWWA C207-94 for the pressures specified herein, and constructed so that bolt holes will straddle the vertical center line of the flange when the pipe or fitting is installed.

B. Steel not embedded in concrete used in construction of the flange outlets, steel adapters, specials and the cast iron blind flanges shall have two (2) coats of Koppers Company Bitumastic 300M or Amercoat 78 applied.

C. All flange outlets shall be designed for through bolts in lieu of cap screws or studs to fasten the adjoining pipe, valves or fittings in place. Flange outlets with blind flange covers shall be furnished complete with flange gasket nuts and bolts.

D. Neopreme gaskets shall meet the requirements set forth in ANSI/AWWA Standard C111/A21.11 under Section 11-64.4.3, "Gaskets".

E. The machined faces of flanges shall be shop-coated with rust preventative compound Rust-Oleum R-9 or approved equal. Edges and back faces of attached flanges shall be shop-coated with Koppers Bitumastic Mill Undercoat.

2.6 OUTLETS

A. Outlets for air release devices shall be 1-1/2" Mueller threaded outlets or approved equal.

B. Steel outlet castings for air relief valve assemblies shall be given two coats of Koppers Bitumastic 300M, Amercoat 78, or approved equal.

C. Tapping flange outlets shall be furnished as specified complete with neopreme rubber gaskets and cover plates bolted to protect the flange face from corrosion and provided with a protective mortar coating. Bolt size, number and spacing shall be in accordance with AWWA C207-94. Bolts and nuts shall be 316 stainless steel.

2.7 JOINTS

A. Pipe shall have rubber and steel joints with O-ring rubber gaskets conforming to the requirements of AWWA C301. The minimum tensile strength of the gaskets shall be sufficient for the specified pipe design and installation conditions.

B. All surfaces of steel joint rings exposed in the finished pipe shall be protected from corrosion by a coating of metallic zinc not less than 0.004" thick applied by the metalizing process.

C. Joint rings on straight pipe shall be manufactured so that bells and spigots are perpendicular to the axis of the pipe as specified in Section 3.1.3 of AWWA C301-92.

D. The concrete core shall be a uniform distance from the ends to the bell and spigot joint rings.

E. Joints shall be constructed such that after the pipe is laid, the offset on the inside of the pipe at any joint will not be more than 1/8" (except for bevels), and the clear space provided for grout between pipe ends at the outside of the joint rings shall be not less than 1/4".

F. Joint rings shall telescope together to properly compress the rubber gasket, and there shall be no annular space between the outside of the spigot ring and the inside of the bell ring contact surface in excess of 1/8", measured in a radial direction when the pipe is joined in the field and the joint is fully telescoped.

G. Diapers (i.e., grout bands) shall be used in grouting the exterior of pipe joints except where otherwise noted on the Drawings. Diapers shall be burlap or fiberglass of sufficient strength to hold the fresh mortar, resist rodding of the mortar, allow excess water to escape, and be furnished complete with banding straps and fasteners.

H. Diapers shall be packaged in waterproof containers. Gaskets shall be shipped in protective containers.

1. All joints in pipe sizes 36" and larger shall be grouted on the inside.

2.8 RESTRAINED JOINTS

A. Pipe joints shall be mechanically restrained at and near bends, tees, bulkheads, wyes, and valves.

B. The maximum longitudinal stress in the steel cylinder of harnessed pipe sections shall not exceed 13,500 pounds per square inch based on the internal working pressure or 17,000 pounds per square inch based on the test pressure and the deflection angle.

C. The steel cylinder thickness in the restrained pipe sections shall remain constant the entire length of the restrained section.

D. Restrained joints shall be either of the following types:

1. The harness clamp type consisting of two semi-circular steel clamps that fit over steel lugs and are factory welded or rolled into the steel bell and spigot sections. The clamps are drawn together by bolts at the springline on both sides of the pipe to form a flexible restrained joint.

2. The "Snap Ring" type consists of a split steel ring recessed in the steel bell section of the pipe until the joint is made. The split steel ring is drawn into position to form a lock between the bell and spigot by tightening a single steel bolt. The steel ring when tightened provides a flexible restrained joint that will transmit longitudinal thrusts across the joint.

E. Both joint types described above shall be encased in grout after the joint has been completed using special grout bands supplied by the pipe manufacturer.

F. Diapers shall be 9" wide minimum for 16" through 24" diameter restrained joints, 11" wide minimum for 30" through 48" restrained joints, and 14" wide minimum for 54" and larger diameter restrained joints.

G. Restrained joints shall be capable of holding against line pressures up to the rated working pressure of 200 psi for all pipe sizes furnished.

H. Lengths of pipe restraint specified on the drawings are approximations only. Actual lengths of restrained joint pipe required for installation shall be based on the calculation specified herein.

The Contractor and the pipe manufacturer shall coordinate to ensure that adequate lengths of joint restraint are called out on the line laying schedule.

I. The minimum number of restrained joints required for resisting forces at fittings and changes in direction of pipe shall be determined from the length of restrained pipe on each side of fittings and changes in direction necessary to develop adequate resisting friction with the soil. The formula and parameters given below shall be used to determine the minimum requirements:

$$L = \frac{P \times A \ (SIN\ X/2)}{F \times W}$$

Where: L = Length of pipe on each side of the fitting or change in direction (ft)

P = Full internal design pressure based on nominal pipe size (see the table above)

A = Cross sectional area in square inches based on the outside diameter of the pipe (sq. in.)

X = angle of bend or change in direction in degrees.

F = coefficient of friction = 0.40 (max.)

$W = W_{earth} + W_{pipe} + W_{water\ in\ pipe}$

W_{earth} = (density of soil x depth of cover in feet) x (O.D. in feet) x (2.0)

Maximum 120 lb/cu. ft. above maximum water table elevation and 60 lb/cu. ft. below water table elevation of 15.0' msl.

2.9 APPURTENANCES

A. Bevel pipe shall be manufactured by placing a spigot ring at an angle to its normal position. A full bevel is a bevel of 1" per foot of nominal pipe diameter. A half bevel has a difference of 1/2" per foot of nominal pipe diameter.

B. Lifting lugs shall be structurally incorporated into all plugs, caps and other special fittings.

2.10 CLOSURE AND CORRECTION PIECES

A. Pipe closures shall be of the "Follower Ring" type or approved equal. Closures shall be furnished with standard double spigot adapters.

B. Closures and correction pieces shall be provided as required so that closures may be made due to different headings in the pipe laying operation and so that correction may be made to adjust the pipe laying to conform to pipe stationing shown on the Drawings. Correction pieces shall be provided in the full length (20') to adjust for stationing.

C. The locations of correction pieces and closure assemblies shall be as shown on the line laying drawings.

2.11 ACCESS MANHOLES

A. Access manholes with covers shall be special 16-inch by 18-inch boiler type manholes with cast steel manhole frame, neopreme rubber gasket, arches, bolts, nuts and cover. Each manhole cover shall be chained to its frame. All nuts, bolts, and chains shall be stainless steel.

B. Covers shall be provided with a 1-1/2" Mueller threaded outlet for air release devices.

2.12 MANUFACTURERS

A. Prestressed concrete cylinder pipe, fittings and specials with an interior concrete lining installed for potable water transmission mains and raw water transmissions main shall be as manufactured by:

1. Price Brothers Company

B. Prestressed concrete cylinder pipe, fittings and specials with a ceramic epoxy coated interior concrete lining installed for domestic wastewater transmissions main shall be as manufactured by:

1. Price Brothers Company

PART 3 - EXECUTION

3.1 HANDLING AND STORAGE

A. Pipe shall at all times be handled with equipment designed to prevent damage to the joints, and to the interior and exterior surfaces of the pipe.

B. Pipe shall be loaded, unloaded and handled by use of wide slings, padded cradles, or other devices designed and constructed to prevent damage to the pipe. The use of chains, hooks or other equipment that may damage the pipe is not permitted.

C. Pipe shall be loaded for shipment upon suitable cars or trucks that shall be provided with wooden skids. Stockpiled pipe shall be suitably supported and secured to prevent accidental rolling.

D. Adequate strutting shall be provided on all specials, fittings, and straight pipe to avoid damage to the pipe and fittings during handling, storage, hauling and installation.

E. If, in the process of manufacture, transportation, or handling any pipe or special receives any damage which, in the opinion of the Engineer cannot be properly repaired, such pipe or special shall be replaced at the Contractor's sole expense.

F. Pipe placed in storage shall be arranged as not to cause inconvenience to traffic and must be protected sufficiently to prevent damage to the pipe. The Contractor shall have sole responsibility for the protection of the pipe and shall repair or replace any pipe damaged during storage.

G. No cables, lifting arms, or other devices shall be inserted into the pipe. All lifting, pulling or pushing mechanisms shall be applied to the exterior of the pipe barrel.

H. The pipe shall have smooth dense interior surfaces and shall be free of fractures, excessive interior surface crazing and roughness. The interior and exterior surfaces shall be concentric. Fractures, cracks or chips extending into the pipe wall in such a manner as to reduce the strength of the pipe shall not be permitted.

3.2 PREPARATION

A. The layout of some of the piping systems shown on the Contract Drawings is diagrammatic, but shall be followed as closely as the work will permit.

B. Clean off scale and dirt both inside and outside before assembly. Remove welding slag or other foreign material from piping.

C. Before running lines, the Contractor shall carefully verify the location, depth, type of joint needed, and size of pipe to which connection is proposed. The Contractor shall then assure itself that the lines can be run as contemplated without interfering with footings, walls, other piping, fixtures, etc. Any necessary deviations shall be referred to the Engineer for final adjustment before lines are run.

D. All lengths of pipe shall be dimensioned accurately to measurements established at the site, and shall be worked into place without springing or forcing. Cut sections of pipe shall be reamed to remove all burrs.

E. All changes in direction, unless otherwise noted on the Contract Drawings or approved by the Engineer, shall be made with restrained mechanical joint fittings.

F. Any transition from one pipe size to another shall be made with a reducing fitting. Reducing bushings are prohibited except where specifically called for on the Contract Drawings.

G. Deflection of piping at joints is permitted. The maximum allowable deflection shall be 50% of the maximum allowable deflection recommended by the pipe manufacturer.

3.3 PIPE INSTALLATION

A. Pipe installation, including all trench excavation, bedding and backfilling, shall conform to the applicable Sections of AWWA Manual M-9 unless otherwise specified herein or required by the Engineer.

B. Care shall be taken to prevent the concrete core, concrete jacket, and the steel bell and spigot rings from being damaged. Any core, jacket or ring damaged in any way shall be repaired or replaced by the Contractor at no expense to the Owner.

C. The Contractor shall thoroughly inspect each pipe and fitting to insure that there are no damaged portions of the pipe. The Contractor shall remove or smooth out any burrs, gouges, weld splatter or other small defects prior to laying the pipe.

D. No pipe shall be laid until the trench has been thoroughly excavated to provide a firm but slightly yielding trough for embedding the pipe. The bottom of the trench shall be excavated to proper line and grade, shall be free of rocks, and shall provide a uniform bearing for the full length of the pipe barrel.

E. A suitable excavation shall be made at each end of the pipe to allow for the larger bell and to permit installation of the grout band. The practice of tamping dirt under the end of the pipe to bring it to grade will not be allowed.

F. Before the pipe is lowered into the trench, the bell and spigot rings shall be thoroughly cleaned of any foreign substance with a wire brush and all damaged places smoothed by filing.

G. The entire gasket groove area shall be free of bumps of any foreign matter which might displace the gasket. The cleaned spigot and gasket shall not be allowed to touch the trench walls or trench bottom at any time.

H. The surfaces of both the bell and spigot joint rings shall be wiped clean and the gasket covered with a liberal application of vegetable based lubricant supplied by the pipe manufacturer, and the gasket placed in the groove on the spigot ring. Caution shall be exercised to prevent damage to the gasket or the adherence of grease or particles of sand or dirt.

I. Any stretch in the gasket shall be equalized by inserting a smooth rod under the gasket and moving the rod completely around the full circumference of the spigot.

J. Pipe shall be laid with the bell ends facing in the direction of laying. Each section of pipe shall be laid in the order and position shown on the laying schedule. Pipe shall be laid to the set line and grade, within approximately two inches (plus or minus). On grades of zero slope, the intent is to lay to grade.

K. Pipe shall be lowered into the prepared trench with a sling and supported in alignment while the gasketed and lubricated spigot end is carefully guided into the bell end of the last pipe laid. Care shall be taken to keep the bell, spigot, and the gaskets free of dirt and other deleterious materials during the jointing process.

L. Pipe shall be laid directly on the bedding material. No blocking will be permitted, and the bedding shall be such that it forms a continuous, solid bearing for the full length of the pipe.

M. Homing of the pipe shall be accomplished by the use of a hydraulic or mechanical pulling device. No pipe shall be driven or struck in order to seat it home.

N. Excavations shall be made as needed to facilitate removal of slings after the pipe is laid. Bell holes shall be formed at the ends of the pipe to prevent point loading at the bells or coupling and to facilitate positioning of the grout bands. Excavation shall be made as needed outside the normal trench section to permit adequate access to joints for field connection operations and for application of coating on field joints.

O. Where necessary to raise or lower the pipe due to unforeseen obstructions or other causes, the Engineer may change the alignment and/or the grades. Such change shall be made by the deflection of joints, by the use of bevel adapters, or by the use of additional fittings.

P. Where necessary to deflect pipe from a straight line, either in the vertical or horizontal plane to avoid obstructions, or for other reasons, the degree of deflection shall be approved by the

Engineer. No joint shall be misfit any amount that will be detrimental to the strength and water tightness of the finished joint.

Q. The Contractor shall anticipate the need for deflected joints, and beveled sections shall be shown on the laying schedule for approval. No joint opening shall exceed 75% of the pipe supplier's recommended maximum value.

R. Pipes shall be laid uphill on grades exceeding ten percent. Pipe laid downhill on grade shall be blocked and held in place until sufficient support is furnished to prevent movement.

S. Excavation:

1. The Contractor shall perform all excavation required for the installation of all parts of the project. All excavation shall be in strict accordance with the requirements of Section 02221.

2. The excavation of the trench shall not advance more than 100 feet ahead of the completed pipe work except where, in the opinion of the Engineer, it is necessary to drain wet ground, or for other reasons as approved by the Engineer.

3. All excavations shall be made by open cut except as shown on the Contract Drawings. The sides of the trench shall be kept as nearly vertical as possible, especially from the trench floor to a level of one foot above the top of the pipe. Trench bottoms shall not be less than 16 inches wider nor more than 24 inches wider than the outside diameter of the pipe laid therein, and shall be excavated true to line, so that a clear space of not less than eight inches nor more than twelve inches in width is provided on each side of the pipe.

4. The bottom of trenches shall be accurately graded to provide uniform bearing and support for each section of pipe on undisturbed soil at every point along its entire length, except for portions of the pipe sections where it is necessary to excavate for bell holes. Bell holes shall be excavated only to an extent sufficient to permit accurate work in the making of the joints and to ensure that the pipe, for a maximum of its length, will rest upon the prepared bottom of the trench.

5. Excavation carried beyond or below grades specified by the Engineer shall be backfilled at the Contractor's expense with earth, sand, or gravel as directed by the Engineer, and shall be thoroughly tamped.

6. The materials excavated shall be deposited on the sides of the trenches and beyond the reach of slides, with the banks trimmed up so as little inconvenience as possible is made to public travel or occupants of adjoining property.

7. Sidewalks, roads, streets, and other pavements shall not be blocked or obstructed by excavated materials, except as authorized by the Engineer. Adequate temporary provisions will be made for a satisfactory temporary passage of pedestrians and vehicles.

8. Adequate bridging and planked crossings must be provided and maintained across all open trenches for pedestrians and vehicles. Barriers, lights, flares and any other necessary warning devices shall be provided and maintained by the Contractor at trenches, excavations and embankments, at no additional compensation.

9. In case it is necessary to place excavated material adjacent to buildings, the Contractor shall erect barriers to keep the earth at least four feet from the front of such buildings. In

case earth is deposited on grass plots, the Contractor shall remove it carefully when backfilling so as to not destroy the grass. All shade trees, shrubs, etc., along the line of construction shall be reasonably protected.

10. The Contractor shall, without additional expense, provide suitable temporary channels for any water that may flow along or across the site of the Work.

11. Where the bottom of the trench is found to consist of material which is unstable to such a degree that, in the opinion of the Engineer, it cannot be removed and shaped to adequately support the pipe, the trench bottom shall be stabilized by the Contractor to the satisfaction of the Engineer, without extra compensation.

12. The Contractor shall excavate the trench for subaqueous crossings to the elevations and typical sections shown on the Contract Drawings:

a. Trench bottoms shall be excavated to the bottom grade at which the pipe is to be laid, plus over dig as necessary. Excavation in water shall be made from equipment by use of approved methods. The trench will remain open until the pipe can be properly laid.

b. Excavated material shall be stored in such a manner as not to interfere with the progress of the Work. Excavated material may be used to refill the trench, subject to the requirements outlined herein.

c. Excess materials shall be spread over the top of the trench to bring areas to final finished grade. If additional material is required, the Contractor will furnish acceptable material from other sources.

d. All unsuitable material will be stock-piled and disposed of by the Contractor in a manner meeting the approval of the Engineer.

e. The Contractor shall anticipate that the work will be performed under the vigilance and periodic inspection of the Lake Worth Drainage District (LWDD), the Palm Beach County Public Health Unit (PBCPHU), the Palm Beach County Department of Engineering and Public Works, the Florida Department of Transportation (FDOT), and the Florida Department of Environmental Protection (FDEP), and shall be assumed to have acquainted itself not only with the conditions of their permits and/or approvals, but with the laws, statutes and regulations pertaining to this and similar work, with particular regard to allowable levels of turbidity in adjacent waters, disposal of normal and excess excavation, ecological aspect, and restoration.

f. Upon completion of the Work, all trenches shall have been backfilled to a level equal to the original contour of the site before the start of construction and at least three feet above the top of the new pipeline. Backfilling shall be accomplished as the Work progresses.

T. Pipe Clearances in Rock:

1. Ledge rock, boulders and large stones shall be removed to provide a clearance of at least six inches below and on each side of all pipe, valves and fittings. Before the pipe is laid, all irregularities of the rock are to be filled with earth or sand well rammed into place and the bottom of the trench brought to proper grade.

2. The specified minimum clearances are the minimum clear distances which will be permitted between any part of the pipe and appurtenances being laid and any part, projection, or point of such rock, boulder or stone.

U. Blasting:

1. Blasting for rock excavation is not permitted.

V. Bracing and Shoring:

1. The Contractor shall do all bracing, sheeting and shoring necessary to perform and protect all excavations as required for safety and as otherwise directed by the Engineer.

W. Dewatering:

1. The Contractor shall at all times during construction of the Work, provide and maintain ample means and devices with which to promptly and efficiently remove and properly dispose of all water entering trenches and excavations and keep said excavations dry until the structures to be built thereon are completed.

2. No masonry shall be laid or pipe joints made in water, nor shall water be allowed to rise over masonry or mortar until the concrete or mortar has set for at least 24 hours.

3. Dewatering operations shall be in accordance with the requirements of Section 02401.

X. Bedding and Base Fill:

1. It is the intention of these Specifications to lay the subaqueous crossing pipe on a sand or crushed gravel foundation. Should rock be encountered above the trench bottom it shall be excavated to a depth of twelve inches under the pipe to allow for placement of sand or crushed gravel bedding material.

2. In no case shall the gradient or alignment of any aerial, subaqueous, or road crossing be changed from that indicated on the Contract Drawings without the express permission of the Engineer.

Y. Backfilling:

1. The Contractor shall perform all backfilling that may be required for the installation of any and all parts of the Project. Backfilling shall be performed in strict accordance with Section 02221. After the pipe is laid as specified, the trench shall be backfilled with selected fine materials from the excavation or borrow.

Z. Plugs, Caps, Blind Flanges, Anchorage and Thrust Blocks:

1. Standard plugs shall be inserted into the bells of all dead end pipes, tees or crosses; spigot ends shall be capped; flanged ends shall have suitable blind flanges.

2. All tees, crosses, plugs, bends and other fittings and specials shall be mechanically restrained in accordance with the pipe manufacturers design manual for restrained joints.

3. In addition to full mechanical restraint, concrete reaction or thrust blocks may be used as supplemental restraint at all tees, crosses, plugs, caps, and at bends deflecting 11-1/4 degrees or more.

4. Concrete reaction or thrust blocks shall have a 28-day compressive strength of not less than 2,500 psi. The concrete mix shall consist of one part cement, two parts sand and five parts stone or gravel, by weight.

5. Concrete reaction or thrust blocks are to be poured between undisturbed solid ground and the fitting. The concrete will be so placed that pipe joints and fitting joints will be accessible for repair.

AA. Temporary Plugging:

1. Installed piping systems shall be temporarily plugged at the end of each day. Plugging shall be installed in a manner satisfactory to the Engineer, and shall be adequate to prevent the entry of animals into the pipe or the entrance or insertion of deleterious materials.

2. Plugs installed for pressure testing shall be fully secured and blocked to withstand the test pressure.

3. Where plugging is required because of contract division or phasing for later connection, the ends of such lines shall be equipped with a permanent type plug or blind flange. Installation and removal of such plugs shall be considered incidental to the Work.

BB. Rubber Gasketed Joints:

1. During joint make-up, the pipe being lowered into the trench shall be supported so the jointing effort is a straight pull-in motion. The jointing effort can be aided with come-alongs, winches, dead man, or backhoe.

2. A feeler gauge, consisting of a thin strip of metal, hook-shaped at one end, in accordance with the manufacturer's recommendation, shall be passed completely around the joint to check the position of the gasket.

3. Joints containing any breaks, cuts or lack of continuity in the gasket shall be disassembled and re-jointed using a new gasket to the satisfaction of the Engineer.

4. After the gasket has passed inspection, the spacer blocks shall be removed and the pipe forced completely home.

5. When a joint opening is needed to make a grade or alignment adjustment, the joint shall be laid home first, then opened as required on one side. All joint openings shall not exceed 75% of the pipe manufacturer's recommended limits.

6. The exterior joint space outside the rubber gasket shall be filled with grout. To prevent the entrance of earth into the joint space before grouting and to serve as a form for the grout, a cloth or fiberglass "diaper" shall be placed around the outside of the joint and held in place by metal straps along each edge.

7. The diaper shall be of such size that the grout shall extend a minimum of 4" beyond the joint recess on each side of the joint and shall provide a minimum of 4" of cover over any metal parts of the joint, including restrained joint hardware.

8. The diaper shall be centered over the joint space with approximately equal widths extending over each pipe end and securely attached to the pipe with steel straps. The grout space prior to filling shall be flushed with water so that the surface of the joint to be in contact with the grout will be thoroughly moistened when the grout is poured.

9. The joint shall be filled with grout by pouring from one side only. Grout shall be poured between the diaper and the pipe and allowed to run down around the bottom of the pipe.

10. The grout shall be rodded while being poured with a flexible wire curved to the approximate radius of the pipe. The joint recess shall be completely filled at all points by moving down one side of the pipe, around the bottom of the pipe and up the opposite side.

11. Pouring and rodding of grout shall be continued to allow complete filling of the entire joint recess in one operation. Care shall be taken to leave no unfilled space.

12. After filling the exterior joint space with cement grout, the straps shall be closed and overlapped in a manner that fully encloses the grout. The grout band shall remain in position on the pipe joint.

13. Grouting of the outside joint spaces shall be kept as close behind the laying of pipe as possible except that in no case shall grouting be closer than 3 joints of the pipe being laid.

CC. Flanged Joints:

1. Before making up flanged joints, the back of each flange under the bolt heads and the face of each flange shall have all lumps, blisters, and excess bituminous coating removed, and shall be wire brushed and wiped clean and dry.

2. Flange faces shall be kept clean and dry when making up the joint, and the workmen shall exercise caution to prevent damage to the gasket or the adherence of grease or particles of sand or dirt.

3. Bolts and nuts shall be tightened by opposites to keep flange faces square with each other, and to insure that bolt stresses are evenly distributed.

DD. Restrained Joints:

1. All fittings shall be restrained the length indicated in the pipe manufacturers design manual for restrained pipe joints.

EE. Not less than two lengths of pipe shall be in final position in advance of joint grouting. If the pipe backfill operations are resumed before the grout has attained initial set, extreme care shall be taken to prevent damage to the grout while placing and compacting backfill material.

FF. Any work within the pipe shall be performed with care to prevent damage to any liner or protective coating system on the interior of the pipe. Damaged lining or coating shall be repaired or the pipe section replaced as required by the Engineer.

GG. The openings of all pipes and fittings in the trench shall be closed during any interruption of the Work. As pipe laying progresses, the Contractor shall keep the pipe interior free of all debris. The Contractor shall completely clean the interior of the pipe of all sand, dirt, mortar splatter, and any other debris following completion of pipe laying, pointing of joints, and any necessary interior repairs prior to testing of the completed pipeline.

HH. After the pipe has been inspected and found satisfactory, the trench shall be backfilled, except at closures. Closures shall be pressure tested before encasement in concrete.

II. The follower rings on standard (non-harnessed) closures shall be braced at all times during pressure testing to keep the rings from moving. Compression struts furnished by the Contractor shall be placed between the rings. The size, type, and distribution of the struts shall be as recommended by the manufacturer.

JJ. Where specified, joints shall be electrically bonded in accordance with the details shown on the Contract Drawings.

KK. Lines, Grades, Stakes and Templates:

1. The Contractor shall at its own expense furnish all stakes, templates, patterns, platforms, and labor required in the layout of any part of the Work.

2. The line and grade of all piping as well as the location of all appurtenances will be shown on the Contract Drawings or as directed by the Engineer.

3. The Contractor shall give the Engineer a minimum of 48 hours advance notice for any engineering or inspection necessary to continue or complete the Work.

4. The Contractor shall establish all limit marks and bench marks reasonably necessary for the execution of the Work. The locations of all such marks so established shall be indicated and identified on the project record drawings as maintained by the Contractor.

LL. Subaqueous Crossing:

1. Subaqueous piping shall be placed by suitable means to the line and grade shown on the profile. The laying of the pipe shall be accomplished by experienced personnel well qualified in this type of work.

2. Sand bags may be used to support the pipe in the ditch but no pipe shall be laid on blocks. Before backfilling, the barrel of the pipe shall be firmly supported along its entire length by sand or crushed bedding.

3. The Engineer shall approve each section of pipe installed prior to and after placing of the backfill. Such approval shall not relieve the Contractor of the responsibility of re-excavating for and repairing any leaks discovered when the hydrostatic pressure test is applied.

4. Every precaution shall be taken during installation to prevent silt and other foreign matter from entering the pipeline. Sheet piling may be required where the trench is in muck.

5. Before assembling the pipe all lumps, blisters and excess coal tar coating shall be removed from the mating ends of each pipe, and both bell and spigot ends shall be wire-brushed and wiped clean and dry.

6. Where required, the Contractor shall use a non-toxic type lubricant for assembly of rubber gasket joints in accordance with the manufacturer's recommendations.

MM. Turbidity Control:

1. The Contractor shall take adequate precautions to minimize siltation and bank erosion in waterways.

2. The Contractor must control turbidity on subaqueous and aerial crossing work so that it does not exceed established background turbidity by more than 50 Jackson Turbidity Units (JTU's) at a distance greater than 100 feet from the point of work.

3. This shall be done by the use of four turbidity screens suspended by floats or other methods approved by the Engineer. The turbidity screens shall be spaced twenty-five feet apart, with two screens on each side of the crossing.

NN. Conformity with Permits and Regulations:

1. The subaqueous and aerial construction is licensed under formal permits issued by the Lake Worth Drainage District (LWDD), the South Florida Water Management District (SFWMD), the Palm Beach County Public Health Unit (PBCPHU), and the State of Florida Department of Environmental Protection (FDEP). Copies of permits shall be made available to the Contractor.

2. The Contractor shall comply with all regulations, conditions and other requirements promulgated under these permits or by other governmental agencies having jurisdiction.

OO. Crossing Signs:

1. The Contractor shall install a sign at each location where the pipeline crosses the shoreline.

2. The sign shall be 3/32 inches thick aluminum and shall conform to Sections 700-1 through 700-7 of the F.D.O.T. Specifications, latest revision. The signs shall be painted with baked enamel.

3. All sign dimensions and design shall be in accordance with the U.S. Department of Transportation, Federal Highway Administration Manual of Uniform Traffic Control Devices.

4. All signing installations shall conform to the D.O.T. Specifications, Section 700-8 and 700-9, and as approved by the Engineer.

PP. Clean-Up:

1. The Contractor shall dispose of all excess excavated material, trash, wood forms, other debris, and restore the job site to a condition acceptable to the Owner.

2. Pipe laying operations shall not be permitted to extend excessive distances ahead of clean-up. Unless otherwise directed by the Engineer, clean-up activities shall not lag behind pipe installation by more than 500 feet.

3.4 INTERIOR PIPE LINING

A. Potable Water Main:

1. All potable water main shall be furnished with an interior concrete lining in accordance with AWWA C301-92.

B. Raw Water Main:

1. All raw water main shall be furnished with an interior concrete lining in accordance with AWWA C301-92.

C. Membrane Concentrate Force Main (Not Used)

3.5 INTERIOR PIPE COATING SYSTEM

A. Domestic Wastewater Force Main:

1. All domestic wastewater force main shall be furnished with an interior ceramic epoxy coating as specified herein.

B. Condition of the Pipe Prior to Surface Preparation:

1. All pipe and fittings shall be delivered to the application facility without asphalt, cement mortar lining, or any other coating or lining on the interior surface.

C. Coating Material:

1. The material shall be an amine cured novalac epoxy containing at least 20% by volume of ceramic quartz pigment.

2. Coating shall be "Protecto 401 Ceramic Epoxy", "Linerguard 100", or PERMITE 9043 type 2", no equal.

D. Coating Application:

1. Coating shall be applied by a competent firm with a successful history of applying coatings to the interior of pipe and fittings.

2. Prior to abrasive blasting, the entire area to receive the protective compound shall be inspected for oil, grease, etc. Any areas where oil, grease, or any substance which can be removed by a suitable solvent.

3. After the surface has been solvent cleaned, all areas to receive the protective compounds shall be abrasive blasted using compressed air nozzles with sand or grit

abrasive media. The entire surface to be lined shall be struck with the blast media so that all rust, loose oxides, etc., are removed from the surface.

4. Only slight stains and tightly adhering annealing oxide may be left on the surface. Any area where rust reappears before lining must be re-blasted.

5. Within eight hours after completion of surface preparation, the interior of the pipe and fittings shall receive 40 mils nominal dry film thickness of Protecto 401. No coating shall take place when the substrate or ambient temperature is below 40° F. The surface must be dry and dust free.

6. If flanged pipe or fittings are included in the project the coating shall not be applied on the face of the flange.

7. The gasket area and spigot end up to six inches back from the end of the spigot end must be coated with 6 mils nominal, 10 mils maximum Protecto Joint Compound. The joint compound shall be applied by brush to ensure coverage. Care shall be taken to ensure that the joint compound is smooth without excess buildup in the gasket seat or on the spigot ends. Coating of the gasket seat and spigot ends shall be done after application of the pipe coating.

8. The number of coats applied to achieve 40 mils nominal DFT shall be as recommended by the coating manufacturer. In no case shall the material be applied above the DFT per coat recommended by the coating manufacturer in printed literature. The maximum or minimum time between coats shall be as recommended by the coating material manufacturer. No material shall be used for coating that is not indefinitely re-coatable with itself without roughening of the surface.

9. Procedures for sealing cut ends and repairing field damaged areas of interior coated pipe and fittings shall be in accordance with the coating manufacturers procedures and recommendations.

10. Protecto Joint Compound shall be used for touch-up or repair in accordance with the coating manufacturer's recommendations.

E. Inspection and Certification:

1. Coating shall be checked for thickness using a magnetic film thickness gauge. The thickness testing shall be done using the method outlined in SSPC-PA-2 Film Thickness Rating.

2. The interior coating of all pipe and fittings shall be tested for pinholes with a non-destructive 2,500 volt test. Any defects found shall be repaired prior to shipment.

3. Each pipe joint and fitting shall be marked with the date of application of the coating system along with its numerical sequence of application on that date and records maintained by the applicator of his work.

4. The pipe or fitting manufacturer shall supply a certification attesting to the fact that the applicator met the requirements of this specification, and that the material used was as specified.

F. Handling:

1. Interior coated pipe and fittings shall be handled only from the outside. No forks, chains, straps, hooks, etc., shall be placed inside the pipe and fittings for lifting, positioning, or laying.

3.6 PIPE INSPECTION

A. The Contractor shall inspect each pipe during construction and shall verify that each pipe is free of defects, damage, and is true to both line and grade. Pipe shall be free from cracks and protruding joint materials, and shall contain no deposits of sand, dirt, mortar or other materials which will in any way reduce the full cross sectional area.

B. All finished work shall be neat in appearance and of first class workmanship, and all details shall conform to contract, detail, shop or working drawings. Proper bulkheads and stoppers shall be in place where required.

C. If, as the result of any inspection before final acceptance of the work it is found that any section of pipe has unduly settled, that joints have opened up or gaskets are displaced, or when pipes are found cracked, broken or misshapen, or if any other defects are found in the pipes, fittings or appurtenances which might impair the stability or satisfactory performance of the pipe, or which show non-conformance with the Drawings or Specifications, the Contractor shall cause such defective or inferior work to be removed and replaced, or satisfactorily repaired by proper material and workmanship without cost to the Owner.

3.7 SUPPLIER'S FIELD SERVICE

A. At no additional cost to the Owner, the Contractor shall arrange for a qualified field representative to be on-site during installation of a minimum of five push-on joints and five restrained joints for each crew installing the pipe.

3.8 PIPELINE TESTING

A. All pipe shall be hydrostatically tested in accordance with Section 01670. Before testing, all parts of the pipeline must be backfilled and braced to prevent movement under pressure.

B. If concrete thrust blocks are used, ample curing time must be provided prior to pressure testing to allow time for concrete to gain strength. Test ends shall be capped and braced to withstand the thrust developed under test pressure.

C. All sections of lines must be thoroughly flushed and filled with clean water obtained from an approved source. Air shall be vented from all high points in the pipeline before conducting pressure and leakage tests.

D. Prior to beginning testing, the temperature of the pipeline and of the test water shall be allowed to equalize.

E. All pipelines shall be disinfected and bacteriologically cleared to potable water main standards of the Palm Beach County Public Health Unit (PBCPHU) and the State of Florida Department of Environmental Protection (FDEP).

3.9 PIPELINE CLEANING

A. The entire length of pipeline shall be cleaned and flushed using the progressive poly pig method in accordance with Section 02661. Potable water or raw water supplied by the Owner shall be used for flushing the pipeline.

3.10 DISINFECTION (Potable water mains and raw water mains only)

A. Disinfection of the pipeline shall be accomplished after successful pressure testing in accordance with Section 01670 and cleaning in accordance with Section 02661.

B. The disinfecting agent shall be liquid chlorine or sodium hypochlorite solution. Dry hypochlorite, similar or equal to HTH may also be used.

C. The piping shall be disinfected by the introduction of a disinfecting agent into potable water being pumped into the system, in such a manner that the entire system is filled with water containing a minimum chlorine concentration of 50 PPM throughout the pipeline. Potable water for filling the pipeline shall be provided by the Owner.

D. The disinfected water will be allowed to remain in the pipeline for a minimum contact period of eight hours before the system is flushed.

E. After the disinfecting agent has been permitted to remain for the specified contact period, the pipeline and valves will be thoroughly flushed with potable water until the residual chlorine concentration is less than 3.0 mg/l.

F. After the system has been disinfected and flushed as specified herein, samples of water will be taken from the sample points specified on the Contract Drawings, collected in suitable sterilized containers, and forwarded to an independent testing laboratory for bacterial examination.

G. If the analyzed samples show the presence of coliform bacteria, the disinfection procedure will be repeated by the Contractor until tests indicate the absence of coliforms.

H. Two consecutive daily samples shall be satisfactorily tested before the system is placed into service. The Contractor is responsible for collection of samples and paying for tests.

END OF SECTION

SECTION 33 05 00 – PIPING, GENERAL

PART 1 -- GENERAL

1.1 THE REQUIREMENT

A. Provide the piping systems indicated, complete and operable, in accordance with the Contract Documents.

B. The provisions of this Section shall apply to piping sections in Divisions 33.

C. The Drawings define the general layout, configuration, routing, method of support, pipe size, and pipe type.

D. The Drawings are not pipe construction or fabrication drawings. CONTRACTOR shall prepare pipe spooling and fabrication drawings and shall submit to the ENGINEER for review.

E. Where pipe supports and spacing are indicated on the Drawings and are referenced to a Standard Detail, the CONTRACTOR shall use that Detail.

F. Where pipe supports are not indicated on the Drawings, it is the CONTRACTOR'S responsibility to develop the details necessary to design and construct mechanical piping systems to accommodate the specific equipment provided, and to provide spacers, adapters, and connectors for a complete and functional system.

1.2 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A.	AISI C 1012	Carbon Steel
B.	ANSI/ASME B1.1	Unified Inch Screw Threads, (UN and UNR Thread Form).
C.	ANSI/ASME B1.20.1	Pipe Threads, General Purpose (inch).
D.	ASCE 7-05	Minimum Design Loads for Buildings and Other Structures
E.	ASME B16.5	Pipe Flanges and Flanged Fittings, Steel Nickel Alloy and other Special Alloys.
F.	ASME B 31	Standards for Pressure Piping
G.	ASME Section 9	Boiler and Pressure Vessel Code
H.	ASTM A 36	Standard Specification for Carbon Structural Steel
I.	ASTM A 108	Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
J.	ASTM A 167	Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip
K.	ASTM A 193	Standard Specification for Alloy-Steel and Stainless Steel Bolting for High Temperature or High Pressure Service and Other Special Purpose Applications

L. ASTM A 194	Standard Specification for Carbon Steel, Alloy Steel, and Stainless Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both
M. ASTM A 240	Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
N. ASTM A 276	Standard Specification for Stainless Steel Bars and Shapes
O. ASTM A 307	Specification for Carbon Steel Bolts and Studs, 6,000 psi Tensile.
P. ASTM A 325	Specification for High-Strength Bolts for Structural Steel Joints.
Q. ASTM F 436	Standard Specification for Hardened Steel Washers
R. ASTM F 467	Standard Specification for Nonferrous Nuts for General Use
S. ASTM F 468	Standard Specification for Nonferrous Bolts, Hex Cap Screws, Socket Head Cap Screws, and Studs for General Use
T. ASTM A 512	Standard Specification for Cold-Drawn Buttweld Carbon Steel Mechanical Tubing
U. ASTM A 513	Standard Specification for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing
V. ASTM A 563	Standard Specification for Carbon and Alloy Steel Nuts
W. ASTM A 576	Standard Specification for Steel Bars, Carbon, Hot-Wrought, Special Quality
X. ASTM D 792	Test Methods for Specific Gravity and Density of Plastics by Displacement.
Y. ASTM F 844	Standard Specification for Washers, Steel, Plain (Flat), Unhardened for General Use
Z. AWS D1.1	Structural Welding Code
AA. AWWA M 11	Steel Pipe – A Guide for Design and Installation
BB. AWWA C 115	Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges
CC. AWWA C 207	Steel Pipe Flanges for Water Works Service, Sizes 4 in through 144 in.
DD. AWWA C 209	Standard for Cold-Applied Tape Coatings for the Exterior of Special Sections, Connections, and Fittings for Steel Water Pipelines

EE. AWWA C 219 — Standard for Bolted Sleeve-Type Couplings for Plain-End Pipe.

FF. AWWA C 606 — Grooved and Shouldered Joints.

1.3 CONTRACTOR SUBMITTALS

A. Furnish submittals in accordance with Section 01 33 00 – Submittal Procedures.

B. Shop Drawings: Shop Drawings shall contain the following information:

1. Drawings: Layout drawings including necessary dimensions, details, pipe joints, fittings, specials, bolts and nuts, gaskets, valves, appurtenances, anchors, guides, design calculations, and material lists. Pipe spooling and fabrication drawings shall indicate spacers, adapters, connectors, fittings, and pipe supports to accommodate the equipment and valves in a complete and functional system.

2. Pipe Supports: Submit pipe support fabrication drawings including calculations signed by a Registered Engineer in accordance with Section 40 05 07 – Pipe Supports.

3. Grooved joint couplings and fittings shall be shown on drawings and product submittals, and shall be specifically identified with the applicable style or series designation.

4. Thermoplastic Pipe Joints: Submit solvent cement manufacturer's catalog indicating that the recommended product is suitable for each fluid service application.

5. Gasket Material: Submit gasket manufacturer's catalog indicating that the recommended product is suitable for each fluid service application.

6. Seals and Seating Materials: Submit elastomer material and manufacturer's catalog indicating that the recommended product is suitable for each fluid service application.

7. Modular Seals for Pipe: Manufacturer's catalog sheet showing materials and installation procedures.

C. Samples

1. Performing and paying for sampling and testing as necessary for certifications are the CONTRACTOR'S responsibility.

D. Certifications

1. Necessary certificates, test reports, and affidavits of compliance shall be obtained by the CONTRACTOR.

2. A certification from the pipe fabricator that each pipe will be manufactured subject to the fabricator's or a recognized Quality Control Program. An outline of the program shall be submitted to the ENGINEER for review prior to the manufacture of any pipe.

1.4 MATERIAL DELIVERY, STORAGE, AND PROTECTION

A. Piping materials, fittings, valves, and accessories shall be delivered in a clean and undamaged condition and stored off the ground for protection against oxidation caused by ground contact.

B. Defective or damaged materials shall be replaced with new materials.

PART 2 -- PRODUCTS

2.1 GENERAL

A. Extent of Work

1. Pipes, fittings, and appurtenances shall be provided in accordance with the requirements of the applicable Sections of Divisions 33 and 40 and as indicated.

2. Materials in contact with potable water shall be listed as compliant with NSF Standard 61.

3. All materials, fittings and appurtenances intended for use in pressure pipe systems shall be designed and constructed for a minimum working pressure of 150 psi unless the specific application dictates a higher working pressure.

4. All dead ends (temporary and permanent) shall be mechanically restrained (plug is required). Thrust block restraint is not allowed.

B. Piping Supports

1. Pipes shall be adequately supported, restrained, and anchored in accordance with Section 40 05 07 – Pipe Supports, and as indicated.

C. Lining

1. Application, thickness, and curing of pipe lining shall be in accordance with the applicable Sections of Division 33, unless otherwise indicated.

D. Coating

1. Application, thickness, and curing of coating on buried pipe shall be in accordance with the applicable Sections of Division 33, unless otherwise indicated.

2. Pipes shall be coated in accordance with Section 09 96 00 – Protective Coating.

E. Pressure Rating

1. Piping systems shall be designed for the maximum expected pressure as defined in Section 01 74 30 – Pressure Pipe Testing and Disinfection, or as indicated on the Piping Schedule, whichever is greater.

F. Grooved Piping Systems

1. Piping systems with grooved joints and fittings may be provided in lieu of screwed, flanged, welded, or mechanical joint systems for steel and ductile iron yard piping. (All piping above and below ground within the property limits of treatment plants, pump stations, and similar installations). All grooved couplings on buried piping must be bonded. To assure uniform and compatible piping components, all grooved fittings, couplings, and valves shall be from the same manufacturer. The CONTRACTOR shall make the coupling manufacturer responsible for the selection of the correct style of coupling and gasket for each individual location.

G. Inspection

1. Pipe shall be subject to inspection at the place of manufacture.

2. During the manufacture, the ENGINEER shall be given access to areas where manufacturing is in progress and shall be permitted to make inspections necessary to confirm compliance with requirements.

H. Tests

1. Except where otherwise indicated, materials used in the manufacture of the pipe shall be tested in accordance with the applicable specifications and standards.

2. The CONTRACTOR shall be responsible for performing material tests at no additional cost to the OWNER.

3. NOT RELEVANT TO PROJECT

I. NOT RELEVANT TO PROJECT

J. DIP and PVC Transition

1. Transitions between DIP and PVC that are not specified or required by the construction plans or details are not permitted. PVC SDR-35 sewer pipe/ductile iron pipe adapters shall be used for DIP and PVC transition on all new constructions. Heavy duty stainless steel flexible couplings are acceptable for transition joints with existing facilities only.

K. Tapping:

1. Existing mains may be tapped as long as the tapping line is smaller than the tapped line. No size-on-size taps are permitted. Equal size lines branch-offs shall require that a tee be cut in. A ductile iron mechanical joint tapping sleeve is required for all taps unless the tapping line is half the diameter or less of the line to be tapped. A stainless steel tapping sleeve is permissible in those cases. Use of a stainless steel sleeve is also permissible on all size taps on existing SDR-26 and SDR-21 PVC pipe only. Cut-in tee construction may be specified, depending on the circumstances and sizes involved.

2. Tapping Sleeves and Tapping Valves

a. Provide ductile iron, mechanical joint x flanged outlet tapping sleeves. Factory epoxy coated steel tapping sleeves are permissible on existing SDR-26 and SDR-21 PVC pipe only.

b. Provide as a tapping valve a mechanical joint x flanged outlet, iron body, resilient seat gate valve, conforming to those described in these Specifications.

c. Pressure test the tapping sleeve and valve at 150 psi for one hour. The OWNER and the ENGINEER (if applicable) must be given not less than 48 hours advance notice of the test and must be present to witness the test.

d. The pipe coupon will be carefully preserved and turned over to the OWNER.

e. Provide double strap tapping saddles with AWWA threads and ball valve corp stop with operating nut gate valve for 1-1/2" and 2" taps.

f. Provide double strap tapping saddle with AWWA threads and corporation stop with AWWA inlet threads for taps 1" and smaller.

g. All taps must be not less than 18" from a fitting or bell.

h. The tapping line must be smaller than the tapped line, except as approved by the OWNER and the ENGINEER.

i. A ductile iron tapping sleeve is required for all taps unless the tapping line is less than 1/2 the diameter of the line to be tapped. A steel tapping sleeve is permissible in those cases.

j. Cut-in tee construction may be required by the OWNER depending on the circumstances and sizes involved.

3. Tapping Saddles

a. Tapping saddles shall be used for all taps three inches in diameter or less.

b. Tapping saddles shall be the double-strap, steel-constructed type conforming to AWWA C-800 requirements.

c. Saddles shall be brass with stainless steel hardware with extra wide bearing surfaces furnished with a flanged or NPT threaded outlet.

d. Saddles shall be rated for 150 psi working pressure and shall be furnished with extra thick and wide neoprene gasket.

e. Service saddles shall be as manufactured by **Clow** or approved equal.

2.2 PIPE FLANGES

A. General

B. Flanges shall be provided with flat faces and shall be attached with bolt holes straddling the vertical axis of the pipe unless otherwise indicated.

C. Flange faces shall be perpendicular to the axis of the adjoining pipe.

D. Flanges for miscellaneous small diameter pipes shall be in accordance with the standards indicated for these pipes.

E. Pressure Ratings

1. 150 psig or less: Flanges shall conform to either AWWA C207 - Steel Pipe Flanges for Waterworks Service--Sizes 4 In. Through 144 In., Class D, or ASME B16.5 - Pipe Flanges and Flanged Fittings, 150 lb. class. For ozone and oxygen piping, use weld-neck flanges.

2. 150 psig to 275 psig: Flanges shall conform to either AWWA C207 Class E or Class F, or ASME B16.5 150 lb. class.

3. 275 psig to 500 psig: Flanges shall conform to ASME B16.5, 300 lb. class.

4. Selection Based on Test Pressure

a. Do not expose AWWA flanges to test pressures greater than 125 percent of rated capacity.

b. For higher test pressures, the next higher rated AWWA flange or an ANSI-rated flange shall be selected.

F. Blind Flanges

1. Provide blind flanges in accordance with AWWA C207, or as indicated for miscellaneous small pipes.

2. Blind flanges for pipe sizes 12-inches and greater shall be provided with lifting eyes in the form of welded or screwed eye bolts.

G. Flange Coating

1. Machined faces of metal blind flanges and pipe flanges shall be coated with a temporary rust-inhibitive coating to protect the metal until the installation is completed.

H. Flange Fasteners

1. Unless otherwise shown on the drawings, or indicated in the applicable Sections of Divisions 33 and 40, Bolts and nuts shall conform to the following requirements;

a. Threads shall be in accordance with ANSI/ASME B1.1, Class 2, UNC for bolt diameters 1" and smaller and UN8 for bolt diameters greater than 1".

b. Bolts shall have heavy hexagon heads and heavy hexagon nuts. Length of studs shall provide a projection of not less than 0.25 inch and no more than 0.5 inch through the nut when it is drawn tight.

c. Thread studs on flange connections are not permitted except where space restrictions preclude the use of standard bolts.

d. Through bolt holes shall be drilled in accordance with the applicable flange standard.

e. All bolts fastening metallic flanges shall be provided with plain washers installed under the nut. Washer materials shall be of the same material as the bolt. If the through bolt holes are drilled larger than the applicable standard by 1/8 inch in diameter or more, bolts shall be also installed with a plain washer under the bolt head as well.

f. All bolts fastening non-metallic flanges shall be provided with plain washers installed under both the bolt head and nut. Washer materials shall be of the same material as the bolt.

g. Anti-seize compound shall be used on carbon steel fasteners, and shall be **Husk-ITT, Husky 2000; or approved equal.**

h. Anti-galling compound used for stainless steel fasteners in LOX, nitrogen injection, oxygen, ozone process/off-gas/vent and ozone contactor maintenance air service shall be **Dupont "Krytox"; or approved equal.**

i. Anti-galling compound used for stainless steel fasteners for all other services shall be certified for potable water use and shall be **Husk-ITT, Lube O'seal; Hercules, Real-Tuff; La Co, Slic-Tite; or approved equal.**

2. Fastener Material Group Numbering System

a. Flange fasteners shall conform to the following material standards and shall be categorized within the Fastener Material Schedule Groups as indicated:

1) Material Group C1 (Carbon steel) = ASTM A307 Grade B bolts, ASTM A563 Grade B nuts.

2) Material Group C2 (Carbon steel) = ASTM A193 Grade B7 bolts, ASTM A194 Grade 2H nuts.

3) Material Group S1 (316 SS) = ASTM A193, Grade B8M bolts, ASTM A194 Grade 8M nuts.

4) Material Group S2 (304 SS) = ASTM A193, Grade B8 bolts, ASTM A194 Grade 8F nuts.

5) Washers for carbon steel fasteners, if applicable, shall be provided with hardened steel conforming to ASTM F436.

6) Washers for stainless steel fasteners, if applicable, shall conform to ASTM F844, material ASTM A167, Type 316 or ASTM A276, Type 316.

3. Fastener Material Group Numbers used in Non-Corrosive Service Applications

a. Flanges per AWWA C207 steel flanges.

1) Class B and D flanges – Material Group C1

2) Class E and F flanges. – Material Group C2

b. AWWA C115 Ductile Iron Flanges - Material Group C1

c. ASME B31 group piping flanges – Material Group C2

d. Non-metallic pipe flanges - Material Group S1

e. Stainless steel pipe flanges and all others not listed above - Material Group S1

f. Where mating flanges are of different flange material standards and the specified Fastener Material Groups are in conflict, then fasteners of the higher grade shall be utilized unless otherwise indicated. For the purpose of this requirement, the Material Groups in order of decreasing grade shall be S1, S2, C2 and C1.

g. Where gaskets of Teflon or Viton-A are required, fasteners of Material Group C2 shall be utilized for all flange standards in lieu of those listed above.

4. Fastener Material Group Numbers used in Corrosive Service Applications

1) Corrosive service shall be as defined in accordance with Section 05 50 00 Miscellaneous Metalwork.

2) All Flange fasteners shall be of Material Group S1 unless S2 is otherwise indicated.

I. Insulating Flanges

1. Insulated flanges shall be provided with bolt holes 1/4-inch diameter greater than the bolt diameter.

J. Insulating Flange Sets

1. Insulating flange sets shall be furnished on all piping connections where two dissimilar metals are to be connected in order to prevent corrosion. Each insulating flange set shall consist of an insulating gasket, insulating sleeves and washers, and a steel washer.

2. Insulating sleeves and washers shall be one piece when flange bolt diameter is 1-1/2 inch or smaller and shall be made of acetyl resin.

3. For bolt diameters larger than 1-1/2 inches, insulating sleeves and washers shall be 2-piece and shall be made of polyethylene or phenolic material.

4. Steel washers shall be in conformance with ASTM A 325 - Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength.

5. Insulating flange sets materials used for fluids other than general water and wastewater shall be made of materials compatible with the fluid services.

6. Insulating gaskets shall be full-face.

K. Insulating Flange Manufacturer, or Approved Equal

1. **JM Red Devil, Type E**

2. **Maloney Pipeline Products Co.**

3. **PSI Products, Inc. (Garlock Pipeline Technologies)**

L. Flange Gaskets

1. Gaskets for flanged joints used in general water and wastewater service shall be full-faced type, with material and thickness in accordance with AWWA C207, suitable for temperatures to 700 degrees F, a pH of one to 11, and pressures to 1000 psig.

2. Blind flanges shall be provided with gaskets covering the entire inside face of the blind flange and shall be cemented to the blind flange.

3. Ring gaskets will not be accepted unless otherwise indicated.

1. Flanged gaskets shall be **Toroseal** gaskets as manufactured by American Pipe or **Flange-Tyte** gaskets as manufactured by US pipe.

2. Gaskets for flanged joints used in water with chloramines shall be Teflon material, NSF 61 approved, **Garlock, Gylon Style 3505, John Crane, or approved equal.**

3. Gaskets for flanged joints used in water with ozone shall be Teflon material, NSF 61 approved, **Garlock, Gylon, Style 3504, John Crane, or approved equal.** Contractor shall furnish high strength bolts in accordance with ASTM A325 at all locations where flanges are provided for water with dissolved ozone residual.

4. Gaskets for flanges for PVC and CPVC piping used in general water and wastewater service shall be NSF 61 approved, full-faced, 1/8-inch thick, and made of fluoroelastomer having a durometer hardness of 50 to 70. Gaskets for pipe sizes up to 24-inch and 150 psi shall be **Garlock Style XP, John Crane, or approved equal.**

5. When the mating flange has a raised face, provide stainless steel flat ring gasket filler between the PVC flange and gasket and the adjacent flange.

6. Gaskets for flanged joints used in chemicals, hot air, ozone gas, solvents, hydrocarbons, steam, chlorine and other fluids shall be made of materials compatible with the service, pressure, and temperature. Consult gasket Manufacturer for recommended gasket material.

2.3 THREADED INSULATING CONNECTIONS

A. General

1. Threaded insulating bushings, unions, or couplings, as appropriate, shall be furnished for joining threaded pipes of dissimilar metals and for piping systems where corrosion control and cathodic protection are involved.

B. Materials

1. Threaded insulating connections shall be constructed of nylon, Teflon, polycarbonate, polyethylene, or other non-conductive materials, and shall have ratings and properties to suit the service and loading conditions.

2.4 MECHANICAL-TYPE COUPLINGS (GROOVED OR BANDED PIPE)

A. General

1. Provide cast mechanical-type couplings where indicated, conforming to the requirements of AWWA C606 - Grooved and Shouldered Joints.

2. Bolts and nuts shall conform to the requirements of Section 05 50 00 – Miscellaneous Metalwork.

3. Elastomers for seal materials shall be compatible with the piping service and fluid utilized, in accordance with the coupling manufacturer's recommendations. Where couplings are used in water containing dissolved ozone residual or chloramines, seal material shall be Viton-A.

4. Grooved or banded piping shall conform to the coupling manufacturer's recommendations to suit the highest expected pressure.

   a. If grooved connections are used, the remaining thickness of pipe material after grooving shall be adequate to carry the load imparted to the joint. Joints for thin wall pipes shall be banded or welded

   b. Method of connection for metallic pipes using rolled pipe ends shall not be acceptable.

   c. Couplings for PVC pipe shall be furnished with radius cut or standard roll grooved pipe ends.

5. In order to avoid excessive load on equipment caused by pipe movement due to steady state or transient pressure conditions, equipment connections with mechanical-type couplings shall be provided with rigid grooved couplings or flexible type coupling with harness in sizes where rigid type couplings are not available, unless thrust restraint is provided by other means.

6. Mechanical type couplings shall be electrically bonded.

7. The CONTRACTOR shall have the coupling manufacturer's service representative verify the correct choice and application of couplings and gaskets, and the workmanship, to assure a correct installation.

8. In order to assure uniform and compatible piping components, grooved fittings, couplings, and valves shall be furnished by the same manufacturer as the coupling.

9. Grooving tools shall be from the same manufacturer as the grooved components.

B. NOT RELEVANT TO PROJECT

C. Ductile Iron Pipe Couplings Manufacturer, or approved equal

1. **Victaulic Style 31** (flexible or rigid grooving)

Note: Ductile iron pipe couplings shall be provided with flush seal gaskets.

D. PVC Pipe Couplings Manufacturer, or approved equal

1. **North American Specialty Products**

2. **Victaulic Aquamine Products, Series 2900**

2.5 NOT RELEVANT TO PROJECT

2.6 NOT RELEVANT TO PROJECT

2.7 FLEXIBLE SLEEVE TYPE COUPLINGS FOR DIFFERING PIPE MATERIALS/DIAMETERS IN BURIED APPLICATIONS

A. Flexible sleeve type couplings to connect different pipe types shall be of corrosion resistant rubber or PVC with Type 316 stainless steel clamp bands; Flexible sleeve type couplings shall be as manufactured by **Fernco, Mission Rubber Company, Inc., Calder**, or approved equal. All couplings shall conform to ASTM 425 and installed per manufacturers requirements.

2.8 NOT RELEVANT TO PROJECT

2.9 NOT RELEVANT TO PROJECT

2.10 NOT RELEVANT TO PROJECT

2.11 EXPANSION JOINTS

A. Piping subject to expansion and contraction shall be provided with sufficient means to compensate for such movement without exertion of undue forces to equipment or structures, accomplished with expansion loops, bellow-type expansion joints, or sliding-type expansion joints.

B. Expansion joints shall be provided with flanged ends and constructed of stainless steel, Monel, rubber, or other materials best suited for each individual service. Where expansion joints are used in water containing dissolved ozone residual or chloramines, provide Type 316 stainless steel material expansion joints.

C. Where bellows-type expansion joints are mounted near the suction nozzle of the pump, stainless steel internal liner shall be provided to minimize turbulence as the flow passes through the arches of the bellows.

D. CONTRACTOR shall submit detailed calculations and manufacturer's Shop Drawings of proposed expansion joints, piping layouts, and anchors and guides, including information on materials, temperature, and pressure ratings.

2.12 PIPE THREADS

A. Pipe threads shall be in conformance with ASME B1.20.1 - Pipe Threads, General Purpose (inch), and be made up with Teflon tape unless otherwise indicated.

2.13 PIPE INSULATION

A. Hot and cold liquid piping, flues, and engine exhaust piping shall be insulated as indicated and in accordance with the requirements of Section 43 10 70 – Pipe, Ductwork, and Equipment Insulation.

B. No unprotected hot piping shall be within reach of operating personnel or other persons.

C. Pre-insulated pipe for underground service shall be in accordance with the requirements of Section 43 10 68 – Pre-Insulated Pipe.

2.14 NOT RELEVANT TO PROJECT

2.15 NOT RELEVANT TO PROJECT

2.16 SAMPLE POINTS (WATER TRANSMISSION MAINS)

A. Install sample taps required to take all necessary water samples at points designated on the Contract Drawings.

B. Provide 3/4" type "K" copper tubing or schedule 40 PVC for all in-line sample points.

C. The CONTRACTOR will make arrangements for a certified laboratory to take all water samples required for bacteriological tests.

D. Water main being tested must remain under line pressure throughout the test and until such time as regulatory agency approval to place the main in service has been received by the OWNER.

E. Following the receipt of regulatory agency approval, the CONTRACTOR will remove all sample point tubing and install a brass plug on all sample point corporation stops.

2.17 NOT RELEVANT TO PROJECT

2.18 NOT RELEVANT TO PROJECT

PART 3 -- EXECUTION

3.1 GENERAL

A. Install piping, fittings, and appurtenances in accordance with the requirements of applicable Sections of Divisions 33 and 40.

B. Proprietary manufactured couplings shall be installed in accordance with the coupling manufacturer's recommendation.

C. Care shall be taken to insure that piping flanges, mechanical-type couplings, sleeve-type couplings, flexible connectors, and expansion joints are properly installed as follows:

1. Gasket surfaces shall be carefully cleaned and inspected prior to making up the connection.

2. Each gasket shall be centered properly on the contact surfaces.

3. Connections shall be installed to prevent inducing stress to the piping system or the equipment to which the piping is connected.

4. Contact surfaces for flanges, couplings, and piping ends shall be aligned parallel, concentric, and square to each axis at the piping connections.

5. Flange Bolts

   a. Flange bolts shall be initially hand-tightened with the piping connections properly aligned.

   b. Bolts shall be tightened with a torque wrench in a staggered sequence to the recommended torque for the bolt material per AWWA M-11.

6. Harness, Thrust Restraint, and Tie Rod Bolts

   a. Harness, thrust restraint, and tie rod bolts used for sleeve couplings, flange coupling adapters, or flexible joints shall be tightened gradually and equally at diametrically opposite sides until snug, in order to prevent misalignment and to insure that all studs carry equal loads.

   b. In order to prevent induced stress or misalignment, do not over-torque connections to adjoining pump or equipment.

7. Groove ends shall be clean and free from indentations, projections, and roll marks in the area from the pipe end to the groove.

8. After installation, joints shall meet the indicated leakage rate.

9. Flanges shall not be deformed nor cracked.

D. Lined Piping Systems

1. The lining manufacturer shall take full responsibility for the complete, final product and its application.

2. Pipe ends and joints of lined pipes at screwed flanges shall be epoxy-coated in order to assure continuous protection.

E. NOT RELEVANT TO PROJECT

F. Cleanup

1. After completion of the WORK, cuttings, joining and wrapping materials, and other scattered debris shall be removed from the Site.

2. The entire piping system shall be handed over in a clean and functional condition.

3.2 SERVICES OF MANUFACTURER

A. Where the assistance of a manufacturer's service representative is advisable, in order to obtain perfect pipe joints, supports, or special connections, the CONTRACTOR shall furnish such assistance at no additional cost to the OWNER.

- END OF SECTION -

SECTION 33 05 02 – PIPING IDENTIFICATION

PART 1 -- GENERAL

1.1 THE REQUIREMENT

A. The CONTRACTOR shall provide identification for exposed piping and valves, complete and in place, in accordance with the Contract Documents.

B. The requirements of Section 01 33 00 –Submittal Procedures apply to this Section.

C. The requirements of Section 09 96 00 – Protective Coatings apply to this Section.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Commercial Standards

ANSI A13.1 Scheme for the Identification of Piping Systems

Ten States Standards Recommended Standards for Water Works

1.3 CONTRACTOR SUBMITTALS

A. Furnish submittals in accordance with Section 01 33 00 - Submittal Procedures.

B. The CONTRACTOR shall submit to ENGINEER, for approval, a list of suggested wording for all valve tags prior to fabrication.

C. Samples

1. One sample of each type of identification device to be used in work.

PART 2 -- PRODUCTS

2.1 IDENTIFICATION OF PIPING

A. Except as indicated below for very short pipe lengths, identify exposed piping larger than 2-inches nominal size for the pipe contents and direction of flow.

1. Marker Type

a. Snap Around: Vinyl or polyester sheet with UV- resistant ink, preshaped and sized to tightly curl around the pipe and remain in position.

b. Adhesive: Vinyl or polyester sheet with UV- resistant ink, shaped similar to pipe curvature and coated with pressure sensitive adhesive.

c. Stencil: Lettering painted directly on surface of pipe inside color coded marker area.

2. Marker Area: Sized per pipe size according to ANSI A13.1; color from the table below.

3. Lettering: Sized per pipe size according to ANSI A13.1; color from the table below.

4. Arrows: at least2arrows at each marker area, showing direction of flow.

B. Pipe 2-inches and smaller shall be identified by plastic plates made from laminated 3 layer plastic with engraved black letters on white background.

C. Identification of all exposed pipe shall be accomplished by color-coding with bands and by lettering as specified in Part 3 of this Section, and in Section 09 96 00 – Protective Coating.

D. Pipe identification shall be as manufactured by **Brady, Seton,** or approved equal.

2.2 EXISTING IDENTIFICATION SYSTEMS

A. In installations where existing piping identification systems have been established, the CONTRACTOR shall follow the existing system. Where existing identification systems are incomplete, utilize the existing system as far as practical and supplement with the indicated system. The objective is to fully identify all new piping, valves, and appurtenances to the level specified herein.

2.3 IDENTIFICATION OF VALVES AND SHORT PIPE LENGTHS

A. Identifying devices for valves and the sections of pipe that are too short to be identified with markers and arrows shall be identified with metal or plastic tags.

B. Metal tags shall be stainless steel with embossed lettering. Plastic tags shall be solid black plastic laminate with white embossed letters. Tags shall be designed to be firmly attached to the valves or short pipes or to the structure immediately adjacent to such valves or short pipes.

C. Wording on the valve tags shall describe the exact function of each valve, e.g., "POTABLE WATER," "RAW WATER", etc.

PART 3 -- EXECUTION

3.1 GENERAL

A. Markers and identification tags shall be installed in accordance with the manufacturer's printed instructions, and shall be neat and uniform in appearance. Tags and markers shall be readily visible from all normal working locations.

3.2 VALVE TAGS

A. Valve tags shall be permanently attached to the valve or structure by means of 2 stainless steel bolts or screws.

3.3 MARKER LOCATIONS AND PIPE IDENTIFICATION

A. Each pipe shall be marked at:

1. Intervals of 20-feet in straight runs.

2. At least once in every room.

3. Within 2-feet of turns, elbows, and valves.

4. On the upstream side of tees, branches, and other distribution points.

5. On both sides of walls and floors through which the piping passes.

6. Sections of pipe that are too short to be identified with color bands, lettered labels, and directional arrows shall be tagged and identified similar to valves.

B. Pipe identification shall consists of four elements (i.e., two color bands, a lettered label, and a directional label). The bands shall be arranged so that the lettered label and the directional arrow is places between the two bands.

3.4 IDENTIFICATION COLORS

A. Conform to the following color codes.

Color Schedule				
Pipe Contents		Pipe Color	Marker Color	Letter Color
Abbreviation	**Identification**			
REW	Reclaimed water		Pantone Purple (522C)	white
RW	Raw water		green	white
SS	Sanitary sewer		yellow	black
UW	Utility water (non-potable water)		yellow	black

- END OF SECTION -

SECTION 33 95 52 – DUCTILE IRON PROCESS/PRESSURE PIPE

1.1 THE SUMMARY

A. The WORK covered by this section and the related sections following consists of providing all labor, equipment, material and supplies and performing all operations required to install ductile iron piping for pressure systems (e.g., lift stations and force mains), as specified and shown on the contract drawings

B. Related sections:

1. Section 01 11 00 – Summary of Work
2. Section 01 33 00 – Submittals Procedures
3. Section 03 30 00 – Cast-in-Place Concrete
4. Section 31 23 00 – Excavation and Fill
5. Section 31 23 13 – Subgrade Preparation
6. Section 31 23 33 – Trenching and Backfilling

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. AWWA C105 Polyethylene Encasement for Ductile-Iron Pipe Systems

B. AWWA C110 Ductile-Iron and Gray-Iron Fittings, 3-in through 48-in for Water

C. AWWA C111 Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings

D. AWWA C115 Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges

E. AWWA C116 Protective Fusion-Bonded Epoxy Coatings for the Interior and Exterior Surfaces of Ductile-Iron and Gray-Iron Fittings for Water Supply Service.

F. AWWA C150 Thickness Design of Ductile-Iron Pipe

G. AWWA C151 Ductile-Iron Pipe, Centrifugally Cast for Water

H. AWWA C153 Ductile-Iron Compact Fittings. for Water Service

I. AWWA C600 Installation of Ductile Iron Water Mains and Their Appurtenances

J. AWWA C606 Grooved and Shouldered Joints

1.3 CONTRACTOR SUBMITTALS

A. Furnish Submittals in accordance with Section 01 33 00 – Submittal Procedures and the following supplemental requirements:

B. Shop Drawings

1. Certified dimensional drawings of valves, fittings, and appurtenances.

2. For pipe 24-inches diameter and larger, line layout and marking diagrams which indicate the specific number of each fitting and the location and the direction of each fitting in the completed line. In addition, the line layouts shall include: the pipe station and invert elevation at changes in grade or horizontal alignment; elements of curves and bends, both in horizontal and vertical alignment; and the limits of each reach of restrained joints, or of concrete encasement.

C. **Certifications:** Certified affidavit of compliance for pipe and other products or materials furnished under this Section and as specified in the referenced standards and the following supplemental requirements:

1. Physical and chemical properties.

2. Hydrostatic test reports.

D. The CONTRACTOR shall be responsible for performing and paying for sampling and testing as necessary for the certifications.

E. QUALITY ASSURANCE

1. **Tests:** Except as modified herein, materials used in the manufacture of the pipe shall be tested in accordance with the requirements of the referenced standards as applicable.

2. The CONTRACTOR shall perform said material tests as part of the WORK. The ENGINEER shall have the right to witness testing conducted by the CONTRACTOR; provided, that the CONTRACTOR's schedule is not delayed for the convenience of the ENGINEER.

3. In addition to those tests specifically required, the ENGINEER may request additional samples of any material including lining and coating samples for testing by the OWNER. The additional samples shall be furnished as a part of the WORK.

4. **Inspection:** Pipe shall be subject to inspection at the place of manufacture in accordance with the provisions of the referenced standards, as supplemented by the requirements herein. The CONTRACTOR shall notify the ENGINEER in writing of the manufacturing starting date not less than 14 Days prior to the start of any phase of the pipe manufacture.

5. During the manufacture of the pipe, the ENGINEER shall be given access to areas where manufacturing is in process and shall be permitted to make inspections necessary to confirm compliance with the Specifications.

6. Three certified records of the tests made by the manufacturer or by a reliable commercial laboratory shall be submitted with each shipment of pipe of any type used for force mains.

PART 2 -- PRODUCTS

2.1 GENERAL EQUIPMENT REQUIREMENTS

A. Lined ductile iron pipe shall conform to AWWA C151 and C105, subject to the supplemental requirements in this Section. The pipe shall be of the diameter and class indicated, shall be provided complete with rubber gaskets, specials, and fittings as required under the Contract Documents.

B. **Markings:** The CONTRACTOR shall legibly mark specials 24-inches diameter and larger in accordance with the laying schedule and marking diagram. Each fitting shall be marked at each end with top field centerline.

C. **Handling and Storage:** The pipe shall be handled as a minimum at the 1/3 points by use of wide slings, padded cradles, or other devices designed and constructed to prevent damage to the pipe coating/exterior. The use of chains, hooks, or other equipment that might injure the pipe coating/exterior will not be permitted. Stockpiled pipe shall be supported on padded skids, sand or earth berms free of rock exceeding 3-inches diameter, sand bags, or suitable means so that the coating will not be damaged. The pipe shall not be rolled and shall be secured to prevent accidental rolling

D. **NOT RELEVANT TO PROJECT**

E. **Laying Lengths:** Nominal pipe laying lengths shall be 20-feet.

F. **Finish:** The pipe shall have smooth dense interior surfaces and shall be free from fractures, excessive interior surface crazing, and roughness.

G. **NOT RELEVANT TO PROJECT**

H. **Closures and Correction Pieces:** Closures and correction pieces shall be provided as required so that closures may be made due to different headings in the pipe laying operation and so that correction may be made to adjust the pipe laying to conform to pipe stationing on the Drawings. The locations of correction pieces and closure assemblies are indicated. Any change in location or number of said items shall only be as accepted by the ENGINEER.

2.2 MATERIALS

A. Design of Pipe

1. The pipe shall be designed, manufactured, tested, inspected, and marked according to AWWA C150 and C 151 except where modified by this Section.

2. Potable Water transmission Piping: Unless otherwise indicated DIP used for potable water transmission systems shall meet the following requirements:

   a. For potable water transmission pipe 18" in diameter and smaller: provide Class 350 special thickness 50 conforming to ANSI A 21.51/AWWA C-151

   b. For potable water transmission pipe larger than 18" in diameter: provide Class 250, special thickness class 50, conforming to ANSI A 21.51/AWWA C-151

3. **Pipe Dimensions:** The pipe shall be of the diameter and class indicated.

4. **Fitting Dimensions:** The fittings shall be of the diameter and class indicated.

5. **Joint Design:** Ductile iron pipe and fittings for buried pressure service shall be furnished with restrained joints, unless otherwise indicated.. Above ground ductile iron pipe and fittings joints shall be as indicated. Flanged joints or grooved and shouldered joints shall be furnished where required.

    a. Mechanical and push-on joints shall conform to AWWA C111.

    b. Flanged joints shall conform to AWWA C115. Where threaded flanges are provided, the pipe wall thickness under the cut threads shall not be less than the calculated net thickness required for the pressure class of the pipe.

6. Restrained joints shall be **Flex-Ring or Lok-Ring** restrained joint by **American Ductile Iron Pipe**, **TR FLEX** or **HP Lok** restrained joint by **U.S. Pipe**, or approved equal.

7. Joint restraining devices that impart point loads and/or wedging action on the pipe wall as a means of joint restraint shall not be allowed unless there are no other options for joint restraint available. Under such circumstances, the CONTRACTOR may propose such devices provided the following conditions are met and the request is made as a substitution:

    a. A formal request for substitution is submitted stating the locations where the devices are intended to be used and a statement from the device manufacturer and the pipe manufacturer that the proposed device is appropriate for the intended installation and is rated at least for the class of the pipe being supplied.

    b. A statement from the pipe manufacturer is provided accepting the use of the retaining devices and indicating that the use of such devices will in no way affect the warranty of the pipe and/or the performance of the pipe.

    c. The manufacturer of the device and the pipe manufacturer jointly provide instruction on the proper installation of the device to the personnel installing the units and provide certification to the OWNER that the installers are adequately trained in the installation of the units and that warranties are in full affect for the project.

    d. The devices shall be **MegaLug Model 1100** as manufactured by **EBAA Iron** or approved equal.

8. Grooved and Shouldered Joints shall meet the requirements of mechanical-type couplings in accordance with Section 40 05 00 – Piping, General and conform to AWWA C606.

B. For bell-and-spigot ends with rubber gaskets, the clearance between the bells and spigots shall be such that when combined with the gasket groove configuration and the gasket itself, will provide watertight joints under all operating conditions when properly installed. The CONTRACTOR shall require the pipe manufacturer to submit details complete with

significant dimensions and tolerances and also to submit performance data indicating that the proposed joint has performed satisfactorily under similar conditions. In the absence of a history of field performance, the results of a test program shall be submitted.

C. Shop-applied interior linings and exterior coatings shall be held back from the ends of the pipe as indicated.

D. Lining:

1. All ductile iron pipe and fittings shall have a ceramic epoxy lining on the interior and a bituminous coating on the exterior except for 6" back from the spigot end. The bituminous coating shall not be applied to the first 6" of the exterior of the spigot ends. All pipe and fittings shall be delivered to the application facility without asphalt, cement lining, or any other lining on the interior surface. Because removal of old linings may not be possible, the intent of this specification is that the entire interior of the pipe and fittings shall be as cast without ever having been lined with any substance prior to the application of the specified lining. Any pipe or fittings furnished for this project must not have been lined prior to the awarding of the contract for this project.

   a. Lining Material: The material used for the lining shall be a two component amine cured epoxy of at least 87% solids. **Protecto 401** by Induron, Birmingham, Alabama or **Permite 9043, Type II Glass Filled Epoxy** by Permite Corporation, Atlanta, Georgia are the Standards of Quality. The following test requirements are certified by the material supplier, and a history of satisfactory performance for the material in the service required and upon the surface specified is proven. The following are the minimum requirements to be met:

      1) A permeability rating of zero permeance when a film of at least 40 mils is tested according to ASTM D1653-72 (reapproved 1979) or a permeability rating of 0.0 perms when measured using Method A of ASTM E96-66, procedure A with a test duration of 42 days.

      2) The material shall contain at least 20% by volume of ceramic quartz pigment in the dried film.

      3) The following test must be run on ductile iron panels with the results certified by the lining material supplier of the material being submitted.

Test	Rating/Method
Direct Impact	ASTM D-2794
3% Sulfuric Acid Immersion @ 120 Deg F	ASTM D-714-56 (1974)
25% Sodium Hydroxide Immersion @ 140 Deg F	ASTM D-714-56 (1974)
Deionized Water Immersion @ 160 Deg F	ASTM D-714-56 (1974)
Moisture and Ultraviolet Light Cycle. 8 hrs light/4 hrs, 100% humidity	ASTM G-5377

2. Application of Lining:

   a. The lining shall be applied by a competent firm with at least a five year history of applying linings to the interior of ductile pipe and fittings.

      1) Surface Preparation: Prior to abrasive blasting the entire area which will receive the protective compound shall be inspected for oil, grease, etc. Any areas where oil, grease, or any substance which can be removed by solvent is present shall be solvent cleaned using the guidelines outlined in SSPC-1 Solvent Cleaning. After the surface has been made free of grease, oil or other substances, all area which are to receive the protective compounds shall be abrasive blasted using compressed air nozzles with sand or grit abrasive media. The blast media shall strike the surface at a minimum angle of 45 degrees. The entire surface to be lined shall be struck with the blast media so that all rust, loose oxides, etc., are removed from the surface. Only slight stains and specks of tightly adhering oxides may be left on the surface. Any area where rust reappears before coating must be reblasted to remove all rust.

      2) Lining: After surface preparation and within 8 hours of surface preparation the barrel of the pipe from the inside shoulder of the gasket groove to the end of the interior spigot shall receive a minimum coating of 40 mils dry film thickness of the protective lining. If flange fittings or pipe are included in the project the linings must not be used on the face of the flange; however, full face gaskets must be used to protect the ends of the pipe. All fittings shall be lined with a minimum of 40 mils of the protective lining. Push-on type fittings shall be lined from the gasket groove to the gasket groove. The 40 mils system shall not be applied in the gasket grooves.

      3) Coating of Gasket Groove and Spigot Ends: Due to the tolerances involved, the gasket groove and spigot end up to 6" back from the end of the spigot end must be coated with a minimum of 10 mils dry of **Protecto Joint Compound**. This coating shall be applied by brush to insure coverage. Care should be taken that the coating is smooth without excess buildup in the gasket groove or on the spigot end. All materials for the gasket groove and spigot end shall be applied after the application of the lining.

      4) Number of Coats: The number of coats of lining material applied shall be as recommended by the lining manufacturer. However, in no case shall the material be applied above the dry thickness per coat recommended by the lining manufacturer in printed literature. The time between coats shall never exceed that time recommended by the lining material manufacturer. No material shall be used for lining which cannot be recoated with itself without roughening of the surface after 4 hours cure @ 100 Deg F. If at any time the lining must be recoated beyond the lining material manufacturer's recommended recoat time, the surface of the existing lining shall be roughened sufficiently to prevent delamination between coats.

3. Lining Inspection

a. All pipe shall be checked for thickness using a magnetic film thickness gauge. The thickness testing shall be done using the method outlined in SSPC-PA-2 film thickness testing.

b. The barrel of all pipe and fittings shall be pinhole detected with a nondestructive 2,500 volt pinhole test.

c. Each pipe joint and fitting shall be marked with the date of application of the lining system and with its numerical sequence of application on that date.

4. Lining Certification

a. The pipe or fitting manufacturer must supply a certificate attesting to the fact that the Applicator met the requirements of this specification, that the material used was as specified, and that the material was applied as required by the specification.

5. Lining Repair

a. All pinholes and damaged lined areas shall be repaired in accordance with written repair procedure furnished by the manufacturer of the lining material so that the repaired area is equal in performance to the undamaged lined areas.

E. Coating

1. The exterior of the pipe shall receive a bituminous coating approximately 1 mil thick in accordance with ANSI A21.51.

2. See Section 09 96 00 – Protective Coatings for coating requirements.

3. Polyethylene Sleeve: Sleeves shall conform to the requirements of AWWA C105, CONTRACTOR's choice between tubular 8-mil thick linear low-density film or 4-mil thick high-density cross-laminated film. Color shall be black.

a. Buried ductile iron pipe shall be polyethylene encased in accordance with the requirements of AWWA C105, CONTRACTOR's choice between Method A or Method B.

PART 3 -- EXECUTION

3.1 INSTALLATION

A. The CONTRACTOR shall inspect each pipe and fitting prior to installation to insure that there are no damaged portions of the pipe. Pipe damaged prior to Substantial Completion shall be repaired or replaced by the CONTRACTOR.

B. Before placement of pipe in the trench, each pipe or fitting shall be thoroughly cleaned of any foreign substance which may have collected thereon and shall be kept clean at all times thereafter. For this purpose, the openings of pipes and fittings in the trench shall be closed during any interruption to the WORK.

C. **Pipe Laying:** The pipe shall be installed in accordance with AWWA C600.

D. Pipe shall be laid directly on the bedding material. No blocking will be permitted, and the bedding shall be such that it forms a continuous, solid bearing for the full length of the pipe. Excavations shall be made as needed to facilitate removal of handling devices after the pipe is laid. Bell holes shall be formed at the ends of the pipe to prevent point loading at the bells or couplings. Excavation shall be made as needed outside the normal trench section at field joints to permit adequate access to the joints for field connection operations and for application of coating on field joints.

E. Each section of pipe 24-inches diameter and larger shall be laid in the order and position shown on the laying schedule. Each section shall be laid to the line and grade, within approximately one-inch plus or minus.

F. Where necessary to raise or lower the pipe due to unforeseen obstructions or other causes, the ENGINEER may change the alignment and/or the grades. Such change shall be made by the deflection of joints, by the use of bevel adapters, or by the use of additional fittings. However, in no case shall the deflection in the joint exceed 75 percent of the maximum deflection recommended by the pipe manufacturer. No joint shall be misfit any amount that will be detrimental to the strength and water tightness of the finished joint.

G. Except for short runs that may be permitted by the ENGINEER, pipes shall be laid uphill on grades exceeding 10 percent. Pipe that is laid on a downhill grade shall be blocked and held in place until sufficient support is furnished by the following pipe to prevent movement. Bends shall be properly installed as indicated.

H. **Cold Weather Protection:** No pipe shall be installed upon a foundation into which frost has penetrated or at any time that there is a danger of the formation of ice or penetration of frost at the bottom of the excavation before backfilling occurs.

I. **Pipe and Specials Protection:** The openings of pipe and specials shall be protected with suitable bulkheads to prevent unauthorized access by persons, animals, water, or any undesirable substance. At all times, means shall be provided to prevent the pipe from floating.

J. **Pipe Cleanup:** As pipe laying progresses, the CONTRACTOR shall keep the pipe interior free of debris. The CONTRACTOR shall completely clean the interior of the pipe of sand, dirt, mortar splatter, and any other debris following completion of pipe laying and shall perform any necessary interior repairs prior to testing and disinfecting the completed pipeline.

3.2 MISCELLANEOUS INSTALLATION CONDITIONS:

A. **NOT RELEVANT TO PROJECT**

B. **NOT RELEVANT TO PROJECT**

C. **Pipe Supports:** Where there is no adequate natural foundation upon which to construct a pipe bed, the pipe shall be constructed on a prepared stabilized subgrade, rock bedding, or wood supports.

D. Unsuitable subgrade materials shall be replaced or stabilized as described in Section 31 23 13 – Subgrade Preparation. Gravel or graded limerock may be used for pipe bedding

where suitable material is not available at the site and in accordance with the subparagraphs under Section 31 23 00 – Excavation and Fill. Such material will be paid for under the bid item for same only when ordered in writing by the ENGINEER. Wood supports, if required, will be authorized by change order only.

E. **Sleeves:** Cast iron pipe sleeves or wall pipe shall be placed where shown on the drawings for piping through concrete or masonry walls. Wall sleeves shall be standard weight, Class D, as required for the pipe sizes shown on the drawings. Wall thimbles shall be cast iron square flange with round openings. Size of thimbles shall be as shown on the drawings.

F. **Harnessing:** Where harnessing is shown on the drawings or approved by the ENGINEER, all harnessing rods, clamps, bolts, and nuts shall be coated after assembly. The coating shall be a coal tar or asphalt base bituminous coating approved by the ENGINEER and applied to at least a 4 mil dry thickness.

G. **NOT RELEVANT TO PROJECT**

H. **NOT RELEVANT TO PROJECT**

I. **NOT RELEVANT TO PROJECT**

J. **Flexible Coupling:** Flexible coupling shall be of a gasketed, sleeve type. Each coupling shall consist of a steel middle ring, two steel followers, two rubber compounded wedge section gaskets and sufficient galvanized track, head steel bolts to properly compress the gaskets. Coupling shall be of the type to match piping in which installed. Couplings shall be Style 38 as manufactured by Dresser Manufacturing Division of Dresser Industries, Smith Blair Type 411, or approved equal.

K. **Unions and Flanges:** Unions and flanges are not, in every case, shown on the drawings, but are to be provided where necessary and adjacent to all equipment installed or provided for under this Contract. Ground joint unions shall be provided on and pipe sizes up to and including 1-1/2 inches. Flanged unions shall be used on all pipes larger than 1-1/2 inches. Use malleable iron on steel piping, black or galvanized as specified for piping. Unions in copper piping shall be brass.

3.3 FIELD ASSEMBLY

A. Rubber Gasketed Joints

1. Immediately before jointing pipe, the bell end of the pipe shall be thoroughly cleaned, and a clean rubber gasket shall be placed in the bell groove. The spigot end of the pipe and the inside surface of the gasket shall be carefully cleaned and lubricated. The lubricant shall be suitable for lubricating the parts of the joint for assembly and be a compound listed as in compliance with NSF Standard 61. The lubricant shall be nontoxic, shall not support the growth of bacteria, and shall have no deleterious effects on the gasket material. The lubricant shall not impart taste or odor to water in the pipe. The spigot end of the pipe section shall then be inserted into the bell of the previously laid joint and telescoped into its proper position. Tilting of the pipe to insert the spigot into the bell will not be permitted.

3.4 PREPARATION

A. Protection:

1. **Protection of Appurtenances:** Where pipe is encased in polyethylene sleeves, buried appurtenances shall be encased in polyethylene.

2. **Installation of Valves:** Valves shall be handled in a manner to prevent any injury or damage to any part of the valve. Joints shall be thoroughly cleaned and prepared prior to installation. The CONTRACTOR shall adjust stem packing and operate each valve prior to installation to insure proper operation. Valves shall be installed so that the valve stems are plumb and in the location indicated.

3.5 FIELD QUALITY CONTROL

A. Site Tests:

1. **Tests:** The CONTRACTOR shall furnish and install suitable temporary testing plugs or caps for the pipe, all necessary pressure pumps, hose, pipe connections, meters, gauges and other similar equipment, and all labor required, all without additional compensation for conducting pressure tests of the new pipe and fittings. The OWNER may, at his/her own choice, furnish a meter and a pressure gauge for use in conducting these tests. The CONTRACTOR shall procure and pay for all water required for tests.

2. Pressure testing shall be as specified in Section 01 74 30 – Pressure Pipe Testing and Disinfection.

END OF SECTION

R2024 0553 MAY 14 2024

B

AMENDMENT NO. 1 TO THE 2022 PIPELINE CONTINUING CONSTRUCTION CONTRACT PBCWUD PROJECT NO. 22-032 WITH HINTERLAND GROUP INC.

This Amendment No. 1 dated May 14, 2024 to the 2022 Pipeline Continuing Construction Contract – PBCWUD Project No. 22-032 (R2023-0676) ("Contract") dated May 16, 2023 by and between **Palm Beach County**, a political subdivision of the State of Florida, by and through its Board of County Commissioners, hereinafter referred to as the COUNTY, and **Hinterland Group Inc.,** a corporation authorized to do business in the State of Florida, hereinafter referred to as the CONTRACTOR whose Federal I.D. is 20-5156844.

WITNESSETH

WHEREAS, the parties have entered into the Contract under which the CONTRACTOR provided certain construction services to the COUNTY for various pipeline projects in accordance with the Contract; and

WHEREAS, the parties hereto desire to renew the Contract for an additional one (1) year period; and

NOW, THEREFORE, in consideration of the premises and of the mutual covenants hereinafter set forth and for such other good and valuable consideration, the receipt of which the parties hereto expressly acknowledge, the parties covenant and agree to the following terms and conditions:

1. Pursuant to the Supplemental General Conditions of the Contract, the term of this Contract is renewed for one (1) additional year from May 15, 2024 to May 14, 2025, with one (1) additional year renewal option remaining.
2. The period of service shall continue until completion of all outstanding Work Orders issued within the period of this Contract, unless otherwise terminated as provided herein.
3. The Contract cumulative amount not to exceed of $33,760,413.00 is not being increased.

4. Except as specifically modified above, the terms and conditions of the Contract as amended by this Amendment No. 1, are hereby confirmed and remain in full force and effect.

THE REST OF THIS PAGE INTENTIONALLY LEFT BLANK

IN WITNESS WHEREOF, the Board of County Commissioners of Palm Beach County, Florida has made and executed this Amendment No. 1 on behalf of the COUNTY and CONTRACTOR has hereunto set its hand the day and year above written.

R2024 0553 MAY 14 2024

ATTEST:
JOSEPH ABRUZZO, CLERK OF THE CIRCUIT COURT AND COMPTROLLER, PALM BEACH COUNTY

Deputy Clerk

PALM BEACH COUNTY, FLORIDA
BOARD OF COUNTY COMMISSIONERS

By: _____
Maria Sachs, Mayor

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

County Attorney

APPROVED AS TO TERMS AND CONDITIONS

Ali Bayat

Ali Bayat, P.E., PMP, Director
Water Utilities Department

'CONTRACTOR'

By: Hinterland Group Inc.

Lori Guild
(witness signature)

a Florida corporation
(insert state of corporation)

Lori Guild
(witness name printed)

By: _____
(signatory)

Shane Griswold
(witness signature)

Chase Rogers
(print signatory's name)

Shane Griswold
(witness name printed)

By: Project Director
(print title)

March 8, 2024
(date of execution)

(Corporate Seal)

HINTERLAND GROUP, INC. CORPORATE SEAL FLORIDA

2051 W Blue Heron Blvd.
(Contractor's Official Address)

Riviera Beach, FL 33404
(Contractor's City, State, Zip Code)

MINUTES OF SPECIAL MEETING

OF

HINTERLAND GROUP INC.

Minutes of Special Meeting of Hinterland Group Inc. held at 2051 W. Blue Heron Blvd., Riviera Beach, Florida 33404 on this 25 day of April, 2023.

The President called the meeting to consider the following business: The authorization of Chase Rogers and Danny Duke, Jr., to sign any and all documentation with regard to the Company.

On motion duly made and carried, the meeting proceeded to approve the authorization.

Chase Rogers and Danny Duke, Jr., have the authority to sign all documents as stated above.

There being no further business, the meeting was adjourned.

Dated April 25, 2023

Daniel Duke III, President

Hinterland Group Inc.

STATE OF FLORIDA

COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this 25 day of April, 2023 by Daniel Duke, III.

Notary Public

LORI GUILD
MY COMMISSION # HH 298713
EXPIRES: August 9, 2026

Printed Name: LORI GUILD

My Commission Expires: 8/9/2026

AMENDMENT NO. 2 TO THE 2022 PIPELINE CONTINUING CONSTRUCTION CONTRACT PBCWUD PROJECT NO. 22-032 WITH HINTERLAND GROUP INC.

R 2025 0646

MAY 06 2025

This Amendment No. 2 dated May 6, 2025 to the 2022 Pipeline Continuing Construction Contract – PBCWUD Project No. 22-032 (R2023-0676) ("Contract") dated May 16, 2023 by and between **Palm Beach County**, a political subdivision of the State of Florida, by and through its Board of County Commissioners, hereinafter referred to as the COUNTY, and **Hinterland Group Inc.,** a corporation authorized to do business in the State of Florida, hereinafter referred to as the CONTRACTOR whose Federal I.D. is 20-5156844.

WITNESSETH

WHEREAS, the parties have entered into the Contract under which the CONTRACTOR provided certain construction services to the COUNTY for various pipeline projects in accordance with the Contract; and

WHEREAS, the Contract was extended for a one (1) year period by Amendment No. 1 dated May 14, 2024 (R2024-0553); and

WHEREAS, the parties hereto desire to renew the Contract for an additional one (1) year period.

NOW, THEREFORE, in consideration of the premises and of the mutual covenants hereinafter set forth and for such other good and valuable consideration, the receipt of which the parties hereto expressly acknowledge, the parties covenant and agree to the following terms and conditions:

1. Pursuant to the Supplemental General Conditions of the Contract, the term of this Contract is renewed for one (1) additional year from May 15, 2025 to May 14, 2026, with no renewal options remaining in the Contract.
2. The period of service shall continue until completion of all outstanding Work Orders issued within the period of this Contract, unless otherwise terminated as provided herein.

3. The Contract cumulative amount not to exceed of $33,760,413.00 is not being increased.

4. Except as specifically modified above, the terms and conditions of the Contract as amended by Amendment No. 1 and this Amendment No. 2, are hereby confirmed and remain in full force and effect.

THE REST OF THIS PAGE INTENTIONALLY LEFT BLANK

IN WITNESS WHEREOF, the Board of County Commissioners of Palm Beach County, Florida has made and executed this Amendment No. 2 on behalf of the COUNTY and CONTRACTOR has hereunto set its hand the day and year above written.

R 2025 0646

MAY 06 2025

ATTEST:
JOSEPH ABRUZZO, CLERK OF THE CIRCUIT COURT AND COMPTROLLER, PALM BEACH COUNTY

Deputy Clerk

PALM BEACH COUNTY, FLORIDA
BOARD OF COUNTY COMMISSIONERS

By: _____
Maria G. Marino, Mayor

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

For M. Jones
County Attorney

APPROVED AS TO TERMS AND CONDITIONS

Ali Bayat, P.E., PMP, Director
Water Utilities Department

'CONTRACTOR'

By: Hinterland Group Inc.

(witness signature)

a Florida corporation
(insert state of corporation)

Lori Guild
(witness name printed)

By: _____
(signatory)

(witness signature)

Chase Rogers
(print signatory's name)

Julie Rosado
(witness name printed)

By: COO
(print title)

(Corporate Seal)

February 27, 2025
(date of execution)

2051 W Blue Heron Blvd.
(Contractor's Official Address)

Riviera Beach, FL 33404
(Contractor's City, State, Zip Code)

MINUTES OF SPECIAL MEETING

OF

HINTERLAND GROUP INC.

Minutes of Special Meeting of Hinterland Group Inc. held at 2051 W. Blue Heron Blvd., Riviera Beach, Florida 33404 on this 20 day of JANUARY, 2025.

The President called the meeting to consider the following business: The authorization of Chase Rogers, Julie Gwinner, and Danny Duke, Jr., to sign any and all documentation with regard to the Company.

On motion duly made and carried, the meeting proceeded to approve the authorization.

Chase Rogers, Julie Gwinner, and Danny Duke, Jr., have the authority to sign all documents as stated above. There being no further business, the meeting was adjourned.

Dated: JANUARY 20, 2025

Daniel Duke III, ~~President~~
Hinterland Group Inc.

STATE OF FLORIDA

COUNTY OF PALM BEACH

The foregoing instrument was acknowledged before me this 20 day of JANUARY, 2025 by DANIEL DUKE III.

Lori Guild
Notary Public

LORI GUILD
MY COMMISSION # HH 298713
EXPIRES: August 9, 2026

Printed Name: LORI GUILD

My Commission Expires: 8/9/2026

BID TABULATION SHEET

2022 Pipeline Continuing Construction Contract

TITLE
BID# **22-032**

PAGE **1** OF **1**

	B & B Underground Construction, Inc.		Hinterland Group Inc.		Johnson-Davis Incorporated					
BASE BID	$ 45,604,800.84		$ 33,760,413.00		$ 28,440,000.00		$		$	
Addendum (1)	(Y)	N	(Y)	N	(Y)	N	Y	N	Y	N
Attachment #1 BID BOND	(Y)	N	(Y)	N	(Y)	N	Y	N	Y	N
Attachment #2 OEBO Schedules	(Y)	N	(Y)	N	(Y)	N	Y	N	Y	N
Attachment #3 Certification of Business Location	(Y)	N	(Y)	N	(Y)	N	Y	N	Y	N
Attachment #3a Certification of Business Location – Glades Subcontractor	(Y)	N	(Y)	N	(Y)	N	Y	N	Y	N
Attachment #4 List of Major Subcontractors	(Y)	N	(Y)	N	(Y)	N	Y	N	Y	N
Attachment #5 Trench Safety	(Y)	N	(Y)	N	(Y)	N	Y	N	Y	N

BIDS PICKED UP BY ENGINEER Joseph Caracciolo DATE 11-22-22

JOE TANACREDI

LOCALiQ

The Gainesville Sun | The Ledger
Daily Commercial | Ocala StarBanner
News Chief | Herald-Tribune
News Herald | The Palm Beach Post
Northwest Florida Daily News

PO Box 631244 Cincinnati, OH 45263-1244

PROOF OF PUBLICATION

Shauna Rainford
Pbc Bocc Water Utilities
PO BOX 4036

WEST PALM BEACH FL 334024036

STATE OF FLORIDA, COUNTY OF PALM BEACH

The Palm Beach Post, a daily newspaper printed and published in the city of West Palm Beach and of general circulation in Palm Beach, Martin, Okeechobee and St Lucie Counties, Florida; and personal knowledge of the facts herein state and that the notice hereto annexed was Published in said newspapers in the issues dated or by publication on the newspaper's website, if authorized, on:

10/16/2022

and that the fees charged are legal.
Sworn to and subscribed before on 10/16/2022

Legal Clerk

Notary, State of WI, County of Brown

My commision expires

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THIS IS NOT AN INVOICE!

Please do not use this form for payment remittance.

VICKY FELTY
Notary Public
State of Wisconsin

ADVERTISEMENT FOR BID
Project Name: 2022 Pipeline Continuing Construction Contract
PBCWUD Project No: 22-032

Sealed Bids containing all the required Bid Documents will be received by the Board of County Commissioners, Palm Beach County, Florida, until **2:00 PM on November 22, 2022,** at the Palm Beach County Water Utilities Department, Administration Building (1st Floor Reception Desk) located at 8100 Forest Hill Boulevard, West Palm Beach, Florida. The Bid Documents received by this time will be opened the same day, **November 22, 2022,** in accordance with the Invitation to Bid and Instructions to Bidders, at or after **2:00 PM** in the Administration Building, Conference Room (Room 158).

The bids will be for furnishing all materials, labor, supervision, equipment, supplies, fees, expertise, and services necessary to for the installation of raw water mains, potable water mains, fire hydrants, water service lines, wastewater force mains, reclaimed water mains, and all associated appurtenances. The contract is for a one-year (12-months) term with an optional two (2) 12-months contract renewal. The contract will be awarded to up to two (2) of the lowest responsive and responsible bidder(s).

All conditions and requirements for bid submission, consideration, and award are contained in the Bid Documents. The Bid Documents will be available to download free of charge beginning October 18, 2022. Please visit Palm Beach County's Vendor Self Service page to access the Bid Documents: https://pbcvssp.co.palm-beach.fl.us/webapp/vssp/AltSelfService. In order to do business with Palm Beach County, vendors are required to create a Vendor Registration Account OR activate an existing Vendor Registration Account through the Purchasing Department's Vendor Self Service (VSS) System, which can be accessed at https://pbcvssp.co.palm-beach.fl.us/webapp/vssp/AltSelfService. IF BIDDER INTENDS TO USE SUBCONTRACTORS, BIDDER MUST ALSO ENSURE THAT ALL SUBCONTRACTORS ARE REGISTERED AS VENDORS IN VSS. ALL SUBCONTRACTOR AGREEMENTS MUST INCLUDE A CONTRACTUAL PROVISION REQUIRING THAT THE SUBCONTRACTOR REGISTER IN VSS. COUNTY WILL NOT FINALIZE A CONTRACT AWARD UNTIL THE COUNTY HAS VERIFIED THAT THE BIDDER AND ALL OF ITS SUBCONTRACTORS ARE REGISTERED IN VSS. This will allow the County to notify you of upcoming solicitations. In addition, there may be certain documents necessary for submittal of a bid which are exempt from public disclosure. Bidders shall download and submit a Plan Holder Registration form (Bid Document attachment) to access these exempt documents. Registered Plan Holders will automatically receive notification of addenda and project updates.

The Bid Documents also may be obtained from Palm Beach County Water Utilities Department, 8100 Forest Hill Boulevard, West Palm Beach, FL 33413. A non-refundable service charge of $100.00 per set of Bid Documents is required. Checks are to be made payable to "Palm Beach County Water Utilities Department." Partial sets will not be available. Bidders requiring Bid Documents mailed must provide an express mail account number to the PBCWUD Engineering Division. The bill will be charged to the recipient's account.

Bid Documents may also be examined at the following plan houses:
ConstructConnect (800) 364-2059
Dodge Data & Analytics, LLC (800) 393-6343
Construction Journal, Stuart (800) 785-5165

When Bid Documents are obtained through a plan house, Bidders must notify the Palm Beach County Water Utilities Department's Project Manager via e-mail in order to be registered to receive project addendums and communications.

Questions may be addressed in writing to Ralph Estime, PMP at Destime@pbcwater.com or Palm Beach County Water Utilities Department, 8100 Forest Hill Blvd., West Palm Beach, FL 33413.

Pursuant to the Palm Beach County Code Section 2-80.20 – 2-80.40, the Equal Business Opportunity (EBO) Ordinance, the County will provide contracting and subcontracting opportunities for S/M/WBEs. The following Affirmative Procurement Initiatives (APIs) apply to this project:

The SBE subcontracting goal for this project is a mandatory minimum of 20% participation, See EBO Ordinance Section 2-80.27(1)(c), of

which 5% shall be among certified African American and/or Hispanic American owned firms, See EBO Ordinance Section 2-80.27(2)(b).

Explanation of goal setting committee's reasons for applying this API: The goal setting committee's reason for applying this particular API to this project was that the most recent data on the utilization of the foregoing MBEs indicates that contracts of this type have exhibited significant disparities in the utilization of these MBEs.

When a mandatory SBE or M/WBE goal applies to this solicitation, then any bid that fails to comply with the required goal shall be deemed non-responsive after the period allowed for waiver requests has lapsed. If a bidder is unable to comply with a required goal, such bidder shall submit a request for a waiver or partial waiver at least 7 days prior to the bid due date. If a bidder requests a waiver from a goal from the Office of EBO at least 7 days prior to the bid due date, then the bid due date will be extended pending the outcome of a waiver request. Additionally, if the waiver is granted the solicitation will be amended accordingly and the due date extended again. Fillable pdfs of all EBO forms can be found on the OEBO website at http://discover.pbcgov.org/oebo/Pages/Compliance-Programs.aspx. Also, see the EBO Ordinance and County-wide PPM CW-O-043 for further information on the County's EBO Program.

At the time of bid submission each bidder, and all identified subcontractors, must possess all professional licenses or certifications required by the State of Florida and/or Palm Beach County, as applicable, for the purpose of performing the specified work.

Bid proposals must be submitted on the forms provided by Palm Beach County and accompanied by a bid bond security in favor of Palm Beach County in the amount of not less than five percent (5%) of the bid price. A public construction bond (100%) will be required of the successful bidder within fourteen calendar days of notification from County.

Bidders are invited to attend a non-mandatory pre-bid conference to be held on November 2, 2022 at 10:00 AM at the address listed below. A non-mandatory site visit will be scheduled at the conclusion of this conference. Attendance at this pre-bid conference is recommended and encouraged.

Palm Beach County Water Utilities Department
Administration Building
8100 Forest Hill Blvd., Room 158
West Palm Beach, FL 33413

In accordance with F.S. 287.133(2)(a), persons and affiliates who have been placed on the convicted vendor list may not submit bids, contract with, or perform work (as a contractor, supplier, subcontractor or consultant) with any public entity (i.e. Palm Beach County) in excess of Ten Thousand dollars (or such other amount as may be hereafter established by the Florida Division of Purchasing in accordance with F.S. 287.017) for a period of 36 months from the date of being placed on the convicted vendor list.

The Board of County Commissioners reserves the right to waive any bid irregularities, informalities, or technical deficiencies and to reject any and all bids.

This Notice given this 11th day of October 2022. PALM BEACH COUNTY WATER UTILITIES DEPARTMENT.

BY: Deputy Director, Palm Beach County Water Utilities Dept.
PRINTED NAME: Krystin Berntsen PE, PMP
ATTEST:
JOSEPH ABRUZZO BOARD OF COUNTY COMMISSIONERS
CLERK OF THE CIRCUIT COURT & PALM BEACH COUNTY, FLORIDA
COMPTROLLER BY: ROBERT S WEINROTH, MAYOR
10/16/22 7915039

ADVERTISEMENT FOR BID

Project Name: 2022 Pipeline Continuing Construction Contract

PBCWUD Project No: 22-032

Sealed Bids containing all the required Bid Documents will be received by the Board of County Commissioners, Palm Beach County, Florida, until **2:00 PM** on **November 22, 2022,** at the Palm Beach County Water Utilities Department, Administration Building (1st Floor Reception Desk) located at 8100 Forest Hill Boulevard, West Palm Beach, Florida. The Bid Documents received by this time will be opened the same day, **November 22, 2022,** in accordance with the Invitation to Bid and Instructions to Bidders, at or after **2:00 PM** in the Administration Building, Conference Room (Room 158).

The bids will be for furnishing all materials, labor, supervision, equipment, supplies, fees, expertise, and services necessary to for the installation of raw water mains, potable water mains, fire hydrants, water service lines, wastewater force mains, reclaimed water mains, and all associated appurtenances. The contract is for a one-year (12-months) term with an optional two (2) 12-months contract renewal. The contract will be awarded to up to two (2) of the lowest responsive and responsible bidder(s).

All conditions and requirements for bid submission, consideration, and award are contained in the Bid Documents. The Bid Documents will be available to download free of charge beginning October 18, 2022. Please visit Palm Beach County's Vendor Self Service page to access the Bid Documents: https://pbcvssp.co.palm-beach.fl.us/webapp/vssp/AltSelfService. In order to do business with Palm Beach County, vendors are required to create a Vendor Registration Account OR activate an existing Vendor Registration Account through the Purchasing Department's Vendor Self Service (VSS) System, which can be accessed at https://pbcvssp.co.palm-beach.fl.us/webapp/vssp/AltSelfService. IF BIDDER INTENDS TO USE SUBCONTRACTORS, BIDDER MUST ALSO ENSURE THAT ALL SUBCONTRACTORS ARE REGISTERED AS VENDORS IN VSS. ALL SUBCONTRACTOR AGREEMENTS MUST INCLUDE A CONTRACTUAL PROVISION REQUIRING THAT THE SUBCONTRACTOR REGISTER IN VSS. COUNTY WILL NOT FINALIZE A CONTRACT AWARD UNTIL THE COUNTY HAS VERIFIED THAT THE BIDDER AND ALL OF ITS SUBCONTRACTORS ARE REGISTERED IN VSS. This will allow the County to notify you of upcoming solicitations. In addition, there may be certain documents necessary for submittal of a bid which are exempt from public disclosure. Bidders shall download and submit a Plan Holder Registration form (Bid Document attachment) to access these exempt documents. Registered Plan Holders will automatically receive notification of addenda and project updates.

The Bid Documents also may be obtained from **Palm Beach County Water Utilities Department,** 8100 Forest Hill Boulevard, West Palm Beach, FL 33413. A non-refundable service charge of **$100.00** per set of Bid Documents is required. Checks are to be made payable to "Palm Beach County Water Utilities Department." Partial sets will not be available. Bidders requiring Bid Documents mailed must provide an express mail account number to the PBCWUD Engineering Division. The bill will be charged to the recipient's account.

Bid Documents may also be examined at the following plan houses:

ConstructConnect (800) 364-2059
Dodge Data & Analytics, LLC (800) 393-6343
Construction Journal, Stuart (800) 785-5165

When Bid Documents are obtained through a plan house, Bidders must notify the Palm Beach County Water Utilities Department's Project Manager via e-mail in order to be registered to receive project addendums and communications.

Questions may be addressed in writing to **Ralph Estime, PMP** at **Destime@pbcwater.com** or **Palm Beach County Water Utilities Department, 8100 Forest Hill Blvd., West Palm Beach, FL 33413.**

Pursuant to the Palm Beach County Code Section 2-80.20 – 2-80.40, the Equal Business Opportunity (EBO) Ordinance, the County will provide contracting and subcontracting opportunities for S/M/WBEs. The following Affirmative Procurement Initiatives (APIs) apply to this project:

The SBE subcontracting goal for this project is a mandatory minimum of 20% participation, See EBO Ordinance Section 2-80.27(1)(c), of which 5% shall be among certified African American and/or Hispanic American owned firms, See EBO Ordinance Section 2-80.27(2)(b).

Explanation of goal setting committee's reasons for applying this API: The goal setting committee's reason for applying this particular API to this project was that the most recent data on the utilization of the foregoing MBEs indicates that contracts of this type have exhibited significant disparities in the utilization of these MBEs.

When a mandatory SBE or M/WBE goal applies to this solicitation, then any bid that fails to comply with the required goal shall be deemed non-responsive after the period allowed for waiver requests has lapsed. If a bidder is unable to comply with a required goal, such bidder shall submit a request for a waiver or partial waiver at least 7 days prior to the bid due date. If a bidder requests a waiver from a goal from the Office of EBO at least 7 days prior to the bid due date, then the bid due date will be extended pending the outcome of a waiver request. Additionally, if the waiver is granted the solicitation will be amended accordingly and the due date extended again. Fillable pdfs of all EBO forms can be found on the OEBO website at http://discover.pbcgov.org/oebo/Pages/Compliance-Programs.aspx. Also, see the EBO Ordinance and Countywide PPM CW-O-043 for further information on the County's EBO Program.

At the time of bid submission each bidder, and all identified subcontractors, must possess all professional licenses or certifications required by the State of Florida and/or Palm Beach County, as applicable, for the purpose of performing the specified work.

Bid proposals must be submitted on the forms provided by Palm Beach County and accompanied by a bid bond security in favor of Palm Beach County in the amount of not less than five percent (5%) of the bid price. A public construction bond (100%) will be required of the successful bidder within fourteen calendar days of notification from County.

Bidders are invited to attend a non-mandatory pre-bid conference to be held on **November 2, 2022** at **10:00 AM** at the address listed below. A non-mandatory site visit will be scheduled at the conclusion of this conference. Attendance at this pre-bid conference is recommended and encouraged.

Palm Beach County Water Utilities Department
Administration Building
8100 Forest Hill Blvd., Room 158
West Palm Beach, FL 33413

In accordance with F.S. 287.133(2)(a), persons and affiliates who have been placed on the convicted vendor list may not submit bids, contract with, or perform work (as a contractor, supplier, subcontractor or consultant) with any public entity (i.e. Palm Beach County) in excess of Ten Thousand dollars (or such other amount as may be hereafter established by the Florida Division of Purchasing in accordance with F.S. 287.017) for a period of 36 months from the date of being placed on the convicted vendor list.

The Board of County Commissioners reserves the right to waive any bid irregularities, informalities, or technical deficiencies and to reject any and all bids.

This Notice given this 11th day of October 2022. PALM BEACH COUNTY WATER UTILITIES DEPARTMENT.

BY: _____
Deputy Director, Palm Beach County Water Utilities Dept.

PRINTED NAME: Krystin Berntsen PE, PMP

ATTEST:

JOSEPH ABRUZZO
CLERK OF THE CIRCUIT COURT &
COMPTROLLER

BOARD OF COUNTY COMMISSIONERS
PALM BEACH COUNTY, FLORIDA
BY: ROBERT S. WEINROTH, MAYOR

PUBLISH: Palm Beach Post
October 16, 2022

END OF SECTION

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-3252

PALM BEACH COUNTY

BID FORM AND ATTACHMENTS

PBCWUD Project No.: 22-032

Project Name: 2022 Pipeline Continuing Construction Contract

SECTION DESCRIPTION

1.0 BID FORM

2.0 BID BOND - Attachment No. 1

3.0 OFFICE OF EQUAL BUSINESS OPPORTUNITY - SCHEDULE 1 and SCHEDULE 2 - Attachment No. 2

4.0 CERTIFICATION OF BUSINESS LOCATION – Attachment No. 3
CERTIFICATION OF BUSINESS LOCATION – Glades Subcontractor – Attachment No. 3a

5.0 LIST OF MAJOR SUBCONTRACTORS - Attachment No. 4

6.0 TRENCH SAFETY - Attachment No. 5

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
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BID FORM

PBCWUD PROJECT NO.: **22-032**

DATE: 11/22/2022

To: Palm Beach County Board of County Commissioners
Water Utilities Department
8100 Forest Hill Boulevard
West Palm Beach, Florida 33413

From (Name of Bidding Firm): Johnson-Davis Incorporated
Address: 604 Hillbrath Drive
Lantana, Fl 33462

1.1 Having carefully examined the Bid Documents and Drawings for the Project **entitled 2022 Pipeline Continuing Construction Contract** , PBCWUD Project No.: **22-032** as well as the premises and conditions affecting the work, and confirming that the site was visited, as required, by

_____ on 11-22-2022
(Printed Name) (Wm. Clark C. Cryer, Estimating Manager) (Date)

the undersigned hereby declares that no person or persons, firm or corporation, other than the undersigned, are interested in this proposal as principals, and that this proposal is made without collusion with any person, firm, or corporation, and we have carefully and to our full satisfaction examined the Bid Documents, and that we have made a full examination of the location of the proposed work and the source of supply of materials, and we hereby agree to furnish and pay for all materials, labor, supervision, equipment, supplies, fees, expertise, and services necessary to fully complete all work in accordance with all requirements of the Bid Documents and in accordance with all applicable codes and governing regulations within the time limit specified in this proposal for the following Base Bid.

Price: Twenty eight million four hundred forty thousand and zero cents
(written out)

($ 28,440,000.00) which sum is hereinafter referred to as the
(numeric) "Base Bid".

1.2 The undersigned acknowledges that it has included with its Bid the required Bid Security for not less than five percent (5%) of the total amount of its Base Bid.

1.3 Bidder shall be bound by the terms of its Bid Proposal for a period of one hundred fifty (150) calendar days from the date of the bid opening and may not withdraw its Bid within that time period. If the County issues a Notice of Award Recommendation within the above 150-day period, then the Bidder will be bound by the Bid Proposal as submitted. If the County fails to issue a Notice of Award Recommendation within the above identified 150-day period, the Bidder will not be required to honor its Bid Proposal unless otherwise agreed to by both parties.

Absent the filing of a bid protest, the County anticipates, but does not guarantee, that: (a) Contract approval by the County will occur within ninety (90) calendar days after the Notice of Award

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604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-3252

Recommendation; and (b) written notice to proceed will occur within sixty (60) calendar days after Contract approval by the County.

1.4 **The SBE subcontracting goal for this project is a mandatory minimum of 20% participation, See EBO Ordinance Section 2-80.27(1)(c), of which 5% shall be among certified African American and/or Hispanic American owned firms, See EBO Ordinance Section 2-80.27(2)(b).**

Explanation of goal setting committee's reasons for applying this API: The goal setting committee's reason for applying this particular API to this project was that the most recent data on the utilization of the foregoing MBEs indicates that contracts of this type have exhibited significant disparities in the utilization of these MBEs.

When a mandatory SBE or M/WBE goal applies to this solicitation, then any bid that fails to comply with the required goal shall be deemed non-responsive after the period allowed for waiver requests has lapsed. If a bidder is unable to comply with a required goal, such bidder shall submit a request for a waiver or partial waiver at least 7 days prior to the bid due date. If a bidder requests a waiver from a goal from the Office of EBO at least 7 days prior to the bid due date, then the bid due date will be extended pending the outcome of a waiver request. Additionally, if the waiver is granted the solicitation will be amended accordingly and the due date extended again. Fillable pdfs of all EBO forms can be found on the OEBO website at http://discover.pbcgov.org/oebo/Pages/Compliance-Programs.aspx. Also, see the EBO Ordinance and Countywide PPM CW-O-043 for further information on the County's EBO Program.

1.5 It is agreed that the undersigned has received all addenda complete as issued by the County and that related costs are included in the bid submitted. The undersigned acknowledges receipt of said addenda as follows:

Addendum # 1 dated 11/15/2022 Addendum #_____ dated_____
Addendum #_____ dated_____ Addendum #_____ dated_____

1.6 Time is of the essence. The undersigned Bidder agrees that, if awarded the Contract hereunder, it shall commence the work to be performed under the Contract on the date set by the County in its written notice to proceed, continuing the work with diligence and shall Substantially Complete all work under this contract in not more than 335 calendar days. Final completion shall be within 30 calendar days of Substantial Completion. The undersigned agrees that, if awarded the Contract, it will complete said separable portions of work in accordance with such date. Substantial Completion is defined in the General Conditions.

1.6.1 Should the Contractor (or in the event of a default, its Surety) fail to achieve Substantial Completion by the contractually established date, the County will suffer damages, the amount of which is difficult if not impossible to ascertain, and the County shall be entitled to Liquidated Damages as specified for each calendar day beyond the Contractual end date, until certification of Substantial Completion and acceptance has been given by the County. The Liquidated Damages rate is **$500.00** per calendar day through the date of certification of Substantial Completion.

Should the Contractor (or in the event of a default, his Surety) fail to achieve Final Completion within 30 calendar days from the date of Substantial Completion, the County will suffer damages, the amount of which is difficult if not impossible to ascertain, and the County shall be entitled to Liquidated Damages as specified for each calendar day greater than thirty beyond the date certified for Substantial Completion. The Liquidated Damages rate is **$250.00** per calendar day.

Liquidated Damages due the County may be deducted from payments due the Contractor, or may be collected directly from the Contractor or his surety or sureties. The liability of the Contractor and its

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604 Hillbrath Drive
Lantana, FL 33462
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Fax: (561) 585-3252

ADDENDUM NO. 1

PALM BEACH COUNTY WATER UTILITIES DEPARTMENT

2022 PIPELINE CONTINUING CONSTRUCTION CONTRACT

PROJECT NO. 22-032

TO ALL BIDDERS AND OTHERS CONCERNED:

Contractors submitting proposals for the above referenced project shall take note of the clarification to the Contract and Specifications that shall become a part of the contract documents.

BID DOCUMENTS (November 22, 2022) by 2:00 pm

Note: Bidder must acknowledge Receipt of Addendum on Bid Form - Page 3 of the Contract Documents.

Dated this 15th day of November 2022

Palm Beach County
Water Utilities Department

Ralph Estime, PMP

PLEASE ACKNOWLEDGE RECEIPT OF ADDENDUM NO. 1 (PAGE 1- PAGE 2) BY SIGNING BELOW – EMAIL to DEstime@pbcwater.com IMMEDIATELY.

James P. Ansler
Signature

ESTIMATOR, JIM AMSLER
Title (title, print name)

JOHNSON DAVIS INC.
Company

Bid Documents will be received by the Board of County Commissioners, Palm Beach County, Florida until 2:00 P.M. on Tuesday, November 22, 2022 at 8100 Forest Hill Blvd, West Palm Beach, FL 33413 Administration Building.

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-3252

Surety or Sureties for delay damages shall be joint and several. These provisions for liquidated damages shall not prevent the County, in case of the Contractor's default, from terminating the right of the Contractor to proceed as provided in General Conditions.

1.7 The Costs Savings Incentive provisions of the General Conditions **are not** in effect for this Contract.

1.8 If the undersigned is notified of the acceptance of this bid, the Bidder agrees to execute within fourteen (14) calendar days, a Contract for the above work, complete with all required insurance certificates and bond forms, and any resolutions or other documentation the department may reasonably require. The undersigned further agrees to furnish a sufficient and satisfactory bond on the form herein provided, in the sum of not less than 100% of the contract price of the work as indicated by the contract prices shown herein.

1.9 The undersigned does hereby declare that the Bid covers all expenses of every kind incidental to the completion of said Work and the Contract therefore, including all claims that may arise through damages or other causes whatsoever.

1.10 The undersigned does hereby declare that it shall make no claim on account of any variation from any estimate in the quantities of Work to be done, nor on account of any misunderstanding or misconception of the nature of the Work to be done or the grounds, subsurface conditions, or place where the Work is to be done.

1.11 ENCLOSURES:

ATTACHMENT NO. 1	BID BOND
ATTACHMENT NO. 2	OFFICE OF EQUAL BUSINESS OPPORTUNITY SCHEDULE 1 and SCHEDULE 2
ATTACHMENT NO. 3	CERTIFICATION OF BUSINESS LOCATION
ATTACHMENT NO. 3a	CERTIFICATION OF BUSINESS LOCATION GLADES SUBCONTRACTOR
ATTACHMENT NO. 4	LIST OF MAJOR SUBCONTRACTORS
ATTACHMENT NO. 5	TRENCH SAFETY

1.11. Commercial Non-Discrimination Certification. The undersigned Bidder hereby certifies and agrees that the following information is correct: In preparing its response on this Solicitation, the Bidder has considered all proposals submitted from qualified, potential Subcontractors and suppliers, and has not engaged in "discrimination" as defined in the County's Commercial Nondiscrimination Policy as set forth in Resolution 2017-1770 as amended, to wit: discrimination in the solicitation, selection or commercial treatment of any Subcontractor, vendor, supplier or commercial customer on the basis of race, color, national origin, religion, ancestry, sex, age, marital status, familial status, sexual orientation, gender identity or expression, disability, or genetic information, or on the basis of any otherwise unlawful use of characteristics regarding the vendor's, supplier's or commercial customer's employees or owners; provided that nothing in this policy shall be construed to prohibit or limit otherwise lawful efforts to remedy the effects of discrimination that have occurred or are occurring in the County's relevant marketplace of Palm Beach County. Without limiting the foregoing, "discrimination" also includes retaliating against any person or other entity for reporting any incident of "discrimination." Without limiting any other provision of the solicitation, it is understood and agreed that, if this certification is false, such false certification will constitute grounds for the County to reject the bid submitted by the Bidder for this Solicitation, and to terminate any contract awarded based on the response. As part of its bid, the Bidder shall provide to the County a list of all instances within the immediate past four (4) years where there has been a final adjudicated determination in a legal or administrative proceeding in the State of Florida that the Bidder discriminated against its Subcontractors, vendors, suppliers or commercial customers, and a description of the status or resolution of that complaint, including

any remedial action taken. As a condition of submitting a bid to the County, the Bidder agrees to comply with the County's Commercial Nondiscrimination Policy as described in Resolution 2017-1770 as amended.

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-3252

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JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-3252

Respectfully Submitted,

Johnson-Davis, Incorporated
(Name of Bidding Firm)
604 Hillbrath Drive
Lantana, FL 33462
(Address)

(561) 588-1170
(Phone)

ccryer@johnsondavis.com
(Email Address)

By: _____
(Authorized Signature)

Estimating Manager
(Title)

Wm. Clark C. Cryer
(Printed Name)

STATE OF FLORIDA
COUNTY OF Palm Beach

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 22ND day of NOVEMBER, 2022, by WILLIAM CRYER, who is ☑ personally known to me or ☐ has produced _____ as identification.

JAMES PATRICK AMSLER
Notary Public - State of Florida
Commission # HH 254617
My Comm. Expires Aug 11, 2026
Bonded through National Notary Assn.

_____
(Signature of Notary Public – State of Florida)

_____
(Print, Type, or Stamp Commissioned Name of Notary Public)

Above Bidder is:

(X) Corporation ( ) Partnership/Joint Venture ( ) Sole Proprietorship
( ) Other (Please Specify_____)

CONTRACTOR DATA:

Bidder's License or Certificate Number (as applicable): CUC043087 / CUC1225299

Contractor's Federal Tax No: 59-1753888

JOHNSON-DAVIS, INC
604 Hillbrath Drive
Lantana, FL 33462
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Fax (561)585-5252

SCHEDULE OF BID PRICES

PBCWUD Project No.: 22-032
Project Name: 2022 Pipeline Continuing Construction Contract

BID ITEM NO.	BID ITEM (Furnish and Install with Appurtenances)	UNIT	QUANTITY	UNIT PRICES	TOTAL
1	4" PVC Push-On Joint Wastewater Force Main	LF	300	$ 50.00	$ 15,000.00
2	4" DIP Push-On Joint Water Main/Reclaimed Water Main	LF	200	$ 90.00	$ 18,000.00
3	4" DIP Push-On Joint Wastewater Force Main	LF	100	$ 120.00	$ 12,000.00
4	6" PVC Push-On Joint Water Main/Reclaimed Water Main/Wastewater Force Main	LF	8,000	$ 55.00	$ 440,000.00
5	6" DIP Push-On Joint Water Main/Reclaimed Water Main	LF	5,000	$ 80.00	$ 400,000.00
6	6" DIP Push-On Joint Wastewater Force Main	LF	5,000	$ 105.00	$ 525,000.00
7	8" PVC Push-On Joint Water Main/Reclaimed Water Main/Wastewater Force Main	LF	15,000	$ 62.00	$ 930,000.00
8	8" DIP Push-On Joint Water Main/Reclaimed Water Main	LF	2,000	$ 90.00	$ 180,000.00
9	8" DIP Push-On Joint Wastewater Force Main	LF	1,500	$ 120.00	$ 180,000.00
10	10" PVC Push-On Joint Water Main//Reclaimed Water Main/Wastewater Force Main	LF	500	$ 90.00	$ 45,000.00
11	10" DIP Push-On Joint Water Main/Reclaimed Water Main	LF	100	$ 120.00	$ 12,000.00
12	10" DIP Push-On Joint Wastewater Force Main	LF	100	$ 150.00	$ 15,000.00
13	12" PVC Push-On Joint Water Main/Wastewater Force Main/Reclaimed Water Main	LF	7,000	$ 104.00	$ 728,000.00
14	12" DIP Push-On Joint Water Main/Reclaimed Water Main	LF	7,000	$ 125.00	$ 875,000.00
15	12" DIP Push-On Joint Wastewater Force Main	LF	4,000	$ 150.00	$ 600,000.00
16	16" PVC Push-On Joint Water Main/Wastewater Force Main/Reclaimed Water Main	LF	1,000	$ 180.00	$ 180,000.00
17	16" DIP Push-On Joint Water Main/Reclaimed Water Main	LF	200	$ 200.00	$ 40,000.00
18	16" DIP Push-On Joint Wastewater Force Main	LF	200	$ 225.00	$ 45,000.00
19	24" PVC Push-On Joint Water Main/Wastewater Force Main/Reclaimed Water Main	LF	500	$ 325.00	$ 162,500.00
20	24" DIP Push-On Joint Water Main/Reclaimed Water Main	LF	500	$ 325.00	$ 162,500.00
21	24" DIP Restrained Joint Water Main/Reclaimed Water Main	LF	500	$ 340.00	$ 170,000.00
22	24" DIP Push-On Wastewater Force Main	LF	500	$ 350.00	$ 175,000.00
23	30" PVC Push-On Joint Water Main/Wastewater Force Main/Reclaimed Water Main	LF	500	$ 500.00	$ 250,000.00
24	30" DIP Push-On Wastewater Force Main	LF	100	$ 550.00	$ 55,000.00

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604 Hillbrath Drive
Lantana, FL 33462
Phone (561)588-1170
Fax (561)585-5252

BID ITEM NO.	BID ITEM (Furnish and Install with Appurtenances)	UNIT	QUANTITY	UNIT PRICES	TOTAL
25	30" DIP Restrained Joint Water Main/Reclaimed Water Main	LF	100	$ 575.00	$ 57,500.00
26	36" DIP Restrained Joint Water Main/Reclaimed Water Main	LF	100	$ 800.00	$ 80,000.00
27	36" DIP Push-On Joint Wastewater Force Main	LF	100	$ 750.00	$ 75,000.00
28	42" DIP Restrained Joint Water Main/Reclaimed Water Main	LF	20	$ 900.00	$ 18,000.00
29	42" DIP Push-On Joint Wastewater Force Main	LF	20	$ 950.00	$ 19,000.00
30	48" DIP Restrained Joint Water Main/Reclaimed Water Main	LF	20	$ 1,200.00	$ 24,000.00
31	48" DIP Push-On Joint Wastewater Force Main	LF	20	$ 1,250.00	$ 25,000.00
32	54" DIP Restrained Joint Water Main/Reclaimed Water Main	LF	20	$ 1,500.00	$ 30,000.00
33	Ductile Iron Fittings for Water Main/Reclaimed Water Main	Tons	30	$ 6,500.00	$ 195,000.00
34	Ductile Iron Fittings for Wastewater Force Main	Tons	10	$ 18,000.00	$ 180,000.00
35	4" HDPE Directional Drill Water Main/Reclaimed Water Main/Wastewater Force Main	LF	300	$ 50.00	$ 15,000.00
36	6" HDPE Directional Drill Water Main/Reclaimed Water Main/Wastewater Force Main	LF	150	$ 65.00	$ 9,750.00
37	8" HDPE Directional Drill Water Main/Reclaimed Water Main/Wastewater Force Main	LF	100	$ 100.00	$ 10,000.00
38	10" HDPE Directional Drill Water Main/Reclaimed Water Main/Wastewater Force Main	LF	100	$ 120.00	$ 12,000.00
39	12" HDPE Directional Drill Water Main/Reclaimed Water Main/Wastewater Force Main	LF	100	$ 150.00	$ 15,000.00
40	16" HDPE Directional Drill Water Main/Reclaimed Water Main/Wastewater Force Main	LF	100	$ 200.00	$ 20,000.00
41	20" HDPE Directional Drill Water Main/Reclaimed Water Main/Wastewater Force Main	LF	100	$ 250.00	$ 25,000.00
42	24" HDPE Directional Drill Casing with 18" HDPE Carrier Pipe for Water Main/Reclaimed Water Main/Wastewater Force Main	LF	100	$ 500.00	$ 50,000.00
43	30" HDPE Directional Drill Casing with 24" HDPE Carrier Pipe for Water Main/Reclaimed Water Main/Wastewater Force Main	LF	200	$ 650.00	$ 130,000.00
44	4" DIP/PVC x HDPE Adapter	EA	5	$ 1,000.00	$ 5,000.00
45	6" DIP/PVC x HDPE Adapter	EA	10	$ 1,200.00	$ 12,000.00
46	8" DIP/PVC x HDPE Adapter	EA	10	$ 2,000.00	$ 20,000.00
47	10" DIP/PVC x HDPE Adapter	EA	2	$ 2,200.00	$ 4,400.00
48	12" DIP/PVC x HDPE Adapter	EA	10	$ 2,400.00	$ 24,000.00
49	16" DIP/PVC x HDPE Adapter	EA	10	$ 2,600.00	$ 26,000.00
50	20" DIP/PVC x HDPE Adapter	EA	10	$ 3,000.00	$ 30,000.00
51	24" DIP/PVC x HDPE Adapter	EA	5	$ 3,400.00	$ 17,000.00

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52	30" DIP/PVC x HDPE Adapter	EA	5	$ 5,500.00	$ 27,500.00
53	4" Mechanical Joint Restraint for DIP	EA	30	$ 250.00	$ 7,500.00
54	6" Mechanical Joint Restraint for DIP	EA	30	$ 275.00	$ 8,250.00
55	8" Mechanical Joint Restraint for DIP	EA	30	$ 350.00	$ 10,500.00
56	10" Mechanical Joint Restraint for DIP	EA	10	$ 525.00	$ 5,250.00
57	12" Mechanical Joint Restraint for DIP	EA	40	$ 575.00	$ 23,000.00
58	16" Mechanical Joint Restraint for DIP	EA	15	$ 1,200.00	$ 18,000.00
59	24" Mechanical Joint Restraint for DIP	EA	10	$ 1,750.00	$ 17,500.00
60	30" Mechanical Joint Restraint for DIP	EA	1	$ 2,800.00	$ 2,800.00
61	36" Mechanical Joint Restraint for DIP	EA	1	$ 3,500.00	$ 3,500.00
62	42" Mechanical Joint Restraint for DIP	EA	1	$ 5,500.00	$ 5,500.00
63	48" Mechanical Joint Restraint for DIP	EA	1	$ 6,800.00	$ 6,800.00
64	54" Mechanical Joint Restraint for DIP	EA	1	$ 8,500.00	$ 8,500.00
65	4" Mechanical Joint Restraint for PVC	EA	25	$ 275.00	$ 6,875.00
66	6" Mechanical Joint Restraint for PVC	EA	50	$ 300.00	$ 15,000.00
67	8" Mechanical Joint Restraint for PVC	EA	55	$ 375.00	$ 20,625.00
68	10" Mechanical Joint Restraint for PVC	EA	40	$ 550.00	$ 22,000.00
69	12" Mechanical Joint Restraint for PVC	EA	40	$ 600.00	$ 24,000.00
70	16" Mechanical Joint Restraint for PVC	EA	30	$ 1,250.00	$ 37,500.00
71	24" Mechanical Joint Restraint for PVC	EA	10	$ 1,800.00	$ 18,000.00
72	4" Joint Restraint Gasket DIP (Field Lock or Fast Grip)	EA	30	$ 75.00	$ 2,250.00
73	6" Joint Restraint Gasket DIP (Field Lock or Fast Grip)	EA	50	$ 120.00	$ 6,000.00
74	8" Joint Restraint Gasket DIP (Field Lock or Fast Grip)	EA	50	$ 150.00	$ 7,500.00
75	10" Joint Restraint Gasket DIP (Field Lock or Fast Grip)	EA	20	$ 175.00	$ 3,500.00
76	12" Joint Restraint Gasket DIP (Field Lock or Fast Grip)	EA	50	$ 200.00	$ 10,000.00
77	24" Joint Restraint Gasket DIP (Field Lock or Fast Grip)	EA	25	$ 850.00	$ 21,250.00
78	4" PVC Pressure Pipe Restraint Harness	EA	40	$ 150.00	$ 6,000.00
79	6" PVC Pressure Pipe Restraint Harness	EA	45	$ 200.00	$ 9,000.00
80	8" PVC Pressure Pipe Restraint Harness	EA	45	$ 250.00	$ 11,250.00
81	10" PVC Pressure Pipe Restraint Harness	EA	35	$ 450.00	$ 15,750.00
82	12" PVC Pressure Pipe Restraint Harness	EA	35	$ 500.00	$ 17,500.00
83	16" PVC Pressure Pipe Restraint Harness	EA	35	$ 1,100.00	$ 38,500.00
84	24" PVC Pressure Pipe Restraint Harness	EA	35	$ 1,500.00	$ 52,500.00
85	30" PVC Pressure Pipe Restraint Harness	EA	5	$ 3,000.00	$ 15,000.00
86	Restrain existing 4" PVC Pressure Pipe	EA	30	$ 1,750.00	$ 52,500.00
87	Restrain existing 6" PVC Pressure Pipe	EA	30	$ 2,000.00	$ 60,000.00
88	Restrain existing 8" PVC Pressure Pipe	EA	30	$ 2,400.00	$ 72,000.00
89	Restrain existing 10" PVC Pressure Pipe	EA	30	$ 3,200.00	$ 96,000.00
90	Restrain existing 12" PVC Pressure Pipe	EA	30	$ 3,800.00	$ 114,000.00
91	Restrain existing 16" PVC Pressure Pipe	EA	30	$ 4,500.00	$ 135,000.00
92	Restrain existing 20" PVC Pressure Pipe	EA	10	$ 4,800.00	$ 48,000.00
93	Restrain existing 24" PVC Pressure Pipe	EA	10	$ 6,000.00	$ 60,000.00

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94	Restrain existing 30" PVC Pressure Pipe	EA	10	$ 7,800.00	$ 78,000.00
95	Restrain existing 36" PVC Pressure Pipe	EA	5	$ 10,000.00	$ 50,000.00
96	Restrain existing 8" DIP Pressure Pipe	EA	20	$ 2,400.00	$ 48,000.00
97	Restrain existing 10" DIP Pressure Pipe	EA	10	$ 3,200.00	$ 32,000.00
98	Restrain existing 12" DIP Pressure Pipe	EA	30	$ 3,800.00	$ 114,000.00
99	Restrain existing 16" DIP Pressure Pipe	EA	20	$ 4,500.00	$ 90,000.00
100	Restrain existing 20" DIP Pressure Pipe	EA	20	$ 4,800.00	$ 96,000.00
101	Restrain existing 24" DIP Pressure Pipe	EA	30	$ 6,000.00	$ 180,000.00
102	4" Gate Valve & Valve Box	EA	25	$ 1,800.00	$ 45,000.00
103	6" Gate Valve & Valve Box	EA	25	$ 2,000.00	$ 50,000.00
104	8" Gate Valve & Valve Box	EA	15	$ 2,800.00	$ 42,000.00
105	10" Gate Valve & Valve Box	EA	10	$ 3,600.00	$ 36,000.00
106	12" Gate Valve & Valve Box	EA	10	$ 4,500.00	$ 45,000.00
107	16" Gate Valve & Valve Box	EA	5	$ 9,500.00	$ 47,500.00
108	20" Gate Valve & Valve Box	EA	5	$ 18,500.00	$ 92,500.00
109	24" Gate Valve & Valve Box	EA	1	$ 26,000.00	$ 26,000.00
110	30" Gate Valve & Valve Box	EA	1	$ 52,000.00	$ 52,000.00
111	36" Gate Valve & Valve Box	EA	1	$ 60,000.00	$ 60,000.00
112	42" Gate Valve & Valve Box	EA	1	$ 70,000.00	$ 70,000.00
113	48" Gate Valve & Valve Box	EA	1	$ 80,000.00	$ 80,000.00
114	54" Gate Valve & Valve Box	EA	1	$ 90,000.00	$ 90,000.00
115	12" Butterfly Valve & Valve Box	EA	10	$ 3,500.00	$ 35,000.00
116	16" Butterfly Valve & Valve Box	EA	1	$ 6,500.00	$ 6,500.00
117	20" Butterfly Valve & Valve Box	EA	1	$ 11,500.00	$ 11,500.00
118	24" Butterfly Valve & Valve Box	EA	1	$ 19,500.00	$ 19,500.00
119	30" Butterfly Valve & Valve Box	EA	1	$ 34,000.00	$ 34,000.00
120	36" Butterfly Valve & Valve Box	EA	1	$ 45,000.00	$ 45,000.00
121	42" Butterfly Valve & Valve Box	EA	1	$ 65,000.00	$ 65,000.00
122	48" Butterfly Valve & Valve Box	EA	1	$ 75,000.00	$ 75,000.00
123	4"X4" Tapping Sleeve w/Valve & Valve Box	EA	5	$ 5,400.00	$ 27,000.00
124	6"X4" Tapping Sleeve w/Valve & Valve Box	EA	5	$ 5,800.00	$ 29,000.00
125	6"X6" Tapping Sleeve w/Valve & Valve Box	EA	10	$ 6,200.00	$ 62,000.00
126	8"X4" Tapping Sleeve w/Valve & Valve Box	EA	10	$ 6,800.00	$ 68,000.00
127	8"X6" Tapping Sleeve w/Valve & Valve Box	EA	20	$ 7,200.00	$ 144,000.00
128	8"X8" Tapping Sleeve w/Valve & Valve Box	EA	20	$ 7,800.00	$ 156,000.00
129	10"X 4" Tapping Sleeve w/Valve & Valve Box	EA	1	$ 6,500.00	$ 6,500.00
130	10"X 6" Tapping Sleeve w/Valve & Valve Box	EA	1	$ 9,500.00	$ 9,500.00
131	10"X 8" Tapping Sleeve w/Valve & Valve Box	EA	1	$ 10,500.00	$ 10,500.00
132	10"X 10" Tapping Sleeve w/Valve & Valve Box	EA	1	$ 12,500.00	$ 12,500.00
133	12"X 4" Tapping Sleeve w/ Valve and Valve Box	EA	1	$ 7,500.00	$ 7,500.00
134	12"X 6" Tapping Sleeve w/ Valve and Valve Box	EA	1	$ 11,000.00	$ 11,000.00
135	12"X 8" Tapping Sleeve w/ Valve and Valve Box	EA	1	$ 11,500.00	$ 11,500.00

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136	12"X10" Tapping Sleeve w/ Valve and Valve Box	EA	1	$ 13,500.00	$ 13,500.00
137	12"X 12" Tapping Sleeve w/ Valve and Valve Box	EA	1	$ 16,500.00	$ 16,500.00
138	16"X 4" Tapping Sleeve w/ Valve and Valve Box	EA	2	$ 8,500.00	$ 17,000.00
139	16"X 6" Tapping Sleeve w/ Valve and Valve Box	EA	2	$ 9,500.00	$ 19,000.00
140	16"X 8" Tapping Sleeve w/ Valve and Valve Box	EA	2	$ 21,000.00	$ 42,000.00
141	16"X 10" Tapping Sleeve w/ Valve and Valve Box	EA	2	$ 22,000.00	$ 44,000.00
142	16"X 12" Tapping Sleeve w/ Valve and Valve Box	EA	2	$ 24,000.00	$ 48,000.00
143	24"X 6" Tapping Sleeve w/Valve & Valve Box	EA	1	$ 11,000.00	$ 11,000.00
144	24"X 8" Tapping Sleeve w/Valve & Valve Box	EA	1	$ 12,500.00	$ 12,500.00
145	24"X 12" Tapping Sleeve w/Valve & Valve Box	EA	1	$ 32,500.00	$ 32,500.00
146	24"X 16" Tapping Sleeve w/Valve & Valve Box	EA	1	$ 50,000.00	$ 50,000.00
147	24"X 24" Tapping Sleeve w/Valve & Valve Box	EA	1	$ 72,500.00	$ 72,500.00
148	30"X 6" Tapping Sleeve w/Valve & Valve Box	EA	1	$ 12,500.00	$ 12,500.00
149	30"X 8" Tapping Sleeve w/Valve & Valve Box	EA	1	$ 14,000.00	$ 14,000.00
150	30"X 12" Tapping Sleeve w/Valve & Valve Box	EA	1	$ 20,500.00	$ 20,500.00
151	Aerial Crossing Complete (4" Water/Reclaimed Water Main, 40' to 80' Long)	LS	1	$ 45,000.00	$ 45,000.00
152	Aerial Crossing Complete (4" Wastewater Force Main, 40' to 80' Long)	LS	1	$ 55,000.00	$ 55,000.00
153	Aerial Crossing Complete (4" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	$ 53,000.00	$ 53,000.00
154	Aerial Crossing Complete (4" Wastewater Force Main, 80' to 120' Long)	LS	1	$ 66,000.00	$ 66,000.00
155	Aerial Crossing Complete (6" Water/Reclaimed Water Main, up to 40' Long)	LS	1	$ 43,000.00	$ 43,000.00
156	Aerial Crossing Complete (6" Wastewater Main, up to 40' Long)	LS	1	$ 55,000.00	$ 55,000.00
157	Aerial Crossing Complete (6" Water/Reclaimed Water Main, 40' to 80' Long)	LS	1	$ 46,000.00	$ 46,000.00
158	Aerial Crossing Complete (6" Wastewater Force Main, 40' to 80' Long)	LS	1	$ 58,000.00	$ 58,000.00
159	Aerial Crossing Complete (6" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	$ 55,000.00	$ 55,000.00
160	Aerial Crossing Complete (6" Wastewater Force Main, 80' to 120' Long)	LS	1	$ 69,000.00	$ 69,000.00
161	Aerial Crossing Complete (8" Water/Reclaimed Water Main, up to 40' Long)	LS	1	$ 45,000.00	$ 45,000.00
162	Aerial Crossing Complete (8" Wastewater Force Main, up to 40' Long)	LS	1	$ 57,000.00	$ 57,000.00
163	Aerial Crossing Complete (8" Water/Reclaimed Water Main/Wastewater Force Main, 40' to 80' Long)	LS	1	$ 49,000.00	$ 49,000.00
164	Aerial Crossing Complete (8" Wastewater Force Main, 40' to 80' Long)	LS	1	$ 62,000.00	$ 62,000.00
165	Aerial Crossing Complete (8" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	$ 59,000.00	$ 59,000.00

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166	Aerial Crossing Complete (8" Wastewater Force Main, 80' to 120' Long)	LS	1	$ 75,000.00	$ 75,000.00
167	Aerial Crossing Complete (12" Water/Reclaimed Water Main, up to 40' Long)	LS	1	$ 52,000.00	$ 52,000.00
168	Aerial Crossing Complete (12" Wastewater Force Main, up to 40' Long)	LS	1	$ 65,000.00	$ 65,000.00
169	Aerial Crossing Complete (12" Water/Reclaimed Water Main, 40' to 80' Long)	LS	1	$ 58,000.00	$ 58,000.00
170	Aerial Crossing Complete (12" Wastewater Force Main, 40' to 80' Long)	LS	1	$ 74,000.00	$ 74,000.00
171	Aerial Crossing Complete (12" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	$ 72,000.00	$ 72,000.00
172	Aerial Crossing Complete (12" Wastewater Force Main, 80' to 120' Long)	LS	1	$ 95,000.00	$ 95,000.00
173	Aerial Crossing Complete (16" Water/Reclaimed Water Main, up to 40' Long)	LS	1	$ 57,000.00	$ 57,000.00
174	Aerial Crossing Complete (16" Wastewater Force Main, up to 40' Long)	LS	1	$ 76,000.00	$ 76,000.00
175	Aerial Crossing Complete (16" Water/Reclaimed Water Main, 40' to 80' Long)	LS	1	$ 65,000.00	$ 65,000.00
176	Aerial Crossing Complete (16" Wastewater Force Main, 40' to 80' Long)	LS	1	$ 86,000.00	$ 86,000.00
177	Aerial Crossing Complete (16" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	$ 83,000.00	$ 83,000.00
178	Aerial Crossing Complete (16" Wastewater Force Main, 80' to 120' Long)	LS	1	$ 112,000.00	$ 112,000.00
179	Aerial Crossing Complete (24" Water/Reclaimed Water Main, up to 40' Long)	LS	1	$ 74,000.00	$ 74,000.00
180	Aerial Crossing Complete (24" Wastewater Force Main, up to 40' Long)	LS	1	$ 102,000.00	$ 102,000.00
181	Aerial Crossing Complete (24" Water/Reclaimed Water Main, 40' to 80' Long)	LS	1	$ 85,000.00	$ 85,000.00
182	Aerial Crossing Complete (24" Wastewater Force Main, 40' to 80' Long)	LS	1	$ 119,000.00	$ 119,000.00
183	Aerial Crossing Complete (24" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	$ 112,000.00	$ 112,000.00
184	Aerial Crossing Complete (24" Wastewater Force Main, 80' to 120' Long)	LS	1	$ 155,000.00	$ 155,000.00
185	Fire Hydrant Assembly with Captivator Caps, 6" Gate Valve & Tee Assembly & 10-ft of 6" R.J. DIP	EA	100	$ 8,000.00	$ 800,000.00
186	Relocation of Existing Fire Hydrant	EA	100	$ 2,000.00	$ 200,000.00
187	Bollards for Fire Hydrant (1 Post)	EA	100	$ 650.00	$ 65,000.00
188	Sample Points W/Double Strap Saddle & Corp. Stop	EA	100	$ 900.00	$ 90,000.00
189	Sample Points on Fire Hydrants	EA	15	$ 1,500.00	$ 22,500.00
190	Sample Points on 2" Blow offs	EA	10	$ 1,300.00	$ 13,000.00
191	2" Blow off Piping Assembly with Box	EA	10	$ 1,800.00	$ 18,000.00
192	Automatic Flushing Device	EA	10	$ 8,500.00	$ 85,000.00
193	1" Air Release Valve W/Manhole for Water/Reclaimed Main	EA	5	$ 8,500.00	$ 42,500.00

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BID ITEM NO.	BID ITEM (Furnish and Install with Appurtenances)	UNIT	QUANTITY	UNIT PRICES	TOTAL
194	1" Offset Air Release Valve W/Manhole for Water/Reclaimed Water Main	EA	2	$ 9,500.00	$ 19,000.00
195	2" Air Release Valve W/Manhole for Water/Reclaimed Main	EA	10	$ 9,800.00	$ 98,000.00
196	2" Air Release Valve W/Manhole for Wastewater Main	EA	10	$ 14,000.00	$ 140,000.00
197	2" Offset Air Release Valve W/Manhole for Wastewater/Reclaimed Water Main	EA	5	$ 15,000.00	$ 75,000.00
198	Doghouse Manhole (4" Thru 12" Pipe) 4' to 8' feet deep	EA	5	$ 8,500.00	$ 42,500.00
199	Doghouse Manhole (4" Thru 12" Pipe) 8' to 12' feet deep	EA	5	$ 10,500.00	$ 52,500.00
200	2" Above Ground Offset Air Release Valve for Wastewater Force Main	EA	20	$ 8,000.00	$ 160,000.00
201	Air Release Valve Rehabilitation (4" Thru 12" Pipe)	EA	20	$ 1,500.00	$ 30,000.00
202	Air Release Valve Rehabilitation (16" Thru 42" Pipe)	EA	10	$ 1,500.00	$ 15,000.00
203	6" PVC Sewer Service Lateral Replacement (Up to 5' deep)	EA	25	$ 3,000.00	$ 75,000.00
204	Short Single 5/8" Meter Service (1-1/2" PVC) (up to 20' long)	EA	125	$ 1,750.00	$ 218,750.00
205	Short Single 5/8" Meter Service (1-1/2" Polyethylene) (up to 20' long)	EA	25	$ 2,000.00	$ 50,000.00
206	Short Double 5/8" Meter Service (1-1/2" PVC) (up to 20' long)	EA	125	$ 2,000.00	$ 250,000.00
207	Short Double 5/8" Meter Service (1-1/2" Polyethylene) (up to 20' long)	EA	25	$ 2,500.00	$ 62,500.00
208	Long Single 5/8" Meter Service (1-1/2" PVC with 3" Casing up to 50' long)	EA	75	$ 2,200.00	$ 165,000.00
209	Long Single 5/8" Meter Service (1-1/2" Polyethylene with 3" Casing up to 50' long)	EA	25	$ 2,600.00	$ 65,000.00
210	Long Double 5/8" Meter Service (1-1/2" PVC with 3" Casing up to 50' long)	EA	75	$ 2,800.00	$ 210,000.00
211	Long Double 5/8" Meter Service (1-1/2" Polyethylene with 3" Casing up to 50' long)	EA	25	$ 3,200.00	$ 80,000.00
212	Extra Long 5/8" Meter Service Line (1-1/2" PVC w/3" Casing) (up to 200' long)	EA	15	$ 7,500.00	$ 112,500.00
213	Short 1" Meter Service (2" PVC) (up to 20' long)	EA	10	$ 1,900.00	$ 19,000.00
214	Short 1" Meter Service (2" Polyethylene) (up to 20' long)	EA	10	$ 2,200.00	$ 22,000.00
215	Meter Box (Existing) Relocation and Connection (up to 100' long)	EA	50	$ 1,000.00	$ 50,000.00
216	Up to 1 1/2" PVC Water Service within private property from meter box to the bldg up to 200-ft (Plumbing Permit included)	EA	100	$ 2,300.00	$ 230,000.00
217	Additional Cost for Installation of Tier 15 Traffic Rated Meter Box and Lid	EA	50	$ 300.00	$ 15,000.00
218	Additional Cost for Installation of Tier 15 Traffic Rated Double Meter Box and Lid	EA	50	$ 400.00	$ 20,000.00
219	Valve Box Adjustment	EA	50	$ 500.00	$ 25,000.00
220	Valve Box Replacement	EA	50	$ 800.00	$ 40,000.00
221	Irrigation Service Line Repair and Replace (up to ~~6~~ 4") Addendum No. 1	LF	200	$ 200.00	$ 40,000.00
222	4" DIP X AC Pipe Adapter	EA	10	$ 3,000.00	$ 30,000.00

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223	6" DIP X AC Pipe Adapter	EA	2	$ 4,000.00	$ 8,000.00
224	8" DIP X AC Pipe Adapter	EA	10	$ 4,800.00	$ 48,000.00
225	10" DIP X AC Pipe Adapter	EA	10	$ 5,600.00	$ 56,000.00
226	12" DIP X AC Pipe Adapter	EA	5	$ 6,500.00	$ 32,500.00
227	16" DIP X AC Pipe Adapter	EA	5	$ 7,500.00	$ 37,500.00
228	4" Asbestos Pipe Removal/Abatement	LF	500	$ 15.00	$ 7,500.00
229	6" Asbestos Pipe Removal/Abatement	LF	500	$ 17.50	$ 8,750.00
230	8" Asbestos Pipe Removal/Abatement	LF	500	$ 20.00	$ 10,000.00
231	10" Asbestos Pipe Removal/Abatement	LF	100	$ 22.00	$ 2,200.00
232	12" Asbestos Pipe Removal/Abatement	LF	500	$ 24.00	$ 12,000.00
233	16" Asbestos Pipe Removal/Abatement	LF	100	$ 40.00	$ 4,000.00
234	4" to 12" Diameter Connection to Existing Water Main/Reclaimed Water Main or Force Main (Joint Restraint for existing pipe to be included)	EA	30	$ 8,000.00	$ 240,000.00
235	16" to 24" Diameter Connection to Existing Water Main/Reclaimed Water Main or Force Main (Joint Restraint for existing pipe to be included)	EA	10	$ 10,000.00	$ 100,000.00
236	30" to 48" Diameter Connection to Existing Water Main/Reclaimed Water Main or Force Main (Joint Restraint for existing pipe to be included)	EA	5	$ 75,000.00	$ 375,000.00
237	Grouting/Deactivation of Existing 4" Pipe	LF	6,000	$ 12.00	$ 72,000.00
238	Grouting/Deactivation of Existing 6" Pipe	LF	6,000	$ 14.00	$ 84,000.00
239	Grouting/Deactivation of Existing 8" Pipe	LF	6,000	$ 16.00	$ 96,000.00
240	Grouting/Deactivation of Existing 10" Pipe	LF	500	$ 21.00	$ 10,500.00
241	Grouting/Deactivation of Existing 12" Pipe	LF	5,000	$ 25.00	$ 125,000.00
242	Grouting/Deactivation of Existing 16" Pipe	LF	1,000	$ 45.00	$ 45,000.00
243	Grouting/Deactivation of Existing 20" Pipe	LF	100	$ 50.00	$ 5,000.00
244	Grouting/Deactivation of Existing 24" Pipe	LF	200	$ 75.00	$ 15,000.00
245	Milling of Asphalt (1.5" - 2" thick)	SY	10,000	$ 15.00	$ 150,000.00
246	Asphalt Overlay	Tons	1,500	$ 300.00	$ 450,000.00
247	Asphalt Roadway Removal and Restoration (2.5" thick)	SY	10,000	$ 80.00	$ 800,000.00
248	Asphalt Roadway Restoration - Additional Thickness of 1" per SY	SY	10,000	$ 20.00	$ 200,000.00
249	Asphalt Driveway Removal and Restoration (1.5" thick)	SY	1,000	$ 75.00	$ 75,000.00
250	Concrete Driveway Removal and Restoration	SY	500	$ 100.00	$ 50,000.00
251	Stamped Concrete Driveway Removal and Restoration	SY	200	$ 120.00	$ 24,000.00
252	Concrete Paver Brick Driveway Removal and Restoration	SY	200	$ 120.00	$ 24,000.00
253	Painted Concrete Driveway Removal and Restoration	SY	200	$ 50.00	$ 10,000.00
254	Limerock/Shell Driveway or Roadway Removal and Restoration	Tons	250	$ 50.00	$ 12,500.00
255	Asphalt Sidewalk Removal & Restoration	SY	1,000	$ 50.00	$ 50,000.00
256	Concrete Sidewalk Removal & Restoration	SY	4,000	$ 90.00	$ 360,000.00
257	Concrete Curb & Gutter Removal & Restoration	LF	1,500	$ 70.00	$ 105,000.00
258	Concrete Flush Header Curb Removal & Restoration	LF	800	$ 65.00	$ 52,000.00

JOHNSON-DAVIS, INC
604 Hillbrath Drive
Lantana, FL 33462
Phone (561)588-1170
Fax (561)585-5252

BID ITEM NO.	BID ITEM (Furnish and Install with Appurtenances)	UNIT	QUANTITY	UNIT PRICES	TOTAL
259	Floratam Sod	SY	10,000	$ 10.00	$ 100,000.00
260	Bahia Sod	SY	15,000	$ 8.00	$ 120,000.00
261	Root Barrier	LF	500	$ 30.00	$ 15,000.00
262	Remove Trees up to 12" diameter	EA	25	$ 750.00	$ 18,750.00
263	Record Drawing	LF	50,000	$ 3.00	$ 150,000.00
264	Construction Survey	LF	50,000	$ 3.00	$ 150,000.00
265	Preconstruction Video Taping	LF	50,000	$ 2.50	$ 125,000.00
266	Mail Box Removal and Reinstallation	EA	125	$ 300.00	$ 37,500.00
267	Maintenance of Traffic Residential Street	LF	10,000	$ 3.00	$ 30,000.00
268	Maintenance of Traffic Arterial Roadway	LF	10,000	$ 4.00	$ 40,000.00
269	Maintenance of FDOT Roadway	LF	10,000	$ 6.00	$ 60,000.00
270	Density Tests	EA	600	$ 75.00	$ 45,000.00
271	Proctor Tests	EA	100	$ 125.00	$ 12,500.00
272	Concrete 12"x6" Cylinder Tests	EA	100	$ 150.00	$ 15,000.00
273	4-ft to 5-ft High Fence Removal and Reinstallation	LF	100	$ 30.00	$ 3,000.00
274	Demucking with Imported Clean Fill	CY	5,000	$ 40.00	$ 200,000.00
275	Flowable Fill	CY	15	$ 300.00	$ 4,500.00
276	Compacted Clean Fill	CY	6,000	$ 24.00	$ 144,000.00
277	Protect and Support and Utility Poles	EA	5	$ 3,000.00	$ 15,000.00
278	Rock Removal	CY	15	$ 500.00	$ 7,500.00
279	Remove & Replace Signs	EA	20	$ 300.00	$ 6,000.00
280	Guardrail Removal and Restoration	LF	200	$ 50.00	$ 10,000.00
281	ADA Concrete Ramps per FDOT Index 304 (Include Ramp, Curb and Detectable Warning)	EA	4	$ 2,500.00	$ 10,000.00
282	Silt Fence	LF	20,000	$ 1.50	$ 30,000.00
283	Aerial Crossing DIP piping (8" Water/Reclaimed Water Main, up to 40' Long)	LS	1	$ 15,000.00	$ 15,000.00
284	Aerial Crossing DIP piping (8" Wastewater Force Main, up to 40' Long)	LS	1	$ 26,000.00	$ 26,000.00
285	Aerial Crossing DIP piping (8" Water/Reclaimed Water Main, 40' to 80' Long)	LS	1	$ 18,000.00	$ 18,000.00
286	Aerial Crossing DIP piping (8" Wastewater Force Main, 40' to 80' Long)	LS	1	$ 32,000.00	$ 32,000.00
287	Aerial Crossing DIP piping (8" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	$ 24,000.00	$ 24,000.00
288	Aerial Crossing DIP piping (8" Wastewater Force Main, 80' to 120' Long)	LS	1	$ 40,000.00	$ 40,000.00
289	Aerial Crossing Steel piping (8" Water/Reclaimed Water Main, up to 40' Long)	LS	1	$ 22,000.00	$ 22,000.00
290	Aerial Crossing Steel piping (8" Wastewater Force Main, up to 40' Long)	LS	1	$ 30,000.00	$ 30,000.00
291	Aerial Crossing Steel piping (8" Water/Reclaimed Water Main, 40' to 80' Long)	LS	1	$ 25,000.00	$ 25,000.00
292	Aerial Crossing Steel piping (8" Wastewater Force Main, 40' to 80' Long)	LS	1	$ 34,000.00	$ 34,000.00

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BID ITEM NO.	BID ITEM (Furnish and Install with Appurtenances)	UNIT	QUANTITY	UNIT PRICES	TOTAL
293	Aerial Crossing Steel piping (8" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	$ 31,000.00	$ 31,000.00
294	Aerial Crossing Steel piping (8" Wastewater Force Main, 80' to 120' Long)	LS	1	$ 40,000.00	$ 40,000.00
295	Aerial Crossing Steel piping (10" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	$ 35,000.00	$ 35,000.00
296	Aerial Crossing Steel piping (10" Wastewater Force Main, 80' to 120' Long)	LS	1	$ 51,000.00	$ 51,000.00
297	Aerial Crossing DIP piping (12" Water/Reclaimed Water Main, up to 40' Long)	LS	1	$ 25,000.00	$ 25,000.00
298	Aerial Crossing DIP piping (12" Wastewater Force Main, up to 40' Long)	LS	1	$ 35,000.00	$ 35,000.00
299	Aerial Crossing DIP piping (12" Water/Reclaimed Water Main, 40' to 80' Long)	LS	1	$ 28,000.00	$ 28,000.00
300	Aerial Crossing DIP piping (12" Wastewater Force Main, 40' to 80' Long)	LS	1	$ 42,000.00	$ 42,000.00
301	Aerial Crossing DIP piping (12" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	$ 35,000.00	$ 35,000.00
302	Aerial Crossing DIP piping (12" Wastewater Force Main, 80' to 120' Long)	LS	1	$ 58,000.00	$ 58,000.00
303	Aerial Crossing Steel piping (12" Water/Reclaimed Water Main, up to 40' Long)	LS	1	$ 29,000.00	$ 29,000.00
304	Aerial Crossing Steel piping (12" Wastewater Force Main, up to 40' Long)	LS	1	$ 40,000.00	$ 40,000.00
305	Aerial Crossing Steel piping (12" Water/Reclaimed Water Main, 40' to 80' Long)	LS	1	$ 32,000.00	$ 32,000.00
306	Aerial Crossing Steel piping (12" Wastewater Force Main, 40' to 80' Long)	LS	1	$ 47,000.00	$ 47,000.00
307	Aerial Crossing Steel piping (12" Water/Reclaimed Water Main, 80' to 120' Long)	LS	1	$ 39,000.00	$ 39,000.00
308	Aerial Crossing Steel piping (12" Wastewater Force Main, 80' to 120' Long)	LS	1	$ 63,000.00	$ 63,000.00
309	Removal of Existing Aerial Canal Crossings (up to 40' Long)	LS	5	$ 3,400.00	$ 17,000.00
310	Removal of Existing Aerial Canal Crossings (40' to 80' Long)	LS	5	$ 4,200.00	$ 21,000.00
311	Removal of Existing Aerial Canal Crossings (80' to 120' Long)	LS	5	$ 6,000.00	$ 30,000.00
312	Canal Bank Grade and Place Rip-Rap Revetment	EA	40	$ 3,000.00	$ 120,000.00
313	2" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	$ 4,500.00	$ 4,500.00
314	4" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	$ 6,300.00	$ 6,300.00
315	6" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	$ 10,000.00	$ 10,000.00
316	8" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	$ 11,500.00	$ 11,500.00
317	10" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	$ 12,000.00	$ 12,000.00
318	12" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	$ 15,000.00	$ 15,000.00
319	16" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	$ 19,000.00	$ 19,000.00
320	18" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	$ 20,000.00	$ 20,000.00
321	20" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	$ 30,000.00	$ 30,000.00
322	24" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	$ 35,000.00	$ 35,000.00

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BID ITEM NO.	BID ITEM (Furnish and Install with Appurtenances)	UNIT	QUANTITY	UNIT PRICES	TOTAL
323	30" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	$ 50,000.00	$ 50,000.00
324	36" Single Line Stop (for PVC/DIP/CIP/AC)	EA	1	$ 65,000.00	$ 65,000.00
325	6" Double Line Stop w/ 4" By-Pass (for PVC/DIP/CIP/AC)	EA	1	$ 17,500.00	$ 17,500.00
326	8" Double Line Stop w/ 6" By-Pass (for PVC/DIP/CIP/AC)	EA	1	$ 25,000.00	$ 25,000.00
327	10" Double Line Stop w/ 8" By-Pass (for PVC/DIP/CIP/AC)	EA	1	$ 26,000.00	$ 26,000.00
328	12" Double Line Stop w/ 8" By-Pass (for PVC/DIP/CIP/AC)	EA	1	$ 30,000.00	$ 30,000.00
329	4" Insertion Valves (for PVC/DIP/CIP/AC)	EA	1	$ 9,000.00	$ 9,000.00
330	6" Insertion Valves (for PVC/DIP/CIP/AC)	EA	1	$ 10,500.00	$ 10,500.00
331	8" Insertion Valves (for PVC/DIP/CIP/AC)	EA	1	$ 12,500.00	$ 12,500.00
332	10" Insertion Valves (for PVC/DIP/CIP/AC)	EA	1	$ 18,500.00	$ 18,500.00
333	12" Insertion Valves (for PVC/DIP/CIP/AC)	EA	1	$ 20,000.00	$ 20,000.00
	(A) SUBTOTAL BASE BID (Bid Items 1-333)				$ 24,000,000.00
334	Additional Work not included in Bid Items (15% of Subtotal Bid Price (B)	LS	1	15%	$ 3,600,000.00
335	Mobilization (2.5% of Subtotal Bid Price (B)	LS	1	2.5%	$ 600,000.00
336	Demobilization (1% of Subtotal Bid Price (B)	LS	1	1%	$ 240,000.00
	(B) SUBTOTAL ADDITIONAL WORK BID PRICE (Bid Items 334-336)				$ 4,440,000.00
	TOTAL BID PRICE (A+B)				$ 28,440,000.00

TOTAL BID IN WORDS INCLUDING DOLLARS AND CENTS:

Twenty eight million four hundred forty thousand and zero cents.

The Total Base Bid Price is to be written in numerical figures above. In case of discrepancies or errors, the unit price shown above for each bid item shall govern and the corrected Total Bid Price shall be calculated as such. Total Bid Price is to be shown in both words and figures. In case of discrepancies, the amount shown in words will govern.

ATTACHMENT NO. 1 TO BID FORM

PBCWUD PROJECT NO.: 22-032
PROJECT NAME: 2022 Pipeline Continuing Construction Contract

DATE: November 22, 2022

BID BOND

STATE OF FLORIDA

COUNTY OF PALM BEACH

KNOW ALL MEN THESE PRESENT: That we, Johnson-Davis Incorporated (hereinafter called "Principal"), and Liberty Mutual Insurance Company (hereinafter called "Surety") are held and firmly bound unto Palm Beach County, a Political Subdivision in the State of Florida, (hereinafter called "County") in the sum of Five Percent (5%) of Total Amount Bid Dollars, ($ ----------), lawful money of the United States of America, for the payment of which sum will and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly be these presents;

WHEREAS, the "Principal" contemplates submitting or has submitted a bid to the Board of County Commissioners, Palm Beach County, Florida, for furnishing and paying for all necessary labor materials, equipment, machinery, tools, apparatus, services, all state workmen's compensation and unemployment compensation taxes incurred in the performance of the Contract, means of transportation for and complete Construction of: 2022 Pipeline Continuing Construction Contract (PBCWUD Project No.: 22-032) in the County of Palm Beach, State of Florida; and

WHEREAS, it was a condition precedent to the submission of said bid that a certified check cashier's check, money order or bid bond in the amount of five percent (5%) of the base bid be submitted with said bid as a guarantee that the bidder would, if given a Notification from County, enter into a written contract with the County, and furnish a public construction bond in an amount equal to one hundred (100%) of the total Contract, within fourteen (14) consecutive calendar days after the County issues the Notification from County

NOW THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH that, if the bid of the "Principal" herein is accepted and said "Principal," within fourteen (14) consecutive calendar days after written notice being given of such acceptance, (I) enter into a written contract with the County and (ii) furnishes a public construction contract bond in the amount equal to one hundred percent (100%) of the total contract amount and in a form satisfactory to the County, then this obligation shall be void. If the Principal fails to complete (i) and (ii) above, the sum herein stated shall be due and payable to the "County," and the "Surety" herein agrees to pay said sum immediately upon demand of the "County," in good and lawful money of the United States of America, as liquidated damages for failure of said "Principal."

IN WITNESS WHEREOF, the said Johnson-Davis Incorporated as "Principal" herein, has caused these presents to be signed in its name, by its ESTIMATING MANAGER, and attested by its SECRETARY / TREASURER, under the corporate seal, and the said Liberty Mutual Insurance Company as "Surety" herein, has caused these presents to be signed in its name, by its Attorney-in-Fact, and attested by its corporate Seal, this 16th day of November 20 22 .

(All bid bonds shall use this form except for certified cashier's check)

ATTEST:

(Signature)

CHRIS JOHNSON
(Printed Name)

(SEAL)

Johnson-Davis Incorporated
(Contractor Name)

By:

WILLIAM CRYER
(Printed Name)

Title: ESTIMATING MANAGER

Address 604 Hillbrath Drive

Lantana, FL 33462

ATTEST:

(Signature)

Nicole Stillings
(Printed Name)

(SEAL)

Liberty Mutual Insurance Company
(Surety Name)

By:

Joshua R. Loftis
(Printed Name)

Title: Attorney-in-in-Fact

Address 175 Berkeley Street

Boston, MA 02116

(Bidder to attach valid Bonding Company Power of Attorney)

CORPORATE ACKNOWLEDGMENT

State of **Florida**)
) ss
County of PALM BEACH)

On this 22ND day of **November** **2022**, before me appeared WILLIAM CRYER, to me personally known, who, being by me duly sworn, did say that he/she is the ESTIMATING MANAGER of **Johnson-Davis Incorporated**, a corporation, that the seal affixed to the foregoing instrument is the corporate seal of said corporation, and that said instrument was executed in behalf of said corporation by authority of its Board of Directors, and that said WILLIAM CRYER acknowledged said instrument to be the free act and deed of said corporation.

JAMES PATRICK AMSLER
Notary Public - State of Florida
Commission # HH 254617
My Comm. Expires Aug 11, 2026
Bonded through National Notary Assn.

James P Amsler

Notary Public PALM BEACH County, FLORIDA
My commission expires 8-11-2026

SURETY ACKNOWLEDGMENT

State of **Wisconsin**)
) ss
County of **Dane**)

On this **16th** day of **November** **2022**, before me appeared **Joshua R. Loftis**, to me personally know, who being by me duly sworn, did say that (s)he is the Attorney-in-Fact of **Liberty Mutual Insurance Company**, a corporation, that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was executed in behalf of said corporation by authority of its Board of Directors; and that said **Joshua R. Loftis** acknowledged said instrument to be the free act and deed of said corporation.

NICOLE STILLINGS
NOTARY
PUBLIC
STATE OF WISCONSIN

Notary Public Dane County, Wisconsin
My commission expires 9/19/2026

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: **8207173 - 190054**

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Brian J. Oestreich; C. White; Emily White; Joshua R. Loftis; Lin Ulven; Melinda C. Blodgett; Nathan Weaver; Nicole Stillings; R. C. Bowman; R. W. Frank; Rachel Thomas; Ross S. Squires; Sandra M. Engstrum; Ted Jorgensen; Tina L. Domask

all of the city of Minneapolis state of MN each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 24th day of January, 2022.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: _____
David M. Carey, Assistant Secretary

State of PENNSYLVANIA
County of MONTGOMERY ss

On this 24th day of January, 2022 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.

Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2025
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: _____
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS: Section 12. Power of Attorney.
Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts: Section 5. Surety Bonds and Undertakings.
Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this **16th** day of **November** **2022**.

By: _____
Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-3252

ATTACHMENT NO. 2 TO BID FORM

PBCWUD PROJECT NO.: 22-032

PROJECT NAME: 2022 Pipeline Continuing Construction Contract

DATE: 11/22/2022

Office of Equal Business Opportunity
Vendor forms included as part of Bid Form

Go to Palm Beach County's Office of Equal Business Opportunity (OEBO) website http://discover.pbcgov.org/oebo/Pages/Documents.aspx to download the latest version of the required vendor forms listed below:

OEBO *Schedule 1 – List of Proposed Contractor/Consultant and Subcontractor/Subconsultant Participation*

OEBO *Schedule 2 – Letter of Intent to Perform as a Subcontractor/Subconsultant*

Instructions on Completing SBE-M-WBE Schedules1-2

THESE SCHEDULES MUST BE COMPLETED AS APPLICABLE AND DEFINED IN INSTRUCTIONS TO BIDDERS SECTION 5.3 AND MUST BE SUBMITTED IN ACCORDANCE WITH PARAGRAPH 5.4.2 OF THE INSTRUCTIONS TO BIDDERS.

OEBO SCHEDULE 1

SOLICITATION/PROJECT/BID NAME: 2022 Pipeline Continuing Construction Contract

SOLICITATION/PROJECT/BID NO.: 22-032

SOLICITATION OPENING/SUBMITTAL DATE: 11/22/2022

COUNTY DEPARTMENT: Water Utility Department

Section A

PLEASE LIST THE DOLLAR AMOUNT OR PERCENTAGE OF WORK TO BE COMPLETED BY THE PRIME CONTRACTOR/CONSULTANT* ON THE PROJECT:

NAME OF PRIME RESPONDENT/BIDDER: Johnson-Davis Incorporated

ADDRESS: 604 Hillbrath Drive, Lantana, FL 33462

CONTACT PERSON: William Cryer

PHONE NO.: 561-588-1170

E-MAIL: ccryer@johnsondavis.com

PRIME'S DOLLAR AMOUNT OR PERCENTAGE OF WORK: $19,728,267.83

*SMWBE Prime's must include their percentage or dollar amount in the Total Participation line under section B.

Non-SBE	MBE	WBE	SBE
☑	☐	☐	☐

Section B

PLEASE LIST THE DOLLAR AMOUNT OR PERCENTAGE OF WORK TO BE COMPLETED BY ALL SUBCONTRACTORS/SUBCONSULTANTS ON THE PROJECT BELOW:

Subcontractor/Sub consultant Name	(Check all Applicable Categories) Non-SBE	MBE Minority Business	WBE Women Business	SBE Small Business	DOLLAR AMOUNT OR PERCENTAGE OF WORK Black	Hispanic	Women	Caucasian	Asian	Other
1. Almazan Construction LLC	☐	☑	☐	☑		$1,449,000				
2. Pacifica Engineering Services, LLC	☐	☑	☐	☑	$38,000					
3. Odums Sod, Inc	☐	☑	☐	☑		$83,250				
4. Underground Supply Associates, Inc.	☐	☐	☐	☑				$4,179,889.30		
5. Michael B. Schorah & Associates, Inc.	☐	☐	☐	☑				$175,000		
Total					$38,000	$1,532,250		$4,354,889.30		

(Please use additional sheets if necessary)

Total Bid/Offer Price $ 28,440,000.00

Total Certified S/M/WBE Participation $ $5,925,139.30

I hereby certify that the above information is accurate to the best of my knowledge: William Cryer — Estimating Manager

Name & Authorized Signature — Title

Note:

1. The amount listed on this form for a Subcontractor/sub consultant must be supported by price or percentage listed on the properly executed Schedule 2 or attached signed proposal.
2. Only those firms certified by Palm Beach County at the time of solicitation opening or due date are eligible to meet the established OEBO Affirmative Procurement Initiative (API). Please check the applicable box and list the dollar amount or percentage under the appropriate demographic category.
3. Modification of this form is not permitted and will be rejected upon submittal.

REVISED 05/23/2022

OEBO LETTER OF INTENT – SCHEDULE 2

A completed Schedule 2 is a binding document between the Prime Contractor/consultant and a Subcontractor/subconsultant (for any tier) and should be treated as such. The Schedule 2 shall contain bolded language indicating that by signing the Schedule 2, both parties recognize this Schedule as a binding document. All Subcontractors/subconsultants, including any tiered Subcontractors/subconsultants, must properly execute this document. Each properly executed Schedule 2 must be submitted with the bid/proposal.

SOLICITATION/PROJECT NUMBER: 22-032

SOLICITATION/PROJECT NAME: 2022 Pipeline Continuing Construction Contract

Prime Contractor: Johnson-Davis Incoporated Subcontractor: Odums Sod, Inc.

(Check box(s) that apply)

☑SBE ☐WBE ☑MBE ☐M/WBE ☐Non-S/M/WBE Date of Palm Beach County Certification (if applicable): 1/17/2020 - 1/16/2023.

The undersigned affirms they are the following (select one from each column **if applicable**):

Column 1	Column 2				Column 3
☑Male ☐Female	☐African-American/Black	☐Asian American	☐Caucasian American	☐Supplier	
	☑Hispanic American	☐Native American			

S/M/WBE PARTICIPATION – S/M/WBE Primes must document all work to be performed by their own work force on this form. Failure to submit a properly executed Schedule 2 for any **S/M/WBE** participation may result in that participation not being counted. Specify in detail, the scope of work to be performed or items supplied with the dollar amount and/or percentage for each work item. S/M/WBE credit will only be given for the areas in which the S/M/WBE is certified. A detailed proposal may be attached to a properly executed Schedule 2.

Line Item	Item Description	Unit Price	Quantity/ Units	Contingencies/ Allowances	Total Price/Percentage
259	9885243 - Place Floratam Sod In Place	$3.87	10,000 / SY	$0.00	$38,700.00
260	9885243 - Place Bahia Sod In Place	$2.97	15,000 / SY	$0.00	$44,550.00

The undersigned Subcontractor/subconsultant is prepared to self-perform the above-described work in conjunction with the aforementioned project at the following total price or percentage: $83,250.00 / 0.29%

If the undersigned intends to subcontract any portion of this work to another Subcontractor/subconsultant, please list the business name and the amount below accompanied by a separate properly executed Schedule 2.

None
Name of 2nd/3rd tier Subcontractor/subconsultant

Price or Percentage: Ø

Johnson-Davis Incoporated
Print Name of Prime

By: _____
Authorized Signature

William Cryer
Print Name

Estimating Manager
Title

Date: 11-22-2022

Odums Sod, Inc.
Print Name of Subcontractor/subconsultant

By: Warren L. Prescott Jr.
Authorized Signature

Warren L. Prescott Jr.
Print Name

President
Title

Date: 11-22-2022

OEBO LETTER OF INTENT – SCHEDULE 2

A completed Schedule 2 is a binding document between the Prime Contractor/consultant and a Subcontractor/subconsultant (for any tier) and should be treated as such. The Schedule 2 shall contain bolded language indicating that by signing the Schedule 2, both parties recognize this Schedule as a binding document. All Subcontractors/subconsultants, including any tiered Subcontractors/subconsultants, must properly execute this document. Each properly executed Schedule 2 must be submitted with the bid/proposal.

SOLICITATION/PROJECT NUMBER: 22-032

SOLICITATION/PROJECT NAME: 2022 Pipeline Continuing Construction Contract

Prime Contractor: Johnson-Davis Incorporated Subcontractor: Almazan Construction LLC

(Check box(s) that apply)

☑SBE ☐WBE ☑MBE ☐M/WBE ☐Non-S/M/WBE Date of Palm Beach County Certification (if applicable): 9/7/2022 - 9/6/2025.

The undersigned affirms they are the following (select one from each column **if applicable**):

Column 1	Column 2				Column 3
☑Male ☐Female	☐African-American/Black	☐Asian American	☐Caucasian American		☐Supplier
	☑Hispanic American	☐Native American			

S/M/WBE PARTICIPATION – S/M/WBE Primes must document all work to be performed by their own work force on this form. Failure to submit a properly executed Schedule 2 for any **S/M/WBE** participation may result in that participation not being counted. Specify in detail, the scope of work to be performed or items supplied with the dollar amount and/or percentage for each work item. S/M/WBE credit will only be given for the areas in which the S/M/WBE is certified. A detailed proposal may be attached to a properly executed Schedule 2.

Line Item	Item Description	Unit Price	Quantity/ Units	Contingencies/ Allowances	Total Price/Percentage
245	96154 Milling Services: Asphalt	$6.25	10,000 / SY	$0.00	$62,500.00
246	91395 - Resurfacing Highway and Road Asphalt Overlay	$275.00	1,500 / TON	$0.00	$412,500.00
247	91395 - Pave Road After Pipe and Rock have been installed	$34.00	10,000 / SY	$0.00	$340,000.00
248	91395 - Pave additional 1" thickness	$16.00	10,000 / SY	$0.00	$160,000.00
256	91347 - Construct Concrete Sidewalk	$69.00	4,000 / SY	$0.00	$276,000.00
274	96236 - Haul Clean Fill to Job	$18.00	5,000 / CY	$0.00	$90,000.00

The undersigned Subcontractor/subconsultant is prepared to self-perform the above-described work in conjunction with the aforementioned project at the following total price or percentage: See Page 2 of Almazan Construction LLC

If the undersigned intends to subcontract any portion of this work to another Subcontractor/subconsultant, please list the business name and the amount below accompanied by a separate properly executed Schedule 2.

_____ **Price or Percentage:** _____

Name of 2nd/3rd tier Subcontractor/subconsultant

Johnson-Davis Incorporated
Print Name of Prime

By: _____
Authorized Signature

William Cryer
Print Name

Estimating Manager
Title

Date: 11-22-2022

Almazan Construction LLC
Print Name of Subcontractor/subconsultant

By: _____
Authorized Signature

Samuel Almazan
Print Name

President
Title

Date: 11/21/2022

OEBO LETTER OF INTENT – SCHEDULE 2

A completed Schedule 2 is a binding document between the Prime Contractor/consultant and a Subcontractor/subconsultant (for any tier) and should be treated as such. The Schedule 2 shall contain bolded language indicating that by signing the Schedule 2, both parties recognize this Schedule as a binding document. All Subcontractors/subconsultants, including any tiered Subcontractors/subconsultants, must properly execute this document. Each properly executed Schedule 2 must be submitted with the bid/proposal.

SOLICITATION/PROJECT NUMBER: 22-032

SOLICITATION/PROJECT NAME: 2022 Pipeline Continuing Construction Contract

Prime Contractor: Johnson-Davis Incorporated Subcontractor: Almazan Construction LLC

(Check box(s) that apply)

☑SBE ☐WBE ☑MBE ☐M/WBE ☐Non-S/M/WBE Date of Palm Beach County Certification (if applicable): 9/7/2022 - 9/6/2025

The undersigned affirms they are the following (select one from each column **if applicable**):

Column 1

☑Male ☐Female

Column 2

☐African-American/Black ☐Asian American ☐Caucasian American ☑Hispanic American ☐Native American

Column 3

☐Supplier

S/M/WBE PARTICIPATION – S/M/WBE Primes must document all work to be performed by their own work force on this form. Failure to submit a properly executed Schedule 2 for any **S/M/WBE** participation may result in that participation not being counted. Specify in detail, the scope of work to be performed or items supplied with the dollar amount and/or percentage for each work item. S/M/WBE credit will only be given for the areas in which the S/M/WBE is certified. A detailed proposal may be attached to a properly executed Schedule 2.

Line Item	Item Description	Unit Price	Quantity/ Units	Contingencies/ Allowances	Total Price/Percentage
276	96236 - Haul Clean Fill	$18.00	6,000 / CY	$0.00	$108,000.00

The undersigned Subcontractor/subconsultant is prepared to self-perform the above-described work in conjunction with the aforementioned project at the following total price or percentage: $1,449,000.00 / 5%

If the undersigned intends to subcontract any portion of this work to another Subcontractor/subconsultant, please list the business name and the amount below accompanied by a separate properly executed Schedule 2.

_____ **Price or Percentage:** _____

Name of 2nd/3rd tier Subcontractor/subconsultant

Johnson-Davis Incorporated
Print Name of Prime

By: _____
Authorized Signature

William Cryer
Print Name

Estimating Manager
Title

Date: 11-22-2022

Almazan Construction LLC
Print Name of Subcontractor/subconsultant

By: _____
Authorized Signature

Samuel Almazan
Print Name

President
Title

Date: 11/21/2022

OEBO LETTER OF INTENT – SCHEDULE 2

A completed Schedule 2 is a binding document between the Prime Contractor/consultant and a Subcontractor/subconsultant (for any tier) and should be treated as such. The Schedule 2 shall contain bolded language indicating that by signing the Schedule 2, both parties recognize this Schedule as a binding document. All Subcontractors/subconsultants, including any tiered Subcontractors/subconsultants, must properly execute this document. Each properly executed Schedule 2 must be submitted with the bid/proposal.

SOLICITATION/PROJECT NUMBER: 21-032

SOLICITATION/PROJECT NAME: 2022 Pipeline Continuing Construction Contract

Prime Contractor: Johson-Davis Inroporated Subcontractor: Pacifica Engineering Services, LLC

(Check box(s) that apply)

☑SBE ☐WBE ☑MBE ☐M/WBE ☐Non-S/M/WBE Date of Palm Beach County Certification (if applicable): 10/25/21 - 10/24/24.

The undersigned affirms they are the following (select one from each column **if applicable**):

Column 1	Column 2	Column 3
☑Male ☐Female	☑African-American/Black ☐Asian American ☐Caucasian American ☐Hispanic American ☐Native American	☐Supplier

S/M/WBE PARTICIPATION – S/M/WBE Primes must document all work to be performed by their own work force on this form. Failure to submit a properly executed Schedule 2 for any **S/M/WBE** participation may result in that participation not being counted. Specify in detail, the scope of work to be performed or items supplied with the dollar amount and/or percentage for each work item. S/M/WBE credit will only be given for the areas in which the S/M/WBE is certified. A detailed proposal may be attached to a properly executed Schedule 2.

Line Item	Item Description	Unit Price	Quantity/ Units	Contingencies/ Allowances	Total Price/Percentage
270	90783 - Density Tests	$25.00	600 / Ea	$0.00	$15,000.00
271	90742 - Proctor Tests	$95.00	100 / Ea	$0.00	$9,500.00
272	99234 - Concrete Cylinder Tests	$135.00	100 / Ea	$0.00	$13,500.00

The undersigned Subcontractor/subconsultant is prepared to self-perform the above-described work in conjunction with the aforementioned project at the following total price or percentage: $38,000.00 / 0.13%

If the undersigned intends to subcontract any portion of this work to another Subcontractor/subconsultant, please list the business name and the amount below accompanied by a separate properly executed Schedule 2.

_____ **Price or Percentage:** _____

Name of 2nd/3rd tier Subcontractor/subconsultant

Johnson-Davis Incorporated
Print Name of Prime

By: _____
Authorized Signature

William Cryer
Print Name

Estimating Manager
Title

Date: 11-22-2022

Pacifica Engineering Services, LLC
Print Name of Subcontractor/subconsultant

By: Wesley Foster
Authorized Signature

Wesley Foster
Print Name

President
Title

Date: 10/20/2022

OEBO LETTER OF INTENT – SCHEDULE 2

A completed Schedule 2 is a binding document between the Prime Contractor/consultant and a Subcontractor/subconsultant (for any tier) and should be treated as such. The Schedule 2 shall contain bolded language indicating that by signing the Schedule 2, both parties recognize this Schedule as a binding document. All Subcontractors/subconsultants, including any tiered Subcontractors/subconsultants, must properly execute this document. Each properly executed Schedule 2 must be submitted with the bid/proposal.

SOLICITATION/PROJECT NUMBER: 22-032

SOLICITATION/PROJECT NAME: 2022 Pipeline Continuing Construction Contract

Prime Contractor: Johnson-Davis Incoporated Subcontractor: Michael B. Schorah & Associates, Inc.

(Check box(s) that apply)

☑SBE ☐WBE ☐MBE ☐M/WBE ☐Non-S/M/WBE Date of Palm Beach County Certification (if applicable): 6/22/2021 - 6/21/2024.

The undersigned affirms they are the following (select one from each column **if applicable**):

Column 1	Column 2	Column 3
☑Male ☐Female	☐African-American/Black ☐Asian American ☑Caucasian American ☐Hispanic American ☐Native American	☐Supplier

S/M/WBE PARTICIPATION – S/M/WBE Primes must document all work to be performed by their own work force on this form. Failure to submit a properly executed Schedule 2 for any **S/M/WBE** participation may result in that participation not being counted. Specify in detail, the scope of work to be performed or items supplied with the dollar amount and/or percentage for each work item. S/M/WBE credit will only be given for the areas in which the S/M/WBE is certified. A detailed proposal may be attached to a properly executed Schedule 2.

Line Item	Item Description	Unit Price	Quantity/ Units	Contingencies/ Allowances	Total Price/Percentage
263	96252 – Record Drawing	$2.00	50,000 / Lf	$0.00	$100,000.00
264	96252 – Construction Survey	$1.50	50,000 / Lf	$0.00	$75,000.00

The undersigned Subcontractor/subconsultant is prepared to self-perform the above-described work in conjunction with the aforementioned project at the following total price or percentage: $175,000.00

If the undersigned intends to subcontract any portion of this work to another Subcontractor/subconsultant, please list the business name and the amount below accompanied by a separate properly executed Schedule 2.

_____ **Price or Percentage:** _____

Name of 2nd/3rd tier Subcontractor/subconsultant

Johson-Davis Incorporated
Print Name of Prime

By: _____
Authorized Signature

WILLIAM CRYER
Print Name

ESTIMATING MANAGER
Title

Date: 11-22-2022

Michael B. Schorah & Associates, Inc.
Print Name of Subcontractor/subconsultant

By: _____
Authorized Signature

Frederick Roth Jr.
Print Name

President
Title

Date: 10/24/22

OEBO LETTER OF INTENT – SCHEDULE 2

A completed Schedule 2 is a binding document between the Prime Contractor/consultant and a Subcontractor/subconsultant (for any tier) and should be treated as such. The Schedule 2 shall contain bolded language indicating that by signing the Schedule 2, both parties recognize this Schedule as a binding document. All Subcontractors/subconsultants, including any tiered Subcontractors/subconsultants, must properly execute this document. Each properly executed Schedule 2 must be submitted with the bid/proposal.

SOLICITATION/PROJECT NUMBER: 22-032

SOLICITATION/PROJECT NAME: 2022 Pipeline Continuing Construction Contract

Prime Contractor: Johnson-Davis Incorporated Subcontractor: Utility Supply Associates, Inc.

(Check box(s) that apply)

☑ SBE ☐ WBE ☐ MBE ☐ M/WBE ☐ Non-S/M/WBE Date of Palm Beach County Certification (if applicable): 8/20/2022 - 8/21/2025

The undersigned affirms they are the following (select one from each column **if applicable**):

Column 1

☐ Male ☑ Female

Column 2

☐ African-American/Black ☐ Asian American ☑ Caucasian American ☐ Hispanic American ☐ Native American

Column 3

☑ Supplier

S/M/WBE PARTICIPATION – S/M/WBE Primes must document all work to be performed by their own work force on this form. Failure to submit a properly executed Schedule 2 for any **S/M/WBE** participation may result in that participation not being counted. Specify in detail, the scope of work to be performed or items supplied with the dollar amount and/or percentage for each work item. S/M/WBE credit will only be given for the areas in which the S/M/WBE is certified. A detailed proposal may be attached to a properly executed Schedule 2.

Line Item	Item Description	Unit Price	Quantity/ Units	Contingencies/ Allowances	Total Price/Percentage
	(see attached)				

The undersigned Subcontractor/subconsultant is prepared to self-perform the above-described work in conjunction with the aforementioned project at the following total price or percentage: _____

If the undersigned intends to subcontract any portion of this work to another Subcontractor/subconsultant, please list the business name and the amount below accompanied by a separate properly executed Schedule 2.

_____ **Price or Percentage:** _____

Name of 2nd/3rd tier Subcontractor/subconsultant

Johnson-Davis Incorporated
Print Name of Prime

By: _____
Authorized Signature

William Cryer
Print Name

Estimating Manager
Title

Date: 11-22-2022

Utility Supply Associates, Inc.
Print Name of Subcontractor/subconsultant

By: _____
Authorized Signature

William D. Potts
Print Name

Secretary, Treasurer, Director
Title

Date: 11/21/2022

QUOTATION

Utility Supply Associates, Inc.
140 Commerce Road • Boynton Beach, Florida 33426
Phone: (561) 493-9900 • Fax: (561) 493-9901
E-mail: sales@utilitysupplyassociates.com

Client JOHNSON DAVIS **DATE:** 18-Nov-22

Project: 2022 Pipeline Continuing Construction

Location: PBC

Qty.	U/M	SIZE	Description	Unit	Total Cost
			WATER PIPE		
300	FT	4"	PVC C-900 DR-18 BLUE PIPE B/E	$ 9.00	$ 2,700.00
8,000	FT	6"	PVC C-900 DR-18 BLUE PIPE B/E	$ 18.00	$ 144,000.00
15,000	FT	8"	PVC C-900 DR-18 BLUE PIPE B/E	$ 29.00	$ 435,000.00
500	FT	10"	PVC C-900 DR-18 BLUE PIPE B/E	$ 43.00	$ 21,500.00
7,000	FT	12"	PVC C-900 DR-18 BLUE PIPE B/E	$ 60.00	$ 420,000.00
1,000	FT	16"	PVC C-905 DR-18 BLUE PIPE B/E	$ 107.00	$ 107,000.00
500	FT	24"	PVC C-905 DR-18 BLUE PIPE B/E	$ 242.00	$ 121,000.00
500	FT	30"	PVC C-900 DR-18 BLUE PIPE B/E	$ 371.00	$ 185,500.00
200	FT	4"	CL-350 D.I. PIPE T/J C/L	$ 47.00	$ 9,400.00
5,000	FT	6"	CL-350 D.I. PIPE T/J C/L	$ 32.00	$ 160,000.00
2,000	FT	8"	CL-350 D.I. PIPE T/J C/L	$ 42.00	$ 84,000.00
100	FT	10"	CL-350 D.I. PIPE T/J C/L	$ 50.00	$ 5,000.00
7,000	FT	12"	CL-350 D.I. PIPE T/J C/L	$ 64.00	$ 448,000.00
200	FT	16"	CL-350 D.I. PIPE T/J C/L	$ 104.00	$ 20,800.00
1,000	FT	24"	CL-350 D.I. PIPE T/J C/L	$ 171.00	$ 171,000.00
100	FT	30"	CL-350 D.I. PIPE T/J C/L RESTRAINED	$ 452.00	$ 45,200.00
100	FT	36"	CL-350 D.I. PIPE T/J C/L RESTRAINED	$ 633.00	$ 63,300.00
20	FT	42"	CL-350 D.I. PIPE T/J C/L RESTRAINED	$ 633.00	$ 12,660.00
20	FT	48"	CL-350 D.I. PIPE T/J C/L RESTRAINED	$ 1,027.00	$ 20,540.00
20	FT	54"	CL-350 D.I. PIPE T/J C/L RESTRAINED	$ 1,282.00	$ 25,640.00
100	FT	4"	CL-350 D.I. PIPE T/J P401	$ 70.00	$ 7,000.00

QUOTATION

Utility Supply Associates, Inc.
140 Commerce Road • Boynton Beach, Florida 33426
Phone: (561) 493-9900 • Fax: (561) 493-9901
E-mail: sales@utilitysupplyassociates.com

Client JOHNSON DAVIS **DATE:** 18-Nov-22

Project: 2022 Pipeline Continuing Construction

Location: PBC

Qty.	U/M	SIZE	Description	Unit	Total Cost
5,000	FT	6"	CL-350 D.I. PIPE T/J P401	$ 56.00	$ 280,000.00
1,500	FT	8"	CL-350 D.I. PIPE T/J P401	$ 71.00	$ 106,500.00
100	FT	10"	CL-350 D.I. PIPE T/J P401	$ 85.00	$ 8,500.00
4,000	FT	12"	CL-350 D.I. PIPE T/J P401	$ 104.00	$ 416,000.00
200	FT	16"	CL-350 D.I. PIPE T/J P401	$ 153.00	$ 30,600.00
500	FT	24"	CL-350 D.I. PIPE T/J P401	$ 246.00	$ 123,000.00
100	FT	30"	CL-350 D.I. PIPE T/J P401	$ 430.00	$ 43,000.00
100	FT	36"	CL-350 D.I. PIPE T/J P401	$ 633.00	$ 63,300.00
20	FT	42"	CL-350 D.I. PIPE T/J P401	$ 721.00	$ 14,420.00
20	FT	48"	CL-350 D.I. PIPE T/J P401	$ 970.00	$ 19,400.00
30	TON		WATER MAIN FITTINGS	$ 8,500.00	$ 255,000.00
10	TON		FORCE MAIN FITTINGS	$ 21,275.00	$ 212,750.00
30	EA	4"	DI STARGRIP RESTRAINT W/KIT	$ 57.00	$ 1,710.00
30	EA	6"	DI STARGRIP RESTRAINT W/KIT	$ 67.00	$ 2,010.00
30	EA	8"	DI STARGRIP RESTRAINT W/KIT	$ 89.00	$ 2,670.00
10	EA	10"	DI STARGRIP RESTRAINT W/KIT	$ 124.00	$ 1,240.00
40	EA	12"	DI STARGRIP RESTRAINT W/KIT	$ 167.00	$ 6,680.00
15	EA	16"	DI STARGRIP RESTRAINT W/KIT	$ 318.00	$ 4,770.00
10	EA	24"	DI STARGRIP RESTRAINT W/KIT	$ 775.00	$ 7,750.00
1	EA	30"	DI STARGRIP RESTRAINT W/KIT	$ 1,440.00	$ 1,440.00
1	EA	36"	DI STARGRIP RESTRAINT W/KIT	$ 2,322.00	$ 2,322.00
1	EA	42"	DI STARGRIP RESTRAINT W/KIT	$ 3,405.00	$ 3,405.00

QUOTATION

Utility Supply Associates, Inc.
140 Commerce Road • Boynton Beach, Florida 33426
Phone: (561) 493-9900 • Fax: (561) 493-9901
E-mail: sales@utilitysupplyassociates.com

Client JOHNSON DAVIS **DATE:** 18-Nov-22

Project: 2022 Pipeline Continuing Construction

Location: PBC

Qty.	U/M	SIZE	Description	Unit	Total Cost
1	EA	48"	DI STARGRIP RESTRAINT W/KIT	$ 4,250.00	$ 4,250.00
1	EA	54"	DI STARGRIP RESTRAINT W/KIT	$ 10,038.00	$ 10,038.00
25	EA	4"	PVC STARGRIP RESTRAINT W/KIT	$ 64.00	$ 1,600.00
55	EA	6"	PVC STARGRIP RESTRAINT W/KIT	$ 76.00	$ 4,180.00
55	EA	8"	PVC STARGRIP RESTRAINT W/KIT	$ 102.00	$ 5,610.00
40	EA	10"	PVC STARGRIP RESTRAINT W/KIT	$ 173.00	$ 6,920.00
40	EA	12"	PVC STARGRIP RESTRAINT W/KIT	$ 184.00	$ 7,360.00
30	EA	16"	PVC STARGRIP RESTRAINT W/KIT	$ 371.00	$ 11,130.00
10	EA	24"	PVC STARGRIP RESTRAINT W/KIT	$ 616.00	$ 6,160.00
30	EA	4"	TJ FIELD LOK 350 SBR	$ 83.00	$ 2,490.00
50	EA	6"	TJ FIELD LOK 350 SBR	$ 119.00	$ 5,950.00
50	EA	8"	TJ FIELD LOK 350 SBR	$ 160.00	$ 8,000.00
20	EA	10"	TJ FIELD LOK 350 SBR	$ 200.00	$ 4,000.00
50	EA	12"	TJ FIELD LOK 350 SBR	$ 232.00	$ 11,600.00
25	EA	24"	TJ FIELD LOK 350 SBR	$ 1,040.00	$ 26,000.00
40	EA	4"	BELL JOINT RESTRAINT W/ S.S. RODS	$ 133.00	$ 5,320.00
45	EA	6"	BELL JOINT RESTRAINT W/ S.S. RODS	$ 168.00	$ 7,560.00
45	EA	8"	BELL JOINT RESTRAINT W/ S.S. RODS	$ 252.00	$ 11,340.00
35	EA	10"	BELL JOINT RESTRAINT W/ S.S. RODS	$ 474.00	$ 16,590.00
35	EA	12"	BELL JOINT RESTRAINT W/ S.S. RODS	$ 496.00	$ 17,360.00
35	EA	16"	BELL JOINT RESTRAINT W/ S.S. RODS	$ 1,570.00	$ 54,950.00

QUOTATION

Utility Supply Associates, Inc.
140 Commerce Road • Boynton Beach, Florida 33426
Phone: (561) 493-9900 • Fax: (561) 493-9901
E-mail: sales@utilitysupplyassociates.com

Client JOHNSON DAVIS **DATE:** 18-Nov-22

Project: 2022 Pipeline Continuing Construction

Location: PBC

Qty.	U/M	SIZE	Description	Unit	Total Cost
10	EA	20"	BELL JOINT RESTRAINT W/ S.S. RODS	$ 1,569.00	$ 11,980.00
35	EA	24"	BELL JOINT RESTRAINT W/ S.S. RODS	$ 2,900.00	$ 101,500.00
5	EA	30"	BELL JOINT RESTRAINT W/ S.S. RODS	$ 4,622.00	$ 23,110.00
5	EA	36"	BELL JOINT RESTRAINT W/ S.S. RODS	$ 4,622.00	$ 23,110.00
25	EA	4"	MJ R/W GATE VALVE O/L 2" OP. NUT	$ 966.00	$ 24,150.00
25	EA	6"	MJ R/W GATE VALVE O/L 2" OP. NUT	$ 1,232.00	$ 30,800.00
15	EA	8"	MJ R/W GATE VALVE O/L 2" OP. NUT	$ 1,962.00	$ 29,430.00
10	EA	10"	MJ R/W GATE VALVE O/L 2" OP. NUT	$ 3,058.00	$ 30,580.00
10	EA	12"	MJ R/W GATE VALVE O/L 2" OP. NUT	$ 3,870.00	$ 38,700.00
5	EA	16"	MJ R/W GATE VALVE O/L 2" OP. NUT	$ 12,900.00	$ 64,500.00
5	EA	20"	MJ R/W GATE VALVE O/L 2" OP. NUT	$ 25,500.00	$ 127,500.00
1	EA	24"	MJ R/W GATE VALVE O/L 2" OP. NUT	$ 37,007.00	$ 37,007.00
1	EA	30"	MJ R/W GATE VALVE O/L 2" OP. NUT	$ 56,300.00	$ 56,300.00
1	EA	36"	MJ R/W GATE VALVE O/L 2" OP. NUT	$ 81,275.00	$ 81,275.00
1	EA	42"	MJ R/W GATE VALVE O/L 2" OP. NUT	$ 98,000.00	$ 98,000.00
1	EA	48"	MJ R/W GATE VALVE O/L 2" OP. NUT	$ 99,500.00	$ 99,500.00
10	EA	12"	MJ BUTTERFLY VALVE O/L 2" OP NUT	$ 3,637.00	$ 36,370.00
1	EA	16"	MJ BUTTERFLY VALVE O/L 2" OP NUT	$ 6,997.00	$ 6,997.00
1	EA	20"	MJ BUTTERFLY VALVE O/L 2" OP NUT	$ 9,764.00	$ 9,764.00
1	EA	24"	MJ BUTTERFLY VALVE O/L 2" OP NUT	$ 12,750.00	$ 12,750.00
1	EA	30"	MJ BUTTERFLY VALVE O/L 2" OP NUT	$ 28,100.00	$ 28,100.00
1	EA	36"	MJ BUTTERFLY VALVE O/L 2" OP NUT	$ 30,785.00	$ 30,785.00

QUOTATION

Utility Supply Associates, Inc.
140 Commerce Road • Boynton Beach, Florida 33426
Phone: (561) 493-9900 • Fax: (561) 493-9901
E-mail: sales@utilitysupplyassociates.com

Client JOHNSON DAVIS **DATE:** 18-Nov-22

Project: 2022 Pipeline Continuing Construction

Location: PBC

Qty.	U/M	SIZE	Description	Unit	Total Cost
1	EA	42"	MJ BUTTERFLY VALVE O/L 2" OP NUT	$ 43,080.00	$ 43,080.00
1	EA	48"	MJ BUTTERFLY VALVE O/L 2" OP NUT	$ 59,035.00	$ 59,035.00
24	EA	4"	MJ R/W TAP VALVE O/L 2" OP NUT	$ 957.00	$ 22,968.00
36	EA	6"	MJ R/W TAP VALVE O/L 2" OP NUT	$ 969.00	$ 34,884.00
26	EA	8"	MJ R/W TAP VALVE O/L 2" OP NUT	$ 2,006.00	$ 52,156.00
4	EA	10"	MJ R/W TAP VALVE O/L 2" OP NUT	$ 3,016.00	$ 12,064.00
6	EA	12"	MJ R/W TAP VALVE O/L 2" OP NUT	$ 4,569.00	$ 27,414.00
1	EA	16"	MJ R/W TAP VALVE O/L 2" OP NUT	$ 9,043.00	$ 9,043.00
1	EA	24"	MJ R/W TAP VALVE O/L 2" OP NUT	$ 26,064.00	$ 26,064.00
5	EA	4" X 4"	H615 MJ TAP SLV F/DI	$ 1,613.00	$ 8,065.00
5	EA	6" X 4"	H615 MJ TAP SLV F/DI	$ 1,918.00	$ 9,590.00
10	EA	6" X 6"	H615 MJ TAP SLV F/DI	$ 1,918.00	$ 19,180.00
10	EA	8" X 4"	H615 MJ TAP SLV F/DI	$ 2,355.00	$ 23,550.00
20	EA	8" X 6"	H615 MJ TAP SLV F/DI	$ 1,723.00	$ 34,460.00
20	EA	8" X 8"	H615 MJ TAP SLV F/DI	$ 1,474.00	$ 29,480.00
1	EA	10" X 6"	H615 MJ TAP SLV F/DI	$ 3,086.00	$ 3,086.00
1	EA	10" X 8"	H615 MJ TAP SLV F/DI	$ 3,192.00	$ 3,192.00
1	EA	10" X 10"	H615 MJ TAP SLV F/DI	$ 3,298.00	$ 3,298.00
1	EA	12" X 6"	H615 MJ TAP SLV F/DI	$ 4,656.00	$ 4,656.00
1	EA	12" X 8"	H615 MJ TAP SLV F/DI	$ 4,945.00	$ 4,945.00
1	EA	12" X 10"	H615 MJ TAP SLV F/DI	$ 5,723.00	$ 5,723.00
1	EA	12" X 12"	H615 MJ TAP SLV F/DI	$ 4,149.00	$ 4,149.00

QUOTATION

Utility Supply Associates, Inc.
140 Commerce Road • Boynton Beach, Florida 33426
Phone: (561) 493-9900 • Fax: (561) 493-9901
E-mail: sales@utilitysupplyassociates.com

Client **JOHNSON DAVIS** **DATE:** **18-Nov-22**

Project: **2022 Pipeline Continuing Construction**

Location: **PBC**

Qty.	U/M	SIZE	Description	Unit	Total Cost
2	EA	16" X 8"	H615 MJ TAP SLV F/DI	$ 7,727.00	$ 15,454.00
2	EA	16" X 10"	H615 MJ TAP SLV F/DI	$ 12,246.00	$ 24,492.00
2	EA	16" X 12"	H615 MJ TAP SLV F/DI	$ 12,307.00	$ 24,614.00
1	EA	24" X 12"	H615 MJ TAP SLV F/DI	$ 19,150.00	$ 19,150.00
1	EA	24" X 16"	H615 MJ TAP SLV F/DI	$ 28,566.00	$ 28,566.00
1	EA	24" X 24"	H615 MJ TAP SLV F/DI	$ 29,732.00	$ 29,732.00
1	EA	10" X 4"	SS TAP SLV JCM	$ 1,197.00	$ 1,197.00
1	EA	12" X 4"	SS TAP SLV JCM	$ 1,676.00	$ 1,676.00
2	EA	16" X 4"	SS TAP SLV JCM	$ 1,912.00	$ 3,824.00
2	EA	16" X 6"	SS TAP SLV JCM	$ 2,163.00	$ 4,326.00
1	EA	24" X 6"	SS TAP SLV JCM	$ 2,316.00	$ 2,316.00
1	EA	24" X 8"	SS TAP SLV JCM	$ 3,511.00	$ 3,511.00
1	EA	30" X 6"	SS TAP SLV JCM	$ 2,137.00	$ 2,137.00
1	EA	30" X 8"	SS TAP SLV JCM	$ 2,852.00	$ 2,852.00
1	EA	30" X 12"	SS TAP SLV JCM	$ 4,149.00	$ 4,149.00
215	EA		PBC VALVE BOX W/ WATER LID	$ 262.00	$ 56,330.00
100	EA		PBC F.H. 48" BURY PLUGGED WEEP HOLES RED	$ 4,000.00	$ 400,000.00
100	EA		CAPTIVATOR SET DDP NST B41	$ 1,000.00	$ 100,000.00

Terms: Bid Validity: 10 days from Quote Date.
All quotes subject to product availability. USA will only

QUOTATION

Utility Supply Associates, Inc.
140 Commerce Road • Boynton Beach, Florida 33426
Phone: (561) 493-9900 • Fax: (561) 493-9901
E-mail: sales@utilitysupplyassociates.com

Client JOHNSON DAVIS **DATE:** 18-Nov-22

Project: 2022 Pipeline Continuing Construction

Location: PBC

Qty.	U/M	SIZE	Description	Unit	Total Cost

honor the price until the ship-by date.

Terms of Sale: Net 30

Quoted & Payable in U.S. Dollars.

Our prices are based on supplying essentially all mat'l quoted.

If unit prices differ from the total, unit prices will prevail.

CUSTOMER TO DETERMINE PRODUCT SUITABILITY AND APPLICATION

TOTAL - F.O.B. Palm Beach COUNTY, FL	**$ 6,510,731.00**
Tax	1.07
	$ 6,966,482.17
For: Utility Supply Associates, Inc.	60%
Bill Potts	$ 4,179,889.30

Operations Manager

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-3252

ATTACHMENT NO. 3 TO BID FORM

Certification of Business Location

PBCWUD PROJECT NO.: 22-032

PROJECT NAME: 2022 Pipeline Continuing Construction Contract

In accordance with the Palm Beach County Local Preference Ordinance, as amended, a preference will be given to: (1) those bidders having a permanent place of business in Palm Beach County ("County"); and, (2) those bidders having a permanent place of business in the Glades providing goods or services to be utilized in the Glades. To receive a local preference, bidders must have a permanent place of business in the County or in the Glades, as applicable, prior to the County's issuance of any solicitation. A Business Tax Receipt issued by the Palm Beach County Tax Collector is required, unless specifically exempted by law, and will be used to verify the bidder's permanent place of business. The bidder must submit this Certification of Business Location ("Certification") along with the required Business Tax Receipt at the time of bid submission. This Certification is the sole determinant of local preference eligibility. Errors in the completion of this Certification or failure to submit this completed Certification will cause the bidder to not receive a local preference.

I. Bidder is a:

X **Local Business:** A local business has a permanent place of business in Palm Beach County.

(Please indicate):

X Headquarters located in Palm Beach County

_____ Permanent office or other site located in Palm Beach County from which a vendor will produce a substantial portion of the goods or services.

_____ **Glades Business** A Glades business has a permanent place of business in the Glades.

(Please indicate):

_____ Headquarters located in the Glades

_____ Permanent office or other site located in the Glades from which a vendor will produce a substantial portion of the goods or services.

_____ **Non-local Business** The Bidder does not have a permanent place of business in Palm Beach County.

II. The attached copy of the bidder's Palm Beach County Business Tax Receipt verifies the bidder's permanent place of business.

THIS CERTIFICATION is submitted by Wm. Clark C. Cryer (Name of Individual), as Estimating Manager (Title/Position), of Johnson-Davis, Incorporated (Firm Name of Bidder).

who hereby certifies that the information stated above is true and correct and that the Palm Beach County Business Tax Receipt is a true and correct copy of the original. Further, it is hereby acknowledged that any misrepresentation by the bidder on this Certification will be considered an unethical business practice and be grounds for sanctions against future County business.

(Signature) (Wm. Clark C. Cryer Estimating Manager) 11/22/2022 (Date)

LOCAL BUSINESS TAX RECEIPT

TOWN OF LANTANA, FLORIDA

RECEIPT NUMBER: 9300617

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-3252

EFFECTIVE DATE:
10/31/1994

EXPIRATION DATE:
09/30/2023

JOHNSON-DAVIS INC.
604 HILLBRATH DRIVE
LANTANA, FL 33462-1656

BUSINESS LOCATION:
604 HILLBRATH DR
LANTANA. FLORIDA 33462-1656

NAME OF BUSINESS
JOHNSON-DAVIS INC

BUSINESS CLASSIFICATION:
014 - OFFICE

BUSINESS TYPE:
014 - OFFICE

OWNERSHIP TYPE:

INCORPORATED

SPECIAL CONDITIONS

THIS RECEIPT EXPIRES AS SPECIFIED ABOVE

BUSINESS TO BE CONDUCTED IN CONFORMITY WITH AND SUBJECT TO THE PROVISIONS OF THE ORDINANCES OF THE TOWN OF LANTANA AND THE LAWS OF THE STATE OF FLORIDA.

THIS RECEIPT MUST BE POSTED IN A CONSPICUOUS PLACE

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-3252

ANNE M. GANNON
CONSTITUTIONAL TAX COLLECTOR
Serving Palm Beach County
Serving *you.*

P.O. Box 3353, West Palm Beach, FL 33402-3353
www.pbctax.com Tel: (561) 355-2264

****LOCATED AT****
604 HILLBRATH DRIVE
LANTANA, FL 33462-1656

TYPE OF BUSINESS	OWNER	CERTIFICATION #	RECEIPT #/DATE PAID	AMT PAID	BILL #
23-0069 PLUMBING CONTRACTOR	CRYER WILLIAM CLARK CLIFFORD	CFC1430348	B22.602538 - 07/11/22	$27.50	B40170243

This document is valid only when receipted by the Tax Collector's Office.

STATE OF FLORIDA
PALM BEACH COUNTY
2022/2023 LOCAL BUSINESS TAX RECEIPT

JOHNSON DAVIS INC
JOHNSON DAVIS INC
604 HILLBRATH DRIVE
LANTANA, FL 33462-1656

LBTR Number: 2020125389
EXPIRES: SEPTEMBER 30, 2023

This receipt grants the privilege of engaging in or managing any business profession or occupation within its jurisdiction and MUST be conspicuously displayed at the place of business and in such a manner as to be open to the view of the public.

ANNE M. GANNON
CONSTITUTIONAL TAX COLLECTOR
Serving Palm Beach County
Serving *you.*

P.O. Box 3353, West Palm Beach, FL 33402-3353
www.pbctax.com Tel: (561) 355-2264

****LOCATED AT****
604 HILLBRATH DRIVE
LANTANA, FL 33462-1656

TYPE OF BUSINESS	OWNER	CERTIFICATION #	RECEIPT #/DATE PAID	AMT PAID	BILL #
23-0105 CW PLUMBING CONTRACTOR	CRYER WILLIAM CLARK CLIFFORD	CDC1430348	B22.602535 - 07/11/22	$264.60	B40170242

This document is valid only when receipted by the Tax Collector's Office.

STATE OF FLORIDA
PALM BEACH COUNTY
2022/2023 LOCAL BUSINESS TAX RECEIPT

JOHNSON DAVIS INC
JOHNSON DAVIS INC
604 HILLBRATH DRIVE
LANTANA, FL 33462-1656

LBTR Number: 2020125390
EXPIRES: SEPTEMBER 30, 2023

This receipt grants the privilege of engaging in or managing any business profession or occupation within its jurisdiction and MUST be conspicuously displayed at the place of business and in such a manner as to be open to the view of the public.

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-2252

ANNE M. GANNON
CONSTITUTIONAL TAX COLLECTOR
Serving Palm Beach County
Serving *you.*

P.O. Box 3353, West Palm Beach, FL 33402-3353
www.pbctax.com Tel: (561) 355-2264

****LOCATED AT****
604 HILLBRATH DRIVE
LANTANA, FL 33462-1656

TYPE OF BUSINESS	OWNER	CERTIFICATION #	RECEIPT #/DATE PAID	AMT PAID	BILL #
23-0137 CW UNDERGROUND UTILITY &	JOHNSON SCOTT J	CUC043087	B22.602590 - 07/11/22	$185.85	B40130693

This document is valid only when receipted by the Tax Collector's Office.

STATE OF FLORIDA
PALM BEACH COUNTY
2022/2023 LOCAL BUSINESS TAX RECEIPT

JOHNSON DAVIS INC
JOHNSON DAVIS INC
604 HILLBRATH DRIVE
LANTANA, FL 33462-1656

LBTR Number: 199306318
EXPIRES: SEPTEMBER 30, 2023

This receipt grants the privilege of engaging in or managing any business profession or occupation within its jurisdiction and MUST be conspicuously displayed at the place of business and in such a manner as to be open to the view of the public.

ANNE M. GANNON
CONSTITUTIONAL TAX COLLECTOR
Serving Palm Beach County
Serving *you.*

P.O. Box 3353, West Palm Beach, FL 33402-3353
www.pbctax.com Tel: (561) 355-2264

****LOCATED AT****
604 HILLBRATH DRIVE
LANTANA, FL 33462-1656

TYPE OF BUSINESS	OWNER	CERTIFICATION #	RECEIPT #/DATE PAID	AMT PAID	BILL #
23-0097 UNDERGROUND UTILITY & EXCAVATION	JOHNSON SCOTT J	CUC043087	B22.602591 - 07/11/22	$99.00	B40130692

This document is valid only when receipted by the Tax Collector's Office.

STATE OF FLORIDA
PALM BEACH COUNTY
2022/2023 LOCAL BUSINESS TAX RECEIPT

JOHNSON DAVIS INC
JOHNSON DAVIS INC
604 HILLBRATH DRIVE
LANTANA, FL 33462-1656

LBTR Number: 199306319
EXPIRES: SEPTEMBER 30, 2023

This receipt grants the privilege of engaging in or managing any business profession or occupation within its jurisdiction and MUST be conspicuously displayed at the place of business and in such a manner as to be open to the view of the public.

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-3252

ANNE M. GANNON
CONSTITUTIONAL TAX COLLECTOR
Serving Palm Beach County
Serving *you.*

P.O. Box 3353, West Palm Beach, FL 33402-3353
www.pbctax.com Tel: (561) 355-2264

****LOCATED AT****
604 HILLBRATH DRIVE
LANTANA, FL 33462-1656

TYPE OF BUSINESS	OWNER	CERTIFICATION #	RECEIPT #/DATE PAID	AMT PAID	BILL #
23-0097 UNDERGROUND UTILITY & EXCAVATION	CRYER WILLIAM CLARK CLIFFORD	CUC1225299	B22.602594 - 07/11/22	$27.50	B40170245

This document is valid only when receipted by the Tax Collector's Office.

STATE OF FLORIDA
PALM BEACH COUNTY
2022/2023 LOCAL BUSINESS TAX RECEIPT

JOHNSON DAVIS INC
JOHNSON DAVIS INC
604 HILLBRATH DRIVE
LANTANA, FL 33462-1656

LBTR Number: 2020125387
EXPIRES: SEPTEMBER 30, 2023

This receipt grants the privilege of engaging in or managing any business profession or occupation within its jurisdiction and MUST be conspicuously displayed at the place of business and in such a manner as to be open to the view of the public.

ANNE M. GANNON
CONSTITUTIONAL TAX COLLECTOR
Serving Palm Beach County
Serving *you.*

P.O. Box 3353, West Palm Beach, FL 33402-3353
www.pbctax.com Tel: (561) 355-2264

****LOCATED AT****
604 HILLBRATH DRIVE
LANTANA, FL 33462-1656

TYPE OF BUSINESS	OWNER	CERTIFICATION #	RECEIPT #/DATE PAID	AMT PAID	BILL #
23-0137 CW UNDERGROUND UTILITY &	CRYER WILLIAM CLARK CLIFFORD	CUC1225299	B22.602595 - 07/11/22	$185.85	B40170244

This document is valid only when receipted by the Tax Collector's Office.

STATE OF FLORIDA
PALM BEACH COUNTY
2022/2023 LOCAL BUSINESS TAX RECEIPT

JOHNSON DAVIS INC
JOHNSON DAVIS INC
604 HILLBRATH DRIVE
LANTANA, FL 33462-1656

LBTR Number: 2020125388
EXPIRES: SEPTEMBER 30, 2023

This receipt grants the privilege of engaging in or managing any business profession or occupation within its jurisdiction and MUST be conspicuously displayed at the place of business and in such a manner as to be open to the view of the public.

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-3252

Attachment 3a to Bid Form

Certification of Business Location – Glades Subcontractor

In accordance with the Palm Beach County Local Preference Ordinance, as amended, a preference will be given to non-Glades business utilizing Glades subcontractors providing services to be utilized in a project located in the Glades. To receive a local preference, Glades subcontractors must have a permanent place of business in the Glades prior to the County's issuance of any solicitation. A Business Tax Receipt issued by the Palm Beach County Tax Collector is required, unless specifically exempted by law, and will be used to verify the subcontractor's permanent place of business. The bidder must submit this Certification of Business Location ("Certification") along with the required Business Tax Receipt at the time of bid submission. This Certification is the sole determinant of local preference eligibility. Errors in the completion of this Certification or failure to submit this completed Certification will cause the bidder to not receive a Glades local preference.

I. Subcontractor is a: **Glades Business** A Glades business has a permanent place of business in the Glades.

(Please indicate):

_____ Headquarters located in the Glades

_____ Permanent office or other site located in the Glades from which a vendor will produce a substantial portion of the goods or services.

II. Subcontractor's Scope of Work and Bid Price:

Scope of Work: _____

_____

_____

Bid Price: _____

Business Address: _____

_____

_____

II. The attached copy of the subcontractor's Palm Beach County Business Tax Receipt verifies the subcontractor's permanent place of business.

THIS CERTIFICATION is submitted by _____, as
(Name of Individual)

_____, of _____.
(Title/Position) (Firm Name of Subcontractor)

who hereby certifies that the information stated above is true and correct and that the Palm Beach County Business Tax Receipt is a true and correct copy of the original. Further, it is hereby acknowledged that any misrepresentation by the subcontractor on this Certification will be considered an unethical business practice and be grounds for sanctions against future County business.

_____ _____
(Signature) (Date)

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-3252

ATTACHMENT NO. 4 TO BID FORM

LIST OF MAJOR SUBCONTRACTORS

PBCWUD PROJECT NO.: 22-032

PROJECT NAME: 2022 Pipeline Continuing Construction Contract

DATE: 11/22/2022

A list of major subcontractors to be utilized on the project shall be provided herein. Refer to Instructions to Bidders, Paragraph 5.1.6. The Contractor shall complete all information (Trade, Subcontractor, License/Certificate Number) in all categories that apply. Suppliers or off-site fabricators are not to be listed.

The purpose of this list is to discourage "sub-shopping" in general, to verify appropriate licenses and to provide a basis for the implementation of the substitution provisions of this Contract (Instructions to Bidder 2.3). The receipt of this Attachment in no way constitutes approval or disapproval by the County of any subcontractor listed. Failure to furnish all information may result in rejection of bid.

The Bidder has estimated the following are the major subcontractors to be used if the undersigned is awarded the contract.

TRADE	SUBCONTRACTOR	LICENSE/CERTIFICATE NO.
Underground Utility	Alamzan Construction, LLC	CGC1527111

Bidding Contractor: Johnson-Davis, Incorporated

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-3252

ATTACHMENT NO. 5 TO BID FORM
TRENCH SAFETY AFFIDAVIT

PBCWUD PROJECT NO.: 22-032

PROJECT NAME: 2022 Pipeline Continuing Construction Contract

DATE: 11/22/2022

FAILURE TO COMPLETE THIS FORM SHALL RESULT IN THE BID BEING DECLARED NONRESPONSIVE.

Johnson-Davis, Incorporated (NAME OF CONTRACTOR) hereby provides written assurance that the Trench Safety Standards identified in the Occupational Safety & Health Administration's Excavation Safety Standards, (OSHA) 29 C.F.R. 1926.650 Subpart P will be adhered to during trench excavation in accordance with Florida Statute 553.60 through 553.64 inclusive (1990), "Trench Safety Act".

The undersigned acknowledges that included in the various items of the proposal and in the Total Bid Price are costs for complying with the Florida "Trench Safety Act" as summarized below: (Attached additional sheets as necessary)

Schedule Item	Trench Safety Measure (Slope, Trench Shield, etc.)	Cost (Per Linear ft. of trench, or per sq. ft. of shoring)
1 - 32	Slope/Shield	$1.00 per LF
35 - 43	Slope/Shield	$10.00 per LF
110 - 114	Trench Shield	$500.00 each location
119 - 122	Trench Shield	$500.00 each location
	TOTAL $77,200.00	

11/22/2022
(Signature) (Date)

Wm. Clark C. Cryer — Estimating Manager
(Printed Name) (Title)

STATE OF FLORIDA

COUNTY OF _____

The foregoing instrument was acknowledged before me by means of ☑ physical presence or ☐ online notarization, this 22nd day of November, 2022, by William Cryer, who is ☑ personally known to me or ☐ has produced _____ as identification.

James P. Amsler
(Signature of Notary Public – State of Florida)

JAMES PATRICK AMSLER
Notary Public - State of Florida
Commission # HH 254617
My Comm. Expires Aug 11, 2026
Bonded through National Notary Assn.

(Print, Type, or Stamp Commissioned Name of Notary Public)

END OF SECTION

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-3252

JOHNSON-DAVIS INC.
Contractors
604 HILLBRATH FRIVE
LANTANA, FL 33462-1694
PHONE: 561-588-1170 FAX: 561-585-5252
CU-C043087

(corporate seal)

CORPORATE RESOLUTION

The undersigned hereby certifies that he/she is the duly elected and qualified **Secretary and the custodian** of the books and records and seal of Johnson-Davis Incorporated a corporation duly formed pursuant to the laws of the state of Florida and allows Scott Johnson, President and Robert A. Hopler, Vice President and William Cryer, Estimating Manager to obligate, bind and authorize documents on behalf of the above named corporation, and that the foregoing is a true record of a resolution duly adopted at a meeting of the **Board of Directors** and that said meeting was held in accordance with state law and the Bylaws of the above-named Corporation on February 18, 2020 and that said resolution is now in full force and effect without modification or rescission.

IN WITNESS WHEREOF, I have executed my name as Secretary and have hereunto affixed the corporate seal of the above-named Corporation this March 24, 2020.

By: _____

Christopher Johnson, Secretary/Treasurer

_____
Witness

_____
Printed name

The foregoing was acknowledged before me this 24th day of March 2020, by Christopher Johnson as Secretary of Johnson-Davis, incorporated who is personally known to me.

_____
NOTARY PUBLIC IN AND FOR THE COUNTY OF
PALM BEACH COUNTY, STATE OF FLORIDA

SEAL:

NOTARY PUBLIC STATE OF FLORIDA
DAWN M. CELONA
Commission # GG 155920
Expires November 14, 2021
Bonded Thru Troy Fain Insurance 800-385-7019

Ron DeSantis, Governor

Melanie S. Griffin, Secretary

Florida dbpr

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

THE UNDERGROUND UTILITY & EXCAVATION CO HEREIN IS CERTIFIED UNDER THE PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

JOHNSON, SCOTT JAMES

JOHNSON - DAVIS INCORPORATED
604 HILLBRATH DRIVE
LANTANA FL 33462

LICENSE NUMBER: CUC043087

EXPIRATION DATE: AUGUST 31, 2024

Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.

This is your license. It is unlawful for anyone other than the licensee to use this document.

Ron DeSantis, Governor

Melanie S. Griffin, Secretary

Florida dbpr

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

THE UNDERGROUND UTILITY & EXCAVATION CO HEREIN IS CERTIFIED UNDER THE PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

CRYER, WILLIAM CLARK CLIFFORD

JOHNSON - DAVIS INCORPORATED
604 HILLBRATH DRIVE
LANTANA FL 33462

LICENSE NUMBER: CUC1225299

EXPIRATION DATE: AUGUST 31, 2024

Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.

This is your license. It is unlawful for anyone other than the licensee to use this document.

Ron DeSantis, Governor

Melanie S. Griffin, Secretary

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

THE PLUMBING CONTRACTOR HEREIN IS CERTIFIED UNDER THE
PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

CRYER, WILLIAM CLARK CLIFFORD

JOHNSON - DAVIS INCORPORATED
604 HILLBRATH DRIVE
LANTANA FL 33462

LICENSE NUMBER: CFC1430348

EXPIRATION DATE: AUGUST 31, 2024

Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.

This is your license. It is unlawful for anyone other than the licensee to use this document.

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-3252

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

▶ Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give Form to the requester. Do not send to the IRS.

Print or type. See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.
JOHNSON-DAVIS INCORPORATED

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☑ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ _____

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is **not** disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) _____

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.
604 Hillbrath Drive

Requester's name and address (optional)

6 City, state, and ZIP code
Lantana, FL 33462

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN,* later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number
			–			–				

or

Employer identification number
5	9	–	1	7	5	3	8	8	8

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here Signature of U.S. person ▶ C. J. W. Date ▶ 5/20/2021

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9.*

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170 08/11/2022
Fax: (561) 585-3262

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Harrison Vaughn	
Vaughn Risk Management 222 US Highway 1 St 208D Tequesta FL 33469	PHONE (A/C, No, Ext): (561) 289-0586	FAX (A/C, No): (561) 768-4958
	E-MAIL ADDRESS: harrisonv@vaughnrm.com	
	INSURER(S) AFFORDING COVERAGE	NAIC #
INSURED Johnson - Davis Incorporated 604 Hillbrath Drive Lantana FL 33462	INSURER A : NATIONAL FIRE INS CO OF HARTFORD	20478
	INSURER B : CONTINENTAL INS CO	35289
	INSURER C : VALLEY FORGE INS CO	20508
	INSURER D : HOMELAND INS CO	38210
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	[X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [ ] POLICY [X] PRO-JECT [ ] LOC [ ] OTHER:	x	x	7033967643	07/01/2022	07/01/2023	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG [ ]	$ 1,000,000 $ 100,000 $ 15,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $
B	AUTOMOBILE LIABILITY [X] ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS [ ] HIRED AUTOS ONLY [ ] NON-OWNED AUTOS ONLY	x	x	7033968744	07/01/2022	07/01/2023	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) [ ]	$ 1,000,000 $ $ $ $
B	[X] UMBRELLA LIAB [X] OCCUR [ ] EXCESS LIAB [ ] CLAIMS-MADE [ ] DED [X] RETENTION $ 0	x	x	7033984636	07/01/2022	07/01/2023	EACH OCCURRENCE AGGREGATE PR/COMP OPS AGG	$ 10,000,000 $ 10,000,000 $ 10,000,000
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N [N] If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	x	7033972535	07/01/2022	07/01/2023	[X] PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1,000,000 $ 1,000,000 $ 1,000,000
D	Pollution Liability			7930119810000	07/01/2022	07/01/2023	Each Occurrence	1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

The certificate holder is listed as an additional insured with respect to General Liability for ongoing and completed operations, Automobile Liability and Umbrella Liability on a primary noncontributory basis when required by written contract. A waiver of subrogation in favor of additional insureds applies to Workers Compensation, General Liability, Automobile Liability, Umbrella Liability when required by written contract. Umbrella coverage is follow form to the GL.
30 day notice of cancellation, 10 day notice for non-payment.

CERTIFICATE HOLDER

Johnson-Davis, Inc.
604 Hillbrath Dr.
Lantana FL 33462

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-3252



Detail by Entity Name

Florida Profit Corporation
JOHNSON - DAVIS INCORPORATED

Filing Information

Document Number	538772
FEI/EIN Number	59-1753888
Date Filed	07/06/1977
State	FL
Status	ACTIVE

Principal Address

604 HILLBRATH DRIVE
LANTANA, FL 33462

Changed: 04/01/1986

Mailing Address

604 HILLBRATH DRIVE
LANTANA, FL 33462

Changed: 04/01/1986

Registered Agent Name & Address

JOHNSON, SCOTT J
604 HILLBRATH DRIVE
LANTANA, FL 33462

Name Changed: 03/20/1996

Address Changed: 12/18/2009

Officer/Director Detail

Name & Address

Title P

JOHNSON, SCOTT J.
18843 SE JUPITER RIVER DR
JUPITER, FL 33458

Title TS

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-3252

JOHNSON, CHRISTOPHER
7541 BRIAR CLIFF CIR
LAKE WORTH, FL 33467

Title ESTIMATING MANAGER

CRYER, WILLIAM
170 RIVER DRIVE
TEQUESTA, FL 33469

Title CHIEF FINANCIAL OFFICER

STANLEY, JOHN
4110 NW 10TH STREET
DELRAY BEACH, FL 33445

Annual Reports

Report Year	Filed Date
2021	01/13/2021
2021	07/02/2021
2021	11/09/2021

Document Images

11/09/2021 -- AMENDED ANNUAL REPORT	View image in PDF format
07/02/2021 -- AMENDED ANNUAL REPORT	View image in PDF format
01/13/2021 -- ANNUAL REPORT	View image in PDF format
03/25/2020 -- AMENDED ANNUAL REPORT	View image in PDF format
01/07/2020 -- ANNUAL REPORT	View image in PDF format
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01/05/2018 -- ANNUAL REPORT	View image in PDF format
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01/14/2016 -- ANNUAL REPORT	View image in PDF format
01/07/2015 -- ANNUAL REPORT	View image in PDF format
01/03/2014 -- ANNUAL REPORT	View image in PDF format
01/02/2013 -- ANNUAL REPORT	View image in PDF format
01/04/2012 -- ANNUAL REPORT	View image in PDF format
07/01/2011 -- ANNUAL REPORT	View image in PDF format
01/04/2011 -- ANNUAL REPORT	View image in PDF format
01/05/2010 -- ANNUAL REPORT	View image in PDF format
01/08/2009 -- ANNUAL REPORT	View image in PDF format
01/07/2008 -- ANNUAL REPORT	View image in PDF format
01/10/2007 -- ANNUAL REPORT	View image in PDF format
01/12/2006 -- ANNUAL REPORT	View image in PDF format
02/12/2005 -- ANNUAL REPORT	View image in PDF format
02/04/2004 -- ANNUAL REPORT	View image in PDF format
02/10/2003 -- ANNUAL REPORT	View image in PDF format
03/15/2002 -- ANNUAL REPORT	View image in PDF format

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-3252

State of Florida
Department of State

I certify from the records of this office that JOHNSON - DAVIS INCORPORATED is a corporation organized under the laws of the State of Florida, filed on July 6, 1977.

The document number of this corporation is 538772.

I further certify that said corporation has paid all fees due this office through December 31, 2021, that its most recent annual report/uniform business report was filed on November 9, 2021, and that its status is active.

I further certify that said corporation has not filed Articles of Dissolution.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Seventh day of December, 2021

GREAT SEAL OF THE STATE OF FLORIDA
IN GOD WE TRUST

Secretary of State

Tracking Number: 0516866656CU

To authenticate this certificate,visit the following site,enter this number, and then follow the instructions displayed.

https://services.sunbiz.org/Filings/CertificateOfStatus/CertificateAuthentication

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-3252

STATE OF FLORIDA

DEPARTMENT OF STATE • DIVISION OF CORPORATIONS

I certify that the following is a true and correct copy of

CERTIFICATE OF INCORPORATION

OF

JOHNSON - DAVIS INCORPORATED

filed in this office on the 6th day of July

19 77.

Charter Number: 538772

GIVEN under my hand and the Great Seal of the State of Florida, at Tallahassee, the Capital, this the 7th day of July

19 77.

SECRETARY OF STATE

CORP. 101 (Corp. 94)
7-13-76

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone: (561) 588-1170
Fax: (561) 585-3252

CONTRACTORS EXTENDED COVERAGE ENDORSEMENT - BUSINESS AUTO PLUS

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

I. LIABILITY COVERAGE

A. Who Is An Insured

The following is added to **Section II, Paragraph A.1., Who Is An Insured:**

1. **a.** Any incorporated entity of which the Named Insured owns a majority of the voting stock on the date of inception of this Coverage Form; provided that,

   b. The insurance afforded by this provision **A.1.** does not apply to any such entity that is an **insured** under any other liability "policy" providing **auto** coverage.

2. Any organization you newly acquire or form, other than a limited liability company, partnership or joint venture, and over which you maintain majority ownership interest.

   The insurance afforded by this provision **A.2.**:

   a. Is effective on the acquisition or formation date, and is afforded only until the end of the policy period of this Coverage Form, or the next anniversary of its inception date, whichever is earlier.

   b. Does not apply to:

   (1) **Bodily injury** or **property damage** caused by an **accident** that occurred before you acquired or formed the organization; or

   (2) Any such organization that is an **insured** under any other liability "policy" providing **auto** coverage.

3. Any person or organization that you are required by a written contract to name as an additional insured is an **insured** but only with respect to their legal liability for acts or omissions of a person, who qualifies as an **insured** under **SECTION II – WHO IS AN INSURED** and for whom Liability Coverage is afforded under this policy. If required by written contract, this insurance will be primary and non-contributory to insurance on which the additional insured is a Named Insured.

4. An **employee** of yours is an **insured** while operating an **auto** hired or rented under a contract or agreement in that **employee's** name, with your permission, while performing duties related to the conduct of your business.

"Policy", as used in this provision **A. Who Is An Insured,** includes those policies that were in force on the inception date of this Coverage Form but:

1. Which are no longer in force; or
2. Whose limits have been exhausted.

B. Bail Bonds and Loss of Earnings

Section II, Paragraphs A.2. (2) and A.2. (4) are revised as follows:

1. In **a.(2),** the limit for the cost of bail bonds is changed from $2,000 to $5,000; and
2. In **a.(4),** the limit for the loss of earnings is changed from $250 to $500 a day.

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(4) Your **employees** may know of an **accident** or **loss**. This will not mean that you have such knowledge, unless such **accident** or **loss** is known to you or if you are not an individual, to any of your executive officers or partners or your insurance manager.

The following is added to **Section IV, Paragraph A.2.b.**:

(6) Your **employees** may know of documents received concerning a claim or **suit**. This will not mean that you have such knowledge, unless receipt of such documents is known to you or if you are not an individual, to any of your executive officers or partners or your insurance manager.

B. Transfer Of Rights Of Recovery Against Others To Us

The following is added to **Section IV, Paragraph A.5. Transfer Of Rights Of Recovery Against Others To Us**:

We waive any right of recovery we may have, because of payments we make for injury or damage, against any person or organization for whom or which you are required by written contract or agreement to obtain this waiver from us.

This injury or damage must arise out of your activities under a contract with that person or organization.

You must agree to that requirement prior to an **accident** or **loss.**

C. Concealment, Misrepresentation or Fraud

The following is added to **Section IV, Paragraph B.2.**:

Your failure to disclose all hazards existing on the date of inception of this Coverage Form shall not prejudice you with respect to the coverage afforded provided such failure or omission is not intentional.

D. Other Insurance

The following is added to **Section IV, Paragraph B.5.**:

Regardless of the provisions of Paragraphs **5.a.** and **5.d.** above, the coverage provided by this policy shall be on a primary non-contributory basis. This provision is applicable only when required by a written contract.

That written contract must have been entered into prior to **Accident** or **Loss.**

E. Policy Period, Coverage Territory

Section IV, Paragraph B. 7.(5).(a). is revised to provide:

a. 45 days of coverage in lieu of 30 days.

V. DEFINITIONS

Section V. paragraph C. is deleted and replaced by the following:

Bodily injury means bodily injury, sickness or disease sustained by a person, including mental anguish, mental injury or death resulting from any of these.

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CNA PARAMOUNT

Blanket Additional Insured - Owners, Lessees or Contractors - with Products-Completed Operations Coverage Endorsement

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

It is understood and agreed as follows:

I. **WHO IS AN INSURED** is amended to include as an **Insured** any person or organization whom you are required by **written contract** to add as an additional insured on this **coverage part**, but only with respect to liability for **bodily injury**, **property damage** or **personal and advertising injury** caused in whole or in part by your acts or omissions, or the acts or omissions of those acting on your behalf:

A. in the performance of your ongoing operations subject to such **written contract**; or

B. in the performance of **your work** subject to such **written contract**, but only with respect to **bodily injury** or **property damage** included in the **products-completed operations hazard**, and only if:

1. the **written contract** requires you to provide the additional insured such coverage; and
2. this **coverage part** provides such coverage.

II. But if the **written contract** requires:

A. additional insured coverage under the 11-85 edition, 10-93 edition, or 10-01 edition of CG2010, or under the 10-01 edition of CG2037; or

B. additional insured coverage with "arising out of" language; or

C. additional insured coverage to the greatest extent permissible by law;

then paragraph **I.** above is deleted in its entirety and replaced by the following:

WHO IS AN INSURED is amended to include as an **Insured** any person or organization whom you are required by **written contract** to add as an additional insured on this **coverage part**, but only with respect to liability for **bodily injury**, **property damage** or **personal and advertising injury** arising out of **your work** that is subject to such **written contract**.

III. Subject always to the terms and conditions of this policy, including the limits of insurance, the Insurer will not provide such additional insured with:

A. coverage broader than required by the **written contract**; or

B. a higher limit of insurance than required by the **written contract**.

IV. The insurance granted by this endorsement to the additional insured does not apply to **bodily injury**, **property damage**, or **personal and advertising injury** arising out of:

A. the rendering of, or the failure to render, any professional architectural, engineering, or surveying services, including:

1. the preparing, approving, or failing to prepare or approve maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings and specifications; and
2. supervisory, inspection, architectural or engineering activities; or

B. any premises or work for which the additional insured is specifically listed as an additional insured on another endorsement attached to this **coverage part**.

V. Under **COMMERCIAL GENERAL LIABILITY CONDITIONS**, the Condition entitled **Other Insurance** is amended to add the following, which supersedes any provision to the contrary in this Condition or elsewhere in this **coverage part**:

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Primary and Noncontributory Insurance

With respect to other insurance available to the additional insured under which the additional insured is a named insured, this insurance is primary to and will not seek contribution from such other insurance, provided that a **written contract** requires the insurance provided by this policy to be:

1. primary and non-contributing with other insurance available to the additional insured; or
2. primary and to not seek contribution from any other insurance available to the additional insured.

But except as specified above, this insurance will be excess of all other insurance available to the additional insured.

VI. Solely with respect to the insurance granted by this endorsement, the section entitled **COMMERCIAL GENERAL LIABILITY CONDITIONS** is amended as follows:

The Condition entitled **Duties In The Event of Occurrence, Offense, Claim or Suit** is amended with the addition of the following:

Any additional insured pursuant to this endorsement will as soon as practicable:

1. give the Insurer written notice of any **claim**, or any **occurrence** or offense which may result in a **claim**;
2. send the Insurer copies of all legal papers received, and otherwise cooperate with the Insurer in the investigation, defense, or settlement of the **claim**; and
3. make available any other insurance, and tender the defense and indemnity of any **claim** to any other insurer or self-insurer, whose policy or program applies to a loss that the Insurer covers under this **coverage part**. However, if the **written contract** requires this insurance to be primary and non-contributory, this paragraph **3.** does not apply to insurance on which the additional insured is a named insured.

The Insurer has no duty to defend or indemnify an additional insured under this endorsement until the Insurer receives written notice of a **claim** from the additional insured.

VII. Solely with respect to the insurance granted by this endorsement, the section entitled **DEFINITIONS** is amended to add the following definition:

Written contract means a written contract or written agreement that requires you to make a person or organization an additional insured on this **coverage part**, provided the contract or agreement:

A. is currently in effect or becomes effective during the term of this policy; and

B. was executed prior to:

1. the **bodily injury** or **property damage**; or
2. the offense that caused the **personal and advertising injury**;

for which the additional insured seeks coverage.

Any coverage granted by this endorsement shall apply solely to the extent permissible by law.

All other terms and conditions of the Policy remain unchanged.

This endorsement, which forms a part of and is for attachment to the Policy issued by the designated Insurers, takes effect on the effective date of said Policy at the hour stated in said Policy, unless another effective date is shown below, and expires concurrently with said Policy.

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B. Solely for the purpose of the coverage provided by this **PROPERTY DAMAGE – ELEVATORS** Provision, the **Other Insurance** conditions is amended to add the following paragraph:

This insurance is excess over any of the other insurance, whether primary, excess, contingent or on any other basis that is Property insurance covering property of others damaged from the use of elevators.

23. SUPPLEMENTARY PAYMENTS

The section entitled **SUPPLEMENTARY PAYMENTS – COVERAGES A AND B** is amended as follows:

A. Paragraph **1.b.** is amended to delete the $250 limit shown for the cost of bail bonds and replace it with a $5,000. limit; and

B. Paragraph **1.d.** is amended to delete the limit of $250 shown for daily loss of earnings and replace it with a $1,000. limit.

24. UNINTENTIONAL FAILURE TO DISCLOSE HAZARDS

If the **Named Insured** unintentionally fails to disclose all existing hazards at the inception date of the **Named Insured's Coverage Part**, the Insurer will not deny coverage under this **Coverage Part** because of such failure.

25. WAIVER OF SUBROGATION - BLANKET

Under **CONDITIONS**, the condition entitled **Transfer Of Rights Of Recovery Against Others To Us** is amended to add the following:

The Insurer waives any right of recovery the Insurer may have against any person or organization because of payments the Insurer makes for injury or damage arising out of:

1. the **Named Insured's** ongoing operations; or

2. **your work** included in the **products-completed operations hazard.**

However, this waiver applies only when the **Named Insured** has agreed in writing to waive such rights of recovery in a written contract or written agreement, and only if such contract or agreement:

1. is in effect or becomes effective during the term of this **Coverage Part**; and

2. was executed prior to the **bodily injury**, **property damage** or **personal and advertising injury** giving rise to the **claim.**

26. WRAP-UP EXTENSION: OCIP, CCIP, OR CONSOLIDATED (WRAP-UP) INSURANCE PROGRAMS

Note: The following provision does not apply to any public construction project in the state of Oklahoma, nor to any construction project in the state of Alaska, that is not permitted to be insured under a **consolidated (wrap-up) insurance program** by applicable state statute or regulation.

If the endorsement **EXCLUSION – CONSTRUCTION WRAP-UP** is attached to this policy, or another exclusionary endorsement pertaining to Owner Controlled Insurance Programs (O.C.I.P.) or Contractor Controlled Insurance Programs (C.C.I.P.) is attached, then the following changes apply:

A. The following wording is added to the above-referenced endorsement:

With respect to a **consolidated (wrap-up) insurance program** project in which the **Named Insured** is or was involved, this exclusion does not apply to those sums the **Named Insured** become legally obligated to pay as **damages** because of:

1. **Bodily injury**, **property damage**, or **personal or advertising injury** that occurs during the **Named Insured's** ongoing operations at the project, or during such operations of anyone acting on the **Named Insured's** behalf; nor

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or organization which may be liable to the **Insured** because of injury or damage to which this insurance may also apply; and

vi. will not voluntarily make a payment, except at its own cost, assume any obligation, or incur any expense, other than for first aid, without the Insurer's prior consent.

3. **Cooperation**

With respect to both **Coverage A - Excess Follow Form Liability** and **Coverage B – Umbrella Liability**, the **Named Insured** will cooperate with the Insurer in addressing all **claims** required to be reported to the Insurer in accordance with this paragraph **O. Notice of Claims/Crisis Management Event/Covered Accident,** and refuse, except solely at its own cost, to voluntarily, without the Insurer's approval, make any payment, admit liability, assume any obligation or incur any expense related thereto.

P. Notices

Any notices required to be given by an **Insured** shall be submitted in writing to the Insurer at the address set forth in the Declarations of this Policy.

Q. Other Insurance

If the **Insured** is entitled to be indemnified or otherwise insured in whole or in part for any **damages** or **defense costs** by any valid and collectible **other insurance** for which the **Insured** otherwise would have been indemnified or otherwise insured in whole or in part by this Policy, the limits of insurance specified in the Declarations of this Policy shall apply in excess of, and shall not contribute to a **claim, incident** or such event covered by such **other insurance.**

With respect to **Coverage A – Excess Follow Form Liability** only, if:

a. the **Named Insured** has agreed in writing in a contract or agreement with a person or entity that this insurance would be primary and would not seek contribution from any other insurance available;

b. **Underlying Insurance** includes that person or entity as an additional insured; and

c. **Underlying Insurance** provides coverage on a primary and noncontributory basis as respects that person or entity;

then this insurance is primary to and will not seek contribution from any insurance policy where that person or entity is a named insured.

R. Premium

All premium charges under this Policy will be computed according to the Insurer's rules and rating plans that apply at the inception of the current **policy period**. Premium charges may be paid to the Insurer or its authorized representative.

S. In Rem Actions

A quasi *in rem* action against any vessel owned or operated by or for a **Named Insured**, or chartered by or for a **Named Insured**, will be treated in the same manner as though the action were *in personam* against the **Named Insured.**

T. Separation of Insureds

Except with respect to the limits of insurance, and any rights or duties specifically assigned in this Policy to the **First Named Insured**, this insurance applies:

1. as if each **Named Insured** were the only **Named Insured**; and

2. separately to each **Insured** against whom a **claim** is made.

U. Transfer of Interest

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Assignment of interest under this policy shall not bind the Insurer unless its consent is endorsed hereon.

V. Unintentional Omission

Based on Insurer's reliance on the **Named Insured's** representations as to existing hazards, if the **Named Insured** should unintentionally fail to disclose all such hazards at the effective date of this Policy, the Insurer will not deny coverage under this Policy because of such failure.

W. Waiver of Rights of Recovery

The Insurer waives any right of recovery it may have against any person or organization because of payments the Insurer makes under this Policy if the **Named Insured** has agreed in writing to waive such rights of recovery in a contract or agreement, and only if the contract or agreement:

1. is in effect or becomes effective during the **policy period**; and
2. was executed prior to loss.

VII. DEFINITIONS

For purposes of this Policy, words in bold face type, whether expressed in the singular or the plural, have the meaning set forth below.

Advertisement means a notice that is broadcast or published to the general public or specific market segments about the **Named Insured's** goods, products or services for the purpose of attracting customers or supporters. For the purposes of this definition:

A. notices that are published include material placed on the Internet or on similar electronic means of communication; and

B. regarding web-sites, only that part of a web-site that is about the **Named Insured's** goods, products or services for the purposes of attracting customers or supporters is considered an **advertisement.**

Aircraft means any machine or device that is capable of atmospheric flight.

Arbitration proceeding means a formal alternative dispute resolution proceeding or administrative hearing to which an **Insured** is required to submit by statute or court rule or to which an **Insured** has submitted with the Insurer's consent.

Asbestos means the mineral in any form whether or not the asbestos was at any time airborne as a fiber, particle or dust, contained in or formed a part of a product, structure or other real or personal property, carried on clothing, inhaled or ingested, or transmitted by any other means.

Authorized Insured means any **executive officer**, member of the **Named Insured's** risk management or in-house general counsel's office, or any **employee** authorized by the **Named Insured** to give or receive notice of a **claim.**

Auto means:

A. a land motor vehicle, trailer or semitrailer designed for travel on public roads, including any attached machinery or equipment; or

B. any other land vehicle that is subject to a compulsory or financial responsibility law or other motor vehicle insurance law where it is licensed or principally garaged.

However, **auto** does not include **mobile equipment.**

Bodily injury means bodily injury, sickness or disease sustained by a person, including death, humiliation, shock, mental anguish or mental injury sustained by that person at any time which results as a consequence of the bodily injury, sickness or disease.

Claim means a:

A. **suit**; or

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Workers Compensation And Employers Liability Insurance
Policy Endorsement

WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.

This agreement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

Schedule

Any Person or Organization on whose behalf you are required to obtain this waiver of our right to recover from under a written contract or agreement.

The premium charge for the endorsement is reflected in the Schedule of Operations.

All other terms and conditions of the policy remain unchanged.

This endorsement, which forms a part of and is for attachment to the policy issued by the designated Insurers, takes effect on the Policy Effective Date of said policy at the hour stated in said policy, unless another effective date (the Endorsement Effective Date) is shown below, and expires concurrently with said policy unless another expiration date is shown below.

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JOHNSON-DAVIS, INC.
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Major Equipment List
All OWNED by Johnson-Davis, Inc.

ID	DESC	VIN#
Category: 10 WELLPOINT PUMPS		
10-0001	10 IN. WELLPOINT PUMP	7105
10-0003	10 IN. WELLPOINT PUMP	7568
10-0011	10 IN. WELLPOINT PUMP	7130
10-0013	WELLPOINT PUMP 6 IN.	NONE
10-0016	WELLPOINT PUMP 10 IN.	8460
10-0019	WELLPOINT PUMP 10 IN.	7505
10-0020	WELLPOINT PUMP 10 IN.	8334
10-0026	HYDRAULIC PUMP 6 IN.	5654
10-0028	JET PUMP , 4 IN. DIESEL	6J66
10-0030	DOUBLE DIAPHRAGM	4DDL335
10-0031	WELLPOINT PUMP 10 IN.	JD946068
10-0033	WELLPOINT PUMP 6 IN.	6951033
10-0035	WELLPOINT PUMP 8 IN.	US97362X
10-0036	HYDRAULIC PUMP 4 IN.	H-25-D-349
10-0038	WELLPOINT PUMP 8 IN.	U640528Y
10-0040	JET PUMP 4 IN.	None
10-0041	WELLPOINT PUMP 8 IN.	H-40WPLR-D-139
10-0043	TEST PUMP	
10-0045	JET PUMP 4 IN.	C.M.E.8291
10-0046	WELLPOINT PUMP 8 IN.	9037
10-0048	6 IN. TRASH PUMP	9065
10-0049	WELLPOINT PUMP 8 IN.	9064
10-0050	HYDRAULIC PUMP 4 IN.	2657
10-0051	JETPUMP ON WHEELS 4 IN.	4219
10-0052	8 IN. WELLPOINT PUMP	9159
10-0054	8 IN. WELLPOINT PUMP	9181
10-0055	12 IN. HYDRAULIC PUMP	D12SG068T1210
10-0056	8 IN. HYDRAULIC PUMP	325
10-0058	10 IN. WELLPOINT PUMP	9293
10-0059	10 IN. WELLPOINT PUMP	
10-0060	4 IN. HYDRAULIC PUMP	U797253C
10-0061	4 IN. HYDRAULIC PUMP	708
10-0062	8 IN. WELLPOINT PUMP	9220
10-0063	8 IN. WELLPOINT PUMP	9239
10-0064	4 IN. HYDRAULIC PUMP	
10-0065	WELLPOINT PUMP 6 IN.	6PW-019
10-0066	10 IN. HYDRAULIC PUMP	
10-0067	4 IN. HYDRAULIC PUMP	LD44369U146539
10-0068	4" HYDRAULIC PUMP ON WHEELS	F.P. 8-20
10-0069	4" HYDRAUIC PUMP ON WHEELS	F.P. 8-19
10-0070	3" HYDRAULIC PUMP	10HPU-58
10-0071	2.5" x 4" JET PUMP ON WHEELS	9500
10-0073	10 inch Roto Flo Wellpoint Pump	26109642 1.1
10-0074	6" Trash Pump	12001
10-0075	8 inch Roto Flo Wellpoint Pump	9010
10-0077	6 INCH HYDRAULIC PUMP POWER UNIT	1318-C
10-0078	8" HYDRAULIC PUMP	142-C
10-0079	8" Wellpoint Pump	14237
10-0080	8" Wellpoint Pump	14238
10-0081	8" Wellpoint Pump	14239
10-0082	8" Wellpoint Pump Quiet Pack	14235
10-0083	10" Wellpoint Pump	14269
10-0084	10" Wellpoint Pump	14270
10-999	Rental Pump	
Category: 11 VACUUM PUMPS		
10-0100	M5 VAC PUMP	
10-0164	M-3 VACUUM PUMP	
11-0005	M-2 VACCUM PUMP	00050
11-0053	M-2 VACUUM PUMP	0053
11-0100	M10 VACUUM PUMP	100
11-0101	VACUUM PUMP	101
11-0102	M10 VACUUM PUMP	VP102
11-0131	M5 VACUUM PUMP FOR 10-76	010131
11-1016	M3 VACUUM PUMP	101689
11-1036	10 INCH VACUUM PUMP	1036
11-1037	C10 VACUUM PUMP	1037
11-1190	M2 VACUUM PUMP	1190
11-1240	M3 VACUUM PUMP	1240
11-1357	M10 VACUUM PUMP	1357
11-1381	M10 VACUUM PUMP	1381
11-1386	VACUUM PUMP	1386
11-1387	M10 VACUUM PUMP	1387
11-1390	M2 VACUUM PUMP	1390
11-1711	M3 VACUUM PUMP	1711
11-1923	M-3 VACUUM PUMP	1923
11-1924	M3 VACUUM PUMP	1924
11-1941	M3 VACUUM PUMP	1941
11-2341	M3 VACUUM PUMP	2341
11-3044	M3 VACUUM PUMP	3044
11-3049	VACUUM PUMP	3049
11-3605	M-10 VACUUM PUM	3605
11-3737	M2 VACUUM PUMP	3737
11-3750	M-2 VACUUM PUMP	3750
11-4268	M3 VACUUM PUMP	4268
11-4297	VACUUM PUMP	4297
11-4371	M-3 VACUUM PUMP	4371
11-4636	VACUUM PUMP	4636
11-4840	M-3 VACUUM PUMP	4840
11-4841	M3 VACUUM PUMP	4841
11-4923	M3 VACUUM PUMP	
11-5445	M5 VACUUM PUMP	544515
11-6917	C 10" VACUUM PUMP	6917
11-9305	M-3 VACUUM PUMP	9305
11-9487	10" VACUUM PUMP	9487
11-9494	M5 VACUUM PUMP	9494
11-9602	M3 VACUUM PUMP	9603
11-9607	M3 VACUUM PUMP	9607
11-9615	M10 VACUUM PUMP	9615
11-9616	C-10 VACUUM PUMP	9616
11-9617	C-10 VACUUM PUMP	9617
11-9716	#10 VACUUM PUMP	9716
Category: 20 BACKHOES		
20-0039	1997 DEWATERING TRENCHER	D97022
20-0040	LIEBHERR BACKHOE	417-4205
20-0044	LIEBHERR BACKHOE	651-8110

ID	DESC	VIN#
20-0050	LIEBHERR BACKHOE	924-13441
20-0056	KOMATSU BACKHOE	30099
20-0059	Caterpillar Crawler Excavator	CAT0328DCGTN
20-0060	Caterpillar Crawler Excavator	CAT0336DEW3K
20-0063	2012 JOHN DEERE RUBBER TIRE	1FF220DWHBD4
20-0068	Komatsu PC390LC-10 Excavator	A30203
20-0069	Komatsu PC240LC-11 EXCAVATOR	95106
20-0070	Komatsu PC390LC-11 Excavator	30425
20-0071	Komatsu PC390LC-11 Excavator	A74180
20-0072	Komatsu PC138USLC-11	50542
20-0073	KOMATSU PC290LC-11 EXCAVATOR	A27538
20-0074	Komatsu PC138USLC-11 Excavator	50845
20-0075	Liebherr A900C	66375
20-0077	Cat 323 Excavator	RAZ00754
20-0078	Cat 325FLCR Excavator	NDJ20187
20-0079	Komatsu PC-238 Excavator	05489
20-0080	Komatsu PC-138 Excavator	52349
20-0081	Cat 307E2 Mini-Excavator	307-KC901075
20-0082	John-Deere 350G Excavator	1FF350GXLHF81
20-999	Rental Backhoe	
WR-BH01	Volvo Backhoe (Wakefield Road Boring)	
Category: 25	**COMBINATIONS**	
25-0051	CAT COMBO BACKHOE	BLN11885
25-0052	CAT COMBO BACKHOE	BML05166
25-0067	2013 CAT COMBINATION BACKHOES 420 F	CAT0420FHJWJ0
Category: 30	**LOADERS**	
30-0032	LIEBER LOADER	443-11966
30-0033	VOLVO LOADER L70E	L70EV60803
30-0038	2009 KOMATSU LOADER	65858
30-0039	2009 KOMATSU LOADER	65939
30-0040	950H CATTERPILLAR LOADER	CAT0950HVK5K0
30-0042	WA320-6 KOMATSU LOADER	A35279
30-0043	WA-380-7 KOMATSU LOADER	A64171
30-0044	WA200PZ-6 KOMATSU RUBBER TIRE LOAD	KMTWA105C010
30-0045	WA-320-7 KOMATSU LOADER	80194
30-0046	938K CATERPILLAR LOADER	SWL01382
30-0047	WA200-7 KOMATSU LOADER	80392
30-0048	WA380-8 KOMATSU LOADER	A74013
30-0049	Komatsu WA-380-8 Wheel Loader	A74180
30-0050	Cat 906M Wheel Loader	CAT906MCH6600
30-0051	Komatsu WA320-8	85209
30-0052	Komatsu WA270-8 Wheel Loader	A28201
30-0053	Cat 930M Wheel Loader	KTG03806
30-0054	Cat 930M Wheel Loader	KTG04062
30-0055	John-Deere 524L Wheel Loader	1DW524LKLZLKF
30-0056	John-Deere 544L	1DW544LZCKF6
30-999	Rental Loader	
Category: 35	**SPECIALIZED EQUIPMENT**	
35-0001	CRAWLER DOZER	T065HX898018
35-0027	2001 LOADER/BOBCAT	514147010
35-0041	T300 BOBCAT	525415212
35-0061	KUBOTA BACKHOE	30767
35-0064	2012 KUBOTA EXCAVATOR W/RUBTKS/4P	41826
35-0066	2013 KUBOTA EXCAVATOR	74888
35-0067	Cat 305E2 Excavator	H5M07145
35-0068	John-Deere 325G Compact Track Loader	1T0325GMJKJ34
35-999	Rental Mini	

ID	DESC	VIN#

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Johnson-Davis, Inc.

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Memo

Re: **Notice of Random Drug Screening**

In compliance with the Johnson-Davis, Inc. Drug-Free Workplace Policy, each employee, as a condition of continued employment, is subject to medical or physical examination or tests, including urine drug screen. An employee, who refuses to submit to drug testing, as provided for in this Policy, will be asked to leave the office or project site immediately and the employee will be discharged.

Please complete and sign the attached acknowledgement and authorization form and return to your foreman and/or superintendent. You must proceed to a LabCorp testing center in your local area upon receipt of this notice. (See superintendent for LabCorp locations).

A copy of the Johnson-Davis, Inc. Drug-Free Workplace Policy is also attached for your information and reference. Please keep a copy of this policy along with your employee handbook.

Thank you for your cooperation.

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WHAT TO DO ABOUT HARASSING CONDUCT . . .

An employee who believes he or another Company employee has been subjected to harassing conduct should immediately contact the Human Resources Director. A prompt investigation will be conducted of each and every complaint and appropriate action will be taken. Employees are required to participate in all J-D investigations.

Complaints will be handled confidentially, to the extent possible. The Human Resources Director has the responsibility for investigating and resolving complaints of harassment. In the event of a complaint involving the Human Resources Director, J-D's President should be notified and he will fulfill the investigatory role in this process.

No Retaliation or Reprisals

Employees have a duty to report any harassment they either experience or observe, regardless of whether the alleged harassment is being perpetrated by a J-D employee or any other third party. Under no circumstances will a person be retaliated against because of a bona fide report of harassing conduct.

Drug-Free Workplace

J-D is committed to protecting the safety, health, and well-being of its employees and all individuals who come into contact with its workplace and property, and/or use its products and services. As part of this mission, J-D is committed to maintaining a Drug-Free Workplace.

Substance abuse, which includes the possession, use or sale of illegal drugs or the unlawful use or misuse of lawful substances, including alcohol and prescription drugs, will not be tolerated. J-D also prohibits the illicit use, possession, sale, attempted sale, purchase, attempted purchase, conveyance, distribution, cultivation or manufacture of illegal drugs, intoxicants, or controlled substances in any amount or in any manner. It is a condition of employment at J-D to refrain from using illegal drugs and unlawfully using lawful substances, including alcohol and prescription medicines, and to abide by the guidelines of the Company's Drug-Free Workplace Policy.

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Certain employees of J-D, who operate commercial motor vehicles, and must be subjected to enhanced drug testing standards pursuant to the regulations of the Federal Motor Carrier Safety Administration contained in 49 C.F.R. Parts 40 and 382. J-D will provide these employees with a copy of J-D's Commercial Driver's License Drug Testing Policy and are expected to comply with the Policy's enhanced requirements in all respects.

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JOHNSON-DAVIS INC.
Contractors
CUC043087

EXECUTIVE SUMMARY

Johnson-Davis Inc. is a full-service underground utility contractor specializing in projects such as water, sewer, and storm drainage systems, as well as highway and road construction usually associated with the utility construction. Our work expertise also includes installation of steel sheeting and dewatering systems.

There is no other company in the south and central Florida region that can boast our experience and proficiency in this area. We are able to maintain long-term relationships with prime contractors, governmental agencies, consulting engineers, customers, and suppliers because we are dependable and strive to deliver superior customer service. Johnson-Davis believes that maintaining our credibility and integrity within the industry is our main concern.

Johnson-Davis was founded in 1977 when Herb Johnson envisioned the need in Florida for a reputable specialty contractor. Herb and his sons, Scott and Chris, worked only in Palm Beach County, were based in Herb's garage, and had only three leased pieces of heavy equipment to their name. Based in Palm Beach County for more than 40 years, Johnson-Davis has worked continuously and successfully with County Governments and Utility Authorities. More than 40 years later, the Johnson-Davis name is now synonymous with quality work as well as tremendous experience, resources, and knowledge.

The company has since transitioned to Scott and Chris Johnson. The corporate headquarters is in Lantana and covers more than four acres of land, and we have a small office in Fort Pierce. Our project teams are located in these two offices. Johnson-Davis has more than 15 crews and owns the equipment that supports these crews. Johnson-Davis is privately-held, owned by Scott Johnson, Chris Johnson, and Jeanne (Johnson) Cummings.

Scott Johnson, President, and Bob Hopler, Vice President, both earned their Bachelor of Science degrees in Civil Engineering from Bucknell University in 1976. As engineers, they enjoy projects that are technically challenging. They are both involved in projects at the executive level.

Our Construction Manager, Robert Ueltschi, has 40 years of construction experience. He earned his Bachelor of Science in Civil Engineering Technology from Western Kentucky University. His extensive experience and knowledge support the Superintendents and Project Managers, and ensures crews are optimally scheduled and properly performing their duties, all while ensuring the highest levels of quality, safety, and customer satisfaction.

Our Superintendents oversee multiple crews and have been involved in utility construction for a combined total of 152 years. Having worked with the local utility authorities for many years, they are aware of the daily challenges faced by the crews. Senior Superintendent Leonard Dennis and Superintendents Robert Earnest, Richard Heller III, Thomas Linsley, Edric Martin, and J.R. Martin ensure their crews have the resources necessary to maintain their schedules. They are also tasked with ensuring the quality of the work meets or exceeds expectations.

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CUC043087

EXECUTIVE SUMMARY, CONT'D.

Our Project Managers hold an impressive 146 years of experience amongst them. They act as the main interface between the customer and Johnson-Davis. Chuck Cameron, Matt Crist, Rich Heller Jr, Doug Ipolito, Edwin Jacobs, and Robson Lima have the primary responsibility to ensure projects are completed on time and within the budget.

Andy Thomson, Safety Director, has 34 years of safety and operations and previously served as a Health and Safety Director and Operations Manager. He holds many certifications including OSHA 500 authorized and 10 & 30 hours construction safety trainer under OSHA. His knowledge and experience help Johnson-Davis Inc. maintain a safety culture that makes safety the responsibility of every employee.

Ilene Passler, Human Resources Director, has worked in construction for 21 years, and the majority of her experience is with federal and municipal contractors. She holds her Master of Business Administration from Wake Forest University and SHRM-Senior Certified Professional and Senior Professional in Human Resources certifications.

Our Estimating Team's focus on customer service and detail helps limit the need for change orders by addressing potential issues during the bidding process. Secretary/Treasurer Chris Johnson, Jim Amsler, Clark Cryer, and Walter Pfaffenberger have over 81 years of experience, and Scott Johnson is also actively involved in the Estimating process.

We enjoy an excellent relationship with our bonding company, Liberty Mutual Insurance Co., with a single project capacity of $35,000,000 and an aggregate capacity in excess of $80,000,000. Our financial strength, technical expertise, and history of success in working with the FDOT have earned us a capacity rating in excess of $80,000,000 for underground utility work. We have also been listed in Engineer New Record's Top 600 Specialty Contractors nationwide for many years.

It is clear that Johnson-Davis has both the experience and the key personnel necessary to successfully perform underground utility projects of all sizes and difficulty.

JOHNSON-DAVIS INC. Est. 1977

"Construct with Confidence"

CORE VALUES

01

SAFETY

We value the safety of our employees and our community above all else. Safety is everyone's responsibility.

02

FAMILY VALUES

Family values are the foundation upon which our company was built. We care about the wellbeing of our employees and their families, as they are part of our family. We look out for each other.

03

RESOURCES

The backbone of our company is our experienced, creative, and long-term workforce. Our financial stability, infrastructure, and other resources allow us to take on and successfully complete challenges.

04

ACCURACY

We perform quality work the first time and review it for completeness and accuracy. We do not take short cuts.

05

INTEGRITY & ACCOUNTABILITY

We stand behind our word and honor our commitments. When mistakes occur, we acknowledge our mistakes and constructively participate in the resolution.

06

RELATIONSHIPS

We have established relationships with customers, engineers, government entities, vendors, coworkers, our industry, and the general public. We foster these relationships for mutual success.

07

DEPENDABILITY

We do what we say we are going to do for our customers and our coworkers.

08

PUNCTUALITY

We honor our commitments timely. These commitments include project completion, billing, being prompt for our work shifts and meetings, and vendor payments.

09

RESPECT

We have respect for our work, for the work and ideas of others, and for all those with whom we interact. We support each other in a positive way.

10

COMMUNICATION

We expect and deliver truthful messages timely, accurately, and respectfully.
We attentively listen to and recognize the ideas and feelings of others.

11

TEAMWORK

We are all part of the process. We all share in our successes and challenges.
We recognize the needs of and provide support to one another.

12

COMMUNITY

We are committed to improving the communities in which we work and live through our construction projects and personal involvement.

13

APPEARANCE COUNTS

We take pride in the appearance of ourselves and our work environment.
We keep our work and work environment neat and organized.

14

MENTORING

We lead and train fellow employees, allowing them to reach their highest potential.

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Contractors
CUC043087

Palm Beach County Water Utilities Department
2022 Pipeline Continuing Construction Contact (PBCWUD Project No: 22-032)

The following pages cover numerous project/contracts Johnson-Davis, Incorporated, JDI, is working on or has completed over the past 3 years. We have demonstrated our ability and capacity on previous versions of this same contract over the past 12 years. Additionally, we have never failed to complete a project or contract awarded. This extensive history is demonstration of our capacity to complete the 2022 Pipeline Continuing Construction Contract for the Palm Beach County Water Utilities Department.

If awarded, any additional information necessary will be provided. Thank you for your consideration.

Work In Progress by Gross Profit

All Contracts | **Through Month: 09/22** | **JC Status: Open**

Contracts		Contract Amount	Est Cost @ Completion	Gross Profit	Gross Profit %	Billings To Date	Actual Costs	% Cmpl	Gross Profit to Date	Billings in excess of Costs	Costs in excess of Billings	Gross Profit Prior Year	Gross Profit this Year
01940.	SR72 & I-75 SHEETING	4,135.00	1,340	2,795	67.60%	4,135	1,340	100.00000%	2,795	0	0	444	2,351
02300.	2023 Misc. Jobs	0.00	0	0	0.00%	0	0	0.00000%	0	0	0	0	0
11626.	KINGS HIGHWAY UTILITY	453,589.00	347,801	105,788	23.32%	430,851	321,784	92.51972%	97,875	11,192	0	84,288	13,587
11641.	Oakland Park Water Main &	471,973.87	423,605	48,369	10.25%	471,974	423,605	100.00000%	48,369	0	0	48,369	0
11650.	TAMARIND AVE. VALVE RE	10,270,323.09	9,127,768	1,142,555	11.12%	4,594,419	4,095,432	44.86784%	512,640	0	-13,653	498,814	13,826
11726.	Beach Road Water Main Re	423,978.77	342,649	81,330	19.18%	466,934	377,364	110.13150%	89,570	0	0	89,570	0
11771.	South Shore Blvd. FM Repl	1,753,521.54	1,432,107	321,415	18.33%	1,753,522	1,431,778	99.97707%	321,341	402	0	306,583	14,758
11806.	George Bush Blvd Utility Adj	281,163.00	179,022	102,141	36.33%	267,877	172,636	96.43270%	98,497	0	-3,256	76,569	21,928
11880.	NW 24th Street Culvert	574,657.72	479,578	95,080	16.55%	560,978	465,651	97.09609%	92,319	3,008	0	67,350	24,969
11905.	Alverdez Ave Water Main Ir	1,260,888.65	916,527	344,361	27.31%	738,986	530,056	57.83306%	199,155	9,776	0	206,133	-6,979
11907.	Australian Avenue	1,666,124.27	1,163,778	502,346	30.15%	1,304,586	818,555	70.33598%	353,330	132,701	0	218,914	134,415
11921.	Bioswales at Gulfstream an	57,969.85	35,844	22,126	38.17%	57,970	35,085	97.88137%	21,657	1,228	0	240	21,417
11942.	WWTP Diesel Tank Piping	106,500.00	74,755	31,745	29.81%	0	739	0.98819%	314	0	-1,052	0	314
11964.	Via Linda	83,472.05	48,455	35,017	41.95%	70,250	45,546	93.99690%	32,915	0	-8,211	0	32,915
11972.	D Road and Gruber Street C	95,750.00	68,466	27,285	28.50%	95,750	67,284	98.27358%	26,813	1,653	0	0	26,813
11977.	East Lantana Road	790,620.00	511,653	278,967	35.28%	0	6,139	1.19978%	3,347	0	-9,486	0	3,347
11993.	East Water Treatment Plant	79,025.00	49,883	29,142	36.88%	0	0	0.00000%	0	0	0	0	0
21506.	Beeline Comm. Dev. Fire Pr	430,091.53	548,834	-118,743	-27.61%	480,092	547,029	99.67101%	-118,743	51,806	0	-117,497	-1,246
21878.	Congress Utility Relocation	342,772.00	271,066	71,706	20.92%	26,815	42,113	15.53598%	11,140	0	-26,438	11,135	6
21891.	Sharon Street Drainage	65,045.00	78,553	-13,508	-20.77%	65,045	78,553	100.00000%	-13,508	0	0	-13,508	0
21909.	Wabasso Drive over LWDD	1,068,927.00	820,937	247,990	23.20%	0	17,499	2.13160%	5,286	0	-22,785	4,997	290
21920.	C-51 Culvert Failure	403,611.00	293,225	110,386	27.35%	0	3,799	1.29562%	1,430	0	-5,229	1,477	-46
21933.	Lake Park Force Main SUA	1,526,130.00	1,182,836	343,294	22.49%	0	11,156	0.94312%	3,238	0	-14,393	0	3,238
21967.	Oklahoma Stormwater Impr	395,678.00	314,261	81,417	20.58%	0	6,387	2.03237%	1,655	0	-8,042	0	1,655
21990.	Northlake Blvd / US1 Water	3,248,042.00	1,998,814	1,249,228	38.46%	0	20,455	1.02334%	12,784	0	-33,238	0	12,784
31654.	Roosevelt Estates Traffic Ca	157,714.89	86,723	70,992	45.01%	79,050	64,133	73.95173%	52,500	0	-37,583	20,020	32,480
31737.	South Sewell's Point Road I	1,631,961.84	1,344,477	287,485	17.62%	1,631,962	1,344,477	100.00000%	287,485	0	0	292,536	-5,051
31763.	PALM BEACH ISLES BRID	291,100.00	185,749	105,351	36.19%	291,100	182,449	98.22342%	103,479	5,172	0	94,298	9,181
31766.	66th Ave Phase 1A Revised	2,104,831.76	1,679,370	425,462	20.21%	1,372,050	1,300,460	77.43738%	329,466	0	-257,877	195,638	133,828

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31775.	Becker Road Phase 3	748,856.01	808,527	-59,671	-7.97%	700,534	802,129	99.20864%	-59,671	0	-41,924	-82,466	22,795
31803.	PBCWUD Force Main Asse:	635,564.75	414,425	221,140	34.79%	188,626	123,052	29.69218%	65,661	0	-87	65,655	6
31807.	Edwards Rd. Utility Relocati	343,300.00	262,786	80,514	23.45%	109,153	127,189	48.40008%	38,969	0	-57,004	59	38,910
31827.	BB Blvd & Acme Dairy Rd	199,260.41	191,250	8,011	4.02%	199,260	191,250	100.00000%	8,011	0	0	9,683	-1,672
31845.	Pine Island Storm Revisions	141,156.97	108,810	32,347	22.92%	141,157	108,810	100.00000%	32,347	0	0	32,347	0
31850.	STA 1W Expansion #2	220,965.00	178,170	42,795	19.37%	31,160	30,249	16.97763%	7,266	0	-6,355	3,145	4,120
31853.	PBCWUD SROC Storage P:	167,079.84	136,596	30,483	18.24%	167,080	136,596	100.00000%	30,483	0	0	30,483	0
31854.	Murphy Road Bridge Replac	327,493.00	284,555	42,938	13.11%	327,493	282,828	99.39332%	42,678	1,987	0	-4,302	46,980
31857.	USACE DMMA O-23	728,302.91	746,414	-18,111	-2.49%	156,628	420,165	56.29106%	-18,111	0	-245,425	22,899	-41,010
31877.	PGA Blvd & Military Trail	58,429.25	40,880	17,549	30.03%	58,429	38,526	94.24173%	16,538	3,365	0	16,538	0
31882.	McCarty Ranch Area 4	886,390.00	699,731	186,659	21.06%	621,759	503,073	71.89516%	134,198	0	-15,513	70	134,129
31884.	6th Ave S Over Lake Osborr	345,356.00	271,086	74,270	21.51%	87,699	99,200	36.59365%	27,178	0	-38,679	6,019	21,159
31888.	Northlake Blvd Coconut to A	221,881.00	171,181	50,700	22.85%	0	0	0.00000%	0	0	0	0	0
31889.	Palm Beach Shooting Comp	568,800.00	391,844	176,956	31.11%	568,800	390,299	99.60576%	176,259	2,242	0	420	175,838
31890.	Northlke Blvd Avenir to SR 7	122,350.00	92,918	29,432	24.06%	0	2,452	2.63915%	777	0	-3,229	691	85
31892.	Taxiway Charlie @ Belle Gla	107,773.00	78,671	29,102	27.00%	107,773	72,792	92.52760%	26,928	8,053	0	34,785	-7,857
31898.	205 SW 1st Street	16,500.00	6,130	10,370	62.85%	16,500	6,130	100.00000%	10,370	0	0	10,370	0
31906.	Clint Moore Road PBC #201	19,000.00	9,027	9,973	52.49%	19,000	9,027	100.00000%	9,973	0	0	691	9,281
31919.	St Lucie County Administrati	84,816.00	69,157	15,659	18.46%	75,886	47,628	68.86910%	10,784	17,474	0	0	10,784
31924.	Dixie Highway Resurfacing	229,490.00	182,500	46,991	20.48%	0	2,053	1.12493%	529	0	-2,582	384	144
31931.	Phase 3 Westward Park Dra	182,320.00	141,695	40,625	22.28%	0	23,838	16.82338%	6,835	0	-30,672	692	6,142
31938.	NW 1st Avenue	301,960.00	206,496	95,464	31.61%	207,475	165,486	80.13990%	76,504	0	-34,515	53,047	23,457
31939.	Industrial Way	392,850.00	293,475	99,375	25.30%	0	14,399	4.90649%	4,876	0	-19,275	0	4,876
31965.	Water Main Bypass to St. Lu	62,350.00	50,286	12,064	19.35%	0	0	0.00000%	0	0	0	0	0
31975.	Lyons Road	154,550.00	58,898	95,652	61.89%	158,050	46,775	79.41583%	75,963	35,313	0	0	75,963
31979.	Edwards Rd Reconstruction	2,361,987.00	1,877,758	484,229	20.50%	161,170	202,972	10.80926%	52,342	0	-94,143	0	52,342
31982.	6th Ave Milling & Resurface	54,960.00	38,969	15,991	29.10%	0	246	0.63188%	101	0	-347	0	101
31983.	Valkaria Airport Taxiway E	137,410.00	106,874	30,536	22.22%	0	164	0.15360%	47	0	-211	0	47
31986.	East Fork Creek STA	2,473,101.00	1,998,245	474,856	19.20%	0	739	0.03697%	176	0	-914	0	176

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31996.	Town of PB South Milling & I	11,113.00	6,022	5,091	45.81%	0	0	0.00000%	0	0	0	0	0
32001.	PBIA Drainage Repairs	24,200.00	15,614	8,586	35.48%	0	0	0.00000%	0	0	0	0	0
41526.	SR 713	8,813,070.70	7,762,308	1,050,763	11.92%	8,328,711	7,443,485	95.89268%	1,007,605	0	-122,378	951,368	56,237
41620.	Turnpike Martin County	171,995.28	137,087	34,908	20.30%	124,184	110,550	80.64225%	28,151	0	-14,517	28,472	-321
41642.	Turnpike AET Phase 8 E8R	1,654,200.35	1,352,579	301,622	18.23%	915,389	689,373	50.96729%	153,728	72,287	0	135,954	17,774
41792.	Reconstruction of Barfield H	1,850,118.37	1,699,366	150,752	8.15%	1,041,551	1,151,994	67.78961%	102,194	0	-212,637	100,076	2,119
41794.	George Bush Blvd T4571	328,250.00	328,345	-95	-0.03%	308,960	322,288	98.15538%	-95	0	-13,233	6,463	-6,558
41801.	Brant Drive Bridge Replacer	136,566.00	114,190	22,376	16.38%	136,566	114,190	100.00000%	22,376	0	0	22,804	-428
41849.	St. Lucie West Blvd T4585	393,080.00	348,224	44,856	11.41%	209,894	181,576	52.14338%	23,390	4,929	0	17,503	5,887
41851.	Homewood Blvd T4567	270,985.30	268,299	2,686	0.99%	181,142	202,165	75.35062%	2,024	0	-23,047	10,272	-8,248
41875.	NASA Causeway T5735	1,005,906.00	899,208	106,698	10.61%	703,339	714,303	79.43692%	84,758	0	-95,722	79,657	5,100
41879.	SR 25 & SR 70 T1825	188,643.00	145,735	42,908	22.75%	0	4,707	3.23005%	1,386	0	-6,093	438	948
41912.	SR AIA North Bridge T4583	2,407,786.00	1,926,530	481,256	19.99%	16,519	20,996	1.08983%	5,245	0	-9,722	4,931	313
41918.	I-95 @ Gatlin Blvd	54,525.00	50,451	4,074	7.47%	33,369	27,374	54.26008%	2,211	3,783	0	138	2,073
41925.	SR 80 & Australian Ave E4V	39,700.00	24,654	15,046	37.90%	0	0	0.00000%	0	0	0	0	0
41945.	48" Wing Wall Belvedere	26,800.00	22,209	4,591	17.13%	0	584	2.62840%	121	0	-704	0	121
41949.	Turnpike E8T67	37,475.00	25,752	11,723	31.28%	0	164	0.63746%	75	0	-239	0	75
41954.	SR 520 E55A0 Adjustments	30,110.98	13,368	16,743	55.60%	16,450	10,562	79.00718%	13,228	0	-7,340	0	13,228
41985.	SR500 (US 192) T5741	97,070.00	79,216	17,854	18.39%	0	0	0.00000%	0	0	0	0	0
41988.	SR 15 T4614	6,700.00	4,339	2,361	35.24%	0	0	0.00000%	0	0	0	0	0
51900.	ANNA STREET WO#11 EU-	498,629.00	374,124	124,505	24.97%	0	21,032	5.62168%	6,999	0	-28,031	2,269	4,731
51948.	FDOT E4U81 WO#12 HIGH	327,660.00	243,604	84,056	25.65%	283,875	198,665	81.55239%	68,550	16,660	0	-2,000	70,550
51978.	FDOT E4U81 WO#10 Hillsb	21,610.00	16,761	4,849	22.44%	0	600	3.57881%	174	0	-773	0	174
51992.	FDOT E4U81 WO#09 SR7-	74,500.00	37,038	37,462	50.28%	74,500	29,505	79.66121%	29,843	15,152	0	0	29,843
61666.	ATLANTIC CROSSING ON-	1,480,547.93	1,005,079	475,469	32.11%	1,377,152	942,996	93.82312%	446,100	0	-11,944	454,150	-8,050
61710.	Atlantic Crossing Building 1	236,706.07	142,347	94,359	39.86%	236,706	142,347	100.00000%	94,359	0	0	96,553	-2,193
61753.	PBC Tax Collector Westlake	182,320.23	129,523	52,797	28.96%	182,320	129,523	100.00000%	52,797	0	0	52,797	0
61785.	Copans West Drainage	217,450.00	160,151	57,299	26.35%	217,450	160,151	100.00000%	57,299	0	0	58,006	-707
61789.	2525 Old Okeechobee Lift S	81,718.40	65,876	15,842	19.39%	78,518	61,379	93.17334%	14,761	2,379	0	14,761	0

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61808.	FPL RCA Center Drive	33,685.00	23,480	10,206	30.30%	33,685	23,480	100.00000%	10,206	0	0	10,206	0
61825.	South FL National VA Ceme	359,404.30	304,796	54,609	15.19%	357,306	302,096	99.11416%	54,125	1,085	0	53,774	351
61834.	Atlantic Crossing Bldg 6	240,106.00	172,847	67,259	28.01%	0	0	0.00000%	0	0	0	0	0
61838.	Finfrock - Jacobsen	3,314,028.00	2,815,440	498,588	15.04%	3,107,511	2,539,860	90.21186%	449,786	117,865	0	359,262	90,524
61847.	325 PARKING - LOFTS	46,433.00	33,568	12,865	27.71%	46,383	32,473	96.73933%	12,446	1,464	0	14,136	-1,690
61856.	Universal 931B Drainage	1,410,305.26	770,554	639,751	45.36%	1,410,305	770,554	100.00000%	639,751	0	0	608,729	31,022
61866.	FPL Service Center Boca	315,904.19	201,216	114,688	36.30%	315,904	201,216	100.00000%	114,688	0	0	114,688	0
61897.	101 Sansbury's Way - Helm	2,640,378.00	2,193,605	446,773	16.92%	746,332	986,749	44.98297%	200,972	0	-441,388	2,333	198,639
61901.	701 S. Ocean, Delray Beacl	49,965.00	40,886	9,079	18.17%	0	0	0.00000%	0	0	0	0	0
61902.	Lake Worth Storage 2	179,877.45	144,785	35,093	19.51%	45,725	37,393	25.82689%	9,063	0	-731	9,063	0
61903.	FPL - Lauderdale Inductors	97,728.02	52,822	44,906	45.95%	97,728	52,822	100.00000%	44,906	0	0	44,906	0
61923.	Wylder 60" RCP	170,580.00	103,042	67,538	39.59%	170,580	103,042	100.00000%	67,538	0	0	70,992	-3,454
61926.	Acts 2 Fire Line	106,985.00	91,160	15,825	14.79%	61,260	15,511	17.01473%	2,693	43,057	0	0	2,693
61929.	121 Mac Farlane Drive	32,975.00	26,171	6,804	20.63%	0	3,405	13.00941%	885	0	-4,290	113	772
61930.	FXE Sheltair 16	379,565.00	300,048	79,517	20.95%	0	991	0.33024%	263	0	-1,253	261	1
61937.	SOUTH FL LOGISTICS CEI	6,066,580.00	5,615,584	450,996	7.43%	2,792,831	2,509,220	44.68315%	201,519	82,092	0	62,609	138,910
61943.	NORA Streetscape	1,691,900.00	1,182,427	509,473	30.11%	88,740	81,672	6.90711%	35,190	0	-28,121	0	35,190
61950.	2151 C Road 72" Culvert Re	95,800.00	86,847	8,953	9.35%	95,800	86,847	100.00000%	8,953	0	0	12,082	-3,128
61951.	10 Tarpon Way	135,010.00	91,620	43,390	32.14%	0	595	0.64954%	282	0	-877	0	282
61957.	Gallagher Steakhouse	75,900.00	48,655	27,245	35.90%	0	82	0.16870%	46	0	-128	0	46
61959.	Broward College Davie	170,541.00	131,261	39,280	23.03%	0	0	0.00000%	0	0	0	0	0
61961.	Gardens Financial Center R	108,623.00	85,047	23,576	21.70%	0	83	0.09736%	23	0	-106	0	23
61962.	414 SE 4th STREET	16,260.00	11,227	5,033	30.95%	0	0	0.00000%	0	0	0	0	0
61970.	St. Andrew's Club West Side	305,515.00	224,564	80,951	26.50%	0	0	0.00000%	0	0	0	0	0
61974.	16311 Hollow Tree Lane Re	36,345.00	24,526	11,819	32.52%	0	0	0.00000%	0	0	0	0	0
61976.	Kings Hwy Warehouse Acce	182,460.00	139,536	42,924	23.53%	0	1,788	1.28103%	550	0	-2,337	0	550
61984.	FXE Sheltair Parcel 5	92,370.00	69,703	22,667	24.54%	0	0	0.00000%	0	0	0	0	0
61987.	2600 Condominium	562,753.00	423,077	139,676	24.82%	0	176	0.04160%	58	0	-234	0	58
61991.	Wilco ToPB Mediterranean F	22,500.00	9,964	12,536	55.71%	22,500	9,964	100.00000%	12,536	0	0	0	12,536

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61995.	TEMPORARY FIRE STATIC	153,985.00	114,791	39,194	25.45%	0	328	0.28601%	112	0	-440	0	112
61998.	FPL WPB Charlotte Ave.	34,800.00	24,089	10,711	30.78%	0	4,410	18.30882%	1,961	0	-6,371	0	1,961
71701.	CSA-11 UTILITY ADJUSTM	1,785,521.19	1,527,563	257,958	14.45%	1,224,947	1,458,686	95.49105%	246,327	0	-480,066	173,223	73,104
71793.	PBCWUD CSA-14 20-030	2,675,092.09	2,491,358	183,734	6.87%	1,915,734	2,253,969	90.47149%	166,227	0	-504,461	145,956	20,270
71812.	West Boca FM Interconnect	1,304,360.78	1,033,667	270,694	20.75%	720,795	709,392	68.62870%	185,773	0	-174,371	44,109	141,664
71872.	PBC Courthouse Chilled Wa	504,000.00	450,977	53,023	10.52%	350,163	296,871	65.82849%	34,904	18,387	0	19,607	15,297
71874.	Century Village Valve Progr	382,709.55	139,727	242,983	63.49%	382,710	139,227	99.64216%	242,113	1,369	0	87,627	154,486
71911.	SR15/US-441 from Shirley t	36,850.40	17,767	19,083	51.78%	31,090	9,548	53.73678%	10,255	11,288	0	1,464	8,791
71928.	80th Lane Water Main Ext	160,364.80	126,587	33,778	21.06%	0	1,461	1.15420%	390	0	-1,851	390	0
71968.	WTP-11 Drainage Repair	38,088.00	23,491	14,597	38.32%	0	343	1.46012%	213	0	-556	0	213
86065.	Crocker Partners FH Repair	33,588.38	25,267	8,321	24.77%	23,339	14,437	57.13874%	4,755	4,147	0	4,600	155
86082.	West 15th Street 30" Sewer	39,812.00	14,474	25,338	63.65%	39,812	14,474	100.00000%	25,338	0	0	25,338	0
86088.	Riviera Bch Hydrants Part 2	34,633.50	19,369	15,264	44.07%	34,634	19,369	100.00000%	15,264	0	0	17,149	-1,885
86089.	2600 W Blue Heron WM Re	18,748.93	10,928	7,821	41.71%	18,749	10,928	100.00000%	7,821	0	0	10,134	-2,313
86090.	Wellington Emerg Repair	12,391.98	4,581	7,811	63.04%	12,392	4,581	100.00000%	7,811	0	0	0	7,811
86091.	Woodbine Trail WM Repair (	6,551.83	3,214	3,338	50.95%	6,552	3,214	100.00000%	3,338	0	0	0	3,338
86092.	597 Azure Avenue	6,080.00	3,260	2,820	46.38%	6,080	3,260	100.00000%	2,820	0	0	0	2,820
86093.	3400 N. Ocean Dr. Singer Is	8,300.00	5,442	2,858	34.44%	8,300	5,442	100.00000%	2,858	0	0	0	2,858
86094.	Wilco 450 Royal Palm Wy. V	3,527.36	1,976	1,551	43.98%	0	0	0.00000%	0	0	0	0	0
86095.	5070 N Ocean Drive, Riviera	0.00	0	0	0.00%	0	0	0.00000%	0	0	0	0	0
91744.	FDOT Southern Bridge Utilit	181,655.81	125,897	55,759	30.69%	26,830	12,039	9.56233%	5,332	9,459	0	1,811	3,521
91805.	Caroline St. RR Crossing W	14,980.00	10,779	4,201	28.04%	9,426	2,760	25.60736%	1,076	5,590	0	1,076	0
91823.	Washington Rd & Southern	431,074.00	238,192	192,882	44.74%	428,399	175,783	73.79879%	142,344	110,272	0	142,239	105
91871.	Univ Dr & Orange Dr 16" FM	156,662.00	140,070	16,592	10.59%	0	3,860	2.75562%	457	0	-4,317	447	10
91873.	Tide Valve Installation along	140,592.00	64,037	76,555	54.45%	126,423	55,977	87.41373%	66,920	3,526	0	12,581	54,339
91910.	Saratoga Emergency FM Re	523,186.00	413,403	109,783	20.98%	474,265	309,342	74.82807%	82,148	82,775	0	17,161	64,987
91927.	Australian & 15th 20" Valve	75,209.00	33,662	41,547	55.24%	74,009	33,170	98.53699%	40,939	0	-100	3,129	37,810
91935.	285 Banyan 48" CMP Drain	79,555.00	33,499	46,056	57.89%	79,555	33,499	100.00000%	46,056	0	0	46,220	-164
91936.	BOYNTON BEACH BLVD. E	806,541.00	603,979	202,562	25.11%	810,000	593,954	98.34019%	199,200	16,846	0	185,613	13,588

Work In Progress by Gross Profit

All Contracts | **Through Month: 09/22** | **JC Status: Open**

Contracts		Contract Amount	Est Cost @ Completion	Gross Profit	Gross Profit %	Billings To Date	Actual Costs	% Cmpl	Gross Profit to Date	Billings in excess of Costs	Costs in excess of Billings	Gross Profit Prior Year	Gross Profit this Year
91947.	WTP Valve Exploration	47,434.00	16,801	30,633	64.58%	47,434	16,801	100.00000%	30,633	0	0	16,626	14,006
91952.	North F Street Drainage	109,940.00	82,261	27,679	25.18%	0	0	0.00000%	0	0	0	0	0
91955.	2901 TUXEDO AVE SANITA	167,135.00	120,179	46,956	28.09%	32,095	20,006	16.64704%	7,817	4,272	0	3,434	4,382
91956.	LAKEWOOD DRIVE	36,949.18	27,478	9,471	25.63%	36,950	27,478	100.00000%	9,471	1	0	0	9,471
91958.	Shoppes at Press Water Ma	217,790.00	146,966	70,824	32.52%	0	1,979	1.34684%	954	0	-2,933	0	954
91960.	Palm Beach Island Hydrant	219,695.00	159,657	60,038	27.33%	71,075	21,582	13.51761%	8,116	41,377	0	0	8,116
91963.	ECR Clarifier	19,775.00	13,180	6,595	33.35%	0	0	0.00000%	0	0	0	0	0
91965.	Jupiter River Estates	0.00	0	0	0.00%	0	0	0.00000%	0	0	0	0	0
91966.	6793 Sandhill Way WPB LS	215,805.00	177,735	38,070	17.64%	150,200	175,438	98.70781%	37,578	0	-62,816	0	37,578
91969.	Pine Terrace and Washingto	143,844.80	111,983	31,861	22.15%	0	0	0.00000%	0	0	0	0	0
91971.	Delray Beach Fire Hydrant E	25,036.00	8,340	16,696	66.69%	25,036	5,323	63.81650%	10,655	9,059	0	0	10,655
91980.	205 NE 9TH AVE SEWER F	12,203.40	5,845	6,359	52.11%	12,203	5,845	100.00000%	6,359	0	0	0	6,359
Total for Department 1:		**92,808,230**	**75,314,361**	**17,493,869**		**49,906,360**	**43,144,873**		**9,093,244**	**964,495**	**-3,296,253**	**6,645,279**	**2,447,966**
Grand Total:		**92,808,230**	**75,314,361**	**17,493,869**		**49,906,360**	**43,144,873**		**9,093,244**	**964,495**	**-3,296,253**	**6,645,279**	**2,447,966**

JOHNSON-DAVIS INC.

SCOTT J. JOHNSON

EDUCATION:

BS – Civil Engineering
Bucknell University, Lewisburg, PA

EXPERIENCE:

1992 – Present	**Johnson-Davis Inc., Lantana, FL** President Underground utility construction contractor specializing in water, sewer, storm drainage systems, as well as highway and road construction.
1981 – 1992	**Johnson-Davis Inc., Lantana, FL** Project Manager/Estimator
1977 – 1981	**Johnson-Davis Inc., Lantana, FL** Pipe Foreman
1976 – 1977	**Palm Beach Utilities, Palm Beach Gardens, FL** Utility Inspector/Land Surveyor

RELATED ACCOMPLISHMENTS:

National Utility Contractors Association of Florida
(member and two-time Past President)

Associated General Contractors
(member and Past President, Florida East Coast Chapter)

Underground Contractors Association of South Florida
(member and three-time Past President)

Certified Underground Utility and Excavation Contractor
State of Florida – License # CUC043087

JOHNSON-DAVIS INC.

CHRISTOPHER JOHNSON

EDUCATION:

BBA
Stetson University, Deland, FL
CPR Certified

EXPERIENCE:

2008 – Present

Johnson-Davis Inc., Lantana, FL
Secretary/Treasurer/Estimator
Underground utility construction contractor specializing in water, sewer, storm drainage systems, as well as highway and road construction.

1992 – 2008

Johnson-Davis Inc., Lantana, FL
Secretary/Treasurer/Operations Manager
Oversee field operations of 150 field personnel in seven southeast Florida counties. Scheduling 16 crews, coordinate the maintenance and transportation departments, monitor the overall effectiveness of the field operation.

1983 – 1992

Johnson-Davis Inc., Lantana, FL
General Superintendent
Scheduling all field crews. Responsible for between 3 and 12 crews in the construction of municipal and private infrastructure improvements.

1981 – 1983

Johnson-Davis Inc., Lantana, FL
Foreman
Field supervisor responsible for 4 to 5 person crew installing water main, water services, and conflict crossings.

JOHNSON-DAVIS INC.

JOHN STANLEY

EDUCATION: **Ferris University, Big Rapids, MI**
Bachelor's Degree in Accounting

EXPERIENCE:

2021 – Present **Johnson-Davis Inc., Lantana, FL**
CFO
Responsible for overseeing the company financial operations and making decisions based on the company's financial stability. Monitors cash flow and meets with the President to discuss the best practices for company finances and comes up with strategic plans to improve company's overall financial health.

2019 – 2021 **WBW Construction, Killen, TX**
Chief Financial Officer
Optimized overall productivity in line with organizational objectives through efficient management of staff development activities. Employed proven expertise to create and execute robust strategies to achieve desired results.
Encouraged talented staff towards progression and boosted performance by introducing leadership development program. Measured company's sales and expenses during specified period of time through profit and loss management.

2014 – 2019 **Riley Bros Construction Morris. MN**
CEO/President
Enhanced personal experience by acting as CEO/President for privately held construction company recognized for building bridges and tunnels as well as elevated highway construction, excavation, demolition, grading, street paving, underground utility, and building site separation. Secured valuable contracts in line with business success.

2013 – 2014 **Riley Bros Construction Morris. MN**
President
Owned control over monthly and annual financial reporting with a keen focus on tracking and reviewing overall performance. Leveraged extraordinary team management attributes to administer human resources, job costing functions and office staff.

RELATED ACCOMPLISHMENTS:

Controller, Assistant Controller and CPA candidate.
Strategic planning and Execution.

JOHNSON-DAVIS INC.

WILLIAM CLARK CLIFFORD CRYER

EDUCATION:

BS – Business Administration,
Real Estate and Construction Management Major
University of Denver, Denver, CO

EXPERIENCE:

2018 – Present

Johnson-Davis Inc., Lantana, FL
Estimator/Estimating Manager
Underground utility construction contractor specializing in water, sewer, storm drainage systems, as well as highway and road construction. Prepare estimates for private and public work as both prime and subcontractor.

2014 – 2018

Johnson-Davis Inc., Lantana, FL
Project Manager
Company representative at pre-construction and project meetings. Ordered materials, billing, and job coordination for private and public utility projects.

2013 – 2014

Johnson-Davis Inc., Lantana, FL
Superintendent
Liaison between Project Manager and Foremen overseeing field operations of storm drainage, sanitary sewer, water, and force main crews.

2012 – 2013

Johnson-Davis Inc., Lantana, FL
Foreman
Field supervisor responsible for 7 to 10 person crew installing storm drainage, sanitary sewer, water, and force mains.

RELATED ACCOMPLISHMENTS:

OSHA 30 hour Construction Health and Safety Course
Florida DOT Maintenance of Traffic Advanced Certification
Certified Underground Utility and Excavation Contractor- State of Florida- License #CUC1225299
FDEP Qualified Stormwater Management Inspector
Certified Plumbing Contractor – State of Florida – License #CFC1430348
National Utility Contractors Association of Florida (VP)
Underground Contractors Association of South Florida (VP)

R2024 0497 MAY 07 2024

INTERLOCAL AGREEMENT BETWEEN PALM BEACH COUNTY AND THE VILLAGE OF PALM SPRINGS REGARDING CONGRESS AVENUE SANITARY SEWER IMPROVEMENTS

THIS AGREEMENT made and entered into this 7th day of May, 2024, by and between **PALM BEACH COUNTY**, a political subdivision of the State of Florida ("County"), and the **VILLAGE OF PALM SPRINGS**, a municipal corporation of the State of Florida, ("Village"), collectively referred to as the Parties.

W I T N E S S E T H

WHEREAS, Section 163.01, Florida Statutes, known as the "Florida Interlocal Cooperation Act of 1969" authorizes local governments to make the most efficient use of their powers by enabling them to cooperate with other localities on a basis of mutual advantage and thereby to provide services and facilities that will harmonize geographic, economic, population and other factors influencing the needs and development of local communities; and

WHEREAS, the Parties desire to work cooperatively together to encourage economic development by promoting the efficient delivery of sanitary sewer services through the expansion and improvement of sewer infrastructure; and

WHEREAS, the commercial properties along Congress Avenue between Forest Hill Boulevard and Summit Avenue, as depicted in **Exhibit "A"** attached hereto ("Properties"), are located in unincorporated Palm Beach County, contiguous and adjacent to the corporate limits of the Village of Palm Springs, and in close proximity to Palm Beach International Airport; and

WHEREAS, the Properties are located within the County water and sewer service area but are not currently served by the sewer system; and

WHEREAS, due to the lack of sanitary sewer service, the Properties remain underdeveloped despite their prime location near the airport; and

WHEREAS, in order to provide service to the Properties through the County's system, it will be necessary to increase the force main capacity to accommodate the additional tie-ins; and

WHEREAS, the Parties therefore desire to work cooperatively to provide the infrastructure improvements necessary to extend service to the area in which the Properties are located ("Project"); and

WHEREAS, the Parties will share equally in the Project costs up to $3 Million, after which the Village will be responsible for all Project costs subject to the budget and appropriation provision set forth herein; and

WHEREAS, the Village will procure contracts for the design and construction of the Project, and may piggyback on existing County contracts, and will oversee the design and construction of the Project; and

WHEREAS, the County and Village find that cooperative efforts set forth herein serve a public purpose.

NOW, THEREFORE, for and in consideration of these premises, the mutual undertakings and agreements herein contained and assumed, the sufficiency of which is acknowledged by both parties, the County and Village hereby covenant and agree as follows:

1. The foregoing statements are true and correct and are incorporated herein by reference.

2. Term/Effective Date. This Agreement shall become effective upon approval by both Parties and continue until the completion of all obligations set forth herein. The Effective Date of this Agreement shall be the date this Agreement is approved by the Palm Beach County Board of County Commissioners ("Effective Date"). This Agreement shall terminate upon completion of the Project and all related close-out requirements of the Project and this Agreement and the County's reimbursement of its share of the design and construction costs to the Village.

3. Obligations of County. The Village shall be responsible for contracting for the design and construction services for the Project and for managing the design and construction process. The Village may utilize piggyback contracts to engage contractors hired in accordance with the County's bidding process for any duties associated with the construction of the Project.

a. The County will provide dedicated sanitary sewage capacity reservation to accommodate the increased force main capacity associated with the Project. The capacity reservation shall be the projected wastewater flow from the Properties plus a service capacity buffer of 25 %. Peak hour delivery rate shall be 4.0 times the average daily flow as was assumed in the Basis of Designs Report (BODR) prepared by Holtz Consulting Engineers, dated August 14, 2023.
b. The County will notify the Village each time one of the Properties ties into the system.
c. The County shall reimburse the Village for fifty percent (50%) of the design and construction costs up to a total Project cost of $3 Million as more fully described in Sections 4 and 5 below.
d. Any fees charged by any agency, including the County and the Village, will be included in total projects costs to be shared by the Parties.

4. Obligations of Parties.

a. The Village and the County shall share equally in all costs of the Project, with the Village fronting one hundred percent (100%) of the costs and invoicing the County for reimbursement of its fifty percent (50%) share of up to a total Project cost of $3 Million as set forth herein and in Section 5 below. The Village is responsible for one hundred percent (100%) of Project costs over $3 million, subject to the budget and appropriation provision set forth herein.
b. The Village and the County have each incurred costs in the initial design of the Project, which costs are set forth in **Exhibit "B"** hereto ("Initial Design Costs"). The Initial Design Costs shall be deducted from each party's obligation to pay fifty (50%) of the total Project cost of $3 Million with each party's remaining obligation shown in **Exhibit "B".**
c. The Parties will agree on the final scope of the Project prior to the Village entering into

construction contracts. Any changes to the scope of the Project that require a change order after construction commences shall be reviewed and approved by the Authorized Designee of both parties subject to the budget and appropriation provision in Section 6 below.

d. Village shall provide a bill of sale and easements for the completed Project to the County, and any other reasonably necessary Project close-out documentation required by the County, in a form reasonably acceptable to the County and the Village.

5. Payment. During the design and construction of the Project, Village shall invoice the County based on Village-approved pay applications submitted to the Village. Except with regards to the Initial Design Costs, each pay application will include a five percent (5%) administrative mark-up to cover the Village's administrative services, which administrative mark-up will be included in total Project costs to be shared by the Parties. County will, within ten (10) business days after receipt of each invoice, either by non-response indicate agreement to pay Village or return the invoice to Village indicating in writing County's reasonable reasons for refusing to make payment due. Where accepted, Village shall provide County with a final invoice, and, unless returned to the Village in accordance with the above procedure, payment shall be made by County within thirty (30) days of receipt of final invoice from the Village. For any refused invoice that is returned to the Village by the County, the Village may resubmit the invoice and the same review process shall be adhered to until the invoice is resolved for payment. In all circumstances, County's payment of an invoice shall not be unreasonably withheld, delayed or conditioned. If invoice disputes cannot be resolved through staff communication, the parties agree to attempt to resolve any disputes through a meeting of the Authorized Designees set forth in Section 7 prior to any legal action.

6. Budget and Appropriation. All provisions of this Agreement calling for the expenditure of funds by either Party prior to the time the Parties agree on the final scope of the Project as set forth in Section 4(c) above are subject to annual budgetary funding of each Party. Each Party's performance and obligation to pay under this Agreement is contingent upon an annual appropriation by their respective governing bodies. However, once the Parties agree on the final scope of the Project as set forth in Section 4(c) above, unless this Agreement is terminated as provided in Section 8 below, the Village shall prosecute the Project to completion and each Party shall be responsible for their funding obligations as set forth herein.

7. Authorized Designees. The County Authorized Designee shall be the County Administrator or his/her designee. The Village Authorized Designee shall be the Village Manager or his/her designee. Both parties covenant and agree that their respective Authorized Designee is authorized to take the actions set forth herein and that such actions shall have the same force and effect as if approved and executed by the governing bodies of the County and the Village.

8. Termination.

a. The parties hereto expressly covenant and agree that in the event either party is in default of its obligations herein, the party not in default shall provide to the party in default thirty (30) days written notice to cure said default before exercising any of its rights as provided for in this Agreement. Failure to cure said default within thirty (30) days following notice may be grounds for termination of this Agreement. Termination of this Agreement by either party shall require thirty (30) days prior written notice to the other party prior to the

termination date. The Parties may mutually agree to extend the time for cure and/or termination.

b. If the Village has incurred any design or construction costs prior to the date of termination, the County shall reimburse the Village for its share of those costs consistent with the terms of this Agreement.

9. No Transfer of Powers. Nothing contained in this Agreement shall be construed to constitute a transfer of powers in any way whatsoever. This Agreement is solely an Agreement to provide services as authorized in Florida Statutes, Chapter 163. The governing bodies for County and Village shall each maintain all legislative authority with regard to their respective political subdivision. All of the privileges and immunities from liability; exemption from laws, ordinances, and rules; and pensions and relief, disability, workers compensation and other benefits which apply to the activity of officers, agents, or employees of any public agents or employees of any public agency when performing their respective functions within the territorial limits for their respective agencies shall apply to the same degree and extent to the performance of such functions and duties of such officers, agents, or employees extra-territorially under the provisions of this Agreement.

10. Indemnification County and Village acknowledge the waiver of sovereign immunity for liability in tort contained in Florida Statutes 768.28, the State of Florida's partial waiver of sovereign immunity, and acknowledge that such statute permits actions at law to recover damages in tort for money damages up to the limits set forth in such statute for death, personal injury or damage to property caused by the negligent or wrongful acts or omissions of an employee acting within the scope of the employee's office or employment. County and Village agree to be responsible for all such claims and damages, to the extent and limits provided in Florida Statutes Section 768.28, arising from the actions of their respective employees. The Parties acknowledge that the foregoing shall not constitute an agreement by either Party to indemnify the other, nor a waiver of sovereign immunity, nor a waiver of any defense the Parties may have under such statute, nor as consent to be sued by third parties.

11. Force Majeure In the event that the performance of this Agreement by either Party to this Agreement is prevented or interrupted in consequence of any cause beyond the control of either party, including, but not limited to, Acts of God or of the public enemy, war, national emergency, allocation of or other governmental restrictions upon the use or availability of labor or materials, rationing, civil insurrection, riot, disorder or demonstration, terrorism, strike, embargo, flood, tidal wave, fire, explosion, bomb detonation, nuclear fallout, windstorm, hurricane, earthquake, or other casualty or disaster or catastrophe or water plan failures and water main breaks, neither Party shall be liable for such non-performance.

12. Remedies. This Agreement shall be governed by the laws of the State of Florida. Any and all legal action necessary to enforce the Agreement will be held in Palm Beach County. No remedy herein conferred is intended to be exclusive of any other remedy, and each and every such remedy shall be cumulative and shall be in addition to every other remedy given hereunder now or hereafter.

13. Successors and Assigns. County and Village each binds itself and its partners, successors, executors, administrators and assigns to the other party and to the partners, successors, executors, administrators and assigns of such other party, in respect to all covenants of this

Agreement. Neither County nor Village shall assign, sublet, convey or transfer its interest in this Agreement without prior written consent of the other.

14. Waiver. The failure of either Party to insist on the strict performance of any of the agreements, terms, covenants and conditions hereof shall not be deemed a waiver of any rights or remedies that said Party may have to any subsequent breach, default, or non-performance, and said Party's right to insist on strict performance of this Agreement shall not be affected by any previous waiver of course or dealing.

15. Severability If any term or provision of this Agreement, or the application thereof to any person or circumstances shall, to any extent, be held invalid or unenforceable by any court of competent jurisdiction, then the remainder of this Agreement, or the application of such terms or provision, to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected, and every other term and provision of this Agreement shall be deemed valid and enforceable to the extent permitted by law.

16. Notice. All notices provided for herein shall be in writing and transmitted by mail or by courier, and, if to Village, shall be mailed or delivered to Village at:

Village of Palm Springs
226 Cypress Lane
Palm Springs, FL 33461
Attn: Village Manager

with a copy not to constitute notice to

Christy Goddeau, Village Attorney
Torcivia, Goddeau, Donlan & Rubin, P.A.
701 Northpoint Parkway, Suite 209
West Palm Beach, FL 33407

And if to County, shall be mailed or delivered to:

Palm Beach County Water Utilities Department
8100 Forest Hill Boulevard
West Palm Beach, FL 33416-6097
Attn: Department Director

with a copy not to constitute notice to:

Palm Beach County Attorney's Office
301 North Olive Ave.
Suite 601
West Palm Beach, FL 33401
Attn: Water Utilities Attorney

17. Filing. This Agreement shall be filed with the Clerk of the Circuit Court for Palm Beach

County.

18. Amendment and Modification. This Agreement may only be amended, modified, changed, supplemented, or discharged by an instrument in writing signed by the parties hereto.

19. Entirety of Agreement. County and Village agree that this Agreement and any Exhibits hereto set forth the entire agreement between the parties, and that there are not promises or understandings other than those stated herein. None of the provisions, terms and conditions contained in this Agreement may be added to, modified, superseded or otherwise altered, except by written instrument executed by the Parties.

20. Palm Beach County Office of the Inspector General. Palm Beach County has established the Office of the Inspector General in Palm Beach County Code, Section 2-421 - 2-440, as may be amended. The Inspector General's authority includes but is not limited to the power to review past, present and proposed County contracts, transactions, accounts and records, to require the production of records, and to audit, investigate, monitor, and inspect the activities of its officers, agents, employees, and lobbyists in order to ensure compliance with contract requirements and detect corruption and fraud.

Failure to cooperate with the Inspector General or interfering with or impeding any investigation shall be in violation of Palm Beach County Code, Section 2-421 - 2-440, and punished pursuant to Section 125.69, Florida Statutes, in the same manner as a second degree misdemeanor.

21. No Third Party Beneficiary. No provision of this Agreement is intended to, or shall be construed to, create any third party beneficiary or to provide any rights to any person or entity not a party to this Agreement, including but not limited to any citizen or employees of the County and/or the Village.

22. Non-discrimination. The County is committed to assuring equal opportunity in the award of contracts and complies with all laws prohibiting discrimination. Pursuant to Palm Beach County Resolution R2017-1770, as may be amended, the Village represents that throughout the term of the Agreement, including any renewals thereof, if applicable, all of its employees are treated equally during employment without regard to race, color, religion, disability, sex, age, national origin, ancestry, marital status, familial status, sexual orientation, gender identity or expression, or genetic information. Failure to meet this requirement shall be considered default of the Agreement.

23. E-Verify - Employment Eligibility. Village warrants and represents that it is in compliance with section 448.095, Florida Statutes, as may be amended. Village shall: (1) register with and use the E-Verify System (E-Verify.gov), to electronically verify the employment eligibility of all newly hired workers; and (2) verify that all of the Authority's contractors and subcontractors performing any duties and obligations under this Agreement are registered with and use the E-Verify System to electronically verify the employment eligibility of all newly hired workers.

County shall terminate this Agreement if it has a good faith belief that Village has knowingly violated Section 448.09(1), Florida Statutes as may be amended.

IN WITNESS WHEREOF, County and Village have executed or have caused this Agreement to be duly executed in several counterparts, each of which counterpart shall be considered an original executed copy of this Agreement.

R2024 0497 MAY 0 7 2024

ATTEST:
Joseph Abruzzo, Clerk of the Circuit Court & Comptroller, Palm Beach County

By: _____
Deputy Clerk

(SEAL)

PALM BEACH COUNTY, BY ITS BOARD OF COUNTY COMMISSIONERS

By: _____
Maria Sachs, Mayor

APPROVED AS TO FORM AND TO LEGAL SUFFICIENCY

By: _____
County Attorney

APPROVED AS TO TERMS AND CONDITIONS

By: _____
Ali Bayat, Director Water Utilities

ATTEST:

By: _____
Kimberly Wynn, Village Clerk

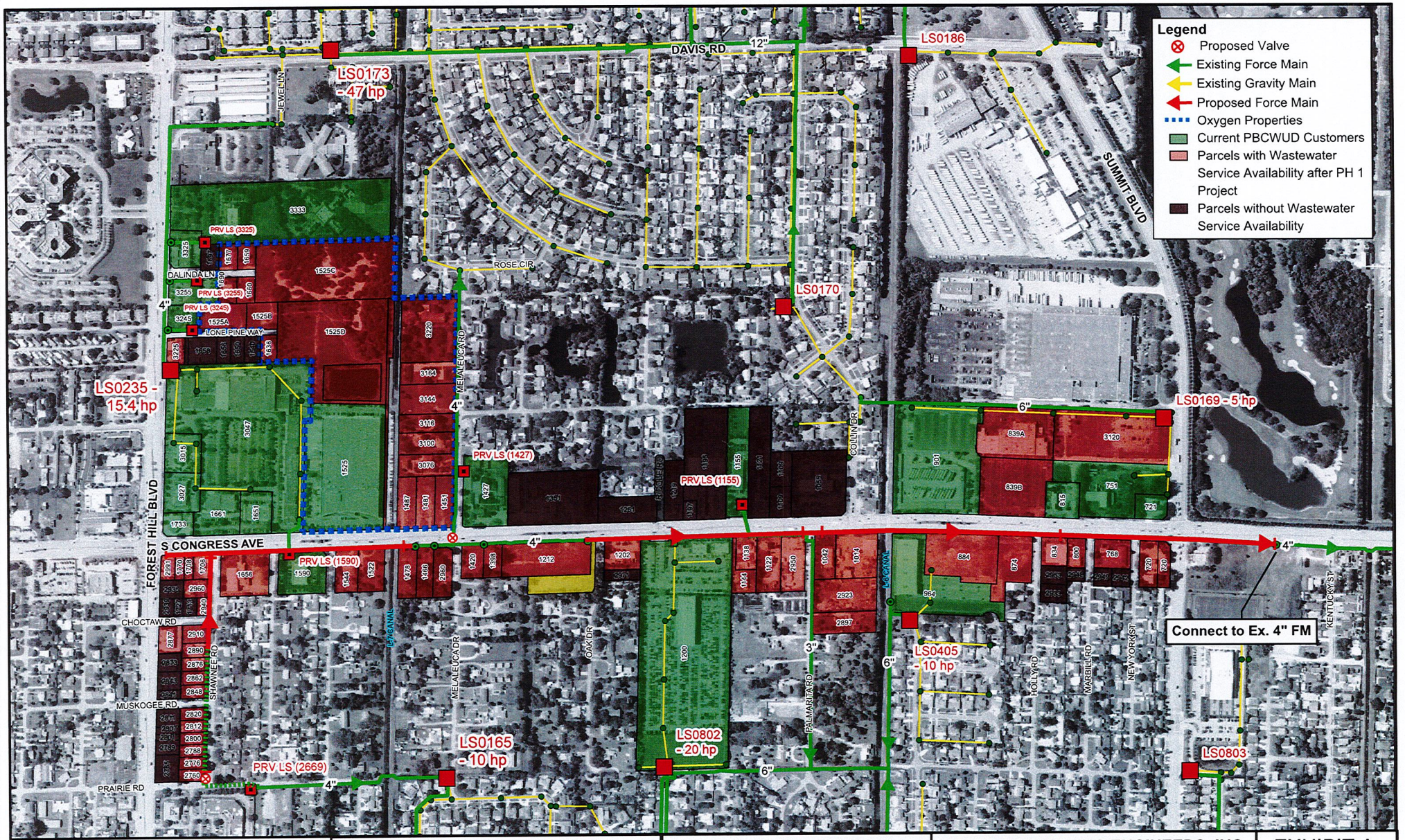
VILLAGE OF PALM SPRINGS, FLORIDA

By: _____
Beverly Smith, Mayor

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

By: _____
Christy Goddeau, Village Attorney

Exhibit A
Depiction of Properties



N

0 0.05 0.1 0.2

Village of Palm Springs
Congress Ave Force Main

Phase 1 Wastewater System Improvements and Wastewater Service Availability

HOLTZ CONSULTING ENGINEERS, INC.
270 S. CENTRAL BLVD, SUITE 207
JUPITER, FLORIDA 34994
PH. (772) 919-4905

EXHIBIT A

Exhibit B
(Initial Design Costs)

The County has incurred $206,012.57 in Initial Design Costs. Subject to the Budget and Appropriation provision in Section 6 of the Agreement, the County's remaining obligation under this Agreement is $1,293,987.43.

The Village has incurred $167,704.00 in Initial Design Costs. Subject to the Budget and Appropriation provision in Section 6 of the Agreement, the Village's remaining obligation under this Agreement is $1,332,296.00

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 1/30/25

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
South Shore Insurance Inc. 955 SE Central Parkway Stuart FL 34994	PHONE (A/C, No, Ext): (772) 426-9973	FAX (A/C, No): (772) 872-5870
	E-MAIL ADDRESS:	

INSURED	INSURER(S) AFFORDING COVERAGE	NAIC #
Hinterland Group Inc. 2051 West Blue Heron Blvd Riviera Beach, FL 33404	INSURER A : The Charter Oak Fire Insurance Company	25615
	INSURER B : Travelers Property Casualty Company of Amer	25674
	INSURER C : Starr Indemnity & Liability Company	38318
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [x] OCCUR X XCU Coverage Included X Primary/Non Contributory GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PRO-JECT [ ] LOC OTHER:	x	x	DT-CO-2W558369-COF-25	01/31/2025	01/31/2026	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG $	$ 1,000,000 $ 300,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $
A	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS / SCHEDULED AUTOS X HIRED AUTOS / X NON-OWNED AUTOS	x	x	810-2W545755-25-26-G	01/31/2025	01/31/2026	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) $	$ 1,000,000 $ $ $ $
B	X UMBRELLA LIAB [x] OCCUR EXCESS LIAB [ ] CLAIMS-MADE DED [ ] RETENTION $			CUP-2T683165-25-NF	01/31/2025	01/31/2026	EACH OCCURRENCE AGGREGATE $	$ 4,000,000 $ 4,000,000 $
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N [ ] (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A					PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ $ $
C	INLAND MARINE	X		ITA100065445525	1/31/2025	1/31/2026	Scheduled Equip. Installation Floater	6,619,541 $100,000/$500,00

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Should any of the above policies be cancelled before the expiration date thereof, the issuing insurer will endeavor to mail 30 days written notice to the certificate holder named to the left, but failure to do so shall impose no obligation or liability of any kind upon the insurer its agents or representatives. Certificate Holder is an additional insured on blanket form only if required by written contract/agreement with the insured executed prior to injury or damage. A Waiver of Subrogation is provided on blanket form only if required by written contract/ agreement with the insured executed prior to injury or damage. Coverage is primary/non-contributory to additional insureds when it is required by written contract/agreement with the insured executed prior to injury or damage.

CERTIFICATE HOLDER

VILLAGE OF PALM SPRINGS
226 CYPRESS LANE

PALM SPRINGS, FL 33461

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE Jennie Lanman <JNL>

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CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 01/30/2025

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
South Shore Insurance Inc. 955 SE Central Parkway Stuart FL 34994	PHONE (A/C, No, Ext): (772) 426-9973	FAX (A/C, No): (772) 872-5870
	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A : FFVA Mutual Insurance Company	10385
INSURED Hinterland Group Inc. 2051 West Blue Heron Blvd Riviera Beach, FL 33404	INSURER B :	
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

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INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$
	☐ CLAIMS-MADE ☐ OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$
	☐ POLICY ☐ PRO-JECT ☐ LOC						PRODUCTS - COMP/OP AGG	$
	OTHER:							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	☐ ANY AUTO						BODILY INJURY (Per person)	$
	☐ ALL OWNED AUTOS ☐ SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	☐ HIRED AUTOS ☐ NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
	☐ UMBRELLA LIAB ☐ OCCUR						EACH OCCURRENCE	$
	☐ EXCESS LIAB ☐ CLAIMS-MADE						AGGREGATE	$
	☐ DED ☐ RETENTION $							$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y / N: N If yes, describe under DESCRIPTION OF OPERATIONS below	N / A	X	WC84008054622025A	1/31/2025	1/31/2026	X PER STATUTE ☐ OTH-ER	
							E.L. EACH ACCIDENT	$ 1,000,000
							E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Should any of the above policies be cancelled before the expiration date thereof, the issuing insurer will endeavor to mail 30 days written notice to the certificate holder named to the left, but failure to do so shall impose no obligation or liability of any kind upon the insurer, its agents or representatives. A Waiver of Subrogation is provided on blanket form only if required by written contract/agreement with the insured executed prior to injury or damage.

CERTIFICATE HOLDER

VILLAGE OF PALM SPRINGS
226 CYPRESS LANE

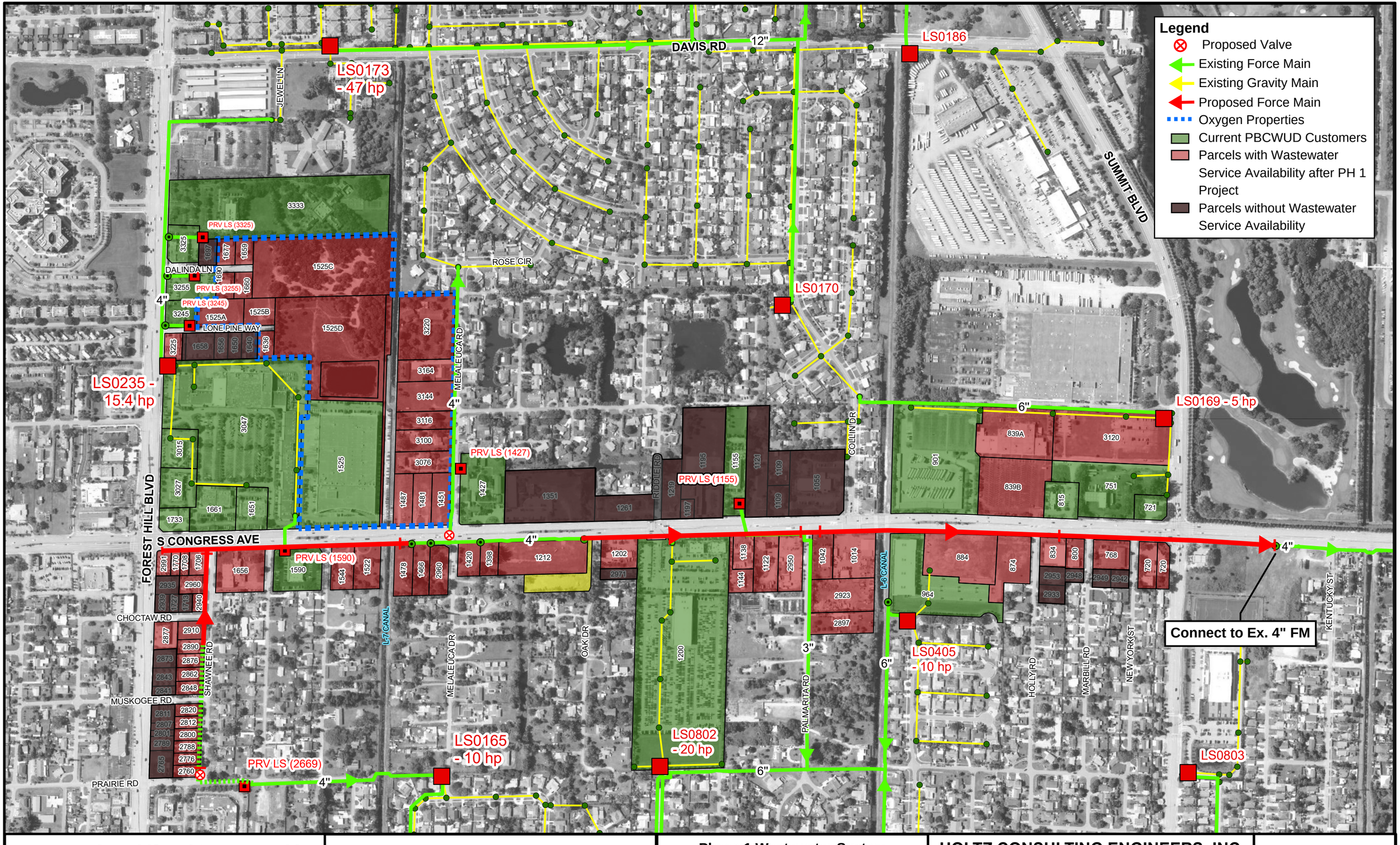
PALM SPRINGS, FL 33461

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE Jennie Janman <JNL>

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Legend
Proposed Valve
Existing Force Main
Existing Gravity Main
Proposed Force Main
Oxygen Properties
Current PBCWUD Customers
Parcels with Wastewater Service Availability after PH 1 Project
Parcels without Wastewater Service Availability
LS0173 - 47 hp
LS0186
LS0170
LS0235 - 15.4 hp
LS0169 - 5 hp
LS0165 - 10 hp
LS0802 - 20 hp
LS0405 - 10 hp
LS0803
DAVIS RD
12"
JEWELL LN
SUMMIT BLVD
ROSE CIR
PRV LS (3325)
PRV LS (3255)
PRV LS (3245)
LONE PINE WAY
DALINDA LN
MELALEUCA RD
PRV LS (1427)
RIDDLE RD
PRV LS (1155)
COLLIN DR
6"
4"
3"
S CONGRESS AVE
FOREST HILL BLVD
PRV LS (1590)
L-7 CANAL
OAK DR
PALMARITA RD
L-6 CANAL
HOLLY RD
MARBILL RD
NEW YORK ST
KENTUCKY ST
Connect to Ex. 4" FM
CHOCTAW RD
SHAWNEE RD
MUSKOGEE RD
PRV LS (2669)
PRAIRIE RD
0 0.05 0.1 0.2
Village of Palm Springs
Congress Ave Force Main
Phase 1 Wastewater System Improvements and Wastewater Service Availability
HOLTZ CONSULTING ENGINEERS, INC.
270 S. CENTRAL BLVD, SUITE 207
JUPITER, FLORIDA 34994
PH. (772) 919-4905
FIG 9