

**CONTRACT DOCUMENTS &  
TECHNICAL SPECIFICATIONS  
FOR  
LOXAHATCHEE RIVER DISTRICT**



**A1A FORCE MAIN REPLACEMENT  
ITB# 25-003-00142**

**June 2025**

**Prepared by:**

**Kimley»Horn**

Project No. 140790001  
© Kimley-Horn and Associates, Inc.  
1920 Wekiva Way  
Suite 200  
West Palm Beach, FL 33411  
561/845-0853 TEL  
561/863-8175 FAX

# **A1A FORCE MAIN REPLACEMENT**

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## NOTICE TO CONTRACTORS

Bids will be received by the Loxahatchee River Environmental Control District (the “District,”) via DemandStar until **2:00 p.m. local time on August 5, 2025**. Any Bids received after **2:00 p.m. local time on August 5, 2025**, will not be accepted under any circumstances. Any uncertainty regarding the time a Bid is received will be resolved against the Bidder. The Bids will be publicly opened and read aloud on **August 5, 2025 at 2:00 p.m. local time** in the Governing Board room of the District, 2500 Jupiter Park Drive. The Work to be performed is located in Palm Beach County Florida in the Town of Jupiter, and consists of furnishing all labor, tools, materials, and equipment necessary for the installation as shown on the Contract Plans and Specifications and as specified herein to include:

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### A1A FORCE MAIN REPLACEMENT

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The Contractor shall furnish all labor and materials necessary to construct the force main replacements along North Highway A1A as shown on the construction plans. The project shall include all piping, fittings, couplings, accessories and appurtenances, site restoration, temporary provisions to maintain operation to the extent practical, pressure testing, removal and grout filling of the existing piping as specified, obtaining all required permits, and compliance with permit conditions. The Contractor shall adhere to Loxahatchee River Environmental Control District (LRD) standards for the force main, and Palm Beach County Standards and The Town of Jupiter Standards for related roadway/restoration, and any other items depicted on the drawings and described in these documents and reference materials.

The District reserves the right to determine material elements of the Bid and to award the Contract, if at all, to the lowest, qualified, responsive, and responsible Bidder. The District further reserves the right to reject any and all Bids; to not proceed with the Project; and/or to waive any irregularities contained in a Bid.

A pre-bid conference will be held at **2:00 p.m., local time on July 22, 2025** via Microsoft Teams. A meeting invite will be distributed to all plan holders prior to the scheduled date and time. This meeting will be recorded. If a bidder downloads Bid Documents from the District’s website the bidder must send a request to be included in the pre-bid conference meeting invite to [purchasing@lrecd.org](mailto:purchasing@lrecd.org). All contractors planning to submit Bids on this Project are encouraged to attend.

Bid Documents may be downloaded at the District’s website, <https://loxahatcheeriver.org/governance/purchasing-bids/> or from DemandStar. Bid Documents will be available on **June 30, 2025** after 8:00 a.m. local time. The Bid Documents are made available on the above terms solely for the purpose of obtaining Bids and do not confer a license or grant for any other use.

Character and amount of security to be furnished by each Bidder are stated in the Instruction to Bidders. The Bidder shall hold its Bid open for acceptance by the District for a period of not less than ninety (90) calendar days following the date of the Bid opening.

This solicitation has been issued as an Electronic Bid with the same title on DemandStar. To submit a response for this bid electronically follow the instructions on DemandStar. Electronic responses are the only method allowed for Bidders to respond to this solicitation. Bids shall be submitted on or before the date and time specified.

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT

Gordon M. Boggie, Chairman

## **INSTRUCTIONS TO BIDDERS**

### **ARTICLE 1**

1. The following defined terms shall govern this Section and all other Contract Documents unless otherwise noted in the Contract Documents:
  - a. “Bid” shall mean the documents that comprise the submission for the Work of this Project.
  - b. “Bid Period” shall mean the time period from when the Bid Documents will become available to the deadline for submitting Bids.
  - c. “Bidder” shall mean one who submits a Bid directly to the District, as distinct from a sub-bidder, who submits a Bid to the Bidder.
  - d. “Bid Documents” include the Advertisement for Bids, Instructions to Bidders, Proposal, Questionnaire, the Bid Form, and the proposed Contract Documents (including all Addenda issued prior to receipts of Bids).
  - e. “Change Order” shall mean a written change, addition, or deletion to the Contract Documents signed by both Contractor and the District.
  - f. “Contract” shall mean the agreement between the Successful Bidder and the District for performance of the Work.
  - g. “Contract Documents” shall mean all documents electronic or hard copy that comprise the agreement of the parties related to the Project. The Contract Documents include the Notice to Contractors, Instructions to Bidders, Proposal, Questionnaire, Bid Security, Contract, Public Construction Bond, Sworn Statement of Public Entity Crimes, Opinion of District’s Attorney, Releases of Liens, Special Conditions, General Conditions, Technical Specifications, Standard Details and Plans, Plans and Specifications including all modifications, addenda, and Change Orders contained in any documents before or after execution of the Contract.
  - h. “Contract Sum” shall mean the total amount due to Contractor as a result of the Work performed on the Project, including any amounts due as a result of Change Orders.
  - i. “Contract Time” shall mean the time to complete the Project as set forth in the Contract Documents. Reference to “days” shall mean calendar days unless otherwise noted.
  - j. “Contractor” shall mean the Successful Bidder with whom the District enters into a contract for the Work.
  - k. “County” shall mean Palm Beach County, as may be applicable.
  - l. “Town” shall mean the Town of Jupiter, as may be applicable.
  - m. “Defective” shall mean the Work does not conform to the Contract Documents or does not meet the requirements of any applicable inspection, reference standard, test, or approval.

- n. “District” shall mean the Loxahatchee River Environmental Control District, acting through its properly authorized representatives.
- o. “Engineer” shall mean the engineer designated by the District as its engineering representative during the course of construction to make appropriate inspection and computation of payments, whether acting directly or through properly authorized agents, inspectors or representatives of the Engineer, acting within the scope of duties entrusted to them. The Engineer is not an employee of the District.
- p. “Final Completion” shall mean the time when Engineer determines that all of the Work and associated punch list items have been completed in accordance with the Contract Documents.
- q. “Notice of Award” shall mean the District’s notification of award of the Contract to the Successful Bidder.
- r. “Plans” shall mean any and all drawings, plans, sketches, diagrams, designs, lists, or other graphic and pictorial portions of the Contract Documents showing the design, location, and dimensions of the Work for the Project.
- s. “Project” shall mean the entire construction to be performed as provided in the Contract Documents.
- t. “Specifications” shall mean the written requirements for materials, equipment, systems, standards, and workmanship for the Work, and performance of related services.
- u. “Substantial Completion” shall mean the date as certified by Engineer when the construction of the Project is sufficiently completed, in accordance with the Contract Documents, so that the Project can be utilized for the purposes for which it was intended; or if there be no such certification, the date when final payment is due in accordance with the Contract.
- v. “Successful Bidder” shall mean the lowest, qualified, responsible, and responsive Bidder to whom the District, based on the District’s evaluation hereinafter provided, makes an award.
- w. “Work” shall mean any and all obligations, duties and responsibilities necessary to the successful completion of the Project assigned to or undertaken by Contractor under the Contract Documents, including all labor, materials, equipment, services, and other incidentals and the furnishing, installation, and delivery thereof and all Work reasonably inferable therefrom.

2. **Bids:** Bids will be received by the Loxahatchee River Environmental Control District (the “District,”) via DemandStar until **2:00 p.m. local time on August 5, 2025**. Any Bids received after **2:00 p.m. local time on August 5, 2025** will not be accepted under any circumstances. Any uncertainty regarding the time a Bid is received will be resolved against the Bidder. The Bids will be publicly opened and read aloud **at 2:00 p.m. local time on August 5, 2025** local time in the Governing Board room of

the District, at the above address. The Bidder shall hold its Bid open for acceptance by the District for a period not less than ninety (90) calendar days following the date of the Bid opening.

Bid Documents may be downloaded at the District's website, <https://loxahatcheeriver.org/governance/purchasing-bids/> or via DemandStar. Bid Documents will be available on **June 30, 2025, after 8:00 a.m. local time**. The Bid Documents are made available on the above terms solely for the purpose of obtaining Bids and do not confer a license or grant for any other use.

A pre-bid conference will be held at **2: 00 p.m., local time on July 22, 2025** via Microsoft Teams. A meeting invite will be distributed to all plan holders prior to the scheduled date and time. If a bidder downloads Bid Documents from the District's website the bidder must send a request to be included in the pre-bid conference meeting invite to [purchasing@lrecd.org](mailto:purchasing@lrecd.org). All contractors planning to submit Bids on this Project are encouraged to attend.

All Bids shall be made on the blank form of proposal attached hereto. All blanks on the Bid Forms must be printed in blue or black ink or typed. Completed Bid Forms shall be scanned to PDF format and uploaded to DemandStar. The Bid shall contain an acknowledgment of receipt of all Addenda. A single Bid shall be submitted for all portions of the Work. Bids by corporations must be executed in the corporate name by the president or a vice president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation must be shown below the signature. Bids by partnerships must be executed in the partnership name and signed by a general partner, whose title must appear under the signature. The official address of the partnership must also be shown below the signature. If requested, the person signing a Bid for a corporation or partnership must produce evidence satisfactory to the District of the person's authority to bind the corporation or partnership. All names must be typed or printed below the signature. The address and telephone number for communications regarding the Bid must be shown.

After commencement of the Bid Period, no Bidder, or its agents, representatives, or persons acting at the request of such Bidder shall contact, communicate with or discuss any matter relating to the Bid with any District officer, agent, Board member, or employee other than Engineer or their designee. This prohibition ends upon execution of the final contract for the Work or when the Bid has been cancelled. A Bidder who violates this provision will be subject discipline, including at a minimum a written reprimand and up to and including rejection of its Bid and/or cancellation of the Contract.

2. **Bid Security:** Each Bid must be accompanied by bid security in the form of a certified check or Bidder's Guaranty Bond ("Bid Bond") issued by a surety meeting the requirements of this Instruction to Bidders Section 3 and payable to the District for ten percent (10%) of the total amount of the Bid ("Bid Security"). Bidders will send the ORIGINAL Bid Bond to the District immediately after the Bid Opening Date. **The original Bid Bond is to be received within 48 hours of the Bid Due Date or the bid will be deemed non-responsive. Bid Bonds are due not later than 2:00 p.m. local time on August 7, 2025.** The Bid Security of the Successful Bidder will be retained until the Bidder has executed the Contract and furnished the required payment and performance bonds in the form of a Public Construction Bond, whereupon the Bid Security will be returned. If the Successful Bidder fails to execute and deliver the Contract and furnish the required Bonds within ten (10) business days after the Notice of Award, the District may annul the Notice of Award and the Bid Security of



that Bidder will be forfeited to the District. The Bid Security of any Bidder whom the District believes to have a reasonable chance of receiving the award may be retained by the District for ninety (90) calendar days after the date of the opening of the Bid. The Bid Security of other Bidders will be returned five (5) business days after the opening of the Bids. The Bid Bond shall be issued by a company having a registered agent in the State of Florida.

3. **Bonds and Qualification of Security Companies:** Upon award of the Contract, Contractor shall execute a Public Construction Bond, in the amount of the total Contract Sum with a qualified surety company, covering performance of the Project and payment of subcontractors, substantially similar in form to that provided in Article 5 of the Contract Documents and in compliance with the requirements of Section 255.05, Florida Statutes.

In order to be acceptable to the District, Bid Bonds, Public Construction Bonds, or Maintenance Bonds shall, at a minimum be written by a surety company that:

- a. is admitted/authorized to do business in the State of Florida and complies with the provisions of Section 255.05, Florida Statutes;
- b. has been in business and has a record of successful continuous operations for at least five (5) years;
- c. files a certified copy of a power of attorney with the signed Bid, Public Construction, or Maintenance bonds;
- d. lists the surety's agency name, address, and telephone number on all bonds; and
- e. has at least the following minimum ratings based on the following contract amounts:

<u>CONTRACT AMOUNT</u>	<u>BEST'S RATINGS</u>
\$ 25,000.00 to \$100,000.00	B+ Class V or better
\$100,000.01 to \$500,000.00	A Class VI or better
\$500,000.01 and over	A Class VII or better

The life of the Construction Bonds or Maintenance Bonds shall extend twelve (12) months beyond the date of Final Completion and shall contain a waiver of alteration to the terms of the Contract, extensions of time, and/or forbearance on the part of the District.

Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended).

4. **Subject of Bids:** All Work for the Project shall be constructed in accordance with the Plans and Specifications prepared by Kimley-Horn and Associates, Inc. Bids shall be submitted for furnishing, delivering, and installing all materials, equipment, incidentals and services, including labor for the Work as specified in the Contract Documents and all items reasonably inferable therefrom. Engineer will compute the quantities that will be the basis for payment applications, both progress and final.

All Work shall be done as set forth in the Contract Documents and substantially completed, tested, cleaned, and ready for operation within the periods stated in Article 4 of the Contract, Section 2.

5. **Modification and Withdrawal of Bids:** Bids may be withdrawn or modified by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted during the Bid Period. A request for withdrawal or a modification must be in writing and signed by a person duly authorized to withdraw or modify the Bid. If signed by a deputy or subordinate, the principal's written authorization to such deputy or subordinate granting the power to act on the principal's behalf must accompany the request for withdrawal or modifications. Withdrawal of a Bid will not prejudice the rights of a Bidder to submit a new Bid within the Bid Period. After expiration of the Bid Period, no Bid may be withdrawn or modified, except as provided below.

If, within twenty-four (24) hours after Bids are opened, any Bidder files a duly signed, written notice with the District and within five (5) business days thereafter demonstrates to the reasonable satisfaction of the District that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid and the Bid Security will be returned. Thereafter, the Bidder will be disqualified from further bidding on the Project.

6. **Award, Waiver, and Rejection of Bids:** The Contract will be awarded pursuant to the requirements of applicable federal, state, and local laws and regulations. The Contract award will be made to the lowest cost, qualified, responsive, and responsible Bidder whose proposal materially complies with all the requirements. The District reserves the option to award or rebid the Project at any time if deemed to be in the best interest of the District.

It is the intention of the District to award the Contract to a Bidder competent to perform and complete the Work in a timely and satisfactory manner. Additionally, the District may conduct such investigations as the District deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications, and financial ability of Bidders, proposed subcontractors, suppliers, and other persons and organizations to perform and furnish the Work in accordance with the Contract Documents to the District's satisfaction and within the prescribed time.

To the extent permitted by applicable federal, state, and local laws and regulations, the District reserves the right to: determine materiality of Bid components; determine qualifications of the Bidder; determine responsibility of Bidder; determine responsiveness of Bidder; reject any and all Bids; waive any informality or irregularities in any Bid received; or accept the Bid deemed by the District to be in its best interest. Bids may be rejected at the option of the District if the District determines in its sole discretion the Bid is materially incomplete, unbalanced, conditional, or obscure; the Bid contains additions not called for, erasures, alterations, irregularities of any kind; the Bid does not comply materially with the Notice to Contractors and/or Instruction to Bidders; or the Bid is from a Bidder that does not meet pre-bid conference attendance requirements.

Documented poor performance of contractors on previous contracts with the District or other governmental entity will be considered during evaluation and may be sufficient cause not to award.

7. **Construction Schedule:** Prior to signing the Contract, the Successful Bidder shall submit on a form acceptable to the District and Engineer, the overall proposed construction schedule for the Project. The schedule shall conform to the requirements of Special Conditions Section 9.36. This construction schedule shall specify the Project completion date as set forth in the Contract.

8. **Execution of the Contract:** When the District issues a Notice of Award to the Successful Bidder, the successful bidder shall return to the District original bonds and insurance certificates within ten (10) business days. Upon receipt the District shall forward to the Contractor a Contract and all other Contract Documents. Within ten (10) business days thereafter, Contractor shall execute the Contract and other Contract Documents. Thereafter, the District shall return one fully executed physical/electronic PDF of the Contract and all other Contract Documents to the Contractor. Following execution of the Contract by the District, the construction schedule shall be modified to begin upon the execution of the Contract by both Parties of the Contract.

9. **Examination of Contract Documents and Site:** It is the responsibility of each Bidder, prior to submitting a Bid to (a) examine the Bid and Contract Documents thoroughly, (b) visit the site of the Work and become familiar with local conditions that may in any manner affect cost, progress, performance or furnishing of the Work, (c) consider federal, state, and local laws, ordinances, rules, and regulations that may affect cost, progress, performance or furnishing of the Work in any manner, (d) examine the Plans and Specifications, requirements of the Work, and the accuracy of the quantities of the Work to be completed, and (e) notify Engineer of all conflicts, errors, or discrepancies in the Contract Documents.

Bidder may rely upon the accuracy of the technical data contained in the reports of exploration and tests of subsurface conditions at the site of the Work which have been utilized by Engineer in preparation of the Contract Documents. Bidder may not rely upon the completeness of the documents, non-technical data, interpretations or opinions of the reports of exploration and tests of subsurface conditions, for the purposes of bidding and/or construction. Further, information and data reflected in the Contract Documents with respect to underground facilities at or contiguous to the site are based upon information and data furnished to the District and Engineer by the owners of such underground facilities or others. The District does not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Supplementary Conditions. Elevations of the ground are shown on the Plans and Specifications and are believed to be reasonably correct. However, such elevations are not guaranteed and are presented only as an approximation. Bidders shall satisfy themselves as to the correctness of all elevations.

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 Contractor in performing Work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage materials and equipment shall be provided by Contractor.

Before submitting a Bid, each Bidder shall, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests, studies and any additional information and/or data which pertain to the physical conditions (subsurface, surface and underground facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance, or furnishing of the

Work in accordance with the time, price, and other terms and conditions of the Contract Documents. In advance, the District will provide each Bidder access to the site of the Work at reasonable times to conduct such explorations and tests as each Bidder deems necessary for the submission of the Bid, provided Bidder provides two (2) business days written notice prior to the date access is requested.

The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with the requirements as set for in the Instructions to Bidders and all other Contract Documents; the Bid is premised upon performing and furnishing the Work required by the Bid and Contract Documents; the means, methods, techniques, sequences, or procedures of construction as may be indicated in or required by the Bid and Contract Documents will be followed; and that the Bid and Contract Documents are sufficient in scope and detail to indicate and convey an understanding of all terms and conditions of performance and furnishing of the Work.

The Contract Documents contain the detailed provisions required for the construction of the Project. No information, verbal or written, obtained from any officer, agent or employee of the District on any such matter shall in any way affect the risk or obligation assumed by Contractor, or relieve Contractor from fulfilling any of the conditions of the Contract Documents.

10. **Interpretations and Addenda:** All questions about the meaning or intent of the Contract Documents are to be directed to Engineer. All questions must be submitted to Engineer in writing as early as possible during the Bid Period. No oral answers or interpretations will be provided. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by addenda mailed to all persons recorded by Engineer as having received the Bid Documents. Questions received less than ten (10) business days prior to the deadline to submit Bids will not be answered. Only questions answered by formal written addenda will be binding. Oral responses and other interpretations or clarifications will be without legal effect and shall not be relied upon by a Bidder.

Addenda may also be issued to modify the Bid Documents as deemed necessary by the District and/or Engineer. Contractor agrees to use the products and methods designated or described in the Plans and Specifications and as amended by any addenda. Addenda shall control in the event of conflict with Contractor's Bid.

11. **Substitute Material and Equipment:** The Contract will be based on material and equipment described in the Plans and Specifications without consideration of possible "substitute" or "equal" items. Whenever it is indicated in the Plans and Specifications that a Contractor may furnish or use a "substitute" or "equal" item of material or equipment, written application for such acceptance will not be considered by Engineer until after the effective date of the Contract. The written application for acceptance of a substitute item of material or equipment will be handled in accordance with the field order procedure.

12. **Subcontractors:** Each Bid must identify the names and addresses of the subcontractors. If requested by the District or Engineer, the Successful Bidder, and any other Bidder so requested, shall, within five (5) business days after the date of the request, submit to the District an experience statement with pertinent information as to similar projects and other evidence of qualification for each such subcontractor, person, and organization. The amount of subcontract work shall not exceed sixty

percent (60%) of the Work. If the District or Engineer, after due investigation, has reasonable objection to any proposed subcontractor, supplier, other person, or organization, either party may, before issuing the Notice of Award, request the Successful Bidder to submit an acceptable substitute without an increase in Contract sum or Contract Time. If the apparent Successful Bidder declines to make any such substitution, the District may award the Contract to the next lowest qualified, responsive, and responsible Bidder that proposes to use acceptable subcontractors, suppliers, and other persons and organizations. Declining to make requested substitutions will not constitute grounds for sacrificing the Bid Security of any Bidder. Any subcontractor, supplier, other person or organization listed and not objected to in writing by the District or Engineer prior to giving of the Notice of Award, will be deemed acceptable to the District and Engineer, subject to revocation of such acceptance after the Effective Date of the Contract. The Successful Bidder shall be solely responsible for all payment to its subcontractors. No Contractor shall be required to employ any subcontractor, manufacturer, other person or organization against whom it has reasonable objection.

13. **Taxes:** Contractor shall pay all applicable sales, consumer, use, and other similar taxes required by law.

14. **Compliance with Laws:** Bidders must comply with all applicable federal, state, or local laws and regulations, including, but not limited to, the Department of Labor Safety and Health Regulations for construction promulgated under the Occupations Safety and Health Act of 1970 (PL 91-956) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL 91-54).

Any chemicals used in the performance of this Project by the Bidder must have prior approval of the Environmental Protection Agency (EPA) and/or United States Department of Agriculture (USDA).

Bidders shall comply with the requirements of Sections 553.60-553.64, Florida Statutes (the "Trench Safety Act") and 29 CFR Section 1926.650 Subpart P (the "Occupational Safety and Health Administration's Excavation Safety Standards"). If the Project provides for trench excavation in excess of five (5) feet deep, the Bidder shall include in its Bid a reference to the Trench Safety Act and the standards that will be in effect during the period of construction of the Project; written assurance by the Bidder, that if selected, the Bidder will comply with applicable trench safety standards; and a separate item identifying the cost of compliance with the Trench Safety Act, in accordance with Section 553.64, Florida Statutes.

15. **Liquidated Damages and Additional Delay Damages:** Bidder and the District recognize the Work is of a critical nature, that time is of the essence, and the difficulty associated with ascertaining the extent of delay damages the District will suffer as a result of delay in the Work. As a result, if awarded the Contract, Bidder agrees to pay the District as liquidated damages, and not as a penalty, the amount of Liquidated Damages and Additional Delay Damages as outlined in Article 4 - Contract Section 2.

16. **Insurance:** Contractor shall provide and maintain throughout the terms of this Contract, liability insurance with all the subject features in accordance with the instruction given in the Special Conditions Section 9.08.

17. **Required Disclosures:** With its Bid submission, Bidder shall disclose all material facts pertaining to any felony conviction or any pending felony charges in the last three (3) years in this state, any other state, or the United States against (i) Bidder, (ii) any business entity related to or affiliated with Bidder, or (iii) any present or former executive employee, officer, director, stockholder, partner or owner of Bidder or of any such related or affiliated entity. This disclosure shall not apply to any person or entity which is only a stockholder, owning twenty percent (20%) or less of the outstanding shares of a Bidder and whose stock is publicly owned and traded.

At its sole discretion, the District may reject the Bid of any Bidder whose present or former executive employees, officers, directors, stockholders, partners, or owners are currently accused of or have ever been convicted of bidding violations. The discretion of the District may be exercised based on the disclosure required herein. By submitting a Bid, Bidder recognizes and accepts that the District may reject the Bid based upon the exercise of its sole discretion, and Bidder waives any claim it might have for damages or other relief resulting from the rejection of its Bid based on these grounds.

18. **Public Entity Crime/ Convicted Vendor List:** 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 Section 287.017, Florida Statutes, Category Two, for a period of thirty-six (36) months from the date of being placed on the convicted vendor list.

19. **License and Permits:** Contractor shall obtain and pay for all permits and licenses required for the Work as defined in Section 01000 of the Technical Specifications, including the cost of all Work performed in compliance with the terms and conditions of such permits, whether by itself or others.

No construction Work shall commence until all applicable licenses and permits have been obtained and copies delivered to Engineer.

20. **Protest:** The District is responsible for resolution of protests of contract awards, claims, disputes, alleged patent infringements, alleged license fee(s) and other related procurement matters in accordance with sound business judgment and good administrative practice. By submitting a Bid to the District, Bidders agree to the procedures outlined in the District's Procurement Policy which can be found on the District's website, [www.loxahatcheeriver.org/purchasing.php](http://www.loxahatcheeriver.org/purchasing.php), to resolve all protests.

21. The Contract Documents include various divisions, sections, and conditions which are essential parts of the Work to be provided by the Contractor. A requirement occurring in one is binding as though occurring in all. The Contract Documents are intended to be complementary and to describe and provide for complete Work. In case of discrepancy, the following precedence will govern the interpretation of the Contract Documents prior to award of the Contract:

1. Addenda
2. Bid Documents, including the Contract
3. Special Conditions
4. Technical Specifications / Plans and Specifications
5. General Conditions
6. Bidder's Response

After award, in the event of a conflict, Change Orders, supplemental agreements, and revisions to Plans and Specifications will take precedence over any of the above. 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 the District shall resolve the conflict in any manner which is acceptable to the District and which comports with the overall intent of the Contract Documents.

22. To render a Bid responsive, the Bidder's Proposal must be accompanied by the Bid Form provided in Article 2 of the Contract Documents. Acceptable references and projects to be included shall be those related to the position of General Contractor on a multi-discipline project that includes structural, mechanical, electrical, plumbing, architectural, and site improvements. References provided shall be from the "owner" of the Project, not the project engineer or Contractor. The District will not award a Bid to any Bidder who cannot prove to the satisfaction of the District that the corporation/partnership/individual identified on the signature of Bidder form has satisfactory written references for similar work. References that are from a parent corporation or affiliated subsidiary will not be considered by the District.

23. **Notice to Proceed:** The Notice to Proceed for this project will be issued within 90 days of the Award of Contract at a time mutually agreed to by the District and lowest responsive bidder.

24. **Health, Safety and Environmental Performance:** The District shall evaluate Bidder's health, safety and environmental performance based on the following performance metrics and documentation reviews. The selected Bidder is solely responsible for all applicable health, safety, and environmental requirements, and the health, safety, and environmental evaluation conducted by the District is not an assumption of any responsibility for health, safety, and environmental requirements by the District. Bidders who fail to submit with their Bid information demonstrating compliance with the following criteria shall be considered non-responsive/non-responsible:

U.S. Department of Labor Occupational Safety and Health Administration (OSHA) Incident Rates and Recordable Injuries:

Total Days Away, Restricted, Transferred (DART)	<b>Benchmark</b>	<b>1.7</b>
(U.S. Bureau of Labor Statistics, Table 1). Incidence rates of nonfatal occupational injuries and illnesses by industry and case types, <b>2022</b> ,		

**Three-fourths of the establishments had a rate lower than or equal to: (3<sup>rd</sup> quartile) for size 50-249, NAICS 237100, Utility system construction. Bidder's DART must be less than or equal to benchmark.**

Total Recordable Incident Rate (TRIR) **Benchmark 2.2**  
(U.S. Bureau of Labor Statistics, Table 1. Incidence rates of nonfatal occupational injuries and illnesses by industry and case types, **2022, Three-fourths of the establishments had a rate lower than or equal to: (3<sup>rd</sup> quartile) for size 50-249, NAICS 237100, Utility system construction. Bidder's TRIR must be less than or equal to benchmark.**

Fatalities: **0** Work related fatalities resulting in OSHA citations within the last three years, OR if 1 or more work related fatalities resulting in an OSHA citation exist within the last three years, the contractor must have mitigated risk of recurrence by implementing adequate industry standard safety procedures and training as determined by OSHA by providing such OSHA determination to the District.

Bidder shall submit a health, safety and environmental plan for Construction and General Industry. The health, safety and environmental plan must address the following minimum requirements:

Lockout/Tagout  
Excavation Trenching and Shoring  
Permit Required Confined Space  
Injury Reporting/Investigation  
Operator Qualifications  
Hot Work  
Personal Protective Equipment  
Electrical Safety  
Near Miss, Behavioral Based Safety  
Qualified, Certified and Competent Employees

OSHA Inspection Detail review must show no Serious or Willful violations in the previous 36 months and no unresolved Failure to Abate Prior Violation in the previous 36 months and no active Failure to Abate Prior Violation.

Bidder shall submit with their Bid OSHA Form 300A completed for the previous year, an Experience Modification Rating letter from its insurance carrier for the current period and a copy of its written health, safety and environmental program with training records for the previous 36 months.

25. **Previous Performance on District Projects:** The District has implemented a Contractor Evaluation Report in an effort to document contractor performance on District projects. Bidders who have received Unsatisfactory ratings on previous District projects must submit with their Bid a mitigation plan detailing previous unsatisfactory ratings and measures implemented to address the



unsatisfactory performance. Bidders with unsatisfactory ratings not submitting a mitigation plan with their bid shall be deemed Non-Responsive/Non-Responsible.

26. **Experience:** The District shall evaluate the Bidder's experience relative to the work to be performed based on the following requirements:

Have successfully performed as Prime Contractor on a minimum of 5 similar projects in the past 5 years. Similar projects shall include horizontal directional drill installations with a minimum diameter of 12" – DR11 and length of 1,000 linear feet across open water. Qualifying projects shall be complete and shall not have been assessed Liquidated Damages, terminated, suspended or defaulted.

Bidder shall submit Project Resumes for all qualifying projects. Resumes shall include project name, description, construction cost, completion date, Owner's project manager contact information(name, phone number and email), Engineer of Record's contact information (name, phone number and email). See Proposal, Article 2A, Questionnaire.

LOXAHATCHEE RIVER  
ENVIRONMENTAL CONTROL DISTRICT

By: \_\_\_\_\_  
Gordon M. Boggie  
Chairman

I hereby acknowledge receipt of the Notice to Contractors and Instruction to Bidders and have familiarized myself with the contents therein and all other Contract Documents

By: \_\_\_\_\_  
Bidder

\_\_\_\_\_ Date

**PROPOSAL**

**ARTICLE 2**

**A1A FORCE MAIN REPLACEMENT**

To the LOXAHATCHEE RIVER DISTRICT of Jupiter, Florida, as the party of the first part:

Proposal made by: \_\_\_\_\_  
as Bidder,

whose business address is: \_\_\_\_\_

State whether Bidder is an individual,  
a partnership or a corporation: \_\_\_\_\_

Accompanying this Proposal is a Bid Security for \$\_\_\_\_\_ (Numbers)  
\_\_\_\_\_  
(Amount Written)

From: \_\_\_\_\_  
(Name of Surety)

1. The undersigned Bidder hereby declares that the Bidder has carefully examined the Contract Documents relating to the above entitled matter and the Work, and has personally inspected the location of the Work. The undersigned Bidder has correlated the results of all observations, examinations, investigations, tests, reports, and studies with the terms and conditions of the Contract Documents.
2. The undersigned Bidder hereby declares that the Bidder is the only person or persons interested in its Bid; that it is made without any connection with any person submitting another bid for the same Contract; that the Bid is in all respects fair and without collusion, fraud, or mental reservations; that no official of the District or any person in the employ of the aforesaid 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.
3. The undersigned Bidder does hereby offer and agree to furnish all materials, to fully and faithfully construct, perform and execute all Work in the above entitled matter in accordance with the Plans and Specifications relating thereto, and to furnish all labor, tools, implements, machinery, forms transportation, and materials necessary and proper for the said purpose at the prices named below for the various items of Work.
4. The undersigned Bidder does hereby declare that the prices so stated cover all expenses of every kind incidental to the completion of said Work and the Contract, including all claims that may arise through damages or other cause whatsoever. The undersigned Bidder agrees to complete the Work for the price(s) indicated in the Bid Form.
5. The undersigned Bidder does hereby declare that the Bidder shall make no claim on an account of any variation of the approximate estimate in the quantities of Work to be done, nor on account of any misunderstanding or misconceptions of the nature of the Work to be done or the grounds or place where it is to be done.
6. The undersigned Bidder does hereby agree that it will execute the Contract which will contain the material terms, conditions, provisions, and covenants necessary to complete the Work according to the Plans and Specifications, within ten (10) business days after receipt of written Notice of Award of this proposal by the District; and if the Bidder fails to execute said Contract within said period of time, that the District shall have the power to rescind said award and also retain for the District the Bid Security accompanying Bidder's proposal which shall become forfeited as liquidated damages.
7. The undersigned Bidder also declares and agrees that the Bidder will commence the Work within ten (10) business days after receipt of written Notice to Proceed and will complete the Work fully and in every respect on or before the time specified in the Contract Documents, and so authorize the party of the District in case of failure to complete the Work within such specified time to employ such persons, equipment, and materials as may be necessary for the proper completion of said Work and to deduct the cost therefore from the amount due under the Contract.
8. The undersigned Bidder accepts all of the terms and conditions of the Bid Documents, including without limitation those dealing with the disposition of the Bid Security. The undersigned Bidder also makes all representations required by the Instructions to Bidders.

9. The undersigned Bidder agrees to provide Unit Prices of major construction elements of the Work in order to better determine the value of progress payment, in a format as provided in Article 6 Forms for Use During Construction.

10. The undersigned Bidder hereby agrees that the Bidder will, at Bidder's expense, insure all persons employed by it in prosecuting the Work hereunder against accident as provided by the Workers' Compensation Law of the State of Florida.

11. The price for the Work shall be stated in both words and figures in the appropriate place in the proposal form. Discrepancies in the multiplication of units of Work and unit prices will be resolved in the favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in the favor of the correct sum. In the event that there is a discrepancy between the price in written words and the price written in figures, the former shall govern.

12. The undersigned Bidder acknowledges receipt of the addenda, if any, as listed herein and agrees that Bidder will be bound by all addenda whether or not listed herein.

Receipt of Addendum	No. _____	Date _____
	No. _____	Date _____
	No. _____	Date _____
	No. _____	Date _____

13. The following documents are attached to and made a condition of this Bid (initial each item in the space provided):

- a. Initial \_\_\_\_\_. Instructions to Bidders, Proposal, Questionnaire, Sworn Statement Under Section 287.133(3)(a), Florida Statutes, on Public Entity Crimes, Schedule of Bid Prices
- b. Initial \_\_\_\_\_. Bid Security
- c. Initial \_\_\_\_\_. Power of Attorney (for Surety Bond only)
- d. Initial \_\_\_\_\_. Corporate Authority to execute Bid (any corporate employee other than president or vice president)
- e. Initial \_\_\_\_\_. Copies of current valid license(s) issued in accordance with Florida Statutes and/or appropriate local ordinances is hereby acknowledged.
- f. Initial \_\_\_\_\_. OSHA's Form 300A completed for the previous year
- g. Initial \_\_\_\_\_. Experience Modification Rating letter (issued by insurance carrier) for the current period.

- h. Initial\_\_\_\_\_. Written health, safety and environmental program with training records for the previous 36 months.
- i. Initial\_\_\_\_\_. Contractor's Unsatisfactory Rating Mitigation Plan (if required, see CMA26)
- j. Initial\_\_\_\_\_. Project Resume's for qualifying experience (see CMA 27).

Contractor: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

Attest: \_\_\_\_\_

Title: \_\_\_\_\_

Contractor's License No: \_\_\_\_\_

**BID FORM — BASE BID  
A1A FORCE MAIN REPLACEMENT**

Item	Description	Qty	Unit	Unit Cost	Sub Total
<b>A.</b>	<b>General Conditions</b>				
1	Mobilization & Demobilization	1	LS	\$ -	\$ -
2	Bonds and Insurance	1	LS	\$ -	\$ -
3	Maintenance of Traffic	1	LS	\$ -	\$ -
4	Survey Layout and Record Drawings	1	LS	\$ -	\$ -
<b>B.</b>	<b>Force Main Replacement</b>				
1	C-900 PVC				
a.	4-inch	40	LF	\$ -	\$ -
b.	6-inch	520	LF	\$ -	\$ -
c.	8-inch	40	LF	\$ -	\$ -
d.	10-inch	240	LF	\$ -	\$ -
e.	12-inch	20	LF	\$ -	\$ -
2	Directional Bore (12-inch HDPE DR11 DIPS)				
a.	Sta 0+15 to Sta 8+15	800	LF	\$ -	\$ -
b.	Sta 8+05 to Sta 10+80	275	LF	\$ -	\$ -
c.	Sta 10+75 to Sta 15+90	515	LF	\$ -	\$ -
d.	Sta 17+25 to Sta 25+00	775	LF	\$ -	\$ -
3	12-inch HDPExMJ Adapter	8	EA	\$ -	\$ -
4	Plug Valves w/ Valve Box				
a.	4-inch	2	EA	\$ -	\$ -
b.	6-inch	2	EA	\$ -	\$ -
c.	8-inch	1	EA	\$	\$
d.	10-inch	3	EA	\$	\$
5	D.I. Fittings	3,200	LB	\$ -	\$ -
6	ARV Assembly in 4-ft Diameter Manhole	5	EA	\$ -	\$ -
7	Connection to Existing Force Main				
a.	4-inch at Sta 8+15	1	LS	\$ -	\$ -
b.	4-inch at Sta 17+20	1	LS	\$ -	\$ -
c.	10-inch at Sta 0+00	1	LS	\$ -	\$ -
d.	10-inch at Sta 25+19	1	LS	\$ -	\$ -
e.	6-inch at Lift Station (Ocean Parks)	1	LS	\$ -	\$ -
8	Misc. Items				

a.	Grout and Cap Existing 6-inch A.C. Force Main In Place	520	LF	\$ -	\$ -
b.	Grout and Cap Existing 10-inch A.C. Force Main In Place	1940	LF	\$ -	\$ -
c.	Grout and Cap Existing 8-inch PVC Force Main In Place	570	LF	\$ -	\$ -
d.	Mechanical Restraints on Exist. Force Main	1	JOB	LS	\$ -
e.	Asphalt Road Trench Restoration	150	SY	\$ -	\$ -
f.	1-inch Mill and Resurface w/ SP 9.5	500	SY	\$ -	\$ -
g.	Paver Brick Restoration (Remove/Reinstall)	65	SY	\$ -	\$ -
h.	Thermo-Plastic Road Striping	1	JOB	LS	\$ -
i.	5-ft Concrete Sidewalk Replacement	250	SY	\$ -	\$ -
j.	Header Curb Replacement	100	LF	\$ -	\$ -
k.	Floritam Sod	1,000	SY	\$ -	\$ -
l.	4-inch Hymax Coupling (Sta 8+15)	1	LS	\$ -	\$ -
	<b>Subtotal, Item B Force Main Replacement</b>				\$ -
	<b>Total Base Bid</b>				\$ -

TOTAL BASE BID, ITEMS 1-26 (in words) \_\_\_\_\_  
Dollars  
\_\_\_\_\_  
Cents

THE CONTRACT AWARD SHALL BE EVALUATED BASED ON THE TOTAL BASE BID PRICE FOR ITEMS 1 THROUGH \_\_\_\_ AS SUBMITTED BY THE LOWEST, QUALIFIED, RESPONSIBLE, RESPONSIVE BIDDER.

\_\_\_\_\_  
(Name of Bidder)

Bidders Name: \_\_\_\_\_

By: \_\_\_\_\_

Signature of Authorized Officer, Partner, Member, Manager

Print Name of Person signing: \_\_\_\_\_

Title: \_\_\_\_\_

Business Address: \_\_\_\_\_

\_\_\_\_\_

Incorporated or formed under the laws of the State of \_\_\_\_\_



**PROPOSAL**  
**ARTICLE 2a**

QUESTIONNAIRE  
For  
A1A FORCE MAIN REPLACEMENT

**INSTRUCTIONS**

1. The following information must be filled out by **all Bidders**.
2. Please print legibly, type, or word process. Sign in ink. When attaching sheets, please place the question number to which you are responding in the upper right hand corner of each sheet and number the sheets.
3. Note that the person signing this Application must swear that the information provided below is true, accurate, and complete.

\*\*\*\*\*

**1. Basic Information**

- 1.1 Name of Contractor:

\_\_\_\_\_  
[Same as on Cover Page of The Proposal]

- 1.2 Contact Person(s):

\_\_\_\_\_

- 1.3 Telephone No: \_\_\_\_\_ Fax No: \_\_\_\_\_ E-mail: \_\_\_\_\_

- 1.4 Address:

\_\_\_\_\_  
\_\_\_\_\_

- 1.5 Federal Tax ID No: \_\_\_\_\_

- 1.6 CONTRACTOR'S license: Primary classification: \_\_\_\_\_

State License Number \_\_\_\_\_

Supplemental classifications held, if any: \_\_\_\_\_

Name of Licensee, if different from (1) above: \_\_\_\_\_

- 1.7 \_\_\_\_\_  
Name of person and title who inspected site of proposed WORK for your firm:

Name: \_\_\_\_\_ Date of Inspection: \_\_\_\_\_  
Title: \_\_\_\_\_

## **2. Organizational Structure & History**

2.1 The Contractor is duly organized under the laws of the State of \_\_\_\_\_.

2.2 The Contractor has the following organizational structure.

☐ individual                      ☐ corporation      ☐ partnership  
☐ limited liability company   ☐ joint venture   ☐ other: \_\_\_\_\_

2.3 Provide the year the Contractor (and not any Predecessor Entities or Related Entities) was first organized. \_\_\_\_\_

2.4 List all Predecessor Entities below (or on attached sheets if necessary).

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2.5 Please list all Related Entities below (or on attached sheets if necessary).

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2.6 If organized in any state other than Florida or in a foreign country, are you in compliance with all laws and regulations necessary to legally do business in the State of Florida?

YES \_\_\_\_\_ NO \_\_\_\_\_

### 3. Officers and Owners

3.1 Officers: List the name, title, and address of current Officers, Directors, Partners, Members, and any other persons with similar positions, in descending order of degree of control.

Name

Title

Address

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

[Attach additional sheets as necessary.]

3.2 Owners. Please list the name, address, and percentage of ownership of all persons or entities owning 10 percent or more of the Contractor, in descending order of percentage of ownership.

Owner

Address

%

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

[Attach additional sheets, as necessary.]

3.3 Employees. Please list total quantity of employees, # of crews, and discipline of each crew.

Crew Discipline

Number of employees in crew

% of total firm

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

[Attach additional sheets, as necessary.]

#### 4. Experience

4.1 Summary of Contractor Experience With respect to this specific project, list the approximate number of years of experience that the Contractor has as a prime contractor or as a subcontractor with primary responsibility.

<u>Project Type</u>	<u>Years</u>
General Contractor (primary)	_____
Construction Renovation (subcontractor)	_____

4.2 Most Recently Completed Contracts Please provide the following information regarding the last ten contracts completed by the Contractor. Please list in reverse chronological order (most recently completed project first, next most recently completed project, etc.). [Please feel free to provide this information on attached sheets in another format as long as it contains all the information requested.]

Contract Amount	Project Type & Location	Month / Year Completed	Name, Address, Contact Person & Tel. # of Owner

4.3 What is the last project similar in nature that you have completed as Prime Contractor for a government entity in Florida? (This must be filled out below or Bid may be considered non-responsive.)

Project: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Project Cost: \_\_\_\_\_  
Year Complete: \_\_\_\_\_  
Government: \_\_\_\_\_

4.4 ATTACH TO THIS BID the experience resume of the person who will be designated chief construction superintendent or on site construction manager.

4.5 List 5 projects completed as Prime Contractor in last 5 years in Florida involving work of similar type and complexity that you have completed as Prime Contractor for a government entity in Florida. See Instructions to Bidders, Paragraph 26, Experience. If 5 projects have not been completed, Contractor must so state (this must be filled out below or Bid may be considered non- responsive).:

- a. Project Name: \_\_\_\_\_  
\_\_\_\_\_  
Contract Price: \$ \_\_\_\_\_  
Detailed Description of Work: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Name, Address and Telephone Number of Government/Contact Person: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- b. Project Name: \_\_\_\_\_  
\_\_\_\_\_  
Contract Price: \$ \_\_\_\_\_  
Detailed Description of Work: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Name, Address and Telephone Number of Government/Contact Person: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- c. Project Name: \_\_\_\_\_  
\_\_\_\_\_  
Contract Price: \$ \_\_\_\_\_  
Detailed Description of Work: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Name, Address and Telephone Number of Government/Contact Person: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- d. Project Name: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Contract Price: \$ \_\_\_\_\_

Detailed Description of Work: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Name, Address and Telephone Number of Government/Contact Person: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

e. Project Name: \_\_\_\_\_

Contract Price: \$\_\_\_\_\_

Detailed Description of Work: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Name, Address and Telephone Number of Government/Contact Person: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

4.6 Contracts In Progress Please provide the following information regarding all contracts currently in progress, in descending order of contract amount. [Please feel free to provide this information on attached sheets in another format as long as it contains all the information requested.]

Contract Amount	Project Type & Location	% Completed	Name, Address, Contact Person & Tel. # of Owner

4.7 Provide an alphabetical listing of all state or local government agencies, including telephone number and contact person, that have awarded the Contractor (or any Predecessor Entities and Related Entities) a contract during the last five years. Attach additional sheets, as necessary.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

- 4.8 Subcontractors. This proposal is being submitted by the CONTRACTOR who proposes to perform the Work as required by the Contract Documents. If the CONTRACTOR will be utilizing a Subcontractor for a category of Work set forth below then the CONTRACTOR **must** identify the Subcontractor by name and provide the Subcontractor's address and telephone number. Only **one** Subcontractor may be identified for each category set forth below. If the CONTRACTOR does not identify a Subcontractor for a category of Work specified, this shall constitute a representation and warranty by the CONTRACTOR that the CONTRACTOR is not utilizing a Subcontractor for such Work and will perform such Work with CONTRACTOR's own employees. After submitting this bid the contractor may not add to, subtract from, modify or make substitutions regarding the Supplier/Subcontractor identification and listing without the express written request and consent of the District. Any substitutions must be for legitimate and proper reasons. All Subcontractors listed are subject to the approval of the District.

CONTRACTOR represents and warrants to the District that all of said Subcontractors and their authorized vendors have been made aware of all the appropriate portions of the Contract Documents and agree that their portion of the Work and materials furnished in connection therewith will meet all of the requirements of the Contract Documents and that deliveries will be scheduled so as not to impede the progress of the Work.

Subcontractors:

Electrical and Control Systems

\_\_\_\_\_  
Name:

\_\_\_\_\_  
Address & Telephone No.

Restoration

\_\_\_\_\_  
Name:

\_\_\_\_\_  
Address & Telephone No.

Other

\_\_\_\_\_  
Name:

\_\_\_\_\_  
Address & Telephone No.

4.10 Liquidated Damages Within the last five years, has the Contractor (or any Predecessor Entities or Related Entities) had liquidated damages assessed against it?

YES \_\_\_\_\_ NO \_\_\_\_\_

If YES, please provide full details on attached sheets including the per diem amount of liquidated damages, the original contract time, and the number of days for which liquidated damages were assessed. Please feel free to include a written summary of your position on the matter.

4.11 Terminations / Suspensions / Defaults

(a) Within the last five years, has a contract of the Contractor (or any Predecessor Entities or Related Entities) been terminated or suspended for cause?

YES \_\_\_\_\_ NO \_\_\_\_\_

(b) Within the last five years, has another party (e.g. surety) completed Work which the Contractor (or any Predecessor Entities or Related Entities) was originally responsible to perform?

YES \_\_\_\_\_ NO \_\_\_\_\_

(c) Within the last five years, has the Contractor (or any Predecessor Entities or Related Entities) been considered in default of a contract that was not cured within the time frame allowed by the contract?

YES \_\_\_\_\_ NO \_\_\_\_\_

If the answer to any of questions 4.6(a) -(c) is YES, please provide full details on attached sheets. Please feel free to include a written summary of your position on the matter.

4.12 Denial of Qualification or Award

(a) Within the last 5 years, has any federal, state, or local government or procurement agency denied the Contractor (or any Predecessor Entities or Related Entities) qualification?

YES \_\_\_\_\_ NO \_\_\_\_\_

(b) Within the last 5 years, has any federal, state, or local government or procurement agency, after the Contractor (or any Predecessor Entities or Related Entities) submitted the apparent low bid, refused to award a contract for reasons related to the Contractor's qualifications, experience, competence, or financial situation?

YES \_\_\_\_\_ NO \_\_\_\_\_

If the answer to either of questions 4.7(a) or (b) is YES, please provide full details on attached sheets. Please feel free to include a written summary of your position on the matter.



4.13 Debarments, Etc.

- (a) Within the last 5 years, has the Contractor (or any Predecessor Entities or Related Entities) been debarred for any reason by any federal, state, or local government or procurement agencies?

YES \_\_\_\_\_ NO \_\_\_\_\_

- (b) Within the last 5 years, has the Contractor (or any Predecessor Entities or Related Entities) refrained from bidding for any reason, such as suspension or agreement not to bid, or as part of the settlement of a Dispute of any type with any federal, state, or local government or procurement agencies?

YES \_\_\_\_\_ NO \_\_\_\_\_

If the answer to either of questions 4.8(a) or (b) is YES, please provide full details on attached sheets. Please feel free to include a written summary of your position on the matter.

- 4.14 Claims History Within the last 5 years, has the Contractor (or any Predecessor Entities or Related Entities) been a party to a Claim with an originally claimed amount in excess of \$50,000?

YES \_\_\_\_\_ NO \_\_\_\_\_

If YES, please provide full details for each Claim on attached sheets including (a) whether the Claim was brought by or against the Contractor (or any Predecessor Entities or Related Entities), (b) the nature of the Dispute underlying the Claim, (c) originally claimed amounts, (d) the resolution of such Claims (including the amount) or if unresolved, the current status of such Claims, and (e) the name, address and phone number of the primary adverse party who is to be contacted for additional information, and (f) a written summary of your position on the matter (if desired).

- 4.15 Bid or Other Crimes Within the last 10 years, has the Contractor (or any Predecessor Entities or Related Entities), or any officers, owners, or Key Personnel of the same ever been indicted on, convicted of, or plead or consented to a violation of a bid crime including bid collusion or any other crime involving fraud or knowing misrepresentation?

YES \_\_\_\_\_ NO \_\_\_\_\_

If YES, please provide full details on attached sheets. Please feel free to include a written summary of your position on the matter.

- 4.16 Quality Control Does the Contractor have a written organizational-level quality control plan (as opposed to project-level plans)?

YES \_\_\_\_\_ NO \_\_\_\_\_

If YES, please answer the following two questions.

- (a) What year was it first adopted? \_\_\_\_\_  
(b) In what year was its substance last revised? \_\_\_\_\_

4.17 Contractor Evaluation Report Has the Contractor performed work with the District where a Contractor Evaluation Report was completed as part of the work?

YES \_\_\_\_\_ NO \_\_\_\_\_

If YES, did the Contractor receive any UNSATISFACTORY ratings?

YES \_\_\_\_\_ NO \_\_\_\_\_

If YES, include with the Bid Contractor's UNSATISFACTORY RATING MITIGATION PLAN.

## **5. Key Personnel**

5.1 Please provide the following information for all Key Personnel whose duties consist primarily of one or more the following functions: (a) project management, (b) quality control and (c) safety oversight. [Please feel free to provide this information on attached sheets in another format as long as it contains all the information requested.]

Name	Job Duties (a-c above)	Relevant Licenses or Certifications	Experience (# of Yrs.)	Education (Degree or #
Yrs.)				
1 _____	_____	_____	_____	_____
2 _____	_____	_____	_____	_____
3 _____	_____	_____	_____	_____
4 _____	_____	_____	_____	_____
5 _____	_____	_____	_____	_____
6 _____	_____	_____	_____	_____

[Attach additional sheets as necessary.]

## **6. Bonding**

6.1 Is the Contractor capable of obtaining from a Qualifying Bonding Company a performance bond and a payment bond each in the amount of the bid prices that the Contractor will be submitting to the DISTRICT. A Qualifying Bonding Company is an insurance, bonding, and/or surety company rated in accordance with contract requirements.

YES \_\_\_\_\_ NO \_\_\_\_\_

If NO, please explain why you cannot meet the bonding standards set forth in question 6.1 above on attached sheets.

## **7. Environmental**

7.1 Environmental Record. Within the last 5 years, has the Contractor (or any Predecessor Entities or Related Entities) been found to be in violation of any federal, state or local environmental law or regulation in an administrative, civil or criminal proceeding in which the fact finder found that the Contractor committed the violation and/or failed to comply after having been notified of the violation?

YES \_\_\_\_\_ NO \_\_\_\_\_

If YES, please provide full details, including a summary of your position, on attached sheets.

## **8. Financial**

8.1 ATTACH TO THIS BID an abbreviated financial statement on the attached form, references, and other information, sufficiently comprehensive to permit an evaluation of CONTRACTOR'S current financial condition.

**Certifications Under Oath**

By signing below, the person signing below hereby certifies and swears, **ON OATH**, as follows.

- 1. I have personal knowledge of all the information contained in this Questionnaire OR I am responsible for the accuracy of all such information.
- 2. The information contained in this Application is true and complete.
- 3. I hereby authorize the Loxahatchee River District to contact any person or entity necessary to verify or supplement any of the information requested by or provided in this Application without liability, and I hereby further authorize any person or entity contacted to provide any and all information requested without liability.
- 4. The Contractor has read, understands, and agrees to all terms of the Qualification Questionnaire.
- 5. I am duly authorized by law and by the Contractor to sign this Qualification on behalf of the Contractor.

_____	CONTRACTOR
Date	
_____	_____
Witness	[Signature]
	By: _____
	[Name and Title Printed]

State of \_\_\_\_\_

County of \_\_\_\_\_

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this \_\_\_\_ day of \_\_\_\_\_ 20\_\_ by \_\_\_\_\_ as \_\_\_\_\_ of \_\_\_\_\_ (Company Name) Contractor, who is personally known to me or who produced \_\_\_\_\_ as identification.

\_\_\_\_\_  
Notary Public, State of Florida

Print Name: \_\_\_\_\_

Commission No.: \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

(Notary Ink Stamp)

**SWORN STATEMENT UNDER SECTION 287.133(3)(a),  
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES**

THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted with Bid, Proposal or Contract No. 25-003-00142 for A1A FORCE MAIN REPLACEMENT.

2. This sworn statement is submitted by

\_\_\_\_\_  
(name of entity submitting sworn statement)

whose business address is \_\_\_\_\_ and

(if applicable) its Federal Employer Identification Number (FEIN) is \_\_\_\_\_.

(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: \_\_\_\_\_.)

3. My name is \_\_\_\_\_ and my relationship to the entity  
named (please print name of individual signing)

above is \_\_\_\_\_.

4. I understand that a "public entity crime: as defined in Paragraph 287.133(1)(g), **Florida Statutes**, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including but not limited to, any bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United states and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

5. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), **Florida Statutes**, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

6. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), **Florida Statutes** means:

1. A predecessor or successor of a person convicted of a public entity crime: or

2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "Affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons

when not for fair market value under an arm's length agreement, shall be prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding thirty-six (36) months shall be considered an affiliate.

7. I understand that a "person" as defined in Paragraph 287.133(1)(e), **Florida Statutes** means any natural person or entity organized under the laws of any state or of the United states with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.
8. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. [Indicate which statement applies.]

\_\_\_ Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, nor any affiliate of the entity have been charged with and convicted of a public entity crime subsequent to July 1, 1989.

\_\_\_ The entity submitting this sworn statement, or one of more of the officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

\_\_\_ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. [attach a copy of the final order].

\_\_\_ There has been a proceeding concerning the conviction before a hearing officer of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer did not place the person or affiliate on the convicted vendor list. [Please attach a copy of the final order].

\_\_\_ The person or affiliate was placed on the convicted vendor list. There has been a subsequent proceeding before a hearing officer of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer determined that it was in the public interest to remove the person or affiliate from the convicted vendor list. [Please attach a copy of the final order].

\_\_\_ The person or affiliate has not been placed on the convicted vendor list. [Please describe any action taken by or pending with the Department of General Services].

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me by means of ☐ physical presence this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by \_\_\_\_\_ as \_\_\_\_\_ of \_\_\_\_\_ (Company Name) Contractor, who is personally known to me or who produced \_\_\_\_\_ as identification.

\_\_\_\_\_  
Notary Public, State of Florida

Print Name: \_\_\_\_\_

Commission No.: \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

(Notary Ink Stamp)

**Condensed current financial statement for (Name of Contractor)**

**A1A FORCE MAIN REPLACEMENT**

Condition at close of business \_\_\_\_\_, 20\_\_\_\_\_

**ASSETS**

1. Cash: (a) On Hand \$ \_\_\_\_\_, (b) In bank \$ \_\_\_\_\_,

(c) Elsewhere \_\_\_\_\_

\$ \_\_\_\_\_

2. Notes receivable (a) Due within 90 days

\$ \_\_\_\_\_

(b) Due after 90 days

\$ \_\_\_\_\_

(c) Past Due

\$ \_\_\_\_\_

3. Accounts receivable from completed contracts, exclusive of claims not approved for payment

\$ \_\_\_\_\_

4. Sums earned on uncompleted contracts as shown by Engineer's or Architect's estimate

\$ \_\_\_\_\_

(a) Amount receivable after deducting retainage

\$ \_\_\_\_\_

(b) Retainage to date, due upon completion of contracts

\$ \_\_\_\_\_

5. Accounts receivable from sources other than construction contracts

\$ \_\_\_\_\_

6. Deposits for bids or other guarantees

\$ \_\_\_\_\_

(a) Recoverable within 90 days

\$ \_\_\_\_\_

(b) Recoverable after 90 days

\$ \_\_\_\_\_

7. Interest accrued on loans, securities, etc.

\$ \_\_\_\_\_

8. Real Estate (a) Used for business purposes

\$ \_\_\_\_\_



\$ \_\_\_\_\_

\$ \_\_\_\_\_

\$ \_\_\_\_\_

(a) For uncompleted contracts (present value)

\$ \_\_\_\_\_

\$ \_\_\_\_\_

\$ \_\_\_\_\_

\$ \_\_\_\_\_

\$

\$

\$ \_\_\_\_\_

\$

\$ \_\_\_\_\_

\$ \_\_\_\_\_

\$ \_\_\_\_\_

\$ \_\_\_\_\_

\$

\$ \_\_\_\_\_

\$

	(a) Common	\$ _____	
	(b) Common	\$ _____	
	(c) Preferred	\$ _____	
	(d) Preferred	\$ _____	
7. Surplus (net worth)	Earned \$ _____	Unearned \$ _____	
	\$ _____		
			TOTAL LIABILITIES
	\$ _____		

### CONTINGENT LIABILITIES

1. Liability on notes receivable, discounted or sold	\$ _____	
2. Liability on accounts receivable, pledged, assigned or sold	\$ _____	
3. Liability as bondsman	\$ _____	
4. Liability as guarantor on contracts or on accounts of others.	\$ _____	
5. Other contingent liabilities	\$ _____	
		TOTAL CONTINGENT LIABILITIES
	\$ _____	

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\*Include all amounts owing subcontractors for all work in place and accepted on completed and uncompleted contracts, including retainage

Certified and Signed By:

Certified Public Accountant

### **AUTHORITY TO EXECUTE BID AND CONTRACT**

If the Bidder is a Corporation, attach to this page a certified copy of corporate resolutions of the Board of Directors of the Corporation authorizing an officer of the Corporation to execute the Contract contained within this document on behalf of the Corporation.

(End of Article.)

## **BID SECURITY**

### **ARTICLE 3**

1. The undersigned Bidder does hereby declare and stipulate that this proposal is made in good faith, without collusion or connection with any other person or persons bidding for the same Work, and that it is made pursuant to and subject to all the terms and conditions of the Notice to Contractors, Instructions to Bidders, the Contract Documents, the Technical Specifications, and the Plans and Specifications pertaining to the Work, all of which have been examined by the undersigned.

2. Accompanying this proposal is a certified check or standard bid bond in the sum of \$\_\_\_\_\_.00, in accordance with the Notice to Contractors and Instruction to Bidders. Such amount shall be equal to ten percent (10%) of the Bid amount.

3. The undersigned Bidder agrees to execute the Contract, and the Public Construction Bond for the total amount of the Bid within ten (10) business days from the date when written Notice of Award of the Contract is delivered at the address given on this proposal. The name and address of the corporate surety with which the Bidder proposes to furnish the specified Public Construction Bond is as follows:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Bond Company's most recent "Best's Key Rating": \_\_\_\_\_

4. The undersigned Bidder agrees to begin the Work with an adequate work force and equipment within ten (10) calendar days from the date of receipt of official Notice to Proceed, and to complete all of the Work within the number of calendar days specified in the Special Conditions from the date of official Notice to Proceed.

5. The Bid Security will be returned to all, except the three (3) lowest qualified responsive, responsible Bidders, within five (5) business days after the opening of the Bids and the remaining securities will be returned to the three (3) lowest Bidders within forty-eight (48) hours, after the District and Contractor have executed the Contract, or, if no Contract has been so executed, within one hundred twenty (120) calendar days after the date of the opening of Bids upon demand of the Bidder at any time thereafter so long as it had not been notified of the acceptance of the Bid.

6. All the phases of Work enumerated in the Contract Documents Technical Specifications with their individual jobs and overhead, whether specifically mentioned, included by implication or appurtenant thereto, are to be performed by Contractor under the applicable Bid item irrespective of whether it is named in said list.



## CONTRACT

### ARTICLE 4

**THIS CONTRACT**, is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, Two Thousand and \_\_\_\_\_ (20\_\_\_\_\_), by and between \_\_\_\_\_ (the “Contractor”), and the **LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT**, (the “District.”)

WITNESSETH: That whereas the District has awarded to Contractor the Work of performing certain construction:

**SECTION 1.** Scope of Work: Contractor shall furnish, install and deliver all of the labor, including engineering design, materials (except District-furnished materials), tools, equipment, services, and everything necessary to perform the Work; and shall construct in accordance with the Contract Documents and the terms of this Contract, the Project known and identified as A1A FORCE MAIN REPLACEMENT and shall do everything required by or reasonably inferable from the Contract Documents. The Work is generally described as follows:

#### A1A FORCE MAIN REPLACEMENT

The Contractor shall furnish all labor and materials necessary to construct the force main replacements along North Highway A1A as shown on the construction plans. The project shall include all piping, fittings, couplings, accessories and appurtenances, site restoration, temporary provisions to maintain operation to the extent practical, pressure testing, removal and grout filling of the existing piping as specified, obtaining all required permits, and compliance with permit conditions. The Contractor shall adhere to Loxahatchee River Environmental Control District (LRD) standards for the force main, and Palm Beach County Standards and The Town of Jupiter Standards for related roadway/restoration, and any other items depicted on the drawings and described in these documents and reference materials.

Applicable reference drawings are entitled **A1A FORCEMAIN CROSSING REPLACEMENT** as prepared by Kimley-Horn and Associates, Inc.

**SECTION 2. Time of Completion:** Construction of the Work must begin within ten (10) business days from the date of receipt of official Notice to Proceed. Substantial Completion shall be achieved within **180** consecutive calendar days from the date of Notice to Proceed. For projects with a value of less than ten million dollars (\$10,000,000.00), Final Completion shall be achieved within **sixty-five (65)** consecutive calendar days from the date of actual Substantial Completion. For projects with a value of more than ten million dollars (\$10,000,000.00), Final Completion shall be achieved within **ninety-five (95)** consecutive calendar days from the date of actual Substantial Completion. The rate of progress and the time of completion are essential conditions of this Contract.

**Deduction for Not Completing on Time:** The District and Contractor recognize that because the Work is of a critical nature, time is of the essence. Therefore, the District will suffer direct financial loss and damage if the Work is not completed within the times specified above. The District and Contractor also recognize that it is difficult to ascertain the extent of those damages in advance and it will be difficult and expensive to determine

those damages in a legal proceeding. Accordingly, Contractor shall pay to the District as liquidated damages, and not as a penalty, the amounts set out in (a) and (b) (“Liquidated Damages”) below for each and every calendar day the above deadlines are delayed, as said date may be adjusted as provided in the Special Conditions. Delay shall not include delays caused by factors beyond Contractor’s reasonable control, including but not limited to delays because of strikes, lockouts, work slowdowns or stoppages, accidents, acts of God, failure of any governmental or other regulatory authority to act in a timely manner, failure of the District to furnish timely information or to obtain the cooperation of the District’s design professionals and/or Engineer, or delays caused by faulty performance by the District or by Engineer.

- a. **Substantial Completion Delay.** Contractor shall pay to the District as Liquidated Damages, and not as a penalty, **\$100** per day for each and every calendar day Substantial Completion is delayed.
- b. **Final Completion Delay.** If Final Completion is not reached within **65 days** of actual Substantial Completion, Contractor shall pay to the District as Liquidated Damages, and not as a penalty, **\$50** per day for each and every calendar day Final Completion is delayed.

In addition, Contractor shall be responsible for the costs for engineering and other professional fees, delay damage settlements or awards owed by the District to others, fines or penalties imposed by regulatory agencies, and professional fees, including attorneys’ fees, incurred in connection with such settlements, awards, penalties or fines (collectively “Additional Delay Damages”). Engineering and inspection fees shall include direct labor costs, indirect costs, and overhead and profit. The District and Contractor agree that the amounts set out in (2)(a) and (2)(b), above are to be paid by Contractor as Liquidated Damages and represent a reasonable estimate of the District’s anticipated expenses for delays, inspection, and administrative costs associated with such delays. However, such amounts do not represent additional District costs for Additional Delay Damages. Therefore, in addition to these Liquidated Damages amounts, there shall be other amounts for Additional Delay Damages incurred by the District caused by avoidable delays by Contractor.

Where Liquidated Damages and Additional Delay Damages in connection with the Work of this Contract are duly and properly imposed against Contractor in accordance with the terms of this Contract, Federal law, State law, and/or governing ordinances or regulations, the total amount that Contractor owes to the District may be withheld and reduced from any monies due or to become due Contractor under the Contract, and when deducted, shall be deemed and taken as payment for such Liquidated Damages and Additional Delay Damages. If monies due from the District are not sufficient to cover such Liquidated Damages, Contractor agrees to immediately pay to the District any balance due.

**SECTION 3. General:** Contractor hereby certifies that it has read each and every clause of the Contract Documents and that it has made such examination of the location of the proposed Work as is necessary to understand fully the nature of the obligation herein made; and will complete the same in the time limits specified herein, in accordance with the Contract Documents. Contractor shall work with and report to Engineer to complete the Work set forth in the Contract Documents. Contractor has given Engineer written notice of all conflicts, errors, and discrepancies in the Contract Documents and the written resolution thereof by Engineer is acceptable to Contractor.

All Work under this Contract shall be done to the satisfaction of Engineer, who shall, in all cases, determine the amount, quality, fitness, and acceptability of the Work and materials, which may arise, as to the fulfillment of the Contract on the part of Contractor, Engineer’s decision thereon shall be final and conclusive, and such determination shall be a condition precedent to the right of Contractor to receive any payment hereunder.

At any time during the performance of the Contract, Contractor shall allow and provide the District access to all of the documents, papers, letters or other materials made or received by Contractor in conjunction with the

Contract and Work. Should Contractor fail to provide access to these documents in response to the District's request, the District may unilaterally cancel the Contract. At the conclusion of the Contract, Contractor shall provide the District all public records related to the Project or the Work.

Contractor agrees and represents to the District that it has registered with the E-Verify System and is now, and shall be for the duration of this Agreement, in full compliance with Sections 448.09 and 448.095, Florida Statutes. Contractor shall ensure that each of its subcontractors is also registered with the E-Verify System, is in compliance with Sections 448.09(1) and 448.095, Florida Statutes, and that each provides the affidavit required by Section 448.095, Florida Statutes.

Contractor agrees that if it violates Section 448.09(1), Florida Statutes or Section 448.095, Florida Statutes, the District must terminate this Agreement and that any such termination shall not be considered a breach by the District. Contractor further understands and agrees that it shall be responsible for any additional costs incurred by the District as a result of the termination of this Agreement, pursuant to Section 448.095, Florida Statutes.

Any clause or section of this Contract or the Contract Documents which may, for any reason, be declared invalid, may be eliminated therefrom; and the intent of this Contract or the Contract Documents and the remaining portion thereof will remain in full force and effect as completely as though such invalid clause or section has not been incorporated herein.

No assignment by a party hereto of any rights, responsibilities, or interests in the Contract Documents will be binding on another party hereto without the written consent of both parties. Unless specifically stated to the contrary in a written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents. Notwithstanding the foregoing, the District may assign this Contract to the State of Florida or any political subdivision, municipality, special district or authority thereof without Contractor's consent and without recourse.

The District and Contractor each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

**SECTION 4. Contract Sum:** The District shall pay Contractor as just compensation for the performance of this Contract, subject to any additions or deductions as provided in the Contract Documents, based on unit prices, the amounts set forth in the Pricing Schedule attached hereto ("Contract Sum"). The District and Contractor agree that all payments will be processed in accordance with the Local Government Prompt Payment Act, Sections 218.70-218.80, Florida Statutes.

**SECTION 5. Progress Payments:** On or before the tenth (10th) day of every month, except as provided for in the Special Conditions, Contractor shall prepare and submit on a form approved by Engineer a detailed estimate and invoice to Engineer setting forth the schedule of values of the total amount of the Work which has been completed from the start of the job up to and including the last day of the preceding month and the value thereof, less any percentage retained in accordance with the Special Conditions, and the aggregate of any previous payment ("Progress Payment Application"). Contractor shall provide such supporting evidence as may be required by the District and/or Engineer.

As a strict condition precedent to payment, each Progress Payment Application must be accompanied by: a Contractor's Progress Payment Affidavit submitted by Contractor to Engineer indicating that all lienors under Contractor's direct contract have been paid in full; and a waiver and release of lien upon progress payment ("Partial Release of Lien") from all persons with a potential lien interest in the Project, including but not limited to subcontractors, sub-subcontractors, suppliers, and materialmen.



Upon receipt of the Progress Payment Application, Engineer shall either provide the District with its written approval of the Progress Payment Application, or notify the District in writing that it rejects the Progress Payment Application, the reason(s) for such rejection, and its recommendation as to the amount Contractor is owed, if any, within ten (10) business days of receipt of the Progress Payment Application.

The District shall review Engineer's recommendation as set forth above. If the District agrees that the Progress Payment Application is complete and accurately reflects the amount Contractor is owed, the District shall pay Contractor the amount set forth on the Progress Payment Application within twenty-five (25) business days of Engineer's receipt of the Progress Payment Application.

In the event the District finds the Progress Payment Application is incomplete or does not accurately reflect the amount Contractor is owed, the District shall reject the Progress Payment Application in writing within twenty (20) Business days of Engineer's receipt of the Progress Payment Application. The rejection shall state with specificity the reason for the rejection and any action necessary to make the Progress Payment Application acceptable to the District. If Contractor submits a corrected Progress Payment Application within ten (10) business days of the rejection, acceptable to the District, the District shall pay the corrected Progress Payment Application within ten (10) business days after the corrected Progress Payment Application is received.

In the event the District disputes the corrected Progress Payment Application, the District shall notify Contractor in writing of such dispute and pay to Contractor the amount not in dispute, if any, within fifteen (15) business days of the District's receipt of the corrected Progress Payment Application. In exchange for such payment, Contractor shall submit to Engineer a Progress Payment Affidavit indicating that all lienors under Contractor's direct contract have been paid in full for the Work related to the non-disputed amount.

Contractor and the District agree that prior to instituting any litigation for damages under this Section 5, the parties shall conduct a non-binding mediation to attempt to resolve their dispute. In the event the parties cannot agree upon a mediator, each party shall select a mediator and such mediators shall select a third mediator who shall serve as the mediator for the dispute. In the event such mediation does not occur within thirty (30) calendar days of a written request of either party, the parties shall be free to pursue litigation without first conducting mediation.

Contractor shall promptly pay each subcontractor and supplier within ten (10) business days of receipt of payment from the District. The amount shall be determined in accordance with the terms of the applicable subcontracts and purchase orders. The District shall not have responsibility for payments to a subcontractor.

Contractor warrants that title to all Work covered by the Progress Payment Application will pass to the District no later than the time payment. Contractor further warrants that upon submittal of a progress payment application, all Work previously paid for by the District shall, to the best of Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or other encumbrances adverse to the District's interests.

A progress payment by the District shall not constitute acceptance of Work not in accordance with the requirements of the Contract Documents.

**SECTION 6. Acceptance and Final Payment:** When the Work has been fully completed, including all punch list items as provided for in the Special Conditions, in accordance with the terms of the Contract Documents, a Final Payment Application shall be prepared by Contractor and provided to Engineer within twenty (20) business days after the date of Final Completion stating the final Work performed to complete the Project plus or minus any Change Orders, and less the aggregate of any previous payment.

As a strict condition precedent to final payment, Contractor shall submit to Engineer with the Final Payment Application:

1. a Final Payment Affidavit stating that all subcontractors, suppliers, and other materialmen have

been paid;

2. Waiver and Release of Lien upon Final Payment (“Final Release of Lien”) from Contractor and all persons or entities that have, or potentially have, a lien on the Project, including but not limited to all subcontractors and vendors;
3. all close-out documents including, but not limited to the Maintenance Bond, warranties, guarantees, owner’s manuals, and start-up certificates by the designer or manufacturer demonstrating that the equipment meets design intent;
4. data establishing payment or satisfaction of obligations, such as receipts, claims, security interests or encumbrances arising out of the Contract.

Upon receipt of the Final Payment Application, Engineer will inspect the Work, the Final Payment Application, and supporting documentation. If Engineer finds the Work acceptable, Engineer will issue a certificate of acceptance stating that the quality Work has been fully completed to Engineer’s satisfaction in substantial compliance with the Contract Documents. The Certificate of Final Completion shall constitute Engineer’s determination as to the quality of the Work only; it shall not include an opinion as to the timeliness of completion of the Work. If the Engineer finds the Contract fully and timely performed, and the Final Payment Application accurately reflects the final amount Contractor is owed, the Engineer shall issue its written approval to the District of the Final Payment Application within ten (10) business days of receipt the Final Payment Application.

If Engineer disputes the Final Payment Application, finds the Work unsatisfactory, or determines that amounts should be deducted as Liquidated Damages and Additional Delay Damages, Engineer shall notify the District in writing of its findings, the support for such findings, and its recommendation as to the amount Contractor is owed, if any, within ten (10) business days of receipt of the Final Payment Application.

The District shall review Engineer’s recommendation as set forth above. If the District finds that the Work is acceptable, the Contract has been fully and timely performed, and the Final Payment Application is complete and accurately reflects the amount Contractor is owed, the District shall pay Contractor the amount of the Final Payment Application within twenty-five (25) business days of Engineer’s receipt of the Final Payment Application.

In the event the District finds the Work is not acceptable, the Contract has not been fully and timely performed, or the Final Payment Application is incomplete or does not accurately reflect the amount Contractor is owed, the District shall reject the Final Payment Application in writing within twenty (20) business days of Engineer’s receipt of the Final Payment Application. The rejection shall state with specificity the reason for the rejection and any action necessary to make the Final Payment Application acceptable to the District. If Contractor submits a corrected Final Payment Application acceptable to the District, the District shall pay the corrected Final Payment Application within ten (10) business days after the corrected Final Payment Application is received.

In the event the District disputes the corrected Final Payment Application, the District shall notify Contractor in writing of such dispute and pay to Contractor the amount not in dispute, if any, within fifteen (15) business days of the District’s receipt of the corrected Final Payment Application. This payment shall constitute a progress payment and shall not be deemed final payment. In exchange for such payment, Contractor shall submit to Engineer a Progress Payment Affidavit indicating that all lienors under Contractor’s direct contract have been paid in full for the Work related to the non-disputed amount.

The District and Contractor agree that prior to instituting any litigation for damages under this Section, the parties shall conduct a non-binding mediation to attempt to resolve their dispute. In the event the parties cannot agree upon a mediator, each party shall select a mediator and such mediators shall select a third mediator who shall serve as the mediator for the dispute. Such mediation shall occur within forty-five (45) calendar days of the District’s rejection of the corrected Final Payment Application. In the event such mediation does not occur within

thirty (30) calendar days of a written request of either party, the parties shall be free to pursue litigation without first conducting mediation.

Acceptance of final payment by Contractor, a subcontractor, or material supplier shall constitute a waiver of claims by the payee.

In the event that a lien is filed or claimed against the Work by any subcontractor, supplier, or laborer, Contractor agrees to immediately (i) pay such subcontractor, supplier, or laborer for work which Contractor has been paid by the District and deliver to the District a Final Release of Lien signed by such subcontractor, supplier, or laborer; or (ii) cause the immediate removal of such lien by providing a bond in accordance with Florida law. If Contractor fails to do the above, the District may, at its option, and at the sole expense and liability of Contractor, bond such lien or cause the lien to be discharged and deduct the cost of said bond from the amount owed Contractor under any pending invoice or the next invoice. This Section shall survive the termination or expiration of this Contract.

**SECTION 7. WARRANTY:** Contractor warrants to the District and Engineer that (1) materials and equipment furnished under the Contract will be new and of good quality unless otherwise required or permitted by the Contract Documents; (2) the Work will be free from defects not inherent in the quality required or permitted; and (3) the Work will conform to the requirements of the Contract Documents.

**SECTION 8. CORRECTION OF THE WORK:** In addition to the warranties provided for in Article 4 – Contract Section 7, Contractor shall promptly correct Work rejected by Engineer and/or District as failing to conform to the requirements of the Contract Documents. Contractor shall bear the cost of correcting such rejected Work, including the costs of uncovering, replacement, and additional testing.

In addition to Contractor's other obligations including warranties under the Contract, Contractor shall, for a period of one (1) year after Substantial Completion, correct Work not conforming to the requirements of the Contract Documents.

If Contractor fails to correct nonconforming Work within a reasonable time, the District may correct it in accordance with the Contract Documents.

This period of one (1) year shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual performance of the Work. This Section 8 shall survive acceptance of the Work under the Contract Documents and termination of the Contract Documents.

**(Remainder of this page left blank intentionally)**

IN WITNESS WHEREOF, the parties hereto have executed this Contract this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_. All portions of the Contract Documents have been signed or identified by the District and Contractor or by Engineer on their behalf.

ATTEST:

OWNER: LOXAHATCHEE RIVER  
ENVIRONMENTAL CONTROL DISTRICT

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Gordon M. Boggie  
Chairman  
Address for notice: 2500 Jupiter Park Dr.  
Jupiter, Florida 33458

CONTRACTOR:

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Witness

\_\_\_\_\_  
As its: \_\_\_\_\_  
Address for notice: \_\_\_\_\_  
\_\_\_\_\_

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by \_\_\_\_\_ as \_\_\_\_\_ of the District, who is personally known to me or who produced \_\_\_\_\_ as identification, and who executed and acknowledged to and before on behalf of the District, the foregoing Contract, and that he acknowledged in the presence of two subscribing witnesses freely and voluntarily for the purposes therein expressed.

WITNESS my hand and official seal in the County and State last aforesaid this \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_\_.

\_\_\_\_\_  
Notary Public, State of Florida

Print Name:\_\_\_\_\_

Commission No.:\_\_\_\_\_

My Commission Expires:\_\_\_\_\_

(Notary Ink Stamp)

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by \_\_\_\_\_ as \_\_\_\_\_ of \_\_\_\_\_ (Company Name) Contractor, who is personally known to me or who produced \_\_\_\_\_ as identification, and who executed and acknowledged to and before on behalf of \_\_\_\_\_ (Company Name), Contractor, the foregoing Contract, and that he acknowledged in the presence of two subscribing witnesses freely and voluntarily for the purposes therein expressed.

WITNESS my hand and official seal in the County and State last aforesaid this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_.

\_\_\_\_\_  
Notary Public, State of Florida

Print Name:\_\_\_\_\_

Commission No.:\_\_\_\_\_

My Commission Expires:\_\_\_\_\_

(Notary Ink Stamp)

**BID FORM — BASE BID  
A1A FORCE MAIN REPLACEMENT**

Item	Description	Qty	Unit	Unit Cost	Sub Total
<b>A.</b>	<b>General Conditions</b>				
1	Mobilization & Demobilization	1	LS	\$ -	\$ -
2	Bonds and Insurance	1	LS	\$ -	\$ -
3	Maintenance of Traffic	1	LS	\$ -	\$ -
4	Survey Layout and Record Drawings	1	LS	\$ -	\$ -
<b>B.</b>	<b>Force Main Replacement</b>				
1	C-900 PVC				
a.	4-inch	40	LF	\$ -	\$ -
b.	6-inch	520	LF	\$ -	\$ -
c.	8-inch	40	LF	\$ -	\$ -
d.	10-inch	240	LF	\$ -	\$ -
e.	12-inch	20	LF	\$ -	\$ -
2	Directional Bore (12-inch HDPE DR11 DIPS)				
a.	Sta 0+15 to Sta 8+15	800	LF	\$ -	\$ -
b.	Sta 8+05 to Sta 10+80	275	LF	\$ -	\$ -
c.	Sta 10+75 to Sta 15+90	515	LF	\$ -	\$ -
d.	Sta 17+25 to Sta 25+00	775	LF	\$ -	\$ -
3	12-inch HDPExMJ Adapter	8	EA	\$ -	\$ -
4	Plug Valves w/ Valve Box				
a.	4-inch	2	EA	\$ -	\$ -
b.	6-inch	2	EA	\$ -	\$ -
c.	8-inch	1	EA	\$	\$
d.	10-inch	3	EA	\$	\$
5	D.I. Fittings	3,200	LB	\$ -	\$ -
6	ARV Assembly in 4-ft Diameter Manhole	5	EA	\$ -	\$ -
7	Connection to Existing Force Main				
a.	4-inch at Sta 8+15	1	LS	\$ -	\$ -
b.	4-inch at Sta 17+20	1	LS	\$ -	\$ -
c.	10-inch at Sta 0+00	1	LS	\$ -	\$ -
d.	10-inch at Sta 25+19	1	LS	\$ -	\$ -
e.	6-inch at Lift Station (Ocean Parks)	1	LS	\$ -	\$ -
8	Misc. Items				

a.	Grout and Cap Existing 6-inch A.C. Force Main In Place	520	LF	\$ -	\$ -
b.	Grout and Cap Existing 10-inch A.C. Force Main In Place	1940	LF	\$ -	\$ -
c.	Grout and Cap Existing 8-inch PVC Force Main In Place	570	LF	\$ -	\$ -
d.	Mechanical Restraints on Exist. Force Main	1	JOB	LS	\$ -
e.	Asphalt Road Trench Restoration	150	SY	\$ -	\$ -
f.	1-inch Mill and Resurface w/ SP 9.5	500	SY	\$ -	\$ -
g.	Paver Brick Restoration (Remove/Reinstall)	65	SY	\$ -	\$ -
h.	Thermo-Plastic Road Striping	1	JOB	LS	\$ -
i.	5-ft Concrete Sidewalk Replacement	250	SY	\$ -	\$ -
j.	Header Curb Replacement	100	LF	\$ -	\$ -
k.	Floritam Sod	1,000	SY	\$ -	\$ -
l.	4-inch Hymax Coupling (Sta 8+15)	1	LS	\$ -	\$ -
	<b>Subtotal, Item B Force Main Replacement</b>				\$ -
	<b>Total Base Bid</b>				\$ -

TOTAL BASE BID, ITEMS 1-26 (in words) \_\_\_\_\_

Dollars

\_\_\_\_\_  
Cents

## PUBLIC CONSTRUCTION BOND

### ARTICLE 5

Bond No. \_\_\_\_\_

KNOW ALL PERSONS BY THESE PRESENTS: That we, \_\_\_\_\_  
(Name of Contractor) as “Principal” at the address of \_\_\_\_\_  
and \_\_\_\_\_ as “Surety” at the address of \_\_\_\_\_  
\_\_\_\_\_ are bound to the LOXAHATCHEE  
RIVER ENVIRONMENTAL CONTROL DISTRICT (the “District”), at the address of 2500 Jupiter  
Park Drive, Florida 33458, in the sum of \_\_\_\_\_ (Written Amount)  
(\$ \_\_\_\_\_) (the “Bond”) for the payment of which  
we bind ourselves, our heirs, personal representatives, successors, and assigns, jointly and severally.

WHEREAS, Principal has entered into a contract (the “Contract”) with LOXAHATCHEE  
RIVER ENVIRONMENTAL CONTROL DISTRICT dated \_\_\_\_\_, 20\_\_\_\_ in the  
amount of \$ \_\_\_\_\_ for the A1A FORCE  
MAIN REPLACEMENT which Contract, is byreference made a part hereof.

THE CONDITION of this Bond is that if Principal:

1. Performs the Contract with the District at the times and in the manner prescribed in the Contract; and
2. Promptly makes payments to all claimants, as defined in Section 255.05(1), Florida Statute, supplying Principal with labor, materials, or supplies, used directly or indirectly by Principal in the prosecution of the Work provided for in the Contract; and
3. Pays the District all losses, damages, expenses, costs, and attorney’s fees, including appellate proceedings, that the District sustains because of a default by Principal under the Contract; and
4. Performs the guarantee of all Work and materials furnished under the Contract for the time specified in the Contract, 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 Contract or the changes does not affect Surety’s obligation under this Bond.
6. To a claimant who is not in privity with the Principal and who has not received payment for labor, materials, or supplies, that written notice must be delivered to the Principal. This Bond is furnished pursuant to the statutory requirements for bonds on public works projects, Section 255.05, Florida Statutes. A claimant, except a laborer, who is not in privity with the Principal and who has



not received payment for labor, materials, or supplies, is hereby notified that Section 255.05(2), Florida Statutes specifically requires that written notice be given to Principal within forty-five (45) days after beginning to furnish labor, materials, or supplies for the prosecution of the Work that claimant intends to look to the Bond for protection. Further notice is hereby given to a claimant who is not in privity with the Principal and who has not received payment for labor, materials, or supplies, that written notice must be delivered to the Principal and to the Surety, of the performance of the labor or delivery of the materials or supplies and of the non-payment, within ninety (90) days after performance of the labor or after complete delivery of the materials or supplies (but not before 45 days after the first furnishing of labor, services, or materials), or with respect to rental equipment, within ninety (90) days after the date that rental equipment was last on the job site available for use. No action for the labor, material, or supplies may be instituted against Principal or the Surety unless both notices have been given. Further notice is hereby given that no action for labor, materials, or supplies may be instituted against the Principal or the Surety on the Bond after one (1) year from the performance of the labor or completion of delivery of the materials or supplies.

1. Without modifying the foregoing, this Bond shall require no more and no less of the Principal and Surety than is specified in Section 255.05, Florida Statutes. The notice and time limitation provisions of Section 255.05, Florida Statutes are incorporated herein by reference.

Surety and Contractor, intending to be legally bound hereby, subject to the terms printed above, do cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

The provisions and limitations of Section 255.05, Florida Statutes including but not limited to the notice and time limitations in Sections 255.05(2) and 255.05(10), Florida Statutes are incorporated in this bond by reference.

(Remainder of Page Intentionally Left Blank)

SIGNED AND SEALED ON \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
Name of Principal

\_\_\_\_\_  
Name of Surety

By: \_\_\_\_\_  
Signature of Principal

By: \_\_\_\_\_  
As Attorney-in-Fact (Attach Power of Attorney)

STATE OF FLORIDA

COUNTY OF \_\_\_\_\_

The foregoing instrument was acknowledged before me by means of ☐ physical presence this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by \_\_\_\_\_ as \_\_\_\_\_ of \_\_\_\_\_ (Company Name) Contractor, who is personally known to me or who produced \_\_\_\_\_ as identification.

\_\_\_\_\_  
Notary Public, State of Florida  
Print Name: \_\_\_\_\_  
Commission No.: \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_

(Notary Ink Stamp)

COUNTERSIGNATURE

BY: \_\_\_\_\_

**ARTICLE 6**  
**FORMS FOR USE DURING CONSTRUCTION**

**6-1 Notice of Award of Contract**

**6-2 Notice to Proceed**

**6-3 Progress Payment Affidavit**

**6-4 Final Payment Affidavit**

**6-5 Certificate of Substantial Completion**

**6-6 Certificate of Final Completion**

**6-7 Partial Release of Lien**

**6-8 Final Release of Lien**

**6-9 Change Order**

**6-10 Application and Certificate of Payment** – Contractor shall utilize American Institute of Architect Form G702 and G703

[Date]

via: US Mail & email

[Contractor Name]  
[Contractor Address]

SUBJECT: Loxahatchee River Environmental Control District  
A1A FORCE MAIN REPLACEMENT  
Notice of Award of Contract

Dear \_\_\_\_\_:

I am pleased to advise you that the District Governing Board has elected to Award the Contract for the subject project to your firm. You are the apparent successful Bidder and have been awarded a contract for:

A1A FORCE MAIN REPLACEMENT

The Contract Price of your Contract is \$\_\_\_\_\_

In accordance with the contract specifications, you will have 14 calendar days from the date of this Notice of Award, that is by (Day), (Date), to provide the following:

- a.) Electronic executed Contract Document, and
- b.) A Public Construction Bond with power of attorney, and
- c.) An insurance certificate for this project in accordance with requirements set forth in Section 9.08, (please make sure coverages and additional insureds are as stated); and
- d.) A schedule of activities (received), and
- e.) Any other paperwork as required by the Contract

Failure to comply with these conditions within the time specified will entitle District to consider your Bid abandoned, to annul this Notice of Award and to declare your Bid Security forfeited.

Within 20 calendar days after you comply with the above conditions, the District will return 1 fully executed contract.

Should you have any questions in regard to this correspondence, please feel free to contact [ENGINEER]

Regards,

Kris Dean, P.E.  
Deputy Executive Director  
Enclosures: Contract Document

6-2

[Date]

via: US Mail & email

[Contractor Name]

[Contractor Address]

SUBJECT: A1A FORCE MAIN REPLACEMENT  
Notice to Proceed

Dear \_\_\_\_\_:

You have already received one (1) copy of the fully executed contract for the subject project. With the execution of this document completed by both parties and a Planning Meeting held [DATE], you are hereby provided with NOTICE TO PROCEED as of [Day], [Date].

In accordance with the contract documents, you will have\_\_\_\_ consecutive calendar days from \_\_\_\_\_ to Substantial Completion, and \_\_\_\_\_ calendar days from actual Substantial Completion to Final Contract Completion, therefore:

Substantial Completion Date is: \_\_\_\_\_

Contract Completion Date is: \_\_\_\_\_

We look forward to collaborating with you toward the successful completion of another project.

Should you have any questions in regard to this matter please feel free to contact [ENGINEER].

Sincerely,

Kris Dean, P.E.  
Deputy Executive Director

**PROGRESS PAYMENT AFFIDAVIT**

STATE OF FLORIDA

COUNTY OF \_\_\_\_\_

BEFORE ME, the undersigned authority, personally appeared \_\_\_\_\_  
 who, after being by me first duly sworn, deposes and says of his personal knowledge that:

1. He/She is the \_\_\_\_\_ of \_\_\_\_\_, which  
 does business in the State of Florida, hereinafter referred to as "Contractor."

2. Pursuant to a contract with Loxahatchee River District, Contractor has furnished and will furnish  
 services for the purpose of improving real property, more particularly described as:

**A1A FORCE MAIN REPLACEMENT**

3. This affidavit is executed in accordance with Section 713.06(3)(c), Florida Statutes, for the purpose  
 of obtaining a progress payment in the amount of \_\_\_\_\_  
 \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

4. All lienors under Contractor's direct Contract have been paid in full, except for the following listed  
 lienors:

NAME OF LIENOR

(Use blank sheet if necessary)

AMOUNT DUE OR TO BECOME DUE FOR  
LABOR, SERVICES OR MATERIAL

\_\_\_\_\_  
 \_\_\_\_\_

SIGNED, SEALED, AND DELIVERED this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

By \_\_\_\_\_  
 Contractor

SUBSCRIBED AND SWORN TO before me this \_\_\_\_\_ day \_\_\_\_\_ of 20\_\_\_\_, by  
 \_\_\_\_\_, personally known to me or who produced as identification a  
 \_\_\_\_\_.

(Notary Ink Stamp)

\_\_\_\_\_  
 NOTARY PUBLIC, State of \_\_\_\_\_  
 Print Name: \_\_\_\_\_  
 Commission No.: \_\_\_\_\_  
 My Commission Expires: \_\_\_\_\_

\* THIS FORM SHALL BE SUBMITTED WITH EACH PAYMENT REQUEST.

PROGRESS PAYMENT APPLICATION No. \_\_\_\_\_  
FOR  
**A1A FORCE MAIN REPLACEMENT**

---

1.	ORIGINAL CONTRACT AMOUNT	\$ _____
2.	VALUE OF APPROVED CHANGE ORDERS	\$ _____
3.	ADJUSTED CONTRACT AMOUNT	\$ _____
4.	ORIGINAL CONTRACT WORK PERFORMED TO DATE	\$ _____
5.	APPROVED CHANGE ORDERS PERFORMED TO DATE	\$ _____
6.	TOTAL VALUE OF WORK PERFORMED TO DATE	\$ _____
7.	LESS AMOUNT RETAINED (0%)	\$ _____
8.	NET AMOUNT EARNED ON CONTRACT TO DATE	\$ _____
9.	ADD: MATERIALS STORED AT CLOSE OF PERIOD (LESS 10% RETAINAGE)	\$ _____
10.	SUBTOTAL	\$ _____
11.	LESS AMOUNT OF PREVIOUS PAYMENTS	\$ _____
12.	BALANCE DUE THIS PAYMENT	\$ _____

---

**Certification by Contractor**

I certify that all items and amounts shown on this monthly application are correct and that all Work has been performed and/or material supplied in full accordance with the terms of the Contract between the Loxahatchee River Environmental Control District and \_\_\_\_\_; the foregoing is a true and correct statement of the contract account up to and including the last day of the period covered by this Progress Payment Application.

\_\_\_\_\_, 20\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

---

**(Progress Payment Application Cont'd)**

**Certification by Engineer**

I certify that this account is correct and just and that the terms of Work specified herein have been performed.

\_\_\_\_\_, 20\_\_

By: \_\_\_\_\_

For: \_\_\_\_\_

---

**Approval by the District**

\_\_\_\_\_, 20\_\_

By: \_\_\_\_\_

For: Loxahatchee River Environmental Control District



**FINAL PAYMENT AFFIDAVIT**

STATE OF FLORIDA

COUNTY OF \_\_\_\_\_

BEFORE ME, the undersigned authority, personally appeared \_\_\_\_\_  
 who, after being by me first duly sworn, deposes and says of his personal knowledge that:

1. He/She is the \_\_\_\_\_ of \_\_\_\_\_, which  
 does business in the State of Florida, hereinafter referred to as "Contractor".

2. Pursuant to a contract with Loxahatchee River District, Contractor has furnished and will furnish  
 services for the purpose of improving real property, more particularly described as:

**A1A FORCE MAIN REPLACEMENT**

3. This affidavit is executed in accordance with Section 713.06(3)(c), Florida Statutes, for the purpose  
 of obtaining final payment in the amount of \_\_\_\_\_  
 \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

4. All lienors under Contractor's direct Contract have been paid in full, except for the following listed  
 lienors:

NAME OF LIENOR

(Use blank sheet if necessary)

AMOUNT DUE OR TO BECOME DUE FOR  
LABOR, SERVICES OR MATERIAL

_____	_____
_____	_____

SIGNED, SEALED, AND DELIVERED this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

By \_\_\_\_\_  
 Contractor

SUBSCRIBED AND SWORN TO before me this \_\_\_\_ day \_\_\_\_\_ of 20\_\_\_\_, by  
 \_\_\_\_\_, personally known to me or who produced as identification a  
 \_\_\_\_\_.

(Notary Ink Stamp)

\_\_\_\_\_  
 NOTARY PUBLIC, State of \_\_\_\_\_  
 Print Name: \_\_\_\_\_  
 Commission No.: \_\_\_\_\_  
 My Commission Expires: \_\_\_\_\_

FINAL PAYMENT APPLICATION No. \_\_\_\_\_  
FOR  
**A1A FORCE MAIN REPLACEMENT**

---

1.	ORIGINAL CONTRACT AMOUNT	\$_____
2.	VALUE OF APPROVED CHANGE ORDERS	\$_____
3.	ADJUSTED CONTRACT AMOUNT	\$_____
4.	ORIGINAL CONTRACT WORK PERFORMED TO DATE	\$_____
5.	APPROVED CHANGE ORDERS PERFORMED TO DATE	\$_____
6.	TOTAL VALUE OF WORK PERFORMED TO DATE	\$_____
7.	LESS AMOUNT RETAINED (0%)	\$_____
8.	NET AMOUNT EARNED ON CONTRACT TO DATE	\$_____
9.	ADD: MATERIALS STORED AT CLOSE OF PERIOD (LESS 10% RETAINAGE)	\$_____
10.	SUBTOTAL	\$_____
11.	LESS AMOUNT OF PREVIOUS PAYMENTS	\$_____
12.	BALANCE DUE THIS PAYMENT	\$_____

---

Certification by Contractor

I certify that all items and amounts shown on this monthly application are correct and that all Work has been performed and/or material supplied in full accordance with the terms of the Contract between the Loxahatchee River Environmental Control District and \_\_\_\_\_; the foregoing is a true and correct statement of the contract account up to and including the last day of the period covered by this Progress Payment Application.

\_\_\_\_\_, 20\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

---

**(Progress Payment Application Cont'd)**

**Certification by Engineer**

I certify that this account is correct and just and that the terms of Work specified herein have been performed.

\_\_\_\_\_, 20\_\_\_\_

By: \_\_\_\_\_

For: \_\_\_\_\_

---

**Approval by the District**

\_\_\_\_\_, 20\_\_\_\_

By: \_\_\_\_\_

For: Loxahatchee River Environmental Control District

**Certificate of Substantial Completion**

[Date]  
[NAME]  
[ADDRESS]

Loxahatchee River Environmental Control District  
A1A FORCE MAIN REPLACEMENT  
Substantial Completion

Dear [Name]:

On \_\_\_\_\_ the District, [PARTY NAMES] conducted a Substantial Completion Inspection for the above referenced project. The Substantial Completion inspection resulted in the attached [#] page Punchlist, containing [#] items for completion or correction. Please note per Spec Section 01700, all punch list items are to be corrected prior to Final Payment and before Final Completion is granted.

Based on the above referenced inspection, [name] has **deemed the project Substantially Complete as of [date]**.

Once all of the attached punch list items have been completed or corrected, please contact our office in writing so that we can schedule a time for final inspection.

If you have any questions regarding these items, please call me at \_\_\_\_\_.

Sincerely,

[Name]  
[Title]

Enclosure: Substantial Completion Punchlist

cc: Kris Dean, P.E., LRECD  
Courtney Jones, P.E., LRECD  
Lenny Giacobelli, LRECD

**Certificate of Final Completion**

[DATE]  
[NAME]  
[ADDRESS]

Loxahatchee River Environmental Control District  
A1A FORCE MAIN REPLACEMENT  
**Final Completion**

Dear [Name]:

On \_\_\_\_\_ the Loxahatchee River Environmental Control District, Palm Beach County, \_\_\_\_\_, and \_\_\_\_\_ conducted a Final Completion Inspection for the above referenced project. Per our inspection, the below listed items were determined to be incomplete:

We have now verified that all of the Punch List Items have been completed. Please accept this letter for your records, that as of \_\_\_\_\_ has deemed the above referenced project to be fully complete and in compliance with the Contract Documents.

We are currently preparing the Final Balancing Change Order to complete the processing of your Final Payment Application.

If you have any questions regarding these items, please call me at \_\_\_\_\_.

Sincerely,

[Name]  
[Title]

Enclosure

cc: Kris Dean, P.E., LRECD  
Courtney Jones, P.E., LRECD  
Lenny Giacobelli, LRECD

**WAIVER AND RELEASE OF LIEN UPON PROGRESS PAYMENT:**

The undersigned lienor, in consideration of the sum of \$\_\_\_\_\_, hereby waives and releases its lien and right to claim a lien for labor, services, or materials furnished through (insert date) to (insert the name of your customer) on the job of (insert the name of the owner) to the following property:

**A1A FORCE MAIN REPLACEMENT**

This waiver and release does not cover any retention or labor, services, or materials furnished after the date specified.

DATED on , (year). (Lienor)

WITNESS:

\_\_\_\_\_ By: \_\_\_\_\_  
Contractor (SEAL)

\_\_\_\_\_ Attest: \_\_\_\_\_

SWORN AND SUBSCRIBED TO BEFORE ME, THIS \_\_\_\_\_ day \_\_\_\_\_ of 20\_\_\_\_, by  
\_\_\_\_\_, personally known to me or who produced as identification a  
\_\_\_\_\_.

\_\_\_\_\_  
NOTARY PUBLIC, State of \_\_\_\_\_

Print Name: \_\_\_\_\_

Commission No.: \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

(Notary Ink Stamp)

**WAIVER AND RELEASE OF LIEN UPON FINAL PAYMENT**

The undersigned lienor, in consideration of the final payment in the amount of \$\_\_\_\_\_, receipt of which is hereby acknowledged, hereby waives and releases its lien and right to claim a lien for labor, services, or materials furnished to \_\_\_\_\_ on the job of the Loxahatchee River Environmental Control District hereinafter referred to as the "District," to the following property: A1A FORCE MAIN REPLACEMENT

WITNESS:

\_\_\_\_\_

By: \_\_\_\_\_  
Contractor (SEAL)

\_\_\_\_\_

Attest: \_\_\_\_\_

SWORN AND SUBSCRIBED TO BEFORE ME, THIS \_\_\_\_\_ day \_\_\_\_\_ of 20\_\_\_\_, by \_\_\_\_\_, personally known to me or who produced as identification a \_\_\_\_\_.

(Notary Ink Stamp)

\_\_\_\_\_  
NOTARY PUBLIC, State of Florida

Print Name: \_\_\_\_\_

Commission No.: \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

## LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT

2500 JUPITER PARK DRIVE, JUPITER, FLORIDA 33458  
(561) 747-5700 FAX (561) 747-9929

CHANGE ORDER # \_\_\_\_\_

DATE: \_\_\_\_\_

PROJECT NAME: A1A FORCE MAIN REPLACEMENT

OWNER: Loxahatchee River Environmental Control District

CONTRACTOR: \_\_\_\_\_

THE FOLLOWING CHANGES:

JUSTIFICATION:

CHANGE TO CONTRACT PRICE:

Original CONTRACT PRICE: \$ \_\_\_\_\_

Current CONTRACT PRICE \$ \_\_\_\_\_

CONTRACT PRICE due to this Change Order  
will be *INCREASED/DECREASED* by: \$ \_\_\_\_\_

The New CONTRACT PRICE including  
this Change Order will be: \$ \_\_\_\_\_

CHANGE TO CONTRACT TIME:

The DATE OF COMPLETION of all work will be: UNCHANGED

APPROVED BY CONTRACTOR: \_\_\_\_\_  
DATE

APPROVED BY ENGINEER: \_\_\_\_\_  
DATE

APPROVED BY DISTRICT: \_\_\_\_\_  
LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT DATE



## **ARTICLE 7**

### **CERTIFICATE OF DISTRICT'S ATTORNEY**

#### **A1A FORCE MAIN REPLACEMENT**

THIS IS TO CERTIFY that on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_, I have examined the attached Contract Documents, Surety Bonds, and the execution thereof by the parties thereto, and I am of the opinion that each of the aforesaid agreements has been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representative have full power and authority to execute said agreements on behalf of the respective parties named therein; and that the foregoing agreements as being legally sufficient in form constitute a binding agreement between the parties.

By: \_\_\_\_\_  
Patrick J. McNamara, Esq.  
De La Parte & Gilbert, P.A.  
Attorney for the  
LOXAHATCHEE RIVER  
ENVIRONMENTAL CONTROL DISTRICT

**ARTICLE 8**

**RESERVED**

## **SPECIAL CONDITIONS**

### **ARTICLE 9**

#### **TITLE**

- 9.01 Governing Order of Contract Documents
- 9.02 Time of Completion and Amount of Liquidated Damages
- 9.03 Reimbursement of Additional Delay Damages
- 9.04 Percentage of Progress Payments to be Retained
- 9.05 DELETED AND LEFT BLANK INTENTIONALLY
- 9.06 Surety Bonds
- 9.07 Subcontractors
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- 9.09 Water Supply
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### **9.01 Governing Order of Contract Documents**

In the event of discrepancy, the interpretation of Contract Documents shall follow the order of precedence as identified in Article 1 Instruction to Bidders Section 22.

### **9.02 Time of Completion and Amount of Liquidated Damages**

Contractor agrees to commence Work on or before a date to be specified in a written Notice to Proceed. In the event Contractor does not reach Substantial Completion or Final Completion of the Work within the time specified in the Notice to Proceed, Contractor shall pay to the District as liquidated damages, and not as a penalty the amounts set forth in Article 4- Contract Section 2.

### **9.03 Reimbursement of Additional Delay Damages**

In the event Substantial Completion and Final Completion of the Work set forth in the Contract Documents and any subsequent modifications, is delayed beyond the time set forth in Article 4- Contract Section 2, Contractor shall also be responsible for Additional Delay Damages as set forth in the Article 4 - Contract Section 2.

### **9.04 Percentage of Progress Payments to be Retained**

The percentage of estimated value to be held by the District as retainage on entitled Progress Payments shall conform to the following schedule:

- a. For contracts of \$200,000.00 or less, retainage of 10% of payments claimed.
- b. For contracts over \$200,000.00, retainage of 5% of payments claimed.
- c. A cash bond or irrevocable letter of credit will be accepted if offered in lieu of cash retainage.

The above retainage reductions shall not require the District to release any amount that is the subject of a good faith dispute or a claim pursuant to Section 255.05, Florida Statutes.

The above retainage reductions shall not apply if the Project is funded, in whole or in part, with federal funds that are subject to federal grantor laws and regulations that are contrary to any provision of the Florida Local Government Prompt Payment Act.

### **9.05 DELETED AND LEFT BLANK INTENTIONALLY**

### **9.06 Surety Bonds**

Contractor, at the time of execution of the Contract, must deposit with the District a Public Construction Bond providing for the satisfactory performance and completion of the Work and providing security for payment of all persons performing labor and/or providing materials or supplies

in connection with this Contract. The bond shall be furnished in an amount equal to the amount of the contract award. The form and conditions of the bond and the surety shall be in accordance with the statutory requirements of Section 255.05(2), Florida Statutes, and are subject to the District's approval.

A maintenance bond in the amount of 50% of the contract price guaranteeing the repair of all damages due to improper materials or workmanship for a period of one (1) year after Final Completion will also be required. The maintenance bond shall be submitted with the final payment request.

The bonds shall be written by a surety company that has the following ratings based upon amount of the Contract:

<u>CONTRACT AMOUNT</u>	<u>BEST'S RATINGS</u>
\$ 25,000.00 to \$100,000.00	B+ Class V or better
\$100,000.01 to \$500,000.00	A Class VI or better
\$500,000.01 and over	A Class VII or better

The surety must be licensed to do business in the State of Florida, and the bonds must be executed by an Attorney-in-Fact for the surety company with a certified copy of its Power of Attorney attached to the bonds.

The Maintenance Bond shall remain in effect for one (1) year beyond the date of Final Completion and acceptance of the entire Work to repair any Defective Work done under the Contract Documents. The Public Construction Bond shall remain in effect to pay valid claims for payment of labor, supplies, and/or materials submitted after completion of the Work and for items covered under the performance aspect of said bond.

#### **9.07 Subcontractors**

Prior to award of the Contract, Engineer shall notify Contractor of any objection to the subcontractors proposed for the Work, and Contractor shall not employ any subcontractor with whom Engineer or District has an objection.

Contractor shall be responsible to the District for the acts and omissions of any subcontractor and any person directly or indirectly employed by a subcontractor, to the extent Contractor is responsible for the acts and omissions of persons directly employed by Contractor. Nothing contained in the Contract Documents shall create any contractual relation between any subcontractor and the District.

#### **9.08 Contractor's Insurance**

Contractor shall maintain and pay for, as applicable, through an insurance company or insurance companies acceptable to the District at Contractor's sole expense: Fire, Extended Coverage, Vandalism and Malicious Mischief coverage on buildings and structures in the course of construction. Such coverage shall include foundations, additions, attachments, and all permanent fixtures belonging to and constituting a part of said buildings or structures. The policy or policies shall also cover machinery, if the cost of machinery is included in the Contract. The amount of insurance must at all times be at least equal to the actual cash value of the insured property.

Contractor shall provide the District, prior to the execution of the Contract, with a satisfactory Certificate of Insurance certifying that the required insurance is in force.

During the life of the Project, Contractor shall provide, pay for and maintain insurance of the types and in the amounts described herein. All such insurance shall be provided by responsible companies with A.M. Best ratings of at least A-, authorized to transact business in the State of Florida, and which are satisfactory to the District. Promptly after the District's issuance of the Notice of Award of this Contract, and prior to commencing the Work, Contractor shall provide evidence of insurance coverages of the types and in the amount required by submitting executed Certificates of Insurance, in the form preferred by the District. Each Certificate of Insurance shall set forth the original manual signature of the authorized representative of the insurance company/companies identified therein and shall have attached thereto proof that said representative is authorized to execute the same. In addition, certified true and exact copies of all required policies shall be provided to the District upon request.

Contractor shall obtain and maintain in full force and effect during the life of this Contract, Worker's Compensation Insurance covering all employees in performance of Work under this Contract. Contractor shall make this same requirement of any of its subcontractors. Contractor shall indemnify and save the District and Engineer harmless from any damages resulting from either Contractor or any subcontractor's failure to secure and/or maintain such insurance.

All policies of insurance required shall require that the insurer give the District thirty (30) days written notice of any cancellation, intent not to renew, or reduction in coverage; and ten (10) days written notice of any non-payment of premium. Such notice shall be delivered by U.S. Registered Mail to: Loxahatchee River District, 2500 Jupiter Park Drive, Jupiter, Florida 33458, Attn: Kris Dean, P.E. In the event of any reduction in the aggregate limit of any policy, Contractor shall immediately restore such limit to the amount required herein.

Receipt by the District of any Certificate of Insurance or copy of any policy evidencing the insurance coverages and limits required by the Contract Documents does not constitute approval or agreement by the District that the insurance requirements have been satisfied or that the insurance policies shown on the Certificates of Insurance are in compliance with the requirements of the Contract Documents.

The insurance coverages and limits required of Contractor under the Contract Documents are designed to meet the minimum requirements of the District. They are not designed as a recommended insurance program for Contractor. Contractor shall be responsible for the sufficiency of its own insurance program. Should Contractor have any questions concerning its exposures to loss under the Contract Documents or the insurance coverages needed therefore, it should seek professional assistance.

If the insurance coverage initially provided by Contractor is to expire prior to the completion of the Work, renewal Certificates of Insurance shall be furnished to the District thirty (30) days prior to the expiration of current coverages.

All liability insurance policies obtained by Contractor to meet the requirements of the Contract Documents, other than the Worker's Compensation and Employer's Liability Policy, shall provide that the District, its officers, employees, and agents, and Engineer and its shareholders, officers, and directors, and any other person or entity designated by the District, shall be named "additional

insureds” under the Policy and shall also incorporate a Severability of Interest and Cross Liability provision. All insurance coverages provided under this Special Conditions Section 9.08 shall apply to all of Contractor’s activities under the Contract Documents without regard for the location of such activity. The policy shall include a waiver of subrogation provision in favor of the additional insured. This policy shall include, but not be limited to, all of the following coverage in the following minimum amounts:

- a. Vehicle – Owner, Hired, Non-owner – Any Automobile Coverage
 

Injury or death of any one person:	\$1,000,000
Injury or death of more than one person in any one occurrence:	\$1,000,000
Property Damage- any one occurrence:	\$ 300,000
  
- b. Comprehensive General Liability, other than vehicle, including:
 

Comprehensive Premises Operations Explosions and Collapse Hazard Underground Hazard Products/Completed Operations Hazard Broad Form Property Damage Independent Contractors Personal Injury	
Per Occurrence	\$1,000,000
Aggregate	\$1,000,000
Injury or death of any one person:	\$1,000,000
Injury of death of more than one person in any one occurrence:	\$1,000,000
  
- c. Property Damage:
 

Each occurrence:	\$ 300,000
Aggregate operations:	\$ 500,000
Aggregate protective:	\$ 500,000
Aggregate contractual:	\$ 500,000

Neither Contractor nor any subcontractor shall commence Work under this Contract until they have obtained all insurance required under this Special Conditions Section 9.08 and have supplied the District with evidence of such coverage in the form of the Certificate of Insurance, and such Certificate has been approved by the District in writing. All such insurance policies shall provide for at least thirty (30) calendar days written notice to the District prior to cancellation. Contractor’s and subcontractor’s insurance shall be primary to any other insurance carried by the District, its



consultants, or Engineer. The District's, its consultants', or Engineer's coverage shall be excess insurance only, and Contractor's insurance policies shall so state.

Contractor shall be responsible for and shall obtain and file insurance certificates on behalf of all its subcontractors within ten (10) calendar day of the subcontractor's start of Work. All Certificates of insurance shall be filed with the District in the office designated in the Contract Documents.

Should Contractor fail to maintain the insurance coverages required by the Contract Documents, the District may, at its option, either terminate this Contract for default or procure and pay for such coverage, charge Contractor, and deduct the costs from payments due Contractor. A decision by the District to procure and pay for such insurance coverages shall not operate as a waiver of any of its rights under the Contract Documents.

Failure of Contractor to submit the required Certificates of Insurance within the times required by this Special Conditions Section 9.08 may result in a delay in issuing the Notice to Proceed. The parties specifically agree that such a delay is neither excusable nor compensable and will not entitle Contractor to a change in the Contract Sum or time.

#### **9.09 Water Supply**

Contractor shall, at its own expense, provide all water needed for construction purposes and for testing.

#### **9.10 Pipeline and Manhole Locations**

Pipelines and manholes will be located substantially as indicated on the Plans and Specifications, but Engineer may make such modifications in locations as may be found desirable to avoid interferences with existing structures or for other reasons.

#### **9.11 Elevation Datum**

The datum adopted by Engineer is based on National Geodetic Vertical Datum of 1929. All elevations on the Plans and Specifications refer to this datum.

#### **9.12 Easements**

The District has obtained, or will obtain, permanent easements and temporary construction easements through private property, where required. The temporary construction easements entitle Contractor to the occupancy and use of the designated area near or adjacent to the Work for purposes related to the Work.

Easements are shown on the Plans and Specifications.

Contractor will not encroach on any property unless it has been established that easements have been obtained or that the property owner has given the District permission in writing. On all other land, Contractor has no rights unless he obtains written consent from the proper parties.

### **9.13 Occupying Private Land**

Contractor shall not (except after written consent from the proper parties) enter or occupy with persons, tools, equipment or materials, any land outside the rights-of-way or property of the District. A copy of the written consent shall be given to Engineer.

### **9.14 Work in State, County, and Town Rights-of-Way**

Attention is directed to the fact that Work will be going on in County rights-of-way. The District has obtained written consent for Contractor to encroach on these rights-of-way for the Work.

Any damage to the areas within these rights-of-way shall be repaired or restored in accordance with their respective standards, specifications, latest revisions and permit requirements.

### **9.15 Interference with and Protection of Streets**

Contractor shall not close or obstruct any portion of the street, road, or private way without obtaining permits therefor from the proper authorities. During the course of the Work, if any street or private way shall be rendered unsafe by Contractor's operations, Contractor shall make such repairs or provide such temporary ways or guards as shall be acceptable to Engineer.

Streets, roads, private ways, and walks not closed, shall be maintained passable by Contractor at Contractor's expense, and Contractor shall assume full responsibility for the adequacy and safety of provisions made.

Contractor shall, at least forty-eight (48) hours in advance, notify the proper authorities including, but not limited to, the police, ambulance squad, fire departments, and school district, and any other public authority with jurisdiction in writing, with a copy to Engineer, if a closure of a street is necessary. Contractor shall cooperate with the proper authorities in the establishment of alternate routes. Contractor shall provide adequate detour signs, plainly marked and well lit, in order to minimize confusion. All expenses of street closure shall be the responsibility of Contractor.

Contractor shall, when required by Engineer, schedule its Work so as to interfere as little as possible with the operations of adjacent users and to minimize loss of access by public or private agencies to their place of business.

### **9.16 Traffic Control**

For control of traffic, Contractor shall provide an adequate number of flagmen in accordance with the latest revisions of the Florida Department of Transportation specifications. Contractor shall bear the costs of employing such flagmen.

### **9.17 Work Adjacent to Telephone, Power, Cable TV and Gas Company Structures**

In all cases where Work is to be performed near telephone, power, water, cable TV, or gas company facilities, Contractor shall provide written notification to the respective companies of the areas in which Work is to be performed, within a minimum of forty-eight (48) hours prior to any Work in these areas. Contractor shall comply with all applicable regulations of the State of Florida regarding

the location of underground facilities prior to excavating any area (Sunshine State-One Call of Florida).

#### **9.18 Storage of Materials**

Suitable storage facilities shall be furnished by Contractor. All materials, supplies and equipment intended for use in the Work shall be stored by Contractor to prevent damage from exposure, contamination by foreign substances, or vandalism. Engineer shall not accept, or sample for testing, materials, supplies or equipment that have been improperly stored. Materials found unfit for use shall not be incorporated in the Work and shall immediately be removed from the construction or storage site.

#### **9.19 Salvaged Materials and Excavated Materials**

In the absence of special provisions to the Contract, salvage materials, equipment or supplies excavated during the course of the Work are the property of the District and shall be cleaned and stored as directed by Engineer.

All excavated materials needed for backfilling operation shall be stored on site. Contractor shall take the appropriate steps to secure any necessary additional area for stockpiling. Contractor shall include in its bid price the removal of such material from site to an area designated by Engineer. The haul distance shall not exceed six (6) miles each way. All excess materials not wanted by the District shall be hauled and disposed of at an approved site, at Contractor's expense.

#### **9.20 Pre-Construction Meeting**

Within ten (10) calendar days after the execution of the Contract and prior to start of construction, a planning meeting will be scheduled by Engineer which must be attended by Contractor. This conference will include representatives of Contractor, Engineer, the District, local utilities, regulatory agencies, other contractors performing Work in the area for the District, and any other party that the District may deem as necessary for the orderly performance of the Contract. However, this does not relieve Contractor of the responsibility of contacting local utilities and any other necessary agencies as the circumstances may require. At this meeting the parties shall coordinate the sequence of construction.

#### **9.21 Alterations**

Engineer may make alterations in the line, grade, plan, form, dimensions, or materials of the Work or any part thereof, either before or after the commencement of construction of the Work. If such alterations increase or diminish the quantity of Work to be done, compensation for increased Work shall be made at the Contract Unit Prices or under the item for extra Work. For decreased Work, Contractor shall allow the District a credit based on the Contract Unit Prices or by such other means as determined by Engineer. If such alterations diminish the quantity of Work to be done, they shall not warrant any claim for damages or for anticipated profits on the Work that is eliminated.

#### **9.22 Extra and Deleted Work**

Contractor shall perform any unforeseen additional Work necessary to the proper completion of the Contract and not otherwise provided for herein, when and as ordered in writing by Engineer and approved by the District ("Extra Work"). For Extra Work, Contractor shall be compensated either:

- a. At the price agreed upon before the Extra Work is commenced and named in the order for the Work, or
- b. If Engineer so elects, for the reasonable cost of said Work, as determined by Contractor and approved by Engineer, plus a percentage of such cost, as set forth below, or
- c. At the unit price indicated in the Contract.

Contractor must submit written notification to Engineer within fifteen (15) days of any event Contractor claims to result in a change in the Scope of the Work or in Extra Work, and Contractor shall quantify such change within thirty (30) days of the event. The District shall provide a response to the Contractor within thirty (30) days from receipt of Contractor's quantification of the change. The cost of Extra Work performed shall include the cost to Contractor of materials used, equipment installed, common and skilled labor and foremen, and the fair rental price of all machinery used on the Extra Work for the period of such use.

At the request of Engineer, Contractor shall furnish itemized statements of the cost of the Work ordered and give Engineer access to all accounts, bills, and vouchers relating thereto.

Contractor may include in the cost for Extra Work the amounts of additional premiums paid to obtain and maintain the required insurance on account of such Extra Work, including but not limited to: Social Security or other direct assessments upon Contractor's payroll by Federal or other properly authorized public agencies; and other approved assessments made by Contractor directly to Contractor's employees, which are recognized to be part of the cost of doing Work.

Compensation for the rental of machinery used for Extra Work shall be based upon an appropriate fraction of the approved monthly rate schedule. 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 compensation for rental property provided; however, compensation for rental property shall only apply to machinery or equipment used for Extra Work and not already required to be furnished under the terms of the Contract.

Contractor shall not include in the cost of Extra Work, any cost or rental of small tools, buildings, or any portion of the time of Contractor, its superintendent, or its office and engineering staff.

Contractor may add up to fifteen percent (15%) to the cost of Extra Work done by Contractor's own forces to cover its overhead allowance for use of capital the premium on the Bond as assessed upon the amount of this extra Work, and profit.

Where Extra Work done is performed by a subcontractor, the subcontractor shall compute the cost for the Extra Work, as stated above plus fifteen percent (15%). Contractor shall be allowed an additional five percent (5%) of the subcontractor's charge for the Extra Work to cover the cost of Contractor's overhead, use of capital, the premium on the Bonds as assessed upon the amount of this Extra Work, and profit.

If Extra Work is done, Contractor and/or subcontractor shall keep daily records of such Extra Work. The daily record shall include the names of persons employed, hours worked, materials and equipment incorporated, and machinery used, if any, in the execution of such Extra Work. This daily record shall be signed by Contractor's authorized representative and approved by Engineer, verifying that such Work has been done. A separate daily record shall be submitted for each Extra Work order.

Notwithstanding anything contained herein the markup to Contractor and/or subcontractor, for overhead, profit, use of capital, and the premium on the Bonds as the same relates to Extra Work within the scope of Section 01020 of the Technical Specifications, shall not exceed twenty percent (20%).

### **9.23 Extension of Time on Account of Extra Work**

When Extra Work is ordered at any time during the progress of the Work which requires, in the opinion of Engineer, an unavoidable increase of time for the completion of the Contract, additional time shall be certified in writing by Engineer.

### **9.24 Changes Not To Affect Bonds**

It is distinctly agreed and understood that any changes made in the Plans and Specifications for this Work (whether such changes increase or decrease the amount thereof) of any change in the manner of time of payments made by the District to Contractor shall in no way annul, release, or affect the liability and surety on the bonds given by Contractor.

### **9.25 Non-Assignable**

Neither the Contract Documents, nor any monies due hereunder, or any part thereof, shall be assigned, transferred, or sublet by Contractor; nor shall the District be liable to any assignee or transferee, or sub-lessee, without the written consent of the District. Any assignment, transfer, or sublease shall not release or discharge Contractor from any obligation hereunder.

### **9.26 District Remedies**

If Contractor defaults or neglects to carry out any of its obligations under this Contract, or should liens be filed, bills of sale, conditional bills of sale, chattel mortgages, assignments of this Contract without the consent of Contractor, or orders for the payment of money for materials or labor or either, or should Contractor become insolvent or file Bankruptcy, the District shall have the right, in addition to any other rights and remedies provided by law, to (a) perform and furnish through itself or through others any such labor or materials for the Work and to deduct the cost thereof from any money due or to become due to Contractor for all or any portion of the Work; (b) enter upon the premises and take possession for the purpose of completing the Work of all equipment, scaffolds, tools, appliances, and any other items thereon; and (c) to employ any person or persons to complete the Work and provide all labor services, materials, equipment, and other items required therefor. In case of such termination of the employment of 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 District in completing the Work, such excess shall be paid by the District to Contractor; but if such cost and expenses shall exceed the unpaid

balance, Contractor shall promptly pay the difference to the District on demand. Said cost and expense shall include not only the cost of completing the Work to the satisfaction of the District and of performing and furnishing all labor, services, materials, equipment, and other items required therefor, but all losses, damages, costs and expenses including attorney's fees sustained, incurred, or suffered by reason of or resulting from Contractor default, or by reason for litigation over this Contract.

#### **9.27 Contractor's Remedies**

If the District fails to make a payment as provided for in the Contract Documents for a period of thirty (30) days after the date the payment is due, through no fault of Contractor, Contractor may, upon seven (7) additional days' written notice to the District terminate the Contract and recover from the District payment for Work executed including reasonable overhead and profit and costs incurred by reasons of such termination.

#### **9.28 Discontinuance of Construction**

Contractor agrees and guarantees to perform the above mentioned Work in accordance with the terms herein, irrespective of any strikes, lockouts, or stoppages and Contractor shall not employ persons, means, materials, or equipment which may cause strikes, Work stoppages, or any disturbances by workmen employed by Contractors.

In the event the District 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 stoppages of construction caused by any governmental agency, State, City, Town, or County regulations, orders, restrictions, or due to circumstances beyond the District's control, or for any reasons whatsoever, then the District 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 for such intention to Contractor herein. In the event of any conditions above mentioned occurring after the Work herein has already been commenced, then the District herein shall be liable only for the Work completed up to the cancellation or suspension without the addition of prospective profits or other charges whatsoever.

#### **9.29 Contractor's Responsibility**

It is specifically agreed, that all materials shall be supplied and Work shall be done in accordance with the rules, requirements, regulations and directives of various Building Departments, other State, County, or Town departments having jurisdiction over the same; mortgagees, if any; and the Federal Housing Administration or the Veteran's Administration, or their Bureaus, Agencies, Subdivisions, or Agencies or any other governmental bureau, agency, or department interested in this job directly or indirectly.

Contractor shall, at its own cost, obtain all necessary permits, licenses, 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 Plans, Specifications, General Conditions or other Contract Documents without additional expense to the District. Contractor 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 its Work. Engineer shall not be responsible for the means, methods, techniques, sequences or procedures of construction

selected by Contractor or the safety precautions and programs incident to the Work of Contractor. Engineer's efforts will be directed toward providing assurance for the District that the completed Project will conform to the Contract Documents, but Engineer shall not be responsible for the failure of Contractor to perform the construction Work in accordance with the Contract Documents.

Engineer shall have the authority to reject Work which does not conform to the Contract Documents, and shall have authority, but not the obligation, to stop the Work in the event of any unsafe conditions or unsafe practices on the part of Contractor, any subcontractor or any of their employees. Engineer's ability to stop the Work shall not affect Contractor's liability for the existence of unsafe conditions or practice.

### **9.30 The District's Right to Terminate**

The District may terminate this Contract and take possession of all or some of Contractor's materials, tools, equipment and appliances and complete the Work by any means the District deems fit if any of the following occur: if at any time there shall be filed by or against Contractor in any court a petition in bankruptcy, insolvency, for reorganization, or for the appointment of a receiver or trustee of all or a portion of Contractor's property, where Contractor fails to secure a discharge within thirty (30) days of any such petition; if Contractor makes an assignment for the benefit of creditors or petitions for or enters into an agreement or arrangement with its creditors; if Contractor fails to prosecute the Work properly, fails to complete the Work entirely on or before any date established for partial or final completion; fails to make prompt payment to subcontractors, for materials or labor; or without limitation, fails to perform any provisions of this Contract. The District may terminate this Contract by giving Contractor seven (7) calendar days prior written notice of any such default to Contractor. Such termination shall be without prejudice to any other remedy that the District may have. In case of termination, 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 District's losses and damages because of Contractor's default, such excess shall be paid to Contractor. If such expense, plus the District's losses and damages shall exceed such unpaid balance, Contractor shall pay the difference to the District promptly on demand.

The District may terminate this Contract without cause by giving seven (7) calendar days prior written notice to Contractor, and in such event, the District will pay 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 District also will reimburse Contractor for all costs necessarily incurred for organizing and carrying out the stoppage of the Work and paid directly by Contractor, not including overhead, general expenses or profit. The District will not be responsible to reimburse Contractor for any continuing contractual commitments to subcontractors or materialmen or penalties or damages for canceling such contractual commitments inasmuch as Contractor shall make all subcontracts and other commitments subject to this provision.

In the event of termination by the District, the District may require Contractor promptly to assign to it all or some subcontracts, construction, plant, materials, tools, equipment, appliances, rental agreements, and any other commitments which the District may in its sole discretion, choose to take by assignment, and in such event Contractor shall promptly execute and deliver to the District written assignments of the same.

The District may, at any time, terminate the Contract for the District's convenience and without cause. Contractor shall be entitled to receive payment for Work executed and costs incurred by reason of such termination

### **9.31 Venue, Disputes and Attorney's Fees**

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 is fixed in Palm Beach County, Florida.

Contractor and the District agree that prior to instituting any litigation for damages under this Special Conditions Section 9.31, the parties shall conduct a non-binding mediation to attempt to resolve their dispute. In the event the parties cannot agree upon a mediator, each party shall select a mediator and such mediators shall select a third mediator who shall serve as the mediator for the dispute. In the event such mediation does not occur within thirty (30) days of a written request of either party, the parties shall be free to pursue litigation without first conducting mediation.

In any dispute arising out of the Contract Documents and/or relating to the Work, the Prevailing Party shall be entitled to recover all costs and expenses incurred, including, without limitation, attorneys' and paralegals' fees and costs whether before suit is filed, after suit is filed, on any appeal, and in any bankruptcy proceedings.

### **9.32 Coordination with District's Existing Facilities**

Contractor shall cooperate and coordinate its activities with those of the District when connecting to the existing District facilities, while working on the District plant site, and as specified in the Contract Documents.

The District has adopted a Standard Operating Procedure (SOP) for System Shutdowns and Bypass included in the Appendix and made part of this Contract. The Contractor is responsible for compliance with the SOP including planning all work requiring system shutdowns and/or bypasses to be completed within the Low Risk Holding Time and the Contractors Wastewater Management/Spill Response Plan. Details required for this compliance are included in the Appendix including the allowable duration of the shutdown or bypass (low risk holding time), the location of the isolation facilities, required facility information to determine residual wastewater volume disposal requirements and disposal locations, anticipated continuous flow the Contractor may expect and other pertinent information.

The Contractor is also responsible for all costs associated with the Emergency Operation Measures should these be implemented due to negligence on the Contractor's part or failure of the Contractor to perform the work within the allowed time frame.

### **9.33 Permits**

Unless otherwise identified in Section 01000 of the Technical Specifications, Contractor shall be responsible for obtaining any and all permits (i.e., building permits) necessary for the Work under this Contract and pay the costs thereof, said permits may be included as part of the Contract Documents. If differences between the specifications and conditions of the permits exist, the permits shall govern.



### **9.34 Coordination of Construction**

#### **A. General**

Contractor shall be responsible for the maintenance of utility operations during construction as specified in the Section 01500 of the Technical Specifications.

#### **B. Temporary Facilities**

District personnel must have ready access at all times to all existing structures. Temporary facilities shall include any equipment, materials, controls, services and accessories temporarily needed for access to, and for protection of all existing structures and equipment, and to maintain an operating system, in accordance with the provisions of these Specifications.

The size or capacity of the temporary facility shall generally be equal to the size or capacity of the facility replaced, unless otherwise indicated on the Contract Plans and Specifications or otherwise directed and approved by the District. All temporary facilities shall be removed when they are no longer required unless otherwise agreed upon in writing. To substitute an unscheduled temporary facility for an existing or new facility, Contractor shall prepare and submit a plan and description of the proposed temporary facility to the District. Upon receipt of the written approval of the District, Contractor shall then submit the notification of intent to commence Work.

#### **C. Coordination with District Personnel**

Before commencing Work involving removing or placing in operation existing or new facilities, Contractor shall notify the District in writing at least thirty (30) calendar days in advance. The District shall be responsible for removing facilities from operation. Only the District can authorize the shutdown of any portions of the sanitary system. Contractor shall, under no circumstances, interfere with any existing BLM House or collection system.

### **9.35 Field Layout Work**

All Work under this Contract shall be constructed in accordance with the lines and grades shown on the Contract Plans and Specifications or as directed by Engineer. 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. Any error or apparent discrepancy in the data shown or omissions of data required for accurately accomplishing the stake-out survey shall be referred immediately to Engineer for interpretation or correction.

All survey Work for construction control purposes shall be made by Contractor at its expense as set forth in General Conditions Section 10.11.

Contractor shall establish all base lines for the location of the principal component parts of the Work together with benchmarks and batter boards adjacent to the Work. Based upon the information provided by the Contract Plans and Specifications, Contractor shall have the responsibility to carefully preserve the benchmarks, reference points and stakes. In case of destruction thereof by

Contractor or resulting from its negligence, Contractor shall be held liable for any expense and damage resulting therefrom and shall be responsible for any mistakes that may be caused by the unnecessary loss or disturbance of such 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 reestablished by Contractor; and all reference ties recorded therefore shall be furnished to Engineer. All computations necessary to establish the exact position of the Work shall be made and preserved by Contractor.

### **9.36 Submittals**

#### **A. Progress Schedule**

Prior to executing the Contract, but after the award of the Contract to the Successful Bidder, the Successful Bidder shall prepare and submit the proposed progress schedule to Engineer for review and comments. The schedule shall be prepared using Oracle - Primavera P6. The contractor shall supply the electronic Primavera P6 schedule and a PDF copy of the Primavera P6 Gantt chart.

The schedule shall be prepared using the Critical Path Method ("CPM") and shall depict in detail the proposed sequence of the Work and identifying construction activities for each structure, collection, transmission, or treatment facility. The schedule shall be time scaled, identifying the first day of each week, with the estimated date of starting and completion of each stage of the Work in order to complete the Project within the Contract time.

Contractor shall revise the progress schedule to reflect Engineer's comments prior to approval.

An updated schedule shall be submitted monthly with each Progress Payment Application depicting progress to the last day of the month. Subsequent changes to the schedule shall be accompanied by a letter of explanation with appropriate references and revision dates on the schedule.

#### **B. Operation and Maintenance Instruction for all Valves and Mechanical Devices**

##### **1. Individual Instructions**

When required by Engineer, Contractor, through manufacturer's representatives, shall provide instruction to the District's designated employees regarding the operation and care of all equipment furnished by Contractor and installed hereunder.

##### **2. Written Instructions**

When required by Engineer, Contractor shall furnish and deliver to Engineer, prior to final payment, six (6) complete sets of instructions, technical bulletins, and any other printed matter such as diagrams, prints or drawings, containing full information required for the proper operation, maintenance, and repair of all Contractor furnished equipment. Included in this submission shall be a spare parts diagram and complete spare parts list. The information provided shall include a source of replacement parts and names of service representatives,

including addresses and telephone numbers. Extensive pictorial cuts of equipment are required for operator reference in servicing. These requirements are a prerequisite to the operation and acceptance of equipment. Each set of instructions shall be bound together in appropriate three-ring binders. A detailed table of contents shall be provided for each set. Written operation and maintenance instructions shall be required for all equipment items supplied for this Project. The amount of detail required shall be commensurate with the complexity of the equipment item.

Information not applicable to the specific piece of equipment installed on this Project shall be removed from the submission.

When written instructions include shop drawings and other information previously reviewed by Engineer, only those editions thereof which were accepted by Engineer, and which accurately depict the equipment installed, shall be incorporated in the instructions.

C. Maintenance and Lubrication Schedules

When required by Engineer, Contractor shall furnish complete Equipment Maintenance and Lubrication Schedules for each piece of mechanical equipment such as valves, gates, etc. The complete forms (six copies), as provided in Section 01300 entitled "Submittals" of the Technical Specifications shall be submitted along with the shop drawings and included with the furnished O&M Manuals.

D. Schedule of Values

Contractor shall submit as a shop drawing a Schedule of Values for Engineer's review at the Pre-Construction Meeting. The Schedule of values shall contain the installed value of the component parts of the Work for the purpose of making progress payments during the construction period. The Schedule shall provide sufficient detail for the proper identification of Work accomplished. Each item shall include its proportional share of all costs, including Contractor's overhead contingencies and profit. The sum of all scheduled items shall equal the total value of the Contract. For payments on acceptable stored material items, Contractor shall also submit a separate list covering the cost of materials, delivered, and unloaded at the project site along with delivery invoices with taxes paid. Stored materials will be paid for items to be used within thirty (30) days of delivery. In addition, the listing shall also include the installed value of the item with coded reference to the Work items in the Schedule of Values.

Contractor shall expand or modify the above schedule and materials listing as required by Engineer's initial and subsequent reviews.

E. Schedule of Payments

Contractor shall submit a Schedule of Payments at the Pre-Construction meeting to be approved by the District. The Schedule of Payments shall contain Contractor's expected Progress Payment values throughout the construction period, for the purpose of assuring that the District will have sufficient monies available to make payments in the expected amounts

for each payment period. Contractor shall provide an updated Schedule of Payments with each Progress Payment Application.

**F. Contractor's Shop and Working Drawings**

Contractor shall submit shop and Work drawings in accordance with General Conditions Section 10.07.

**9.37 Inspection and Testing**

The Contractor shall employ and pay for the services of an independent test laboratory for specified testing.

The Work or actions of the testing laboratory shall in no way relieve Contractor of its obligations under the Contract. The laboratory testing Work shall include such inspections and testing required by the Contract Document, existing laws, codes, ordinances, etc. The testing laboratory will have no authority to change the requirements of the Contract Documents, nor perform or approve any of Contractor's Work.

Contractor shall allow Engineer ample time and opportunity for testing materials and equipment to be used in the Work. Contractor shall advise Engineer promptly upon placing orders for materials and equipment so that arrangements may be made, if desired, for inspection before shipment from place of manufacture. Contractor shall at all times furnish Engineer and Engineer's representatives, facilities including labor, and allow proper time for inspecting and testing materials, equipment, and workmanship. Contractor must anticipate that possible delays may be caused in the execution of the Work due to the necessity of materials and equipment being inspected and accepted for use. Contractor shall furnish, at Contractor's own expense, all samples of materials required by Engineer for testing. Contractor shall make its own arrangements for providing water, electric power, or fuel for the various inspections and tests of structures and equipment.

Contractor shall furnish the services of representatives of the manufacturers of certain equipment, as prescribed in other sections of the Specifications. Contractor shall also place orders for such equipment on the basis that, after the equipment has been tested prior to Final Completion of the Work; the manufacturer will furnish the District with certified statements that the equipment has been installed properly and is ready to be placed in functional operation. Tests and analyses required of equipment shall be paid for by Contractor, unless otherwise specified in writing.

The Contractor will pay the cost of all tests, inspections, or investigations undertaken by the order of Engineer 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. Whenever nonconformance is determined by Engineer as a result of such tests, inspections, or investigations, Contractor shall bear the full cost thereof or shall reimburse the District for said cost. The cost of any additional tests and investigations, which are ordered by Engineer to ascertain subsequent conformance with the Contract Documents, shall be borne by Contractor.

### **9.38 Utilities and Services**

#### **A. General**

Contractor shall provide for utilities and services for its own operations, as well as field offices. These shall include electrical power, water, ventilation, sanitary facilities and telephone service. Contractor shall furnish, install and maintain all temporary utilities during the Contract period including removal upon completion of the Work. Such facilities shall comply with regulations and requirements of the National Electrical Code, OSHA, Florida Power and Light, and applicable Federal, State, and local codes, etc.

#### **B. Temporary Power**

Contractor shall arrange with Florida Power and Light for construction period service and pay all costs for the work and power. In addition to providing for a safe construction period distribution system, Contractor shall provide a safe and adequate artificial lighting system for work areas which do not have sufficient natural light. Temporary lighting shall be maintained during non-working periods if the area is subject to access by the public or plant personnel. Contractor shall furnish all electrical or other power required for construction, testing and trial operation prior to final acceptance by the District or at the time of Beneficial Occupancy.

#### **C. Permanent Power**

Utility charges for power consumed by permanent electrical facilities used for normal operations and maintenance of the treatment plant will be paid by the District.

#### **D. Temporary Water**

Contractor shall pay for all water used for construction, flushing, testing and temporary sanitary facilities. Contractor shall provide and maintain all piping, fittings, adapters, and valves required.

#### **E. Temporary Ventilation**

Contractor shall provide and maintain adequate ventilation for a safe working environment. In addition, forced air ventilation shall be provided for the curing of installed materials, humidity control and the prevention of hazardous accumulations of dust, gases or vapors.

#### **F. Temporary Sanitary Facilities**

Contractor shall provide and maintain adequate and clean sanitary facilities for the construction work force and visitors. The facilities shall comply with local codes and regulations and be situated at approved locations.

### **9.39 Security**

Contractor shall employ watchmen and security guards in its sole discretion, as it deems necessary to

protect the job site against vandalism, burglary, theft, trespassing, etc. Contractor shall care for and protect against loss or damage all material to be incorporated in the construction, including but not limited to, the existing plant structures, equipment and materials for the duration of the Contract, shall repair or replace damaged or lost materials and damaged structures at no additional cost to the District.

Contractor shall be responsible for providing, maintaining and securing gates used for construction purposes for the duration of the Project.

#### **9.40 Special Controls**

##### **A. Chemicals**

All chemicals used during Project construction or furnished for testing or Project operation, whether herbicide, pesticide, disinfectant, polymer, reactant of other classification, must be approved by either EPA or HUD. The handling, use, storage and disposal of such materials, containers or residues shall be in strict conformance to the manufacturer and/or supplier's instructions. Unless otherwise authorized, such materials shall be kept in secured storage. Copies of antidote literature shall be kept at the storage site and at Contractor's job site office. A supply of antidotes shall be kept at Contractor's office.

##### **B. Dust**

During construction Contractor shall, by the application of water and/or calcium chloride or other means, approved by Engineer, eliminate dust annoyance to adjacent property owners, business establishments, and all vehicular traffic. Contractor shall take all protective measures, to the satisfaction of Engineer, necessary to ensure that dust and debris do not enter any adjacent property or roadway. Contractor shall be responsible for the cleanup of existing property and roadways which have become soiled due to lack of proper dust control as determined by Engineer.

##### **C. Noise**

Noise resulting from Contractor's Work shall not exceed the noise levels and other requirements stated in local ordinances. Contractor shall be responsible for curtailing noise resulting from its operation. Contractor, upon written notification from Engineer or the noise control officers, shall make any repairs, replacements, adjustments, additions to and/or furnish mufflers when necessary to fulfill noise level requirements.

##### **D. Erosion Abatement and Water Pollution**

It is imperative that any Contractor dewatering operation does not contaminate or disturb the environment of the properties adjacent to the plant. Contractor shall, therefore, schedule and control its operations to confine all runoff water from disturbed surfaces, and water from dewatering operations that becomes contaminated with lime, silt, muck, and other deleterious matter, fuels, oils, bitumens, calcium chloride, chemicals and other polluting materials.

Contractor shall construct temporary stilling basin(s) of adequate size and provide all

necessary temporary materials, operations, and controls including, but not limited to, filters, coagulants, screens, and other means necessary to attain the required discharge water quality.

Contractor shall be responsible for providing, operating, and maintaining materials and equipment used for conveying clear water to the point of discharge. All pollution prevention procedures, materials, equipment and related items shall be operated and maintained until such time as the dewatering operation is discontinued. Upon the removal of the materials, equipment and related items, Contractor shall restore the area to the existing condition prior to commencing the Work.

E. Pests and Rodents

Contractor shall be responsible for maintaining the job site free from litter, rubbish and garbage. Contractor shall provide containers for the disposal of garbage and other materials that attract and are breeding places for pests and rodents. Contractor shall, at its expense, provide the services of an exterminator on a periodic basis to inspect the job site and to provide services as required to control pests and rodents.

F. Periodic Clean-Up; Basic Site Restoration

During construction, Contractor shall regularly remove from the site all accumulated debris and surplus materials of any kind which result from the construction. Unused equipment and tools shall be stored at Contractor's yard or base of operations for the Project.

Contractor shall perform the clean-up Work on a regular basis and/or as frequently as ordered by Engineer. Basic site restoration in a particular area shall be accomplished immediately following the installation or completion of the required facilities in that area. Furthermore, such site restoration shall also be accomplished, when ordered by Engineer, if partially completed facilities must remain incomplete for some time period due to unforeseen circumstances.

Upon failure of Contractor to perform periodic clean-up and basic restoration of the site to Engineer's satisfaction, Engineer may, upon five (5) calendar days prior written notice to Contractor, employ such labor and equipment as he deems necessary for the purpose, and all costs resulting therefrom shall be charged to Contractor and deducted from any amounts of money that may be due it.

**9.41 Storage and Construction Areas**

A. Storage and Construction Areas

Contractor shall confine its construction operations within the Contract limits shown on the Plans and Specifications and/or property lines and/or fence lines. All on-site Contractor Staging Areas shall be confined to designated areas as shown on the Plans and Specifications. Any additional staging and storage areas required by Contractor shall be provided by Contractor.

Contractor shall be solely responsible for the protection and safekeeping of equipment and

materials at or near the sites. No claim shall be made against the District for any act of an employee or trespasser. Should an occasion arise necessitating access to an area occupied by stored equipment and/or materials, Contractor shall immediately move such equipment or materials. No equipment or materials shall be placed upon the District's property until written approval has been received from the District.

Upon completion of the Contract, Contractor shall remove from the staging areas all equipment, fencing, surplus materials, rubbish, etc., from the construction, storage, and staging areas, and restore the areas to their original condition.

#### **9.42 Equipment and Materials**

##### **A. General**

All equipment, materials, instruments or devices incorporated in this Project shall be new and unused, unless indicated otherwise in the Contract Documents or in writing signed by the District and Contractor. All equipment, materials, instruments or devices shall be the products of reliable manufacturers who, unless otherwise specified, have been regularly engaged in the manufacture of such material and equipment for the use as identified for this Project for, at least five (5) years.

Equipment and materials to be incorporated in the Work shall be delivered sufficiently in advance of their installation and use to prevent delay in the execution of the Work, and they shall be delivered as nearly as feasible in the order required for executing the Work.

Contractor shall protect all equipment and materials from deterioration and damage. The equipment and materials shall be handled and stored by the manufacturer, fabricator supplier and Contractor before, during, and after shipment in a manner to prevent warping, twisting, bending, breaking, chipping, rusting, and any injury, damage or theft of any kind whatsoever. Any equipment exhibiting any of the above, shall be removed and replaced at Contractor's expense; such expense shall include both labor and materials.

##### **B. Storage**

Contractor shall store its equipment and materials in accordance with Special Conditions Section 9.18, Storage of Materials, at the job site in accordance with the manufacturer's recommendations and as directed by Engineer. Contractor shall not store unnecessary materials or equipment on the job site and shall prevent any structure from being overloaded or kept in a condition that would endanger the safety of others. Contractor shall enforce the instructions of the District and Engineer regarding the posting of regulatory signs for loading structures, fire safety, and smoking areas.

##### **C. Handling and Maintenance**

The manufacturer's storage instructions shall be carefully followed and any deviations shall be approved by the manufacturer in writing with a copy to Engineer. Equipment with moving parts, such as gears, electric motors, etc., and/or instruments, control panels, and switch gears, shall be stored in a temperature and humidity controlled building until the equipment is to be



installed, and such equipment shall be rotated per the manufacturer's recommendations while in storage and during the period between installation and acceptance of the Work.

The equipment shall be stored fully lubricated unless otherwise instructed by the manufacturer. Lubricants shall be changed upon completion of installation and as frequently as required thereafter during the period between installation and acceptance of the Work. New lubricants shall be put into the equipment at the time of acceptance of the Work.

Equipment with electric motors having space heaters shall have the space heaters energized unless stored in a temperature and humidity controlled building. Space heaters shall be energized at the time of installation and maintained until acceptance of the equipment.

### **9.43 Project Closeout**

#### **A. General**

As construction of the Project enters the final stages of completion, Contractor shall, in accordance with the requirements set forth in the Contract Documents, attend to or have already completed the following items:

1. Schedule equipment manufacturer's visits to site.
2. Calibrate instruments and controls.
3. Required testing of Project components.
4. Schedule facilities start-up and initial operation.
5. Schedule and furnish skilled personnel during initial facilities operation.
6. Correct and/or replace Defective Work, including completion of items previously overlooked or Work which remains incomplete, all as evidenced by Engineer's "Punch List".
7. Attend to any other items listed herein or brought to Contractor's attention by Engineer.

#### **A. Substantial Completion**

Items to be completed and provided prior to issuance of Substantial Completion shall include but not be limited to the following:

1. All equipment mfg. visits to the site
2. Startup tests completed and documentation provided to the Engineer
3. All instruments and controls calibrated and tested
4. All components of the Project successfully tested
5. Instruction provided to personnel on operation of equipment as required by the Technical Specification.
6. Project and its constituent pieces must be fully operational in accordance with Contract requirements and permits.
7. Restore areas disturbed by construction activities.

## B. Cleaning and Restoration

Before the Final Completion of the Project, Contractor shall accomplish the cleaning and final adjustments of the various facility components as specified in the Specifications, including:

1. Clean and lubricate all finish hardware after adjustment for proper operation.
2. Touch up marks or defects in painted surfaces and touch up any similar defects in factory finished surfaces.
3. Remove all stains, marks, fingerprints, soil, spots, and blemishes from all finish surfaces.
4. Restore all areas disturbed by construction operations to conditions equal to or better than that which existed prior to the Work.

## D. Project Record Drawings and Documents

Contractor shall keep a set of drawings at the jobsite. As-built plans shall be submitted for Work completed at the end of each pay period. The payment application will not be processed until the as-built plans are approved by Engineer. Contractor shall be held responsible for the accuracy of such data, and shall bear any costs incurred in finding utilities as a result of incorrect data furnished by Contractor.

Before the Final Completion of the Project, Contractor shall submit to Engineer (or to the District if indicated) certain records, certifications, etc., which are specified elsewhere in the Contract Documents. Missing, incomplete, or unacceptable items, as determined by Engineer or the District, shall constitute grounds for withholding Final Payment to Contractor. A partial list of such items appears below, but it shall be Contractor's responsibility to submit any other items which are required in the Contract Documents:

1. Test results of Project components.
2. Performance affidavits for equipment.
3. Operation and maintenance instructions or manuals for equipment.
4. Month-to-month records containing all deviations from the Plans and Specifications, Addenda, and Modifications of Shop drawings. Such records shall be prepared from record drawings showing correct and accurate changes and deviations from the Work made during construction so as to reflect the Work as it was actually constructed. These drawings shall conform to recognized standards of drafting, be neat, legible and be on Mylar or other approved reproducible material. Contractor shall secure and pay for the services of a registered land surveyor for a final survey at every 100 feet of the location of the pipeline upon completion of construction. Signed and sealed "As Built" record drawings showing pipe location, slopes, depths of cover, offsets, and location of all fittings, valves, manholes, and all related appurtenances shall be submitted to Engineer. Missing, incomplete or inaccurate drawings as specified herein and as determined by Engineer, shall constitute grounds for withholding final payment to Contractor.
5. In addition to items specified under Article 4 Section 6 of the Contract, all technical documentation as specified elsewhere in the Contract Documents and particularly in the Technical Specifications.

E. Grease, Oil and Fuel

All grease, oil, and fuel required for testing of equipment shall be furnished by Contractor. Contractor shall also furnish a one (1) year's supply of lubricants including grease and oil in the type recommended by the manufacturer for each item of equipment supplied.

F. Touch-Up and Repair

Contractor shall touch-up and repair damage to all field painted and factory finished equipment. Touch-up of equipment, panels, etc. shall match as nearly as possible to the original finish. If in the opinion of Engineer the touch-up Work is not satisfactory, Contractor shall repaint the item.

G. Chemicals

All chemicals required for testing of equipment or the process shall be furnished by Contractor. Contractor shall also furnish chemicals for the District's use where specified.

H. Closeout and Punch Lists

Contractor shall notify Engineer and the District in writing when the Work has reached Substantial Completion. Engineer will make an inspection of the Project for the purposes of determining the Work has reached Substantial Completion and for discovering and developing a list of Work not found acceptable and requiring cleaning, repair or replacement ("Punch List"). If Engineer determines the Project to be substantially complete, Engineer shall issue the Certificate of Substantial Completion. If the Project has an estimated cost of less than \$10 million, the Punch List shall be developed within thirty (30) days following actual Substantial Completion of the Project. If the Project has an estimated cost of more than \$10 million, the Punch List shall be developed within sixty (60) days following actual Substantial Completion of the Project. The Punch list shall be delivered to Contractor within five (5) days of the development of the Punch List. The Final Completion date shall not be less than thirty (30) days following delivery of the Punch List.

Upon receipt of the Punch List, Contractor shall perform all work necessary to complete the Punch List. Work that has been inspected and accepted by Engineer shall be maintained by Contractor, until Final Completion of the entire Project. Upon completion of the items on the Punch List, Contractor shall notify Engineer in writing that the Project is ready for inspection. This procedure will continue until the entire Project is accepted by Engineer. "Final Payment" will not be processed until the entire Project has been accepted by Engineer in writing by issuance of the Certificate of Final Completion and all of the requirements in Special Conditions Section 9.43 D. - Project Record Drawings and Documents have been satisfied. Contractor's acceptance of final payment from the District shall constitute a full waiver and release by Contractor of all claims against the District arising out of or relating to the Project or Work.

Final cleaning and repairing shall be scheduled upon completion of the Project.

## I. Partial Utilization

Prior to the completion of the Project, it may be necessary to place into service various facilities, structures, equipment and processes in accordance with the Sequence of Operation and Construction. Whenever a structure, equipment, or process has been completed and tested, Contractor shall notify Engineer that it is ready for inspection. Any Work not found acceptable will be noted on the "Punch List." Whenever Contractor has completed the Work and it has been accepted by Engineer, the District shall take possession, operate and maintain the facility, and equipment warranties begin ("Partial Utilization"). Partial Utilization shall not constitute Substantial Completion.

## J. Tools and Spare Parts

### 1. Tools

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. Contractor shall furnish a complete list of tools and instructions for their use, recommended by the manufacturer or supplier with the Shop Drawing Submittal.

### 2. Spare Parts

Spare parts for equipment shall be furnished where indicated in the equipment specifications and/or as recommended by the equipment manufacturer. Spare parts shall be identical and interchangeable with original parts. Parts shall be supplied, prepared for storage, in clearly identified containers, except large or bulky items which may be wrapped in polyethylene.

The parts shall be stored separately in a locked area, maintained by Contractor, and shall be delivered to the District at a location designated by the District. Contractor shall furnish an inventory listing all spare parts in the form included herein for each piece of equipment.

## K. Start-Up and Field Instructions

The bid prices for the equipment furnished by Contractor shall include the cost of competent manufacture representatives of all equipment to supervise the installation, adjustment and testing of the equipment and to instruct the District's operating personnel in their operation and maintenance of all equipment. The supervision may be divided into two or more time periods as required by the installation program or as directed by Engineer.

The manufacturer's representatives shall certify in writing that the installation and testing of the equipment has satisfactorily been completed and that the equipment is ready for operation and the District's operating personnel have been instructed in the operation, maintenance, and lubrication of the equipment.

Contractor shall provide the services of the manufacturer's representative(s) for additional time as required should difficulties arise in the operation of the equipment due to the manufacturer's design or fabrication of the equipment or faulty installation by Contractor.

This additional service shall be provided at no cost to the District for the duration of the Contract and one (1) year maintenance period.

**L. Final Clean-Up and Site Restoration**

Before finally leaving the site, Contractor shall wash and clean all exposed surfaces which have become soiled or marked. Contractor shall remove from the site of the Work all accumulated debris and surplus materials of any kind which result from its operation, including construction equipment, tools, sheds, sanitary enclosures, etc. Contractor shall leave all equipment, fixtures, and Work, which he had installed, in a clean condition. The completed Project shall be turned over to the District in a neat and orderly condition.

All damage, as a result of Work under this Contract, to existing structures, pavement, driveways, curb and gutters, sidewalks, utility poles, utility pipelines, conduits, drains, catch basins, fences, and other obstructions not specifically mentioned herein shall be repaired.

**9.44 Open Specifications**

Where materials or equipment are specified by a trade or brand name, it shall not be the intention of the District to discriminate against an equal product of another manufacturer but rather to set a definite standard of quality or performance and to establish an equal basis for the evaluation of bids. Unless otherwise specified, all materials shall be the best of their respective kinds and shall be in all cases, fully equal to approved samples. Where a trade or brand name is specified with the words "or equal" or "equivalent," this is understood to mean that other trade or brand names may be substituted that are, in the opinion and judgment of Engineer, equal in quality and performance. Even though the words "or equal" or "equivalent" are used in the Specifications, unless a substitute is approved in writing by Engineer, Engineer shall have the right to require the use of the material or equipment specified by trade or brand name.

**9.45 Spare Parts List**

The equipment supplier shall prepare a recommended spare parts list. Six (6) copies of the recommended spare parts list shall be submitted with the shop drawings.

**9.46 Applicable Standards and Codes**

Whenever reference is made to any published standards, codes, or standard specifications, such reference shall mean the latest issue of that standard, code, specifications, or tentative specification of the technical society, organization, or body referred to which is in effect at the date of invitation for bids.

#### **9.47 Copies of Plans and Specifications**

Contractor shall be provided with three (3) complete sets of Plans and Specifications for its use at no charge. Signed and sealed drawings which are necessary to obtain Building Permits will also be provided to Contractor by Engineer at no charge.

#### **9.48 Restoration – Special**

Existing areas of special landscaping materials, irrigation systems, ground cover and any other improvements that are damaged shall be restored with new materials to equal or better than existing conditions. Technical Specifications may contain additional requirements.

#### **9.49 Contractor Performance Reviews and Ratings**

The District shall develop a Contractor performance evaluation report. This report shall be used to periodically review and rate the Contractor's performance under the contract with performance ratings as follows:

- |                |  |
|----------------|--|
| Satisfactory   | Performance meets contractual requirements. The contractual performance of the element being assessed may contain some minor problems for which corrective actions taken by the Contractor were satisfactory                               |
| Unsatisfactory | Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance contains a serious problem(s) for which the contractor's corrective actions appear or were ineffective. |

The report shall also list discrepancies found during the review period. The Contractor shall be provided with a copy of the report and may respond in writing if he takes exception to the report or wishes to comment on the report. Contractor performance reviews and subsequent reports will be used in determining the Contractor's satisfactory performance record on future Contracts.

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## **GENERAL CONDITIONS**

### **ARTICLE 10**

10.10	Mutuality of Provisions
10.11	Restoration of Property
10.12	Notice
10.13	Legally Binding

#### **TITLE**

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10.01	General
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10.03	Plans and Specifications are Supplementary
10.04	Handling and Distribution
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10.16	Dimensions of Existing Structures
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10.27	Protection Against Electrolysis
10.28	Indemnification and Confidentiality
10.29	Work by Others
10.30	Record Drawings
10.31	Non-Waiver



## **10.01 General**

Contractor shall furnish all labor, materials, tools and equipment necessary to do all Work required for the completion of each item of this Contract as specified herein. The Work to be done and paid for under any item shall not be limited to the exact extent mentioned or described, but shall include all incidental Work necessary or customarily done for the completion of that item.

## **10.02 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.

- a. "AASHTO" shall mean the American Association of State Highway and Transportation Officials.
- b. "ACI" shall mean the American Concrete Institute.
- c. "Addendum" shall mean modification of the Contract Documents issued in writing by Engineer prior to opening the bids.
- d. "ANS" shall mean American National Standard, as approved by the American National Standards Institute, Inc.
- e. "ASTM" shall mean the American Society for Testing and Materials.
- f. "AWWA" shall mean the American Water Works Association.
- g. "Bid" shall mean the documents that comprise the submission for the Work of this Project.
- h. "Bid Period" shall mean the time period from when the Bid Documents will be available to the deadline for submitting Bids.
- i. "Bidder" shall mean one who submits a Bid directly to District, as distinct from a sub-bidder, who submits a Bid to the Bidder.
- j. "Bid Documents" include the Advertisement for Bids, Instructions to Bidders, Proposal, Questionnaire, the Bid Form, and the proposed Contract Documents (including all Addenda issued prior to receipts of Bids).
- k. "Change Order" shall mean a written change, addition, or deletion to the Contract Documents signed by both Contractor and the District.
- l. "Contract" shall mean the agreement between the Successful Bidder and the District for performance of the Work.
- m. "Contract Documents" shall mean all documents that comprise the agreement of the parties related to this Project. The Contract Documents include the Notice to Contractors, Instructions to Bidders, Proposal, Questionnaire, Bid Security, Contract, Public Construction

Bond, Sworn Statement of Public Entity Crimes, Opinion of District's Attorney, Final Release of Lien, Special Conditions, General Conditions, Technical Specifications, Standard Details and Plans, including all modifications, addenda, and Change Orders contained in any documents before or after execution of the Contract

- n. "Contract Sum" shall mean the total amount due to Contractor as a result of Work on the Project, including any amounts as a result of Change Orders.
- o. "Contract Time" shall mean the time to complete the Project as set forth in the Contract Documents. Reference to "days" shall mean calendar days unless otherwise noted.
- p. "Contractor" shall mean the Successful Bidder with whom the District signs the Contract for the Work or its duly authorized agents.
- q. "County" shall mean Palm Beach County, as may be applicable.
- r. "Defective" shall mean the Work does not conform to the Contract Documents or does not meet the requirements of any applicable inspection, reference standard, test, or approval.
- s. "District" shall mean the Loxahatchee River Environmental Control District, acting through its properly authorized representatives.
- t. "Engineer" shall mean the engineer designated by the District as its engineering representative during the course of construction to make appropriate inspection and computation of payments, whether acting directly or through properly authorized agents, inspectors or representatives of Engineer, acting within the scope of duties entrusted to them.
- u. "Final Completion" shall mean the time when Engineer determines that all Contract Document requirements have been completed.
- v. "IEEE" shall mean the Institute of Electrical and Electronic Engineers, Inc.
- w. "Notice of Award" shall mean the District's notification of the Contract to the Successful Bidder.
- x. "Notice to Proceed" shall mean the written notice from the District to the Contractor to proceed with the Work.
- y. "Plans" shall mean any and all drawings, plans, sketches, diagrams, designs, lists, exhibits, or other graphic and pictorial portions of the Contract Documents showing the design, location, and dimensions of the Work for the Project.
- z. "Pricing Schedule" shall be based upon the Bid item(s) and shall establish the value of the Contract Award. .
- aa. "Project" shall mean the entire construction to be performed as provided in the Contract Documents.

- bb. "Schedule of Values" is established between Contractor and Engineer to determine the appropriate cost of component items that were used to establish the "Pricing Schedule," and the value to be paid as Work is completed. The Schedule of Values shall be determined during the Pre-Construction Meeting.
- cc. "Specifications" shall mean the written requirements for materials, equipment, systems, standards, and workmanship for the Work, and performance of related services.
- dd. "Substantial Completion" shall mean the date as certified by Engineer when the construction of the Project or a specified part thereof is completed, in accordance with the Contract Documents and applicable permits, so that the Project or specified part can be utilized for the purposes for which it was intended; or if there be no such certification, the date when final payment is due in accordance with the Contract.
- ee. "Successful Bidder" shall mean the lowest cost, qualified, responsive, responsible Bidder to whom the District, based on the District's evaluation hereinafter provided, makes an award.
- ff. "Work" shall mean any and all obligations, duties and responsibilities necessary to the successful completion of the Project assigned to or undertaken by Contractor under the Contract Documents, including all labor, materials, equipment, services, and other incidentals and the furnishing, installation, and delivery thereof and all Work reasonably inferable therefrom.

### **10.03 Plans and Specifications are Supplementary**

The Plans and Specifications are intended to supplement each other, and together constitute one complete set of Contract Documents, so that any Work exhibited in the one and not the other shall be executed just as if it has been set forth in both, in order that the Work shall be completed in every respect according to the complete design or designs as decided and determined by Engineer. In the event of a conflict in the Plans and Specifications, the Specifications shall be considered prevailing. Should Contractor find that anything is omitted from the Plans and Specifications which is necessary for a clear understanding of the Work, or that there is an error in either Plans or Specifications, Contractor shall promptly notify Engineer. From time to time during the progress of the Work, Engineer may furnish supplementary or working drawings necessary to show changes or define the Work in more detail, and these also shall be part of the Contract Documents.

### **10.04 Handling and Distribution**

Contractor shall, at its own expense, handle, haul, deliver, and distribute all materials and all surplus materials on the different portions of the Work, as necessary. Contractor shall provide suitable and adequate storage room for materials and equipment, until the Final Completion of the Work.

Storage charges and demurrage charges by transportation companies and vendors, which result from delays in handling, shall be borne by Contractor.

### **10.05 Materials, Samples, Inspection, Approval**

Unless otherwise indicated on the Plans and Specifications or specified, only new materials and equipment shall be incorporated in the Work. All materials and equipment furnished by Contractor to be incorporated in the Work shall be subject to the inspection and approval of Engineer.

No material shall be processed for, fabricated for, or delivered to the Work without prior approval of Engineer.

Within thirty (30) calendar days after the award of the Contract, Contractor shall submit to Engineer the names and addresses of the manufacturers and suppliers of all materials and equipment proposed to be incorporated into the Work. When shop and working drawings are required as specified below, such information shall be submitted prior to the submission of the drawings so that Engineer may consider and approve or disapprove the manufacturer and/or the supplier as to its ability to furnish a product meeting the Specifications, subject to final approval of the particular material or equipment. As requested, Contractor shall also submit data relating to the material and equipment proposed to be incorporated into the Work, in sufficient detail to enable 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 and working drawings.

Facilities and labor for the handling and inspection of all materials and equipment shall be furnished by Contractor. Defective materials and equipment shall be removed immediately from the site of the Work. The Contractor will make arrangements for, and pay for soil density tests wherever and whenever the District desires, but at no less than every 1 foot lift and 400 LF of trench backfill, 1 foot lift and 100 SF of roadway subgrade and base and 1 foot lift and 100SF of fill beneath concrete on grade. If the results of a soil density test indicate that compaction is less than that specified, Contractor shall recompact and retest soil density with no additional cost to the District.

If Engineer so requires, either prior to beginning or during the progress of the Work, Contractor shall submit samples of materials for such special tests as may be necessary to demonstrate that they conform to the Specifications. Such samples, including concrete test cylinders, shall be furnished, taken, stored, packed and shipped as directed, at the expense of Contractor. Contractor shall, at its expense, furnish approved molds for making concrete test cylinders. Except as otherwise specified, the District shall 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 Contractor submitting the sample. To ensure consideration of samples, Contractor shall notify Engineer by letter that the samples have been shipped and shall properly describe the samples in the letter. In no case shall the letter of notification be enclosed with the samples.

Contractor shall submit data and samples to Engineer, or place its orders, sufficiently early to permit Engineer to consider, inspect, test, and approve the materials and equipment before they are incorporated in the Work. Delay resulting from Contractor's failure to do so shall not be used as a basis of a claim against the District or Engineer. When required, Contractor shall furnish to Engineer three (3) sworn copies of manufacturer's shop or mill tests (or reports from independent testing laboratories) relative to materials, concrete and equipment data.

After Engineer approval of the samples, data, etc., the materials and equipment used in the course of the Work shall correspond therewith.

#### **10.06 Inspection of Work Away from the Site**

If Work done off the construction site is to be inspected on behalf of the District during its fabrication, manufacture, or testing, or before shipment, Contractor shall give notice to 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 Engineer in ample time so that the necessary arrangements for the inspection can be made.

#### **10.07 Contractor's Shop and Working Drawings**

Contractor shall submit for approval six (6) copies (unless otherwise specified in writing) of shop and working drawings of concrete reinforcement, structural details, piping layout, wiring, materials fabricated especially for this Contract, and materials and equipment for which such drawings are specifically requested. All shop and working drawing submittals shall be prepared and submitted in accordance with Section 01300 of the Technical Specifications.

#### **10.08 Health, Safety and Environmental Program**

The Contractor shall adhere to all applicable federal and state occupational safety and health laws as they apply to this Contract.

The Contractor will enforce the Loxahatchee River Environmental Control District's safety rules and practices as they apply to the Contractor's employee's, in addition to the Contractor's own safety rules and procedures.

The Contractor shall provide all of its subcontractors with copies of all safe working procedures and shall ensure their enforcement.

#### **10.09 Insufficiency of Safety Precautions**

Failure of Contractor to provide these required conditions shall be a material breach of this Contract and the District shall be entitled to stop the Work until such time as Contractor corrects these conditions, without payment to Contractor of extension of time to complete the Work.

#### **10.10 Sanitary Regulations**

Contractor shall provide adequate sanitary conveniences for the use of those employed on the worksite. Such conveniences shall be made available when the first employees arrive on the worksite, shall be properly secluded from public observation, and shall be constructed and maintained in suitable numbers and at such points and in such manner as may be required or approved.

Contractor shall maintain the sanitary facilities in a satisfactory and sanitary condition at all times and shall enforce their use. Contractor shall rigorously prohibit the committing of nuisances on the

worksite, on the lands of the District, or any adjacent property. Contractor is solely responsible for the use and maintenance of the sanitary facilities.

The District and Engineer shall have the right to inspect any building or other facility erected, maintained, or used by Contractor, to determine whether or not the sanitary regulations have been complied with.

#### **10.11 Lines, Grades and Measurements**

Contractor shall employ, at its own expense, a land surveyor who shall be registered in the State of Florida and who shall be thoroughly experienced in field layout work. Said surveyor shall establish all lines, elevations, reference marks, etc., needed by Contractor during the progress of the Work, and from time to time Contractor shall verify such marks by instrument or by other appropriate means.

Alignment and grade of all pipes, tunnels and borings shall be controlled by use of lasers, levels or other equipment as required to assure proper alignment and grade. Contractor shall furnish all lasers and accessories as required and approved by Engineer. Contractor's engineer will set and check each laser each day that Work is in progress or more often as required to assure continuous accurate control. Contractor's engineer responsible for lines and grades shall certify to the District in writing that the Work has been constructed to lines and grades as shown on the Plans and Specifications. This certification shall accompany each request for payment.

Engineer shall be permitted at any time to review the lines, elevations, reference marks, lasers, etc., set by Engineer employed by Contractor, and Contractor shall correct any errors in lines, elevations, reference marks, lasers, etc., disclosed by engineer. Such a review shall not be construed to be an approval of Contractor's Work and shall not relieve Contractor of the responsibility for the accurate construction of the entire Work.

Contractor shall make all measurements and review all dimensions necessary for the proper construction of the Work called for by the Plans and Specifications. During the prosecution of the Work, Contractor shall make all necessary measurements to prevent misfitting in said Work, for the accurate construction of the entire Work.

#### **10.12 Dimensions of Existing Structures**

Where the dimensions and locations of existing structures are of critical importance in the installation or connection of new Work, 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.

#### **10.13 Work to Conform**

During its progress and on its completion, all Work shall conform to the lines, levels, and grades indicated on the Plans and Specifications or given by Engineer and shall be built in a thoroughly substantial and workmanlike manner, in accordance with the Plans and Specifications and the directions given from time to time by Engineer. In no case shall any Work in excess of the requirements of the Plans and Specifications be paid for unless ordered in writing by Engineer.

All Work done without instructions having been given therefore by Engineer, done without proper lines or levels, or done during the absence of Engineer, or its agent, will not be estimated or paid for except when such Work is authorized by Engineer in writing. Work so done may be ordered uncovered or taken down, removed, and replaced at Contractor's expense.

#### **10.14 Pipe Location**

Pipelines will be located substantially as indicated on the Plans and Specifications, but the right is reserved by the District, acting through 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 Plans and Specifications, such notation is for Contractor's convenience and does not relieve Contractor from laying and joining different or additional items where required without additional compensation.

#### **10.15 Planning and Progress Schedules**

Contractor shall prepare and submit all schedule submittals in accordance with Section 01300 of the Technical Specifications.

#### **10.16 Precautions During Adverse Weather**

In the event of, or the possibility thereof, adverse weather, including high tides, and against the possibility thereof, Contractor shall take all necessary precautions so that the Work may be properly done and satisfactory in all respects. When required, protection shall be provided by use of tarpaulins, wood, building paper shelters, and other approved means. Contractor shall be responsible for all changes caused by adverse weather, including tidal fluctuations and Contractor shall take such precautions and procure insurance as Contractor deems prudent.

Engineer may suspend construction operations at any time when, in its sole discretion, the conditions are unsuitable or the proper precautions are not being taken, whatever the weather or tidal conditions may be, in any season.

Contractor shall provide a written tropical storm/hurricane plan consistent with District requirements to Engineer prior to commencement of construction.

#### **10.17 Electrical Energy**

Contractor shall make all necessary applications and arrangements and pay all fees and charges for power and light and other electrical energy as necessary for the proper completion of this Contract during its entire progress. Contractor shall provide and pay for all temporary wiring, switches, connections, and meters.

There shall be sufficient electrical lighting so that all Work may be done in a workmanlike manner when there is not sufficient daylight.

#### **10.18 Bolts, Anchor Bolts and Nuts**

All necessary bolts, anchor bolts, nuts, washers, plates and bolt sleeves shall be furnished by Contractor in accordance herewith.

#### **10.19 Concrete Inserts**

Concrete inserts shall be designed to safely support, in the concrete that is used, the maximum load that can be imposed by the bolts used in the inserts. Inserts shall be of a type which will permit locking of the bolt head or nut. All inserts shall be 316 stainless steel.

#### **10.20 Operating Instructions and Parts Lists**

Operations and Maintenance (O&M) Manuals for each item of equipment shall be submitted in accordance with Section 01300 of the Technical Specifications entitled "Submittals."

#### **10.21 Lubricants**

During testing and prior to acceptance, Contractor shall furnish all lubricants necessary for the proper lubrication of all equipment furnished under this Contract and as specified in the Contract Documents.

#### **10.22 Special Tools**

For each type of equipment furnished by Contractor, Contractor shall provide a complete set of all special tools (including calibration and test equipment) which may be necessary for the adjustment, operation, maintenance, and disassembly of such equipment.

Special tools are considered to be those which, because of their limited use, are not normally available, but which are necessary for the particular equipment.

Special tools shall be delivered at the same time as the equipment to which they pertain. Contractor shall properly store and safeguard such special tools to ensure they are in a proper functioning condition, as determined by Engineer. At the completion of the Work the special tools shall be delivered to the District.

#### **10.23 Protection Against Electrolysis**

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 resultant electrolysis. The insulation shall be bituminous impregnated felt, heavy bituminous coatings, nonmetallic separators or washers, or other materials approved by Engineer.

#### **10.24 Indemnification and Confidentiality**

For specific consideration received by Contractor, included in the Contract sum beyond the cost of the Work, Contractor shall indemnify and hold harmless the District, 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 Contractor and persons employed or utilized by Contractor in the performance of the Contract. The monetary limitation on the extent of the indemnification that bears a reasonable commercial relationship to the



Contract and is part of the Project specifications or Bid Documents, is up to three (3) times the monetary value of the Contract. Notwithstanding the foregoing, the monetary limitation on the extent of the indemnification provided shall not be less than one million dollars (\$1,000,000.00) per occurrence. The District and the insurance carrier shall have the right to “mutually approve” the choice of attorney(s) to provide the defense, with such approval not to be unreasonably withheld. If no agreement on the choice of attorney(s) can be reached in a reasonable length of time, the final authority to choose an attorney will rest with the claims manager in the office where the claim originated.

In any and all claims against the District or any of their officers or employees by an employee of Contractor, any subcontractor, anyone directly or indirectly employed by any of them or anyone else for whose acts any of them may be liable, the indemnification obligation under this General Conditions Section 10.24 shall not be limited in any way on the amount or type of damages, compensation or benefits payable by or for Contractor or any subcontractor under worker’s compensation acts, disability benefits or other employee benefit acts. The intention of these two clauses above is to provide for the legal indemnification allowed for under Section 725.06, Florida Statutes, no more and no less, so as to be completely legal and not void as against public policy. If any provision of this indemnification is determined by a court of law to be void, it shall be severed from this provision and the remainder of this provision shall be given full force and effect under Section 725.06, Florida Statutes.

In the performance of the Work, Contractor may be exposed to the confidential information of the District and other. Contractor shall not disclose to anyone not employed by the District nor use, except on behalf of the District, any such confidential information acquired in the performance of the Work except as authorized by the District in writing and, regardless of the term of this Contract, 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 District’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. Contractor also agrees that it will not disclose to the District any information it holds subject to any obligation or confidence to any third persons.

#### **10.25 Work by Others**

The District may perform additional Work related to the Project itself, or the District may engage others to perform Work on the Project which such engagement shall be governed by similar General Conditions. Contractor shall afford the other contractors who are parties to such direct contracts (or the District, if it is performing the additional Work), reasonable opportunity for the introduction and storage of materials and equipment and the execution of the Work, and shall properly connect and coordinate Contractor’s Work with the Work of others. If any part of Contractor’s Work depends for proper execution or results upon the Work of any such other contractor (or the District), Contractor shall inspect and promptly report to Engineer, in writing, any defects or deficiencies in such Work that render it unsuitable for such proper execution and results. Contractor’s failure so to report shall constitute an acceptance of the other Work as fit and proper for the relationship of its Work except as to defects and deficiencies which may appear in the other Work after the execution of Contractor’s Work.

Contractor shall do all cutting, fitting and patching of its 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. 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 Engineer and of the other contractors whose Work will be affected.

If the performance of additional Work by other contractors or the District is not noted in the Contract Documents prior to the execution of the Contract, written notice thereof shall be given to Contractor prior to the state of any such additional Work.

#### **10.26 Record Drawings**

Contractor shall keep and maintain one record copy of all Specifications, Plans and Specifications, Addenda, Change Orders, Modifications and Shop drawings at the site in good order and annotated to show all changes made during the construction process as specified in the Contract Documents. All record drawings shall be kept maintained and updated by Contractor in accordance with Section 01720 of the Technical Specifications entitled "Project Record Drawings."

#### **10.27 Non-Waiver**

Progress or final payments shall not be acceptance of improper, faulty, or defective work or material, and shall not release Contractor of any of its obligations under the Contract Documents and shall not constitute a waiver of any rights or provisions of the Contract Documents by the District.

#### **10.28 Mutuality of Provisions**

If any provision of the Contract Documents shall for any reason be held to be invalid, illegal, or unenforceable in any respect under the laws of the State of Florida, any such invalidity, illegality or unenforceability shall not affect any other provision of the Contract Documents and the Contract Documents shall be construed as if such invalid, illegal, or unenforceable provision had never been incorporated herein and the rights of the parties hereto shall be construed and enforced accordingly.

#### **10.29 Restoration of Property**

Existing structures and facilities, including but not limited to buildings, utilities, topography, streets, curbs, walks landscape materials and other improvements that are damaged or removed due to the Work, shall be patched, repaired, or replaced by Contractor to the satisfaction of the owner of such structure and facility, and authorities having jurisdiction. In the event that authorities having jurisdiction require that such repairing and patching be done with their own labor and materials, Contractor shall abide by such regulations and pay for such work.

#### **10.30 Notice**

Any notice or writing given hereunder shall be delivered by depositing the notice contained in a sealed envelope, postage prepaid in the United States Postal System as registered or certified mail, with return receipt requested, or by overnight express carrier. Any such notice so deposited shall be conclusively deemed delivered to and received by the addressee forty-eight (48) hours after the deposit if all of the foregoing conditions of notice have been satisfied and addressed as follows:

### **10.31 Legally Binding**

Contractor agrees that the Contract Documents are legally binding documents and has had the opportunity to permit its attorney to review them. The Contract Documents are the joint work product of the Parties hereto and, accordingly, no term or provision shall be more strictly construed against any party.

DISTRICT:

CONTRACTOR:

**(Remainder of this page left blank intentionally)**

**TECHNICAL  
SPECIFICATIONS**

**DIVISION 1**  
**GENERAL REQUIREMENTS**

## **SECTION 01010**

### **SUMMARY OF WORK**

#### **PART I - GENERAL**

##### **1.01 WORK COVERED BY THESE CONTRACT DOCUMENTS**

The Contractor shall furnish all labor and materials necessary to construct the force main replacements along North Highway A1A as shown on the construction plans. The project shall include all piping, fittings, couplings, accessories and appurtenances, site restoration, temporary provisions to maintain operation to the extent practical, pressure testing, removal and grout filling of the existing piping as specified, obtaining all required permits, and compliance with permit conditions. The Contractor shall adhere to Loxahatchee River Environmental Control District (LRD) standards for the force main, and Palm Beach County Standards and The Town of Jupiter Standards for related roadway/restoration, and any other items depicted on the drawings and described in these documents and reference materials.

In addition to proposed utility improvements, this project shall include roadway, swale and shoulder restoration located in the public right-of-way including pavement, signage, driveways, and other miscellaneous items. These items shall be restored as shown on the construction drawings but at a minimum they should be restored to their original condition or better.

Contractor's Duties:

1. Except as specifically noted, provide and pay for:
  - a. Mobilization and demobilization
  - b. Labor, materials, and equipment
  - c. Tools, construction equipment, and fuel
  - d. Water and utilities required for construction
  - e. Temporary utilities, provisions, and controls
  - f. Freight and sales tax
  - g. Maintenance of traffic
  - h. Surveying and field engineering
  - i. Locating and protecting existing utilities
  - j. Compliance with all of the conditions of the permits issued and required to be obtained by the Contractor for this project
  - k. Coordination of schedule with all property owners effected by the force main installation

##### **1.02 CONTRACTS**

- A. Construct the Work under a Unit Price contract.

- B. Subcontractors (when used) shall be supervised by and work directly for the contractor.

### **1.03 WORK BY OTHERS AND FUTURE WORK**

- A. The Owner reserves the right to add to the work in accordance with the Contract Documents.

### **1.04 WORK SEQUENCE**

- A. The Contractor shall provide a Sequence of Work prior to the Pre-Work Conference.
- B. To the greatest extent practical, the new force main will need to be cleared for service prior to the existing force main being abandoned/removed.
- C. Work shall only be performed during the authorized construction hours and days as specified by Palm Beach County and The Town of Jupiter. If work needs to be performed outside of the authorized hours and/or days to allow the work to progress, special permission from the County and Town shall be requested by the Contractor a minimum of 14 days before this work is to begin.
- D. The Contractor shall coordinate closely with the District, County, and Town for an optimal construction schedule that minimizes disruption to service and normal traffic flow. Evening and weekend work hours may be required and shall be coordinated with the Owner prior to commencement.

### **1.05 CONTRACTOR-FURNISHED PRODUCTS AND RESPONSIBILITIES**

- A. Products furnished to the site and paid for by the Contractor:
  - 1. All products necessary to complete the work described herein these contract documents and specifications.
- B. Contractor's Responsibilities:
  - 1. Review and incorporate Engineer and Owner reviewed shop drawings, product data, and samples into the construction of the project.
  - 2. Prepare, apply for, and obtain permits that are specified to be obtained by the Contractor.
  - 3. Provide for the notification of residents for work on private property, including door hangers, individual meetings, public meetings, etc.
  - 4. Receive and unload products at site; inspect for completeness or

- damage jointly with Engineer and Owner.
5. Repair or replace items damaged after receipt.
  6. Arrange and pay for product delivery to site.
  7. Handle, store, install, and delivered products.
  8. Submit claims for transportation damage and replace damaged, defective, or deficient items.
  9. Arrange for manufacturers' warranties, inspections, and service.

#### **1.06 CONTRACTOR'S USE OF THE PREMISES**

- A. All work shall be within the limits of the County/Town right-of-way (ROW) and easements to the greatest extent practical. The Contractor shall be responsible for maintenance of traffic when working within the public ROW. This project will require close coordination between the Engineer and Owner, County and Town during construction.
- B. The Contractor shall be fully responsible for the safety and security of the construction area including any temporary measures required to maintain its protection. The Contractor will be responsible for any damages or theft incurred to his tools, equipment, machinery, and new work in-place not yet fully accepted by the Owner.
- C. The Contractor shall be responsible for maintenance of traffic when working within the public ROW.
- D. The Contractor shall maintain vehicular and pedestrian access to driveway entrances to the greatest extent practical. A minimum of one traffic lane should remain open to the greatest extent practical.

#### **1.07 PERMITS REQUIRED**

- A. The Contractor will be responsible for complying with all conditions specified in each of the project's permits and licenses. A description of the project permits is described in Specification 01060.

#### **PART 2 – PRODUCTS**

NOT USED.

#### **PART 3 – EXECUTION**

NOT USED.

**END OF SECTION**



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## SECTION 01030

### HURRICANE PREPAREDNESS

#### PART 1 - GENERAL

##### 1.01 HURRICANE PREPAREDNESS PLAN

- A. The Contractor's attention is drawn to the possibility of hurricane or severe storm conditions occurring at the site of work during the course of Contract Work.
- B. Within fourteen (14) days of the date of the Notice to Proceed, the Contractor shall submit to the Engineer and Owner a Hurricane Preparedness Plan. The plan should outline the necessary measures which the Contractor proposes to perform at no additional cost to the Owner in case of a hurricane or severe weather warning.
- C. In the event of inclement weather, or whenever the Owner shall direct, the Contractor shall, and will, cause Subcontractors to carefully protect the Work and materials against damage or injury. Work and materials damaged due to inclement weather shall be removed and replaced at the expense of the Contractor.
  - 1. Hurricane Watch: Upon designation of a hurricane watch, the Contractor shall be responsible for storing all loose supplies and equipment on the job site that may pose a danger. In addition, the Contractor shall remove all bulkheads and plugs in pipelines that would impede drainage in the event of flooding. Structures that may be in danger of floatation shall be flooded. The Contractor shall also cooperate with the Owner in protecting any other structures at the site.
  - 2. Hurricane Warning: No mobile "temporary facility" under the control of or on the property of the Owner shall be staffed during a hurricane warning. Contractor facilities meeting these criteria shall be evacuated. Reasonable steps shall be taken to protect all such facilities and their contents from damage and to avoid the facility causing damage to the surroundings. Reasonable steps shall be taken to protect existing improvements from damage and to avoid damage to the surroundings caused by staged materials, equipment, or other facilities related to the project.
- D. The Contractor may be required to backfill excavation depending on the severity of the approaching storm or the expected amount of rainfall. Additionally, erosion protection and inlet protection may also be required by the Owner depending on the site conditions at the time of the Hurricane Watch.

**PART 2 - PRODUCTS**

NOT USED

**PART 3 - EXECUTION**

NOT USED

**END OF SECTION**

## **SECTION 01039**

### **COORDINATION AND MEETINGS**

#### **PART 1 – GENERAL**

##### **1.01 DESCRIPTION**

- A. The Engineer shall schedule and administer preconstruction meetings, public involvement meetings/communications, and specially called meetings throughout the progress of the work. The Engineer shall:
  - 1. Distribute written notice of each meeting.
  - 2. Make physical arrangements for meetings.
  - 3. Preside at meetings.
  - 4. Record the minutes, include all significant proceedings and decisions.
  - 5. Reproduce and distribute copies of minutes:
    - a. To all participants in the meeting.
    - b. To all parties affected by decisions made at the meeting.
- B. The Contractor and necessary subcontractors shall attend periodic progress meetings as dictated by the Engineer. The Contractor shall:
  - 1. Attend each of these meetings with an updated schedule of ongoing work.
  - 2. Provide applicable updates related to the project as outlined on the meeting agenda and as the work requires.
- C. Representatives of the Contractor, subcontractors and suppliers (if needed) attending the meetings shall be qualified and authorized to act on behalf of the entity each represents.

##### **1.02 RELATED REQUIREMENTS SPECIFIED ELSEWHERE**

- A. Drawings and terms of the Contract Documents, and Division 1 Specification sections, apply to this section.
- B. Specified in other Sections:
  - 1. Section 01010: Summary of Work
  - 2. Section 01060: Regulatory Requirements and Notifications

##### **1.03 PRE-CONSTRUCTION MEETING**

- A. To be held prior to the Notice to Proceed.

B. Location: The project site, or as designated by the Engineer.

C. Attendance:

1. Owner's Representative
2. Engineer's Representative
3. Contractor
4. Contractor's Superintendent
5. Major Subcontractors
6. Other's as appropriate

D. Agenda:

1. Record of Attendance.
2. Project Summary Description.
3. Local Utilities to be affected or in the project area:
  - a. Water lines
  - b. Sewer lines
  - c. Storm lines
  - d. Gas lines
  - e. Telephone lines
  - f. Cable TV lines
  - g. Electric lines
  - h. Roadways
4. Contractor Responsibilities:
  - a. Start date
  - b. Completion date
  - c. Work schedule
  - d. Notification Requirements
  - e. Regulatory Permit Requirements
  - f. Testing
  - g. Space utilization
  - h. Rights-of-Way occupancy
  - i. Progress Payment Application
  - j. As-builts (Records/Drawings)
  - k. Photographs
  - l. Shop drawings
  - m. Subcontractors
  - n. Project coordination

5. Owner Responsibilities:
  - a. Progress Meeting Attendance
  - b. Special meetings
  - c. Partial and final payment
  - d. Change Orders
  - e. Public announcements and public relations
  - f. Project acceptance
6. Engineer Responsibilities:
  - a. Technical representative of Owner
  - b. Progress meetings
  - c. Interpreter of contract documents
  - d. Periodic inspections of job progress
  - e. Reviews partial and final payment applications
  - f. Reviews Change Orders
  - g. Checks and approves shop drawings
  - h. Reviews record drawings
  - i. Prepares Health Department Clearance Package
  - j. Performs final inspection and issues certificate of completion
7. Resident Inspector Responsibilities:
  - a. Owner's representative on site
  - b. Review materials and work and reports any deficiencies to Owner/Engineer
  - c. Reviews applications for payment
  - d. Works with Contractor on public notification of work items
  - e. Attends progress meetings
  - f. Observes testing work
  - g. Maintains daily diary of work tasks
  - h. Furnishes reports to Owner/Engineer as deemed advisable.

#### **1.04 PROGRESS MEETINGS**

- A. The Contractor shall attend periodic meetings as required by progress of the work.
- B. The time of these meetings will be coordinating by the Engineer.
- C. Location of the meetings: Project site, or as designated by the Engineer.
- D. The preparation and distribution of the meeting agenda and resulting meeting minutes will be completed by the Engineer.

- E. Contractor to review and accept meeting minutes prior to final distribution to all affected parties by the Engineer.
- F. Attendance:
  - 1. Owner's Representative
  - 2. Engineer's Representative
  - 3. Subcontractors as appropriate
  - 4. Suppliers/others as appropriate

#### **1.05 EMERGENCY MEETINGS**

- A. Emergency meetings may be called by Owner, Engineer or Contractor with a minimum of three hours notice to resolve conditions of an emergency nature.

#### **1.06 PUBLIC INVOLVEMENT MEETINGS/COMMUNICATIONS**

- A. There may will be public involvement meetings and communications for the project. The Contractor shall participate in these meetings and communications as deemed necessary by the Owner.

#### **PART 2 – PRODUCTS**

NOT USED

#### **PART 3 – EXECUTION**

NOT USED

**END OF SECTION**

**SECTION 01050**  
**MEASUREMENT AND PAYMENT**

**PART 1 - GENERAL**

**1.01 DESCRIPTION**

This Section defines the method which will be used to determine the quantities of work performed, materials supplied and establishes the basis upon which payment will be made.

- A. The Unit Cost Prices stated in the Contract shall be considered payment in Full for the completion of all work. Payment shall be made under each item only for work as it is not specifically included under other items.
- B. The Contractor shall furnish all labor, equipment and material required to complete the construction and testing of the force main replacement and associated appurtenances.
- C. The following explanation of the Measurement and Payment for the bid items is provided; however, the omission of reference to any item shall not alter the intent of the Bid Form or relieve the Contractor of the necessity of constructing a complete project under this Contract.

**1.02 ESTIMATED QUANTITIES**

Where quantities are shown, they are approximate and are given only as a basis of calculation upon which the award of the contract is to be made. The Owner or Engineer does not assume any responsibility for the final quantities, nor shall Contractor claim misunderstanding because of such estimate of quantities. Final payment will be made only for the satisfactorily completed quantity of each item.

**1.03 MEASUREMENT STANDARDS**

All work completed under the Contract shall be measured according to United States Standard Methods.

**1.04 METHOD OF MEASUREMENT**

Measurement of Length - Unless otherwise specified for the particular items involved, all measurements of distance for items to be paid for on the basis of length shall be taken horizontally or vertically.

Measurement of Area - In the measurement of items paid for on the basis of area of finished work, the lengths and/or widths to be used in the calculations shall be



the actual dimensions measured along the surface of the completed work within the neat lines shown or designated. At intersections, the measurement used for length of side area will be measured from the outside edge of the width allowed along the main trench.

## **1.05 PAYMENT**

Lump Sum Items - Where payment for items is shown to be paid for on a lump sum basis, no separate payment will be made for any item of work required to complete the lump sum item.

Unit Price Items - Where payment for items is shown to be paid for on a unit price basis, separate payment will be made for the items of work described herein and listed on the Bid Form. Any related work not specifically listed, but required for satisfactory completion of the Work, shall be considered to be included in the scope of the appropriate listed work items.

## **1.06 COSTS INCLUDED IN PAYMENT ITEMS**

No separate payment will be made for the following items and the cost of such work shall be included in the applicable pay items of work.

- Clearing and grubbing.
- Trench excavation, including necessary pavement removal, except as otherwise specified.
- Structural fill, backfill, density testing and grading.
- Site cleanup.
- Foundation and borrow materials, except as hereinafter specified.
- Stormwater pollution prevention plan.
- Survey layout and as-builts.
- Testing and placing system in operation.
- Any material and equipment required to be installed and utilized for tests.
- Maintaining the existing quality of service during construction.
- Appurtenant work as required for a complete and operable system.
- Cost for security (if special circumstances apply, approval must be received by the Engineer, in writing).
- Material storage areas.
- Disposal of excess fill and debris.
- Scheduling and calling for utility locates.

- Dewatering.
- Preconstruction site videos.
- Preparation of record drawings.
- Mechanical joint restraint systems (to be included in the unit cost of the DI fittings).

Site cleanup - Contractor's attention is called to the fact that cleanup is considered a part of the work of construction. No payment will be made until cleanup is essentially complete.

Work Outside Authorized Limits – No final payments will be made for work constructed outside the authorized limits of work.

## **1.07 APPLICATIONS FOR PAYMENT**

Applications for Payment shall be prepared by the Contractor and submitted to the Engineer in accordance with the schedule established by the General Conditions of the Contract and the Agreement.

Applications for Payment shall be submitted in the number and form established by the Engineer at the Preconstruction Conference. The form shall be completely filled out and executed by an authorized representative of the Contractor. Supporting data such as schedules of stored materials shall be attached to each copy of the Application.

## **1.08 CHANGE ORDER PROCEDURE**

As defined in the General Conditions, a Change Order is a written order to the Contractor signed by the Owner authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time which is issued after the execution of the Agreement.

The following procedure shall be used in processing Change Orders:

For Additions to the Work – The Owner shall issue a written order to the Contractor directing him to accomplish the additional work. The Contractor shall review the order and if they feel that the additional work entitles him to additional payment or additional time, they may submit a claim as prescribed in the General Conditions of the Contract.

For Deletions from the Work – The Owner shall issue a written order to the Contractor directing him to make the change. If the Owner feels that the contract price should be reduced as a result of the change, the Owner shall make a claim for the reduction as provided in the General Conditions of the Contract.

## PART 2 – PRODUCTS

NOT USED.

## PART 3 – EXECUTION

### A. GENERAL CONDITIONS

1. **MOBILIZATION & DEMOBILIZATION:** The quantity to be paid for under this pay item shall be on a lump sum basis. The Contractor's lump sum price shall include full compensation for all work related to mobilization and demobilization, and any other related work, except for any work designated to be paid for separately or to be specifically included in the costs of other work under the Contract.

Payment shall be made at the Contract lump sum price and shall include, but not be limited to, the preparatory work and operations in mobilizing for beginning work on the project, including those operations necessary for the movement of personnel, equipment, supplies, videos/photos, stormwater prevention plans (implementation of best management practices) clearing and grubbing, site cleanup, project setup, sanitary facilities, labor associated with permit acquisition, construction staging area preparation and closure, project signage, project coordination/management and incidentals to the project site and establishment of temporary provisions, controls, and utilities. This item shall include those permits that are required to be obtained by the Contractor. This item shall also include field surveying/layout and complete record drawings in accordance with the project specifications and the applicable standards.

The items specified in this Section consist of the costs of any pre and post construction expenses necessary for the start and completion of the project, excluding the cost of construction materials. The sum of mobilization and demobilization shall not exceed 5% of total bid price. Partial Payments for mobilization shall be as follows:

<b>Construction % Complete</b>	<b>Allowable % of Lump Sum for Mobilization/Demobilization</b>
5%	25%
10%	50%
25%	75%
100%	100%

2. **BONDS & INSURANCE:** This pay item shall include the costs of bonds and required insurance for the start of work, including temporary environmental controls, sanitary facilities and permits.

Bonds and insurance shall be paid for at the Contract lump sum cost as listed on the Contract Bid Proposal completed and accepted. This pay item also includes a

one-time Indemnification payment which will be made with the first Application for Payment at the Contract lump sum price as listed on the Contract Bid Proposal.

3. **MAINTENANCE OF TRAFFIC:** This pay item shall include the costs for all work related to the maintenance of traffic during the construction of the improvements as shown on the plans, and any other related work, except for any work designated to be paid for separately or to be specifically included in the cost of other work under the Contract.

Maintenance of traffic shall be paid for at the Contract lump sum cost as listed on the Contract Bid Proposal completed and accepted. The Contract lump sum price shall include, but not be limited to, all signage, temporary striping, flagmen, barricades, temporary asphalt, temporary stabilized access around the construction equipment, notification to residents, assistance to provide garbage collection, mail/package delivery and daily access (if needed) of other utility support vehicles.

4. **SURVEY LAYOUT AND RECORD DRAWINGS:** This pay item shall include all survey services related to construction staking and layout of the work. The item shall also include the preparation of record drawings in accordance with Section 01720.

## **B. Force Replacement**

1. **C-900 PVC (a. 4-inch, b. 6-inch, c. 8-inch, d. 10-inch, and e. 12-inch):** The quantity to be paid for under this Section shall be to the nearest foot along the centerline of the pipe for the size of pipe installed as shown on the drawings, complete and accepted. No deduction shall be made for the length of valves and fittings installed in the line. Where the measurement terminates at a valve, bend, tee or other fittings, the centerline of the valve or fitting shall be the point of termination.

Payment shall be made at the Contract unit price per lineal foot and shall include, but not be limited to, furnishing all materials, labor, and equipment required to install the PVC force main piping, including layout, trench safety, permits, excavation of any type material including rock, disposal of unsuitable materials, providing suitable bedding material, backfill, compaction, density testing, grading, dewatering, cleaning, temporary pipe pigging/cannon flushing of the main and all other testing (with any temporary fittings/valves required), along with the preparation of record drawings shall be included in the cost of the pipe for a complete and functional system. The cost to adjust other utilities (electric, cable, telephone, etc.) if required, and the coordination with that utility, shall also be included in the pipe cost.

2. **DIRECTIONAL BORE** (12-inch HDPE DR11 DIPS with two (2) 10-gauge tracer wires installed in 2" conduit per LRD Standards): The quantity to be paid for under this Section shall be to the nearest foot along the centerline of the pipe for the size of pipe installed as shown on the drawings, complete and accepted. The payment length is measured surface to surface (daylight to daylight). No deduction shall be made for the length of valves and fittings installed in the line. Where the measurement terminates at a valve, bend, tee or other fittings, the centerline of the valve or fitting shall be the point of termination.

Payment shall be made at the Contract unit price per lineal foot and shall include, but not be limited to, furnishing all materials, labor, and equipment required to install the HDPE force main piping with two (2) tracer wires, including layout, trench safety, permits, excavation of any type material including rock, disposal of unsuitable materials, providing suitable bedding material, backfill, compaction, density testing, grading, dewatering, cleaning, piping adapters, temporary pipe pigging/cannon flushing of the main and all other testing (with any temporary fittings/valves required), along with the preparation of record drawings shall be included in the cost of the pipe for a complete and functional system. The cost to adjust other utilities (electric, cable, telephone, etc.) if required, and the coordination with that utility, as well as any pipe adapters required shall also be included in the pipe cost.

3. **12-INCH HDPExMJ ADAPTER**: The quantity to be paid under this section shall be per unit as shown on the drawings, complete and accepted.

Payment shall be made at the contract unit price per each required HDPExMJ adapter installed for the size noted.

4. **PLUG VALVES W/ VALVE BOX** (a. 4-inch, b. 6-inch, c. 8-inch, d. 10-inch): The quantity to be paid for under this Section shall be per unit as shown on the drawings, complete and accepted.

Payment shall be made at the Contract unit price and shall include, but not be limited to, furnishing all materials, labor and equipment required to install each type and size of the gate valves required, including the valve box or collar, as noted, for a complete and functional system.

5. **D.I. FITTINGS**: The quantity to be paid for under this Section shall be at the Contract unit price per installed pound of fittings. Fittings installed by the Contractor to suit his schedule, realignment of the main or availability of materials shall not be paid for unless approved by the Engineer in writing.

Payment shall be made at the Contract unit price per pound of fittings installed and shall include, but not be limited to, furnishing all materials, labor, and equipment required to install the fittings, including joint restraint, layout, and any other items

required for a complete and functional system. The use of mechanical restraints (megalugs, bell restraints, tie rods, etc.) shall be included in the unit price of the DI fittings.

6. ARV ASSEMBLY IN 4-FT DIAMETER MANHOLE: The quantity to be paid for under this Section shall be per unit as shown on the drawings, complete and accepted.

Payment shall be made at the Contract unit price and shall include, but not be limited to, furnishing all materials, labor and equipment required to install each type and size of the air release valves required, including the valve manhole and piping, as noted, for a complete and functional system.

7. CONNECTION TO EXISTING MAIN (per location/size noted): The quantity to be paid for under this Section shall be per each connection completed and accepted.

Payment shall be made at the Contract unit price per connection and shall include but not be limited to, furnishing all labor and equipment required to perform the connection to the existing main including soft dig locates and existing main outer diameter verification, coordination with the Owner for shutdowns, trench safety, all temporary caps and plugs as shown on the plans, dewatering if necessary, removal, bagging, and disposal (to an appropriate disposal facility) of any cement asbestos pipe that is cut out to perform the connection work, flushing, cleaning, pigging, pressure testing, grading, coordination with affected utility owners, and any other items required for a complete and functional system. Note that fittings and restoration will be paid for under the respective item.

## 8. MISC. ITEMS

- a. GROUT AND CAP EXISTING 6-INCH A.C. FORCE MAIN IN PLACE: The quantity to be paid for under this Section shall be per linear foot of existing main that is grouted.

Payment shall be made at the Contract unit price per linear foot and shall include, but not be limited to, furnishing all materials, labor, and equipment required to grout fill existing buried main, excavation of any type of material including rock, trench safety, dewatering, pipe cutting and removal as required for grout ports, caps/seals/plugs on existing main, trench backfilling, compaction, density testing, grading, sodding, safety requirements and any other items required for a complete and functional system, including support of existing aboveground and below ground improvements to remain and be protected. Coordination with the Owner, the hauling and legal off-site disposal of debris, and the removal, handling, and delivery of items to be salvaged and returned to the Owner, if required.

- b. GROUT AND CAP EXISTING 10-INCH A.C. FORCE MAIN IN PLACE: The quantity to be paid for under this Section shall be per linear foot of existing main that is grouted.

Payment shall be made at the Contract unit price per linear foot and shall include, but not be limited to, furnishing all materials, labor, and equipment required to grout fill existing buried main, excavation of any type of material including rock, trench safety, dewatering, pipe cutting and removal as required for grout ports, caps/seals/plugs on existing main, trench backfilling, compaction, density testing, grading, sodding, safety requirements and any other items required for a complete and functional system, including support of existing aboveground and below ground improvements to remain and be protected. Coordination with the Owner, the hauling and legal off-site disposal of debris, and the removal, handling, and delivery of items to be salvaged and returned to the Owner, if required.

- c. GROUT AND CAP EXISTING 8-INCH PVC FORCE MAIN IN PLACE: The quantity to be paid for under this Section shall be per linear foot of existing main that is grouted.

Payment shall be made at the Contract unit price per linear foot and shall include, but not be limited to, furnishing all materials, labor, and equipment required to grout fill existing buried main, excavation of any type of material including rock, trench safety, dewatering, pipe cutting and removal as required for grout ports, caps/seals/plugs on existing main, trench backfilling, compaction, density testing, grading, sodding, safety requirements and any other items required for a complete and functional system, including support of existing aboveground and below ground improvements to remain and be protected. Coordination with the Owner, the hauling and legal off-site disposal of debris, and the removal, handling, and delivery of items to be salvaged and returned to the Owner, if required.

- d. MECHANICAL RESTRAINTS ON EXIST. FORCE MAIN: Payment shall be made at the contract lump sum price and shall include, but not be limited to, furnishing all material (bell restraints, tie rods, etc.), excavation/backfill labor and the equipment to restrain the existing main per the restraint table. Restoration shall be paid under the contract restoration item.

- e. ASPHALT ROAD TRENCH RESTORATION: Measurement shall be on a square yardage basis for the installation of new asphalt to the limits shown. Contractor shall confirm with Engineer on limits in the field prior to performing the work. The cost includes all saw cutting, disposal of existing material, grading, compaction, densities, and placement/finishing the new asphalt roadway.

- f. 1-INCH MILL AND RESURFACE W/ SP 9.5: The quantity to be paid for under this Section shall be to the nearest square yard as shown on the drawings, complete and accepted.

Measurement shall be on a square yardage basis for the milling and resurfacing of a minimum of 1-inch at all locations and limits noted on the plans. Contractor shall confirm with Town/County/Engineer on limits in the field prior to performing the work. The cost includes all disposal of existing material, RPM's and placement/finishing the new asphalt roadway. All pavement markings will be paid separately under that item.

- g. PAVER BRICK RESTORATION (REMOVE/REINSTALL): Measurement shall be based upon a square yardage basis for using the existing bricks, to include subbase, gravel, placement, compaction and densities. No separate payment will be made for replacement of any damaged bricks.

- h. THERMO-PLASTIC ROAD STRIPING: The quantity to be paid under this Section shall be per unit as shown on the drawings, complete and accepted.

Payment shall be made for the completed installation of new roadway striping and RPM's per Palm Beach County/Town of Jupiter requirements.

- i. 5FT CONCRETE SIDEWALK REPLACEMENT: The quantity paid for under this Section shall be per square yard of concrete as shown on the drawings, complete and accepted.

Payment shall be made at the Contract unit price per square yard and shall include, but not be limited to, furnishing all labor, materials and equipment necessary to perform restoration, grading, compaction, density testing, concrete placement, verification of existing drainage patterns in accordance with the plans, specifications and Palm Beach County/Town of Jupiter standards for public sidewalks or as equal condition for private sidewalks.

- j. HEADER CURB REPLACEMENT: Payment shall be based upon the linear footage of concrete header curb placed. This item shall include all grading, compaction, formwork and placement of the concrete with flush work.

- k. FLORATAM SOD: The quantity to be paid under this Section shall be per unit as shown on the drawings, complete and accepted.

Measurement shall be based upon the number of square yards of Floratam sod (for the type of sod noted/match existing/or as directed by the Engineer) completed and accepted under the terms of the contract except that the



maximum width to be used in the computation shall be twelve (12) feet. Payment shall include all necessary soil preparation, topsoil, sod (pegged as required) and watering required to establish the sod.

- I. 4-INCH HYMAX COUPLING: Payment shall be made per the complete installation of the 4" HYMAX coupling (STA 8+15) for the transition from PVC to AC pipe. The item includes the coupling and associated installation.

**END OF SECTION**

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## **SECTION 01060**

### **REGULATORY REQUIREMENTS AND NOTIFICATIONS**

#### **PART 1 - GENERAL**

##### **1.01 GENERAL REQUIREMENTS**

- A. Obtain and pay for all permits and licenses as required for construction of the project.
- B. Schedule all inspections and obtain all written approvals of the agencies required by the permits and licenses.
- C. Comply with all conditions specified in each of the permits and licenses.
- D. The Contractor shall keep a copy of all permits and easements complete with conditions, attachments, exhibits, and modifications at the work site and provide copies of the permits to the appropriate subcontractors. The Contractor is responsible for ensuring that the permit conditions are explained to the appropriate construction personnel.

##### **1.02 PERMITS OBTAINED BY OWNER**

The Owner has applied and received the following permits.

- 1. PALM BEACH COUNTY HEALTH DEPARTMENT: The General Permit for Construction a Domestic Wastewater Collection/Transmission System from the Palm Beach County Health Department for the project has been obtained for this project by the Owner. A copy of this permit has been included in Appendix A. All contracts shall conform to the conditions of this permit.
- 2. PALM BEACH COUNTY RIGHT OF WAY DEPARTMENT: The General Utility Permit for the Palm Beach County Right of Way Department has been obtained for this project by the Owner. A copy of this permit has been included in Appendix A. All contracts shall conform to the conditions of this permit.
- 3. TOWN OF JUPITER RIGHT OF WAY DEPARTMENT: The Utilities Permit for the Town of Jupiter Right of Way Department has been obtained for this project by the Owner. A copy of this permit has been included in Appendix A. All contracts shall conform to the conditions of this permit.

### **1.03 PERMITS OBTAINED BY CONTRACTOR**

- A. The Contractor shall prepare and pay for the Notice of Intent (NOI) to use the Generic Permit for Stormwater Discharge from Construction Activity, which will include Stormwater Pollution Prevention Plan (SWPPP)
  - 1. Contractor shall prepare, submit and obtain the appropriate dewatering permits and/or any temporary stormwater discharge permits from the South Florida Water Management District and/or Florida Department of Environmental Protection.

### **1.04 NOTIFICATION**

- A. The Contractor is required to notify the Owner and any applicable permitting agency who requires notification as part of their permit condition within the timeframe stated on the permit. If no time exists, notification shall be a minimum of 48 hours prior to initiating construction.
- B. Utility Companies: Contractor shall notify the Sunshine State One Call of Florida (SSOCF) service at 811, 48 hours prior to digging for direct bury and 10 days prior to digging or initiating construction of underwater construction activities, as required by Florida Statutes Chapter 556 throughout the duration of the construction project.
- C. The Contractor shall give the Engineer not less than seven (7) calendar days notice of the time and place (or places) where he will start the work.

### **1.04 PERMIT CONDITIONS**

- A. Contractor shall comply with and furnish all items necessary to satisfy any general or specific conditions that are a part of the Owner obtained permits.

## **PART 2 – PRODUCTS**

NOT USED

## **PART 3 – EXECUTION**

NOT USED

**END OF SECTION**

## **SECTION 01152**

### **APPLICATIONS FOR PAYMENT**

#### **PART 1 - GENERAL**

##### **1.01 REQUIREMENTS INCLUDED**

- A. Submit Applications for Payment to Engineer in accordance with the schedule established by conditions of the Contract between Owner and Contractor.

##### **1.02 RELATED REQUIREMENTS**

- A. Drawings and terms of the Contract Documents, and Division 1 Specification sections, apply to this section.
- B. Specified in Other Sections:
  - 1. Section 01010: Summary of Work
  - 2. Section 01700: Closeout Procedures

##### **1.03 FORMAT AND DATA REQUIRED**

- A. Submit itemized applications typed in a format approved by Engineer. All applications for payment must be numbered, dated, and signed by the Contractor.
- B. Provide itemized data on payment application (format, schedules, line items and values accepted by Engineer).

##### **1.04 PREPARATION OF APPLICATION FOR EACH PROGRESS PAYMENT**

- A. Application Form:
  - 1. Fill in required information, including that for Change Orders executed prior to the date of submittal of application
  - 2. Fill in summary of dollar values
  - 3. Execute certification with the signature of a responsible officer of the contract firm
  - 4. Have resident project representative review and sign application prior to submission to Engineer

### **1.05 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS**

- A. When the Owner or the Engineer requires substantiating data, Contractor shall submit suitable information, with a cover letter identifying:
  - 1. Project
  - 2. Application number and date
  - 3. Detailed list of enclosures
  - 4. For stored products:
    - a. Item number and identification
    - b. Description of specific material
- B. Submit one copy of data and cover letter for each copy of application.

### **1.06 PREPARATION OF APPLICATION FOR FINAL PAYMENT**

- A. Application for payment is required for progress payments.
- B. Only one application will be acceptable in any one calendar month.

### **1.07 SUBMITTAL PROCEDURE**

- A. Submit Applications for Payment to Engineer at the time stipulated in the Agreement.
- B. Number: Four copies of each progress Application.
- C. When Engineer finds the Application properly completed and correct, he will transmit the applications for payment to the Owner.

### **PART 2 - PRODUCTS**

NOT USED.

### **PART 3 - EXECUTION**

NOT USED

**END OF SECTION**

## **SECTION 01153**

### **CHANGE ORDER PROCEDURES**

#### **PART 1 - GENERAL**

##### **1.01 REQUIREMENTS INCLUDE**

- A. Promptly implement Change Order Procedures
  - 1. Provide full written data required to evaluate changes.
  - 2. Maintain detailed records of work done on a time-and-material/force account basis.
  - 3. Provide full documentation to Engineer on request.
- B. Designate in writing the member of Contractor's organization:
  - 1. Who is authorized to accept changes in the Work
  - 2. Who is responsible for informing others in the Contractor's employ of the authorization of changes in the Work.
- C. Owner will designate in writing the person who is authorized to execute Change Orders.

##### **1.02 RELATED REQUIREMENTS**

- A. The amount of established unit prices.
- B. Drawings and terms of the Contract Documents, and Division 1 Specification sections, apply to this section.
- C. Specified in other Sections.
  - 1. Section 01152: Applications for Payment
  - 2. Section 01300: Submittals
  - 3. Section 01720: Project Record Documents

##### **1.03 PRELIMINARY PROCEDURES**

- A. Owner or Engineer may initiate changes by submitting a proposal Request to Contractor. Request 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. Contractor may initiate changes by submitting a written notice to Engineer, containing:
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 on the work of separate contractors.
  5. Documentation supporting any changes in Contract Sum or Contract Time, as appropriate.

#### **1.04 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 Engineer to evaluate the quotation.
- B. On request, provide additional data to support time and cost computation including the following:
1. Labor required.
  2. Equipment required.
  3. Products required:
    - a. Recommended source of purchase and unit cost.
    - b. Quantities required.
  4. Taxes, insurance bonds.
  5. Credit for work deleted from Contract, similarly documented.
  6. Overhead and profit.
  7. Justification for any change in Contract Time.
- 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 the following additional information:
1. Name of the Owner's authorization agent who ordered the work, and date of the order.
  2. Dates and time work performed, and by whom.
  3. Time record, summary of hours worked, and hourly rates paid.
  4. Receipts and invoices for:
    - a. Equipment used, listing dates and times of use.



- b. Products used, listing quantities.
  - c. Subcontracts.
- D. Document requests for substitutions for products as specified in Section 01600.

#### **1.05 PREPARATION OF CHANGE ORDERS**

- A. Engineer will prepare each Change Order.
- B. Form: Change Order format provided in the Contract Documents.
- C. Change Order will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of change.
- D. Change Order will provide an accounting of the adjustment in the Contract Sum and in the Contract Time.

#### **1.06 LUMP SUM / FIXED PRICE CHANGE ORDER**

- A. Content of Change Orders will be based on either:
  - 1. Engineer's Proposal Request and Contractor's responsible Proposal as mutually agreed upon between Owner and Contractor.
  - 2. Contractor's Proposal for a change, as recommended by Engineer.
- B. Owner and Engineer will sign and date the Change Order as authorization for the Contractor to proceed with the changes.
- C. Contractor shall sign and date the Change Order to indicate agreement with the terms therein.

#### **1.07 UNIT PRICE CHANGE ORDER**

- A. Content of Change Orders will be based on, either:
  - 1. Engineer definition of the scope of the required changes.
  - 2. Contractor's Proposal for a change, as recommended by Engineer.
  - 3. Survey of completed work
- B. The amount of the unit prices shall be:
  - 1. Those stated in the Agreement.
  - 2. Those mutually agreed upon between Owner and Contractor.

- C. When quantities of each of the items affected by the Change Order can be determined prior to start of the work:
  - 1. Owner and Engineer will sign and date the Change Order as authorization for Contractor to proceed with the changes.
  - 2. Contractor shall sign and date the Change Order to indicate agreement with the terms therein.
- D. When quantities of the items cannot be determined prior to start of the Work:
  - 1. Engineer or Owner will issue a Change Order directing 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 Engineer will determine the cost of such work based on the unit prices and quantities used.
  - 3. Contractor shall submit documentation to establish the number of units of each item and any claims for a change in Contract Time.
  - 4. Engineer will sign and date a second Change Order to establish the change in Contract Sum and in Contract Time.
  - 5. Owner and Contractor will sign and date the second Change Order to indicate their agreement with the terms therein.

#### **1.08 CORRELATION WITH CONTRACTOR'S SUBMITTALS**

- A. Contractor shall periodically revise Schedule of Values and Request for Payment forms to record each change as a separate item of Work, and to record the adjusted Contract Sum.
- B. Contractor shall 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.

#### **PART 2 - PRODUCTS** NOT USED

#### **PART 3 - EXECUTION** NOT USED

**END OF SECTION**

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## **SECTION 01300**

### **SUBMITTALS**

#### **PART 1 - GENERAL**

##### **1.01 WORK INCLUDED**

- A. Submit, to the Owner and Engineer as applicable, shop drawings, estimated construction progress schedule, project data and samples required by specification sections.

##### **1.02 RELATED WORK**

- A. Drawings and terms of the Contract Documents, and Division 1 Specification sections, apply to this section.
- B. Specified in other Sections:
  - 1. Section 01010: Summary of Work

##### **1.03 SCHEDULES**

- A. Promptly after award of contract, prepare and submit to the Engineer estimated construction progress schedules for the work, including a separate schedule listing dates for submission and dates reviewed shop drawings, project data and samples will be needed for each product.

##### **1.04 FORM OF SCHEDULES**

- A. Prepare schedules in suitable electronic format. A horizontal bar chart should be used as additional illustration and for revised progress schedules.
  - 1. Provide separate horizontal bar for each trade or operation
  - 2. Horizontal time scale: Identify the first workday of each week.
  - 3. Scale and spacing: To allow space for notations and future revisions.
  - 4. Minimum sheet size: 11" x 17"
- B. Format of listings: The chronological order of the start of each item of work.
- C. Identification of listings: By major specification section numbers.

## **1.05 CONTENT OF SCHEDULES**

- A. Construction Progress Schedule shall:
  - 1. Show the complete sequence of construction by activity.
  - 2. Show the dates for the beginning and completion of each major element of construction; specifically, list:
    - a. Mobilization / Demobilization
    - b. Subcontractor work
    - c. Force Main Construction. Provide specific timelines for expected completion of each project area. Dates of connections and phasing should be included.
    - d. Testing
    - e. Restoration
  - 3. Show projected percentage of completion for each item, as of the first day of each month.
- B. Submittals Schedule for Shop Drawings, Product Data and Samples. Show:
  - 1. The dates for Contractor's submittals.

## **1.06 PROGRESS REVISIONS**

- A. Indicate progress of each activity to date of submission of schedule.
- B. Show changes occurring since previous submission of schedule.
  - 1. Major changes in scope.
  - 2. Activities modified since previous submission.
  - 3. Revised projections of progress and completion.
  - 4. Other identifiable changes.
- C. Provide a narrative report as needed to define:
  - 1. Problem areas, anticipated delays, and the impact on the schedule.
  - 2. Corrective action recommended, and its effect.
  - 3. The effect of changes on schedules of other contractors working in the area.

## **1.07 SUBMISSIONS**

- A. Submit initial schedules within 7 days after award of Contract.

1. Engineer will review schedules with Owner and return review copy within 5 days after receipt.
  2. If required, resubmit within 2 days after return of review copy.
- B. Submit updated progress schedules with each application for payment.

## **1.08 DISTRIBUTION**

- A. Distribute copies of the reviewed schedules to:
1. Job site file.
  2. Subcontractors.
  3. Other concerned parties.
- B. Instruct recipients to report promptly to the Contractor, in writing, any problems anticipated by the projections shown in the schedules.

## **PART 2 - PRODUCTS**

### **2.01 SHOP DRAWINGS**

- A. Original drawings, prepared by Contractor, Subcontractor, Supplier or Distributor, which illustrate some portion of the Work; showing fabrication, layout, setting or erection details including, but not limited to the following:
1. Piping, Valves, Fittings, and Appurtenances
  2. Directional Drill Bore Log
  3. Frac-out Plan
  4. Asphalt Mix Design
  5. Pavement Base Course
  6. Maintenance of Traffic
  7. Concrete Mix Designs (with specific locations), grouts, etc.
  8. Signing and Striping Details
- B. Shop drawings shall be prepared by a qualified detailer.
- C. Identify details by reference to sheet and detail numbers shown on Contract Drawings.

### **2.02 PROJECT DATA**

- A. Manufacturer's standard schematic drawings
1. Modify drawings to delete information which is not applicable to project.

2. Supplement standard information to provide additional information application to project.
- B. Manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations and other standard descriptive data.
1. Clearly mark each copy to identify pertinent materials, products or models.
  2. Show dimensions and clearances required.
  3. Show performance characteristics and capacities.
  4. Show wiring diagrams and controls.

## **2.03 SAMPLES**

- A. Physical examples to illustrate materials, equipment or workmanship, and to establish standards by which completed work is judged.
- B. Office samples of sufficient size and quantity to clearly illustrate:
1. Functional characteristics of product or material, with integrally related parts and attachment devices.
  2. Full range of color samples.

## **2.04 PAY REQUESTS**

- A. Pay Requests shall be made in accordance with the requirements of the Agreement between Owner and Contractor.

## **PART 3 - EXECUTION**

### **3.01 CONTRACTOR RESPONSIBILITIES**

- A. Review Shop Drawings, Project Data and Samples prior to submission. Contractor's approval stamp shall be on each submittal when received by the Engineer. Unstamped submittals will not be reviewed and will be returned as "rejected" to the Contractor.
- B. Verify:
1. Field measurements.
  2. Field construction criteria.
  3. Catalog numbers and similar data.
- C. Coordinate each submittal with requirements of Work and the Contract Documents.

- D. Contractor's responsibility for errors and omissions in submittals is not relieved by Engineer's review of submittals.
- E. Contractor's responsibility for deviations in submittals from requirements of Contract Documents is not relieved by Engineer's review of submittals, unless Engineer gives written acceptance of specific deviations.
- F. Notify Engineer, in writing at the time of submission, of deviations in submittals from requirements of Contract Documents.
- G. Begin no work which requires submittals until return of submittals with Engineer's stamp and initials or signature indicating review.
- H. After Engineer's review, distribute copies.

### **3.02 SUBMISSION REQUIREMENTS**

- A. Schedule submissions at least 14 days before dates reviewed submittals will be needed.
- B. All submittals shall be made electronically.
- C. Accompany submittals with transmittal letter, in duplicate, containing:
  - 1. Date.
  - 2. Project title and number.
  - 3. Contractor's name and address.
  - 4. Notification of deviations from Contract Documents.
  - 5. Other pertinent data.
- D. Submittals must include:
  - 1. Date of submittal and revision dates.
  - 2. Project title and number.
  - 3. The names of:
    - a. Engineer.
    - b. Contractor.
    - c. Subcontractor.
    - d. Supplier.
    - e. Manufacturer.
    - f. Separate detailer when pertinent.
  - 4. Identification of product or material.
  - 5. Relation to adjacent structure or materials.
  - 6. Field dimensions clearly identified as such.



7. Identification of deviations from Contract Documents.
8. Contractor's stamp, initialed or signed, certifying review of submittal, verification of field measurements and compliance with Contract Documents.

### **3.03 RESUBMISSION REQUIREMENTS**

- A. Shop Drawings.
  1. Revise initial drawings as required and resubmit as specified for initial submittal.
  2. Indicate on drawings any changes which have been made other than those requested by Engineer.
- B. Project Data and Samples:
  1. Submit new datum and samples as required for initial submittal.

### **3.04 DISTRIBUTION OF SUBMITTALS AFTER REVIEW**

- A. Distribute copies of Shop Drawings and Project Datum which carry Engineer's stamp, to:
  1. Contractor's file.
  2. Job site file.
  3. Record Documents file.
  4. Other prime contractors.
  5. Subcontractors.
  6. Supplier.
  7. Fabricator.

**END OF SECTION**

## **SECTION 01360**

### **VIDEO MONITORING AND DOCUMENTATION**

#### **PART I      GENERAL**

##### **1.01      PERFORMANCE**

- A. Section generally defines Contractor's responsibilities, unless otherwise noted, for the following:
  - 1. Audio-Video Documentation
  - 2. Equipment
  - 3. Submittals
  - 4. Technique
  - 5. Quality Assurance

##### **1.02      QUALITY ASSURANCE**

- A. Documentation shall be performed by a responsible commercial firm known to be skilled and regularly engaged in the preparation of pre/post-construction color audio-video documentation. All pre and post construction videos are to be completed by a firm with extensive amount of previous experience in producing preconstruction documentation.
- B. Completed documentation shall reproduce bright, sharp pictures with accurate colors and shall be free from distortion, tearing, rolling, or any other significant picture imperfection. The audio portion of the recording shall reproduce the commentary of the camera operator with proper volume and clarity and be free of distortion.
- C. Construction shall not proceed until the Owner and the Engineer have reviewed the documentation and notified the Contractor of its acceptability. Contractor to share video documentation with the Owner and Engineer via cloud-based video sharing services.

#### **PART II      PRODUCTS**

##### **2.01      RECORDING EQUIPMENT**

- A. Utilize color video camera having:

1. Horizontal Resolution of 350 lines at center.
  2. 8:1 Zoom, minimum
- B. Utilize digital format recorder having:
1. Minimum horizontal resolution of 540 lines, 60 fields.

## **2.02 RECORDING MEDIA**

- A. Digital video files to be uploaded and shared via cloud-based video sharing services.

## **PART III EXECUTION**

### **3.01 COVERAGE**

- A. Record coverage of all surface features located in the construction's zone of influence (including the proposed storages area(s)) including, but not limited to:
1. Roadways, driveways, sidewalks, backyard easements
  2. Homes, landscaping, walls, gates, decorative concrete structures, parking lots, pavement, future easement areas
  3. Drainage structures, above grade utilities, drainage swales, canals.
  4. Landscaping, trees, shrubbery, fences, irrigation heads, meters.
  5. Backyard existing pole locations in demolition areas and house meter/franchise utility connection locations. All video work on private property must be closely coordinated with the County and homeowner.
- B. Record individual features of each item with particular attention being focused upon the existence of any faults, fractures, or defects.
- C. Control pan rate, rate of travel, camera height, and zoom rate to maintain a steady clear view at all times.
- D. Optical image stabilization shall be utilized in order to provide a smooth, clear view at all times.
- E. Limit recorded coverage to one side of any street at any one time.

### **3.02 AUDIO CONTENT**

- A. Simultaneously record audio content during videotaping.
- B. Audio recording shall assist in viewer orientation and in any needed identification, clarification, or description of features being recorded.
- C. Audio recording will only consist of camera operator commentary.

### **3.03 INDEXING**

- A. Permanently label each tape with a sequential tape number and the project name.
- B. Index each DVD with a digital record of the time and date of the recording that is continuously displayed as the DVD is played.
- C. Prepare a written log which describes the contents of each DVD including:
  - 1. Structure/location names.
  - 2. Coverage begin/end, station and location.
  - 3. Recording date.

### **3.04 CONDITIONS**

- A. Record coverage during dry, clear weather and during daylight hours only.
- B. Record coverage when the area to be covered is free of debris or obstructions.

**END OF SECTION**

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## **SECTION 01410**

### **TESTING LABORATORY SERVICES**

#### **PART 1 - GENERAL**

##### **1.01 REQUIREMENTS INCLUDED**

- A. The Contractor will employ and pay for the services of an independent testing laboratory to perform certain specified testing. All testing described in the Contract Documents shall be paid for by the Contractor.
- B. The Owner may employ and pay for the services of an independent testing laboratory to perform certain specified testing in addition to what is called for in the Contract Documents.
  - 1. The Contractor shall cooperate with the laboratory to facilitate the execution of its required services.
  - 2. Employment of a laboratory by the Owner shall in no way relieve Contractor's obligations to perform the work of the Contract.
- C. Inspection, Sampling and Testing is required for:
  - 1. Densities and Proctors (for soil compaction)
  - 2. Bacteriological Clearance
  - 3. Concrete Strength
  - 4. Any water quality monitoring as required by the project permits
  - 5. Other operations specified in these specifications or as required by the Engineer or Owner.

##### **1.02 RELATED REQUIREMENTS**

- A. Drawings and terms of the Contract Documents, and Division 1 Specification sections, apply to this section.
- B. Inspections and testing required by laws, ordinances, rules, regulations, orders or approvals of public authorities.

##### **1.03 QUALIFICATION OF LABORATORY**

- A. Meet "Recommended Requirements for Independent Laboratory Qualification," published by American Council of Independent Laboratories.

- B. Meet basic requirements of ASTM E329, "Standards of Recommended Practice for Inspection and Testing Agencies for Concrete and Steel as Used in Construction."
- C. Authorized to operate in the County, and State in which the Project is located.
- D. Submit copy of report of inspection of facilities made by Materials Reference Laboratory of National Bureau of Standards during the most recent tour of inspection, with memorandum of remedies of any deficiencies reported by the inspection.
- E. Testing Equipment:
  - 1. Calibrated at reasonable intervals by devices of accuracy traceable to either:
    - a. National Bureau of Standards
    - b. Accepted values of national physical constants.

#### **1.04 LABORATORY DUTIES**

- A. Cooperate with Engineer and Contractor; provide qualified personnel after due notice.
- B. Perform specified inspections, sampling, and testing of materials and methods of construction:
  - 1. Comply with specified standards
  - 2. Ascertain compliance of materials with requirements of Contract Documents.
- C. Promptly notify Engineer and Contractor of observed irregularities or deficiencies of work or products.
- D. Promptly submit written report of each test and inspection; one copy each to Engineer, Owner, and Contractor, and one copy to Record Documents File. Each report shall include:
  - 1. Date issued
  - 2. Project title and number
  - 3. Testing laboratory name, address, and telephone number
  - 4. Name and signature of laboratory inspector
  - 5. Date and time of sampling or inspection
  - 6. Record of temperature and weather conditions
  - 7. Date of test

8. Identification of product and specification section
9. Location of sample or test in the Project
10. Type of inspection or test
11. Results of tests and compliance with Contract Documents
12. Interpretation of test results, when requested by Engineer

E. Perform additional tests as required by Engineer or the Owner

## **1.05 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY**

A. Laboratory is not authorized to:

1. Release, revoke, alter, or enlarge on requirements of Contract Documents
2. Approve or accept any portion of the work
3. Perform any duties of the Contractor

## **1.06 CONTRACTOR'S RESPONSIBILITIES**

- A. Cooperate with laboratory personnel and provide access to work and to manufacturer's facilities.
- 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 proposed to be used for concrete, and other material mixes which require control by the testing laboratory.
- D. Provide to the laboratory a representative proctor sample of the materials to be used for backfilling throughout the project.
- E. Furnish copies of product test reports as required.
- F. Furnish incidental labor and facilities:
1. To provide access to work to be tested
  2. To obtain and handle samples at the project site or at the source of the product to be tested
  3. To facilitate inspections and tests
  4. For storage and curing of test samples
- G. Notify laboratory, in advance of operations to allow for laboratory assignments of personnel and scheduling of tests.



- H. Pay for services of the Testing Laboratory to perform additional inspections, sampling and testing required:
1. For Contractor's convenience.
  2. When initial tests indicate Work does not comply with Contract Documents.

Such payment shall be made directly by the Contractor.

- I. Contractor will be responsible for payment for all failing tests.

**PART 2 - PRODUCTS**

NOT USED

**PART 3 - EXECUTION**

NOT USED

**END OF SECTION**

## **SECTION 01510**

### **TEMPORARY UTILITIES**

#### **PART 1 - GENERAL**

##### **1.01 REQUIREMENTS INCLUDED**

- A. Furnish, install, and maintain temporary utilities required for construction; remove on completion of entire project.
- B. Provide temperature, ventilation, and lighting requirements, if applicable, as specified in each individual section.

##### **1.02 RELATED REQUIREMENTS**

- A. Drawings and terms of the Contract Documents, and Division 1 Specification sections, apply to this section.
- B. Specified in other Sections:
  - 1. Section 01010: Summary of Work

##### **1.03 REQUIREMENTS OF REGULATORY AGENCIES**

- A. Comply with National Electric Code.
- B. Comply with federal, state, and local codes and regulations, and with utility company requirements.

#### **PART 2 - PRODUCTS**

##### **2.01 MATERIALS (GENERAL)**

- A. Materials may be new or used but must be adequate in capacity for the required usage. They MUST NOT create unsafe conditions and MUST NOT violate requirements of applicable codes and standards.

##### **2.02 TEMPORARY ELECTRICITY AND LIGHTING**

- A. The Contractor must maintain power to all existing buildings, pump stations, businesses, residences, and other related areas.
- B. The Contractor is responsible for providing and paying for all power required for his operations. The Contractor shall make arrangements with The Owner for temporary power.

- C. The Contractor is responsible for arranging power for his office trailers(s), power tools, etc., at his own expense. The Contractor shall pay the costs of all power used.
- D. Provide Power Centers for miscellaneous tools and equipment used in the work:
  - 1. Weatherproof distribution box with minimum of four 20-amp., 120-volt grounded outlets.
  - 2. Locate so that power is available at any point of use with minimum 100-foot Construction-Type power cords.
  - 3. Provide circuit breaker protection for each outlet.
- E. Provide adequate artificial lighting for all areas of work, when natural light is not adequate for work, and for areas accessible to persons other than Contractor's employees.
- F. If Contractor requires service other than specified above, he shall arrange for, provide maintenance, and pay all costs incurred.

## **2.03 TEMPORARY WATER**

- A. Construction water will be paid for by the Contractor. In an event that damage to these facilities occurs, the Contractor will be responsible for all costs associated with their replacement by the Owner's standard rate.

## **2.04 TEMPORARY SANITARY FACILITIES**

- A. The Contractor shall provide temporary sanitary facilities in compliance with laws and regulations. Location of such facilities will be subject to the approval of the Owner as applicable. Existing Owner facilities are not available for use by the Contractor.
- B. The Contractor shall provide for regular service, cleaning, and maintenance of temporary facilities and enclosures.

## **PART 3 - EXECUTION**

### **3.01 GENERAL**

- A. Maintain and operate systems to ensure continuous service.

### **3.02 REMOVAL**

- A. Completely remove temporary materials and equipment when their use is no longer required.
- B. Clean and repair damage caused by temporary installations or use of temporary facilities.
- C. Restore existing facilities used for temporary services to specified, or to original, condition.

**END OF SECTION**

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## **SECTION 01560**

### **TEMPORARY CONTROLS**

#### **PART 1 - GENERAL**

##### **1.01 REQUIREMENTS INCLUDED**

- A. Furnish, install, and maintain temporary control facilities required for construction; remove on completion of entire project any features not intended to remain on the project site.
- B. Provide noise control, dust control, water control, debris control, pollution control and erosion control as specified in the appropriate sections of these documents.

##### **1.02 REQUIREMENTS OF REGULATORY AGENCIES**

- A. Comply with federal, state, and local codes and regulations and utility company requirements.
- B. Comply with the requirements of all permits and easements issued by the Palm Beach County, Town of Jupiter, the Owner, and any other agencies that have issued permits for the project.

##### **1.03 RELATED REQUIREMENTS**

- A. Drawings and terms of the Contract Documents, and Division 1 Specification sections, apply to this section.

#### **PART 2 - PRODUCTS**

##### **2.01 MATERIALS (GENERAL)**

- A. Materials may be new or used but must be adequate in capacity and quality for the required usage, MUST NOT create unsafe conditions and MUST NOT violate requirements of applicable codes and standards.

##### **2.02 TEMPORARY NOISE CONTROL**

- A. Mechanical equipment shall be fitted with mufflers to reduce noise from internal combustion type engines.
- B. Bells, sirens, alarms, etc., shall be adjusted to provide adequate warnings to personnel on the project site; however, they shall be regulated to an intensity that is amenable to the neighboring communities and within applicable limitations stated within level code of ordinance.

- C. Exterior construction work noises shall be kept to a minimum during evening, night, and early morning hours.
- D. In addition to on-site control, noise considerations shall be made to off-site vehicles and equipment (mobilization, demobilization, deliveries, etc.).

### **2.03 TEMPORARY DUST CONTROL**

- A. Dust formed as a result of the construction shall be controlled by the Contractor. Cleaning of work areas and application of dust control materials are the most effective methods of dust control. Contractor shall adhere to the methods indicated in the Stormwater Pollution Prevention Plan (SWPPP) prepared by the Contractor.

### **2.04 TEMPORARY WATER CONTROL**

- A. The flow of water through the construction site shall be controlled by the Contractor such that it does not damage any constructed items; however, it shall be diverted and channeled to effectively leave the site as soon as possible. Puddling and ponding on the site is not permitted.
- B. Water shall be controlled such that it does not enter excavated areas, nor is deposited on or against constructed features.

### **2.05 TEMPORARY DEBRIS CONTROL**

- A. Provision shall be made by each Contractor to have available and adequate containers to hold any and all debris that is generated from the project. Containers should be covered to prevent wind blowing paper, plastic, and lightweight products around and off the site.
- B. Provide acceptable containers for deposit of debris and waste. Instructions shall be given to personnel to utilize the trash containers. Containers shall be placed in convenient places at the site.
- C. At least once per week, a thorough cleaning of trash and debris shall be made at the construction site. An acceptable method of disposal shall be employed.
- D. Maintain all areas under the Contractor's control free of extraneous debris, garbage and waste matter.
- E. Initiate and maintain a specific program to prevent accumulation of debris at the construction site, storage and parking areas, or along access roads and haul routes.

F. Prohibit overloading of trucks to prevent spillage on access and haul roads.

G. Provide periodic inspection of traffic areas to enforce requirements.

## **2.06 POLLUTION CONTROL**

A. Provide methods, means and facilities required to prevent contamination of soil, water or air by the discharge of noxious substances from construction operations.

B. Immediately remove and properly dispose of all contaminated materials upon discovery of spillage of noxious substances.

C. Take special precautions to prevent harmful substances from entering public waters.

D. Provide systems for control of atmospheric pollutants and prevent toxic concentrations of chemicals.

## **2.07 EROSION CONTROL**

A. Abide by the Erosion Control Plan on the Drawings and described in the SWPPP submitted as part of the FDEP Notice of Intent.

B. Plan and execute construction and earthwork by methods to control surface drainage from cuts and fills and from borrow and waste disposal areas to prevent erosion and sedimentation.

C. Hold areas of bare soil exposed at one time to a minimum and provide temporary control measures such as berms, dikes and drains.

D. Construct fills and waste areas by selective placement to eliminate surface silts and clays which erode.

## **PART 3 - EXECUTION**

### **3.01 GENERAL**

A. Comply with all applicable requirements of local building codes.

B. Maintain and operate systems to assure continuous service.

C. Modify and extend systems as work progress requires.



- D. Preserve from damage all property along the line of work or which is in the vicinity of or is in any way affected by the Work. Wherever such property is damaged due to the activities of the Contractor, it shall be immediately restored to its original condition by the Contractor at no cost to the Owner.

### **3.02 INSPECTIONS**

- A. Prior to placing temporary facilities into service, inspect and test each service and arrange for inspections and tests by governing authorities and obtain required certifications and permits for use thereof.

### **3.03 REMOVAL**

- A. Completely remove temporary materials and equipment when their use is no longer required.
- B. Clean and repair damage caused by temporary installations or use of temporary facilities.
- C. Restore permanent facilities used for temporary services to specified conditions.

**END OF SECTION**

## **SECTION 01561**

### **PROTECTION OF EXISTING FACILITIES**

#### **PART 1 - GENERAL**

##### **1.01 GENERAL**

- 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 they were prior to such damage or temporary relocation, all in accordance with requirements of the Contract Documents.
- B. The Contractor shall verify the exact locations and depths of all utilities shown and the Contractor shall make exploratory excavations of all utilities that may interfere with the work. All such exploratory excavations shall be performed as soon as practicable after award of the contract and, in any event, a sufficient time in advance of construction to avoid possible delays to the Contractor's Work. When such exploratory excavations show the utility location as shown to be in error, the Contractor shall so notify the Engineer.
- C. The number of exploratory excavations required shall be that number which is sufficient to determine the alignment and grade of the utility.

##### **1.02 RIGHTS-OF-WAY**

- A. The Contractor shall not do any work that would affect any oil, gas, sewer, or water pipeline; any telephone, telegraph, 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. 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. 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. When the territory of one contract is the necessary or convenient means of access for the execution of another contract, such privilege of 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. 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 delay or damage, except as provided for temporary suspension of the Work in the General Conditions of the Contract.

### **1.03 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. 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. All survey markers or points disturbed by the Contractor shall be accurately restored after all street or roadway resurfacing has been completed.

### **1.04 RESTORATION OF PAVEMENT/SIDEWALKS**

- A. General: All paved areas including asphaltic concrete berms cut or damaged during construction shall be replaced with similar materials and 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. All temporary and permanent pavement shall conform to the requirements of the affected pavement Owner. All pavements which are subject to partial removal shall be neatly saw cut in straight lines.
- B. Temporary Resurfacing: Wherever required by the public authorities having jurisdiction, the Contractor shall place temporary surfacing promptly after backfilling and shall maintain such surfacing for the period of time fixed by said authorities before proceeding with the final restoration of improvements.
- C. Permanent Resurfacing: 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.

### **1.05 EXISTING UTILITIES AND IMPROVEMENTS**

- A. General: The Contractor shall protect all Underground Utilities and other improvements which may be impaired during construction operations. It shall be the Contractor's responsibility to ascertain the actual location of all existing utilities and other improvements that will be encountered in construction operations, and to see that such utilities or other improvements are adequately protected from damage due to such operations. 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 necessary.

- B. Utilities to be Moved: In case it shall 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 Contractor to move such property within a specified reasonable time. 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. Where the proper completion of the work requires the temporary or permanent removal and/or relocation of an existing utility or other improvement which is indicated, the Contractor shall, at the Contractor's expense, 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. In all cases of such temporary removal or relocation, restoration to 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: The right is reserved to the Owner and to the providers 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: 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 damaged, shall be immediately repaired or replaced by the Contractor.
- F. Underground Utilities Not Indicated: In the event that the Contractor damages any existing utility lines that are not indicated or the locations of which are not made known to the Contractor by Florida One Call prior to excavation, a written report thereof shall be made immediately to the Engineer. 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 of the Contract. The Contractor shall be responsible for all repair or relocation costs for any failure by the Contractor to contact appropriate utilities for locations prior to digging.
- G. Approval of Repairs: All repairs to a damaged utility or improvement are

subject to inspection and approval by an authorized representative of the utility or improvement Owner and the Engineer before being concealed by backfill or other work.

- H. Maintaining in Service: All oil and gasoline pipelines, power, and telephone or the communication cable ducts, gas and water mains, irrigation lines, sewer lines, storm drain lines, 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 of said pipelines, duct, main, irrigation line, sewer, storm drain, pole, or wire or cable. 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.
- I. Existing Water Services: Contractor shall protect and provide temporary support for existing water services. Any water service damaged by the Contractor, shall be replaced at the Contractor's expense, with a new water service complete with new water main tap.

#### **1.06 TREES WITHIN STREET RIGHTS-OF-WAY AND PROJECT LIMITS**

- A. General: The Contractor shall exercise all necessary precautions so as not to damage or destroy any trees or shrubs, including those lying within street rights-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. 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 the Owner. Tree trimming and replacement shall be accomplished in accordance with the following paragraphs. All trees to remain in right-of-way shall be protected and fenced with orange barricade fencing.
- B. Trimming: Symmetry of the tree shall be preserved; no stubs or splits or branches left; clean cuts shall be made close to the trunk or large branch. Spikes shall not be used for climbing live trees. All cuts over 1-1/2 inches in diameter shall be coated with an asphaltic emulsion material.
- C. Replacement: The Contractor shall immediately notify the jurisdictional agency and/or the Owner if any tree is damaged by the Contractor's operations. 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. 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 Owner. The size of the trees shall be not less than 1-inch diameter nor less than 6-feet in height.

## **1.07 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 3-days nor more than 7-days prior to excavation so that a representative of said Owners or agencies can be present during such work if they so desire. The Contractor shall also contact 811 at least 2 business days, but no more than 14 days, prior to such excavation.

## **PART 2 - PRODUCTS**

### **2.01 MATERIALS, GENERAL**

- A. Materials may be new or used, suitable for the intended purpose, but must not violate requirements of applicable codes and standards.

### **2.02 FENCING**

- A. Materials to Contractor's option, fence height should match existing.

### **2.03 BARRIERS**

- A. Materials to Contractor's option, as appropriate to serve required purpose.

## **PART 3 - EXECUTION**

### **3.01 GENERAL**

- A. Install facilities of a neat and reasonable uniform appearance, structurally adequate for required purposes.
- B. Maintain barriers during entire construction period.
- C. Relocate barriers as required by progress of construction.

### **3.02 TREE AND PLANT PROTECTION**

- A. Preserve and protect existing trees and plants adjacent to work areas.
- B. Consult with Owner's Representative and remove agreed-upon roots and

branches which interfere with the Work:

1. Employ qualified tree surgeon to remove branches, and to treat cuts.

C. Protect root zones of trees and plants:

1. Do not allow vehicular traffic and parking.
2. Do not store materials or products.
3. Prevent dumping of refuse or chemically injurious materials or liquids.
4. Prevent puddling or continuous running water.

D. Carefully supervise all work to prevent damage.

E. Replace trees and plants which are damaged or destroyed due to work operations under this contract.

### **3.03 REMOVAL**

- A. Completely remove barricades, including foundations, when construction has progressed to the point that they are no longer needed, and when approved by Owner's representative.
- B. Clean and repair damage caused by installation, fill and grade areas of the site to required elevations and slopes, and clean the area.

**END OF SECTION**

## **SECTION 01600**

### **MATERIAL AND EQUIPMENT**

#### **PART 1 - GENERAL**

##### **1.01 REQUIREMENTS INCLUDED**

- A. Products
- B. Workmanship
- C. Manufacturer's Instructions
- D. Transportation and Handling
- E. Storage and Protection
- F. Substitutions and Product Options

##### **1.02 RELATED REQUIREMENTS**

- A. Drawings and terms of the Contract Documents, and Division 1 Specification sections, apply to this section.
- B. Specified in other Sections:
  - 1. Section 01010: Summary of Work
  - 2. Section 01300: Submittals

##### **1.03 PRODUCTS**

- A. Products include materials, products, equipment and systems.
- B. Comply with specifications and referenced standards as minimum.
- C. DO NOT provide used materials and products, except as specifically allowed by notation or indication in Contract Documents.

##### **1.04 WORKMANSHIP**

- A. Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.



- B. Perform work by persons qualified to produce workmanship of specified quality.
- C. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, and rocking.

#### **1.05 MANUFACTURER'S INSTRUCTIONS**

- A. When Work is specified to comply with manufacturer's printed instructions, obtain and distribute copies to persons involved, and maintain one set at job site in field office.
- B. Perform work in accordance with manufacturer's instructions and specified requirements.
- C. Should a conflict exist between Specifications and manufacturer's instructions, consult with Engineer.

#### **1.06 TRANSPORTATION AND HANDLING**

- A. Arrange deliveries of products in accordance with construction schedules; coordinate to avoid delay of progress, conflict with work and with conditions at the site.
- B. Transport products by methods to avoid product damage; deliver dry in an undamaged condition in manufacturer's unopened containers or packaging.
- C. Provide equipment and personnel to handle product by methods to prevent soiling or damage.
- D. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.

#### **1.07 STORAGE AND PROTECTION**

- A. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible.
- B. Store sensitive products in weather-tight enclosures; maintain within temperatures and humidity ranges recommended/required by manufacturer's instructions. PVC pipe shall not be stored in a place where it can be exposed to ultraviolet light.

- C. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with impervious sheet covering; provide ventilation to avoid condensation.
- D. Store loose granular materials on solid surfaces in a well-drained area; prevent mixing with foreign matter.
- E. Arrange storage to provide access for inspection. Periodically inspect to assure products are undamaged and are maintained under required conditions.
- F. After installation, provide coverings to protect products from damage of traffic and construction operations and remove when no longer needed.

#### **1.08 PRODUCT OPTIONS**

- A. Within 30 days after date of Contract, submit complete list of major products proposed, with name of manufacturer, trade name and model.
- B. Options:
  - 1. Products specified only by reference standard: Any product meeting that standard.
  - 2. Product specified by naming several manufacturers: Product of any named manufacturer meeting specifications.
  - 3. Products specified by naming one or more manufacturers and "or equivalent": Submit a request for substitution for any manufacturer not specifically named. See bid documents for specific instructions regarding substitution requests.

#### **1.09 SUBSTITUTIONS**

- A. Substitutions will be considered during the bidding process. See the instructions to bidders for more information on how to propose a substitution. Subsequent to the bidding process, substitutions will be considered only when a product becomes unavailable due to no fault of the Contractor.
- B. Document each request with five sets (5) of complete data, drawings and samples as appropriate, substantiating compliance of proposed substitution with Contract Documents including:
  - 1. General information about the proposed substitution:
    - a. For Products:
      - 1) Product identification, including manufacturer's name and address.

- 2) Manufacturers' literature:
        - a) Product description.
        - b) Performance and test data.
        - c) Reference standards.
      - 3) Samples
      - 4) Name and address of similar projects on which product was used, and date of installation.
    - b. For construction methods:
      - 1) Detailed description of proposed method.
      - 2) Drawings illustrating methods.
  - 2. Comparison of the qualities of the proposed substitution with the specified.
  - 3. Changes required in other elements of the work because of the substitution.
  - 4. Effect on the construction schedule.
  - 5. Cost data comparing the proposed substitution with the product specified.
  - 6. Any required license fees or royalties
  - 7. Availability of maintenance service, and the source replacement materials.
- C. Request constitutes a representation that Contractor:
- 1. Has investigated proposed product and determined that it meets or exceeds, in all respects, specified product.
  - 2. Will provide the same warranty for substitution as for specified product.
  - 3. Will coordinate installation and make other changes which may be required for work to be complete in all respects.
  - 4. Waives claims for additional costs which may subsequently become apparent.
- D. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals without separate written request, or when acceptance will require significant revision of the Contract Documents.
- E. Engineer will review to determine acceptability of proposed substitution and will notify Contractor of acceptance or rejection in writing within a reasonable time.

## **PART 2 - PRODUCTS**

NOT USED

**PART 3 - EXECUTION**

NOT USED

**END OF SECTION**

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## **SECTION 01700**

### **CLOSEOUT PROCEDURES**

#### **PART I      GENERAL**

##### **1.01      DESCRIPTION**

- A. Comply with requirements stated in the Agreement between Owner and Contractor and in Specifications for administrative procedures in closing out the Work.

##### **1.02      RELATED REQUIREMENTS SPECIFIED ELSEWHERE**

- A. Section 01720 - Project Record Documents

##### **1.03      SUBSTANTIAL COMPLETION**

- A. Substantial completion shall be defined as beneficial use of the replaced force main and the accepted restoration of the construction site.
- B. When Contractor considers the Work to be substantially complete, Contractor shall submit to Engineer:
  - 1. A written notice that the Work or designated portion thereof, is substantially complete.
- C. Within a reasonable time after receipt of such notice, Engineer will perform a field investigation to determine the status of completion.
- D. Should Engineer determine that the Work is not substantially complete:
  - 1. Engineer will promptly notify the Contractor in writing, giving the reasons therefore.
  - 2. Contractor shall remedy the deficiencies in the Work and send a second written notice of substantial completion to the Engineer.
  - 3. Engineer will reinvestigate the Work.
- E. When the Engineer finds that the Work is substantially complete, he will:
  - 1. Prepare and deliver to Owner a tentative Certificate of Substantial Completion with a tentative list of items to be completed or corrected before final payment.

2. After consideration of any objections made by the Owner and when Engineer considers the Work substantially complete, he will execute and deliver to the Owner and the Contractor a definite Certificate of Substantial Completion with a revised tentative list of items to be completed or corrected.

#### **1.04 FINAL SITE REVIEWS**

- A. When Contractor considers Work to be complete, he shall submit written certification that:
  1. Contract Documents have been reviewed.
  2. Work has been investigated for compliance with Contract Documents.
  3. Work has been completed in accordance with Contract Documents.
  4. Equipment and systems have been tested in the presence of the Owner's representative and are operational.
  5. Work is completed and ready for Final Investigation.
- B. Engineer will perform a field investigation to verify the status of completion with reasonable promptness after receipt of such certification.
- C. Should Engineer consider that the Work is incomplete or defective:
  1. Engineer will promptly notify the Contractor in writing, listing the incomplete or defective work.
  2. Contractor shall take immediate steps to remedy the stated deficiencies and send a second written certification to Engineer that the Work is complete.
  3. Engineer will reinvestigate the Work.

When the Engineer finds that the Work is acceptable under the Contract Documents, he shall request the Contractor to make closeout submittals.

#### **1.05 CONTRACTOR'S CLOSEOUT SUBMITTALS TO ENGINEER**

- A. Project Record Drawings to the requirements specified.
- B. Operating and Maintenance Manuals to the requirements specified.
- C. Contractor's affidavit of payment of debts and claims.

1. Contractor's release or waiver of liens.
- D. Separate releases or waivers of liens for subcontractors, suppliers, and others with lien rights against property of Owner, together with list of those parties.

#### **1.06 FINAL ADJUSTMENTS OF ACCOUNTS**

- A. Submit a final statement of accounting to Engineer.
- B. Statement shall reflect all adjustments to the Contract Sum:
1. The original Contract Sum.
  2. Additions and deductions resulting from:
    - a. Previous Change Orders.
    - b. Allowances.
    - c. Unit Prices.
    - d. Deductions for uncorrected Work.
    - e. Deductions for liquidated damages.
    - f. Deductions for re-inspection payments.
    - g. Other adjustments.
  3. Total Contract Sum, as adjusted.
  4. Previous payments.
  5. Sum remaining due.
- C. Engineer will prepare a final Change Order reflecting approved adjustments to the Contract Sum which was not previously made by Change Orders.

#### **1.07 FINAL APPLICATION FOR PAYMENT**

- A. Contractor shall submit the final Application for Payment in accordance with procedures and requirements stated in the Condition of the Contract.

#### **1.08 FINAL CERTIFICATE FOR PAYMENT**

- A. Engineer will issue final certificate in accordance with provisions of the Contract Documents.



## **1.09 POST-CONSTRUCTION INSPECTION**

- A. Prior to expiration of one year from Date of Substantial Completion, Owner will make visual field investigation of Project in company with the Contractor to determine whether correction of Work is required, in accordance with provisions of the Contract Documents.
- B. The maintenance bond will be released upon satisfactory final inspection.
- C. For Guarantees beyond one year, Engineer will make field investigations at request of Owner after notification to Contractor.
- D. Engineer will promptly notify Contractor, in writing, of any observed deficiencies.

## **PART II PRODUCTS**

Not used.

## **PART III EXECUTION**

Not used.

**END OF SECTION**

## **SECTION 01720**

### **PROJECT RECORD DOCUMENTS**

#### **PART 1 - GENERAL**

##### **1.01 REQUIREMENTS INCLUDED**

- A. The Contractor shall maintain at the site for the Owner one (1) record copy of the following:
  - 1. Drawings
  - 2. Specifications
  - 3. Addenda
  - 4. Change orders and other modifications to the Contract
  - 5. Engineer field orders or written instructions
  - 6. Approved shop drawings, product data, and samples
  - 7. Field test records
- B. Drawings and terms of the Contract Documents, and Division 1 Specification sections, apply to this section.
- C. Owner standards
- D. Specified in other Sections:
  - 1. Section 01300: Submittals
  - 2. Section 01700: Closeout Procedures

##### **1.02 MAINTENANCE OF DOCUMENTS AND SAMPLES**

- A. The Contractor shall store documents and samples in the field office apart from documents used for construction.
  - 1. Provide files and racks for storage of documents.
  - 2. Provide locked cabinet or secure storage space for storage of samples.
- B. File documents and samples in accordance with Specifications – Table of Contents.
- C. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.

- D. Make documents and samples available at all times for inspection by Engineer and Owner. Record drawing information shall be maintained concurrently with Pay Requests.

### **1.03 MARKING DEVICES**

- A. Provide felt tip marking pens for recording information in the color red.

### **1.04 RECORDING (SEE ALSO GENERAL CONDITIONS AND TERMS)**

- A. The Contractor shall provide record drawings for all pay applications, partial releases and final release submittals. With each submittal provide survey data, signed and sealed by the Contractor's Surveyor, to support elevation information depicted on the record drawings.
- B. Label each document "PROJECT RECORD" in neat large, printed letters.
- C. Record information concurrently with construction progress. DO NOT conceal or backfill any work until required information is recorded.
- D. Drawings-General: The Record Drawings shall correctly and accurately be drawn to record actual construction. Legibly mark to record actual construction:
  - 1. Horizontal location of pipes and other improvements shall be provided any time the pipe passes a permanent surface reference point. Permanent surface reference points must be permanent structures manholes, catch basins, concrete sidewalk or concrete curbs. Edge of pavement and road intersections may not be used without the Engineer's approval. Any deviations from the alignment shown on the drawings must be noted.
  - 2. Existing utilities that are not shown on the plans that are found in the field are to be noted and recorded on the record drawings. Actual locations of all utilities including water service and sanitary laterals shall be noted and recorded on the record drawings.
    - a. Field changes of dimension and detail
    - b. Drainage and Control Structure inverts and weir elevations. Roadway, sidewalk, planters, parking area, and site perimeter elevations
    - c. Sanitary manhole rim and invert elevations
    - d. Changes made by Work Change Directives or by Change Order
    - e. Details not on original Contract Drawings
    - f. Limits of work including temporary storage equipment area
    - g. All information required by the Owner Standards

E. Drawings – General Requirements for Pressure Mains. Record Drawings shall legibly and accurately depict record of actual construction and showing the following, as a minimum:

1. Material used to construct mains
2. Location and top of pipe elevation of all fittings, including sleeves, and valves by stationing and offsets
3. Top of pipe elevation at every 50 feet and at every change of direction
4. Length of restrained pipe
5. All elevations and horizontal control of all storm sewer, gravity sewers including laterals, fittings and clean outs, electric cables, television cables, telephone cables, force mains and water mains which are crossed or exposed
6. Locations and elevations as required to define major horizontal/vertical pipe deflections/conflicts. Data shall include beginning and end of deflection/conflicts, all changes in elevations and alignment and the location and elevation of subject conflict item.
7. Location and elevation of all connections to existing systems
8. Locations and elevations as required to describe all other improvements

F. Drawings – Specific Requirements for Pressure Mains

1. General - FOR ALL LAYERS:

- a. All references to "proposed" and "plan" are to be removed from the Final Record Drawings
- b. All lines, structures, and other items that are relocated will be removed and shown in the proper location (handwritten notes and "x"ing out will not be allowed)
- c. All record drawings will be signed and sealed by Certified Land Surveyor or Professional Engineer licensed to practice in the State of Florida. If certified by a Surveyor, P.E. will sign off stating that the record drawings were checked by the Engineer, verifying that they inspected the work
- d. Clearly mark existing infrastructure which is to remain.
- e. Clearly mark existing infrastructure which has been abandoned, and how it was abandoned.
- f. Station, length, width and depth of flowable fill used.
- g. Record Drawings shall not be greater than 1" - 30' in scale
- h. All Detail sheets shall be included with each record drawing

- i. Location by station and elevation, width, depth and length of flowable fill used for all uses.
- j. Supply all surveys of the project and or property.

2. Utility Pipelines - TO BE SHOWN ON ONE LAYER:

Utility Record Drawings shall conform with the requirements of the Owner. Records shall include locations (horizontal and vertical) of all pipelines, structures, fittings, valves, and appurtenances and all water/utility crossings (including sanitary laterals) for proposed mains in accordance with Owner and FDEP. Force main record drawings shall include at a minimum:

- a. Pressure class and material of proposed pipe
- b. Top of Pipe elevations and horizontal location every 100 feet
- c. Locations and elevation of all fittings including bends, tees, gate valves, double detector check valves, fire hydrants, etc. All tie-ins to existing lines shall be as built
- d. Water meter locations (with stations/offsets)
- e. The ends of all proposed water service at the buildings or homes shall be as built or where the water service terminates
- f. Limits of restrained joints on proposed and existing main
- g. Locations of joint deflections
- h. Thrust block locations and size
- i. HDD as built, refer to Section 02320, 3.11(C.4)

3. Water/Sanitary/Storm Pipe Crossings and Separations - PART OF WATER, SANITARY, AND/OR STORM LAYER

- a. Pipe types, sizes and material
- b. Crossings: Top and bottom elevations of pipes crossing each other and the distance between the outside of the two lines
- c. Separation: Distance between the OD of the two lines

4. Conflict Storm/Water/Sanitary Structures - PART OF EACH APPLICABLE LAYER:

- a. Top and bottom of casing
- b. All info asked for in storm or sanitary manhole descriptions with the addition of top of all pipes

5. Casings - PART OF EACH APPLICABLE LAYER:

- a. Material and thickness
- b. Top of and invert of casing
- c. Length and station and offset of ends
- d. If used, station and offset for vent, including tap location, and fittings

6. Storm Sewers - TO BE LOCATED ON A SEPARATE LAYER:

- a. Manhole and catch basin rim elevation, outfalls and top of headwall invert elevations and direction, weir elevations, bottom of manholes and catch basins (sumps)
- b. Length of run between storm structures, type of and size of pipe material with calculated percentage of slope for the run of pipe
- c. Location of service connections (without manholes) together with the invert elevation, pipe diameter and material
- d. Dry retention, wet retention, dry detention, wet detention areas
- e. Exfiltration trenches, Station at beginning and end of system, width, depth
- f. Top of and toe of slope on berm elevation designed to stop flooding

G. Specifications and Addenda: Legibly mark each section to record:

- 1. Manufacturer, trade name, catalog number and supplier of each product and item of equipment actually installed
- 2. Changes made by field order or by Change Order

H. Photographs:

- 1. Manufacturer, trade name, catalog number and supplier of each product and item of equipment actually installed
- 2. Changes made by field order or by Change Order

## 1.05 SUBMITTAL

- A. Record drawings shall be submitted to the Engineer with pay applications, and partial and final releases per Owner's current standards.

1. All incoming as-built survey AutoCAD drawing files shall be received via cloud-based file sharing services. The file share folder label shall include the following:
    - a. Project Name
    - b. Owner Project Number
    - c. Designate "Record Drawings", "Preliminary Record Drawings", or "Final Record Drawings"
  2. Four (4) - 24" by 36" hard copies, signed and sealed
  3. An electronic PDF of the record drawing
  4. AutoCAD Files must be submitted in DWG format, latest AutoCAD version
  5. Each file should be for one section of development and one layer as described in 1.04. Multiple sections will not be accepted in one file.
  6. Tie into section corners in the Florida State Plane Coordinate System to insure proper orientation at each end of baseline. Section corner tie sheets can be obtained from the Martin County Surveyor's web page.
- B. At Contract close-out, deliver Record Documents to Engineer for the Owner.
- C. Accompany submittal with 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 his authorized representative

## **1.06 AS-BUILT SURVEYS**

- A. CONTROL INFORMATION FOR AS-BUILT UTILITY SURVEY WORK
1. All as-built drawings shall state in 1" lettering "AS-BUILT RECORD SURVEY" located in the bottom right hand side of the drawing original and/or copies, along with the as-built date
  2. All as-built surveys shall meet the minimum requirements of the Chapter 61G17, Florida Administrative Code Pursuant to Section 472 of the Florida Statutes. All surveys shall be based on a minimum horizontal control Third Order, "Class 2."
  3. All state plane coordinates shall be based on the Florida State Plane Horizontal Data (East Zone); Florida High

Precision Geodetic Network (Superstation) and NAD 83/1990 – final adjustment.

4. State plane coordinates shall be physically tied to a minimum of two known state plane coordinate benchmarks that utilize number 3 above. State plane coordinates shall be shown on survey at benchmarks used.
5. The Contractor shall provide the Engineer and Owner with record drawings in NAVD 1988 and include a conversion to NGVD29.
6. All record data shall be digitally positioned on the design drawings prepared by the engineer of record. Said design drawings shall be complete and include both plan and profile views of the infrastructure.
7. All as-builts shall clearly depict as-built utility lines that were constructed along with all easements
8. All as-builts shall include the information required by the Owner Standards

## **PART 2 – PRODUCTS**

NOT USED

## **PART 3 – EXECUTION**

NOT USED

**END OF SECTION**



**DIVISION 2**  
**SITE WORK**

## **SECTION 02110**

### **CLEARING AND GRUBBING**

#### **PART 1 - GENERAL**

##### **1.01 SCOPE**

- A. The Work to be performed under this item shall consist of either the clearing of or the clearing and grubbing of the area of construction as designated on the drawings.
- B. Clearing - Where clearing only is required, it shall consist of the cutting and removal of all trees, stumps, brush, logs, hedges, and the removal of all fences, concrete, debris, asphalt, and other loose or projecting material from the designated area. The grubbing of stumps and roots will be required.
- C. Clearing and Grubbing - Clearing and grubbing shall consist of clearing the surface of the ground of the designated areas of all trees, stumps, down timber, logs, snags, brush, undergrowth, hedges, heavy growth of grass or weeds, fences, structures, 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, matter roots, foundations and disposal from the project of all spoil materials resulting from clearing and grubbing by burning or otherwise.

##### **1.02 REFERENCES**

- A. Florida Department of Transportation Standard Specifications for Road and Bridge construction (FDOT), latest edition.

#### **PART 2 - MATERIALS**

##### **2.01 MATERIALS FOR REPLACEMENT**

- A. All materials required to be brought on to the site for filling of holes caused by grubbing or otherwise shall be as specified in Section 02225: Trenching, Bedding and Backfill for Pipe.

#### **PART 3 - EXECUTION**

##### **3.01 SCHEDULE**

- A. The Contractor shall schedule the clearing or clearing and grubbing work at a satisfactory time in advance of the project improvement construction operation.

### **3.02 SPOIL MATERIALS REMOVAL**

- A. All materials to be disposed of by removal from the site shall be disposed of off-site in a legal manner by the Contractor at the Contractor's expense. 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.

### **3.03 CLEARING**

- A. Clear the area of all objectionable materials. Trees and other debris unavoidably falling outside the specified limits must be cut up, removed, and disposed of in a satisfactory manner. Preserve and protect from injury all trees not to be removed. The trees, stumps, and brush shall be cut to a height of not more than 12-inches above the ground. The grubbing of stumps and roots will be required.
- B. On-site burning of debris will not be allowed.

### **3.04 CLEARING AND GRUBBING**

- A. In areas designated to be cleared and grubbed, all stumps, roots, buried logs, 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 in Section 02225. 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.

**END OF SECTION**

## **SECTION 02140**

### **DEWATERING**

#### **PART 1 – GENERAL**

##### **1.01 SECTION INCLUDES**

- A. The Work covered by this Section consists of furnishing all permits, labor, equipment, appliance and materials, and performing all operations required for dewatering all excavations, if required, complete.

##### **1.02 RELATED SECTIONS**

- A. Drawings and terms of the Contract Documents, and Division 1 Specification sections, apply to this section.
- B. Specified in other Sections:
  - 1. Section 01060: Regulatory Requirements and Notifications
  - 2. Section 02225: Trenching, Bedding and Backfill for Pipe.

#### **PART 2 - PRODUCTS**

##### **2.01 TEMPORARY FACILITIES**

- A. All materials and equipment shall be suitable and adequate to function continuously as a dewatering system.
- B. All material and equipment used in the dewatering system remain the property of the Contractor and shall be removed off-site when dewatering is completed.
- C. All dewatering equipment shall conform with the noise standards set forth in the Palm Beach County Code of Ordinances.

##### **2.02 SUBMITTALS**

- A. Submit the dewatering method or plan in accordance with Submittal specifications prior to commencing dewatering if it is determined by the Contractor that dewatering beyond that allowed by a no-notice dewatering permit is required to construct the project.
- B. The Contractor shall prepare and submit the necessary permit applications and supporting documents for the purposes of obtaining a dewatering permit from the SFWMD and any other required agencies.

## **PART 3 - EXECUTION**

### **3.01 METHODS**

- A. The method of dewatering is to be selected by the Contractor and may include:
  - 1. Wellpoints
  - 2. Sump pumps
  - 3. Bedding rock
  - 4. Dewatering wells
  - 5. Other approved items

### **3.02 DISCHARGE**

- A. The Contractor shall provide all labor, materials, tools and equipment necessary to properly control the quality of the discharge from his dewatering operations as described herein. The Contractor shall comply with all applicable laws, rules and regulations governing the discharge of water from his dewatering operations.
- B. The Contractor shall not discharge water in any manner that will:
  - 1. Adversely affect water quality of nearby water bodies
  - 2. Violate Federal, State or local laws or regulations
  - 3. Allow discharge to flow onto private property
  - 4. Deter movement of traffic
  - 5. Damage portions of the work previously constructed
  - 6. Damage portions of existing facilities or structures
  - 7. Violate the conditions of the SFWMD Dewatering Permit
  - 8. Violate the conditions of the Stormwater Pollution Prevention Plan
- C. The Contractor shall obtain and pay for any permits required to discharge the dewatering waters.
- D. The Contractor shall coordinate and pay for any water quality monitoring program that may be required by the applicable dewatering permit(s).

**END OF SECTION**

## **SECTION 02210**

### **GRADING**

#### **PART 1 - GENERAL**

##### **1.01 RELATED DOCUMENTS**

- A. Drawings and terms of the Contract Documents, and Division 1 Specification sections, apply to this section.

##### **1.02 WORK INCLUDED**

- A. The Work covered by this section shall include all labor, equipment, services and materials necessary for bringing the site to elevations shown in the plans. This section shall include all necessary excavations for streets. It shall include the construction of embankments and fills by the loading, movement, deposition and compaction of suitable fill materials resulting from above listed excavations. It shall include stockpiling of any excess material to an on-site location as specified by the Owner.
- B. It shall include rough grading within the roadways and driveways to the elevations or cross-section details shown on the drawings.
- C. It shall include the erection and maintenance of any barricades that are required for accident prevention and property protection.
- D. It shall include removal and disposal of muck, rock boulders or any foreign material interfering with construction.

##### **1.03 RELATED WORK**

- A. Section 02110: Clearing and Grubbing
- B. Section 02225: Trenching, Bedding and Backfill for Pipe

#### **PART 2 - PRODUCTS**

NOT USED.

#### **PART 3 – EXECUTION**

##### **3.01 GENERAL**

- A. The Contractor shall acquaint himself with all Work to be performed as specified and shown on the Drawings. He shall ascertain where all

excavation will be required and shall be solely responsible for all excavating to complete the Contract.

### **3.02 PAYMENT**

- A. No extra payment will be allowed for type or classification of material in excavation.

### **3.03 MATCHING EXISTING GRADES**

- A. Where existing roadbed surfaces are not at the elevation required prior to subgrade compaction, the Contractor shall perform any such excavation, filling, earthmoving and grading as may be necessary to attain the proper compacted subgrade elevation before proceeding with base course construction.

### **3.04 UNSUITABLE MATERIAL**

- A. All muck, large rocks and boulders encountered during the Work under this Contract shall be removed and disposed of in a manner approved by the Engineer.

### **3.05 EXCAVATION**

- A. All excavation shall be unclassified regardless of material encountered.
- B. The Contractor shall make probing or sounding for subsurface rock to ascertain its location and depth.
- C. It shall be the Contractor's responsibility to be familiar with soil conditions on the site. Borings, in addition to those provided by others, if any, shall be acquired by the Contractor, at the Contractor's expense.
- D. Any wet excavated materials shall be drained before hauling or moving.

### **3.06 EMBANKMENT (FILL)**

- A. Embankment shall be constructed from suitable materials resulting from roadway or site excavation or approved materials furnished from off-site borrow areas.
- B. Embankments shall be placed in successive layers of not more than 8-inches in thickness, measured loose, for the full width of the embankment.
- C. Each layer of the material used in the formation of roadbed embankments shall be compacted at optimum moisture content to a density of at least

98% of the Maximum Density as determined by Moisture-Density Tests AASHTO T-180 test results.

- D. The existing material on the site may vary as to stability. The Contractor shall satisfy himself by site inspection borings, probing, etc., prior to bidding, as to the subsurface character of the material.
- E. All unstable soil shall be removed and shall be replaced by material approved by the Engineer.

### **3.07 GRADING**

- A. Due to the minimal longitudinal slope of the roadways, the Contractor shall be required to demonstrate (through finish rock and first lift of asphalt as-builts) a positive flow from high points to low points along the edge of pavement and road crown as indicated on the Contract Drawings.
- B. Deviations from the proposed grades and drainage patterns as indicated on drawings will be reviewed at the discretion of the Engineer.
- C. The disposal of large rocks in excess of 8-inches, within roadways and parking areas is prohibited. Where allowable, the disposal of large rocks by burial in areas designated by the Engineer shall have a minimum 30-inches of cover below finished grade elevation.

### **3.08 SURVEYS**

- A. All initial surveys, including detail construction stakes, will be furnished by the Contractor.
- B. The Contractor will carefully maintain benchmarks, monuments, stakes, and other reference points, and if disturbed or destroyed, be replaced as directed at the Contractor's expense.
- C. The Contractor shall provide roadway/sidewalk grades for record drawings for review by the Owner and Engineer.

**END OF SECTION**



## **SECTION 02225**

### **TRENCHING, BEDDING, AND BACKFILL FOR PIPE**

#### **PART 1 - GENERAL**

##### **1.01 SECTION INCLUDES**

The Work covered by this section consists of furnishing all labor, equipment, and materials, and performing all earthwork operations to include:

- A. Excavation and backfill of structures, foundations, and pavements
- B. Surface preparation for structures, foundations, and pavements
- C. Excavation and backfill of pipe trenches
- D. Roadway area grading
- E. Soil compaction and stabilization requirements for pipe trenches and roadway areas
- F. Soil testing for pipe trenches and parking areas

##### **1.02 REFERENCES**

- A. Florida Department of Transportation Standard Specifications for Road and Bridge Construction, Latest Edition.
- B. American Society for Testing and Materials (ASTM)
  - D698 Moisture-Density Relationship of Soils
  - D1556 Standard Method of Test for Density of Soil in Place by Sand Cone Method
  - D1557 Method for Test for Moisture-Density Relations of Soils Using a 10-Pound Rammer and 18-Inch Drop
  - D2487 Classification of Soils for Engineering Purposes
  - D6938 Density of Soil and Soil-Aggregate in Place by Nuclear Methods

### **1.03 RELATED SECTIONS SPECIFIED ELSEWHERE**

- A. Drawings and general provisions of the Contract, including the General Conditions and Terms and Division 1 Specification sections, apply to this section.
- B. Specified in other Sections:
  - 1. Section 01410: Testing Laboratory Services
  - 2. Section 02140: Dewatering
  - 3. Section 02660: Pressure Pipe Systems
- C. LRECD Engineering Standards

### **1.04 FIELD MEASUREMENTS AND COORDINATION**

- A. Verify that survey benchmark, control point, and intended elevations for the work are as shown on the Drawings.
- B. Verify that work associated with lower elevation utilities is complete before placing higher elevation utilities.

### **1.05 SUBSURFACE SOILS DATA**

- A. The Owner and Engineer make no representations or statements as to site or soil conditions, and therefore do not assume any responsibility for actual site or soil conditions.

## **PART 2 - PRODUCTS**

### **2.01 EXCAVATION**

- A. All excavation is unclassified. Complete all excavation regardless of the type, nature, or condition of the materials encountered.

### **2.02 SOURCE QUALITY CONTROL**

- A. If tests for a material type fail three times, the Engineer may reject the source supplier and require the Contractor to submit a new source for approval, at no additional cost to the Owner. The in-situ material is considered acceptable material and may be used, provided it meets the specified requirements.
- B. Quality control of the work shall be the Contractor's responsibility, and the Contractor shall make every effort to produce the best quality work as specified on the Drawings and in these Specifications.

## **2.03 STRUCTURAL FILL AND BACKFILL**

- A. Fill and backfill under and around all structures shall be suitable on-site excavated material or approved imported material. Material shall be free of organic material, shall not have more than 10 percent by dry weight passing the U.S. Standard No. 200 sieve, and shall have no rocks larger than 3-inches in size. On-site Fine Sand (SP), without roots or other deleterious materials, is suitable material. Imported material may be provided by the Contractor at no additional cost to the Owner.
- B. On-site soils with more than 10% by dry weight passing the U.S. Standard No. 200 sieve and/or particle sizes larger than 3-inches are not suitable for use as fill under pavements or structures.
- C. Backfill behind walls shall be as specified above except that they shall not have more than 4% by dry weight passing the U.S. Standard No. 200 sieve.

## **2.04 EARTHFILL**

- A. On-site excavated material free from roots, trash, and rocks larger than 3-inches.

## **2.05 FLOWABLE FILL**

- A. Provide and place flowable fill in accordance with the requirements of Section 121 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, Latest Edition.

## **2.06 WATER FOR COMPACTION**

- A. The Contractor shall furnish potable water, as required. The Contractor may coordinate with the Town of Jupiter to arrange for a hydrant meter for water during construction. Costs associated with the hydrant meter shall be paid for by the Contractor. Water trucks shall be used as required.

## **2.07 EQUIPMENT**

- A. All equipment shall be suitable and adequate to perform the Work specified. Compaction equipment shall be vibratory type. It is recommended that the Contractor perform a pre-construction assessment of existing adjacent structures and monitor those structures for settlement during the construction period. Contractor shall notify Owner of any settlements that occur at existing adjacent structures.

## **PART 3 – EXECUTION**

### **3.01 PREPARATION**

- A. Identify required lines, levels, contours, and datum locations. Protect benchmarks, survey control points, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.
- B. Locate, identify, and protect utilities that remain from damage.

### **3.02 STRIPPING TOPSOIL**

- A. See Section 02110, Clearing and Grubbing. Stripping of topsoil shall be performed prior to any cutting, excavation, removal and/or replacement or fill materials.
- B. Strip topsoil from designated areas within boundaries of proposed construction lines to a depth of approximately 6-inches to 8.5-inches. The top materials stripped shall be removed and disposed of off site, unless authorized for use on the site landscaping areas by the Engineer or Owner. Top materials shall not be used under roadway or parking areas.
- C. Stripping of topsoil shall ensure the entire site is stripped and scraped clean of all brush, weeds, grass, roots, vegetation, etc.

### **3.03 CUTTING**

- A. Except as otherwise specified, after stripping of topsoil all site areas which are above elevation required shall be cut to subgrades required by drawings.

### **3.04 FILLING**

- A. Except as otherwise specified, after stripping of topsoil all site areas which are below elevation required shall be compacted as specified and then over such areas clean granular fill placed and compacted in layers not exceeding 6-inches in un-compacted thickness. Each layer of fill shall be compacted to at least 95% of the modified proctor maximum dry density required on the construction drawings (ASTM D1557 or AASHTO T-180). Filling and compaction shall continue until subgrades required for various areas are reached. All holes and depressions caused from removal of trees, stumps, etc. shall be filled and compacted. Fill shall be good clean material as previously specified.

### **3.05 EXCAVATION UNDER STRUCTURES AND PAVEMENT AREAS**

- A. Excavation shall be performed to elevations and dimensions required by

drawings with suitable allowance made for construction operations and inspections. Excavation carried to depths below required elevations shall be replaced in loose layers a maximum of 6-inches in depth and compacted in a manner to achieve a minimum density of 98% as determined by and in accordance with the modified proctor required on the construction drawings (ASTM D-1557 or AASHTO T-180). The Contractor may place additional concrete in lieu of replacing and compacting excess excavation as specified above to fill excess cut. Correction of excess cut shall be responsibility of the Contractor at no additional cost to the Owner.

- B. Compact disturbed load bearing soil in direct contact with foundations to achieve a minimum density of 98% as determined by and in accordance with modified proctor required on the construction drawings (ASTM D-1557 or AASHTO T-180).
- C. Verify that the specified density extends to 2-feet below the bottom of the structure or pavement base course to be installed.
- D. Slope banks with machine to angle of repose or provide necessary shoring.
- E. Do not interfere with 45 degree bearing splay of existing foundations without providing adequate means of shoring protection.
- F. Grade top perimeter of excavating to prevent surface water from draining into excavation.
- G. Notify the Engineer of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.
- H. Correct areas over excavated in accordance with this section.
- I. Remove excavated material unsuitable for backfill from site.
- J. When muck or other deleterious materials is encountered in the excavation, it shall be completely removed within the area of the structure or pavement and to a depth where acceptable material is encountered. After removal of all muck or other deleterious material, the area shall be backfilled with approved fill material to the specified grade.

### **3.06 TRENCH EXCAVATION AND PREPARATION**

- A. Excavation: Excavate as required for the installation of all piping, utilities, conduits, and appurtenances.
- B. Trench Width: Cut trenches sufficiently wide to enable installation, compaction and inspection. The maximum width will not be limited except where excessive

trench width would cause damage to adjacent structures or piping.

- C. Grade: Excavate the bottom of the trench to the line and grade shown, or as established by the Engineer with proper allowance for pipe bedding.
- D. All trench work shall comply with OSHA Standards and the Trench Safety Act of 1990, with latest revisions.
- E. Piping shall be installed in a dry trench.
- F. When acceptable material is encountered in the trench, the bottom shall be excavated and graded to the depth required so as to provide a uniform and continuous bearing and support for the pipe on solid and undisturbed ground at every point between bell holes.
- G. Bell holes shall be provided at each joint to permit the joint to be made properly. At no time shall the bells support the pipe when in the trench.
- H. When muck or other deleterious materials is encountered in the trench, it shall be completely removed for the width of the trench at the pipe and to a depth where acceptable material is encountered. After removal of all muck or other deleterious material, the trench shall be backfilled with bedding material to the bottom of pipe grade.
- I. See Owner for additional requirements.

### **3.07 MAINTENANCE OF EXCAVATION**

- A. The excavation shall be maintained at a dry condition at all times.
- B. All side slopes shall be such that material will not slide into the bottom of the excavation and any material doing so shall be immediately removed. Trench side slopes shall be in accordance with local codes, OSHA requirements, and the Trench Safety Act.
- C. All excavated material shall be piled in a manner that will not endanger the work and that will avoid obstructing sidewalks and driveways. Hydrants under pressure, valve pit covers, valve boxes, curb stop boxes, fire and police call boxes, or other utility controls shall be left unobstructed and accessible until the work is completed.
- D. Trees, shrubbery, fences, poles, bollards and all other property and surface structures shall be protected unless their removal is shown on the drawings or authorized by the Engineer. When it is necessary to cut roots and tree branches, such cutting shall be done under the supervision and direction of the Engineer.

- E. 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 utilities (water, chemical, electrical, gas, or other) 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.
- F. 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 the 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.

### **3.08 BACKFILL UNDER STRUCTURES AND PAVEMENT AREAS**

- A. Backfilling of excavated areas under, around or over building and structural appurtenances and pavement, concrete or pavers shall be performed with clean fill materials which are free of debris, organics, trash or other deleterious substances. Suitable compaction equipment shall be used to obtain density described previously for the entire depth of backfilling. Each layer of backfill under structures, pavements, and pavers shall be compacted to a minimum of 98% as determined by and in accordance with the modified proctor required on the construction drawings (ASTM D-1557 or AASHTO T-180). Each layer of compacted backfill shall not exceed 6-inches in thickness. The completed, compacted surface shall be at the proper final subgrade elevation.
- B. Verify that the specified density extends to 18-inches below the bottom of the structure or pavement base course to be installed.

### **3.09 TRENCH BACKFILLING**

- A. Haunch Backfill: Carefully place pipe bedding material so as not to damage the pipe in maximum 6-inch loose lifts and compact to the pipe centerline. Use hand-held compaction equipment.
- B. Pipe Zone: Backfill with pipe bedding material in maximum 6-inch loose lifts and compact to a point at a minimum of 12-inches above the pipe crown or in accordance with LRECD standard detail, whichever is greater.
- C. Under Pavement/Concrete/Paver Areas, and Structures: In areas where backfill settlement must be held to a minimum, backfill above the pipe zone with pipe bedding material in maximum 6-inch loose lifts and compact to a minimum 98% maximum dry density as determined by and in accordance with the modified proctor required on the construction drawings (ASTM D-1557 or AASHTO T-180) up to the subgrade elevation. Backfilling and compaction within the FDOT

Rights of Way shall be in accordance with the FDOT Standard Specifications for Road and Bridge Construction, latest edition.

- D. Outside Pavement/Concrete/Paver Areas: In areas where backfill settlement is not critical, backfill above the pipe zone with earth fill material to a density equal to or greater than the soil adjacent to the pipe trench, but not less than 95% of the maximum dry density as determined by and in accordance with the modified proctor required on the construction drawings (ASTM D-1557 or AASHTO T-180), to final grade.
- E. No material shall be used for backfilling which contains muck or other deleterious material or material with an excessive void content. All backfill shall be composed of select clean granular material.
- F. All trenches and excavation shall be backfilled immediately after all pipe and joints have been investigated and approved by the Engineer or the Owner, subject to satisfactory pressure and leakage test results, as required.
- G. Backfill, in general, shall be kept up with the rate of pipe laying. No more than 100 feet of pipe trench shall be open at one time at any one project location.
- H. See Owner Standards for additional requirements.

### **3.10 BACKFILL AROUND STRUCTURES**

- A. Obtain the Engineer's acceptance of concrete work and attained concrete strength prior to backfilling.
- B. Backfill with structural backfill material placed in maximum 6-inch loose lifts and compacted to a minimum 98% of maximum dry density as determined by and in accordance with the modified proctor required on the construction drawings (ASTM D-1557 or AASHTO T-180).
- C. Compact backfill adjacent to structures with equipment that will not damage the structure.
- D. Backfill with flowable fill or other material only if reviewed and approved by the Engineer.

### **3.11 SITE GRADING**

- A. Fill and contour site areas with earth fill material to elevations shown and as required to prepare the site for landscape grading and sodding.
- B. Place materials in maximum 6-inch loose lifts and compact as required to limit subsequent settlement.



### **3.12 COMPACTION TESTING**

- A. In-situ compaction testing shall be performed by a certified laboratory.
- B. Compaction testing shall be done by nuclear density equipment or other approved methods. (ASTM D-2937, D-1557, D-6938, AASHTO T-180, AASHTO T-90).
- C. Density testing shall be performed as follows:
  - 1. Pipe Trenches: 1 test per lift per 100-feet of pipe.
  - 2. Fill Under/Around Structures: 1 test per lift under each structure or 1 backfill test per lift per drainage or sanitary structure installed.
  - 3. Fill Under Pavement Areas: 1 test per lift per 2,000 square feet of compacted surface area.
- D. Test results in a specific location are only representative of a larger area if the Contractor has used consistent compaction means and methods and the soils are practically uniform throughout. If it is determined by the Owner/Engineer that there are variations in the compaction methods and/or soil uniformity, additional testing may be required.

### **3.13 FINAL AND FINISH GRADING**

- A. Using clean topsoil, perform all final and finish grading in all yard and planting areas indicated on drawings. Topsoil shall be placed to a minimum of 4-inch thickness, rototilled to a minimum depth of 8-inch, leveled and finish graded in all areas. No pavement base course material or broken asphalt will be allowed as topsoil materials in landscaping areas.
- B. Final grading shall be performed, and grades shaped to finished elevations indicated. Finish grades (top of the soil) shall be approximately 1-1/2 inch below edges of pathways, curbs and other paved or concrete slabs. After sod installation, the top of the sod shall not be more than 1/2-inch below or shall be flush with the grade established by any adjacent paved or curbed surface.
- C. The Contractor shall verify that all finish subgrades are correct prior to beginning installation of sod and planting materials. Upon completion of the project work, the Contractor shall prepare "record drawings" verifying that all finish grades are in accordance with the contract documents and shall submit same to the Engineer for review and acceptance prior to requesting final inspection of the project. The "record drawings" shall be prepared by a surveyor registered in the State of Florida.
- D. Upon project completion, all areas of the site within immediate construction and adjacent areas shall be completely cleaned of all debris occasioned by this construction. Particular attention is called to any cement, mortar, masonry

drippings and plaster which shall be completely removed from planting and lawn areas and shall be disposed of off-site.

- E. All areas adjacent to the site and all areas not within contract construction areas shall be left in reasonably the same condition as they were found prior to commencement of construction.
- F. Any damage to the existing adjacent facilities including adjacent lakes or roads, and related areas such as, but not limited to, finish grades, slopes, grass sod, structures, pipe, etc. shall be repaired and restored to a proper and appropriate condition acceptable to the Owner and Engineer.

### **3.14 EXCESS MATERIAL**

- A. Remove all excess suitable material from the site and dispose of at the Contractor's expense.
- B. Unsuitable materials shall also be removed and disposed of off-site at the Contractor's expense.

**END OF SECTION**

## **SECTION 02270**

### **EROSION AND SEDIMENTATION CONTROL**

#### **PART 1 - GENERAL**

##### **1.01 DESCRIPTION**

- A. The Work specified in this Section consists of measures required to control erosion on the project and in areas outside the project area where Work is accomplished in conjunction with the project, so as to prevent pollution of water, detrimental effects of public or private property adjacent to the project area and damage to Work on the project. These measures will consist of construction and maintenance of temporary erosion control features or, where practical, the construction and maintenance of permanent erosion control features.

##### **1.02 RELATED REQUIREMENTS**

- A. Drawings and terms of the Contract Documents, and Division 1 Specification sections, apply to this section.
- B. Specified in other Sections:
  - 1. Section 01060: Regulatory Requirements and Notifications
  - 2. Section 02936: Sodding

##### **1.03 START OF WORK**

- A. Do not start work until erosion control measures are in place.

#### **PART 2 - PRODUCTS**

##### **2.01 GENERAL**

- A. No testing of materials used in construction of temporary erosion control features will be required.
- B. Materials used for the construction of the temporary erosion and sedimentation control measures not to be incorporated into the completed project may be new or used.

## **PART 3 - EXECUTION**

### **3.01 GENERAL**

- A. Construct temporary and permanent erosion and sediment control measures to prevent the pollution of adjacent water ways in conformance with the laws, rules and regulations of Federal, State and local agencies and the conditions.
- B. Temporary erosion control features shall consist of, but are not limited to, temporary grassing, temporary sodding, temporary mulching, spoil containment pits, sandbagging, slope drains, sediment basins, artificial coverings, berms, baled hay or straw, floating silt barriers, staked silt barriers and staked silt fences. Design details for some of these items may be found in Chapter 6 of the Florida Land Development Manual: A Guide to Sound Land Water Management (Department of Environmental Regulation) or the Water Quality Section of the applicable edition of the FDOT Roadway and Traffic Design Standards.
- C. Incorporate permanent erosion control features into the project within seven (7) days of any construction activity. Correct conditions, using temporary measures, that develop during construction to control erosion prior to the time it is practical to construct permanent control features.
- D. The Contractor will be required to prepare, submit, and obtain a Notice of Intent (NOI) to use Generic Permit for Stormwater Discharge from the Florida Department of Environmental Protection which will include a Stormwater Pollution Prevention Plan (SWPPP) prepared by the Contractor as required by F.A.C. 62-621.300(4) and the Environmental Protection Agency (EPA) as part of the National Pollutant Discharge Elimination System (NPDES) prior to beginning work.

### **3.02 INSTALLATION**

- A. Temporary Grassing: This Work shall consist of furnishing and placing grass seed in accordance with Section 02485, Grassing.
- B. Baled Hay or Straw:
  - 1. This Work shall consist of construction of baled hay or straw dams to protect against downstream accumulations of silt. The baled hay or straw dams shall be constructed in accordance with the details shown in FDOT's Roadway and Traffic Design Standards.
  - 2. The dam shall be placed so as to effectively control silt dispersion under conditions present on this project. Alternate solutions and usage of materials may be used if approved.

- C. Temporary Silt Fences and Staked Silt Barriers: This Work shall consist of furnishing, installing, maintaining and removing staked turbidity barriers in accordance with the manufacturer's directions, these specifications, conditions of the project permits, and the details as shown in FDOT's Roadway and Traffic Design Standards.

### **3.03 REMOVAL OF TEMPORARY EROSION CONTROL FEATURES**

- A. In general, remove or incorporate into the soil any temporary erosion control features existing at the time of construction of the permanent erosion control features in such a manner that there will be no detrimental effect.

### **3.04 MAINTENANCE OF EROSION CONTROL FEATURES**

- A. General: Provide routine maintenance of permanent and temporary erosion control features until the project is completed and accepted.
- B. Maintenance of erosion control measures shall be in strict accordance with condition of the applicable NPDES, Town of Jupiter, and Palm Beach County requirements.

### **3.05 PROTECTION DURING SUSPENSION OF CONTRACT TIME**

- A. In the event that it is necessary that the construction operations be suspended for any appreciable length of time, shape the top of the earthwork in such a manner as to permit runoff of rainwater and construct earth berms along the top edges of embankments to intercept runoff water. Should such preventive measures fail, immediately take such other action as necessary to effectively prevent erosion and siltation.

**END OF SECTION**

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## **SECTION 02320**

### **DIRECTIONAL BORING OF PIPE**

#### **PART 1 - GENERAL**

##### **1.01 DESCRIPTION**

- A. This section includes materials, installation standards, and execution for the installation of High-Density Polyethylene (HDPE) pipe for this project by the directional bore installation method. Directional bore may also be referred to as Horizontal Directional Drill (HDD) throughout this and other sections.
- B. The Contractor shall furnish all labor, materials, equipment, and incidentals required for the horizontal direction drill (HDD) installation of pressure pipe, as shown on the Drawings and as specified herein. This includes retaining any specialized personnel required in the event of a frac-out during construction and as required to comply with permit conditions of approval.
- C. The Drawings show the Basis of Design for the HDD installations for this project. The entry and exit locations, minimum clearances, and horizontal location shown on the plan and profile drawings must be met by the installed pipe. The Contractor may utilize an alternative drill profile path than is shown on the drawings at no additional cost to the owner. Alternative path must remain within the easements procured for the project.
- D. Activities required for the HDD installations of pressure pipe, as shown on the Drawings and as specified herein shall be performed in accordance with the conditions of the project permits complete with conditions, attachments, exhibits, and modifications as described in Section 01060.
- E. The Contractor shall determine if a casing pipe is needed to prevent frac-out or upheaval, settlement, cracking, movement, or distortion of the surface material including roadways, retaining walls, and channel bottom for any portion of the HDD installation. If the Contractor determines that a casing pipe is needed, then the materials and labor for installing the steel casing pipe shall be included in the base bid line-item unit cost for the HDD pipeline.
- F. Contractor shall be responsible for all installation processes and procedures associated with the installation by horizontal directional drilling in accordance with this specification.
- G. All directional drills shall be installed with a minimum 2" HDPE conduit and two (2) minimum 10-gauge tracer wires installed for the full length of the bore. The conduit shall be terminated in a CDR box installed at each end of

the bore. The 10-gauge tracer wires shall be terminated in the valve box for the isolation valves on each end. The conduit diameter and wall thickness shall be sized to withstand anticipated pull back forces of the installation. Tracer wire shall be high strength copper clad steel, Copperhead Soloshot EHS or approved equal.

## **1.02 SUBMITTALS**

- A. Submit shop drawings in accordance with the General Conditions, and Section 01300 and the following:
  - A. The project drilling plan, pullback calculations signed and sealed by a Florida licensed professional engineer, and an emergency contingency plan shall be submitted and approved two weeks prior to the commencement of the directional drilling operations. If nighttime drilling and/or boring is to occur, the Contractor shall also submit a night-time drilling plan two weeks prior to the commencement of the directional drilling operations.
  - B. Prepare and submit project drilling plans for review by the Engineer. The project drilling plans shall include a list and description of materials and equipment to be used, anticipated noise emanation for all equipment, a description of each drill entry and exit angles, depth of pilot hole at points on a 30-ft interval along the drill, bend radius of the pipe, pullback monitoring plan, fluorescent dye monitoring plan, drill fluid disposal plan, technical information including a MSDS (Material Safety Data Sheet) for the drilling slurry compounds, drill fluid containment plan, and damage prevention provisions. If the Contractor determines that a casing pipe is needed, the drilling plan shall also include information on the materials and equipment to be used for the casing installation. The Contractor shall keep a copy of the drilling plan at the work site.
  - C. The following product data is required from the pipe supplier and/or fusion provider:
    - a. Pipe Size
    - b. Dimensionality
    - c. Pressure Class per applicable standard
    - d. Color
    - e. Recommended Minimum Bending Radius
    - f. Recommended Maximum Safe Pull Force
    - g. Fusion technician qualification indicating conformance with this specification
  - D. Pullback and service load calculations have determined that a minimum DR-11 DIPS HDPE pipe (as indicated on the project



drawings) is the minimum standard Dimensional Ratio for the force main pipe. These calculations are based on the conditions shown on the drawings and included within the specifications, including the carrier pipe being filled with water before it is pulled through the bore hole. Pipes shall NOT be thinner or smaller than indicated on the plans. If the contractor proposed installation of the HDD differs significantly from what is shown on the drawings and described herein, contractor shall provide calculations showing that the DR is adequate for this project, including calculations signed/sealed by an engineer licensed in the State of Florida, demonstrating that a factor of safety of at least 2.0 against buckling, pull back stress, and long term performance stress for the proposed carrier pipe material considering the materials, bore hole path, and equipment to be used for this installation. If it is determined that a thicker pipe material must be used, then the additional cost shall be borne by the contractor.

- E. The Contractor is required to bring to the attention of the Engineer any known design discrepancies with these specifications and the actual drilling methods that the Contractor will be performing. This shall be stated in writing to the Engineer no later than the pre-construction meeting.
- F. The Contractor shall prepare and submit a pilot bore record drawing to the Engineer prior to reaming the pilot bore hole. The Contractor is responsible for updating the pilot bore hole record drawing as work progresses and should submit the pilot bore record drawing to the Engineer within 48 hours of completing the pilot bore. After receiving the bore hole record drawing, the Engineer has 48 hours to state any objections to the pilot bore before the Contractor begins reaming the pilot bore hole.
- G. Submit a flushing and pigging plan for cleaning the pipes after installation, including the specifics of the proposed pig.
- H. Submit pipe fusion procedures, samples, and operator's qualifications as described in the execution part of this section.
- I. Provide shop drawing submittal and sample of pipe, fused joint, and trace wire.
- J. The following record drawings are required from the contractor specifically for the HDD installation in addition to the requirements contained in Section 01720:
  - a. The record plan and profile will reflect the actual installed alignment and reflect the horizontal offset from the baseline and depth of cover.

- b. A daily project log, along with tracking log sheets, should they be used, shall be provided. Tracking log sheet data, should it be employed, shall include any and all that apply, including inclination, depth, azimuth, and hydraulic pull-back and rotational force measured.
- K. The following record data is required from the contractor and/or fusion provider to the owner or pipe supplier upon request:
  - a. Approved datalogger device reports
  - b. Fusion joint documentation containing the following information:
    - i. Pipe Size and Thickness
    - ii. Machine Size
    - iii. Fusion Technician Identification
    - iv. Job Identification
    - v. Fusion Joint Number
    - vi. Fusion, Heating, and Drag Pressure Settings
    - vii. Heat Plate Temperature
    - viii. Time Stamp
    - ix. Heating and Cool Down Time of Fusion
    - x. Ambient Temperature

## **PART 2 – MATERIALS AND EQUIPMENT**

### **2.01 PIPE AND FITTINGS**

See Section 02660.

### **2.02 BOLT AND NUTS FOR MECHANICAL JOINT CONNECTIONS AND/OR ADAPTORS**

See Section 02660.

### **2.03 DRILLING SYSTEM EQUIPMENT**

#### **A. GENERAL**

The directional drilling equipment, as a minimum, shall consist of a directional drilling rig of sufficient capacity to perform the bore(s) and pull-back of the pipe(s), a drilling fluid mixing & delivery system of sufficient capacity to successfully complete the crossing, a guidance system to accurately guide boring operations, and trained and competent personnel to operate the system. All equipment shall be in good, safe operating condition with sufficient supplies, materials and spare parts on hand to maintain the system in good working order for the duration of this project. All required equipment shall be included in the emergency and contingency plan as submitted per these specifications.

**B. DRILL PIPE**

Drill pipe shall be steel with sufficient strength to withstand the maximum rated pullback and pushing load of the drilling equipment. Drill pipe, tool joints shall be flush and capable of transmitting maximum rated torque of the drilling equipment.

**C. DRILLING FLUID**

Drilling fluid shall be bentonite and water formulated to move cuttings to the surface and lubricate the pipe during pullback. No other additives shall be added to the bentonite mixture without prior approval.

1. The water and additives shall be mixed thoroughly to assure the absence of any clumps or clods.
2. No hazardous additives may be used.
3. Drilling fluid shall be maintained at a viscosity sufficient to suspend cuttings and maintain the integrity of bore wall(s).
4. Drilling fluid shall be disposed of off-site in accordance with local, state and federal requirements and/or permit conditions.

**D. DRILLING FLUID MIXING SYSTEM**

1. A drilling fluid mixing system shall be of sufficient size to mix and deliver drilling fluid for the project.
2. The mixing system shall be able to ensure thorough mixing of the drilling fluid. The drilling fluid reservoir tank shall be sized for adequate storage of the fluid.
3. The mixing system shall continually agitate the drilling fluid during drilling operations.

**E. DRILLING FLUID DELIVERY AND RECOVERY SYSTEM**

1. The drilling fluid pumping system shall have a minimum capacity to supply drilling fluid in accordance with the drilling equipment pull-back rating at a constant required pressure.
2. The delivery system shall have filters or other appropriate in-line equipment to prevent solids from being pumped into the drill pipe.
3. Used drilling fluid and drilling fluid spilled during drilling operations shall be contained and properly disposed of. The use of spill containment measures shall be maintained around drill rigs, drilling fluid mixing system, entry and exit pits and drilling fluid recycling system (if used) to prevent spills into the surrounding environment. Pumps, vacuum truck(s), and/or storage of sufficient size shall be in place to contain excess drilling fluid.

4. A closed-loop drilling fluid system and a drilling fluid cleaning system should be used to whatever extent practical, depending upon project size and conditions. Under no circumstances shall drilling fluid that has escaped containment be reused in the drilling system.

#### F. DRILLING EQUIPMENT

1. Drilling equipment shall be in good condition and designed to have sufficient power to drill the required length hole, back ream, and pull the pipe as shown on the Drawings.
2. The drilling rig hydraulic system shall be of sufficient pressure and volume to power drilling operations. The hydraulic system shall be free from leaks.
3. Mixing, pumping, recycling, and holding/separation tanks shall be capable of delivering mixed drilling fluid to the cutting head. Drilling fluids recycling equipment including baffle tanks, shaker screen, de-sanding and de-silting hydro cyclones shall be utilized and designed to minimize spillage and quantities of drilling fluids necessary for these installations.
4. The machine shall be anchored to withstand the pulling, pushing and rotating forces required to complete the project.
5. The drilling rig shall have a system to monitor pull-back hydraulic pressure during pull-back operations.

#### G. DRILL HEAD

1. The horizontal directional drilling equipment shall produce a stable fluid lined tunnel with the use of a steer-able drill head and any subsequent pre-reaming heads.
2. The system must be able to control the depth and direction of the drilling operation.
3. Drill head shall contain all necessary cutters and fluid jets for the operation and shall be of the appropriate design for the ground medium being drilled.

#### H. DRILLING CONTROL SYSTEM

1. Calibration of the electronic detection and control system shall be verified prior to the start of the bore.
2. The drilling head shall be remotely steer-able by means of an electronic or magnetic detection system. The drilling head location shall be monitored in three dimensions:
  - a. Offset from the baseline,

- b. Distance along the baseline, and
  - c. Depth of cover.
- 3. Point of rotation of the head shall also be monitored.

I. DOWNHOLE TOOLS

- 1. Cutting heads, backreamers, and hole openers shall be suitable for the soil and rock conditions anticipated by the Contractor.
- 2. Grips, pulling heads, and swivels shall be compatible with the pipe material. Design these components to transmit without distortion the maximum rated pullback force of the equipment used. Grips, pulling heads, and swivels shall be specifically engineered for directional drilling applications.

J. PIPE PULL HEADS

- 1. Pipe pull heads shall be utilized that employ a positive through-bolt design assuring a smooth wall against the pipe cross-section at all times.
- 2. Pipe pull heads shall be specifically designed for use with HDPE/fusible polyvinylchloride pipe, as applicable, and shall be as recommended by the pipe supplier.

K. BREAK-OUT TOOLS

Remote breakout wrenches may either be manual or hydraulic and shall be used to connect or break tool joints forward of the drill rig. Drill rig rotational power shall not be used with remote wrenches to make or break tool joints.

L. REMOTE TRACKING SYSTEM

Tracking equipment shall be capable of determining the location of the cutting head at  $\pm 1\%$  of the depth.

M. EMERGENCY SPILL EQUIPMENT

- 1. A Vactor Truck and Spill Kit shall be onsite and available at all times.

N. PIPE ROLLERS

- 1. Pipe rollers, if required, shall be of sufficient size to fully support the weight of the pipe during handling and pullback operations.
- 2. A sufficient quantity of rollers and spacing, per the pipe supplier's guidelines shall be used to assure adequate support and excessive sagging of the product pipe.

## **2.04 TEMPORARY PILE INSTALLATION EQUIPMENT**

If required, pile installation equipment shall be suitable for the soil conditions anticipated by the Contractor.

## **2.05 CASING PIPE AND INSTALLATION EQUIPMENT**

If the Contractor determines that a casing pipe is needed, the Contractor shall provide all of the material and equipment for installing the steel casing. The equipment shall be suitable for the soil conditions anticipated by the Contractor.

# **PART 3 – EXECUTION**

## **3.01 DELIVERY AND OFF-LOADING**

- A. Delivery, temporary storage, and handling of the pipe shall be in strict accordance with the recommendations of the manufacturer.
- B. All pipe shall be bundled or packaged in such a manner as to provide adequate protection of the ends during transportation to the site. Any pipe damaged in shipment shall be replaced as directed by the owner or engineer.
- C. Each pipe shipment should be inspected prior to unloading to see if the load has shifted or otherwise been damaged. Notify owner or engineer immediately if more than immaterial damage is found. Each pipe shipment should be checked for quantity and proper pipe size, color, and type.
- D. Pipe should be loaded, off-loaded, and otherwise handled in accordance with AWWA M23, and all of the pipe supplier's guidelines shall be followed.
- E. Off-loading devices such as chains, wire rope, chokers, or other pipe handling implements that may scratch, nick, cut, or gouge the pipe are strictly prohibited.
- F. During removal and handling, be sure that the pipe does not strike anything. Significant impact could cause damage, particularly during cold weather.
- G. If appropriate unloading equipment is not available, pipe may be unloaded by removing individual pieces. Care should be taken to ensure that pipe is not dropped or damaged. Pipe should be carefully lowered, not dropped, from trucks.

## **3.02 HANDLING AND STORAGE**

- A. Any length of pipe showing a crack, or which has received a blow that may have caused an incident fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the work. Damaged areas, or possible areas of damage may be removed by cutting out and removing the suspected incident fracture area. Limits of the

acceptable length of pipe shall be determined by the owner or engineer.

- B. Before installation of HDPE, check pipe and fittings for cuts, gouges in excess of 10% of the wall thickness, buckling, kinking, or splitting. Remove any pipe section containing defects by cutting out the damaged section in a complete cylinder.
- C. Pipe lengths should be stored and placed on level ground. Pipe should be stored at the job site in the unit packaging provided by the manufacturer. Caution should be exercised to avoid compression, damage, or deformation to the ends of the pipe. The interior of the pipe, as well as all end surfaces, should be kept free from dirt and foreign matter.
- D. Pipe shall be handled and supported with the use of woven fiber pipe slings or approved equal. Care shall be exercised when handling the pipe to not cut, gouge, scratch or otherwise abrade the piping in any way.
- E. If pipe is to be stored for periods of 1 year or longer, the pipe should be shaded or otherwise shielded from direct sunlight. Covering of the pipe which allows for temperature build-up is strictly prohibited. Pipe should be covered with an opaque material while permitting adequate air circulation above and around the pipe as required to prevent excess heat accumulation.
- F. Pipe shall be stored and stacked per the pipe supplier's guidelines.

### **3.03 LOCATION AND PROTECTION OF UNDERGROUND UTILITIES**

- A. Correct location of all underground utilities that may impact the HDD installation is the responsibility of the Contractor, regardless of any locations shown on the drawings or previous surveys completed.
- B. Utility location and notification services shall be contacted by the Contractor prior to the start of construction.
- C. All existing lines and underground utilities shall be positively identified, including exposing those facilities that are located within an envelope of possible impact of HDD installation as determined for the project specific site conditions. It is the Contractor and HDD system operator's responsibility to determine this envelope of safe offset from existing utilities. This will include, but is not limited to, soil conditions and layering, utility proximity and material, HDD system and equipment, and foreign subsurface material.

### **3.04 DRILLING LAYOUT AND TOLERANCES**

- A. The drill path shall be accurately surveyed with entry and exit areas placed in the appropriate locations within the areas indicated on drawings. If using a magnetic guidance system, drill path will be surveyed for any surface geomagnetic variations or anomalies.
- B. Instrumentation shall be provided and maintained at all times that accurately locates the pilot hole, measures drill-string axial and torsional loads and

measures drilling fluid discharge rate and pressure.

- C. Entry and exit areas shall be drilled so as not to exceed the bending limitations of the pipe as recommended by the pipe supplier.

### **3.05 PILOT BORE**

- A. Construct a pilot bore at the center line alignment and grade as shown in the drawings. Circulate drilling fluids to maintain an open bore at all times. The Contractor is responsible for updating the pilot bore hole record drawing as work progresses. Reaming shall not commence until successful completion of the path of pilot bore pulled from the end of the HDD path (exit pit) to the beginning location of the HDD path (entry pit). If the pilot bore could not be successfully completed, then do not proceed with the reaming procedure until the Owner, Owner's Representative, Engineer, and Contractor have met to discuss alternative options for the pipeline crossing. The pilot bore and reaming procedure shall be controlled by a magnetic survey system including accelerometers, magnetometers, connector wire, and survey probe. The guidance system shall be capable of measuring depth, location, pitch, and roll of the bore and shall be able to indicate depth up to 120 feet.
- B. The pipe bore shall follow the line and grade shown in the drawings. The pipe exit location shall be at the design location shown on the drawings with a tolerance of  $\pm 3$  feet on line and a tolerance of  $\pm 3$  feet on grade. The pipe shall remain within the right-of-ways and easements at all times, as shown on the drawings.
- C. Install the pilot bore in a manner that does not cause upheaval, settlement, cracking, movement, or distortion of the surface material.
- D. In the event that the pilot bore does deviate from the bore path, it may require contractor to pull-back and re-drill from the location along bore path before the deviation.
- E. If the Contractor determines that a casing pipe is needed on the pipe entry/exit side, then the casing pipe shall be installed prior to the construction of the pilot bore and the pilot bore shall be constructed to align with the casing pipe below the ground surface.
- F. The Contractor shall limit curvature in any direction to reduce force on the pipe during pull-back. The minimum radius of curvature shall be no less than that specified by the pipe supplier and as indicated on the drawings.



### **3.06 DRILLING FLUIDS**

- A. Contain, clean-up, and dispose of any and all drilling fluid in accordance with state and federal regulations and permit conditions. Install erosion and sedimentation control measures including straw bales to prevent drilling mud from spilling out of the entrance/exit pit. The volume of bentonite in the drill string shall be monitored at all times during directional drill operations. Limit pressures in order to not buckle the surface of the pipe during installation.

### **3.07 WIRELINE GUIDANCE SYSTEM**

- A. Use a surface monitoring wireline guidance system when conducting each drill. The surface grid shall consist of an energized wire coil laid-out and surveyed on the surface of the ground along the drill paths.
- B. Remove all surface grid coil wires from all drill paths after HDD installations are complete.

### **3.08 LOCATE/TRACER WIRE TESTING**

- A. Testing of locate/tracer wire after completion shall demonstrate continuity. The Contractor shall utilize a magnetic locating system utilizing a DC or AC current and a surveyed surface loop coil to as built the final directional bore installation location in place. The surface loop shall be surveyed in by a Florida Licensed Professional Land Surveyor and georeferenced to State Plane Coordinates in NAD83, Florida East Zone and vertical datum NAVD88.

### **3.09 BORE HOLE REAMING AND PIPE INSTALLATION**

- A. Upon complete acceptance of the pilot bore, pull the drill pipe back through the bore using an oversized back reamer larger than the proposed pipe to be pulled back through the bore hole. Repeat back reaming as necessary to enlarge the bore to provide sufficient clearance for the pipe.
- B. Multiple reaming passes shall be used at the discretion of the Contractor and shall conform to this specification.
- C. In the event of a drilling fluid fracture, returns loss or other loss of drilling fluid, the Contractor shall be responsible for restoring any damaged property to original condition and cleaning up the area in the vicinity of the damage or loss.
- D. Attach pulling head and swivel and pull pipe through with closed end. Pull pipe back in one continuous pull to avoid closure of the bore hole. Fill the pipe with water prior to installation.

- E. Pipe shall be fused prior to insertion, if the site and conditions allow, into one continuous length.
- F. Contractor shall handle the pipe in a manner that will not over-stress the pipe prior to insertion. Vertical and horizontal curves shall be limited so that the pipe does not bend past the pipe supplier's minimum allowable bend radius, buckle, or otherwise become damaged. Damaged portions of the pipe shall be removed and replaced.
- G. The pipe entry area shall be graded as needed to provide support for the pipe and to allow free movement into the bore hole.
- H. Install the pipe in a manner that does not cause upheaval, settlement, cracking, movement, or distortion of the surface material.
- I. The elevation of the casing and/or carrier pipe at the location of the connection point of the directional bore shall be 36" below the natural grade or at the elevation shown on the construction plans and shall be in a horizontal location for ease of connection to continuing mains. Should this not be possible due to the acute angle of the bore, the contractor shall furnish and install appropriate fittings to provide for a horizontal continuation.
- J. The pipe will be installed in a manner so as not to exceed the recommended bending radius and Safe Pulling Force established by the pipe supplier.
- K. The pipe shall be guided into the bore hole to avoid deformation of, or damage to, the pipe.
- L. The pipe may be continuously or partially supported on rollers or other Owner and Engineer approved friction decreasing implement during joining and insertion, as long as the pipe is not over-stressed or critically abraded prior to, or during installation.
- M. A swivel shall be used between the reaming head and the fusible polyvinylchloride pipe to minimize torsion stress on the pipe assembly.
- N. Buoyancy modification shall be at the sole discretion of the Contractor and shall not exceed the pipe supplier's guidelines in regard to maximum pull force or minimum bend radius of the pipe. Damage caused by buoyancy modifications shall be the responsibility of the Contractor.
- O. The pipe shall be installed in a manner that does not cause upheaval, settlement, cracking, or movement and distortion of surface features. Any damages caused by the Contractor's operations shall be corrected by the Contractor.
- P. Upon completing the pipe installation, drilling materials inside the pipe shall be removed.

- Q. If the Contractor determines that a casing pipe is needed or is called out on the drawings, the HDPE pipe shall be fitted with spacers if required to center the pipe in the annulus between the steel casing pipe and the HDPE pressure pipe. The annulus space shall then be grout-filled at the surface end.

### **3.10 PIPE FUSION AND LAYOUT - HDPE**

- A. Join entire length of pipe to be pulled through bore prior to commencement of pullback operation. The joining method shall be the butt fusion method and shall be performed in strict accordance with the pipe manufacturer's recommendations. Butt fusion joining shall result in a joint weld strength equal to or greater than the tensile strength of the pipe. Socket fusion shall not be used.
- B. Each operator performing fusion joining pipe shall be qualified in the use of the manufacturer's recommended fusion procedure(s) by appropriate training or experience in the use of the fusion procedure. A sample joint shall be fused according to the procedure that passes the following inspections and tests:
1. The joint shall be visually examined during and after joining and found to have the same appearance as a photograph or sample of an acceptable joint that was joined in accordance with the procedure.
  2. The joint shall be tested or examined by one of the following methods:
    - a. Pressure and tensile test as described in 49 CFR 192.283
    - b. Ultrasonic inspection and found to be free of flaws that would cause failure
    - c. Cut into at least three longitudinal straps, each of which is:
      - 1). Visually examined and found to be free of voids or unbonded areas on the cut surface of the joint
      - 2). Deformed by bending, torque, or impact and if failure occurs, it must not initiate in the joint area.
- C. The contractor shall determine the location for laying out the joined fused pipe prior to pullback. Support weight of upland portions of the joined pipe on rollers and guideposts to minimize pullback forces and guide pipeline during pullback.

### **3.11 TESTING/AS BUILT OF HDD**

- A. After completion of the joint fusing and before the pipe pullback, the pipe shall be pressure tested in accordance with Section 02670.
- B. Pullback pipe completely with locate/tracer wire per specs.

C. After completion of the HDD installation:

1. Flush and test the pipe in accordance with Section 02670.
2. Payment of pipe sections will only be provided for installed and successfully tested pipe.
3. If the pipe does not pass the pressure test after installation, if feasible remove the entire pipe from the bore hole, repair the pipe, and perform pressure testing prior to reinstalling the pipe and again after reinstallation. If it is not feasible to remove the pipe without exceeding the manufacturer's maximum allowable tensile stress for the pipe, the Contractor shall repeat the installation with another pipe along a similar route approved by the Owner, which meets the requirements of the original design at no additional cost to the Owner.
4. After placement of the HDD pipe, the Contractor shall utilize a magnetic locating system utilizing a DC or AC current and surveyed loop to as built the final directional bore installation location in place. The surface loop shall be surveyed in by a Florida Licensed Professional Land Surveyor and georeferenced to State Plane Coordinates in NAD83, Florida East Zone and vertical datum NGVD 29.

### **3.12 MECHANICAL JOINT ADAPTOR CONNECTIONS**

- A. See Sections 02660.

### **3.13 RESTORATION OF PAVED, IMPROVED AND UNIMPROVED AREAS**

- A. The shoulders, ditches, banks and slopes of roads crossed and paralleled shall be restored to their former condition and properly sodded so that they shall not wash out before becoming consolidated. Restoration shall be as required by the jurisdictional authority and as specified within the Contract Document. Road and crossings and parallel installations are to be continuously maintained until the completion of the work. No direct compensation shall be paid for Contractor's repair or maintenance of crossings and parallel installations.
- B. Within 14 days after completion of the directional drilling operations, the staging area shall be returned to its original condition. Paved surfaces shall be repaired and unpaved surfaces areas shall be restored.

**END OF SECTION**

## **SECTION 02660**

### **PRESSURE PIPE SYSTEMS**

#### **PART 1 - GENERAL**

##### **1.01 DESCRIPTION OF WORK**

- A. The Work covered by this section consists of providing all labor, material and equipment, and performing all construction required to install force main, fittings, valves, and accessories as specified and shown on the drawings.

##### **1.02 SUBMITTALS**

- A. Reports on pressure tests and leakage tests will be prepared and submitted by the Contractor.
- B. Record drawings must be submitted in accordance with LRECD for the force main.
- C. Submit product data for all pipe, service connections, fittings, valves, accessories and other appurtenances in accordance with Division 1 specifications.

##### **1.03 REFERENCE STANDARDS**

- A. All wastewater system components shall be supplied and installed per the applicable FDEP and the LRECD Standards. Refer to the LRECD standards for a list of approved products and submittal procedures.
- B. ANSI/ASTM D2466 - Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40.
- C. ANSI/AWWA C104 – Standard for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water.
- D. ANSI/AWWA C105 – Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems.
- E. ANSI/AWWA C110 – Standard for Ductile-Iron and Gray-Iron Fittings, 3 in. through 48 in. for Water and Other Liquids.
- F. ANSI/AWWA C111 – Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.

- G. ANSI/AWWA C115 – Standard for Flanged Ductile-Iron Pipe with Ductile-Iron or Gray Iron Treaded Flanges.
- H. ANSI/AWWA C150 – Standard for the Thickness Design of Ductile-Iron Pipe.
- I. ANSI/AWWA C151 – Standard for Ductile-Iron Pipe, Centrifugally Cast, for Water or Other Liquids.
- J. ANSI/AWWA C153 – Standard for Ductile-Iron Compact Fittings, 3 in. through 24 in. and 54 in. through 64 in. for Water Service.
- K. AWWA C210 – Standard for Liquid-Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines.
- L. AWWA C220 – Standard for Stainless-Steel Pipe, 4 in. and Larger.
- M. AWWA C504 – Standard for Rubber-Seated Butterfly Valves.
- N. AWWA C508 – Standard for Swing-Check Valves for Waterworks Service, 2 in. through 24 in.
- O. AWWA C509 – Standard for Resilient-Seated Gate Valves for Water Supply Service.
- P. AWWA C511 – Standard for Reduced-Pressure Principal Backflow-Prevention Assembly.
- Q. AWWA C512 – Standard for Air-Release, Air/Vacuum, and Combination Air Valves for Waterworks Service.
- R. AWWA C600 – Standards for Installation of Ductile-Iron Water Mains and Their Appurtenances.
- S. AWWA C605 – Standard for Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water.
- T. AWWA C606 – Standard for Grooved and Shouldered Joints.
- U. AWWA C900 – Standard for Polyvinyl Chloride (PVC) Pressure Pipe, 4 in. through 12 in. for Water Distribution.
- V. AWWA C901 – Standard for Polyethylene (PE) Pressure Pipe and Tubing, ½ in. through 3 in. for Water Services.
- W. ASTM D1785 - Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.

- X. ASTM D2855 - Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings.
- Y. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- Z. ASTM D3139 - Joints for Plastic Pressure Pipes using Flexible Elastomeric Seals.
- AA. ASTM F437-82 - Threaded Chlorinated Poly Vinyl Chloride (CPVC) Plastic Pipe Fittings, Schedule 80.
- BB. ASTM F439-87 - Standard Specification for Socket - Type Chlorinated Poly Vinyl Chloride (CPVC) Plastic Pipe Fittings, Schedule 80.
- CC. ASTM 493-85 - Solvent Cements for Chlorinated Poly Vinyl Chloride (CPVC) Plastic Pipe and Fittings.
- DD. ASME/ANSI B16.5 –1996 – Pipe Flanges and Flanged Fittings.
- EE. ASME/ANSI B 31.3 – 1996 – ASME Code for Pressure Piping.
- FF. ASME/ANSI B 16.9 – Pipe Fittings.

#### **1.04 RELATED REQUIREMENTS**

- A. Drawings and general provisions of the Contract, including the General Conditions and Terms and Division 1 Specification sections, apply to this section.
- B. LRECD Standards and approved product list.
- C. Specified in other Sections
  - 1. Section 02140: Dewatering
  - 2. Section 02225: Trenching, Bedding and Backfill for Pipes
  - 3. Section 02670: Flushing, Testing, and Disinfection

#### **1.05 SUBMITTALS**

- A. Submit under provisions of Section 01300.
- B. Product Data: Provide data on pipes, casings, pipe fittings, valves, thrust collars and accessories.

- C. Manufacturer's Certificate: Certify that pipe, fittings, and valves meet or exceed respective ANSI, AWWA, and/or NSF Standards.

## **PART 2 - PRODUCTS**

### **2.01 GENERAL**

- A. Although they may not be specifically shown on the drawings or called for elsewhere in the Technical Provisions, the Contractor shall include the cost of all fittings, piping supports, and miscellaneous appurtenances needed to provide a secure, working pipe and valve system. Piping shall be supported by thrust restraints and tie rods as necessary to ensure a stable installation. Adjustable pipe supports or piers shall be arranged to relieve attached equipment of all strain due to the weight of the pipe, fittings, valves, and the contents of the pipe. All tie rods, nuts, bolts, fasteners, and other similar appurtenances shall be 316 stainless steel throughout project to protect against corrosive environment.

### **2.02 APPROVED PRODUCTS**

- A. All products used to construct force main shall be as specified by LRECD Standards and LRECD approved products list.

- B. **DUCTILE IRON PIPE**

Ductile iron pipe and fittings shall conform to AWWA C150, C151, and C153 and shall be in conformance with the LRECD Standards. Sizes 3" to 12" diameter shall be class 52. Sizes 14" and above shall be class 51. If no standard exists, the following shall be used:

1. Joints: Buried pipe shall be AWWA approved push-on or mechanical joint pipe (AWWA/ANSI C111/C21.11). Exposed joints shall be AWWA approved flanged joint pipe, in accordance with ANSI/AWWA C115, or as detailed on the drawings.
2. Fittings: Buried fittings shall be AWWA approved mechanical joint fittings. Exposed fittings shall be flanged fitting or as detailed on the drawings. Conform to AWWA C153.
3. The internal surface of all piping and fittings in contact with wastewater shall be epoxy lined and seal coated in accordance with AWWA C213, unless other noted.
4. External surfaces of all buried ductile iron pipe and fittings shall be coated with a bituminous coating approximately one mil thick in accordance with AWWA C151/A21.51, latest revision.



5. Restrained joint fittings for 24" and smaller diameter pipe shall be ductile iron, "Flex-Ring" as manufactured by companies listed in the LRECD approved products list. Restrained joint pipe shall be constructed on all new force mains adjacent to all bends, crosses, tees, etc., where a change in direction occurs. Refer to the Table on the drawings for restrained pipe lengths.
6. DIP pipe used for force mains shall conform to the LRECD Standards and approved products list. Fittings used in conjunction with the force mains shall be ductile iron. DIP force main pipe shall have a line of green paint or green tape the full length of the new run-on top of the pipe and on both sides. Pipe interior and exterior to be coated in accordance with LRECD approved products list.

#### C. DUCTILE IRON FITTINGS

All force main products shall be as specified by LRECD Standards. All ductile iron fittings shall be polyethylene encased in accordance with ANSI/AWWA C105/A21.5. If no standard exists, the following shall be used:

1. Wastewater: Ductile iron fittings shall conform to ANSI/AWWA Standard C110 A21.10, latest revision. Fittings 4" and larger shall be epoxy lined in accordance with ANSI/AWWA Standard C213, latest revision.

#### D. POLYVINYL CHLORIDE (PVC): AWWA C-900

All force main products shall be as specified by LRECD Standards. If no standard exists, the following shall be used:

1. PVC will be acceptable for force mains up to and including 30-inch diameter pipe.
2. PVC must meet requirements as set forth in AWWA C900 and bear the National Sanitation Foundation seal for potable water pipe. Provisions must be made for contraction and expansion at each joint with a rubber ring and integral thickened bell as part of each joint. Pipe and fitting must be assembled with nontoxic lubricant.
3. Force mains shall be color coded per LRECD standards.
4. Design working pressure for force mains shall be C900, DR-18 (Pressure Class 235) 4" to 30".

5. Connections for pipe 2-inches or greater in diameter shall be rubber compression ring-type. Pipe shall be extruded with integral thickened wall bells without increase in dimension ratio (DR). Rubber ring gaskets shall consist of synthetic compounds meeting the requirements of ASTM Designation F477 and suitable for the designated service.
6. Fittings: Ductile iron fittings shall be used on all PVC C900 mains. Fittings shall conform to AWWA/ANSI C110/A21.10 with a minimum pressure rating of 350 psi. All ductile iron fittings shall be polyethylene encased in accordance with ANSI/AWWA C105/A21.5.

E. HIGH DENSITY POLYETHYLENE (HDPE) PIPE

This section applies to HDPE pressure pipe:

1. Polyethylene pipe and fittings shall be high-density polyethylene (HDPE) ASTM 3408 for municipal piping systems. The pipe manufacturer shall verify that the dimension ratio (DR) is capable of withstanding all forces and pressures that may be applied to the pipe before, during, and after installations of all HDPE piping. The pipe for this project shall be DR-9 and DR-11 at a minimum, where noted, and be DIPS sized. Any increases in wall thickness that may be determined as required for the project by the pipe manufacturer and shall be provided by the contractor at no additional cost.
2. All HDPE pipe force main shall be in accordance with LRECD Standards
3. Polyethylene pipe and fittings shall be joined by the heat butt fusion process to produce a homogenous, sealed, leak tight joint unless otherwise noted as a mechanical joint or electrofusion connection. Fusion process shall meet the requirements of ASTM D-3261. At the point of fusion, the outside diameter and minimum wall thickness shall meet the outside diameter and minimum wall thickness specifications of ASTM F-714.
4. Polyethylene fittings shall be made from the material meeting the same requirements as the pipe. Polyethylene fittings shall be fabricated by the same manufacturer of the pipe. The piping shall be homogenous throughout and free of visible cracks, holes, voids, foreign inclusions, fillers, or other deleterious defects and shall be identical in color, density, melt index, and other physical properties throughout.

5. All HDPE MJ Adapters (DIPS) shall be installed with Back-up Rings, Mechanical Restraint, and stainless-steel stiffener that meets AWWA C906 standards. Back-up Rings shall be manufactured of ductile-iron conforming to ASTM A536-80. The gland shall be such that it can replace the standardized mechanical joint gland and can be used with the standardized mechanical joint bell conforming to ANSI/AWWA A21.11/C111 and ANSI/AWWA A21.53/C110 of the latest revision. Twist-off nuts sized same as tee-head bolts shall be used to ensure proper actuating of restraining devices.
6. HDPE Pipe shall be color coded with three continuous stripes the full length of the Pipe at 120-degree intervals around the pipe.
7. The manufacturer shall certify that samples of the manufacturer's production pipe have been tested in-house, in accordance with ASTM D-2837, and validated in accordance with the latest revisions of PPI ASTM D-2837 and validated in accordance with the latest revisions of PPI TR-3.

F. POLYETHYLENE TUBING

All force main products shall be as specified by LRECD Standards. If no standard exists, the following shall be used:

1. Polyethylene tubing shall conform to AWWA C901 subject to the Standard Code Designation PE4710, Pipe Class 200, and Dimension Ratio (DR) 9.
2. Tubing shall bear identification markings, which shall remain legible during normal handling, storage, and installation, and which have been applied in a manner that will not reduce the strength of the product or otherwise damage the tubing. Marking on the tubing shall include the following and shall be applied at intervals of not more than 5 feet. Nominal size, material code designation, dimension ratio, pressure class, manufacturer's name or trademark and production record code, and seal (mark) of the testing agency that certified the suitability of the tubing material for potable water products is required.
3. Joints for polyethylene tubing shall be of the compression type utilizing a totally confined grip seal and coupling nut. Stainless steel tube stiffener insert shall also be used for tubing services.
4. All fittings and stops to be high quality water works brass. No PVC fittings or adapters will be permitted. Fittings shall be brass equipped with compression-type connectors.

#### G. THRUST RESTRAINT

See specification section 02660, Section 2.02A. If no standard exists, the following shall be used:

1. All bends, tees, crosses, reducers and dead ends shall be restrained through an approved means of joint restraint unless an alternate restraint method is shown on the drawings. All branch valves shall be restrained with joint restraints or approved equal or anchor tees, or anchor couplings. Any line terminated during the construction phase that is a known future extension shall have a plugged valve placed at the end and be restrained. Thrust restraints shall be placed in accordance with the restraint table shown in the construction plans. If installed cover is less than the depth referenced in the table, increase restrained length per manufacturer's recommendation. Existing pressure pipes that are modified by the construction or connected to new piping systems shall be restrained by bell restraints, split-ring restraints, or thrust blocks as appropriate.
2. All restraints shall be EBAA 1900 and 2000 style for PVC installations and EBAA 1100 style for ductile iron MJ connections.

#### H. LOCATOR FOR PIPE

See specification section 02660, Section 2.02A. If no standard exists, the following shall be used:

1. On all pipe construction, 10 gauge, THHN insulated, solid copper wire shall be laid and secured on top of pipe. Wire shall be continuous from valve box to valve box, wrapped two times around each joint of pipe and extended inside each valve box to enable location devices to be attached without digging up the valve box. Locator wire shall be routed to ARV manholes at the request of the LRECD.
2. Wire for force mains shall be color coded per LRECD Standards.
3. All wire connections shall be made with Dri-Splice wire connectors, Imperial Snip-Snap fittings filled with waterproof silicone sealant or approved equal. All splices shall be inspected and tested before burial.

#### I. VALVE BOXES

See specification section 02660, Section 2.02A. If no standard exists, the following shall be used:

1. All valve boxes shall be cast iron construction with 5-inch shafts, equal to Tyler pipe 6850 series or Bingham Taylor equivalent. Valve box lids shall have a 1-inch-deep skirt and shall have the words "SEWER", where appropriate, cast in the top. Valve operating nuts shall be brought to within 30-inch of the surface using valve extension rods if required.

## **PART 3 - EXECUTION**

### **3.01 SALVAGEABLE MATERIAL**

- A. Any existing equipment or material which is removed or replaced as a result of construction under this project may be designated as salvageable by LRECD and if so, shall be removed, cleaned, and delivered to a protected location specified by LRECD. Any equipment or material not worthy of salvaging, as directed by LRECD, shall be disposed of in a legal manner by the Contractor at an off-site location. Upon request of the Engineer, the Contractor shall submit evidence of proper disposal.

### **3.02 IDENTIFICATION AND COLOR CODING OF PIPE & FITTINGS**

- A. **FORCE MAINS**
  1. All force main pipe and fittings shall be color coded or marked using Green as a predominant color to differentiate wastewater from reclaimed or other water. Underground plastic pipe shall be solid-wall Green pipe, or shall have a co-extruded Green external skin, with Green stripes incorporated into, or applied to, the external pipe wall.
  2. Green Warning tape with SEWER printed on the tape shall be placed in the trench during backfill of the sewer pipe, a vertical distance of 18" above the crown of the pipe.

### **3.03 MARKING BY MANUFACTURER**

- A. Special markings shall be plainly marked on the applicable pipe indicating the weight, class of pipe, casting period, manufacturer's mark and year pipe was produced.

### **3.04 EXISTING UTILITIES**

- A. The plans depict the approximate location of the known existing subsurface water, sanitary sewer, electric, telephone, gas, cable, and storm water utilities.
- B. The Contractor will arrange for underground utilities to be located by appropriate utility owners in advance of the Contractor's operations. The

Contractor shall pothole all locations where the proposed pipe crosses an existing underground facility to verify that a conflict does not exist.

- C. Notify the Engineer of any substantial changes that would require a deviation in the plans.
- D. Repair any damage done to existing utilities and private property at no additional expense to the Owner.

### **3.05 PREPARATION**

- A. Where applicable, ream pipe and tube ends and remove burrs.
- B. Remove scale and dirt, on inside and outside, before assembly.
- C. Prepare pipe connections to equipment with flanges or unions.

### **3.06 BEDDING**

- A. Excavate trench and install pipe bedding as specified in Section 02200, Earthwork, Excavation and Backfill.

### **3.07 SURFACE CONDITIONS**

- A. Inspection
  - 1. Prior to all Work of this section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this work may properly commence.
  - 2. Verify that all equipment may be installed in accordance with all pertinent codes and regulations, the original design, shop drawings, and the reference standards.
- B. Discrepancies
  - 1. In the event of discrepancy, immediately notify the Engineer.
  - 2. Do not proceed with installation in area of discrepancy until all such discrepancies have been fully resolved.

### **3.08 PIPE INSTALLATION GENERAL**

- A. Take all precautions necessary to ensure that pipe, valves, fittings, and other accessories are not damaged in unloading, handling, and installation. Examine each piece of material just prior to installation to determine that no

damage has occurred. Remove any damaged material from the site and replace with undamaged material.

- B. Exercise care to keep foreign material and dirt from entering pipe during storage handling and installation. Close ends of in-place piping at the end of any work period to preclude the entry of animals and foreign material.
- C. Use only those tools specifically intended for cutting the size, material and type pipe involved. Make cut to prevent damage to pipe or lining and to leave a smooth end at right angles to the axis of the pipe.
- D. Pipe deflection at joints shall be limited to 75% of the manufacturer's maximum deflection tolerance.
- E. All piping shall be laid to line in a clean, dry trench online and grade with all valves and appurtenances plum.
- F. No wet taps, line stops, or connections to active water lines shall be performed on a Friday without prior permission from LRECD.
- G. Underground pressure piping systems shall be securely anchored by acceptable means at all tees, plugs, caps, bends and valves, and at all other locations where unbalanced forces exist or as directed by the Utility or Engineer. Restrained joints shall be used in accordance with manufacturer's recommendations.
- H. All coupons for force mains shall be kept and provided to the Owner.
- I. Special Exterior Protection for Corrosion: When specifically required, extra protection shall be provided for underground cast or ductile iron pipe and fittings within areas of severe corrosive conditions. This shall be accomplished by the installation of encasement or outside protection, AWWA C105, through the area of concern. Soil-test evaluation to determine the necessity for extra protection in suspect areas shall be as set forth in ANSI Standard A21.5.
- J. In case of conflict between various installation requirements, the more stringent requirement shall apply.

### **3.9 PIPE/SLEEVE INSTALLATION – DIRECTIONAL BORE (PLUMBING CONNECTION)**

- A. This work shall include all services, equipment, materials, and labor for the complete and proper installation, testing, restoration of underground utilities and environmental protection and restoration.

- B. The proposed plan installation locations are approximate; the intent is to construct the force main in the general area shown and to avoid existing utilities and obstructions. The general horizontal location is shown on the plans, but the entry and exit locations, and minimum clearances are not shown on the plan views. The Contractor may utilize an alternative drill path than is shown on the drawings with the approval of the Owner at no additional cost to the Owner.
- C. Submittals:
  - a. Specifications on material to be used shall be submitted to Engineer. Material shall include the pipe, fittings and any other item which is to be an installed component of the project.
- D. Contactor shall notify all companies with underground utilities in the work area via the state or local "one-call" to obtain utility locates. Once the utilities have been located Contractor shall physically identify the exact location of the utilities by vacuum or hand excavation, when possible, in order to determine the actual location and path of any underground utilities which might be within 20 feet of the bore path. Contractor shall not commence boring operations until the location of all underground utilities within the work area have been verified.
- E. The Contractor is required to bring to the attention of the Engineer any known design discrepancies with these specifications and the actual drilling methods that the Contractor will be performing. This shall be stated in writing to the Engineer no later than the pre-construction meeting.
- F. No joints in HDPE sleeves shall be allowed.
- G. Horizontal directional drilling shall consist of the drilling of a small diameter pilot hole from one end of the alignment to the other, followed by enlarging the hole diameter for the pipeline insertion. The exact method and techniques for completing the directionally drilled installation will be determined by the Contractor, subject to the requirements of these Specifications.
- H. The elevation of the sleeve and/or carrier pipe at the location of the connection point of the directional bore shall be 36" below the natural grade and shall be in a horizontal location for ease of connection to continuing lateral or mainline. Should this not be possible due to the acute angle of the bore, the contractor shall furnish and install appropriate fittings to provide for a horizontal continuation.
- I. The required piping shall be assembled in a manner that does not obstruct adjacent roadways, driveways, or public activities. The Contractor shall erect temporary fencing and submit Maintenance of Traffic plans for approval by Palm Beach County and the Town of Jupiter.



- J. During the drilling, reaming, or pullback operations, the Contractor shall make adequate provisions for handling the drilling fluids, or cuttings at the entry and exit pits. To the extent practical, the Contractor shall maintain a closed loop drilling fluid system. When the Contractor's provisions for storage of the fluids or cuttings on site are exceeded, these materials shall be hauled away to a suitable legal disposal site. After completion of the directional drilling work, the entry and exit pit locations shall be restored in accordance with the project specifications.
- K. Following service operations, the Contractor will de-mobilize equipment and restore the worksite to original condition. All excavations will be restored in accordance with the project specifications.

### **3.10 VALVES AND VALVE BOXES**

- A. Unless a beveled gear valve is specified, for valves 2-inch through 12-inch, install valves for with operator stems in the vertical plane through the pipe axis and out of the plane of flow. Locate valves where shown on Drawings. Thoroughly clean valves before installation. Check valves for satisfactory operation.
- B. Equip all underground valves with gearing or operator switch valve boxes. Set box in alignment with valve stem centered on valve nut. Set the valve box to prevent transmitting shock or stress to the valve. Set the box cover flush with the finished ground surface or pavement.

### **3.11 PIPE PENETRATIONS**

- A. Use sleeves where pipes, valve stem extensions, or equipment parts pass through poured in place concrete or masonry walls or slabs. Sleeves shall be either cast iron or fabricated steel wall pipe with intermediate flange seep ring of sufficient size to allow sealing around pipe and clearance for valve stems or equipment. Extend vertical sleeves through slabs 1-inch above top surface.
- B. Where new pipe must penetrate concrete wall on non-water bearing concrete structures, drill penetration in neat, workmanlike manner, install pipe, grout in place with non-shrink grout, and refinish surface to match adjacent.

### **3.12 THRUST RESTRAINT**

- A. Provide reaction anchors of concrete blocking, metal harness, retainer gland type or restrained joint type at all changes in direction of pressure pipelines and as shown on drawings.

- B. Concrete reaction anchors shall bear against undisturbed earth and shall be of the size and shape necessary to resist service conditions of the pipe.
- C. Use metal harness restraints as shown on drawings to restrain existing pipe segments.
- D. Where retainer glands are used, extreme care shall be taken so that each set screw is tightened as recommended by the manufacturer before the pipe is backfilled and tested.
- E. Existing piping shall be restrained with bell restraints as required by the thrust restraint table shown on the plans.

### **3.13 FIELD QUALITY CONTROL**

- A. Compaction testing shall be performed in accordance with Section 02200.
- B. If tests indicate Work does not meet specified requirements, remove Work, replace, and retest at no cost to Owner.

### **3.14 CONSTRUCTION CONSTRAINTS**

The Contractor shall give special considerations to accommodate the business owners and residents in minimizing downtime and disruption of water and sewer services during the entire construction period.

- A. The Contractor will be required to submit as-builts including laboratory results to the Owner after the completion of each phase for preparation of Request for Partial Release and submission to the Palm Beach County Health Department.
- B. The Contractor shall coordinate with the LRECD when service shutdowns are required for performance of the work.

**END OF SECTION**

## **SECTION 02670**

### **FLUSHING AND TESTING**

#### **PART 1 - GENERAL**

##### **1.01 WORK INCLUDED**

- A. Flushing and Pressure Testing of systems including, but not limited to, the force mains shown on the Plans.
- B. The Contractor shall furnish all necessary pumps, hoses, piping, fittings, meters, gauges, chemicals and labor to conduct specified testing.
- C. Testing shall be repeated at the Contractor's expense until satisfactory results are achieved.

##### **1.02 RELATED REQUIREMENTS**

- A. Drawings and general provisions of the Contract, including the General Conditions and Terms and Division 1 Specification sections, apply to this section.
- B. Specified in other Sections:
  - 1. Section 02660: Pressure Pipe Systems

##### **1.03 REFERENCES**

- A. ANSI/AWWA C605 – PVC Pipe Installation/Testing

##### **1.04 SUBMITTALS**

- A. Test Reports: Indicate results comparative to specified requirements. Submit two (2) copies of test results to Engineer in accordance with Submittal specifications.
- B. Pressure test reports for force main: All required testing shall be completed and submitted on the LRECD Standard Forms.
- C. For all new pipelines the Contractor shall provide a flushing plan, type of poly-pig to be used and a 1-week notice prior to the commencement of any flushing activities. Note that all flushing will occur in off-peak water usage times.

## **1.05 QUALITY ASSURANCE**

- A. Perform Work in accordance with ANSI/AWWA C651.

## **1.06 REGULATORY REQUIREMENTS**

- A. Conform to applicable FDEP requirements for performing the work of this Section.
- B. Work shall conform to LRECD Standards for force main.

## **PART 2 - PRODUCTS**

### **2.01 FLUSHING AND TESTING**

- A. Contractor to provide type and manufacturer of poly-pig to be used.
- B. Contractor to provide schematic of pressure testing apparatus to include piping connections, pressure gauges and water source for filling and testing.

## **PART 3 - EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that the installed wastewater systems have been cleaned, inspected, and tested.
- B. Coordinate testing scheduling activity with the Engineer and LRECD for force main.

### **3.02 FLUSHING AND PRESSURE TESTING - PIPING**

The Contractor shall furnish and install suitable temporary testing plugs or caps for the water lines, all necessary pressure pumps, hose, pipe connections, meters, gauges and other similar equipment, and all labor required, all without additional compensation for conducting pressure and leakage tests and flushing of the force mains. Flushing and pressure testing shall be in accordance with LRECD Standards for force main. If no standards exist, flushing and pressure testing shall be conducted in the following order.

- A. After all piping lines have been installed and before pressure testing and final connections to equipment, each run of pipe shall be thoroughly flushed so as to remove all debris and foreign matter from the piping and equipment. Cleaning and flushing shall be achieved by pigging or cannon flushing if approved by LRECD Standards for the force main. Each section of pressured main will be thoroughly cleaned with two (2) polyurethane foam pigs as manufactured by Girard Poly-Pig Inc. or an approved equal. Each pig will run

through the line prior to running the second pig. Contractor shall furnish and install required pig launch and exit assemblies or temporary piping required for cannon flushing. Non-abrasive pigs shall be employed. Flushed water may be discharged to the onsite catch basins or water bodies and be coordinated with Owner. The Contractor to provide means of discharging water to catch basins at the Contractor's expense.

- B. Pressure and leakage tests shall be conducted in the presence of the Engineer, or his representative. All pressure mains, fittings, water services, and appurtenances shall undergo pressure and leakage tests. The Contractor will provide all necessary apparatus including a suitable pressure gage, pump, measuring device, piping connections and fittings and the necessary labor to conduct the test. Leakage is defined as the quantity of water added to the pipe being tested during the test period. The Contractor shall submit to the Engineer the testing pattern he proposes to follow prior to testing for the Engineer's approval. The Contractor shall not test more than 1,500 feet of pipe in a single test without approval from the Engineer.
- C. Pressure testing ductile iron/PVC/HDPE piping systems:
  - 1. The test pressure for the force main piping constructed of ductile iron, PVC, and HDPE pipe shall be 150 psi. These pressures shall be maintained for a period of not less than two hours. Tests shall be made between valves and as far as practicable and as approved by the Engineer. Potable water from the distribution system shall be used. Pressure shall not vary more than five (5) psi for piping during the test periods or as approved by the Engineer. Additionally, allowable leakage shall be computed on the basis of AWWA C-600, C-605 where practical.
  - 2. All leaks evident at the surface shall be uncovered and repaired regardless of the total leakage as indicated by the test, and all pipes, valves and fittings and other materials found defective under the test shall be removed and replaced at the Contractor's expense. Tests shall be repeated until leakage has been reduced below the allowable amount.
  - 3. Should, in the judgment of the Engineer, it is not practical to follow the foregoing procedures exactly for any reason, modifications in the procedure shall be made as approved by the Engineer and LRECD. In any event, the Contractor shall be responsible for the ultimate water tightness of the plant piping within the preceding requirements.

### **3.03 CONNECTIONS TO EXISTING MAINS**

- A. The Contractor shall make connections to existing mains as shown on the drawings. The connections of new force main to existing force mains shall be

made only after the new mains have passed their pressure and leakage test procedures as mandated by the Palm Beach County Health Department and shall be under the Owner's immediate supervision.

**END OF SECTION**

## **SECTION 02740**

### **ASPHALT CONCRETE PAVING**

#### **PART 1 – GENERAL**

##### **1.01 RELATED DOCUMENTS**

- A. Drawings and terms of the Contract Documents, and Division 1 Specification sections, apply to this section.

##### **1.02 WORK INCLUDED**

- A. This section of the specifications covers the control and general conduct of asphalt paving construction for roads, parking, walks and court areas.
- B. All Work within the right-of-way shall be constructed using materials and methods in accordance with the Contract drawings, Palm Beach County Standards and Town of Jupiter Standards.
  - 1. Grade deviations from Contract and Drawings shall conform to Section 02210, Grading.
- C. Provide all labor, materials, necessary equipment and services to complete the Asphaltic Surfaces work, as indicated on the drawings, as specified herein or both, except as for items specifically indicated as "NIC ITEMS".
- D. Including, but not necessarily limited to the following:
  - 1. Preparation of subgrade
  - 2. Installation and compaction of base course
  - 3. Spreading of asphalt surface course

##### **1.03 RELATED WORK**

- A. Section 02225: Trenching, Bedding, and Backfill for Pipe
- B. Section 02210: Grading
- C. Section 02751: Portland Cement Concrete Paving

## **1.04 REFERENCE STANDARDS**

- A. American Association of State Highway and Transportation Officials (AASHTO)
  - 1. M140 - Standard Specification for Emulsified Asphalt Nineteenth Edition; Revised Per Interim Specifications – Specifications - 1999 R (1998)
  - 2. M276 - Standard Specification for Viscosity Graded Asphalt Cement Nineteenth Edition R (1996)
  - 3. T245 - Standard Method of Test for Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus Nineteenth Edition; ASTM D1559-76
- B. American Society for Testing and Materials (ASTM)
  - 1. D1559 - Test Method for Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus
  - 2. D2041 - Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
  - 3. D2171 - Standard Test Method for Viscosity of Asphalts by Vacuum Capillary Viscometer (RAP Asphalt Mixes)
- C. Asphalt Institute (AI)
  - 1. MS-2- Mix Design Method for Asphalt Concrete and Other Hot Mix Types
  - 2. MS-22- Principles of Construction of Hot-Mix Asphalt Pavement, Addendum

## **1.05 TRAFFIC CONTROL**

- A. The Contractor shall provide and maintain access to and from all properties along the line of Work. The Contractor shall also provide temporary by-passes and maintain them in a safe and usable condition whenever detouring of traffic to parallel routes cannot be done without hardship or excessive increases in travel by the public.



## **1.06 SPECIAL SUBGRADE CONDITIONS**

- A. When special subgrade conditions are encountered for which these "Asphaltic Surfaces Specifications" are not applicable, portions of these specifications shall be deleted or revised to provide a properly finished paved surface. A requested revision or deletion of the specifications shall be accompanied with reports and laboratory tests on existing field conditions. Any change from these "Asphaltic Surfaces Specifications" shall be approved by the Engineer and shall be in effect only for a specified area or paving project.

## **1.07 QUALITY ASSURANCE**

- A. DOT Standard Specifications.
  - 1. Work and materials shall conform to all applicable requirements of Florida Department of Transportation "Standard Specifications for Road and Bridge Construction – Current Edition" (referred to herein as DOT).
- B. American Society for Testing and Materials.
  - 1. ASTM 3515-80 "Standard Specification for Hot-Mixed, Job Laid, Bituminous Paving Mixtures."

## **1.08 SUBMITTALS**

- A. Job Mix Designs: The Contractor shall submit a mix design for each pavement course proposed for construction for the Owner's review and approval 45 days prior to schedule production and lay down of the mix. The design mix submittal shall be formatted as indicated in Asphalt Institute Manual MS-2, the "Marshall Stability Method"; and shall include type/name of mix, gradation analysis, grade of asphalt cement, Marshall Stability in pounds flow, effective asphalt content in percent (%), and corresponding copies of governing State Department of Transportation (DOT) material specifications or regulatory authorities having jurisdiction for each proposed material.
- B. The Contractor may submit to the Owner a superpave asphalt mix design for review and approval, in lieu of a Marshall Mix Design asphalt, meeting the specifications of the governing State Department of Transportation or regulatory authorities having jurisdiction.
- C. Material Certificates: The Contractor shall submit certificates stating that asphalt mix to be supplied complies with the specifications of the

governing State Department of Transportation (DOT) or regulatory authority having jurisdiction, as well as copies the regulatory specifications corresponding to the asphalt mix formula and material. The certificates shall be signed by the asphalt mix producer and the Contractor.

## **1.09 JOB CONDITIONS**

- A. Apply prime and tack coats when ambient temperature is above 50 degrees, and when temperature has not been below 35 degrees for 12 hours immediately prior to application. Do not apply when base is wet or contains an excess of moisture.
- B. Construct asphalt concrete surface course only when atmospheric temperature is above 40 degrees, and when base is dry. Base course may be placed when air temperature is above 30 degrees and rising.

## **1.10 LOCATIONS, LAYOUT AND GRADES**

- A. Locate and layout paved areas and rights-of-way with reference to benchmarks, property lines or buildings according to the Contract drawings and accepted by the Engineer. The Contractor shall not utilize electronic files from the Engineer for layout.
- B. Determine locations of paved edges and right-of-way lines from surveyor's permanent reference monuments and information on the Horizontal Control drawings.
- C. Where permanent reference monuments are not available, obtain proper line locations from authorities having jurisdiction.
- D. Establish and maintain required lines and elevations.
- E. Furnished rock as-builts shall demonstrate a positive flow along the edge of pavement and road crown from the high point to the low point (catch basin/inlet) as indicated on the Contract drawings.

## **PART 2 – PRODUCTS**

### **2.01 FILL**

- A. All fill shall be clean rock and sand (maximum rock size = 1-inch).
- B. Fill shall be compacted thoroughly as per Section 02225 – Trenching, Bedding and Backfill for Pipe.

## 2.02 LIMEROCK

- A. Limerock shall be obtained from pits for which all overburden has been removed previous to blasting and shall show no tendency to air slake and must undergo the following chemical requirements.
1. Carbonates of Calcium                      Min. 70.0% (Miami Limerock) and Magnesium. (24-foot roadway).  
Min 60.0 (Miami Limerock) and Magnesium. (22-foot roadway)  
95.0 (Ocala Limerock)
  2. Oxides of Iron and Aluminum                      Max. 2.0%
  3. Organic Matter                      Max 5.0%
  4. Any constituents of other than the above shall be silica or inert material.
  5. The material shall be crushed to such size that not less than 97% shall pass a 3-1/2-inch sieve and it shall be graded uniformly down to dust. All fine material shall consist entirely of duct of fracture.
  6. Limerock from on-site may be used if the material meets the requirements of this section of the specifications.
- B. All limerock shall comply with requirements set forth under DOT Section 911.
- C. Limerock Bearing Requirements – Limerock material used in construction of limerock base shall have an average LBR vales of not less than 100. The average LBR value of materials produced at a particular source shall be determined in accordance with an approved quality control procedure.
- D. Equipment: The equipment for constructing the rock base shall be in first class working condition and shall include:
1. Vibratory compactor weighing not more than three tons. If approved in writing by the Engineer, larger vibratory compaction equipment may be allowed if operated in static mode only.
  2. Self-propelled blade grader weighing not less than three tons. The wheelbase shall be not less than 15-feet and blade

length not less than 10-feet.

3. Scarifiers shall have teeth space not to exceed 4-1/2-inches.
4. Provision for furnishing water at the construction site by tank or hose at a rate not less than 50 gallons per minute.

## **2.03 PRIME COAT**

- A. Prime coat shall be Grade RC-70, cut-back asphalt, DOT Section 916-2.
- B. Prime coat shall have full compatibility with surface treatment asphalt.
- C. The bituminous material shall conform to the requirements of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, Section 300-2.
- D. The sand for cover shall be clean dry sand.

## **2.04 TACK COAT**

- A. The bituminous material to be used for the tack coat shall conform to the requirements of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, Section 300-2.

## **2.05 ASPHALT**

- A. GENERAL:
  1. The asphaltic concrete surface course shall be in accordance with Florida Department of Transportation Standard Specifications for type SP-9.5 asphaltic concrete wearing surface, 1-1/2-inches to 2-inches in compacted thickness or as required by Palm Beach County and or Town of Jupiter, in accordance with Section 330-10 Compacting Mixture and 331 Type SP-9.5 Asphaltic Concrete of aforesaid DOT standard specification.
  2. Final lift of asphaltic concretes shall be virgin material only and shall be placed at the end of the project. (First lift may be RAP, reclaimed asphaltic paving, in accordance with DOT standards).

## **2.06 SEAL COATING**

- A. Homogeneous mixture of emulsified coal tar pitch, asbestos, sand and other inert fillers.

It shall be easily remixed if settlement occurs in storage (except in the case of freezing). It shall be capable of application and complete coverage by rubber squeegee, brush, or approved mechanical method, to the surface of bituminous pavements at the spreading rate of 0.2 to 0.3 gallons per square yard in two coats.

- B. Approved product: "TARFEX" manufactured by Bitucote Products Co. or approved equal.

## **PART 3 – EXECUTION**

### **3.01 COLD MILLING**

- A. Milling of existing asphalt pavement shall be at the depth and location as indicated on the Construction Drawings or as directed by the Owner.
- B. The milled surface shall be reasonably smooth and free of excessive scarification marks, gouges, ridges, continuous grooves, or other damage. The milled pavement surface shall be thoroughly cleaned of all loose aggregate particles, dust, and other objectionable material by the use of power brooms, power blowers, power vacuums or other means.
- C. The Contractor shall coordinate the adjustment of manhole, meter boxes, drainage inlets, and valve boxes with the milling operation.
- D. All milled material shall become the property of the Contractor and shall be disposed of off-site or used in conformance with Section 02300 or for utilization as Reclaimed Asphalt Pavement, in conformance with the specification provided above, as approved by the Owner.

### **3.02 PATCHING**

- A. Hot-Mix Asphalt Pavement: Saw cut perimeter patch and excavate existing pavement section to sound base. Excavate rectangular or trapezoidal patches, extending 12-inches into adjacent sound pavement, unless otherwise indicated or directed by the Owner. Re-

compact existing unbound-aggregate base course to form new subgrade.

- B. Tack Coat: Apply uniformly to vertical surfaces abutting or projecting into new, hot-mix asphalt paving at a rate of 0.05 gallons per square yard.
- C. Patching: Fill excavated pavements with hot-mix asphalt base mix, and while it is still hot, compact flush with adjacent surface.

### **3.03 BARRICADES**

- A. Provide substantial temporary barricades around all areas of operation and maintain until Work under this section is completed and approved.
- B. Install temporary traffic markers, signals, and signs as per Palm Beach County Standard Specification to:
  - 1. Eliminate potentially hazardous conditions.
  - 2. Maintain adequate traffic patterns free of conflict with work under this Contract.

### **3.04 PREPARATION OF SUBGRADE**

- A. This Work consists of bringing the bottom of excavations and top of embankments of the roadway between the outer limits of the shoulders or base course to a surface conforming to the grades, lines, and cross sections shown on the plans. The subgrade shall be of uniform density ready to receive the rock base of the paving course.
- B. All soft and yielding material and other portions of the subgrade which will not compact readily shall be removed and replaced with suitable material and the entire subgrade brought to line and grade to provide a foundation of uniform compaction and supporting power.
- C. Stumps, roots, and other deleterious organic matter encountered in the preparation of the subgrade shall be removed.
- D. Where fills are required on areas covered or partly covered by existing paving, the entire area of such existing paving shall be scarified to a depth of at least six inches, and the scarified material spread evenly over the area to be filled to a width not less than that of the proposed paving.
- E. Material for fills shall consist of sand or other suitable material approved by the Engineer free from stumps, roots, brushes, and other deleterious

organic matter.

- F. Where fill is more than 1-foot in depth, the backfill material above the ground water table shall be compacted in 8-inch depth lifts or as noted on the plans, whichever is less. Each individual layer of fill under the rock base shall have a density of 98% of the maximum density as determined by the AASHTO T-180 unless shown otherwise on the plans. Each individual layer of fill under the shoulder area shall have a density of 98% of the maximum density as determined by AASHTO T-180, unless shown otherwise on the plans.
- G. The bottom of all excavated areas and the top of all fills where rock base is to be constructed shall be thoroughly compacted by rolling. Water shall be used to insure thorough compaction. The stability of the top 12-inch thickness of the subgrade immediately under the base, for the full base width plus 1-foot on each side, shall be minimum LBR 40.
- H. Bring subgrade which has been properly filled and shaped to a firm unyielding surface, by rolling an entire area with an approved power roller:
  - 1. Thoroughly compact area inaccessible to the roller with approved hand tamper.
  - 2. Apply water sufficiently to compact the subgrade where the subgrade is of a dry, sandy nature and cannot be rolled.
- I. The subgrade shall be maintained free from ruts, depressions or other irregularities until rock base material is spread.
- J. For all roads, streets and paved areas other than State Highway, the stabilized subgrade shall have a minimum Limerock Bearing Ratio (LBR) of 40, unless otherwise noted on the plans.
- K. Where the bearing value of the existing subgrade is adequate without addition of stabilizing material, the subgrade shall be scarified and disked, harrowed, bladed or tilled for removal of boulders, roots, etc. to assure uniformity and thorough mixing of material to the full width and depth of required stabilization. The compacted subgrade shall conform to the lines, grades and cross-section shown on the plans.
- L. Test subgrade for crown and elevation after preparation and immediately before base of paving course is laid:
  - 1. Remove or add material and compact to bring to a correct elevation and uniform bearing if the subgrade is found not to be at the specified elevation at all points.

2. Adjust the manhole rims, catch basin frames and valve boxes where necessary to match proposed finish grade.

### **3.05 CONSTRUCTION OF BASE COURSE**

- A. This Work consists of construction of lime rock base course for the asphaltic concrete wearing surface. The base course shall be constructed on the prepared subgrade in an 8-inch thick limerock bases constructed in two 4-inch lifts as shown on the drawings. Twelve (12) inch thick limerock bases shall be constructed in two six-inch lifts. The limerock base shall be a minimum LBR of 100.
- B. Spreading Rock: The rock shall be transported to the points where it is to be used over rock previously placed and dumped on the end of the preceding spread. It shall then be spread uniformly with hand tools, or mechanical equipment. In no case shall rock be dumped directly on the subgrade. No hauling shall be done over the subgrade.
- C. Compacting Rock:
  1. Following spreading, the rock shall be rolled with a three-wheel roller weighing not less than ten tons, water being added as required, until the entire depth of base is compacted into a dense unyielding mass.
  2. No greater are of rock base shall be placed during any one day than that which can be rolled and compacted on the same day.
- D. Finishing Base:
  1. After watering and rolling, the entire surface shall be thoroughly scarified to a depth not less than 4-inches and shaped to exact crown and cross section, re-watered and again thoroughly rolled. Rolling shall continue until the entire depth of base is bonded and compacted into a dense, unyielding mass, true to grade and cross section.
    - a. Any irregularities which may develop in the surface during such finishing shall be corrected by the removal or addition of rock as the case may be.
    - b. If at any time the subgrade material becomes churned up and mixed with the base rock, the Contractor shall dig out and remove the mixture, reshape and compact the subgrade and replace the materials removed with clean rock which shall be



watered and rolled until satisfactorily compacted.

- c. Where cracks or checks appear in the base either before or after priming, which in the opinion of the Engineer would impair the structural efficiency of the base course, the Contractor shall remove such cracks or checks by re-scarifying, reshaping, watering, rolling and adding rock where necessary.
  - d. During final compacting operations, if grading of any areas are necessary to obtain the true grade and cross section, the compacting operations for such areas shall be completed prior to making the density tests on the finished base.
- E. Inferior Rock: If in the opinion of the Engineer at any time during the progress of the Work, rock of inferior quality is being delivered to the construction site, a laboratory analysis of the rock shall be made. Should the results of such tests indicate that the rock does not conform to specifications, the Contractor shall, at his own expense, remove such inferior material from the area indicated and deliver and spread satisfactory rock on said area.
- F. Testing Surface: The finished surface of the rock base shall be true to the required cross section. Any irregularities in the grade greater than 1/4-inch, as determined by placing a 10-foot straight edge parallel with the centerline and use of full width crown board, shall be corrected by scarifying to a depth of 3-inches, removing or adding rock as may be required and again watering, rolling, and compacting the scarified area. In testing the surface for irregularities, the measurements under the straight edge shall not be taken in small holes caused by individual pieces of rock having been pulled out by the road grader. The finished rock base shall provide positive flow from the high point to the low point (catch basin/inlet) as indicated on the Contract Drawings.
- G. Thickness Determination: Thickness of the base shall be measured by intervals as required by the Engineer. Measurements shall be taken at various points on the cross section. The measurements shall be taken in holes through the base of not less than 3-inches in diameter. Where the base is more than 1/2-inch less than the required compacted thickness, the Contractor shall correct such areas by scarifying and adding rock. The affected areas shall then be watered, rolled and brought to a satisfactory state of completion, and of required thickness and cross section.
- H. Density: Density determinations shall be made by the Contractor or at intervals required by the Engineer. An average required density shall be

98% of maximum density obtainable under AASHTO Method T-180. No section of base shall be accepted when more than 10% of tests fall below 98% of maximum density and in no case shall a density of less than 96% of maximum be accepted.

- I. Testing: The Contractor shall coordinate with the Engineer for all testing. One test shall be made in accordance with AASHTO, T-180 for each class of material in the subgrade and base:
  1. In place density tests in accordance with AASHTO T-147 shall be made in the locations shown on the plans. Two copies of the test reports will be sent directly to the Engineer for evaluation.
  2. Any material which fails to meet these specifications shall be removed, replaced, and retested, all at the Contractor's expense.
  3. Tests shall be taken at least every 1,000 square yards and taken at locations and lifts as directed by the Engineer.

### **3.06 PRIME COAT FOR BASE COURSE**

- A. Cleaning for prepared base:
  1. Before any bituminous material is applied, all loose material (dust, dirt, caked clay and foreign matter) which might prevent proper bond with the existing surface shall be moved to the shoulders, to the full width of the treatment, by means of revolving brooms or approved mechanical sweepers and by mechanical blowers, of approved types, supplemented by hand sweeping. Dust and other loose materials not removed by mechanical means shall be removed with hand brooms. Particular care shall be taken to clean the outer edges of the strip to be treated in order to ensure that the prime coat will adhere. Sweeping and blowing shall be continued until all the loose dust and dirt is removed from the surfaces.
  2. Application of bituminous material shall be made during the same day surface has been swept and as soon as practical thereafter.
- B. Application for prime coat:
  1. The bituminous material shall be applied to the clean dry surface of the rock base at such temperature as will ensure uniform distribution. The amount applied will be at the rate of approximately 0.10 to 0.20 gallons per square yard of base area. The application shall be made by means of self-propelled pressure distributor operating under a pressure not less than 20 pounds per square inch. Application of bituminous material

shall be made on only one-half of the width of base at one time.

2. The primed base shall then be covered with a uniform layer of clean sand and kept thoroughly and uniformly covered by additional sand or sweeping until it shows no signs of picking up under traffic. For a period of one week after priming, the Contractor shall again broom any area where insufficient cover sand or excess of bituminous material causes "bleeding" and, if necessary, spread additional sand on such area.
- C. Prime coat finish: After prime has cured or sat and been sanded, the shoulder shall be shaped to conform to all grade lines and cross sections and the entire area shall be rolled and compacted with a rubber tired roller or a power roller before asphalt surface is laid on the finished base.

### **3.06 BITUMINOUS TACK COAT**

- A. Before applying any bituminous material, all loose material: dust, dirt and foreign material, which might prevent proper bond with the existing surface, shall be removed for the full width of the application.
- B. Application for tack coat:
1. The surface to receive the tack coat shall be clean and dry. The tack coat shall be clean and dry. The tack coat shall be applied with a pressure distributor except that on small jobs, if approved by the Engineer, the application may be made by other approved mechanical methods or by hand methods. The pressure distributor shall operate at a pressure not less than 20 pounds per square inch and at a consistency such that it can be properly pumped and sprayed uniformly over the surface.
  2. The bituminous material shall be applied in a thin uniform layer. The rate of application shall be between 0.02 and 0.10 gallon per square yard. The tack coat shall be applied sufficiently in advance of the laying of the wearing surface to permit drying but shall not be applied so far in advance that it might lose adhesiveness as a result of being covered with dust or other foreign material. The tack coat surface shall be kept free from traffic until the wearing surface is laid.

### **3.07 ASPHALTIC CONCRETE WEARING SURFACE COURSE**

#### **A. Cleaning and preparing base:**

1. Prior to the laying of the asphaltic concrete, the base of pavement to be covered shall be cleaned of all loose deleterious material by the use of power brooms or blowers. A tack coat shall be applied on all pavement. The tack coat shall not be applied so far in advance of laying operations as to allow shifting and sand or weather conditions to nullify its effectiveness.
2. After the surface has been thoroughly cleaned, all holes shall be filled with asphaltic concrete, if necessary, and thoroughly compacted to conform to the existing surface and to form a smooth surface.

#### **B. Placing asphaltic concrete: The asphaltic concrete surface course applied after the tack coat and be permitted a reasonable time for drying, but not to an extent that the tack coat is allowed to lose its adhesiveness:**

1. Machine spreading: Upon arrival the mixture shall be dumped into the approved mechanical spreader and immediately spread and struck off to the full width required and to such appropriate loose depth for each successive course that when the work is completed the required weight of the mixture per square yard or the specified thickness will be secured. An excessive amount of mixture shall be carried ahead of the screen 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 impractical, the mixture may be spread by hand, when so authorized by the Engineer.
3. The mixture shall be laid only when the surface to be covered is dry and only when weather conditions are suitable.
4. All structures which will be in actual contact with asphaltic mixture, including the face or surface of curbs or gutters and their vertical faces of existing pavements, shall be painted with a uniform coating of asphalt material to provide a closely bonded, watertight joint.
5. Where necessary, due to the traffic requirements, the mixture

shall be laid in strips in such manner as to provide for the passage of traffic.

6. Any mixtures caught in transit by a sudden rain may be laid at the Contractor's risk. In no case shall the mixture be laid while rain is falling or when there is water on the surface to be covered.
  7. The depth of the layer being spread shall be gauged as directed, and where the thickness fails to average the specified thickness, immediate steps shall be taken to correct the depth.
  8. Before any rolling is started, the course surface shall be checked, any inequalities adjusted, and all drippings, fat sand accumulations from the screed and fat spots from any source shall be removed and replaced with satisfactory material.
  9. Straight-edging and back-patching shall be done after initial completion has been obtained and while the material is still hot. Any irregularity greater than 1/4-inch either longitudinally or transversely shall be corrected at this time.
  10. 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 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.
- C. Compacting mixture: After the spreading, 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:
1. The motion of the roller shall at all times be slow enough to avoid displacement and shall at once be corrected by the use of rakes and fresh mixture where required. The rolling shall include all transverse, longitudinal, and diagonal rolling, as may be necessary to obtain the maximum density.
  2. The seal rolling with tandem steel rollers weighing from five to eight tons shall follow as close behind the spreader as is possible without picking up or displacing or blistering the material.
  3. Rolling with the self-propelled pneumatic-tired rollers shall follow as soon as possible and as close behind the seal rolling as the heat of the mixture will permit. The rolling shall be done

while pavement temperature is between 175° and 240° F, and to such an extent that the self-propelled traffic roller shall cover every area of the surface with at least ten passes. Final rolling with tandem steel rollers shall be done after the rolling with self-propelled pneumatic tired rollers is completed. This final rolling shall be done before the pavement temperature is lower than 175°F and shall be continued until all roller marks or tire marks are eliminated.

4. Self-propelled pneumatic rollers shall be used for the rolling of patching and leveling courses. At the option of the Contractor, a steel-wheeled roller may be used to supplement the self-propelled pneumatic-tired rollers but not more than one steel-wheeled roller may be used in conjunction with the necessary number of self-propelled pneumatic-tired rollers. After final completion, the finished pavement shall at no point have a density less than 95% of the laboratory compacted density.
5. Rolling with the self-propelled pneumatic-tired roller shall proceed at a speed from six to twelve miles per hour and the rate of rolling shall not exceed 3,000 square yards per hour per roller. A sufficient number of self-propelled pneumatic-tired rollers shall be used so that the rolling of the surface for the required number of 10 passes within this maximum rolling rate shall not delay any other phase of the placing operation and not result in excessive cooling of the mixture before the rolling is complete. In the event that the rolling is not properly maintained to schedule as outlined above, the laying operation shall be discontinued until the rolling operations are sufficiently caught up.
6. In all places inaccessible to a roller, such as adjacent to curbs, headers, gutters, bridges, manhole, etc., 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.
7. 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.
8. The mixture, after compaction, shall be of the thickness

shown on the plans. After compaction, the surface shall not show an excess of asphalt. Any area 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 with dirt in the wearing course shall be removed and replaced with fresh mixture which shall be immediately compacted to conform with surrounding areas.

9. Gasoline or oil from rollers shall not be allowed to deposit on the pavement and any pavement damaged by such deposits shall be removed and replaced as directed by the Engineer.
  10. Any mixture remaining unbonded after rolling shall be removed and replaced.
- D. Protection of pavement: After the completion of the pavement, no vehicular traffic of any kind shall be permitted on the pavement until it has set sufficiently as approved by the Engineer.

### **3.08 ASPHALT OVERLAY**

- A. Clean existing asphalt and clear of loose aggregate. Mill roadway as required to maintain plan grades and provide a smooth transition between all overlay sections adjacent to milled or existing roadway sections.
- B. Risers shall be installed to bring existing manhole rims, valves, basins, etc. to grade.
- C. Structural patching necessary to seal existing cracks or potholes shall be done prior to tack coat. Tack coat shall be applied to ensure proper adhesion between the old surface and new asphalt.
- D. Hot mix asphalt shall be applied at the depth specified on the plans. All edges and ends shall be sloped to create a smooth seam between old and new pavement surfaces.

### **3.09 ABUTTING EXISTING PAVING**

- A. Meet elevation of existing paving and structures, facilities and utilities where applicable by feathering the thickness of the new surface course for not more than 1-foot in the periphery of the structure, facility or utility. Do not cover access covers, manhole tops, water meters or other similar devices.

### **3.10 PAVEMENT EDGES**

- A. Make edges of paved area conform to details and sections as shown on drawings.

### **3.11 SEAL COATING**

- A. Preparation of surface: Pavement to be sealed must be sound and free of loose dust, dirt, stones, or other foreign matter:
  - 1. Repair any breaks or holes.
  - 2. Scrape off accumulations of oil or fuel drippings and scrub with detergent and water. Remove all traces of detergent.
  - 3. Soft or damaged spots must be repaired.
  - 4. Flush entire area with clean water.
  - 5. Pavement should be damp (no puddles or excess water) when seal coating is applied.
- B. Mixing: Stir seal coating to a uniform consistency, use no solvents for thinning. Dilute seal coating with 10% to 20% clean water, stirring to uniform consistency.
- C. Application:
  - 1. Seal coat may be applied to dampened surface with a rubber squeegee, soft bristled push broom, or approved mechanized equipment.
  - 2. Seal coating may be poured directly onto pavement in a ribbon or windrow. Squeegee is placed on pavement at a slight angle to edge line of pavement and pulled in a window along pavement in parallel lines, always working excess material toward bottom edge of squeegee.
  - 3. Seal coating should be applied in two (2) thin coats. After first coat is completely dry to touch, a second coat may be applied at right angles to the first. Rate of application will depend on porosity of surface.
  - 4. Allow to cure for 24 hours before opening to traffic.
  - 5. Do not apply seal coating when temperature is below 50°F, or falling, before sealer is dry, or rain appears imminent or forecast.
  - 6. Apply in strict accord with manufacturers published instructions.



### **3.12 FIELD QUALITY CONTROL**

- A. Test in place asphalt concrete course for compliance with requirements for thickness and surface smoothness. Repair or remove and replace unacceptable paving as directed by Engineer:
  - 1. In-place compacted thickness will not be acceptable if exceeding following allowable variation from required thickness:
    - a. Base Course: Not greater than ½-inch of specified thickness.
    - b. Wearing Course: Not greater than ¼-inch of specified thickness.
  - 2. Test finished surface of each asphalt concrete course for smoothness, using 10-foot straight edge applied parallel with, and at right angles to centerline of paved area. Surfaces will not be acceptable if exceeding the following tolerances for smoothness.
    - a. Base Course Surface: 1/4-inch.
    - b. Wearing Course Surface: 1/8-inch.
- B. Check surface area at intervals as directed by the Engineer.
- C. Finish grade of asphaltic concrete wearing course shall be within ±0.04 feet of the grades indicated on the plans.

### **3.13 CLEANUP**

- A. Remove all debris and excess material immediately from project site.
- B. Take down all barricades and temporary traffic markers, signals and signs only after all work included in this section is finished and inspected, and only after so directed by the Engineer.
- C. Leave project area clean, orderly and free of any hazardous conditions.

**END OF SECTION**

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**SECTION 02751**  
**PORTLAND CEMENT CONCRETE PAVING**

**PART 1 – GENERAL**

**1.01 RELATED DOCUMENTS**

- A. Drawings and terms of the Contract Documents, and Division 1 Specification sections, apply to this section.

**1.02 SUMMARY**

- A. This section includes all portland concrete pavement, including but not limited to:
  - 1. Driveways
  - 2. Parking lots
  - 3. Curbs and gutters
  - 4. Sidewalks
  - 5. Drainage Aprons

**1.03 WORK INCLUDED**

- A. Provide all labor, materials, necessary equipment and services to complete the Portland Cement Concrete Paving work, as indicated on the drawings, as specified herein or both.
- B. Including, but not necessarily limited to the following:
  - 1. Fill, subgrade, and limerock base
  - 2. Concrete formwork
  - 3. Concrete reinforcement
  - 4. Isolation and contraction joints
  - 5. Concrete paving

**1.04 RELATED WORK**

- A. Section 02225: Trenching, Bedding, and Backfill for Pipe
- B. Section 02740: Asphalt Concrete Paving

## **1.05 REFERENCE STANDARDS**

### **A. American Society of Testing Materials (ASTM)**

1. A82 - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement
2. A185 - Standard Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement
3. A615/A615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
4. C33 - Standard Specification for Concrete Aggregates
5. C94 - Standard Specification for Ready-Mixed Concrete
6. C150 - Standard Specification for Portland Cement
7. C171 - Standard Specification for Sheet Materials for Curing Concrete
8. C260 - Standard Specification for Air-Entraining Admixtures for Concrete
9. C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
10. C494/C494M - Standard Specification for Chemical Admixtures for Concrete
11. C979 - Standard Specification for Pigments for Integrally Colored Concrete
12. C1116 - Standard Specification for Fiber-Reinforced Concrete and Shotcrete
13. D1751 - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
14. D1752 - Standard Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction
15. D3405 - Standard Specification for Joint Sealants, Hot-Applied, for Concrete and Asphalt Pavements

16. D5249 - Standard Specification for Backer Material for Use with Cold- and Hot- Applied Joint Sealants in Portland-Cement Concrete and Asphalt Joints
  17. D5893 - Standard Specification for Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements
- B. American Concrete Institute (ACI)
1. 301R-99- Specifications for Structural Concrete
  2. 304R- Placing and Handling Concrete, etc.
  3. 309R-96- Guide for Consolidating of Concrete
  4. 330.1 - Standard Specifications for Plain Concrete Parking Lots
  5. 330R-92- Guide for Design & Construction of Concrete Parking Lots
  6. 211.1R-91 -Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete
- C. American Association of State Highway and Transportation Officials (AASHTO)
1. M182 - Standard Specifications for Burlap Cloth made from Jute for Kenaf
  2. M153 - Standard Specifications for Preformed Sponge Rubber and Cork Expansion Joint Filler

## **1.06 QUALITY ASSURANCE**

- A. Requirements of Regulatory Agencies: Perform work in accordance with local building and other applicable codes.
- B. Installation: Performed only by skilled workmen with satisfactory record of performance on completed projects of comparable size and quality.
- C. Inspection and Testing: Performed in accordance with Sections 01300 and 01410 unless otherwise specified:
1. Test cylinders- as per ASTM C-39.
    - a. Minimum of three (3) concrete test cylinders shall be taken for every 75 or less cubic yards of concrete placed.

- b. Minimum of one (1) additional test cylinder shall be taken during any cold weather concreting, and be cured on job site under same conditions as the concrete it represents.
- 2. Slump test - as per ASTM C-143:
  - a. Minimum of one (1) slump test shall be taken for each set of test cylinders taken.

## **1.07 SUBMITTALS**

- A. Test Reports: Reports of concrete compression, yield, air content, and slump tests.
- B. Certificates:
  - 1. Manufacturer's certification that materials meet specification requirements.
  - 2. Material content on a cubic yard basis of each class of concrete furnished.
    - a. Dry weights of cement.
    - b. Saturated surface-dried weights of fine and coarse aggregate.
    - c. Quantities, type and name of admixtures.
    - d. Weight of water.
  - 3. Ready-mix delivery tickets, ASTM C-94.
- C. Shop Drawings:
  - 1. Show sizes and dimensions for fabrication and placing of reinforcing steel and bar supports.
  - 2. Indicate bar schedules, stirrup spacing, and diagrams of bend bars.

## **1.08 DELIVERY, STORAGE AND HANDLING**

- A. Deliver reinforcement to project site in bundles marked with metal tags indicating bar size and length.
- B. Handle and store materials to prevent contamination.

## **1.09 JOB CONDITIONS**

- A. Allowable concrete temperatures:
  - 1. Hot weather: Maximum 90°F as per ASTM C-94.
- B. Do not place concrete during rain, unless protection is provided.

## **PART 2 - PRODUCTS**

### **2.01 FILL**

- A. As specified in Section 02741- Asphaltic Concrete Paving.

### **2.02 SUBGRADE**

- A. As specified in Section 02741 - Asphaltic Concrete Paving.

### **2.03 LIMEROCK BASE**

- A. As specified in Section 02741 - Asphaltic Concrete Paving.

### **2.04 READY-MIXED CONCRETE**

- A. Cement: ASTM C-150, normal Type 1.
- B. Aggregate: ASTM C 33, uniformly graded, from a single source.
- C. Water/Ready Mix Concrete: ASTM C 94.
- D. Admixtures: Certified by manufacturer to contain no more than 0.1 % water-soluble chloride ions by mass of cement and to be compatible with other admixtures, as follows:
  - 1. Air-Entraining Admixture: ASTM C 260;
  - 2. Water-Reducing Admixture: ASTM C 494, Type A;
  - 3. Water-Reducing and High-Range Admixture: ASTM C 494, Type F;
  - 4. Water-Reducing and Accelerating Admixture: ASTM C 494, Type E; and,
  - 5. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.
  - 6. Fly ash and pozzolans: ASTM C-618.
- E. Coarse aggregate: Not less than 50% clean, hard, crushed stone conforming to requirements of Table 2, size number 467 ASTM C-33.

- F. Slump Range: 2-4 inches tested according to ASTM designation C-143 (AASHTO-T119).
- G. Air content:  $5\% \pm 1\%$ .
- H. Mix proportioning:
  - 1. 28-day compressive strength of cured laboratory samples 3,000 psi.
  - 2. Minimum cement content 5 sacks/cubic yard.
- I. Calcium Chloride: The use of calcium chloride or admixtures containing more than 0.05% chloride ions is prohibited.
- J. Curing Materials:
  - 1. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. dry;
  - 2. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap polyethylene sheet;
  - 3. Water: Potable;
  - 4. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete;
  - 5. Clear Solvent-Borne Liquid-Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B;
  - 6. Clear Waterborne Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B;
  - 7. White Waterborne Membrane-Forming Curing Compound; ASTM C 309, Type 2, Class B.
- K. Mixes:
  - 1. ASTM C-94.
  - 2. Mix concrete only in quantities for immediate use.
  - 3. Do not retemper or use set concrete.

## **2.05 CONCRETE MIXES AND MIXING**

- A. Concrete Mixes: Prepare design mixes, proportioned according to ACI 211.1R-91 and ACI 304, with the following properties:



1. Compressive Strength (28 Days): 3,000 psi; (curb/sidewalk)
- B. Coloring Agent: When required, add coloring agent to mix according to manufacturer's written instructions.
  1. Expansion and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber, or ASTM D 1752, cork or self-expanding cork; and,
  2. Coloring Agent: ASTM C 979, synthetic mineral-oxide pigments or colored water-reducing admixtures; color stable, nonfading, and resistant to lime and other alkalis.
- C. Ready-Mixed Concrete: Comply with requirements and with ASTM C 94 and ASTM C 1116.
- D. Project-Site Mixing: On-site mixing must be approved by the Owner. Comply with requirements and measure, batch, and mix concrete materials and concrete according to ASTM C 94. Mix concrete materials in appropriate drum-type batch machine mixer.

## **2.06 REINFORCEMENT**

- A. Reinforcing Steel Bars: 60 ksi yield strength; deformed billet steel bars; ASTM A-615, plain finish.
- B. Welded Steel Wire Fabric: Plain type, ASTM A-185, hot dip galvanized, plain finish.
- C. Tie Wire: FS QQ-W-461-G, annealed steel, black, 16 ga. minimum.
- D. Bar Supports: Conform to "Bar Support Specifications," CRSI Manual of Standard Practice.

## **2.07 FORMWORK AND ACCESSORIES**

- A. Formwork: Matched, tight fitting and adequately stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of concrete, conform with ACU 347, Chapter 3, Material and Form Work.
- B. Lumber:
  1. Softwood framing lumber: Kiln dried, PS-20.
  2. Boards less than 1-1/2-inch thick and 2-inches wide, used for basic forms and form liners: Kiln dried.

3. Grade marked by grading rules agency approved by American Lumber Standards Committee.
  4. Light framing or studs for board or plywood forms, 2-inches to 4-inches width and thickness, construction standard grade.
  5. Boards for basic forms, construction standard grade.
  6. Board surface: Smooth.
- C. Plywood:
1. Exterior type softwood plywood, PS 1-66.
  2. Each panel stamped or branded indicating veneer grades, species, type and identification.
  3. Wood faced plywood for Architectural concrete surfaces.
    - a. Panel veneer grades: B-C
    - b. Mill-oiled sides and mill-sealed edges of panels.
- D. Ties
1. Material: Steel
  2. Type: Snap tiles
  3. Depth of break back: 1-inch
- E. Max. diameter: 1/4-inch
- F. Form coatings:
1. Non-staining type.
  2. Agent: Pine oil derivative.

## **2.08 ISOLATION AND CONTRACTION JOINTS**

- A. Minimum 3/4-inch thick asphaltic impregnated fiberboard as per ASTM D-1751.

## **2.09 JOINTS, FILLERS, AND SEALANTS**

- A. Joint-Sealant Backer Materials: ASTM D5249, Non-Staining, compatible with joint substrates, sealants, primers, and other joint fillers; and approved

for applications indicated by joint sealant manufacturer based on field experience and laboratory testing.

- B. Joint Sealant: Non-priming, pourable self-leveling silicone sealant for concrete and asphalt.
  - 1. Cold-Applied Joint Sealant ASTM D5893, self-leveling silicone sealant. Crafcro Inc. "Roadwaver Silicone-SL"; Dow Coming "888, or 890-SL"; Sonneborn "Sonomeric 1 Sealant"; Tremco "Vulkem 45"; or approved equal and,
  - 2. Hot-Applied Joint Sealant: ASTM D3405, Polymeric sealant. Crafcro Inc. "ROADSAVER 22"; W.R. Meadows, Inc. "SEALTIGHT HI-SPEC", or approved equal.
- C. Joint Fillers: Resilient pre-molded bituminous impregnated fiberboard units complying with ASTM D 1751, asphalt-saturated cellulosic fiber, ASSHTO M 153, Type I: or ASTM D 1752, cork or self-expanding cork.
- D. Exterior Concrete Sealant: Sonneborn "Kure-N-Seal30" exterior acrylic sealer, or Euclid "Super Rez-Seal", or approved equal.

## **PART 3 - EXECUTION**

### **3.01 BARRICADES**

- A. Provide substantial temporary barricades around all areas of operation and maintain until work under this section is completed and approved.
- B. Install temporary traffic markers, signals, and signs as per D.O.T. Standard Specifications to:
  - 1. Eliminate potentially hazardous conditions.
  - 2. Maintain adequate traffic patterns free of conflict with work under this Contract.

### **3.02 PREPARATION OF SUBGRADE**

- A. Ensure rough grading has brought subgrade to required elevations.
- B. Fill soft spots and hollows with additional fill.
- C. Level and compact subgrade, to receive limerock base for concrete walks, curbs and gutters, to 98% compaction as per AASHTO T-180.

### **3.03 FORMWORK**

- A. The Contractor is responsible for the design, construction, removal and complete safety of formwork and shoring.
- B. Form construction shall be provided to shape, lines dimensions of members shown: substantial, tight enough to prevent leakage, and properly braced or tied to maintain position and size, form sides and bottoms of members unless specifically excepted.
- C. Fill voids of plywood joints with sealant and tool smooth.
- D. Form vertical surfaces to full depth and securely position to required lines and levels. Ensure form ties are not placed so as to pass through concrete.
- E. Arrange and assemble formwork to permit easy dismantling and stripping, and to prevent damage to concrete during formwork removal.
- F. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for pavement to required lines, grades, and elevations.
  - 1. Maintain sufficient quantity of forms to allow continuance of work so that forms remain in place a minimum of 24 hours after concrete placement;
  - 2. Forms shall be cleaned and casted with form release agent thoroughly after each use and before concrete is placed; and,
  - 3. Flexible or curved forms shall be used on curves. Forms shall be of full depth of the concrete and of a strength when staked, sufficient to resist the presence of the concrete and the loads resulting from the finish operations without springing, setting or losing their shape.

### **3.04 REINFORCING**

- A. Reinforce concrete curbs and gutters. Allow for minimum 1-1/2-inch concrete cover.
- B. Do not extend reinforcing through expansion and contraction of joints. Provide dowelled joints through expansion and contraction joints, with one end of dowels fitted with capping sleeve to allow free movement.

### **3.05 FORMING EXPANSION AND CONTRACTION JOINTS**

- A. Construct pre-molded expansion and contraction joints, tied construction joints, thickened edge expansion joints, isolation joints, and construction joints, straight with face perpendicular to concrete surface. Construct transverse joints perpendicular to centerline unless otherwise detailed.

1. Expansion joints and contraction joints, pre-molded as indicated on the drawings:
  - a. Provide joint filler for the entire depth of the slab section and not less than 1-inch below finished surface so as to allow for joint sealer.
  - b. Provide thickened edge expansion joint as indicated on the drawings.
  - c. Provide 1/2-inch contraction joints for curb and gutter at 10-feet on center.
  - d. Provide 1/2-inch expansion joints for curb and gutter and sidewalk at 100-feet on center.
2. Tied construction joints: As indicated on drawings;
3. Control joints: Depth shall be equal to of the concrete thickness or 1-inch, whichever is deeper. For sidewalks, control joint spacing shall be equal to the sidewalk width. For concrete pavement, control joint spacing shall be placed as shown on the drawings, no greater than 15-feet on center either way;
  - a. Form tooled joints in fresh concrete by grooving top portion with recommended tool and finishing edges with jointer.
  - b. Form sawed joints using powered saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut joints into hardened concrete within 24 hours of the concrete placement and as soon as surface will not be torn, abraded, or otherwise damaged by cutting action.
4. Construction Joints: Place construction joints at end of placements and at locations where placement operations are stopped for period of more than 1h hour, except where such placements terminate at expansion joints. Construct joints using standard metal keyway-section forms or as shown on the drawings;
5. Isolation Joints: Locate isolation joints as indicated on the drawings. Provide pre-molded joint filler for isolation joints abutting site lighting poles, concrete curbs, catch basins, maintenance access structures, inlets, structures, walks and other fixed objects;
6. Joint Fillers: Extend joint fillers full-width and depth of joint, and not less than 1-inch or more than 1-inch below finished surface where joint sealer is indicated. Furnish joint fillers in one-piece lengths for full width being placed, wherever possible. Where more than one length is required, lace or clip joint filler sections together; and,

7. Joint Sealants: All joints shall be sealed with approved exterior pavement joint sealants and shall be installed per manufacturer's recommendations.

### **3.06 INSPECTION**

- A. Assure that excavation and formwork are completed, and excess water is removed.
- B. Check that reinforcement is secured in place.
- C. Verify that expansion joint material, anchors, and other embedded items are secured in position.

### **3.07 PREPARATION FOR PLACEMENT**

- A. Notify the Engineer and other inspectors at least 36 hours prior to inspection.
- B. Equipment forms, and reinforcing shall be clean and wet down, reinforcing firmly secured in place, runways set up and not resting on or displacing reinforcing.

### **3.08 PLACING CONCRETE**

- A. Concrete Placement Comply with recommendations in ACI 304R for measuring, mixing, transporting, and placing concrete. Place concrete in a continuous operation within planned joints or sections.
  1. Moisten subbase to provide a uniform dampened condition at time concrete is placed;
  2. Consolidate concrete by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping according to recommendations in ACI 309R;
  3. Screed and initial-float concrete surfaces with darby or bull float before excess moisture or bleed water appears on the surface;
  4. Protect concrete from cold or hot weather during mixing, placing, and curing; and,
  5. All concrete walks and aprons shall be a minimum of 4-inches thick as shown on the drawings, with a turned down edge as detailed.
- B. Evaporation Retarder: Apply to concrete surfaces if hot, dry, or windy conditions exist. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

- C. Pavement Tolerances: Comply with tolerances in ACI 330.1, Specification for Plain Concrete Parking Lots.
- D. Place concrete, screed and wood float surfaces to a smooth and uniform finish, free of open texturing and exposed aggregate.
- E. Avoid working mortar to surface.
- F. Round all edges, including edges of expansion and contraction joints, with ½-inch of radius edging tool.
- G. Where concrete curbs are adjacent to pavement slabs, make concrete curbs and gutters integral with slabs. Make expansion and contraction joints of curbs coincide with slab joints.
- H. Ensure finished surfaces do not vary from true lines, levels or grade by more than 1/8-inch in 10-feet when measured with straightedge.
- I. Apply curing compound on finished surfaces immediately after finishing. Apply in accordance with manufacturer's recommendations.

### **3.09 FINISHES AND CURING**

- A. All exterior concrete shall receive a medium broom finish.
- B. Curing: Begin curing after finishing concrete, but not before free water has disappeared from concrete surface. Cure concrete by one or a combination of the following methods:
  - 1. Moisture cure concrete by water, continuous fog spray, continuously wet absorptive cover, or by moisture-retaining-cover curing. Keep surfaces continuously moist for at least 22 hours; and,
  - 2. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
  - 3. Contractor shall protect against graffiti and other damages to finish, prior to curing and acceptance.
  - 4. No sidewalk installed by the Contractor with visible cracks will be accepted by the Owner. Cracked sidewalk shall be removed, disposed of and replaced by the Contractor at no cost to the Owner. Cracked sidewalk replacement shall consist of a minimum of one flat (5-feet) of sidewalk.
- C. All exterior concrete surface shall receive one coat of exterior sealer.

### **3.10 ADA DETECTABLE WARNINGS**

- A. Detectable warnings shall be installed at all locations where required, compliant with ADA guidelines and FDOT Index 304.

### **3.11 REPAIRS AND PROTECTION**

- A. Remove and replace concrete pavement that is broken, damaged, or defective, or does not meet requirements in this section.
- B. Protect concrete from damage. Provide adequate traffic control to prevent traffic from pavement for at least 14 days after placement.
- C. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material. Sweep concrete pavement not more than 2 days before date scheduled for substantial completion inspections.
- D. Protection of Completed Work: During curing period, protect concrete from damaging mechanical disturbances, water flow, loading, shock, and vibration.

### **3.12 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.
- B. ACI Publications: Comply with ACI 301R-99 and ACI330R-92, unless modified by the requirements of the Contract Documents.
- C. The Owner shall provide and pay for testing services. A slump test and air test shall be performed for each load delivered. Four standard test cylinders shall be taken for each 55 cubic yards of concrete or each days' pour, whichever is more frequent. Two cylinders shall be broken at 7 days and two cylinders shall be broken at 28 days.

### **3.13 CLEAN UP**

- A. Remove all debris and excess material immediately from project site.
- B. Take down all barricades and temporary traffic markers, signals and signs only after all work included in this section is finished and inspected, and only after so directed by Owner or Engineer.
- C. Leave project area neat, orderly and free of any hazardous conditions.

**END OF SECTION**



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## **SECTION 02846**

### **PAVEMENT MARKINGS AND SIGNAGE**

#### **PART 1 - GENERAL**

##### **1.01 SECTION INCLUDES**

- A. The Work included in this section consists of applying pavement markings as required for new pavement areas and to restore disturbed pavement areas and signage. Work shall adhere to all Owner, Florida Department of Transportation (FDOT), Town of Jupiter, and Palm Beach County standards.

##### **1.02 RELATED REFERENCES**

- A. All markings shall conform to the requirements of the MUTCD, and FDOT Roadway and Traffic Design Standards.
- B. Thermoplastic shall conform to the requirements of the FDOT Standard Specifications for Road and Bridge Construction (Section 711) latest edition.
- C. Paint shall conform to the requirements of the FDOT Standard Specifications for Road and Bridge Construction (Section 710) latest edition.

##### **1.03 RELATED REQUIREMENTS SPECIFIED ELSEWHERE**

- A. Drawings and terms of the Contract Documents, and Division 1 Specification sections, apply to this section.

#### **PART 2 - PRODUCTS**

##### **2.01 THERMOPLASTIC**

- A. Stop bars, centerlines, crosswalk striping, directional arrows and any other markings within the right of way to be Alkyd thermoplastic only.
- B. All other markings, including striping designating parking and loading spaces, to be paint type as shown on the plans.

##### **2.02 TEMPORARY MARKINGS**

- A. Temporary markings on final asphalt shall be only backed construction tape. Lower asphalt lifts may be marked with paint or any other approved marking material.

### **2.03 REFLECTIVE PAVEMENT MARKERS (RPM'S)**

- A. RPM's shall meet FDOT Class B Specifications.
- B. One blue RPM shall be installed in the center of any roadway adjacent to a fire hydrant.

### **2.04 SIGN PANELS**

- A. Aluminum or galvanized steel in accordance with the applicable requirements of Section 700 "Highway Signing" of the FDOT Standard Specifications.
- B. Size, shape and color as indicated on the drawings or as directed by the Engineer.

### **2.05 SIGN SUPPORT POSTS**

- A. Aluminum or galvanized steel in accordance with the applicable requirements of Section 700 "Highway Signing" of the FDOT Standard Specifications.
- B. Size, shape and color as indicated on the drawings or as directed by the Engineer.

## **PART 3 - EXECUTION**

### **3.01 APPLICATION**

- A. Sweep dust and loose material from the sealed surface.
- B. Thermoplastic shall not be installed on a roadway until thirty (30) calendar days after final lift of asphalt has been completed.
- C. If existing marking material is not compatible with Alkyd thermoplastic, it shall be removed prior to installation of new markings.

**END OF SECTION**

## **SECTION 02936**

### **SODDING**

#### **PART 1 - GENERAL**

##### **1.01 DESCRIPTION OF WORK**

- A. The Contractor shall furnish all labor, equipment, and materials necessary for grassing all areas disturbed by his operations and any other areas on the plans indicated to receive grassing. It is the intent of this specification that damaged areas are to be replaced in kind, with sod to be used for all maintained yard areas. The Contractor shall take all steps practical to minimize the area required to be sodded. All grassing shall be in accordance with Section 570-1 through 570-5 of the FDOT Standard Specifications for Road and Bridge Construction, except as modified herein.

##### **1.02 STORAGE OF MATERIALS**

- A. The Contractor shall provide space for storage of sod prior to placement in a manner that will not endanger or restrict pedestrian or vehicular traffic or interfere with other aspects of the Work.

##### **1.03 RELATED REQUIREMENTS SPECIFIED ELSEWHERE**

- A. Drawings and terms of the Contract Documents, and Division 1 Specification sections, apply to this section.

#### **PART 2 - PRODUCTS**

##### **2.01 SOD**

- A. Types: Sod shall be St. Augustine Floratam, Argentine Bahia, Centipede, or Bermuda, depending on type of existing sod in adjacent area to be matched. Sod shall be well matted with roots. Where sodding will adjoin, or be in sufficiently close proximity to private lawns, types of sod other than those listed above may be used if desired by the affected property owners and approved by the Engineer. Sod shall be delivered in commercial-size rectangles, preferably 12-inch by 24-inch or larger.
- B. Condition: The sod shall be sufficiently thick to secure a dense stand of live grass. The sod shall be live, fresh, and uninjured at the time of planting. It shall have a soil mat of sufficient thickness adhering firmly to the roots to withstand all necessary handling. It shall be reasonably free of

weeds and other grasses. It shall be planted as soon as possible after being dug and shall be kept moist from the time it is planted.

## **2.02 GRASSING EQUIPMENT**

- A. Rollers: A cultipacker, traffic roller, or other suitable equipment will be required for rolling the grassed areas.

## **PART 3 - EXECUTION**

### **3.01 GENERAL CONSTRUCTION METHODS**

- A. No grassing shall be done when the ground is unduly wet or otherwise not in a suitable condition. Whenever a suitable length of right-of-way, disturbed area, or other area has been graded, it shall be made ready, when directed by the Owner/Engineer, and grassed in accordance with these specifications. Grassing shall be incorporated into the project at the earliest practical time in the life of the Contract.

### **3.02 SODDING**

- A. Preparation of Area to be Sodded: The ground which is to receive sod shall have been graded to proper elevations (2-inch below sodded grade) to match pre-construction conditions or proposed grades. All disturbed swales and ditches shall have been restored to their pre-construction condition or better. The pre-construction grade shall be maintained, and the prepared soil shall be loose and reasonably smooth. It shall be reasonably free of large clods, roots, patches of existing grass, and other material which will interfere with the sod-laying operations or subsequent mowing and maintenance operations.
- B. Laying of Sod: Sod shall be installed in all areas so designated by the Owner/Engineer. Sod shall be carefully placed so that each piece abuts flush to all surrounding sod, regardless of whether surrounding sod is new or existing. All sod joints shall be staggered. Where new sod is to be placed adjacent to existing sod, the new sod must be cut in to match the elevation of the existing sod. Uneven sod which might cause mowing problems will be rejected. New sod laid on top of existing sod will also be rejected. All sod placed on steep slopes (greater than 1:1) shall be pinned with a wooden pin to keep it in place.
- C. Rolling: Immediately after completion of the sod laying, the entire sodded area shall be rolled thoroughly with the equipment specified. At least two trips over the entire area will be required.

- D. Watering: Newly sodded areas are to be watered by the Contractor as necessary to keep sod alive until the Contractor is closed out. Dead sod shall be replaced by the Contractor prior to contract closeout.

**END OF SECTION**

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**DIVISION 3**  
**CONCRETE**



**SECTION 03100**  
**CONCRETE FORMING**

**PART I**      **GENERAL**

**1.01**      **WORK INCLUDED**

- A.      Formwork for cast-in place concrete, with shoring, bracing, and anchorage.
- B.      Openings for other work.
- C.      Form accessories.
- D.      Form stripping.

**1.02**      **RELATED SECTIONS SPECIFIED ELSEWHERE**

- A.      Section 02751 – Portland Cement Concrete Paving

**1.03**      **REFERENCES**

- A.      ACI 301 - Structural Concrete for Buildings.
- B.      ACI 318 - Building Code Requirements for Reinforced Concrete.
- C.      ACI 347 - Recommended Practice for Concrete Formwork.
- D.      PS 1 - Construction and Industrial Plywood.
- E.      Florida Building Code, Latest Edition

**1.04**      **QUALITY ASSURANCE**

- A.      Perform Work in accordance with ACI 318.
- B.      Maintain one copy of each document on site.

**1.05**      **REGULATORY REQUIREMENTS**

- A.      Conform to applicable code for design, fabrication, erection, and removal of formwork.

## **1.06 COORDINATION**

- A. Coordinate this Section with other Sections of work which require attachment of components to formwork.
- B. Coordinate formwork with reinforcement installation to provide sufficient concrete cover over reinforcement.

## **PART II PRODUCTS**

### **2.01 WOOD FORM MATERIALS**

- A. Form Materials: At the discretion of the Contractor.

### **2.02 FORMWORK ACCESSORIES**

- A. Wall Form Ties: Removable Snap-off type, 316 stainless steel, fixed length, cone type, with waterproofing rubber washer, 1-1/2 inch back break dimension, free of defects that could leave holes larger than 1-inch in concrete surface.
- B. Form Release Agent: Colorless mineral oil which will not stain concrete, or absorb moisture, or impair natural bonding or color characteristics of coating intended for use on concrete.
- C. Corners Chamfer, wood strip type; 3/4 x 3/4 inch size; maximum possible lengths.
- D. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Sized as required, of sufficient strength and character to maintain formwork in place while placing concrete.

## **PART III EXECUTION**

### **3.01 EXAMINATION**

- A. Verify lines, levels, and centers before proceeding with formwork. Ensure that dimensions agree with drawings.

### **3.02 EARTH FORMS**

- A. Earth forms are not permitted.

### **3.03 ERECTION - FORMWORK**

- A. Erect formwork, shoring, and bracing to achieve design requirements, in accordance with requirements of ACI 318.
- B. Provide bracing to ensure stability of formwork. Shore or strengthen formwork subject to overstressing by construction loads.
- C. Arrange and assemble formwork to permit dismantling and stripping. Do not damage concrete during stripping. Permit removal of remaining principal shores.
- D. Align joints and make watertight. Keep form joints to a minimum.
- E. Obtain approval before framing openings in structural members which are not indicated on Drawings.
- F. Provide chamfer strips on external corners of all exposed concrete elements.
- G. Induce camber on existing roof slab structure prior to casting concrete.

### **3.04 APPLICATION - FORM RELEASE AGENT**

- A. Apply form release agent on formwork in accordance with manufacturer's recommendations.
- B. Apply prior to placement of reinforcing steel, anchoring devices, and embedded items.
- C. Do not apply form release agent where concrete surfaces will receive special finishes applied coverings which are affected by agent. Soak inside surfaces of untreated forms with clean water.
- D. Keep surfaces coated prior to placement of concrete.

### **3.05 INSERTS, EMBEDDED PARTS, AND OPENINGS**

- A. Provide formed openings where required for items to be embedded in or passing through concrete work.
- B. Locate and set in place items which will be cast directly into concrete.
- C. Coordinate with Work of other sections in forming and placing openings, slots, regrets, recesses, sleeves, bolts, anchors, other inserts, and components of other Work.

- D. Install accessories in accordance with manufacturer's instructions, straight, level, and plumb. Ensure items are not disturbed during concrete placement.
- E. Install waterstops continuous without displacing reinforcement. Heat seal joints watertight. Conform to manufacturers recommendations.
- F. Provide temporary ports or openings in formwork where required to facilitate cleaning and inspection. Locate openings at bottom of forms to allow flushing water to drain.
- G. Close temporary openings with tight fitting panels, flush with inside face of forms, and neatly fitted so joints will not be apparent in exposed concrete surfaces.

### **3.06 FORM CLEANING**

- A. Clean forms as erection proceeds, to remove foreign matter within forms.
- B. Clean formed cavities of debris prior to placing concrete.
- C. Use compressed air to remove remaining foreign matter.

### **3.07 FORMWORK TOLERANCES**

- A. Construct formwork to maintain tolerances required by ACI 318.
- B. Camber slabs and beams 1/4 inch per 10 feet in accordance with ACI 318.

### **3.08 FIELD QUALITY CONTROL**

- A. Inspect erected formwork, shoring, and bracing to ensure that work is in accordance with formwork design, and that supports, fastenings, wedges, ties, and items are secure.
- B. Do not reuse wood formwork more than three times for concrete surfaces to be exposed to view.

### **3.09 FORM REMOVAL**

- A. Do not remove forms or bracing until concrete has gained sufficient strength to carry its own weight and imposed loads.
- B. Loosen forms carefully. Do not wedge pry bars, hammers, or tools against finish concrete surfaces scheduled for exposure to view.

- C. Store removed forms in a manner such that surfaces to be in contact with fresh concrete will not be damaged. Discard damaged forms.

**END OF SECTION**

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## **SECTION 03300**

### **CAST-IN-PLACE**

#### **PART I      GENERAL**

**1.01**      Notice: Engineer shall be given 48 hours advance notice to all concrete placements and no concrete shall be placed without approval of Engineer.

#### **1.02      WORK INCLUDED**

- A.      Cast-in-place concrete foundations, walls, slab-on-grade, equipment pads, underground concrete vaults and structures, pipe supports, curbs, and sidewalks.

#### **1.03      RELATED SECTIONS SPECIFIED ELSEWHERE**

- A.      Section 01300: Submittals
- B.      Section 01410: Testing Laboratory Services
- C.      Section 03100: Concrete Forming

#### **1.04      REFERENCES**

- A.      ACI 301 - Specifications for Structural Concrete for Buildings.
- B.      ACI 318 - Building Code Requirements for Reinforced Concrete
- C.      ASTM C33 - Concrete Aggregates.
- D.      FDOT Standard Specifications for Road and Bridge Construction
- E.      ASTM C94 - Ready-mixed Concrete.
- F.      ASTM C150 - Portland Cement.
- G.      ASTM C260 - Air Entraining Admixtures for Concrete.
- H.      ASTM C494 – Chemical Admixtures for Concrete
- I.      ASTM C618 – Pozzolonic Materials.

#### **1.05      QUALITY ASSURANCE**

- A.      Perform Work: In accordance with ACI 301 and FDOT Standard Specifications.
- B.      Obtain materials from same source throughout the Work.

- C. Submit manufacturer's certification that materials meet specification requirements.
- D. Submit ready-mix delivery tickets, ASTM C94-78.

#### **1.06 TESTS**

- A. Testing and analysis of concrete will be performed under provisions of this Section and Section 01410.
- B. Submit proposed mix design of each class of concrete to Engineer for review prior to commencement of work in accordance with Submittal Section. Submittal shall include proposed location for each class of concrete.
- C. Independent Testing laboratory shall take cylinders and perform slump and air entrainment tests in accordance with ACI 301.
- D. Provide 5 cylinders per set. Test one at 3 days, one at 7 days, two at 28 days, and hold one.
- E. Slump tests shall be taken for every truck delivery and each set of test cylinders taken.
- F. In general, cylinders shall be taken for each concrete pour event, and every 50 cubic yards placed.
- G. All tests failing minimum specified criteria shall be billed to and paid for by the Contractor.

#### **1.07 SUBMITTALS**

- A. Submit product data under provisions of Section 01 33 00 for fine and coarse aggregates, admixtures, concrete mix design, joint devices, attachment accessories, and curing compounds.

### **PART II PRODUCTS**

#### **2.01 CONCRETE MATERIALS**

- A. Cement: ASTM C150 -Type II Cement.
- B. Fine and Coarse Aggregates: ASTM C33.
- C. Water: Clean potable water.



## **2.02 ADMIXTURES**

- A. Air Entrainment: ASTM C260. Use Darex II AEA or equal.
- B. Water-reducing admixture may be used and must meet ASTM C-494 as a Type A and Type D. Use WRDA 64 or equal. Add in accordance with ACI-350.
- C. Use of calcium chloride is not permitted.
- D. Air entraining agent to normal weight concrete mix if used, shall not exceed 4%.
- E. Superplasticizers, if used, must meet all ASTM requirements and have compatibility test results with approved mix design.

## **2.03 CONCRETE MIX**

- A. Mix concrete in accordance with ASTM C94.
- B. Provide concrete to satisfy the following requirements
  - 1. Compressive Strength (28 days): 4000 psi
  - 2. Water/Cement ratio: maximum 0.48 without admixtures by weight.
  - 3. Fly Ash (Recommended) Content: maximum 15% of cement content, Type F only.
  - 4. Slump  $4 \pm 1$  inch regular, 7-8 inch with superplasticizer, 6-8 inch pea rock pump mix.
- C. Use set-retarding admixtures during hot weather only when approved by Engineer.
- D. Air entraining agent may be considered in concrete mix; however, content must be kept to a minimum and carefully monitored for addition to mix design.

## **2.04 ACCESSORIES**

- A. Vapor Barrier: 10 mil thick clear polyethylene film, type recommended for below-grade application.
- B. Non-Shrink Grout: Premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents; capable of

developing minimum compressive strength of 2,400 psi in 48 hours and 7,000 psi in 28 days.

- C. Water Stop (Other): Bentonite type strips Rx101, or applicable to condition, as manufactured by Volclay, or equal.
- D. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for strength and support of reinforcement during concrete placement conditions including load bearing pad on bottom to prevent vapor barrier puncture.
- E. Special Chairs, Bolsters, Bar Supports, Spacers Adjacent to Weather Exposed Concrete Surfaces: Plastic coated steel or Stainless-steel type; size and shape as required. Do not use concrete or clay bricks to support reinforcing.
- F. Backing rod and sealant as indicated on drawings for construction joints.

### **PART III**      **EXECUTION**

#### **3.01**      **INSPECTION**

- A. Verify reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not cause hardship in placing concrete.
- B. Verify site dewatering conditions. All foundations shall be cast in the dry.
- C. Verify requirements for concrete cover over reinforcement.
- D. Clean forms of trash, wood, excess steel, and deleterious materials.

#### **3.02**      **PREPARATION**

- A. Install vapor barrier under all slabs, footings, and other concrete exposed to earth. Lap joints a minimum of 6 inches. Do not disturb or damage vapor barrier while placing concrete. Repair damaged vapor barrier.
- B. In locations where new concrete is dowelled to existing work, drill holes in existing concrete, clean holes, insert steel dowels and epoxy in accordance with manufacturer's installation instructions keeping the minimum embedments specified on drawings.
- C. Coordinate the placement of joint devices with erection of concrete formwork and placement of form accessories.

### **3.03 PLACING CONCRETE**

- A. Notify Engineer and Owner's Representative minimum 48 hours prior to commencement of concreting operations.
- B. Place concrete in accordance with ACI 301 and FDOT Standard Specifications.
- C. Hot Weather Placement ACI 301.
- D. Cold Weather Placement ACI 301.
- E. Ensure reinforcement, inserts, embedded parts, formed joints are not disturbed during concrete placement.
- F. Place concrete continuously between predetermined construction and control joints. Do not break or interrupt successive pours such that cold joints occur.
- G. Contractor shall be responsible for means and methods to ensure concrete is poured in a dry area.
- H. Contractor needs to use mechanical vibrating equipment for consolidating concrete and should have a minimum of two (2) operable vibrators on the job.
- I. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- J. Saw cut curb joints within 24 hours after placing. Use 3/16 inch thick blade, cut 1/4 of slab thickness.
- K. Screed floors level, maintaining surface flatness of maximum 1/4 inch in 10 ft.

### **3.04 FINISHING**

- A. Provide formed concrete walls, columns, beams, Class 5 finish above the water line.
- B. Finish concrete floor surfaces in accordance with ACI 301 steel trowel finish.
- C. Finish exterior walking surfaces with light broom.

### **3.05 CURING AND PROTECTION**

- A. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Water cure concrete surfaces in accordance with ACI 301 for 7 days or apply curing compound.
- C. Contractor shall use curing compounds for vertical surfaces.

### **3.06 PATCHING**

- A. Notify Engineer immediately upon removal of forms. No surfaces are to be patched or backfilled prior to being reviewed by the Engineer.
- B. Patch imperfections as requested by the Engineer or his field representative in accordance with ACI 301 and FDOT Standard Specifications.
- C. Excessive honeycomb or embedded debris in concrete is not acceptable. Notify Engineer upon discovery.

### **3.07 DEFECTIVE CONCRETE**

- A. Modify or replace concrete not conforming to required levels, lines, details, elevations, dimensions, tolerances, or specified requirements.
- B. Repair or replace concrete not properly placed will be determined by the Engineer or Owner's Representative.
- C. Unless the removal of a defective slab is required by the Engineer, defective surfaces, such as honeycomb, shall be cut out entirely until homogeneous concrete is met, even if it means going through the slab.
- D. Such areas shall be coated with an approved epoxy bonding material, which shall be applied in accordance with the manufacturer's instruction, before damp packing the area with a mix consisting of one part of Portland cement and two parts of sand and fine gravel, epoxy and sand mix, or any combination of materials and mixes as the situation dictates in the opinion of the Engineer.
- E. The water content of the damp-pack material shall be such that a ball of the mix may be squeezed in the hand without bringing free water to the surface.

- E. Damp-pack material shall be tamped into place and finished to match adjacent concrete surfaces.
- G. Particular care shall be taken that no sagging of the material will occur.
- H. The bond between any two layers of damp-pack shall be improved through the use of an approved epoxy bond agent.
- I. Surfaces which have been damp-packed shall be kept continuously damp during and for a period of not less than seven days after completing the damp-pack operation, by polyethylene coverings thoroughly taped to the original concrete surface in a manner that loss of moisture, evidenced by lack of water droplets on the inside surface of the polyethylene, is avoided. If this moisture condition cannot be maintained, a continuous water cure may be required by the Engineer.
- J. Under no circumstances shall Contractor apply a plaster coat over the honeycomb areas to conceal the existence of the honeycomb in the concrete.
- K. Neither Embeco nor calcium chloride shall be used for filling honeycomb areas, nor shall they be mixed with damp-pack material.
- L. Any concrete with excess air entraining agent will be rejected.

### **3.08 FIELD QUALITY CONTROL**

- A. Field inspection and testing will be performed under provisions of Section 01 71 23.
- B. Contractor will be required to contact Testing Lab to be present for concrete deliveries.
- C. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

**END OF SECTION**

## **APPENDIX A**


### **LOXAHATCHEE RIVER DISTRICT ENVIRONMENTAL CONTROL DISTRICT MANUAL OF MINIMUM CONSTRUCTION STANDARDS AND TECHNICAL SPECIFICATIONS**

**CAN BE DOWNLOADED AT**

**[https://loxahatcheeriver.org/wp-content/uploads/2023/09/LRECD-Construction-Standards-and-Technical-Specifications\\_20230921.pdf](https://loxahatcheeriver.org/wp-content/uploads/2023/09/LRECD-Construction-Standards-and-Technical-Specifications_20230921.pdf)**

## **APPENDIX B**

### **CONTRACTOR PERFORMANCE EVALUATION REPORT**

	Loxahatchee River Environmental Control District	CONTRACT NO.		
ADDRESS	2500 Jupiter Park Drive	CONTRACTOR		
CITY / STATE / ZIP	Jupiter, FL 33458	PERIOD OF PERFORMANCE	FROM	TO
CONTRACT PROJECT MANAGER		LOCATION OF PERFORMANCE		
<b>INSTRUCTIONS:</b> This form can be completed on the computer or printed and completed by hand. Use the mouse to navigate. To check or uncheck a box, <b>'double click' the box</b> . If further direction is required on how to complete this evaluation or where to submit it, please contact your Contracting Officer. Comment boxes are formatted to automatically wrap the entered text. Check the box that best describes the level in which the Contractor supported the area described. Comments are essential and must substantiate your rating selection. N/A = not applicable. If additional space is required, use page 2 of the form or attach additional page(s).				
<b>SEE PAGE 3 FOR EVALUATION RATINGS DEFINITIONS</b>				
<b>1. Quality. Contractor conformed to contract requirements. Was capable, efficient and effective in supporting the programs of this contract. Provided well maintained equipment and highly qualified personnel. Finished product meets the quality requirements set forth in the contract.</b>				
<input type="checkbox"/> N/A <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory				
COMMENTS:				
<b>2. Schedule. Contractor was prepared and available to begin work on contract start date and provided daily coverage during the contract period with little to no disruption or unavailability. Contractor completed the work within the dates specified in the contract and any approved extensions of time.</b>				
<input type="checkbox"/> N/A <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory				
COMMENTS: 				
<b>3. Change Orders. Contractor conformed to contract requirements, providing complete documentation and was reasonable in the negotiations for time and costs. Contractor did not engage with frivolous our unsupported change order requests. Contractor met time requirements in the contract for identification and quantification of additional or deleted work.</b>				
<input type="checkbox"/> N/A <input type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory				
COMMENTS:				



**4. Management.** Contractor and on-site representatives were professional, well qualified, and committed to customer satisfaction and safety of operations. Contractor provided necessary support for key personnel and if applicable, took necessary action to correct or replace any personnel. Contractor was timely and complete with shop drawings, pay applications, releases, schedules and other required submittals.

☐ N/A      ☐ Satisfactory      ☐ Unsatisfactory

COMMENTS:

**6. Regulatory Compliance.** How well does the contractor comply with governing regulations such as the FDEP, FDOH, SFWMD or others?

☐ N/A      ☐ Satisfactory      ☐ Unsatisfactory

COMMENTS:

**7. Safety.** Contractor and on-site representatives' attitude and efforts, as well as actual application and general safety of operations?

☐ N/A      ☐ Satisfactory      ☐ Unsatisfactory

COMMENTS:

**9. Other Areas:**

☐ N/A      ☐ Satisfactory      ☐ Unsatisfactory

**10. Other Areas:**

☐ N/A      ☐ Satisfactory      ☐ Unsatisfactory

**11. Other Areas:**

☐ N/A      ☐ Satisfactory      ☐ Unsatisfactory

**12. Other Areas:**

☐ N/A      ☐ Satisfactory      ☐ Unsatisfactory

**12. Overall Contractor Rating:**☐ N/A      ☐ Satisfactory      ☐ Unsatisfactory

Additional comments to support your response to any item above or other items.

Name, Title of Individual Completing this Form (include agency, phone and electronic address )

Signature

**RATING****DEFINITION****NOTE**

Satisfactory

Performance meets contractual requirements. The contractual performance of the element being assessed may contain some minor problems for which corrective actions taken by the Contractor were satisfactory.

To justify a Satisfactory rating, there should have been only minor problems, or major problems the contractor recovered from without impact to the contract. There should have been NO significant weaknesses identified.

Unsatisfactory

Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the element contains a serious problem(s) for which the contractor's corrective actions appear or were ineffective.

To justify an Unsatisfactory rating, identify multiple significant events in each category that the Contractor had trouble overcoming and state how it impacted the Government. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory rating. An Unsatisfactory rating should be supported by referencing the management tools used to notify the contractor of the contractual deficiencies (e.g. management, quality, safety, etc.)

**APPENDIX C**

**FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION –  
GENERAL PERMIT (0138774-429-DWC-CG)**

+



# FLORIDA DEPARTMENT OF Environmental Protection

Southeast District  
3301 Gun Club Road, MSC 7210-1  
West Palm Beach, FL 33406  
561-681-6600

**Ron DeSantis**  
Governor

**Jeanette Nuñez**  
Lt. Governor

**Alexis A. Lambert**  
Secretary

February 13, 2025

## NOTIFICATION OF ACCEPTANCE OF USE OF A GENERAL PERMIT

**PERMITTEE:**

D. Albrey Arrington  
Executive Director  
Loxahatchee River Environmental Control District  
2500 Jupiter Park Dr  
Jupiter, FL 33458  
albrey.arrington@lrecd.org

**PERMIT NUMBER:** 0138774-429-DWC-CG

**ISSUANCE DATE:** February 13, 2025

**EXPIRATION DATE:** February 10, 2030

**COUNTY:** Palm Beach

**PROJECT NAME:** A1A and Ocean Parks Force Main  
Replacement

**WASTEWATER TREATMENT:** Loxahatchee River  
District

**FACILITY ID:** FL0034649

Dear D. Albrey Arrington:

This letter acknowledges receipt of your Notification/Application for Constructing a Domestic Wastewater Collection/Transmission System for the subject project. Our Office received the Notice on **January 6, 2025**.

This is to advise you that the Department does not object to your use of such general permit.

Please note the attached requirements apply to your use of this general permit for constructing the proposed domestic wastewater collection/transmission system.

You are further advised that the construction activity must conform to the description contained in your Notification/Application for Constructing a Domestic Wastewater Collection/Transmission System and that any deviation will subject the permittee to enforcement action and possible penalties.

If you have any questions, please contact Juanita Kaplan at telephone number (561) 681-6761 or by email [Juanita.Kaplan@FloridaDEP.gov](mailto:Juanita.Kaplan@FloridaDEP.gov)

**PROJECT NAME:** A1A and Ocean Parks Force Main Replacement  
**PERMIT NUMBER:** 0138774-429-DWC-CG

Sincerely,



---

Iliana Jaimes  
Environmental Manager  
Wastewater and UIC Programs  
FDEP - Southeast District

NB/IJ/JK

CC:

DEP: Norva Blandin, Iliana Jaimes, Juanita Kaplan

LRECD:

Albrey Arrington, [Albrey.Arrington@LRECD.org](mailto:Albrey.Arrington@LRECD.org)

Sheetal Patel, [Sheetal.Patel@LRECD.org](mailto:Sheetal.Patel@LRECD.org)

Kimley-Horn:

Thomas C. Jensen, P. E., [Tom.Jensen@Kimley-Horn.com](mailto:Tom.Jensen@Kimley-Horn.com)

**PROJECT NAME:** A1A and Ocean Parks Force Main Replacement

**PERMIT NUMBER:** 0138774-429-DWC-CG

**REQUIREMENTS FOR USE OF THE GENERAL PERMIT FOR DOMESTIC WASTEWATER COLLECTION/TRANSMISSION SYSTEMS:**

1. This general permit is subject to the general permit conditions of [Rule 62-4.540, F.A.C.](#), as applicable. [\[62-4.540\]](#)
2. This general permit does not relieve the permittee of the responsibility for obtaining a dredge and fill permit where it is required. [\[62-604.600\(6\)\(b\)1\]](#)
3. This general permit cannot be revised, except to transfer the permit. [\[62-604.600\(6\)\(b\)2\]](#)
4. This general permit will expire five years from the date of issuance. If the project has been started and not completed by that time, a new permit must be obtained before the expiration date in order to continue work on the project. [\[62-4.030\]](#)
5. Upon completion of construction of the collection/transmission system project, and before placing the facilities into operation for any purpose other than testing for leaks or testing equipment operation, the permittee shall submit [Form 62-604.300\(3\)\(b\), Notification of Completion of Construction for a Domestic Wastewater Collection/Transmission System](#). The form shall be submitted electronically by using the Department's Business Portal at <https://www.fldepportal.com/go/> (via "Submit" then "Registration/Notification" and "Submit Notifications to DEP." The submission is "Division of Water Resource Management Domestic/Industrial Wastewater" and the submittal type is "Notification of Completion of Construction for a Domestic Wastewater Collection/Transmission System."). This form is available at the Department's Internet site at: <https://floridadep.gov/water/domestic-wastewater/content/domestic-wastewater-forms>. [\[62-604.700\(2\)\]](#)
6. Abnormal events shall be reported to the Department's Southeast District Office in accordance with [Rule 62-604.550, F.A.C.](#) For unauthorized spills of wastewater in excess of 1000 gallons per incident, or where information indicates that public health or the environment may be endangered, oral reports shall be provided to the STATE WATCH OFFICE TOLL FREE NUMBER (800)320-0519 as soon as practical, but no later than 24 hours from the time the permittee or other designee becomes aware of the circumstances. Unauthorized releases or spills less than 1000 gallons per incident are to be reported orally to the Department's *Southeast* District Office within 24 hours from the time the permittee, or other designee becomes aware of the circumstances.

The oral notification shall be followed by a written submission, which shall be provided within five days of the time that the owner/operator becomes aware of the circumstances. The written submission shall contain: a description of the spill, release or abnormal event and its cause; the period and duration of noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; clean-up actions taken and status; steps taken or planned to reduce, eliminate, and prevent recurrence; the type of sanitary sewer overflow structure (e.g., manhole); the discharge location address and latitude/longitude; type of water discharged; discharge volumes and volumes recovered; volume discharged to surface waters and receiving waterbody name; types of human health and environmental impacts of the sanitary sewer overflow (e.g., beach closure); whether the noncompliance was caused by a third party (e.g., contractor); and, whether the sanitary

**PROJECT NAME:** A1A and Ocean Parks Force Main Replacement

**PERMIT NUMBER:** 0138774-429-DWC-CG

sewer overflow was related to wet weather. The written submission shall be provided electronically. Electronic submission is available using the [Department's Business Portal](https://www.fldepportal.com/) at <https://www.fldepportal.com/go/> (via "Submit" followed by "Report" or "Registration/Notification").

In accordance with Section 403.077, F.S., unauthorized releases or spills reportable to the State Watch Office shall also require a public notice of pollution report. Reporting may be made or by reporting electronically using the [Department's Business Portal](https://www.fldepportal.com/) at <https://www.fldepportal.com/go/> (via "Submit" followed by "Report" or "Registration/Notification") and selecting the option to also submit the public notice of pollution report, or reporting may be made to the [Department's Public Notice of Pollution](https://floridadep.gov/pollutionnotice) web page at <https://floridadep.gov/pollutionnotice>. [62-604.550]

**PROJECT NAME:** A1A and Ocean Parks Force Main Replacement

**PERMIT NUMBER:** 0138774-429-DWC-CG

**ADDITIONAL INFORMATION:**

Once a collection/transmission system is cleared for operation, the provisions below shall be met by the owner/operator of the system in accordance with [Rule 62-604.500](#), F.A.C.

1. All collection/transmission systems shall be operated and maintained to provide uninterrupted service. All pump stations shall be operated and maintained to provide the emergency pumping capability requirements in paragraph 62-604.400(2)(a), F.A.C., the lightning and transient voltage surge protections in paragraph 62-604.400(2)(b), F.A.C., and the design and signage requirements in paragraph 62-604.400(2)(d), F.A.C. Also, all equipment, pipes, manholes, pump stations, and other appurtenances necessary for the collection/transmission of domestic wastewater, including equipment provided pursuant to subsection 62-604.400(2), F.A.C., shall be maintained to function as intended. [[62-604.500\(2\) and \(3\)](#)]
2. The owner/operator of a collection/transmission system shall evaluate and update the emergency response plan portion of the operation and maintenance manual annually. The emergency response plan shall assess system security including cybersecurity; water quality monitoring for sanitary sewer overflows affecting surface waters; and hurricane and severe storm preparedness and response. [[62-604.500\(4\)](#)]
3. Collection/transmission systems shall be maintained to minimize excessive infiltration and inflow into the collection/transmission system, as well as excessive leakage from the collection/transmission system. The owner/operator of a collection/transmission system shall take corrective actions when infiltration, inflow, or leakage is excessive. Infiltration and inflow are considered excessive if one or both cause or contribute to sanitary sewer overflows. Leakage, or exfiltration, is considered excessive if it causes or contributes to a violation of surface water quality standards or ground water quality standards. [[62-604.500\(5\)](#)]
4. All collection/transmission systems shall be operated and maintained to prevent sanitary sewer overflows. Owners/operators shall evaluate the cause of all sanitary sewer overflows and evaluate potential corrective measures to avoid future sanitary sewer overflows. Corrective actions shall be taken by the owner/operator of the collection/transmission system if excessive inflow and infiltration causes or contributes to a sanitary sewer overflow. The owner/operator of a satellite collection system shall take corrective actions for a sanitary sewer overflow in the receiving collection system caused by excessive inflow and infiltration in the satellite collection system. [[62-604.500\(6\)](#)]
5. The approved Operation and Maintenance Manual and emergency response plan pursuant to [Rule 62-604.500\(4\), F.A.C.](#), shall be kept available at a site convenient for use by operation and maintenance personnel and for inspection by the Florida Department of Environmental Protection personnel.



## **APPENDIX D**

### **SYSTEM SHUTDOWN AND BYPASS PLAN**



Standard Operating Procedure: **System Shutdowns and Bypass**

Project Name: \_\_\_\_\_

Work Order #: \_\_\_\_\_

Shutdown Schedule Date: \_\_\_\_\_

Time Start: \_\_\_\_\_

Time Complete: \_\_\_\_\_

1. All work for the system shutdown shall be done under one work order specific to the system shutdown, not the work requiring the system shutdown. System Shutdown Work Order # to be noted above.
2. Scope: Develop a scope fully encompassing the work to be performed. The scope shall be attached as **Exhibit A**.
3. Map: Develop a system map overlaid on an aerial clearly showing the location of the work, relation of the work to other infrastructure, primary and secondary isolation points for the work. All infrastructure shown on the map shall be field located and GPS'd. The map shall be attached as **Exhibit B**.
4. Isolation Point Verification: All isolation points, primary and secondary, shall be field verified, if possible, prior to scheduling the work. Verification shall confirm isolation points are operable and **substantially** isolate the work area from the remainder of the collection/transmission system. Substantially isolate, at a minimum, shall mean all flows except those that can reasonably be managed with a vacuum truck are isolated from the work.
5. Upstream System Capacity: Upstream system capacity (holding time) shall be determined. Prior to scheduling the work adequate values for the following shall be agreed upon. The scheduled shutdown duration, staff, equipment, and materials shall be planned around the Low Risk Holding Time.
  - a. Low Risk Holding Time: \_\_\_\_\_
  - b. Unacceptable Risk Holding Time: \_\_\_\_\_
6. Wastewater Management/Spill Response Plan: Prior to scheduling the work:
  - a. The Contractor shall have an approved wastewater management plan to address capture and disposal of wastewater. The Contractor's Wastewater Management/Spill Response Plan shall be attached as **Exhibit C**.
  - b. The District shall have an approved Wastewater Management Plan to address management of wastewater in the collection/transmission system. The Wastewater Management Plan shall include Emergency Operation Measures in the event the shutdown exceeds the Unacceptable Risk Holding Time. The District's Wastewater Management Plan shall be attached as **Exhibit D**.

7. Personnel: The Contractor and the District shall have adequate staff to manage the shutdown and work. The Contractor shall have one designated person in-charge of his employees and work. The District shall have one designated person in-charge of his employees and work.
- a. Contractor Representative In-Charge: \_\_\_\_\_ cell #: \_\_\_\_\_ # of  
i. Contractor's supporting staff: \_\_\_\_\_
  - b. District Representative In-Charge: \_\_\_\_\_ cell #: \_\_\_\_\_  
i. # of District supporting staff: \_\_\_\_\_
8. Schedule: Prior to scheduling the work predetermined times to implement various steps, back-up plans, cancel the tie-in or failure response shall be agreed upon.
- a. Primary Isolation: \_\_\_\_\_
  - b. Secondary Isolation: \_\_\_\_\_
  - c. System Evacuation Deadline: \_\_\_\_\_
  - d. Low Risk Work Completion Deadline: \_\_\_\_\_
  - e. Unacceptable Risk Deadline: \_\_\_\_\_

If the system is not adequately isolated and evacuated by the System Evacuation Deadline. Work is CANCELLED, the force main secured and placed back in service.

Once the Work has commenced progress shall be monitored with direct communication between the Contractor Representative In-Charge and the District Representative In-Charge. At any time during the performance of the Work the projected completion time exceeds the Unacceptable Risk Deadline Emergency Operation Measures shall be implemented. See **Exhibit D**.

9. Equipment:
- a. The Contractor shall have adequate equipment on site by Close of Business preceding the scheduled shutdown. All equipment shall be on site by: \_\_\_\_\_. The list of equipment shall be attached as **Exhibit E**.
  - b. The District shall have adequate equipment on site by Close of Business preceding the scheduled shutdown. All equipment shall be on site by: \_\_\_\_\_. The list of equipment shall be attached as **Exhibit F**.
10. Materials: All materials required for the work shall be on site by Close of Business preceding the scheduled shutdown. All materials shall be on site by: \_\_\_\_\_. The approved Material List shall be attached as **Exhibit G**.
11. Vendors: All vendors required for the work shall be issued Purchase Orders by Close of Business preceding the scheduled shutdown. All vendor Purchase Orders shall be confirmed by \_\_\_\_\_. The Vendor list shall be attached as **Exhibit H**.

## System Shutdown Checklist

Description	Approved By	Scheduled Time	Scheduled Date
Work Order			
Exhibit A			
Exhibit B			
Exhibit C			
Exhibit D			
Exhibit E			
Exhibit F			
Exhibit G			
Exhibit H			
Low Risk Holding Time			
Unacceptable Risk Holding Time			
Primary Isolation Time			
Secondary Isolation Time			
System Evacuation Deadline			
Low Risk Work Completion Deadline			
Unacceptable Risk Deadline			
Contractor Equipment Onsite			
District Equipment Onsite			
Materials Onsite			
Vendor's Confirmed			

Contractor's Representative Name:

Cell:

District's Representative Name:

Cell:

## **APPENDIX E**

### **SUBSURFACE SURVEY**



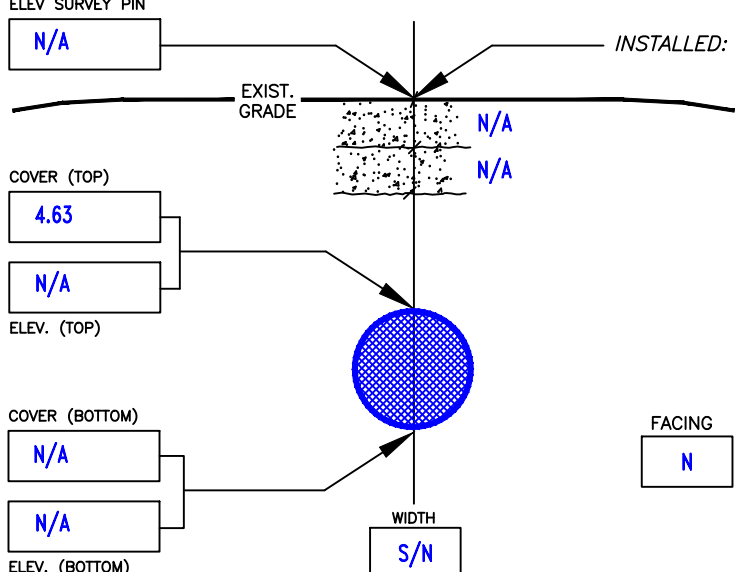
TEST HOLE INVENTORY PROJECT: A-1-A FORCEMAIN REPLACEMENT PROJECT NO.: PF24024 PROJECT MANAGER: ANDRES GARCIA CLIENT: KIMLEY - HORN DATE: 8/06/2024			
TH#	REQUESTED UTILITY	UTILITY FOUND	REMARKS
1	FORCEMAIN	FORCEMAIN ASBESTOS CEMENT	SEE TEST HOLE FORM
2	FORCEMAIN	FORCEMAIN ASBESTOS CEMENT	SEE TEST HOLE FORM
3	FORCEMAIN	4" FORCEMAIN P.V.C. (WHITE)	
4	FORCEMAIN	10" FORCEMAIN ASBESTOS CEMENT	
5	FORCEMAIN	10" FORCEMAIN P.V.C. (WHITE)	SEE TEST HOLE FORM
6	FORCEMAIN	FORCEMAIN P.V.C. (WHITE)	SEE TEST HOLE FORM

<p>PROJECT NAME: <b>A1A FORCEMAIN REPLACEMENT – TEST HOLE</b></p> <p>LOCATE REQUESTED BY: <b>KIMLEY – HORN</b></p> <p>UTILITY REQUESTED: <b>FORCE MAIN</b></p> <p>UTILITY FOUND: <b>FORCE MAIN</b></p> <p>MATERIAL AS FOUND: <b>ASBESTOS CEMENT</b></p> <p>SIZE AS FOUND: <b>SEE NOTE</b></p>	<p>CLIENT JOB# <b>N/A</b>      WORK ORDER # <b>N/A</b></p> <p>PROJECT LOCATION: <b>JUITER, FL.</b></p> <p>SHEET #: <b>C-5 OF N/A</b>      PROPOSED: <b>UTILITY WORK</b></p> <p>FORM BY: <b>DL</b>      ASSISTED BY: <b>DC/TJ</b>      # OF HOLES: <b>1</b></p> <p>PAVING CONDITION: <b>GOOD</b>      DATE DUG: <b>89/05/24</b></p> <p>SOIL CONDITIONS: <b>SOFT MOIST SAND</b></p> <p>UTILITY CONDITION: <b>SEE NOTE</b></p>
---	---

ELEV SURVEY PIN

N/A

EXIST. GRADE



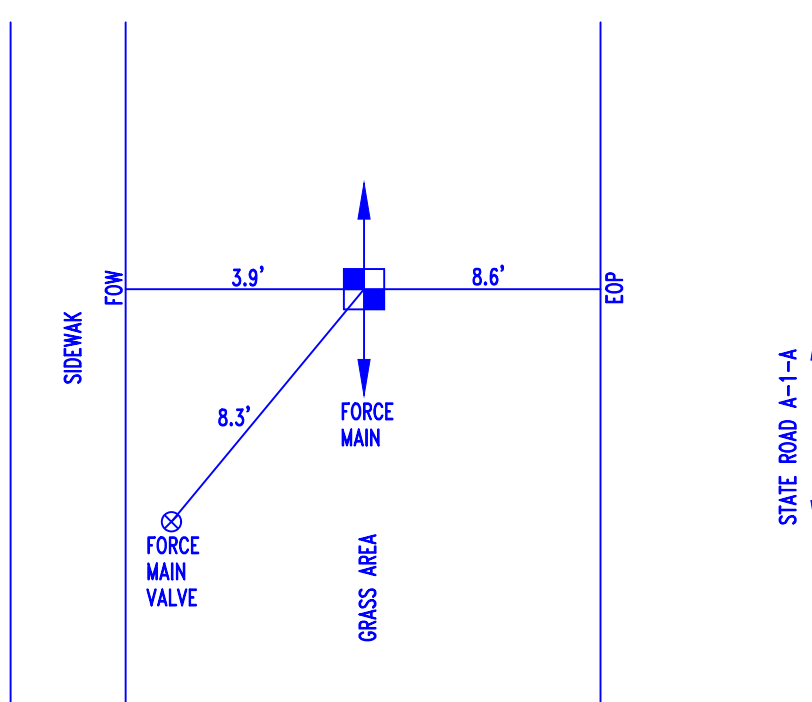
INSTALLED: **HUB & TACK**    AT: **CROWN OF UTILITY**    MARKING TAPE: **GREEN**

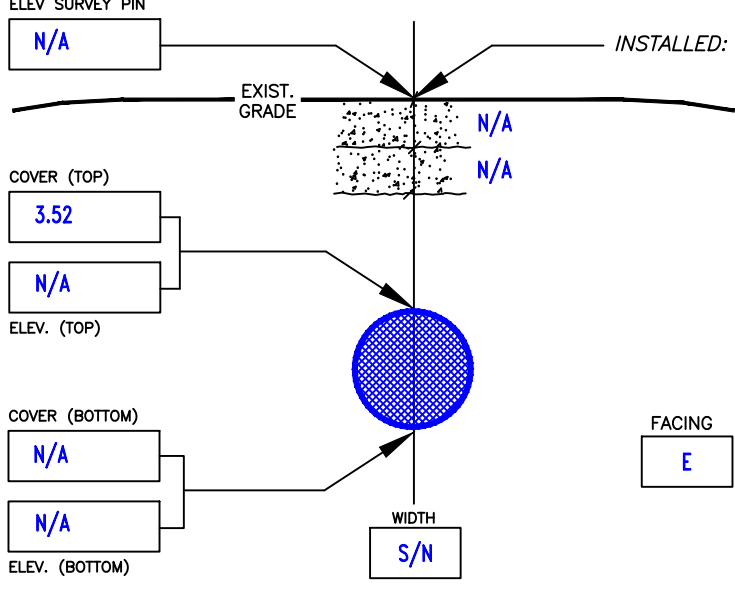
SURVEY PIN LOCATED BY: **INFRAMAP CORP.**

SURVEY INFO.: **ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).**

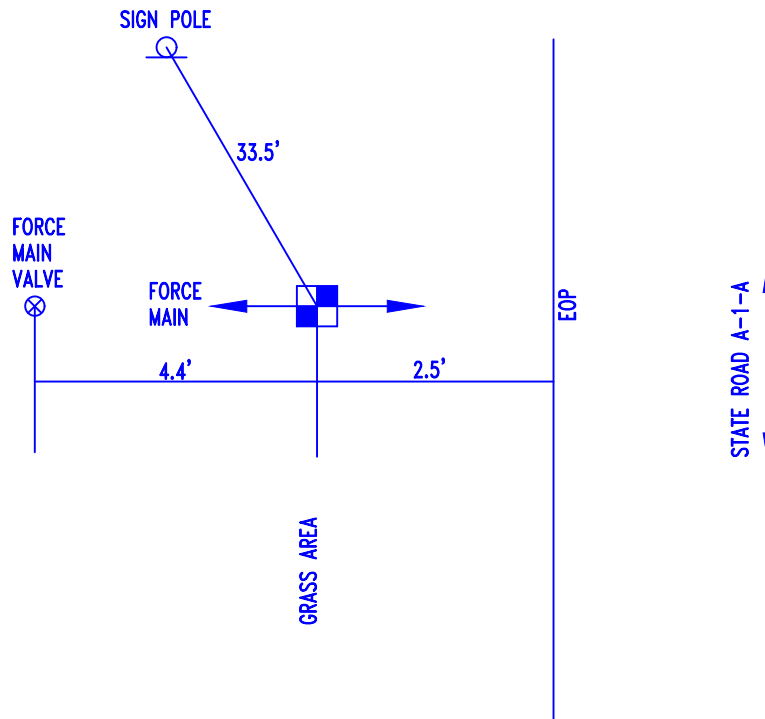
NOTES: **UNABLE TO OBTAIN ACCURATE SIZE DUE TO OBSTRUCTION AROUND UTILITY.**

NOT TO SCALE



<p>PROJECT NAME: <b>A1A FORCEMAIN REPLACEMENT – TEST HOLE</b></p> <p>LOCATE REQUESTED BY: <b>KIMLEY – HORN</b></p> <p>UTILITY REQUESTED: <b>FORCE MAIN</b></p> <p>UTILITY FOUND: <b>FORCE MAIN</b></p> <p>MATERIAL AS FOUND: <b>ASBESTOS CEMENT</b></p> <p>SIZE AS FOUND: <b>SEE NOTE</b></p>	<p>CLIENT JOB# <b>N/A</b>      WORK ORDER # <b>N/A</b></p> <p>PROJECT LOCATION: <b>JUITER, FL.</b></p> <p>SHEET #: <b>C-6 OF N/A</b>      PROPOSED: <b>UTILITY WORK</b></p> <p>FORM BY: <b>DL</b>      ASSISTED BY: <b>DC/TJ</b>      # OF HOLES: <b>1</b></p> <p>PAVING CONDITION: <b>N/A</b>      DATE DUG: <b>8/05/24</b></p> <p>SOIL CONDITIONS: <b>SOFT WET MOIST SAND</b></p> <p>UTILITY CONDITION: <b>FAIR</b></p>
<p>ELEV SURVEY PIN</p> <div style="border: 1px solid black; padding: 2px; width: 80px; float: left;">N/A</div> <div style="clear: both;"></div>  <p>COVER (TOP) <b>3.52</b></p> <p>COVER (BOTTOM) <b>N/A</b></p> <p>ELEV. (TOP) <b>N/A</b></p> <p>ELEV. (BOTTOM) <b>N/A</b></p> <p>WIDTH <b>S/N</b></p> <p>FACING <b>E</b></p>	<p>INSTALLED: <b>HUB &amp; TACK</b>    AT: <b>CROWN OF UTILITY</b>    MARKING TAPE: <b>GREEN</b></p> <p>SURVEY PIN LOCATED BY: <b>INFRAMAP CORP.</b></p> <p>SURVEY INFO.: <b>ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).</b></p> <p>NOTES: <b>UNABLE TO OBTAIN ACCURATE SIZE AND MATERIAL DUE TO EXCESSIVE GROUND WATER.</b></p>

NOT TO SCALE



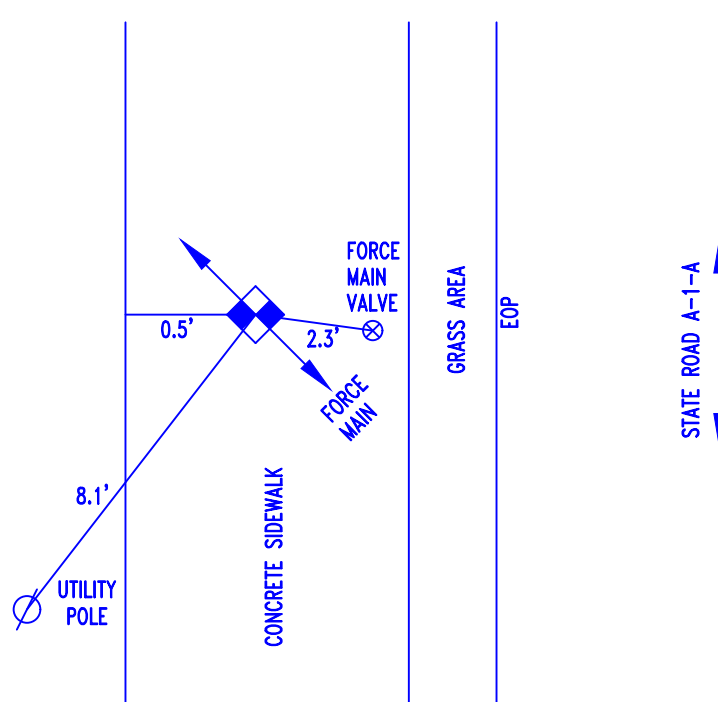


PROJECT NAME: <b>A1A FORCEMAIN REPLACEMENT – TEST HOLE</b>	CLIENT JOB# <b>N/A</b>	WORK ORDER # <b>N/A</b>
LOCATE REQUESTED BY: <b>KIMLEY HORN &amp; ASSOCIATES</b>	PROJECT LOCATION: <b>JUITER, FL.</b>	
UTILITY REQUESTED: <b>FORCE MAIN</b>	SHEET #: <b>C-8 OF N/A</b>	PROPOSED: <b>UTILITY WORK</b>
UTILITY FOUND: <b>FORCE MAIN</b>	FORM BY: <b>DL</b>	ASSISTED BY: <b>DC/TJ</b> # OF HOLES: <b>1</b>
MATERIAL AS FOUND: <b>P.V.C (WHITE)</b>	PAVING CONDITION: <b>N/A</b>	DATE DUG: <b>8/05/24</b>
SIZE AS FOUND: <b>4"</b>	SOIL CONDITIONS: <b>SOFT DRY SAND</b>	
UTILITY CONDITION: <b>FAIR</b>		

ELEV SURVEY PIN <b>N/A</b>  EXIST. GRADE  COVER (TOP) <b>3.56</b>  <b>N/A</b> ELEV. (TOP)  COVER (BOTTOM) <b>N/A</b>  <b>N/A</b> ELEV. (BOTTOM)  FACING <b>NW</b>  WIDTH <b>4.5"</b>	INSTALLED: <b>CHIS "X"</b> AT: <b>CROWN OF UTILITY</b> MARKING TAPE: <b>GREEN</b>  SURVEY PIN LOCATED BY: <b>INFRAMAP CORP.</b>  SURVEY INFO.: <b>ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).</b>  NOTES:
---	--

NOT TO SCALE



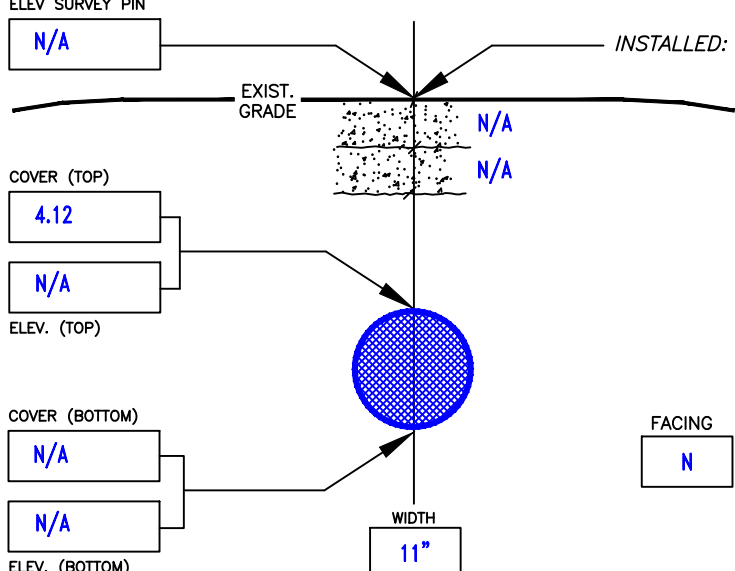
STATE ROAD A-1-A

<p>PROJECT NAME: <b>A1A FORCEMAIN REPLACEMENT – TEST HOLE</b></p> <p>LOCATE REQUESTED BY: <b>KIMLEY – HORN</b></p> <p>UTILITY REQUESTED: <b>FORCE MAIN</b></p> <p>UTILITY FOUND: <b>FORCE MAIN</b></p> <p>MATERIAL AS FOUND: <b>ASBESTOS CEMENT</b></p> <p>SIZE AS FOUND: <b>10"</b></p>	<p>CLIENT JOB# <b>N/A</b>      WORK ORDER # <b>N/A</b></p> <p>PROJECT LOCATION: <b>JUITER, FL.</b></p> <p>SHEET #: <b>C-8 OF N/A</b>      PROPOSED: <b>UTILITY WORK</b></p> <p>FORM BY: <b>DL</b>      ASSISTED BY: <b>DC/TJ</b>      # OF HOLES: <b>1</b></p> <p>PAVING CONDITION: <b>N/A</b>      DATE DUG: <b>8/05/24</b></p> <p>SOIL CONDITIONS: <b>SOFT DRY SAND</b></p> <p>UTILITY CONDITION: <b>FAIR</b></p>
--	---

ELEV SURVEY PIN

N/A

EXIST. GRADE

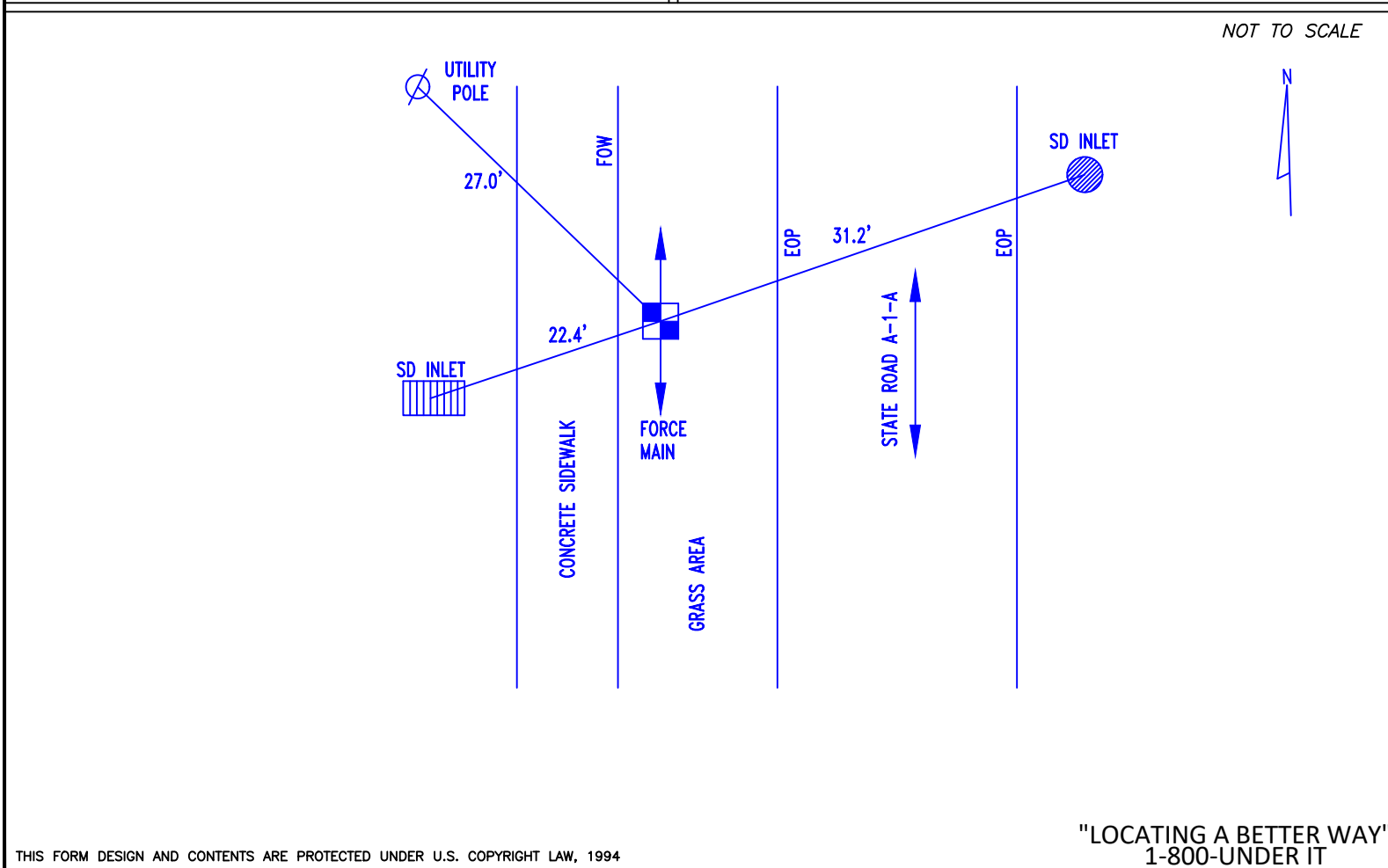


INSTALLED: **HUB & TACK**    AT: **CROWN OF UTILITY**    MARKING TAPE: **GREEN**

SURVEY PIN LOCATED BY: **INFRAMAP CORP.**

SURVEY INFO.: **ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).**

NOTES:

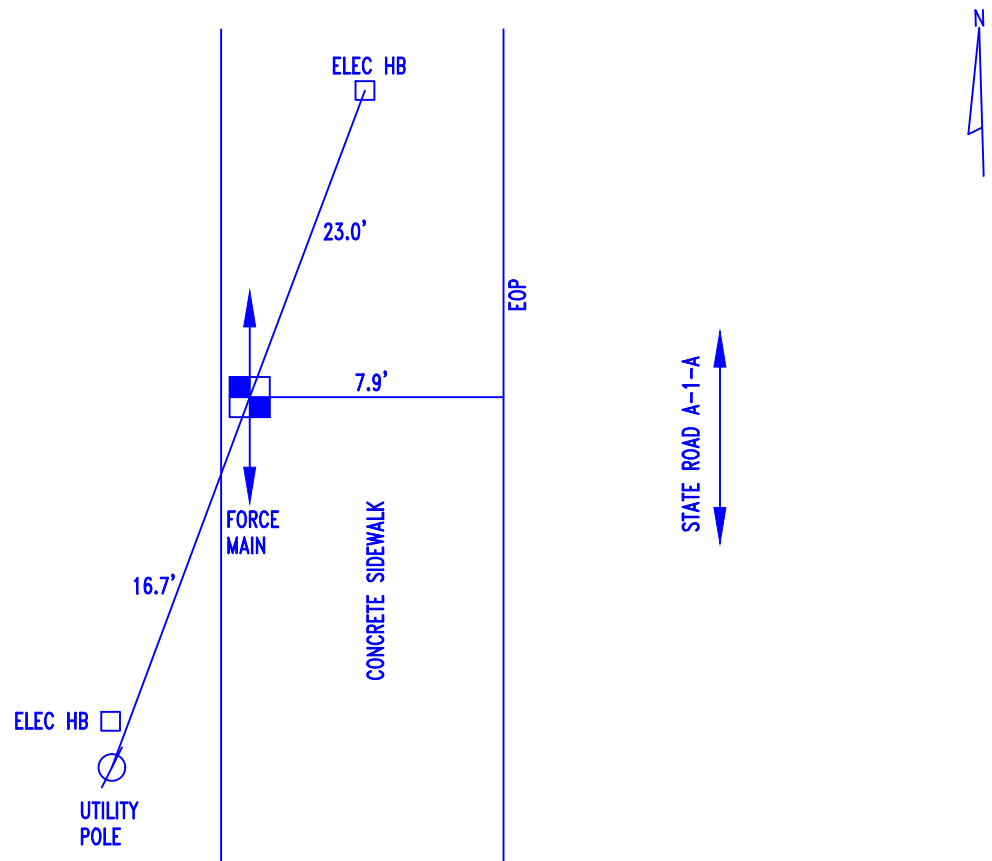


PN: PF24024

VACUUM TEST HOLE REPORT NO.: 5

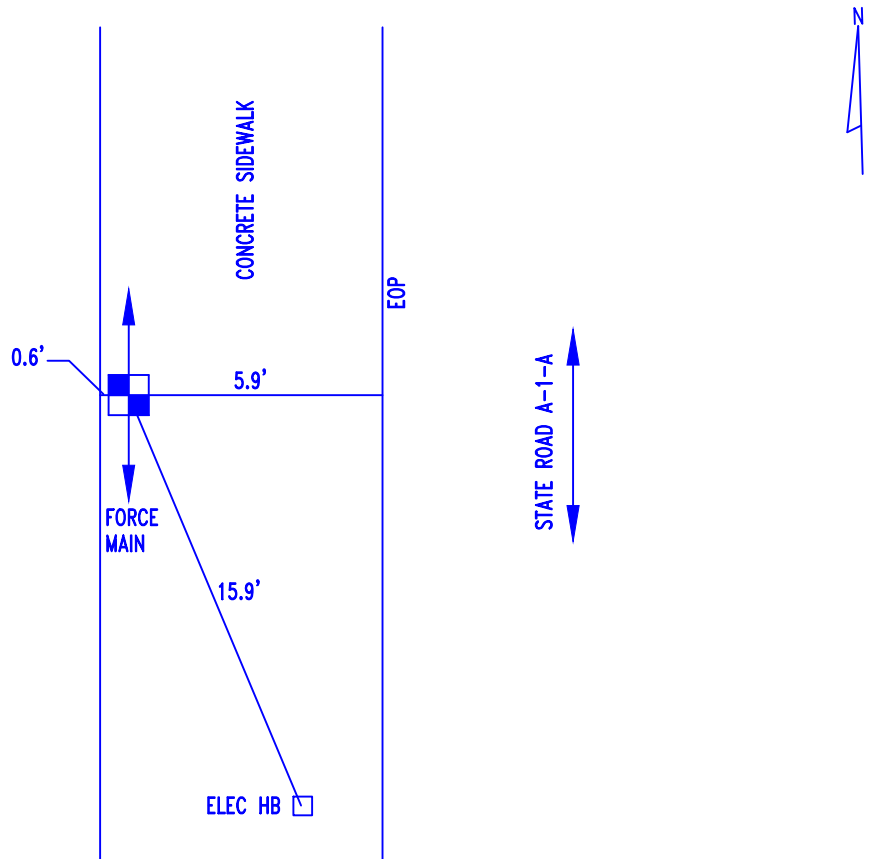
PROJECT NAME: <b>A1A FORCEMAIN REPLACEMENT – TEST HOLE</b>	CLIENT JOB# <b>N/A</b>	WORK ORDER # <b>N/A</b>
LOCATE REQUESTED BY: <b>KIMLEY HORN &amp; ASSOCIATES</b>	PROJECT LOCATION: <b>JUITER, FL.</b>	
UTILITY REQUESTED: <b>FORCE MAIN</b>	SHEET #: <b>C-9</b> OF <b>N/A</b>	PROPOSED: <b>UTILITY WORK</b>
UTILITY FOUND: <b>FORCE MAIN</b>	FORM BY: <b>DL</b>	ASSISTED BY: <b>DC/TJ</b> # OF HOLES: <b>1</b>
MATERIAL AS FOUND: <b>P.V.C (WHITE)</b>	PAVING CONDITION: <b>FAIR</b>	DATE DUG: <b>8/05/24</b>
SIZE AS FOUND: <b>10"</b>	SOIL CONDITIONS: <b>SOFT DRY SAND</b>	
UTILITY CONDITION: <b>FAIR</b>		
<div> <div>ELEV SURVEY PIN</div> <div><b>N/A</b></div> <div>EXIST. GRADE</div> <div>COVER (TOP)</div> <div><b>3.95</b></div> <div><b>N/A</b></div> <div>ELEV. (TOP)</div> <div>COVER (BOTTOM)</div> <div><b>N/A</b></div> <div><b>N/A</b></div> <div>ELEV. (BOTTOM)</div> <div>WIDTH</div> <div><b>11"</b></div> <div>FACING</div> <div><b>N</b></div> </div> <div> <div>INSTALLED: <b>CHIS "X"</b></div> <div>AT: <b>CROWN OF UTILITY</b></div> <div>MARKING TAPE: <b>GREEN</b></div> </div>		
SURVEY PIN LOCATED BY: <b>INFRAMAP CORP.</b>		
SURVEY INFO.: <b>ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).</b>		
NOTES: <b>TEST HOLE ALSO REVEALED (2) 2" CONDUITS ABOVE FORCE MAIN.</b> <b>COVER = 2.25'</b>		

NOT TO SCALE



PROJECT NAME: A1A FORCEMAIN REPLACEMENT – TEST HOLE	CLIENT JOB# N/A	WORK ORDER # N/A
LOCATE REQUESTED BY: KIMLEY HORN & ASSOCIATES	PROJECT LOCATION: JUITER, FL.	
UTILITY REQUESTED: FORCE MAIN	SHEET #: C-9 OF N/A	PROPOSED: UTILITY WORK
UTILITY FOUND: FORCE MAIN	FORM BY: DL	ASSISTED BY: DC/TJ # OF HOLES: 1
MATERIAL AS FOUND: P.V.C (WHITE)	PAVING CONDITION: N/A	DATE DUG: 8/05/24
SIZE AS FOUND: SEE NOTE	SOIL CONDITIONS: SOFT DRY SAND	
UTILITY CONDITION: FAIR		
ELEV SURVEY PIN N/A EXIST. GRADE N/A N/A COVER (TOP) 4.18 N/A ELEV. (TOP) COVER (BOTTOM) N/A N/A ELEV. (BOTTOM) FACING N WIDTH SEE NOTE INSTALLED: CHIS "X" AT: CROWN OF UTILITY MARKING TAPE: GREEN		
SURVEY PIN LOCATED BY: INFRAMAP CORP.		
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).		
NOTES: UNABLE TO DETERMINE ACCURATE SIZE OF PIPE DUE TO OBSTRUCTIONS AROUND PIPE.		

NOT TO SCALE





TEST HOLE INVENTORY PROJECT: A1A FORCEMAIN REPLACEMENT TEST HOLES PROJECT NO.: PF24024 PROJECT MANAGER: ANDRES GARCIA CLIENT: KIMLEY HORN DATE: 10/30/24			
TH#	REQUESTED UTILITY	UTILITY FOUND	REMARKS
1.1	SANITARY FORCE MAIN	8" PVC(WHITE) SANITARY FORCE MAIN	
2.1	ELECTRIC	2" PVC(WHITE) ELECTRIC	SEE TEST HOLE FORM FOR MORE INFO
3.1	UNKNOWN	4" CAST IRON UNKNOWN	
4.1	GAS	4" PE GAS	

PROJECT NAME: A1A FORCEMAIN REPLACEMENT TEST HOLES

CLIENT JOB# N/A

WORK ORDER # N/A

LOCATE REQUESTED BY: KIMLEY HORN

PROJECT LOCATION: JUPITER, FL

UTILITY REQUESTED: SANITARY FORCE MAIN

SHEET #: N/A OF N/A

PROPOSED: UTILITY WORK

UTILITY FOUND: SANITARY FORCE MAIN

FORM BY: DC

ASSISTED BY: JA TJ

# OF HOLES: 1

MATERIAL AS FOUND: PVC(WHITE)

PAVING CONDITION: FAIR

DATE DUG: 10-22-24

SIZE AS FOUND: 8"

SOIL CONDITIONS: SOFT DRY SAND

UTILITY CONDITION: GOOD

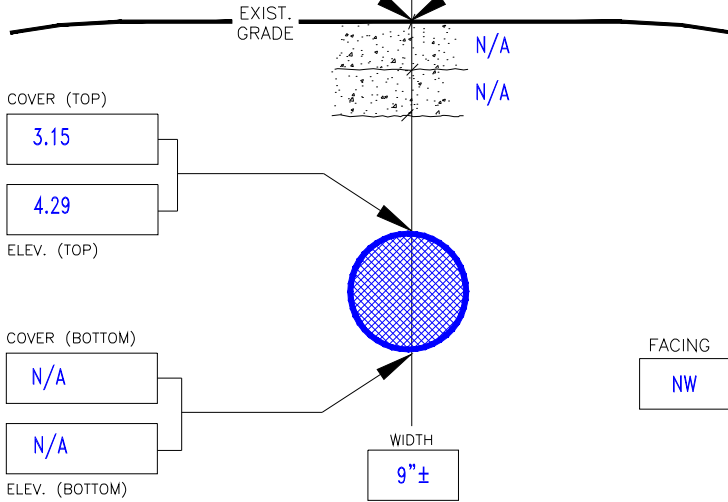
ELEV SURVEY PIN

7.44

INSTALLED: PK

AT: CROWN OF UTILITY

MARKING TAPE: GREEN



SURVEY PIN LOCATED BY: INFRAMAP CORP.

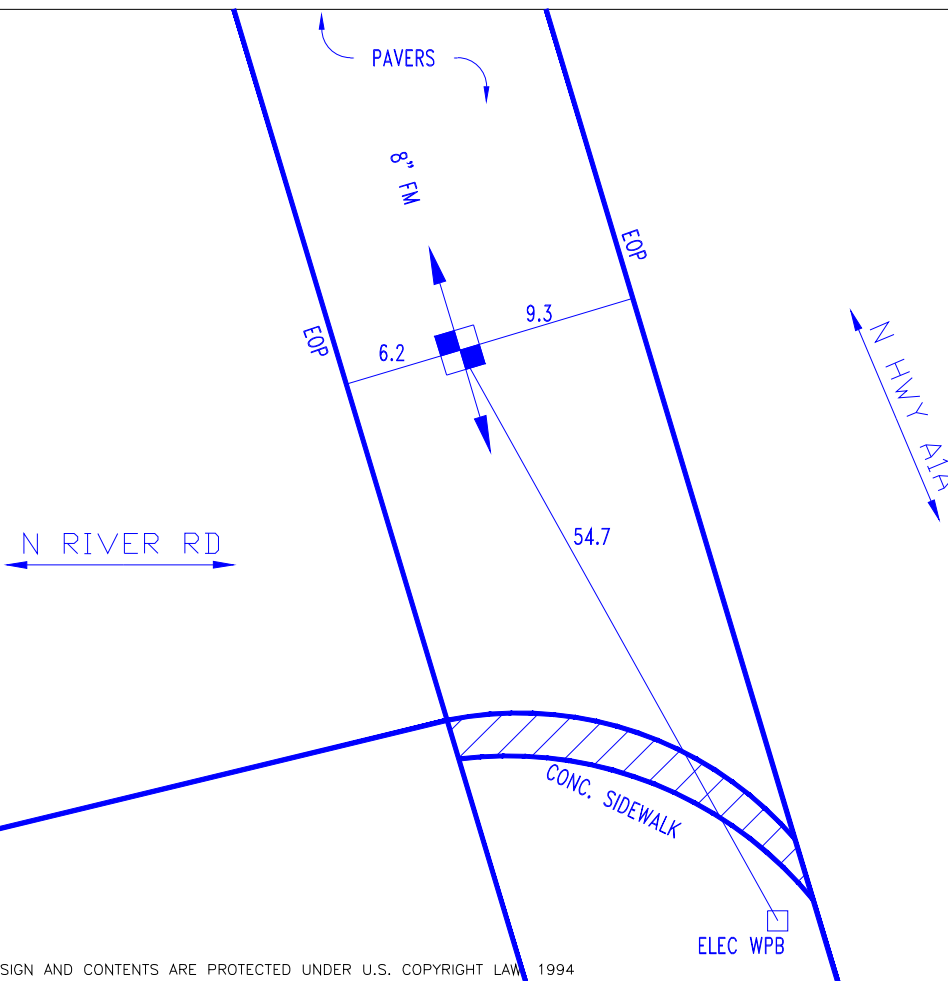
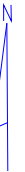
SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).

NORTH	EAST	ELEV.
948298.55	956502.11	7.44

HORIZONTAL AND VERTICAL CONTROL PROVIDED BY CLIENT.

NOTES:

NOT TO SCALE



PROJECT NAME: <b>A1A FORCEMAIN REPLACEMENT TEST HOLES</b>	CLIENT JOB# <b>N/A</b> WORK ORDER # <b>N/A</b>
LOCATE REQUESTED BY: <b>KIMLEY HORN</b>	PROJECT LOCATION: <b>JUPITER, FL</b>
UTILITY REQUESTED: <b>ELECTRIC</b>	SHEET #: <b>N/A</b> OF <b>N/A</b> PROPOSED: <b>UTILITY WORK</b>
UTILITY FOUND: <b>ELECTRIC</b>	FORM BY: <b>DC</b> ASSISTED BY: <b>JA TJ</b> # OF HOLES: <b>1</b>
MATERIAL AS FOUND: <b>PVC(WHITE)</b>	PAVING CONDITION: <b>FAIR</b> DATE DUG: <b>10-22-24</b>
SIZE AS FOUND: <b>2"</b>	SOIL CONDITIONS: <b>SOFT DRY SAND</b>
UTILITY CONDITION: <b>GOOD</b>	

ELEV. SURVEY PIN

7.49

FACING  
NW

AT: **CROWN OF UTILITY**      MARKING TAPE: **RED**

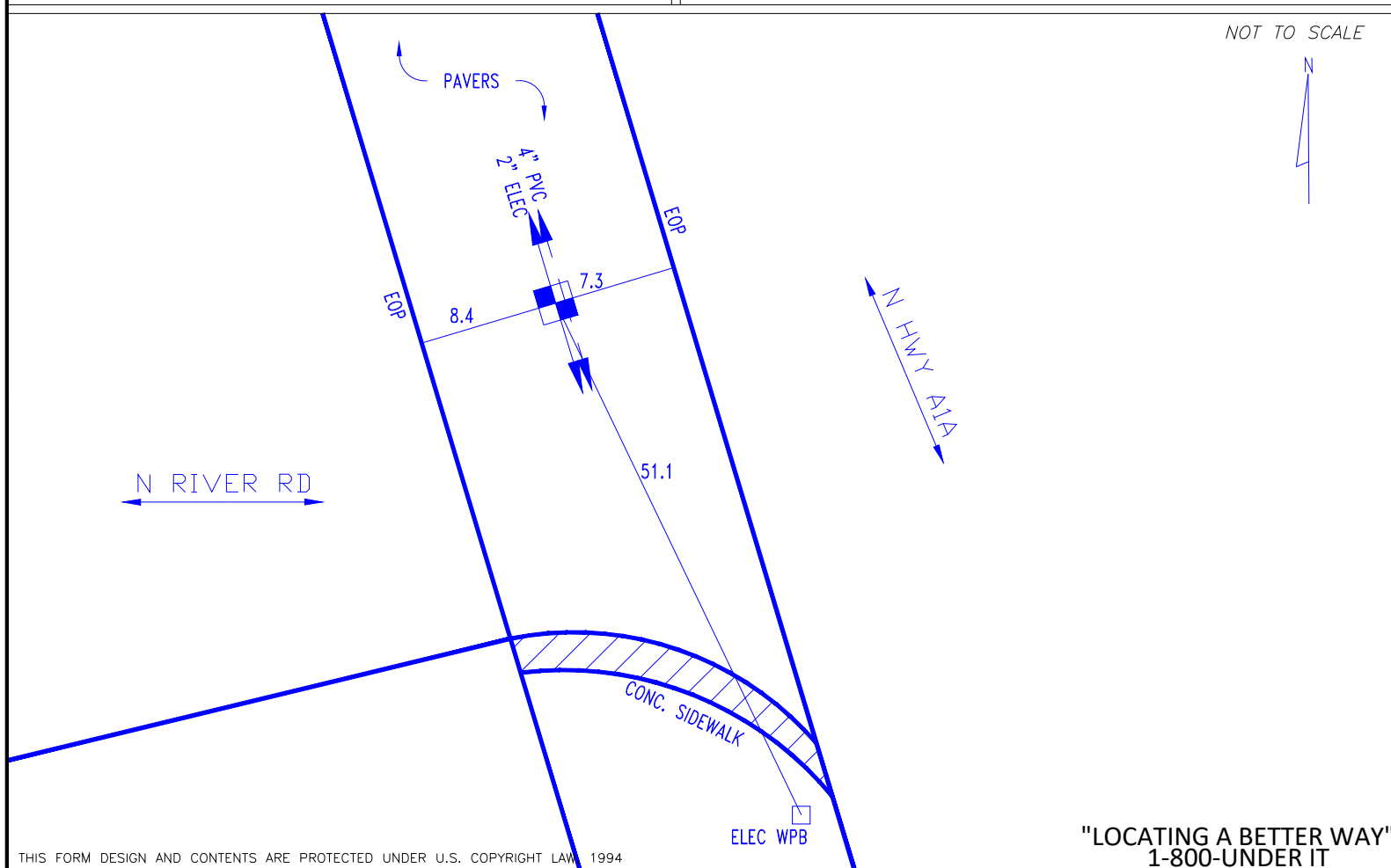
SURVEY PIN LOCATED BY: **INFRAMAP CORP.**

SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).

NORTH	EAST	ELEV.
948296.62	956505.63	7.49

HORIZONTAL AND VERTICAL CONTROL PROVIDED BY CLIENT.

NOTES: TEST HOLE ALSO REVEALED 4" WHITE PVC RUNNING WITH 2" NW/SE COVER=2.8'. OFFSET 0.4 EAST OF PK.



PROJECT NAME: A1A FORCEMAIN REPLACEMENT TEST HOLES

CLIENT JOB# N/A

WORK ORDER # N/A

LOCATE REQUESTED BY: KIMLEY HORN

PROJECT LOCATION: JUPITER, FL

UTILITY REQUESTED: UNKNOWN

SHEET #: N/A OF N/A

PROPOSED: UTILITY WORK

UTILITY FOUND: UNKNOWN

FORM BY: DC

ASSISTED BY: JA TJ

# OF HOLES: 1

MATERIAL AS FOUND: CAST IRON

PAVING CONDITION: FAIR

DATE DUG: 10-22-24

SIZE AS FOUND: 4"

SOIL CONDITIONS: SOFT DRY SAND ROCKY

UTILITY CONDITION: POOR

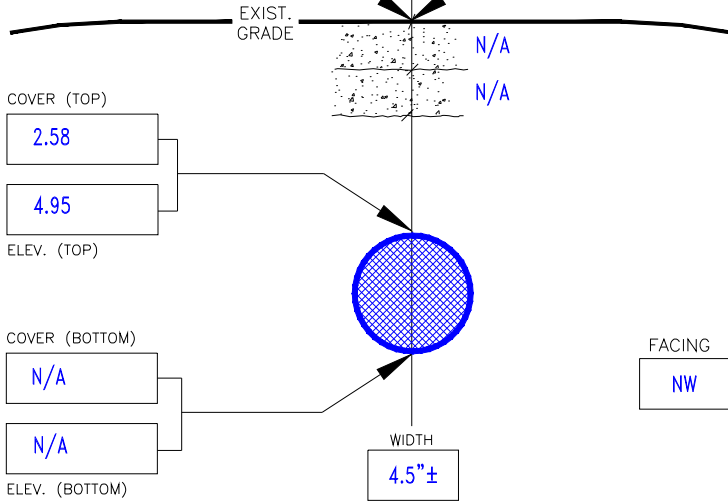
ELEV SURVEY PIN

7.53

INSTALLED: PK

AT: CROWN OF UTILITY

MARKING TAPE: PINK



SURVEY PIN LOCATED BY: INFRAMAP CORP.

SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).

NORTH

EAST

ELEV.

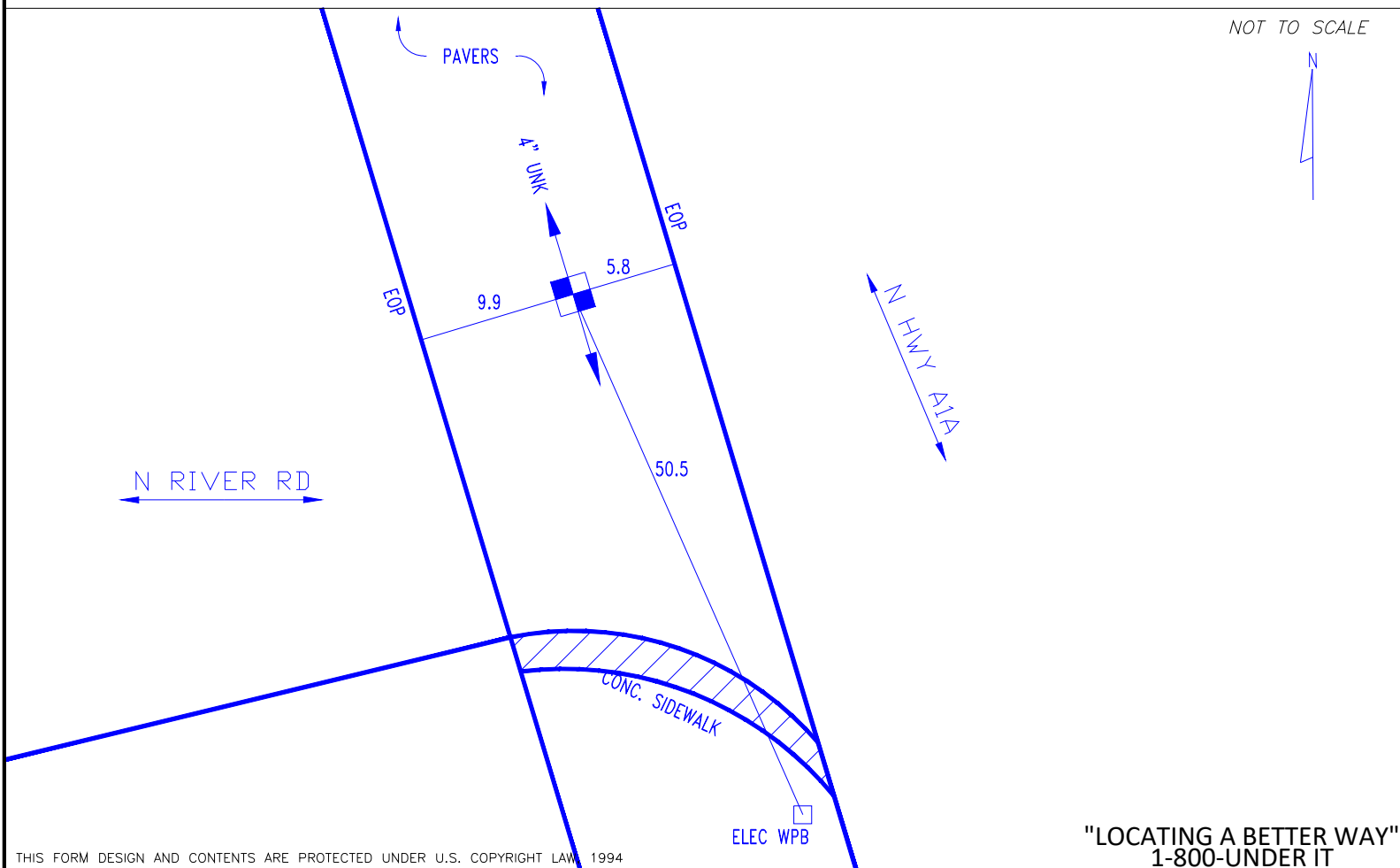
948296.83

956507.15

7.53

HORIZONTAL AND VERTICAL CONTROL PROVIDED BY CLIENT.

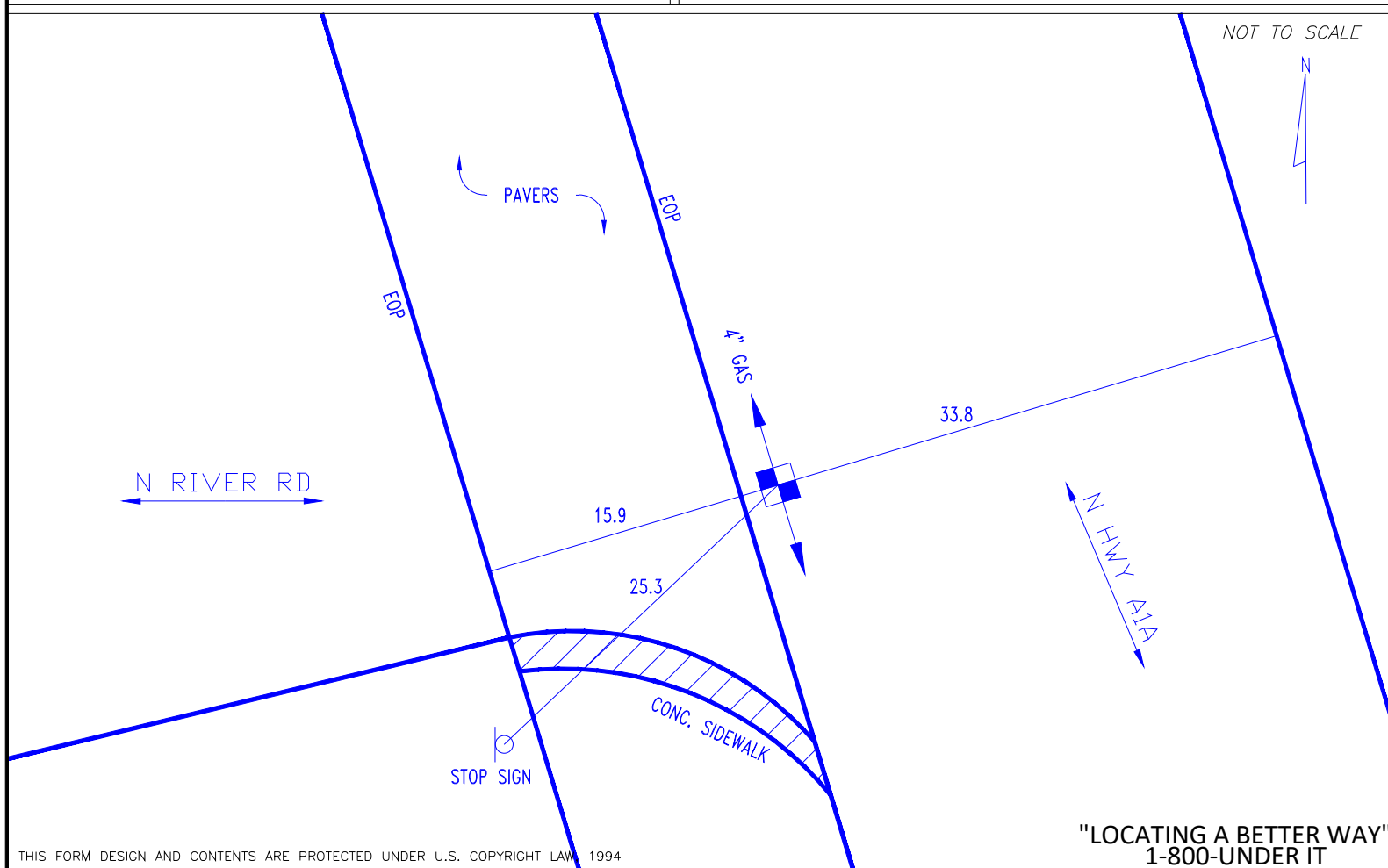
NOTES:



NOT TO SCALE



PROJECT NAME: A1A FORCEMAIN REPLACEMENT TEST HOLES		CLIENT JOB# N/A		WORK ORDER # N/A							
LOCATE REQUESTED BY: KIMLEY HORN		PROJECT LOCATION: JUPITER, FL									
UTILITY REQUESTED: GAS		SHEET #: N/A OF N/A		PROPOSED: UTILITY WORK							
UTILITY FOUND: GAS		FORM BY: DC		ASSISTED BY: JA TJ # OF HOLES: 1							
MATERIAL AS FOUND: PE		PAVING CONDITION: GOOD		DATE DUG: 10-22-24							
SIZE AS FOUND: 4"		SOIL CONDITIONS: SOFT DRY SAND ROCKY									
ELEV. SURVEY PIN		UTILITY CONDITION: GOOD									
<div>7.63</div> <div>EXIST. GRADE</div> <div>0.2 ASPHALT</div> <div>N/A</div> <div>COVER (TOP)</div> <div>4.01</div> <div>3.62</div> <div>ELEV. (TOP)</div> <div>COVER (BOTTOM)</div> <div>N/A</div> <div>N/A</div> <div>ELEV. (BOTTOM)</div> <div>WIDTH</div> <div>4.5"±</div> <div>FACING</div> <div>NW</div>		<div>INSTALLED: PK</div> <div>AT: CROWN OF UTILITY</div> <div>MARKING TAPE: YELLOW</div>		<div>SURVEY PIN LOCATED BY: INFRAMAP CORP.</div> <div>SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH UNITS (FEET).</div> <table> <tr> <td>NORTH</td> <td>EAST</td> <td>ELEV.</td> </tr> <tr> <td>948295.58</td> <td>956514.67</td> <td>7.63</td> </tr> </table> <div>HORIZONTAL AND VERTICAL CONTROL PROVIDED BY CLIENT.</div> <div>NOTES:</div>		NORTH	EAST	ELEV.	948295.58	956514.67	7.63
NORTH	EAST	ELEV.									
948295.58	956514.67	7.63									



**APPENDIX F**

**PALM BEACH COUNTY – RIGHT OF WAY PERMIT  
(UT69897)**

**APPENDIX G**

**TOWN OF JUPITER – ENGINEERING/UTILITY PERMIT  
(24-003292-EU)**

Plan Number: 24-003292-EU

Plan Details | Tab Elements | Main Menu

Type:	Engineering Utilities Permit	Status:	Additional Documents Required	Project Name:	
IVR Number:	204020	Applied Date:	12/21/2024	Expiration Date:	06/21/2025
District:	Town of Jupiter - All	Assigned To:	Keys, Heather	Completion Date:	
		Valuation:	\$2,050,000.00		
Description:	The replacement of approximately 2500 LF of existing 10" AC force main with 12" DR11 HDPE via directional drills and 10" C-900 PVC via open cut along A1A. And, the replacement of approximately 500 LF of existing 6" AC force main at Ocean Park Condos.				

- Summary
- Locations
- Fees
- Reviews
- Inspections
- Attachments
- Contacts
- Sub-Records
- More Info

Eng / Storm Water / Water Plans			
Submittal Status	Received Date	Due Date	Completed Date
Approved	12/23/2024	01/06/2025	01/06/2025
✔ Water Utilities • Approved as Noted • Sancilio Ryan • Completed : 01/06/2025			
✔ Planning & Zoning • Approved as Noted • Schultz Leila • Completed : 01/02/2025			
✔ Engineering • Approved as Noted • Koennicke Doug • Completed : 12/30/2024			