

**CONTRACT DOCUMENTS &
TECHNICAL SPECIFICATIONS**

FOR

LOXAHATCHEE RIVER DISTRICT



COUNTY LINE ROAD

**RECLAIMED WATER MAIN, WATER
MAIN AND RAW WATER MAIN
RELOCATION**

ITB# 23-004-00126

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**Prepared by:
Kimley-Horn
1920 Wekiva
Way, Suite 200
WPB, FL**

**COUNTY LINE ROAD
RECLAIMED WATER MAIN, WATER MAIN
AND RAW WATER MAIN RELOCATION
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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 January 7, 2025**. Any Bids received after **2:00 p.m. local time on January 7, 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 **January 7, 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 along County Line Road, at the County Line Road Bridge, Tequesta, FL 33469, and consists of furnishing all labor, tools, materials, and equipment necessary for the relocation of an existing reclaimed watermain, watermain, and raw watermain shown on the Contract Plans and Specifications and as specified herein to include:

ITB # 23-004-00126

COUNTY LINE ROAD RECLAIMED WATER MAIN, WATER MAIN AND RAW WATER MAIN RELOCATION

This project consists of the installation of a new 12” reclaimed water main that replaces an existing reclaimed water main attached to the County Line Bridge crossing the North Fork of the Loxahatchee River. The new reclaimed line will be directionally drilled beneath the river and reconnected on either side. Additionally, the Village of Tequesta’s existing 8” water main and 12” raw water main also attached to the bridge will be replaced via new directionally drilled mains beneath the river and reconnected on either side to existing mains.

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 **December 10, 2024** 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**. 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 **November 25, 2024** 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

Stephen B. Rockoff, 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 or Martin County, as may be applicable.
 - l. “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.

- m. “District” shall mean the Loxahatchee River Environmental Control District, acting through its properly authorized representatives.
- n. “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.
- o. “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.
- p. “Notice of Award” shall mean the District’s notification of award of the Contract to the Successful Bidder.
- q. “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.
- r. “Project” shall mean the entire construction to be performed as provided in the Contract Documents.
- s. “Specifications” shall mean the written requirements for materials, equipment, systems, standards, and workmanship for the Work, and performance of related services.
- t. “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.
- u. “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.
- v. “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 January 7, 2025**. Any Bids received after **2:00 p.m. local time on January 7, 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 January 7, 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 **November 25, 2024 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 December 10, 2024** at District offices, located at 2500 Jupiter Park Drive, Jupiter, FL 33458. 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. 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 to 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 within 48 hours of the Bid DueDate or the bid will be deemed non-responsive. Bid Bonds are due not later than 2:00 p.m. local time on January 9, 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 DocuSign link to the Contract and all other Contract Documents. Within ten (10) business days thereafter, Contractor shall execute the Contract and other Contract Documents using DocuSign. Thereafter, the District shall return one fully executed 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 01060 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, 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)	Benchmark 3.0
(U.S. Bureau of Labor Statistics, Table 1). Incidence rates of nonfatal occupational injuries and illnesses by industry and case types, 2021 ,	

3rd quartile or better for size 50-249, NAICS 237110, Water and sewer line and related structures construction. Bidder's DART must be less than or equal to benchmark.

Total Recordable Incident Rate (TRIR) **Benchmark 3.1**
(U.S. Bureau of Labor Statistics, Table 1. Incidence rates of nonfatal occupational injuries and illnesses by industry and case types, **2021, average or better for size 50-249, NAICS 237110, Nonresidential building 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 – inches and a minimum construction contract value of \$500,000. 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: _____
Dr. Matt H. Rostock
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

**LOXAHATCHEE RIVER DISTRICT
COUNTY LINE ROAD
RECLAIMED WATER MAIN, WATER MAIN AND
RAW WATER MAIN RELOCATION**

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: _____

PROPOSAL
ARTICLE 2a

QUESTIONNAIRE
For
COUNTY LINE ROAD
RECLAIMED WATER MAIN, WATER MAIN AND RAW WATER MAIN
RELOCATION

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 27, 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

Address & Telephone No. _____

Restoration

Address & Telephone No. _____

Other

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.

9.

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. _____ for COUNTY LINE ROAD RECLAIMED WATER MAIN, WATER MAIN AND RAW WATER MAIN RELOCATION.

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)

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

\$ _____

(b)Not used for business purposes

\$ _____

9. Stocks and Bonds (a) Listed – present market value

\$ _____

(b) Unlisted – present value

\$ _____

10. Materials in stock not included in Item 4:

(a) For uncompleted contracts (present value)

\$ _____

(b) Other materials (present value)

\$ _____

11. Equipment, book value

\$ _____

12. Furniture and fixtures, book value

\$ _____

13. Other assets

\$ _____

TOTAL ASSETS

\$ _____

LIABILITIES

1. Notes payable (a) To banks regular

\$ _____

(b) To banks for certified checks

\$ _____

(c) To others for equipment obligations

\$ _____

(d) To others exclusive of equipment obligation

\$ _____

2. Accounts Payable * (a) Not past due

\$ _____

(b) Past due

\$ _____

3. Real Estate encumbrances

\$ _____

4. Other liabilities

\$ _____

5. Reserves

\$ _____

6. Capital stock paid up:

	(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	
\$ _____		

*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.

7. This Bid is also based on addenda: No. _____ Date _____
 No. _____ Date _____
 No. _____ Date _____
 No. _____ Date _____

Contractor: _____

By: _____

Address: _____

Contractor's License No. _____

Attest: _____

Title: _____

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 COUNTY LINE ROAD RECLAIMED WATER MAIN, WATER MAIN AND RAW WATER MAIN RELOCATION and shall do everything required by or reasonably inferable from the Contract Documents. The Work is generally described as follows:

COUNTY LINE ROAD RECLAIMED WATER MAIN, WATER MAIN AND RAW WATER MAIN RELOCATION

[DESCRIPTION]

Applicable reference drawings are entitled **Construction Plans for County Line Road Reclaimed Watermain, Watermain and Raw Watermain Relocation, dated November 2024** 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 **65** 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

Dr. Matt H. Rostock
Chairman
Address for notice: 2500 Jupiter Park Dr.
Jupiter, Florida 33458

Witness

CONTRACTOR:

Witness

As its: _____
Address for notice: _____

Witness

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
LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT
COUNTY LINE ROAD
RECLAIMED WATER MAIN, WATERMAIN AND RAW WATER MAIN
RELOCATION
LUMP SUM PRICES

<u>Item No.</u>	<u>Description</u>	<u>Est.Qty</u>	<u>Unit</u>	<u>Unit Price</u>	<u>Total Price</u>
A.	General Conditions				
1	Bonds and Insurance	1	LS	\$	\$
2	Mobilization /Demobilization	1	LS	\$	\$
3	Maintenance of Traffic	1	LS	\$	\$
Subtotal, Item A General Conditions					\$
<i>I. LRECD Reclaimed Water Main Replacement</i>					
B.	Reclaimed Water Main Replacement				
1	C-900 PVC				
a.	12-inch	110	LF	\$	\$
b.	16-inch	10	LF	\$	\$
2	Gate Valves w/ Valve Box				
a.	12-inch	2	EA	\$	\$
3	Line Stop				
a.	12-inch	2	EA	\$	\$
4	D.I. Fittings	1,500	LB	\$	\$
5	Directional Bore				
a.	16-inch HDPE DR11 w/ 2-ft 2-inch Conduits	900	LF	\$	\$
b.	16-inch HDPE x MJ Adapter	2	EA	\$	\$
6	ARV Assembly	1	EA	\$	\$
7	Connection to Existing Main				
a.	12-inch Tie-In	2	EA	\$	\$

8	Misc. Items				
a.	Remove Existing 12-inch Main Off Bridge	1	JOB	LS	
b.	Grout and Cap Existing 12-inch Main In Place	730	LF	\$	\$
c.	Water Crossing Sign	2	EA	\$	\$
d.	Mech. Restraints on Exist. Main	1	JOB	LS	
Subtotal, Item I.B Reclaimed Water Main Replacement					
II. Village of Tequesta Water Main and Raw Water Main Replacement					
C.	Water Main Replacement				
1	C-900 PVC				
a.	6-inch	5	LF	\$	\$
b.	8-inch	150	LF	\$	\$
c.	10-inch	10	LF	\$	\$
2	DIP				
a.	6-inch	30	LF	\$	\$
3	Gate Valves w/ Valve Box				
a.	6-inch	2	EA	\$	\$
b.	8-inch	2	EA	\$	\$
4	Line Stop				
a.	Dual 8-inch Line Stop w/ Bypass, W-side of Bridge	1	JOB	LS	\$
b.	Dual 8-inch Line Stop w/ Bypass, E-side of Bridge	1	JOB	LS	\$
c.	8-inch Line Stop, Heritage Oaks Easement	1	JOB	LS	\$
5	D.I. Fittings	2,400	LB	\$	\$
6	Off-Site ARV Assembly	2	EA	\$	\$
7	Connection to Existing Main				
a.	8-inch Tie-In	2	EA	\$	\$

8	Sample Points	2	EA	\$	\$
9	Fire Hydrant Assembly	2	EA	\$	\$
10	Misc. Items				
a.	Remove Existing 8-inch Main Off Bridge	1	JOB	LS	\$
b.	Grout and Cap Exist. 8-inch Main In Place	750	LF	\$	\$
c.	Mech. Restraints on Exist. Main	1	JOB	LS	\$
d.	8-inch Gate Valve Manhole	1	JOB	LS	\$
Subtotal, Item II.C Water Main and Raw Water Main Replacement					
D. Raw Water Main Replacement					
1	C-900 PVC				
b.	12-inch	230	LF	\$	\$
2	Gate Valves w/ Valve Box				
b.	12-inch	1	EA	\$	\$
3	Line Stop				
b.	12-inch	2	EA	\$	\$
4	D.I. Fittings	900	LB	\$	\$
5	Offset ARV Assembly	2	EA	\$	\$
6	Connection to Existing				
a.	12-inch Tie-In	2	EA	\$	\$
7	Sample Points	2	EA	\$	\$
8	Misc. Items				
a.	Remove Existing 12-inch Main	1	JOB	LS	\$
b.	Grout and Cap Existing 12-inch Main In Place	1,060	LF	\$	\$
c.	Mech. Restraints on Exist. Main	1	JOB	LS	\$

d.	12-inch Gate Valve Manhole	1	JOB	LS	\$
Subtotal, Item II.D Raw Water Main Replacement					\$
E. Raw Water Main & Water Main HDD					
1	Directional Bore				
a.	12-inch HDPE DR11 RWM w/ 10-inch HDPE DR11 WM w/ 2- 2 inch Conduits	1,200	LF	\$	\$
b.	10-inch HDPE DR11 WM w/ 1- 2 inch Conduit	200	LF	\$	\$
c.	12-inch HDPE x MJ Adapter	2	EA	\$	\$
d.	10-inch HDPE x MJ Adapter	4	EA	\$	\$
Subtotal, Item II.E Raw Water Main & Water Main HDD					\$
Subtotal, II. Village of Tequesta Water Main and Raw Water Main Replacement					\$
F. Misc. Restoration					
a.	Asphalt Road Trench Restoration	280	SY	\$	\$
b.	1-inch Mill and Resurface w/ SP 9.5	1180	SY	\$	\$
c.	Thermo-plastic road striping	1	JOB	LS	\$
d.	5-ft Wide Concrete Sidewalk Replacement	220	SY	\$	\$
e.	Bahia Sod	750	SY	\$	\$
f.	Floritam Sod	1,200	SY	\$	\$
Subtotal, Item F Misc. Restoration					\$
Total (Items A,B, C, D, E and F)					\$
Contingency					\$
GRAND TOTAL					\$

TOTAL BASE BID, ITEMS 1-_____ (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 COUNTY
LINE ROAD RECLAIMED WATER MAIN, WATER MAIN AND RAW WATER MAIN
RELOCATION 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 of 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.

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

6-1

[Date]

via: US Mail & email

[Contractor Name]
[Contractor Address]

**SUBJECT: Loxahatchee River Environmental Control District
COUNTY LINE ROAD RECLAIMED WATER MAIN, WATER MAIN AND RAW WATER
MAIN RELOCATION**

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:

**COUNTY LINE ROAD RECLAIMED WATER MAIN, WATER MAIN AND RAW WATER MAIN
RELOCATION**

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: COUNTY LINE ROAD RECLAIMED WATER MAIN, WATER MAIN AND RAW MAIN RELOCATION

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:

**COUNTY LINE ROAD RECLAIMED WATER MAIN, WATER
MAIN AND RAW WATER MAIN RELOCATION**

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
COUNTY LINE ROAD
RECLAIMED WATER MAIN, WATER MAIN AND RAW WATER MAIN RELOCATION

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:

COUNTY LINE ROAD RECLAIMED WATER MAIN, RAW
WATER MAIN AND RAW WATER MAIN RELOCATION

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 AMOUNT DUE OR TO BECOME DUE FOR
(Use blank sheet if necessary) 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
COUNTY LINE ROAD
RECLAIMED WATER MAIN, WATER MAIN AND RAW WATER MAIN RELOCATION

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
COUNTY LINE ROAD
RECLAIMED WATER MAIN, WATER MAIN AND
RAW WATER MAIN RELOCATION
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
COUNTY LINE ROAD
RECLAIMED WATER MAIN, WATER MAIN AND
RAW WATER MAIN RELOCATION
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:

COUNTY LINE ROAD

RECLAIMED WATER MAIN, WATER MAIN AND RAW WATER MAIN RELOCATION

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

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: COUNTY LINE ROAD RECLAIMED WATER MAIN, WATER MAIN AND RAW WATER MAIN RELOCATION

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 Florida
Print Name: _____
Commission No.: _____
My Commission Expires: _____

(Notary Ink Stamp)

LOXAHATCHEE RIVER ENVIRONMENTAL CONTROL DISTRICT

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

CHANGE ORDER #1

DATE: _____

PROJECT NAME: COUNTY LINE ROAD
RECLAIMED WATER MAIN, WATER MAIN AND RAW WATER MAIN RELOCATION

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

**COUNTY LINE ROAD
RECLAIMED WATER MAIN, WATER MAIN AND RAW WATER
MAIN RELOCATION**

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
- 9.08 Contractor's Insurance
- 9.09 Water Supply
- 9.10 Pipeline and Manhole Locations
- 9.11 Elevation Datum
- 9.12 Easements
- 9.13 Occupying Private Land
- 9.14 Work in State, County and Town Rights-of-Way
- 9.15 Interference with and Protection of Streets
- 9.16 Traffic Control
- 9.17 Work Adjacent to Telephone, Power, Cable TV and Gas Company Structures
- 9.18 Storage of Materials
- 9.19 Salvaged Materials and Excavated Materials
- 9.20 Planning Meeting
- 9.21 Alterations
- 9.22 Extra and Deleted Work
- 9.23 Extension of Time on Account of Extra Work
- 9.24 Changes Not to Affect Bonds
- 9.25 Non-Assignable
- 9.26 District Remedies
- 9.27 Contractor's Remedies

9.28	Discontinuance of Construction
9.29	Contractor's Responsibility
9.30	District's Right to Terminate
9.31	Venue, Disputes and Attorney's Fee
9.32	Coordination with District's Existing Facilities
9.33	Permits
9.34	Coordination of Construction
9.35	Field Layout of Work
9.36	Submittals
9.37	Inspection and Testing
9.38	Utilities and Services
9.39	Security
9.40	Special Controls
9.41	Field Offices, Storage and Construction Areas
9.42	Equipment and Materials
9.43	Project Closeout
9.44	Open Specifications
9.45	Spare Parts List
9.46	Applicable Standards and Codes
9.47	Copies of Plans and Specifications
9.48	Restoration – Special
9.49	Contractor Performance Reviews and Ratings

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 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 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
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TITLE

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- 10.26 Special Tools

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:

DISTRICT:

CONTRACTOR:

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.

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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 water main, raw water main, and reclaimed water main replacements along County Line Road 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 of the existing piping on the County Line Road bridge as specified, obtaining all required permits, and compliance with permit conditions. The Contractor shall adhere to the Village of Tequesta Standards for the water main and raw water main, Loxahatchee River Environmental Control District (LRD) standards for the reclaimed water main and Martin County 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 water main, raw water main, and/or reclaimed water main installations

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 reclaimed water main will need to be cleared for service prior to the existing reclaimed water main being abandoned/removed.
- C. Work shall only be performed during the authorized construction hours and days as specified by Martin County. 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 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 and Martin County 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 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 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 watermain extension 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. **BONDS & INSURANCE REQUIREMENTS:** 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.

2. **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, 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:

Construction % Complete	Allowable % of Lump Sum for Mobilization/Demobilization
5%	25%
10%	50%
25%	75%
100%	100%

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.

I. LRECD Reclaimed Watermain Replacement

B. Reclaimed Watermain Replacement

1. **C-900 PVC (a. 12-inch and b. 16-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 reclaimed watermain 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. GATE VALVES W/ VALVE BOX

- a. 12-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.

3. LINE STOP

- a. 12-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 line stop required for a complete concrete thrust collar, fitting, dewatering, and functional system.

4. 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.

5. DIRECTIONAL BORE (16-inch HDPE DR11 with 2-2" conduits)

- a. 16-INCH HDPE DR11: 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 reclaimed watermain piping with 2-2" HDPE

conduits and two (2) 10-gauge 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.

- b. 16-INCH HDPE x MJ 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.

- 6. ARV ASSEMBLY: 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

- a. 12-INCH TIE IN: 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 reclaim Watermain shutdown, trench safety, all temporary caps and plugs as shown on the plans, flushing, cleaning, pigging, pressure testing, grading, sodding, restoration, coordination with affected utility owners, and any other items required for a complete and functional system.

8. MISC. ITEMS

- a. REMOVE EXISTING 12-INCH MAIN OFF BRIDGE: Payment shall be made at the Contract lump sum price and shall include, but not be limited to, furnishing all materials, labor, and equipment required to remove all existing surface

materials and protruding objects, 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 12-INCH MAIN IN PLACE: The quantity to be paid for under this Section shall be per linear foot of existing main.

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. WATER CROSSING SIGN: The quantity to be paid for under this section shall be per each sign completed and accepted.

Payment shall be made at the contract unit price per each sign installed per the detail.

- d. MECH. RESTRAINTS ON EXIST. 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.), labor and the equipment to restrain the existing main per the restraint table. Restoration shall be paid under the contract restoration item.

II. Village of Tequesta Watermain and Raw Watermain Replacement

C. Watermain Replacement

- 1. C-900 PVC (a. 6-inch, b. 8-inch, and c. 10-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 watermain 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. DIP WATERMAIN (a. 6-inch): Pipe will be measured per lineal foot along the centerline of the pipe installed for the size of pipe installed. No deduction will 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. All dewatering, surveying, density testing, pigging of the main and all other testing (with any temporary fittings/valves/piping/pumps required), along with the preparation of record drawings shall be included in the unit cost of the pipe. 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.
3. GATE VALVES W/ VALVE BOX (a. 6-inch and b. 8-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.

4. LINE STOP

- a. DUAL 8-INCH LINE STOP W/ BYPASS, W-SIDE OF BRIDGE: 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 line stop required for a complete and functional system, with bypass main. The

line stops require a temporary 8" HDPE bypass that will be required to be pressure tested and bacteriologically cleared (2- day test is required) prior to activating the line stop.

- b. DUAL 8-INCH LINE STOP W/ BYPASS, E-SIDE OF BRIDGE: 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 line stop required for a complete and functional system, with bypass main. The line stops require a temporary 8" HDPE bypass that will be required to be pressure tested and bacteriologically cleared (2- day test is required) prior to activating the line stop.

- c. 8-INCH LINE STOP, HERITAGE OAKS EASEMENT: 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 line stop required for a complete and functional system, with bypass main. The line stops require a temporary 8" HDPE bypass that will be required to be pressure tested and bacteriologically cleared (2- day test is required) prior to activating the line stop.

- 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. OFF-SET ARV ASSEMBLY: 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 box and piping, as noted, for a complete and functional system.

7. CONNECTION TO EXISTING MAIN

- a. 8-INCH TIE IN: 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 Watermain shutdown, trench safety, all temporary caps and plugs as shown on the plans, flushing, cleaning, pigging, pressure testing, grading, sodding, restoration, coordination with affected utility owners, and any other items required for a complete and functional system.

8. SAMPLE POINTS: The quantity to be paid for under this Section shall be at the Contract unit price per unit installed.

Payment shall be made at the Contract unit price per unit installed and shall include, but not be limited to, furnishing all materials, labor, and equipment required to install the sample point and any bacteriological testing and disinfection required for a full and functional system.

9. FIRE HYDRANT ASSEMBLY: Measurement shall be on the basis of furnishing and installing each complete fire hydrant assembly per the details on the plans, including, but not limited to excavation, backfill, dewatering and compaction, MJ tee (size as noted), valve is paid for under Item C.3. above, DI pipe (size as noted) and all required MJ restraints.

10. MISC. ITEMS

- a. REMOVE EXISTING 8-INCH MAIN OFF BRIDGE: The quantity to be paid for under this Section shall be per linear foot of existing main.

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 remove all existing surface materials and protruding objects, 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 8-INCH MAIN IN PLACE: The quantity to be paid for under this Section shall be per linear foot of existing main.

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. MECH. RESTRAINTS ON EXIST. MAIN: This item shall be paid as a lump sum item for the complete installation of bell restraints on the existing main in accordance with the requirements of the restraint table. This cost shall include, but not be limited to, potholing, excavation, dewatering as required, backfill and compaction, mechanical bell restraints/tie rods. Restoration shall be paid per the contact unit price item.
- d. 8-INCH GATE VALVE MANHOLE: Measurement shall be on the basis of furnishing and installing each type of valve and size of valve required, along with the required saddles and corp stops (2 – required) within a new manhole (size noted on detail) with gravel weep hole and traffic bearing hatch frame and cover.

D. Raw Watermain Replacement

- 1. C-900 PVC (a. 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 linear foot and shall include, but not be limited to, furnishing all materials, labor, and equipment required to install the PVC watermain 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. GATE VALVES W/ VALVE BOX: 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.

3. LINE STOP

- a. 12-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 line stop required for a complete and functional system.

4. 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.

5. OFF-SET ARV ASSEMBLY: 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 box and piping, as noted, for a complete and functional system.

6. CONNECTION TO EXISTING MAIN

- a. 12-INCH TIE IN: 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 Watermain shutdown, trench safety, all temporary caps and plugs as shown on the plans, flushing, cleaning, pigging, pressure testing, grading, sodding, restoration, coordination with affected utility owners, and any other items required for a complete and functional system.

7. SAMPLE POINTS: The quantity to be paid for under this Section shall be at the Contract unit price per unit installed.

Payment shall be made at the Contract unit price per unit installed and shall include, but not be limited to, furnishing all materials, labor, and equipment required to install the sample point and any bacteriological testing and disinfection required for a full and functional system.

8. MISC. ITEMS

- a. REMOVE EXISTING 12-INCH MAIN OFF BRIDGE: The quantity to be paid for under this Section shall be per linear foot of existing main.

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 remove all existing surface materials and protruding objects, 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 12-INCH MAIN IN PLACE: The quantity to be paid for under this Section shall be per linear foot of existing main.

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. MECH. RESTRAINTS ON EXIST. MAIN: This item shall be paid as a lump sum item for the complete installation of bell restraints on the existing main in accordance with the requirements of the restraint table. This cost shall include, but not be limited to, potholing, excavation, dewatering as required, backfill and compaction, mechanical bell restraints/tie rods. Restoration shall be paid per the contact unit price item.
- d. 12-INCH GATE VALVE MANHOLE: Measurement shall be on the basis of furnishing and installing each type of valve and size of valve required, along with the required saddles and corp stops (2 – required) within a new manhole (size noted on detail) with gravel weep hole and traffic bearing hatch frame and cover.

E. Raw Watermain & Watermain HDD

1. DIRECTIONAL BORE

- a. 12-INCH HDPE DR11 RWM W/ 10-INCH HDPE DR11 WM W/ 2-2 INCH HDPE CONDUITS: 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 raw watermain and watermain piping w/ 2-2 inch HDPE conduits and two (2) 10-gauge 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.

- b. 10-INCH HDPE DR11 WM W/ 1-2 INCH HDPE CONDUIT: 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 watermain piping w/ 1-2 inch HDPE conduit and two (2) 10-gauge 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.

- c. 12-INCH HDPE x MJ 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 HDPE x MJ adapter installed.

- d. 10-INCH HDPE x MJ 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 HDPE x MJ adapter installed.

F. Misc. Restoration

- a. ASPHALT ROAD TRENCH RESTORATION: The quantity paid for under this section shall be per square yard of asphalt milled and resurfaced as shown on the drawings, complete and accepted.

Measurement shall be on a square yard basis for the installation of new asphalt roadway to the limits shown or as required by the County. Contractor shall confirm with County/Engineer on limits in the field prior to performing the work. The cost includes all saw cutting, disposal of existing material, grading, base material, compaction, densities, and placement/finishing the new asphalt roadway, along with any pavement markings.

- b. 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.

Payment shall be made at the Contract unit price per square yard and shall include, but not be limited to, furnishing all materials, labor and equipment required to repair the roadway that has been damaged due to the project efforts including base material, prime and tack coats according to Martin County's standards as required for a complete and functioning system. The Contractor will also include coordination with Martin County inspectors in this cost.

- c. 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 Martin County Public Works requirements.

- d. 5FT WIDE 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 Martin County standards for public sidewalks or as equal condition for private sidewalks.

- e. BAHIA 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 Bahia 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 sixteen (16) feet. Payment shall include all necessary soil preparation, topsoil, sod (pegged as required) and watering required to establish the sod.

- f. 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 sixteen (16) feet. Payment shall include all necessary soil preparation, topsoil, sod (pegged as required) and watering required to establish the sod.

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 (except for the Martin County Right of Way Permit that the Contractor is required to finalize.

- A. Reclaimed Water Main
 - 1. FDEP: Reclaimed Water Main Exemption. The FDEP reclaimed water main exemption self-certification has been obtained by the Owner. Acceptance of this self-certification is included in Appendix A.
 - 2. FDEP: Environmental Resource Permit. A copy of this permit has been included in Appendix A.
 - 3. Martin County Right of Way Department: The General Utility Permit for the Martin County Right of Way Department has been submitted for this project by the Owner. The Contractor is required to finalize this approval with Martin County. A copy of the application submitted is in Appendix A.
 - 4. ARMY CORPS OF ENGINEERS: The Individual Utility Permit for the Army Corps of Engineers has been obtained for this project by the Owner. A copy of this permit has been included in Appendix A.

B. Water Main and Raw Water Main

1. Palm Beach County Health Department: A copy of this permit has been included in Appendix A.
2. FDEP: Environmental Resource Permit. A copy of this permit has been included in Appendix A.
3. Martin County Right of Way Department: The General Utility Permit for the Martin County Right of Way Department has been submitted for this project by the Owner. The Contractor is required to finalize this approval with Martin County. A copy of the application submitted is in Appendix A.
4. Army Corps of Engineers: The Individual Utility Permit for the Army Corps of Engineers has been obtained for this project by the Owner. A copy of this permit has been included in Appendix A.

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.
 2. Contractor will be required to finalize the Martin County Right of Way permit as noted in 1.02 A. (3) and 1.02 B. (3) above.

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. Reclaimed Water Main, Water Main and Raw Water 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 Date 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 Army Corps of Engineers, FDEP, SFWMD, Owner, Martin County, 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 relocated reclaimed water 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. Water 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

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 Martin 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 Martin County 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 Martin County 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, and Martin 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 watermain 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 +/-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 ± 3 feet on line and a tolerance of ± 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 regards 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

- 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.

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 water main, raw water main, and reclaimed water main, fittings, valves, and accessories as specified and shown on the drawings.

1.02 SUBMITTALS

- A. Reports on pressure tests, leakage tests and bacteriological tests will be prepared and submitted by the Contractor.
- B. Record drawings must be submitted in accordance with LRECD for the reclaimed water main and the Village of Tequesta Standards for the water main and raw water 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. Water system components which come into contact with drinking water must conform with ANSI/NSF Standard 61-1991, Drinking Water Components.
- B. All potable and raw water system components shall be supplied and installed per the applicable FDEP and the Village of Tequesta Standards. Refer to the Village of Tequesta for a list of approved products and submittal procedures.
- C. All reclaimed water 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.
- D. ANSI/ASTM D2466 - Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40.
- E. ANSI/AWWA C104 – Standard for Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water.

- F. ANSI/AWWA C105 – Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems.
- G. ANSI/AWWA C110 – Standard for Ductile-Iron and Gray-Iron Fittings, 3 in. through 48 in. for Water and Other Liquids.
- H. ANSI/AWWA C111 – Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
- I. ANSI/AWWA C115 – Standard for Flanged Ductile-Iron Pipe with Ductile-Iron or Gray Iron Treaded Flanges.
- J. ANSI/AWWA C150 – Standard for the Thickness Design of Ductile-Iron Pipe.
- K. ANSI/AWWA C151 – Standard for Ductile-Iron Pipe, Centrifugally Cast, for Water or Other Liquids.
- L. ANSI/AWWA C153 – Standard for Ductile-Iron Compact Fittings, 3 in. through 24 in. and 54 in. through 64 in. for Water Service.
- M. AWWA C210 – Standard for Liquid-Epoxy Coating Systems for the Interior and Exterior of Steel Water Pipelines.
- N. AWWA C220 – Standard for Stainless-Steel Pipe, 4 in. and Larger.
- O. AWWA C504 – Standard for Rubber-Seated Butterfly Valves.
- P. AWWA C508 – Standard for Swing-Check Valves for Waterworks Service, 2 in. through 24 in.
- Q. AWWA C509 – Standard for Resilient-Seated Gate Valves for Water Supply Service.
- R. AWWA C511 – Standard for Reduced-Pressure Principal Backflow-Prevention Assembly.
- S. AWWA C512 – Standard for Air-Release, Air/Vacuum, and Combination Air Valves for Waterworks Service.
- T. AWWA C600 – Standards for Installation of Ductile-Iron Water Mains and Their Appurtenances.
- U. AWWA C605 – Standard for Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water.
- V. AWWA C606 – Standard for Grooved and Shouldered Joints.

- W. AWWA C900 – Standard for Polyvinyl Chloride (PVC) Pressure Pipe, 4 in. through 12 in. for Water Distribution.
- X. AWWA C901 – Standard for Polyethylene (PE) Pressure Pipe and Tubing, ½ in. through 3 in. for Water Services.
- Y. ASTM D1785 - Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
- Z. ASTM D2855 - Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings.
- AA. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- BB. ASTM D3139 - Joints for Plastic Pressure Pipes using Flexible Elastomeric Seals.
- CC. ASTM F437-82 - Threaded Chlorinated Poly Vinyl Chloride (CPVC) Plastic Pipe Fittings, Schedule 80.
- DD. ASTM F439-87 - Standard Specification for Socket - Type Chlorinated Poly Vinyl Chloride (CPVC) Plastic Pipe Fittings, Schedule 80.
- EE. ASTM 493-85 - Solvent Cements for Chlorinated Poly Vinyl Chloride (CPVC) Plastic Pipe and Fittings.
- FF. ASME/ANSI B16.5 –1996 – Pipe Flanges and Flanged Fittings.
- GG. ASME/ANSI B 31.3 – 1996 – ASME Code for Pressure Piping.
- HH. 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. The Village of Tequesta Standards and approved product list.

D. 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 that come into contact with potable or raw water shall be as specified by the Village of Tequesta Standards and Village of Tequesta approved products list. All products used to construct reclaimed water 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/ANSI C151/A21.52, Class 51 (minimum) Pressure Class 350, unless heavier class is required for conditions. Sizes 3" to 12" diameter shall be class 52. Sizes 14" and above shall be class 51. All ductile iron pipe shall be polyethylene encased in

accordance with ANSI/AWWA C105/A21.5. If no standard exists, the following shall be used:

1. Joints: All buried pipe at fittings must be restrained, mechanical joints. "Push on" and mechanical joints shall be in accordance with AWWA/ANSI C111/C21.11. Restrained joint assemblies with mechanical joint pipe shall be by approved restraining devices. Exposed joints shall be AWWA approved flanged joint pipe, in accordance with ANSI/AWWA C115, or as detailed on the drawings. Flanges shall be threaded unless otherwise noted. All above ground flanges shall be flat faced unless they are mating up to existing raised flanges. All gaskets shall be full faced 1/8" Toruseal or approved equal.
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 with a minimum pressure rating of 350 psi.
3. The internal surface of all piping and fittings in contact with potable water shall be cement mortar lined and seal coated in accordance with AWWA C104, A21, 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. DIP water main shall have a line of blue paint or blue tape the full length of the new run on top of the pipe and on both sides. DIP reclaimed water main shall have a line of purple paint or purple tape the full length of the new run on top of the pipe and on both sides.
5. Restrained joint fittings for 24-inch and smaller diameter pipe shall be ductile iron, "Flex-Ring" as manufactured by America Cast Iron Pipe Company, "TR Flex" and manufactured by US pipe Company, "Super-lock" as manufactured by Clow corporations, or an approved equal. Restrained joint fittings for 30-inch and larger pipe shall be ductile iron, American Cast Iron Pipe Co., Lok-Fast or approved equal. Restrained joint pipe shall be constructed on all new water 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.

C. DUCTILE IRON FITTINGS

All products that come into contact with potable or raw water shall be as specified by the Village of Tequesta Standards. All reclaimed water 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. Potable Water: Ductile iron fittings shall conform to ANSI/AWWA Standard C110 A21.10 latest revision. Fittings 4-inch and larger shall be cement lined and seal coated in accordance with ANSI/AWWA Standard C104 A21.4 latest revision.

D. POLYVINYL CHLORIDE (PVC): AWWA C-900 & C-905

All products that come into contact with potable or raw water shall be as specified by the Village of Tequesta Standards. All reclaimed water main products shall be as specified by LRECD Standards. If no standard exists, the following shall be used:

1. PVC will be acceptable for water mains up to and including 30-inch diameter pipe.
2. PVC must meet requirements as set forth in AWWA C900 and C905 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. Water mains shall be blue in color. Raw water mains shall be color coded per Village of Tequesta standards.
4. Reclaimed water mains shall be color coded per LRECD standards.
5. Design working pressure for water mains shall be C900, DR-18 (Pressure Class 150) 4" to 12", C905, DR-18 (Pressure Rating 235) 14" to 30".
6. 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 ration (DR). Rubber ring gaskets shall consist of synthetic compounds meeting the requirements of ASTM Designation F477 and suitable for the designated service.
7. Fittings: Ductile iron fittings shall be used on all PVC C900 & C905 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 for water main and raw water main shall be in accordance with Village Standards.
3. All HDPE pipe reclaimed water main shall be in accordance with LRECD Standards
4. 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.
5. 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.
6. 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.
7. HDPE Pipe shall be color coded with three continuous stripes the full length of the Pipe at 120-degree intervals around the pipe.

8. 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 products that come into contact with potable or raw water shall be as specified by the Village of Tequesta Standards. All reclaimed water 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 boxes at the request of the Village.
2. Service wire shall be laid in the trench with all services, connected to the main wire and wrapped around the service piping or tubing. Wire for water mains shall be blue in color. Wire for raw water mains shall be color coded per Village of Tequesta Standards.
3. Wire for reclaim water mains shall be color coded per LRECD Standards.
4. 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.
4. Blue warning tape, as applicable to water main, shall also be provided 18-inches above pipe. Warning tape, as applicable to raw water main, shall also be provided 18-inches above pipe.

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 "WATER", "RAW WM" or "RECLAIMED" 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.

J. WATER SERVICES

All water service material and fittings shall be main products in conformance with the Village of Tequesta Utility Standards. Joints in PE service piping shall not be allowed.

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 the Village of Tequesta or LRECD and if so, shall be removed, cleaned, and delivered to a protected location specified by the Village. Any equipment or material not worthy of salvaging, as directed by the District, 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 POTABLE WATER SYSTEM

- A. Potable Water system components shall be installed per the requirements of the Village of Tequesta Standards.

3.03 IDENTIFICATION AND COLOR CODING OF PIPE & FITTINGS

A. POTABLE WATER MAINS

1. All water main pipe and fittings shall be color coded or marked using safety blue as a predominant color to differentiate drinking water from reclaimed or other water. Underground plastic pipe shall be solid-wall Blue pipe, shall have a co-extruded blue external skin, or shall be white or black pipe with blue stripes incorporated into, or applied to, the external pipe wall.
2. Underground metal or concrete pipe shall have safety blue stripes applied to the pipe wall. Pipe striped during manufacturing of the pipe shall have continuous stripes that run parallel to the axis of the pipe, that are located at no greater than 90-degree intervals around the pipe, and that will remain intact during and after installation of the pipe. If tape or paint is used to stripe pipe during installation of the

pipe, the tape or paint shall be applied in a continuous line that runs parallel to the axis of the pipe and that is located along the top of the pipe. For pipes with an internal diameter of 24-inches or greater, tape or paint shall be applied in continuous lines along each side of the pipe as well as along the top of the pipe.

3. Aboveground pipe at drinking water treatment plants shall be color coded and labeled in accordance with subsection 62-555.320(10), F.A.C.
4. All aboveground potable water pipe shall be painted solid blue.
5. Blue Warning tape with "WATER" printed on the tape shall be placed in the trench during backfill of the water pipe, a vertical distance of 18-inch above the crown of the pipe.

B. RAW WATER MAINS

1. All raw water main pipe and fittings shall be color coded as white or marked using the color specified in Village of Tequesta Standards.
2. Underground metal or concrete pipe shall have colored stripes applied to the pipe wall meeting the Village or Tequesta Standards for raw water main. Pipe striped during manufacturing of the pipe shall have continuous stripes that run parallel to the axis of the pipe, that are located at no greater than 90-degree intervals around the pipe, and that will remain intact during and after installation of the pipe. If tape or paint is used to stripe pipe during installation of the pipe, the tape or paint shall be applied in a continuous line that runs parallel to the axis of the pipe and that is located along the top of the pipe. For pipes with an internal diameter of 24-inches or greater, tape or paint shall be applied in continuous lines along each side of the pipe as well as along the top of the pipe.
4. All aboveground reclaimed water pipe shall be painted the color specified in Village of Tequesta Standards for raw water mains.
5. Warning tape colored per Village of Tequesta Standards with "Raw" printed on the tape shall be placed in the trench during backfill of the pipe, a vertical distance of 18-inch above the crown of the pipe.

C. RECLAIMED WATER MAINS

1. All reclaim water main pipe and fittings shall be color coded or marked using purple as a predominant color to differentiate reclaimed from drinking or other water.

2. Underground metal or concrete pipe shall have purple stripes applied to the pipe wall. Pipe striped during manufacturing of the pipe shall have continuous stripes that run parallel to the axis of the pipe, that are located at no greater than 90-degree intervals around the pipe, and that will remain intact during and after installation of the pipe. If tape or paint is used to stripe pipe during installation of the pipe, the tape or paint shall be applied in a continuous line that runs parallel to the axis of the pipe and that is located along the top of the pipe. For pipes with an internal diameter of 24-inches or greater, tape or paint shall be applied in continuous lines along each side of the pipe as well as along the top of the pipe.
4. All aboveground reclaimed water pipe shall be painted solid purple.
5. Purple Warning tape with "Reclaim" printed on the tape shall be placed in the trench during backfill of the pipe, a vertical distance of 18-inch above the crown of the pipe.

3.04 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.

3.05 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.

3.06 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.

3.07 BEDDING

- A. Excavate trench and install pipe bedding as specified in Section 02225, Trenching, Bedding, and Backfill for Pipe.

3.08 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.

3.09 PIPE INSTALLATION GENERAL

- A. Verify that building service connection(s) and size, location and invert of municipal utility water mains are as indicated.
- B. 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.
- C. 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.
- D. 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.
- E. Pipe deflection at joints shall be limited to 75% of the manufacturer's maximum deflection tolerance.
- F. All piping shall be laid to line in a clean, dry trench online and grade with all valves and appurtenances plum.

- G. No wet taps, line stops, or connections to active water lines shall be performed on a Friday without prior permission from the Village.
- H. 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.
- I. Black bags (fabric or geotextile only) shall be placed over hydrants not in service. No plastic garbage bags.
- J. All coupons for water mains, raw water mains, and reclaimed water mains shall be kept and provided to the Owner.
- K. 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.
- L. In case of conflict between various installation requirements, the more stringent requirement shall apply.

3.10 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 water service in the general area shown and to avoid existing utilities and obstructions. The general horizontal location are shown on the plans, but the entry and exit locations, and minimum clearances are not shown on the plans. 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 Village.
- 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.

3.11 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.

3.12 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.

3.13 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.

- F. Anchor tees shall be used for fire hydrants attached to new water mains. Anchor couplings shall be used for fire hydrants attached to existing water mains.

3.14 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.

3.15 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.

The Contractor shall coordinate with the Village of Tequesta and LRECD when service shutdowns are required for performance of the Work. The Village will be required to deliver (Village's standard) Boil Water Notices in notifying affected customers of a service interruption and delivering those notices to affected customers at least 48 hours prior to any service interruption. The Contractor shall comply with the following limitations:

1. Each service interruption required for transferring (relocating) an existing water service will be limited to a maximum of two hours.
 2. Each service interruption required for connecting new water service to water meter will be limited to a maximum of one hour.
 3. Each service interruption required for tie-in of new main to existing distribution system will be limited to a maximum of four hours.
- B. The Contractor shall coordinate with the Village of Tequesta on their preferred method of transferring existing water services to proposed water mains.

END OF SECTION

SECTION 02670

FLUSHING, TESTING AND DISINFECTION

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Flushing, Pressure Testing, and Disinfection of systems including, but not limited to, the potable water mains shown to be relocated 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 C651 - Standard for Disinfecting Water Mains.

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 reclaimed water 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.

- D. Final approval of the bacteriological samples shall be received from the Florida Department of Environmental Protection (Palm Beach County Health Department) prior to the time that the system is placed into operation. Sampling procedures shall be done in accordance with FDEP requirements.
- E. Bacteriological sampling locations shall meet FDEP requirements and be taken where shown on the drawings and as directed by the Engineer at no additional cost to Owner. Costs for all bacteriological testing shall be borne by the Contractor.

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 Village of Tequesta Standards for water and raw water mains
- C. Work shall conform to LRECD Standards for reclaimed water mains.

PART 2 - PRODUCTS

2.01 DISINFECTION CHEMICALS

- A. Disinfection chemical are only to be used on water and raw water mains.
- B. Chemicals shall be in accordance with the Village of Tequesta Standards. If no standards exist, the below chemicals shall be used.
- C. Chemicals: The disinfecting agent shall be sodium hypochlorite solution ANSI/AWWA B303 or liquid chlorine ANSI/AWWA B301. Dry hypochlorite, similar to "HTH" or equal may also be used as the disinfecting agent. Bleach or Clorox is not acceptable.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that the installed potable water systems have been cleaned, inspected, and tested.

- B. Coordinate scheduling and disinfection activity with the Engineer and the Village of Tequesta for water and raw water mains
- C. Coordinate testing scheduling activity with the Engineer and LRECD for reclaimed water mains.

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 new water lines and force mains. Flushing and pressure testing shall be in accordance with the Village of Tequesta Standards for water and raw water mains. Flushing and pressure testing shall be in accordance with LRECD Standards for reclaimed water mains. 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. Clean and flush all piping using potable water. Cleaning and flushing shall be achieved by pigging or cannon flushing if approved by the Village of Tequesta Standards for water and raw water mains. Cleaning and flushing shall be achieved by pigging or cannon flushing if approved by LRECD Standards for reclaim water mains. 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 water, raw water, or reclaimed water piping constructed of ductile iron, PVC, and HDPE pipe shall be 150 psi. The test pressure for force main piping shall be 100 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, the Village of Tequesta, 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 DISINFECTION

- A. Only applicable to water and raw water mains.
- B. The Contractor shall furnish and install suitable temporary connections to the piping, all necessary pressure pumps, hose, pipe connections, meters, gauges and other similar equipment, and all labor required, all without additional compensation for the disinfection of all required potable water piping systems. Disinfection shall be in accordance with the Village of Tequesta Standards. If no standards exist, disinfection shall be conducted on the following systems in the following manner:
 1. All relocated and new potable water and private fire line piping.
- B. Conform to AWWA Standards and as modified herein.
- C. Maintain disinfectant for a minimum of 8 hours in such a manner that the entire system will be filled with water containing a minimum chlorine concentration of 50 ppm at any point. At the Village and/or the Engineer's

request and at no additional cost to the Owner, this step may be required to be performed immediately before pressure testing.

- D. After the disinfecting agents have been permitted to remain for the specified contact periods, the water lines, and valves shall be thoroughly flushed with water until the residual chlorine tests are less than 4 ppm in each instance.
- E. Replace permanent system devices removed for disinfection.

3.04 BACTERIOLOGICAL SAMPLING

- A. Only applicable to water and raw water mains.
- B. It shall be the responsibility of the Contractor under this Contract to perform the bacteriological testing required by the Florida Department of Environmental Protection (Palm Beach County Health Department) and the Village of Tequesta to obtain clearance of all piping. The Contractor shall be responsible to disinfect and repeat testing as needed until clearance is obtained for all required systems. The Contractor shall be responsible to pay for additional water needed if the bacteriological testing must be repeated.
- C. The piping requires two (2) passing consecutive daily samples taken from the locations called out on the plans or as determined by the Engineer. The samples shall be taken concurrently at all the respective sample point locations.
- D. Sampling must be coordinated with the Engineer and other construction activities so as to minimize re-sampling.
- E. The Contractor shall submit schedule for bacteriological testing and pressure tests.
- F. The Contractor shall incur all costs needed to provide bacteriological clearance of the piping systems.
- F. If repeated tests of such samples show the presence of coliform organisms, the disinfection shall be repeated until tests indicate an absence of contamination.

3.05 QUALITY CONTROL

- A. The laboratory and personnel collecting bacteriological samples shall be Florida state certified in accordance with FDEP requirements.

3.06 CONNECTIONS TO EXISTING MAINS

- A. The Contractor shall make connections to existing mains as shown on the

drawings. The connections of new water main to existing main shall be made only after the new mains have passed their pressure and leakage test and completed the disinfection and bacteriological clearance 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, Martin County Standards and Florida Department of Transportation Standard Specifications for Road and Bridge Construction.
 - 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 Martin County, 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 Martin County, 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 Martin 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% ± 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. Crafcoc Inc. "Roadwaver Silicone-SL"; Dow Corning "888, or 890-SL"; Sonneborn "Sonomeric 1 Sealant"; Tremco "Vulkem 45"; or approved equal and,
 - 2. Hot-Applied Joint Sealant: ASTM D3405, Polymeric sealant. Crafcoc 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 premolded 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) and Martin 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 lift 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 ± 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.
- F. 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/2018/06/2018_LRECD-Construction-Standards-and-Technical-Specifications.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 <input type="text"/> TO <input type="text"/>
CONTRACT PROJECT MANAGER		LOCATION OF PERFORMANCE	

INSTRUCTIONS: 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, 'double click' the box. 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).

SEE PAGE 3 FOR EVALUATION RATINGS DEFINITIONS

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.

N/A Satisfactory Unsatisfactory

COMMENTS: 

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.

N/A Satisfactory Unsatisfactory

COMMENTS: 

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.

N/A Satisfactory 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
PERMITS



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT
400 HIGH POINT DRIVE, SUITE 600
COCOA, FLORIDA 32926-6630

July 26, 2024

South Atlantic Division
Jacksonville District
North Permits Branch
Cocoa Section
SAJ-2024-01716 (NW-PJR)

Loxahatchee River District
Attn: Mr. D. Albrey Arrington
2500 Jupiter Park Drive
Jupiter, FL 33458
Sent via email: albrey.arrington@lrecd.org

Dear Mr. Arrington:

The U.S. Army Corps of Engineers (Corps) has completed the review of your application for a Department of the Army permit received on June 3, 2024. Your application was assigned file number SAJ-2024-01716. A review of the information and drawings provided indicates that the proposed project would result in the installation of an underground utility line to the following specifications:

- a) Replacement of existing reclaimed water main via an 830 linear foot 16-inch diameter horizontal directional drill (HDD).
- b) Bore pipe will be a minimum of 10 feet below the bottom of Waters of the United States (WOTUS).
- c) Entry and exit bore locations will be in uplands with no impact to wetlands.

The activities subject to this permit are authorized pursuant to authorities under Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. § 403) and Section 404 of the Clean Water Act (33 U.S.C. § 1344). The project is within the North Fork Loxahatchee River and adjacent wetlands, in Section 23, Township 40 South, Range 42 East, Tequesta, Martin County, Florida. Latitude: 26.985294°, Longitude: -80.114746°.

Your project, as depicted on the enclosed drawings, is authorized by Nationwide Permit (NWP-58), Utility Line Activities for Water and Other Substances. **This verification is valid until March 14, 2026.** In order for this NWP authorization to be valid, you must ensure that the work is performed in accordance with the Nationwide Permit General Conditions, the Jacksonville District Regional Conditions, and the General and Project-Specific Special Conditions listed below. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant nationwide permit is modified or revoked, you will have 12 months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this NWP. Please access the Corps' Jacksonville

District Regulatory Division Internet page to view the special and general conditions which apply specifically to these authorizations. You can access the U.S. Army Corps of Engineers' (Corps) Jacksonville District's Regulatory Source Book webpage for links to view NWP information at:

<https://www.saj.usace.army.mil/Missions/Regulatory/Source-Book/>. Please be aware this Internet address is case sensitive and should be entered as it appears above. Once there you will need can select "Nationwide Permits". Among other things, this part of the Source Book contains links to the federal register containing the text of the pertinent NWP authorization and the associated NWP general conditions, as well as separate links to the regional conditions applicable to the pertinent NWP verification.

You must comply with all the special and general conditions for NWP-58, including any project-specific conditions included in this letter and all conditions incorporated by reference as described above.

General Conditions (33 CFR PART 320-330):

1. The time limit for completing the electric utility line work authorized ends on **March 14, 2026**.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity, or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort of if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit you must obtain the signature of the new owner on the transfer form attached to this letter and forward a copy to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit.
6. You must allow a representative from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Project Specific Special Conditions:

The following project specific special conditions are included with this verification:

1. **Reporting Address:** The Permittee shall submit all reports, notifications, documentation, and correspondence required by the general and special conditions of this permit to either (not both) of the following addresses:
 - a. For electronic mail (preferred): SAJ-RD-Enforcement@usace.army.mil (not to exceed 15 MB).
 - b. For standard mail: U.S. Army Corps of Engineers, Regulatory Division, Enforcement Section, P.O. Box 4970, Jacksonville, FL 32232-0019.

The Permittee shall reference this permit number, SAJ-2024-01716 (NWP-PJR), on all submittals.

2. **Commencement Notification:** Within 10 days from the date of initiating the work authorized by this permit, the Permittee shall submit a completed "Commencement Notification" form (Attachment 1).
3. **As-Built Certification:** Within 60 days of completion of the work authorized by this permit, the Permittee shall submit as-built drawings of the authorized work and a completed "As-Built Certification by Professional Engineer or Surveyor" form (Attachment 2) to the Corps. The as-built drawings shall be signed and sealed by a registered professional engineer or surveyor and include the following:
 - a. A plan view drawing of the location of the authorized work footprint, as shown on the permit drawings, with an overlay of the work as constructed. The plan view drawing should show all existing water management structures and the completed structures, dredge/fill activities, and wetland impacts.
 - b. A list of any deviations between the work authorized by this permit and the work as constructed. In the event that the completed work deviates, in any manner, from the authorized work, describe on the attached "As-Built Certification by Professional Engineer" form the deviations between the work authorized by this permit and the work as constructed. Clearly indicate on the as-built drawings any deviations that have been listed. Please note that the depiction and/or description of any deviations on the drawings and/or "As-Built Certification by Professional Engineer" form does not constitute approval of any deviations by the Corps.
 - c. The Department of the Army permit number on all sheets submitted.

4. Cultural Resources/Historic Properties:

- a. No structure or work shall adversely affect, impact, or disturb properties listed in the *National Register of Historic Places* (NRHP), or those eligible for inclusion in the NRHP.
- b. If, during permitted activities, items that may have historic or archaeological origin are observed the Permittee shall immediately cease all activities adjacent to the discovery that may result in the destruction of these resources and shall prevent his/her employees from further removing, or otherwise damaging, such resources. The applicant shall notify both the Florida Department of State, Division of Historical Resources, Compliance Review Section at (850)-245-6333 and the Corps, of the observations within the same business day (8 hours). Examples of submerged historical, archaeological or cultural resources include shipwrecks, shipwreck debris fields (such as steam engine parts, or wood planks and beams), anchors, ballast rock, concreted iron objects, concentrations of coal, prehistoric watercraft (such as log "dugouts"), and other evidence of human activity. The materials may be deeply buried in sediment, resting in shallow sediments or above them, or protruding into water. The Corps shall coordinate with the Florida State Historic Preservation Officer (SHPO) to assess the significance of the discovery and devise appropriate actions. Project activities shall not resume without verbal and/or written authorization from the Corps.
- c. Additional cultural resources assessments may be required of the permit area in the case of unanticipated discoveries as referenced in accordance with the above Special Condition and, if deemed necessary by the SHPO or Corps, in accordance with 36 CFR 800 or 33 CFR 325, Appendix C (5). Based on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend, or revoke the permit in accordance with 33 CFR Part 325.7. Such activity shall not resume on non-federal lands without written authorization from the SHPO for finds under his or her jurisdiction, and from the Corps.
- d. In the unlikely event that unmarked human remains are identified on non-federal lands; they will be treated in accordance with Section 872.05 Florida Statutes. All work and ground disturbing activities within a 100-meter diameter of the unmarked human remains shall immediately cease and the Permittee shall immediately notify the medical examiner, Corps, and State Archaeologist within the same business day (8-hours). The Corps shall then notify the appropriate SHPO. Based on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend, or revoke the permit in accordance with 33 CFR Part 325.7. Such activity shall not resume without written authorization from the SHPO and from the Corps.

5. **Erosion Control:** Prior to the initiation of any work authorized by this permit, the Permittee shall install erosion control measures along the perimeter of all work areas to prevent the displacement of fill material outside the work area into waters of the United States. The erosion control measures shall remain in place and be maintained until all authorized work is completed and the work areas are stabilized.
6. **In the Event of a Frac-Out:** Should a frac-out and release of drilling fluids occur within navigable waters of the U.S., and in-water work is required to remediate the action, the Permittee shall comply with the following special conditions:
 - a. **Frac-Out Contingency Plan:** The Permittee shall comply with the frac-out contingency plan (Attachment 4).
 - b. **Turbidity Barriers:** Prior to the initiation of any in-water work due to a frac-out, the Permittee shall install floating turbidity barriers with a weighted skirt around all work areas that are in, or adjacent to, surface waters. The turbidity barriers shall remain in place and be maintained until the authorized work has been completed and all suspended and erodible materials have been stabilized. Turbidity barriers shall be removed upon stabilization of the work area.
 - c. **Manatee Conditions:** The Permittee shall comply with the “Standard Manatee Conditions for In-Water Work – 2011” (Attachment 5)
 - d. **Jacksonville District Programmatic Biological Opinion (JAXBO):** Structures and activities authorized under this permit will be constructed and operated in accordance with all applicable PDCs contained in the JAXBO, based on the permitted activity. Johnson’s seagrass and its critical habitat were delisted from the Endangered Species Act on May 16, 2022. Therefore, JAXBO PDCs required to minimize adverse effects to Johnson’s seagrass and its critical habitat are no longer applicable to any project. Failure to comply with applicable PDCs will constitute noncompliance with this permit. In addition, failure to comply with the applicable PDCs, where a take of listed species occurs, would constitute an unauthorized take. The NMFS is the appropriate authority to determine compliance with the Endangered Species Act. The most current version of JAXBO can be accessed at the Jacksonville District Regulatory Division website in the Endangered Species section of the Sourcebook located at:
<http://www.saj.usace.army.mil/Missions/Regulatory/SourceBook.aspx>

JAXBO may be subject to revision at any time. The most recent version of the JAXBO must be utilized during the design and construction of the permitted work.

7. **National Ocean Service (NOS):** NOS has been notified of this authorization. You must notify NOS and this office in writing, at least two weeks before you begin work and upon completion of the activity authorized by this permit. Your notification of completion must include a drawing which certifies the location and configuration of the completed activity (a certified permit drawing may be used). Notifications to NOS will be sent to the following address: National Ocean Service, Office of Coast Survey, N/CS261, 1315 East West Highway, Silver Spring, Maryland 20910-3282 or ocs.ndb@noaa.gov.
8. **Assurance of Navigation and Maintenance:** The Permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structures or work herein authorized, or if in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the Permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
9. **Regulatory Agency Changes:** Should any other regulatory agency require changes to the work authorized or obligated by this permit, the Permittee is advised that a modification to this permit instrument is required prior to initiation of those changes. It is the Permittee's responsibility to request a modification of this permit from the Cocoa Regulatory Office.

This letter of authorization does not include conditions that would prevent the 'take' of a state-listed fish or wildlife species. These species are protected under sec. 379.411, Florida Statutes, and listed under Rule 68A-27, Florida Administrative Code. With regard to fish and wildlife species designated as species of special concern or threatened by the State of Florida, you are responsible for coordinating directly with the Florida Fish and Wildlife Conservation Commission (FWC). You can visit the FWC license and permitting webpage (<http://www.myfwc.com/license/wildlife/>) for more information, including a list of those fish and wildlife species designated as species of special concern or threatened. The Florida Natural Areas Inventory (<http://www.fnai.org/>) also maintains updated lists, by county, of documented occurrences of those species.

This letter of authorization does not give absolute Federal authority to perform the work as specified on your application. The proposed work may be subject to local building restrictions mandated by the National Flood Insurance Program. You should contact your local office that issues building permits to determine if your site is located in a flood-prone area, and if you must comply with the local building requirements mandated by the National Flood Insurance Program.

This letter of authorization does not preclude the necessity to obtain any other Federal, State, or local permits, which may be required.

Thank you for your cooperation with our permit program. The Corps' Jacksonville District Regulatory Division is committed to improving service to our customers. We strive to perform our duty in a friendly and timely manner while working to preserve our environment. We invite you to complete our automated Customer Service Survey at <https://regulatory.ops.usace.army.mil/customer-service-survey/>. Please be aware this Internet address is case sensitive and you will need to enter it exactly as it appears above. Your input is appreciated – favorable or otherwise.

Should you have any questions related to this NWP verification or have issues accessing the documents referenced in this letter, please contact Paul Ruben at the Cocoa Permits Section at 400 High Point Drive, Suite 600 Cocoa, Florida 32926-6630, by telephone at 321-504-3771, or by email at paul.j.ruben@usace.army.mil.

Sincerely,

RUBEN.PAUL.
JOSEPH.1618
574110

Digitally signed by
RUBEN.PAUL.JOSEPH.1
618574110
Date: 2024.07.26
16:33:49 -04'00'

Paul J. Ruben, Project Manager
Cocoa Permits Section

Enclosures:

Attachment 1: Commencement Notification
Attachment 2: As-Built Certification
Attachment 3: Permit Transfer Request
Attachment 4: Frac-Out Contingency Plan
Attachment 5: Manatee Conditions
Attachment 6: Regulations for Approaching Right Whales
Attachment 7: Project Designs

CC: Thomas Jensen (Kimley-Horn and Associates, Inc.)

COMMENCEMENT
NOTIFICATION

*Within 10 days of initiating the authorized work, submit this form via electronic mail to: saj-rd-enforcement@usace.army.mil (preferred, not to exceed 15 MB) **or** by standard mail to U.S. Army Corps of Engineers, Enforcement Section, P.O. Box 4970, Jacksonville, FL32232-0019.*

1. **Department of the Army Permit Number:** SAJ-2024-01716 (NW-PJR)

2. **Permittee Information:**

Name: _____

Email: _____

Address: _____

Phone: _____

3. **Construction Start Date:** _____

4. **Contact to Schedule Inspection:**

Name: _____

Email: _____

Phone: _____

Signature of Permittee

Printed Name of Permittee

Date

AS-BUILT CERTIFICATION BY PROFESSIONAL ENGINEER

Submit this form and one set of as-built engineering drawings to the U.S. Army Corps of Engineers, Enforcement Section, P.O. Box 4970, Jacksonville, FL 32232-0019. For electronic mail saj-rd-enforcement@usace.army.mil (not to exceed 15 MB). If you have questions regarding this requirement, please contact the Enforcement Branch at 904-232-3697.

1. Department of the Army Permit Number: SAJ-2024-01716 (NW-PJR)

2. Permittee Information:

Name: _____

Address: _____

3. Project Site Identification (physical location/address):

4. As-Built Certification: I hereby certify that the authorized work, including any mitigation required by Special Conditions to the permit, has been accomplished in accordance with the Department of the Army permit with any deviations noted below. This determination is based upon on-site observation, scheduled, and conducted by me or by a project representative under my direct supervision. I have enclosed one set of as-built engineering drawings.

Signature of Engineer

Name (*Please type*)

(FL, PR, or VI) Reg. Number

Company Name

City

State

ZIP

(Affix Seal)

Date

Telephone Number

DEPARTMENT OF THE ARMY PERMIT TRANSFER REQUEST

PERMIT NUMBER: SAJ-2024-01716 (NW-PJR)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. Although the construction period for works authorized by Department of the Army permits is finite, the permit itself, with its limitations, does not expire.

To validate the transfer of this permit and the associated responsibilities associated with compliance with its terms and conditions, have the transferee sign and date below and mail to the U.S. Army Corps of Engineers, Enforcement Section, Post Office Box 4970, Jacksonville, FL 32232-0019 or by electronic mail at saj-rd-enforcement@usace.army.mil.

(TRANSFEREE-SIGNATURE)

(SUBDIVISION)

(DATE)

(LOT)

(BLOCK)

(NAME-PRINTED)

(STREET ADDRESS)

(MAILING ADDRESS)

(CITY, STATE, ZIP CODE)

Frac-Out Contingency Plan for Horizontal Directional Drilling

1. Background

HDD is less intrusive than traditional open-cut trenching which results in direct disturbance to subaqueous habitat. Frac-out, or inadvertent return of drilling lubricant, is a potential concern when HDD is used under sensitive habitats and waterways. The HDD method uses bentonite slurry, a fine clay material, as a drilling lubricant. Bentonite is non-toxic and commonly used in farming practices, but benthic invertebrates, aquatic plants and fish and their eggs can be smothered by the fine particles if bentonite were discharged to waterways.

2. Purpose

The purpose of this frac-out contingency plan is to:

- Minimize the potential for a frac-out associated with horizontal directional drilling activities.
- Protect areas that are considered environmentally sensitive.
- Ensure an organized, timely, and “minimum-impact” response in the event of a frac-out.
- Ensure that notifications are made to the appropriate regulatory agencies.

3. Approach

To minimize the potential for a frac-out, the following steps will be taken:

- Ensure that all field personnel understand their responsibility for timely reporting of frac-outs.
- Maintain necessary response equipment on-site or at a readily accessible location and in good working order.
- Locate drill entry and exit points a sufficient distance from Waters of the United States (WOTUS) and its adjacent wetlands.
- Clearly mark drill entry and exit locations.
- Erect construction or silt fencing around drill pit locations.

4. Contingency Response

If a frac-out occurs the following actions will be taken:

- Immediately stop work, including recycling of the drilling mud/lubricant. The pressure of water above the pipe will help prevent excess mud from escaping through the fracture.
- Determine the location and extent of the frac-out.
- If the frac-out is terrestrial:
 - Isolate the area with hay bales, sand bags, or silt fencing to surround and contain the drilling mud.
 - Determine the next appropriate action among the following:
 - Use a mobile vacuum truck to pump the drilling mud from the contained area and recycle it to the return pit; or,
 - Leave drilling mud in place.
 - Reseed area as appropriate in order to re-establish vegetation.
- If the frac-out is aquatic (i.e., under water):
 - Monitor frac-out for 4 hours to determine if the drilling mud congeals (bentonite will usually harden, effectively sealing the frac-out location).
 - Consult with FDEP and USACE regarding next appropriate action among the following:
 - If drilling mud congeals, take no other action that would potentially suspend sediments in the water column.
 - If drilling mud does not congeal, erect isolation/containment environment (underwater boom and curtain).

- If the fracture becomes excessively large, a spill response team would be called in to contain and clean up excess drilling mud in the water. Phone numbers of spill response teams in the area will be on site.
 - If the spill affects an area that is vegetated, the area will be seeded and/or replanted using species similar to those in the adjacent area, or allowed to re-grow from existing vegetation.
- After frac-out is stabilized and any required slurry removal is completed, document post-cleanup conditions with photographs and prepare frac-out incident report describing time, place, actions taken to remediate frac-out and measures implemented to prevent recurrence. Incident report will be provided to FDEP and USACE not more than 30 days after the incident.

STANDARD MANATEE CONDITIONS FOR IN-WATER WORK

2011

The permittee shall comply with the following conditions intended to protect manatees from direct project effects:

- a. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.
- b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- c. Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
- d. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
- e. Any collision with or injury to a manatee shall be reported immediately to the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or in Vero Beach (1-772-562-3909) for south Florida, and emailed to FWC at ImperiledSpecies@myFWC.com.
- f. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Temporary signs that have already been approved for this use by the FWC must be used. One sign which reads *Caution: Boaters* must be posted. A second sign measuring at least 8½" by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. These signs can be viewed at http://www.myfwc.com/WILDLIFEHABITATS/manatee_sign_vendors.htm. Questions concerning these signs can be forwarded to the email address listed above.

CAUTION: MANATEE HABITAT

All project vessels

IDLE SPEED / NO WAKE

When a manatee is within 50 feet of work
all in-water activities must

SHUT DOWN

Report any collision with or injury to a manatee:

Wildlife Alert:

1-888-404-FWCC(3922)

cell *FWC or #FWC



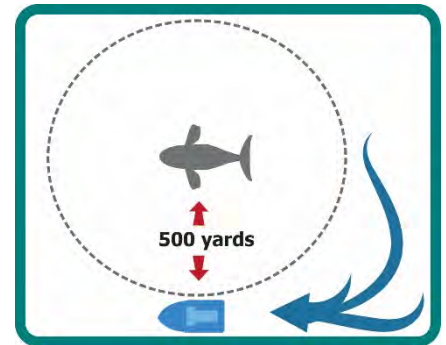
Federal Regulations Governing the Approach to North Atlantic Right Whales



1. Federal regulations governing the approach to North Atlantic right whales can be found at 50 CFR 224.103(c). It is illegal to approach and remain within 500 yards of right whales; 500 yards is equal to the distance of 5 football fields.

Prohibitions on approaching right whales are as follows (Excerpts from 50 CFR 224.103(c), available at www.ecfr.gov): Unless otherwise lawfully allowed or unless doing so would create an imminent and serious threat to a person or vessel, it is unlawful to:

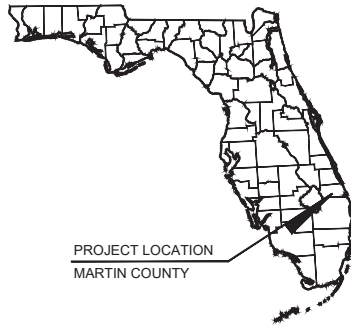
- (i) Approach (including by interception) within 500 yards (460 m) of a right whale by vessel
- (ii) Fail to undertake required right whale avoidance measures. If underway, a vessel must steer a course away from the right whale and immediately leave the area at a slow safe speed.



2. Updates can be downloaded from:
 - a. http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/rightwhale_northatlantic.htm, or
 - b. www.ecfr.gov

CONSTRUCTION PLANS FOR COUNTY LINE ROAD RECLAIMED WATERMAIN RELOCATION

PREPARED FOR THE
LOXAHATCHEE RIVER DISTRICT
APRIL 2024



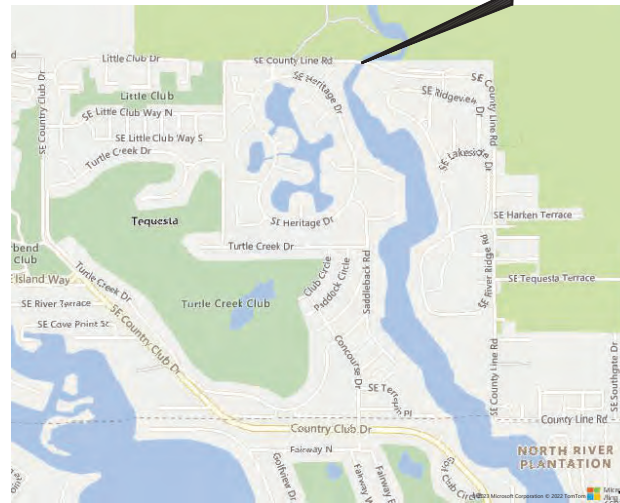
**LOXAHATCHEE RIVER DISTRICT
GOVERNING BOARD**

DR. MATT H. ROSTOCK
STEPHEN B. ROCKOFF
GORDON M. BOGGIE
KEVIN L. BAKER
CLINTON R. YERKES

EXECUTIVE DIRECTOR

CHAIRMAN
VICE CHAIRMAN
TREASURER
ASSISTANT TREASURER
SECRETARY

D. ALBREY ARRINGTON, PH.D.



LOCATION MAP
N.T.S.

INDEX OF SHEETS	
Sheet Number	Sheet Title
C-1	COVER SHEET
C-2	GENERAL NOTES
C-3	OVERALL AERIAL SITE PLAN AND KEY SHEET
C-4	RECLAIMED WATERMAIN RELOCATION PLAN
C-5	OVERALL DIRECTIONAL DRILL PLAN AND PROFILE
C-6	RECLAIMED WATERMAIN RELOCATION PLAN
C-7	PROFILES AT BORE PIT AND RECEIVING PIT
C-8	LRD STANDARD UTILITY DETAILS
C-9	LRD STANDARD UTILITY DETAILS
C-10	MARTIN COUNTY PUBLIC WORKS - STANDARD DETAILS

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY THOMAS C. JENSEN ON DATE ADHERENT TO SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ELECTRONIC COPIES.

100% SUBMITTAL

CALL 2 WORKING DAYS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

Thomas C Jensen, P.E.
Digitally signed by Thomas C Jensen, P.E.
Date: 2024.04.08

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
1920 MEKIVA WAY SUITE 200, WEST PALM BEACH, FL 33411
PHONE: 561-845-0665 FAX: 561-863-8175
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT 140790001
DATE APR. 2024
SCALE AS SHOWN
DESIGNED BY SS
DRAWN BY SS
CHECKED BY TCJ
COUNTY LINE ROAD RECLAIMED WATER MAIN RELOCATION
PREPARED FOR
LOXAHATCHEE RIVER DISTRICT
MARTIN COUNTY FLORIDA

LICENSED PROFESSIONAL P.E.
THOMAS C. JENSEN
FLORIDA LICENSE NUMBER 37290

17:10:30 -04'00'
COVER SHEET

SHEET NUMBER
C-1

Printed By: Mchughan@kha.com, Mark Sheet: Sht:COUNTY LINE ROAD RECLAIMED WATER MAIN RELOCATION, Layout: C-1 COVER SHEET, April 08, 2024, 01:28:18pm, K:\wp_cad\140790001-140 county line rd\CADD\layouts\C-1 COVER SHEET.dwg
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Printed By: M:\mchugh@kha.com Date: 04/08/2024 01:28:23 PM K:\web\sh\14079001-1rd county\line rd\CAD\general\sheet\C-2 GENERAL NOTES.dwg
 This document, together with the concepts and design preliminary herein, is an instrument of service, in or to the extent of record. It is deemed only for the specific purpose and client for which it was prepared. Means of and through reliance on this document without further consultation and approval by the Engineer and Associates, Inc. shall be without liability to the Engineer and Associates, Inc.

GENERAL NOTES:

1. ALL CONNECTIONS TO EXISTING MAINS SHALL BE OBSERVED BY THE DISTRICT. VALVES ON EXISTING MAINS SHALL BE OPERATED BY DISTRICT PERSONNEL OR UNDER THEIR DIRECT SUPERVISION. CONTRACTOR SHALL BE PREPARED TO HANDLE DISPOSAL OF EXCESS RECLAIMED WATER FROM ISOLATION VALVES TO POINTS OF CONNECTION.
2. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES ONE COPY OF LRD UTILITIES MINIMUM DESIGN AND CONSTRUCTION STANDARDS LATEST EDITION, ONE COPY OF THE CONTRACT DOCUMENTS, INCLUDING PLANS, SPECIFICATIONS AND SPECIAL PROVISIONS, AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.
3. THE CONTRACTOR SHALL CONTACT ALL CONCERNED UTILITIES AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION OPERATIONS.
4. THE LOCATION AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND ARE BASED ON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHOD AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES AND SUNSHINE 811 PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. ANY AND ALL CONFLICTS OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS SHALL BE RESOLVED BY THE ENGINEER PRIOR TO BEGINNING ANY CONSTRUCTION OPERATIONS. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
5. LOCATION OF PROPOSED FACILITIES WILL BE STAKED BY CONTRACTOR. CONTRACTOR MUST GIVE 48 HOURS NOTICE TO THE DISTRICT IN ADVANCE OF LAYOUT.
6. THE CONTRACTOR SHALL PROVIDE A QUALIFIED SUPERINTENDENT TO REMAIN ON THE JOB SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED. THE SUPERINTENDENT SHALL BE PRESENT AT THE PRE-CONSTRUCTION MEETINGS. THE CONTRACTOR SHALL NOTIFY THE DISTRICT BY LETTER PRIOR TO THE PRE-CONSTRUCTION MEETING APPOINTING THE SUPERINTENDENT FOR THE PROJECT INCLUDING A FORMAL RESUME SHOWING QUALIFICATIONS. IN THE EVENT THE SUPERINTENDENT WILL NOT BE PRESENT FOR ANY PERIOD OF TIME DURING CONTRACT WORK THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE IN WRITING TO THE DISTRICT, INCLUDING THE APPOINTMENT OF A QUALIFIED REPLACEMENT SUPERINTENDENT WHO WILL BE PRESENT DURING THE CONSTRUCTION. WORK SHALL NOT BE ALLOWED TO PROCEED UNLESS THE ASSIGNED SUPERINTENDENT IS PRESENT.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE HIS COMPLETE FAMILIARITY WITH THE PROJECT SITE AND COMPONENTS TO INCLUDE SUBSURFACE CONDITIONS OF SOIL AND GROUNDWATER TABLE.
8. DENSITY TESTS OF TRENCH BACKFILL MATERIAL SHALL BE REQUIRED AT INTERVALS OF NOT MORE THAN 500 FEET. DENSITY TESTS OF PAVEMENT OPEN-CUT AREAS INCLUDING ROADS, TURNLANES, AND DRIVES SHALL BE REQUIRED AT EACH OPEN-CUT AT INTERVALS OF NO MORE THAN 50 FEET. ALL TESTS SHALL COMMENCE AT THE TOP PIPE AND EVERY 12 INCHES TO THE FINISH GRADE. COMPACTION SHALL BE IN ACCORDANCE WITH MARTIN COUNTY UTILITIES CONSTRUCTION STANDARDS "TYPICAL TRENCH DETAIL" AND "FLEXIBLE PAVEMENT REPLACEMENT DETAIL". FLORIDA BEARING TESTS FOR THE STABILITY OF EXISTING SUBSOIL SHALL BE TAKEN AT INTERVALS OF NOT MORE THAN 500 FEET, AND CLOSER AS MIGHT BE NECESSARY IN THE EVENT OF VARIATIONS IN THE STRATA. A CERTIFIED COPY OF THE TESTS SHALL BE PROVIDED TO THE DISTRICT AND MARTIN COUNTY ENGINEERING DEPARTMENT. CONTRACTORS BID PRICE SHALL INCLUDE PAYMENT FOR ALL TESTS CONDUCTED BY AN INDEPENDENT TESTING LAB.
9. ANY LANDSCAPING DISTURBED, UNLESS OTHERWISE SHOWN ON THE PLANS, SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE DISTRICT AT THE CONTRACTORS EXPENSE.
10. ANY SIDEWALK, CURB AND GUTTER OR PAVEMENT DISTURBED, UNLESS OTHERWISE SHOWN ON PLANS, SHALL BE REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. UNLESS OTHERWISE SPECIFIED OR INDICATED, ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AND 28 DAYS AND ALL CONCRETE WORK SHALL COMPLY WITH THE CURRENT EDITION OF THE AMERICAN CONCRETE INSTITUTE (ACI) BUILDING CODE AND THE APPLICABLE BUILDING CODES HAVING JURISDICTION IN THE AREA. ALL CONSTRUCTION SHALL MEET ADA REQUIREMENTS THIS INCLUDES, BUT IS NOT LIMITED TO, DETECTABLE WARNING SURFACES.
11. ALL SOD IS TO BE PLACED FOR THE FULL WIDTH DISTURBED AT THE PER LINEAR FOOT UNIT PRICES FOR SOD. SOD SHALL BE REPLACED TO MATCH EXISTING KIND UNLESS OTHERWISE SHOWN ON PLANS.
12. CONTRACTOR SHALL PROVIDE PROPER BENDS TO MAINTAIN REQUIRED DEPTH AND ALIGNMENT OF PIPE. COST OF BENDS NOT DESIGNATED ON PLANS SHALL BE INCLUDED WITH THE UNIT PRICE FOR PIPE.
13. ANY TREES AND/OR SCRUB OR OTHER VEGETATION NOT TO BE REPLACED SHALL BE REMOVED FROM THE PROJECT AT THE CONTRACTOR'S EXPENSE.
14. ALL RUBBLE AND UNSUITABLE MATERIAL MUST BE REMOVED FROM THE PROJECT AND DISPOSED OF PROPERLY BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
15. DEFLECT PIPE AS NECESSARY TO OBTAIN THE REQUIRED ALIGNMENT. USE APPROPRIATE FITTINGS WHEN DEFLECTION EXCEEDS 75% OF MANUFACTURER'S RECOMMENDED MAXIMUM DEFLECTION.
16. ALL FITTINGS SHALL BE MECHANICALLY RESTRAINED. REFER TO LRD MINIMUM DESIGN AND CONSTRUCTION STANDARDS (LATEST EDITION).
17. ALL CONSTRUCTION DEWATERING (WELL POINTS, SUMPS, ETC) WILL REQUIRE A DEWATERING PERMIT FROM SOUTH FLORIDA WATER MANAGEMENT DISTRICT. THIS SHALL BE OBTAINED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE PRIOR TO BEGINNING OF CONSTRUCTION.
18. THE "TRENCH SAFETY ACT" SHALL BE INCORPORATED INTO THIS CONTRACT AS ENACTED BY THE LEGISLATURE OF THE STATE OF FLORIDA TO BE IN EFFECT AS OF OCTOBER 1, 1990.
19. A PERMIT IS REQUIRED FOR ALL WORK WITHIN COUNTY RIGHT-OF-WAY. THIS PERMIT MUST BE OBTAINED BY THE CONTRACTOR FROM THE MARTIN COUNTY ENGINEERING DEPARTMENT. ALL COSTS PAYABLE BY THE CONTRACTOR. A COPY OF THIS PERMIT MUST BE MAINTAINED ON THE PROJECT SITE AT ALL TIMES DURING CONSTRUCTION.
20. ALL CONCRETE AND ASPHALT DRIVES MUST BE REPLACED FROM SAW CUT TO EDGE OF PAVEMENT.
21. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING THEIR PLAN FOR ON-SITE STAGING AND STORAGE AREAS FOR EQUIPMENT AND MATERIAL.

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KHA PROJECT 140790001
DATE APR. 2024
SCALE AS SHOWN
DESIGNED BY SS
DRAWN BY SS
CHECKED BY TCJ

COUNTY LINE ROAD RECLAIMED WATER MAIN RELOCATION

PREPARED FOR LOXAHATCHEE RIVER DISTRICT

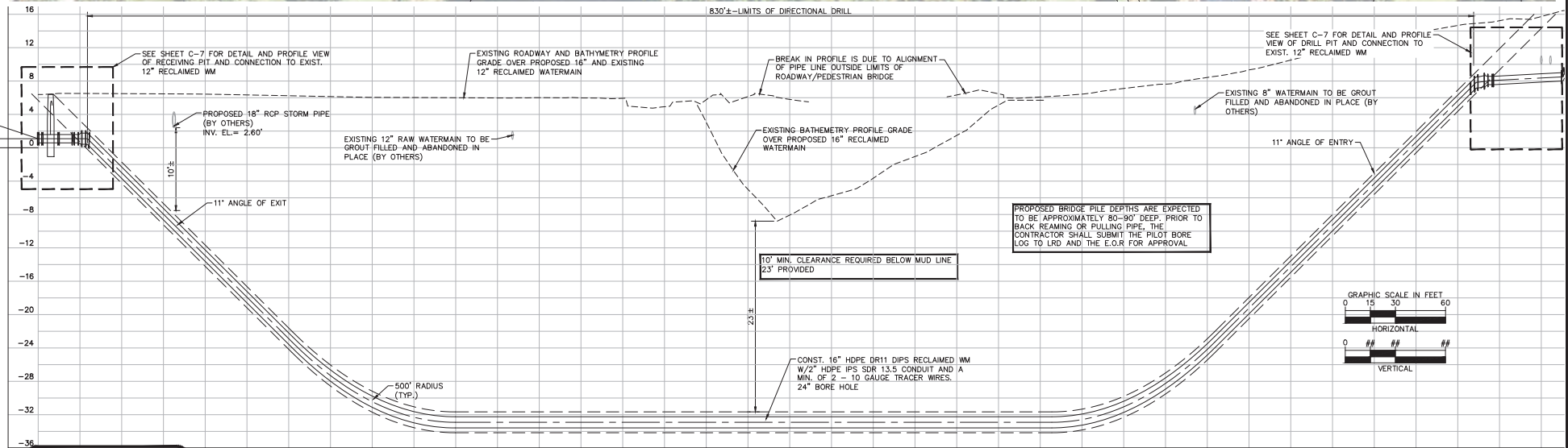
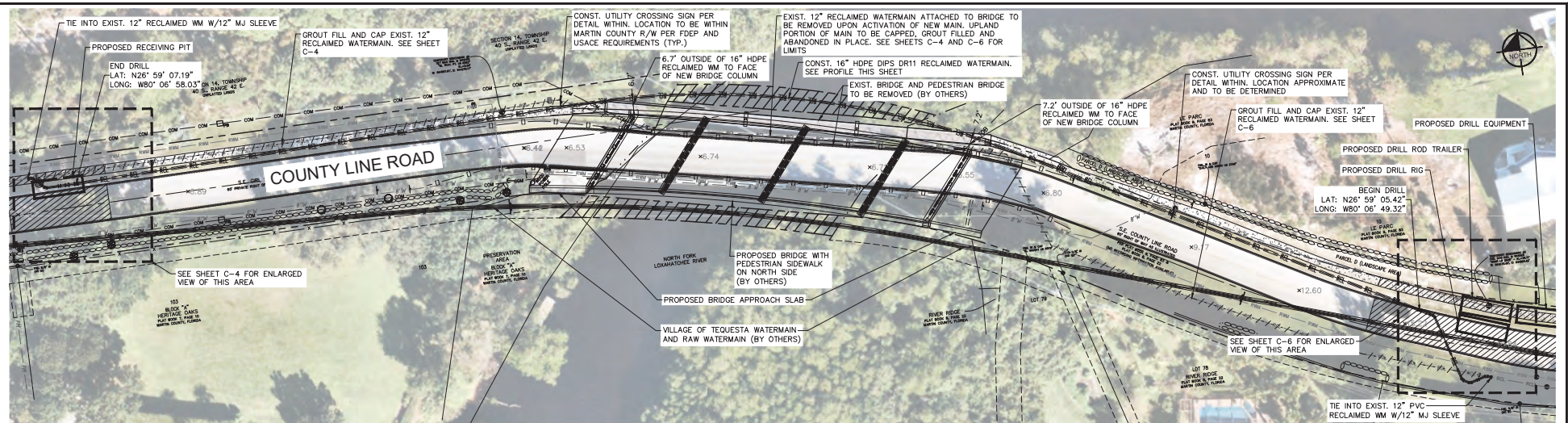
MARTIN COUNTY FLORIDA

LICENSED PROFESSIONAL P.E.
THOMAS C. JENSEN
FLORIDA LICENSE NUMBER 37290
DATE: _____

GENERAL NOTES

SHEET NUMBER
C-2

Printed by: h:\mch\charters, Mark. Sheet: 581-COUNTY LINE ROAD RECLAIMED WATER MAIN RELOCATION. Layout: C-5 - OVERALL DIRECTIONAL DRILL PLAN AND PROFILE. April 05, 2024 01:29:10pm. K:\wpb_cim\140730001-001-county line rd\CAAD\plan\sheet\C-5 OVERALL DIRECTIONAL DRILL PLAN AND PROFILE. This document, together with the concepts and designs presented herein, is an instrument of service. It is prepared only for the specific project and location for which it was prepared. No other use or treatment of these drawings without the written authorization and approval by the Engineer and Associates, Inc. is permitted.



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DATE
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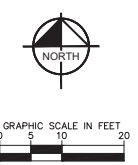
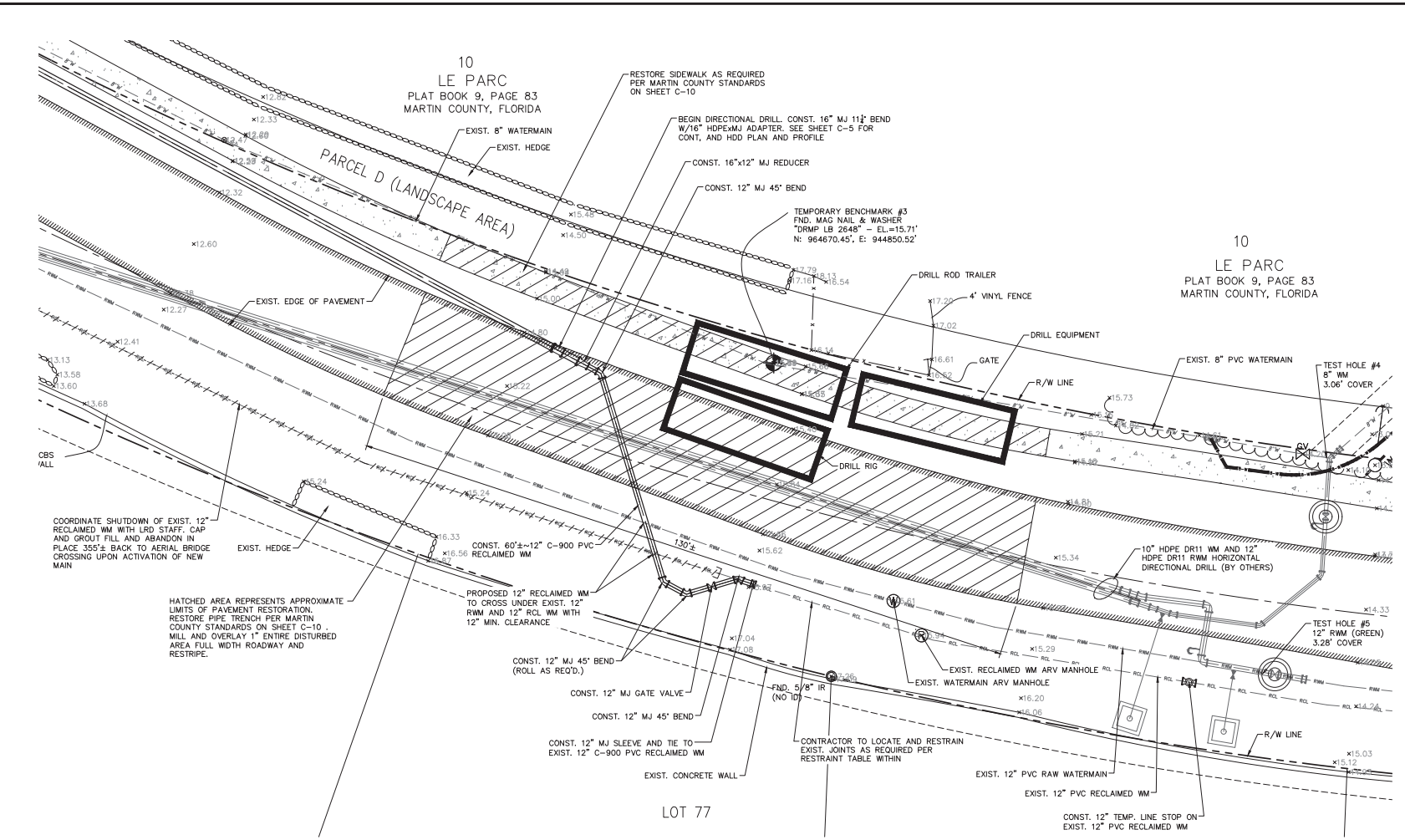
COUNTY LINE ROAD RECLAIMED WATER MAIN RELOCATION
 PREPARED FOR
LOXAHATCHEE RIVER DISTRICT
 MARTIN COUNTY FLORIDA

THOMAS C. JENSEN
 LICENSED PROFESSIONAL ENGINEER
 THOMAS C. JENSEN
 FLORIDA LICENSE NUMBER 37290

DATE _____

SHEET NUMBER
C-5

Printed by Munchausen, Mark. Sheet: COUNTY LINE ROAD RECLAIMED WATER MAIN RELOCATION. Layout: C-6 RECLAIMED WATER MAIN RELOCATION. Layout: C-6 RECLAIMED WATER MAIN RELOCATION. PLAN FILE: K:\WPB-DWG\140730001.dwg COUNTY LINE ROAD RECLAIMED WATER MAIN RELOCATION. April 08, 2024. 01:29:23pm. K:\WPB-DWG\140730001.dwg COUNTY LINE ROAD RECLAIMED WATER MAIN RELOCATION. This document, together with the concepts and design parameters herein, is an instrument of service, as an instrument of service. It is prepared, issued and delivered in reliance on the information and data furnished by the client and the user of this document without additional verification and responsibility by Kimley-Horn and Associates, Inc. shall not be held liable to design, plan and Associates, Inc.



SEE SHEET C-7 FOR PROFILE VIEW OF DRILL PIT AREA

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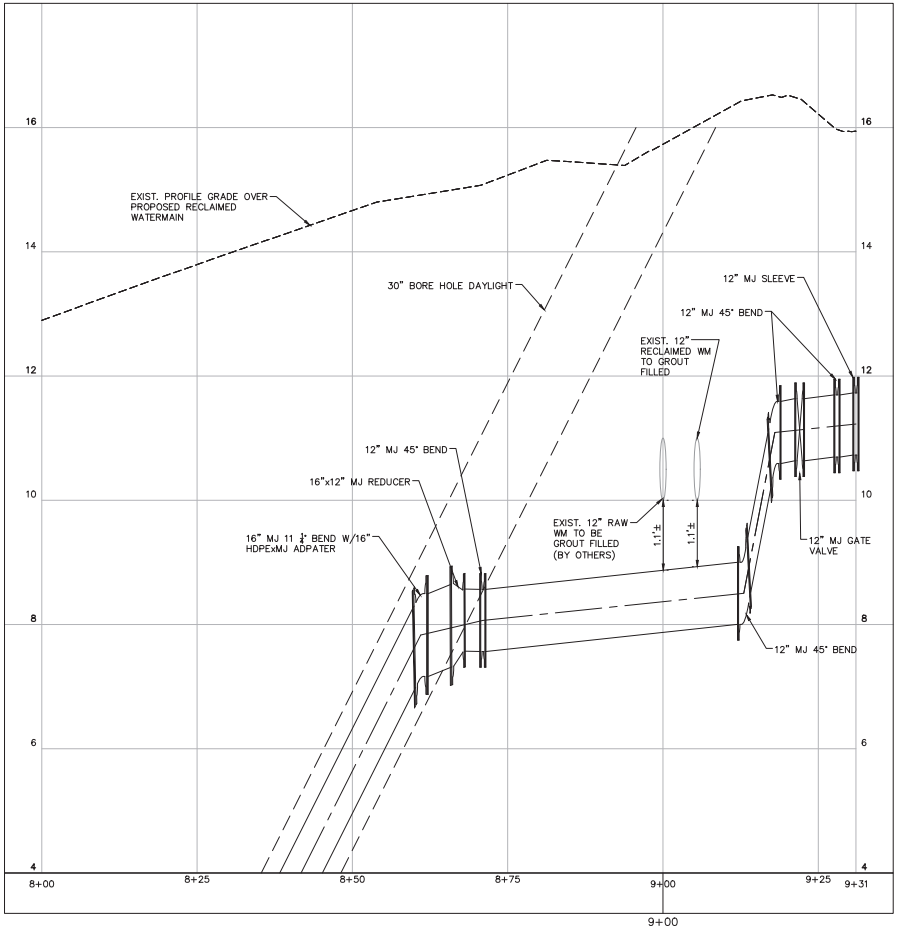
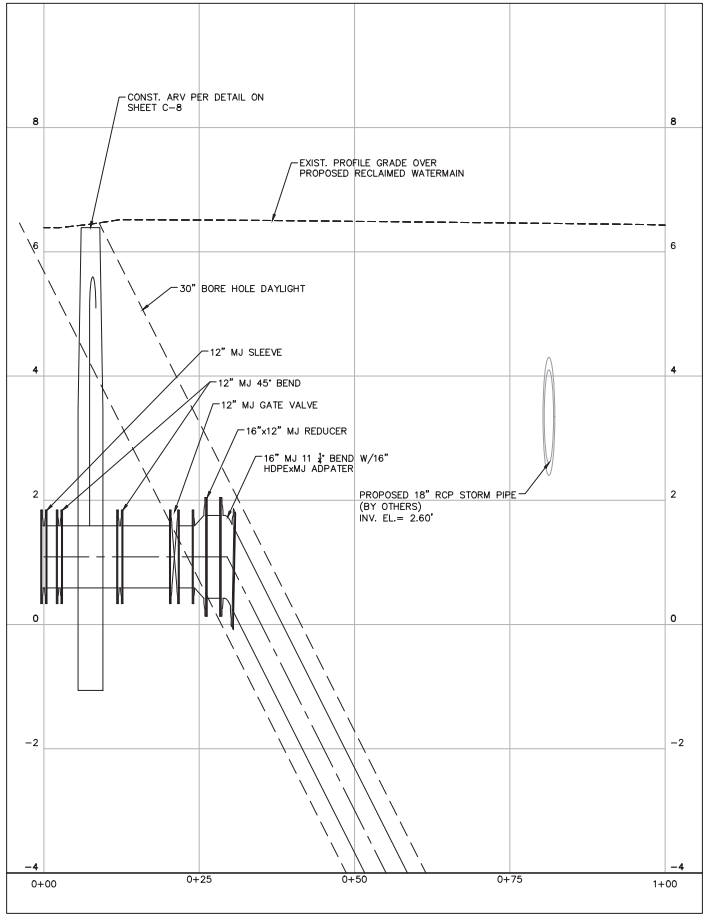
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 MARTIN COUNTY FLORIDA

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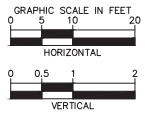
RECLAIMED WATER MAIN RELOCATION PLAN

SHEET NUMBER C-6

Plotted by: Mchughan, Mark. Sheet: 361-COUNTY LINE ROAD RECLAIMED WATER MAIN RELOCATION. Layout: C-7 PROFILES AT BORE PIT AND RECEIVING PIT. April 08, 2024. 01:28:25pm. K:\p\361\140730001-142 county line road\361\140730001-142 RECLAIMED WATERMAIN RELOCATION PLAN.dwg
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PROFILE-RECEIVING PIT AREA
AS NOTED



SEE SHEET C-5 FOR OVERALL
DIRECTIONAL DRILL PROFILE

PROFILE-DRILL PIT AREA
AS NOTED

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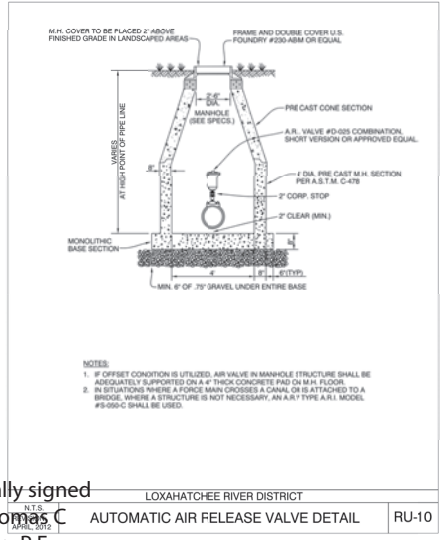
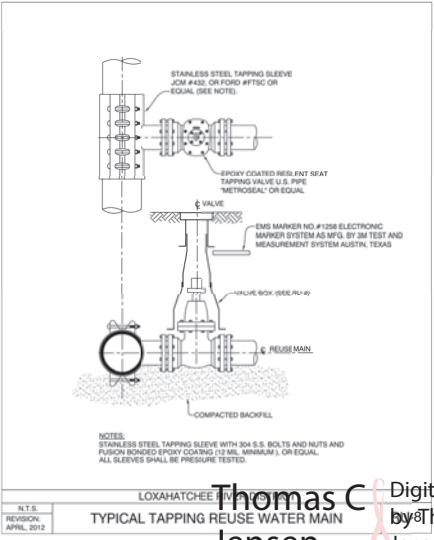
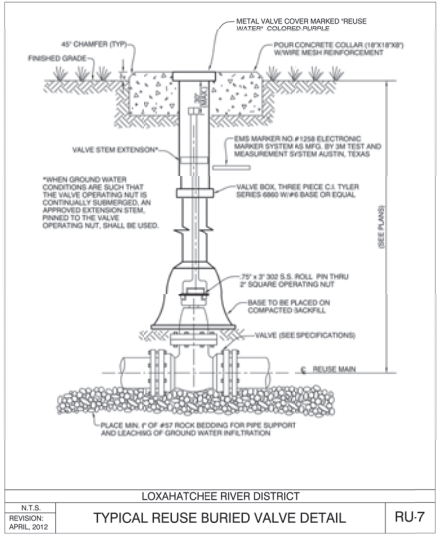
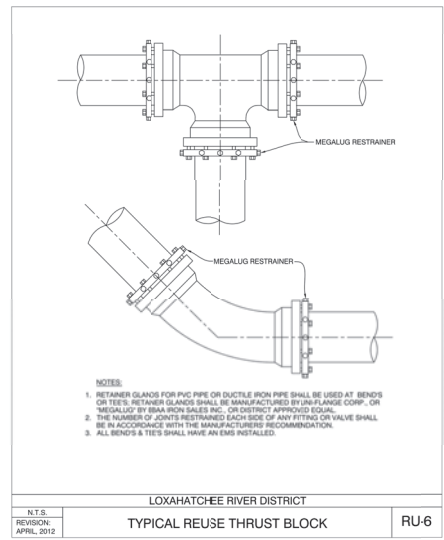
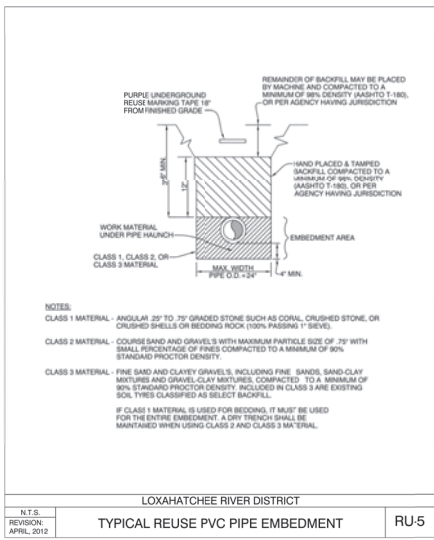
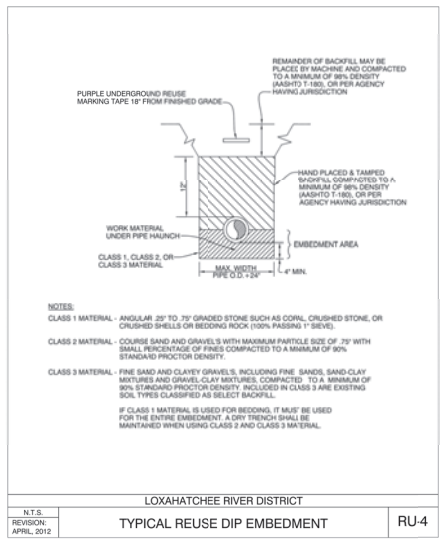
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PROFILES AT BORE PIT AND
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C-7

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COUNTY LINE ROAD RECLAIMED WATER MAIN RELOCATION

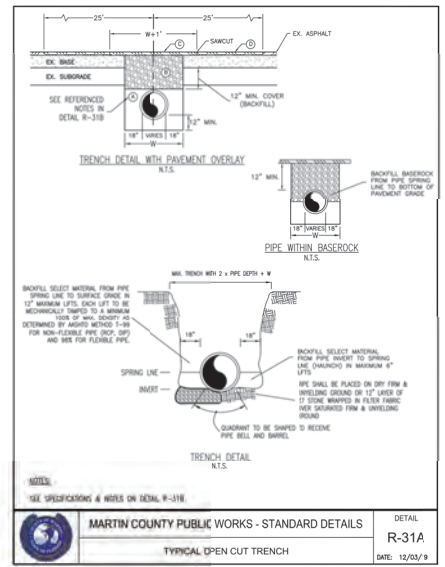
PREPARED FOR

LOXAHATCHEE RIVER DISTRICT

MARTIN COUNTY FLORIDA

REGISTERED PROFESSIONAL ENGINEER
 THOMAS C. JENSEN
 FLORIDA LICENSE NUMBER
 37290

LRD STANDARD UTILITY DETAILS
 SHEET NUMBER
C-8



MARTIN COUNTY PUBLIC WORKS - STANDARD DETAILS
 TYPICAL OPEN CUT TRENCH
 DETAIL R-31A
 DATE: 12/03/9

BACKFILL AND BASE

- PROVIDE CLEAN BACKFILL. BACKFILL SHALL BE REPLACED IN 12" LIFTS. EACH LIFT SHALL BE MECHANICALLY COMPACTED TO A MINIMUM 10% DENSITY AS DETERMINED BY ASTM 1-105 METHOD 12" MINIMUM LIFT OF 40% BASE ROCK MATERIAL SHALL BE A MINIMUM OF 2" THICK AND BE PLACED IN 1' LIFTS OR AS OTHERWISE APPROVED AND EACH LAYER THOROUGHLY MECHANICALLY COMPACTED TO 100% DENSITY AS DETERMINED BY ASTM 1-105. ALL BASE MATERIAL MUST MEET FOOT SPECIFICATIONS FROM A CERTIFIED TESTING ORGANIZATION. DEPTH OF BASE MATERIAL VARIES ON ROADWAY TYPE AS PER MARTIN COUNTY PUBLIC WORKS STANDARD DETAIL R-10.

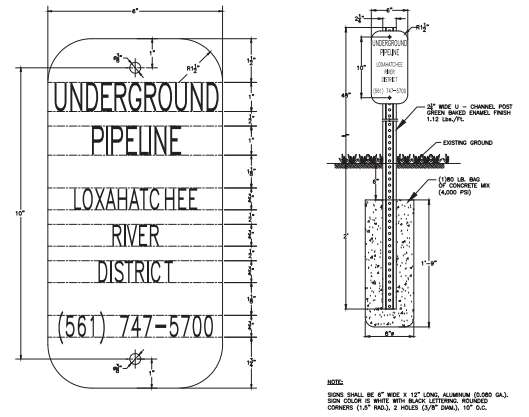
FINISH

- A TEMPORARY PATCH SHALL BE NO LESS THAN 2" THICK OR MATCH EXISTING PAVEMENT THICKNESS, WHICHEVER IS GREATER. ASPHALT PATCHES MUST BE OF A HOT MIX TYPE FRICTION COURSE. MARTIN COUNTY DOES NOT ALLOW COLD PATCH IN COUNTY MAINTAINED ROADWAYS. THE PATCH IS TO REMAIN 30 DAYS AT MINIMUM TO ALLOW ANY SETTLING OF THE ROADWAY TRENCH HAS TAKEN PLACE.
- MILL 1" OF ASPHALT A MINIMUM OF 25' FROM CENTER OF TRENCH ON BOTH SIDES, SEE NOTE #1. PAVE AND COMPACT 1" OF SP-8.5 OR MATCH EXISTING TYPE OF FRICTION COURSE.
- WHEN OPEN CUT IS PARALLEL TO TRAVEL LANE, THE FULL ROADWAY SECTION IS REQUIRED TO BE RESURFACED 10' BEYOND TRENCH IN EACH DIRECTION OF TRAVEL.
- ASPHALT MIX TO CONTAIN NO MORE THAN 30% RECLAIMED ASPHALT PAVEMENT (RAP).
- ASPHALT PAVEMENT PATCH SHALL BE PLACED WITHIN 72 HOURS AFTER TRENCH HAS BEEN BACKFILLED.

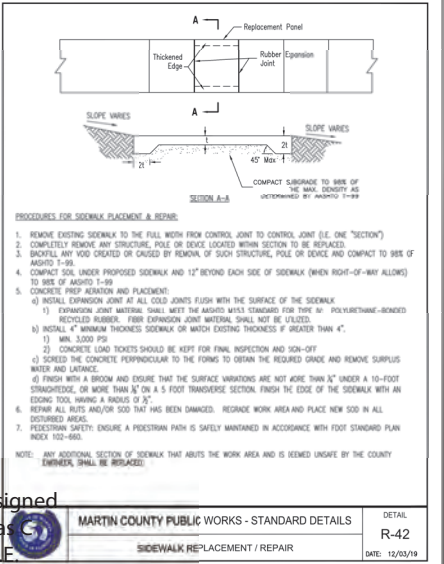
NOTES:

- ANY OPEN CUT OF PAVEMENT MUST BE REVIEWED BY THE COUNTY ENGINEER PRIOR TO ANY WORK BEING DONE IN COUNTY MAINTAINED RIGHT-OF-WAY. DEPENDING ON THE LOCATION OF THE OPEN CUT ADDITIONAL MILLING AND PAVING MAY BE REQUIRED. ALL PAVEMENT JOINTS SHALL BE MECHANICALLY SEALED.
- ALL MATERIAL USED WITHIN THE ROADWAY MUST MEET FOOT SPECIFICATIONS AND BE SUPPLIED FROM A FOOT CERTIFIED MINING OPERATION AND ASPHALT PLANT.
- A MINIMUM OF TWO DENSITY TESTS SHALL BE TAKEN FOR EACH SIX (6) INCH LIFT OF SUB GRADE AND EACH OPEN CUT CROSSING. WHEN THE SPECIFIED COMPACTED BASE IS GREATER THAN SIX AND ONE-HALF (6 1/2) INCHES THE BASE SHALL BE CONSTRUCTED IN TWO OR MORE COURSES. PROCEDURES FOR MATERIALS USED IN BACK-FILLING SHALL BE OBTAINED BY A CERTIFIED LABORATORY. DENSITY TESTS SHALL BE CONDUCTED BY A CERTIFIED LABORATORY. THE PERFORMANCE OF MAXIMUM DENSITY REQUIRED SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. A COPY OF ALL COMPLETED AND ACCEPTED DENSITY TESTS SHALL BE FURNISHED TO THE COUNTY ENGINEER'S OFFICE PRIOR TO FINAL INSPECTION. CRACKED CONCRETE MAY NOT BE USED WITHIN COUNTY-MAINTAINED ROADWAYS.

MARTIN COUNTY PUBLIC WORKS - STANDARD DETAILS
 TYPICAL OPEN CUT TRENCH
 DETAIL R-31B
 DATE: 12/03/9



UTILITY CROSSING UNDERGROUND PIPELINE
 LOXAHATCHEE RIVER DISTRICT
 (561) 747-5700



MARTIN COUNTY PUBLIC WORKS - STANDARD DETAILS
 SIDEWALK REPLACEMENT / REPAIR
 DETAIL R-42
 DATE: 12/03/9

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KHA PROJECT 140700001
 DATE APR. 2024
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 DRAWN BY SS
 CHECKED BY TCJ

COUNTY LINE ROAD RECLAIMED WATER MAIN RELOCATION
 PREPARED FOR LOXAHATCHEE RIVER DISTRICT
 MARTIN COUNTY FLORIDA

Digitally signed by Thomas C. Jensen, PE
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 THOMAS C. JENSEN
 FLORIDA LICENSE NUMBER 37290

MARTIN COUNTY PUBLIC WORKS - STANDARD DETAILS
 SHEET NUMBER C-10

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Project Design Criteria (PDCs) Applicable to All Projects

NOTE - You are required to comply with the following PDCs, which serve to address requirements pursuant to Section 7, Endangered Species Act (ESA) for those listed species and designated critical habitat under purview of the National Marine Fisheries Service Protected, Resources Division. These PDCs are taken from the Programmatic Biological Opinion (PBO) referred to as JaxBO. These criteria serve to address ESA requirements only, and additional conditions may be required to address other Federal laws, including the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act. Authorization under this permit is conditional upon your compliance with all applicable PDCs, which are made part of this permit. You are reminded that you must complete the attached self-certification statement of compliance following completion of the authorized work. Your statement of compliance does not obviate the need to satisfy all PDCs, including those requirements (e.g., such as structural dimensions and educational signs) that are observable post-construction, and those requirements (e.g., construction methods or procedures to be followed) that are not observable post-construction. Please note that failure to comply with the applicable PDCs of this PBO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute noncompliance with this permit. The NMFS is the appropriate authority to determine compliance with the terms and conditions of this PBO.

AP.1. The applicant must agree to adhere to PDCs for *In-Water Activities* (provided below).

AP.2. All projects involving the installation of piles or sheet piles shall follow the PDCs for *In-Water Noise from Pile and Sheet Pile Installation* (Section 2.2). This Opinion does not cover projects that use seismic surveys, low frequency sonar, explosions, and seismic air guns.

AP.3. All projects proposed in or near areas with mangroves, seagrasses, corals, or hard bottom habitat must refer to PDCs for *Mangroves, Seagrasses, Corals, and Hard Bottom for All Projects* (provided below) to determine whether the project is covered under the Opinion and, if it is covered, to ensure it is sited, designated, and implemented following all of the PDCs in that section.

AP.4. For every project, the USACE must determine if the project is located within:

- a) Smalltooth sawfish critical habitat limited exclusion zones (Section 2.1.1.1)
- b) Gulf sturgeon critical habitat migratory restriction zones (Section 2.1.1.2)
- c) Atlantic sturgeon critical habitat exclusion zone (St. Marys River) (Section 2.1.1.3)
- d) North Atlantic right whale educational sign zones (Section 2.1.1.4)
- e) U.S. Caribbean sea turtle critical habitat restriction zones (Section 2.1.1.5)
- f) Bryde's whale exclusion zone (Section 2.1.1.6)

Where the activity is excluded from the Opinion within a particular zone, the application must be processed under a separate consultation. Where additional restrictions apply to activities within that zone, the USACE or other authorizing entity must ensure that the project meets the requirements for that zone.

AP.5. This Opinion only covers new construction (i.e., installation, repair, replacement) and does not apply to after-the-fact consultations or enforcement actions handled by the Corps.

AP.6. All activities must be completed during daylight hours.

Project Design Criteria (PDCs) for In-Water Activities

AP.7. Education and Observation: The permittee must ensure that all personnel associated with the project are instructed about the potential presence of species protected under the ESA and the Marine Mammal Protection Act (MMPA). All on-site project personnel are responsible for observing water-related activities for the presence of protected species. All personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing ESA-listed species or marine mammals. To determine which species may be found in the project area, please review the relevant Protected Species List at:

http://sero.nmfs.noaa.gov/protected_resources/section_7/threatened_endangered/index.html

AP.8. Reporting Interactions with Protected Species:

- a) Any collision(s) with and/or injury to any sea turtle, sawfish, whale, or sturgeon occurring during the construction of a project, shall be reported immediately to NMFS's Protected Resources Division (PRD) at (1-727-824-5312) or by email to: takereport.nmfs@noaa.gov and SAJ-RD-Enforcement@usace.army.mil.
- b) Smalltooth sawfish: Report sightings to 1-844-SAWFISH or email: Sawfish@MyFWC.com
- c) Sturgeon: Report dead sturgeon to 1-844-STURG 91 (1-844-788-7491) or email: nmfs.ser.sturgeonnetwork@noaa.gov
- d) Sea turtles and marine mammals: Report stranded, injured, or dead animals to 1-877-WHALE HELP (1-877-942-5343).
- e) North Atlantic right whale: Report injured, dead, or entangled right whales to the USCG via VHF Channel 16.

AP.9. Vessel Traffic and Construction Equipment: All vessel operators must watch for and avoid collision with species protected under the ESA and MMPA. Vessel operators must avoid potential interactions with protected species and operate in accordance with the following protective measures:

- a) *Construction Equipment*:
 - i) All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while operating in water depths where the draft of the vessel provides less than a 4-foot (ft) clearance from the bottom, and in all depths after a protected species has been observed in and has departed the area.
 - ii) All vessels will follow marked channels and/or routes using the maximum water depth whenever possible.
 - iii) Operation of any mechanical construction equipment, including vessels, shall cease immediately if a listed species is observed within a 50-ft radius of construction equipment and shall not resume until the species has departed the area of its own volition.
 - iv) If the detection of species is not possible during certain weather conditions (e.g., fog, rain, wind), then in-water operations will cease until weather conditions improve and detection is again feasible.

- b) *All Vessels:*
 - i) Sea turtles: Maintain a minimum distance of 150 ft.
 - ii) North Atlantic right whale: Maintain a minimum 1,500-ft distance (500 yards).
 - iii) Vessels 65 ft in length or longer must comply with the Right Whale Ship Strike Reduction Rule (50 CFR 224.105) which includes reducing speeds to 10 knots or less in Seasonal Management Areas (<http://www.fisheries.noaa.gov/pr/shipstrike/>).
 - iv) Mariners shall check various communication media for general information regarding avoiding ship strikes and specific information regarding right whale sightings in the area. These include NOAA weather radio, USCG NAVTEX broadcasts, and Notices to Mariners.
 - v) Marine mammals (i.e., dolphins, whales [other than North Atlantic right whales], and porpoises): Maintain a minimum distance of 300 ft.
 - vi) When these animals are sighted while the vessel is underway (e.g., bow-riding), attempt to remain parallel to the animal's course. Avoid excessive speed or abrupt changes in direction until they have left the area.
 - vii) Reduce speed to 10 knots or less when mother/calf pairs or groups of marine mammals are observed, when safety permits.

- AP.10. Turbidity Control Measures during Construction:** Turbidity must be monitored and controlled. Prior to initiating any of the work covered under this Opinion, the Permittee shall install turbidity curtains as described below. In some instances, the use of turbidity curtains may be waived by the USACE project manager if the project is deemed too minimal to generate turbidity (e.g., certain ATON installation, scientific survey device placement, marine debris removal) or if the current is too strong for the curtains to stay in place. Turbidity curtains specifications:
- a) Install floating turbidity barriers with weighted skirts that extend to within 1 ft of the bottom around all work areas that are in, or adjacent to, surface waters.
 - b) Use these turbidity barriers throughout construction to control erosion and siltation and ensure that turbidity levels within the project area do not exceed background conditions.
 - c) Position turbidity barriers in a way that does not block species' entry to or exit from designated critical habitat.
 - d) Monitor and maintain turbidity barriers in place until the authorized work has been completed and the water quality in the project area has returned to background conditions.
 - e) In the range of ESA-listed corals (St. Lucie Inlet, Martin County south to the Dry Tortugas and the U.S. Caribbean) and Johnson's seagrass (Turkey Creek/Palm Bay south to central Biscayne Bay in the lagoon systems on the east coast of Florida):
 - i. Projects that include upland earth moving (e.g., grading to install a building or parking lot associated with a dock and seawall project), must install sediment control barriers to prevent any upland sediments from reaching estuarine or marine waters.
 - ii. The turbidity curtain requirement cannot be waived for any project that moves or removes sediment (e.g., dredging, auger to create a pile, trenching to install a cable

line). If turbidity curtains are not feasible in an area based on site conditions such as water current, high wave action, or stormy conditions, the project must undergo individual Section 7 consultation and is not covered under this Programmatic Opinion.

AP.11. Entanglement: All turbidity curtains and other in-water equipment must be properly secured with materials that reduce the risk of entanglement of marine species (described below). Turbidity curtains likewise must be made of materials that reduce the risk of entanglement of marine species.

- a) In-water lines (rope, chain, and cable, including the lines to secure turbidity curtains) must be stiff, taut, and non-looping. Examples of such lines are heavy metal chains or heavy cables that do not readily loop and tangle. Flexible in-water lines, such as nylon rope or any lines that could loop or tangle, must be enclosed in a plastic or rubber sleeve/tube to add rigidity and prevent the line from looping and tangling. In all instances, no excess line is allowed in the water.
- b) Turbidity curtains and other in-water equipment must be placed in a manner that does not entrap species within the construction area or block access for them to navigate around the construction area.

Project Design Criteria (PDCs) specific to Activity 8 for Transmission and Utility Line Activities

- A8.1.** Activity 8 includes the installation, repair, replacement, and removal of support structures, footers, foundations, as well as the placement of riprap or concrete mat for pipeline protection. The USACE defines a “utility/transmission line” as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, wire or optical fiber for the transmission for any purpose of electrical energy, telephone, telegraph messages, digital signal, Internet, and radio or television communication.
- A8.2.** Structures permanently placed on the waterbottom (e.g., foundations, piles, and footings) to support aerial transmission lines must total less than a 0.5 ac for all structures combined. Because permanent structures have the potential to interfere with or impede sea turtles from entering or exiting the beach, they cannot be placed on or near beaches used for sea turtle nesting.
- A8.3.** Subaqueous utility and transmission lines may be installed (including as part of a repair/replacement project) using horizontal directional drilling, if the drilling originates and terminates on the uplands (i.e., no in-water work). For subaqueous transmission lines installed, repaired, or replaced using horizontal directional drilling, the applicant must provide and follow a frac-out contingency plan in Appendix D or another plan with at a minimum the same level of information as is provided in the plan contained in Appendix D.
- A8.4.** Subaqueous utility and transmission lines may be installed (including as part of a repair/replacement project) by trenching. When excavating the trench, the bottom sediments may be temporarily sidecast into areas devoid of submerged aquatic vegetation and mangroves. Immediately upon completing the excavation and placing the transmission or utility line into the trench, the trench must be filled and the bottom contours must be restored to pre-construction conditions. The District Engineer may allow the trench to remain open and temporary sidecasting to continue after the excavation is complete, as long as the total time the trench is open and the material is sidecast during and after excavation does not exceed 180 days.
- A8.5.** New subaqueous transmission and utility lines shall not be placed on the sea floor (i.e., pinned or anchored and not buried) under this Opinion. Sections of existing buried lines may be repaired or replaced above the sea floor by pinning or anchoring the new section of line in place to ensure that it does not move and damage surrounding seagrasses, hardbottom, coral, or coral reef habitat.

A8.6. When repairing existing transmission or utility lines, riprap and articulated mats may be placed on subaqueous lines that are buried in trenches or on lines that are attached to the sea floor (in accordance with A8.5) to stabilize the line. Riprap and articulated mats may also be used to stabilize new subaqueous lines placed in high erosion areas. These stabilization materials are limited to the minimum amount necessary to stabilize and protect the lines existing lines (which may have been exposed by scouring) and cannot be placed on seagrasses, hardbottom, corals, or coral reef habitat.

Frac-Out Plan Requirements, JaxBO (2017)

To provide an additional level of resource protection, the following measures shall be taken to monitor any potential releases of drilling fluid:

- Measures used to prevent frac-out during the drilling operation include maintaining the proper depth for the soil conditions along the drilling route as well as proper management of drilling fluids circulation pressure. Under the waterway, the minimum distance between the pipe and the bottom of the waterway will be [#] ft as shown on the cross section. This is expected to be sufficient to prevent frac-out when drilling under the waterway.
- Non-toxic fluorescent dyes will be added to the drilling lubricant as a method for monitoring bentonite releases in the underwater portions of this drilling. Details of the fluorometry monitoring method shall be submitted to the USACE prior to the pre- construction meeting.
- The volume of bentonite in the drill string will be monitored at all times during the directional drilling operation. Should a drop in volume of bentonite occur, immediately conduct a visual inspection of both terrestrial and subaqueous portions of the horizontal directional drilling corridor.
- Should the detection of dye or a drop in volume of bentonite occur, the Contractor will follow the Release Procedures outlined below.
- The Contractor will identify prior to commencement of construction an environmental scientist/biologist with experience in-water quality monitoring and habitat protection to be used in the event of a frac-out. The biologist will supervise the implementation of the Frac-Out Plan, Release Procedure, and Containment Plan outlined below. Divers shall be present during drilling operations in order to respond to a potential frac-out release.
- All drilling fluids associated with the horizontal directional drilling operation will be contained on site. The volume of the drilling fluids recirculation/solids settlement pit will be determined by the Contractor at the Pre-Construction meeting. Periodically during the drilling process settled solids will be removed from the pit by a backhoe and disposed of at a site of the Contractor's choice in accordance with applicable regulations. At the conclusion of drilling operations, drilling fluid remaining in the pit will be settled and hauled to a disposal site of the Contractor's choice in accordance with applicable regulations. After back-reaming, drilling materials will be removed from the inside of the pipeline by pigging it from the exit point towards the rig area.
- At all times, adequate protection will be taken to avoid impacts to the Aquatic Preserve/Outstanding Florida Waters and contiguous wetlands. This shall include, but is not limited to halting of construction/drilling and/or placement of turbidity containment devices.
- A Vactor Truck shall be onsite and available at all times.
- A Spill Kit (i.e., absorbent pads/brooms, goggles, gloves) shall be on-site and available at all times.

Release Procedures:

- If a frac-out is confirmed, all construction activity contributing to the frac-out shall cease immediately.
- If the return drilling mud/fluid is less than the projected amount to be recovered, divers shall begin their search for the missing material within 1 hour of potential release. Once the drilling mud and frac-out is located, then the drilling mud containment plan shall be immediately implemented.
- If a frac-out has occurred during construction activities, the permittee shall notify the USACE of Engineers, Palm Beach Gardens Regulatory office, within 24 hours of the occurrence. The notification shall include the time of the frac-out, the response time of the underwater diver, and the environmental conditions of the affected area.

Drilling Mud Containment Plan:

- Should the release of drilling materials occur on land, a sediment fence shall be constructed around the site and the material shall be removed by vacuum truck.
- Should the release of drilling materials occur in-water, clean-up with a vacuum system shall commence within 24 hours.
- The scientist/biologist underwater divers will guide the suction hose of the pump to minimize both the removal of natural bottom material and the disturbance of any existing vegetation.
- Any escaped drilling lubricant must be pumped into filter bags or directly into a vacuum truck.
- A barge company will be contacted to transport a vacuum truck should it be needed to respond "in-water."
- Once the spill is contained, the escaped drilling lubricant shall be properly disposed of in an approved upland disposal site.
- Clean-up with a vacuum system shall commence within 24 hours.
- After containment/recovery of the drilling material/resources, a detailed written report shall be submitted to the USACE, within 10 business days, indicating the location of the frac-out, amount of drilling material discharged and the amount of drilling mud recovered, the process in which the drilling mud was recovered, and the area that was affected by the drilling discharge.

King, Bertrand

From: no-reply@dep.state.fl.us
Sent: Monday, February 13, 2023 2:03 PM
To: King, Bertrand
Cc: SED_Permitting@dep.state.fl.us
Subject: Domestic Wastewater Self-Certification Martin
Attachments: ATT00001.bin

Categories: External



**FLORIDA DEPARTMENT OF
Environmental Protection**

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

Self-Certification for an Exempt Domestic Wastewater System Submission Receipt

02/13/2023

Dear **Tom Jensen**: On, **02/13/2023**, you used the Department's electronic Self-Certification Process to certify compliance with the terms and conditions identified in 62-604.600 F.A.C. which details exemptions from permitting.

Project Description

Your project consists solely of the below listed activities:

- **Replacement of facilities with new facilities of the same capacity at the same location as the facilities being replaced**

Facility Information

County Line Rd Irrigation Quality Main Replacement

N/A

County Line Road Bridge over north fork of Loxahatchee river

Jupiter, FL 33469

Martin County

LAT - Degrees: 26 Minutes: 59 Seconds: 6.9875

LONG - Degrees: -80 Minutes: 6 Seconds: 53.546

Contact Name: D. Albrey Arrington

Contact Phone: (561) 222-9992

Contact E-Mail: albrey.arrington@lrecd.org

Owner Information

**Loxahatchee River Environmental Control District
2500 Jupiter Park Dr,
Jupiter, FL 33458**

Connected System Information

Your system is/will be connected to the below listed system:

FL0034649

**Loxahatchee Env Control Dist WWTP
2500 Jupiter Park Dr
Jupiter, FL 33458 8962**

Attached Documents

As part of your submission you attached the following supporting documentation:

File Description: Support Doc
File Name: County Line RD Permit Env Support Doc.pdf
File Hash: 09229b5ab3f13e076bedea6e9338dc6a3ef6e04da1c431e1db556a47d1e1397d

Your Self-Certification is based solely on the information you provided under this process, and applies only to the statutes and rules in effect when your certification was completed. The certification is effective only for the specific project proposed, and only if the project is constructed, operated, and maintained in conformance with all the terms, conditions, and limitations stated in the Self-Certification Process. In addition, any substantial modifications in your plans should be submitted to the Department for review, as changes may result in a permit being required.

Completion of the Self-Certification constitutes your authorization for Department personnel to enter the property for purposes of inspecting for compliance.

This Self-Certification Process does not relieve you from the responsibility of obtaining other permits or authorizations from other agencies (federal, state, Water Management District, county, or local) that may be required for the project. Failure to obtain all applicable authorizations prior to construction of the project may result in enforcement.

If you have any questions concerning this process, please contact Southeast District by e-mail at SED_Permitting@dep.state.fl.us.

Sincerely,
Florida Department of Environmental Protection





FLORIDA DEPARTMENT OF Environmental Protection

Southeast District Office
3301 Gun Club Road, MSC 7210-1
West Palm Beach, FL 33406
561-681-6600

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

Project Name: County Line RD I.Q. Main

Permittee/Authorized Entity:

Loxahatchee River District
c/o Albrey D. Arrington
2500 Jupiter Park Drive,
Jupiter, FL 33458
Email: albrey.arrington@lrecd.org

Authorized Agent:

Kimley-Horn & Associates Inc.
c/o Thomas Jensen
Email: tom.jensen@kimley-horn.com

Environmental Resource Permit - Granted

State-owned Submerged Lands Authorization – Granted

**U.S. Army Corps of Engineers / Section 404 Authorization – Separate Authorization
Required**

Permit No.: 43-431077-002-EI

Permit Issuance Date: June 4, 2024

Permit Construction Phase Expiration Date: June 4, 2029

Environmental Resource Permit

Permit No.: 43-431077-002-EI

PROJECT LOCATION

The activities authorized by this Permit and state-owned submerged lands authorization are located underneath the North Fork of the Loxahatchee River, within the Loxahatchee River-Lake Worth Creek Aquatic Preserve, Outstanding Florida Waters, Class II Waters, adjacent to the County Line Road bridge, Tequesta (Section 14, Township 40 South, Range 42 East), in Martin County (Latitude N 26 59' 5.65", Longitude W 80 06' 50.00").

PROJECT DESCRIPTION

This permit authorizes the installation of 830 linear feet of watermain piping, via horizontal directional drill (HDD).

This permit authorizes 0 ft² of impacts to wetland or other surface waters. Wetlands are not located within the project boundaries; therefore, there will be no adverse impacts to these resources. Mitigation is not required.

AUTHORIZATIONS

Environmental Resource Permit

The Department has determined that the activity qualifies for an Environmental Resource Permit. Therefore, the Environmental Resource Permit is hereby granted, pursuant to Part IV of Chapter 373, Florida Statutes (F.S.), and Chapter 62-330, Florida Administrative Code (F.A.C.).

Sovereignty Submerged Lands Authorization

The activity appears to be located on sovereign submerged lands owned by the Board of Trustees. As staff to the Board of Trustees, the Department has reviewed the activity described above, and has determined that the activity qualifies for an exception under Rule 18-21.005(1)(a) and Section 253.77 of the Florida Statutes to construct and use the activity on the specified sovereign submerged lands, as long as the work performed is located within the boundaries as described herein and is consistent with the terms and conditions herein.

Federal Authorization

Your proposed activity as outlined on your application and attached drawings **does not qualify** for Federal authorization pursuant to the State Programmatic General Permit and a **SEPARATE permit** or authorization **shall be required** from the Corps. You must apply separately to the Corps using their APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT, ENG FORM 4345, or alternative as allowed by their regulations. More information on Corps permitting may be found online in the Jacksonville District Regulatory Division Source Book at: <https://www.saj.usace.army.mil/Missions/Regulatory/Source-Book>.

Authority for review - an agreement with the USACOE entitled "Coordination Agreement Between the U. S. Army Corps of Engineers (Jacksonville District) and the Florida Department of Environmental Protection (or Duly Authorized Designee), State Programmatic General Permit", Section 10 of the Rivers and Harbor Act of 1899, and Section 404 of the Clean Water Act.

Coastal Zone Management

Issuance of this authorization also constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Zone Management Act.

Water Quality Certification

This permit also constitutes a water quality certification under Section 401 of the Clean Water Act, 33 U.S.C. 1341.

Other Authorizations

You are advised that authorizations or permits for this activity may be required by other federal, state, regional, or local entities including but not limited to local governments or municipalities. This permit does not relieve you from the requirements to obtain all other required permits or authorizations.

The activity described may be conducted only in accordance with the terms, conditions and attachments contained in this document. Issuance and granting of the permit and authorizations herein do not infer, nor guarantee, nor imply that future permits, authorizations, or modifications will be granted by the Department.

PERMIT & SOVEREIGNTY SUBMERGED LANDS CONDITIONS

The activities described must be conducted in accordance with:

- **The Specific Conditions**
- **The General Conditions**
- **The limits, conditions and locations of work shown in the attached drawings**
- **The term limits of this authorization**

You are advised to read and understand these conditions and drawings prior to beginning the authorized activities, and to ensure the work is conducted in conformance with all the terms, conditions, and drawings herein. If you are using a contractor, the contractor also should read and understand these conditions and drawings prior to beginning any activity. Failure to comply with these conditions, including any mitigation requirements, shall be grounds for the Department to revoke the permit and authorization and to take appropriate enforcement action.

Operation of the facility is not authorized except when determined to be in conformance with all applicable rules and this permit and sovereignty submerged lands authorization, as described.

SPECIFIC CONDITIONS- PROJECT FORMS & ATTACHMENTS

- (1) The attached project drawings (sheets 1 through 4); the Standard Manatee Conditions for In-Water Work, 2011; the "Florida EPPC's 2015 Invasive Plant Species List" which can be downloaded at <http://www.fleppc.org/list/2015FLEPPCLIST-LARGEFORMAT-FINAL.pdf>; the attached #-page "Proposed Methods for Protection of Water Quality for Directional Bored Water Crossings"(Exhibit B); and DEP forms 62-330.310(3), 62-330.310(1); 62-330.310(2); 62-330.340(1); and 62-330.350(1), which may be downloaded at <http://www.dep.state.fl.us/water/wetlands/erp/forms.htm> become part of this permit. If

the permittee does not have access to the Internet, please contact the Department at (561) 681-6600 to request the aforementioned forms and/or document(s).

SPECIFIC CONDITIONS - PRIOR TO CONSTRUCTION

- (1) After selection of the contractor to perform the authorized activities and prior to the initiation of any work authorized by this permit, the permittee (or authorized agent) and the contractor shall attend a pre-construction conference with a representative of the Department. It shall be the responsibility of the permittee to contact the Department's Compliance Assistance Program, by email SED_Compliance@FloridaDEP.gov, or by phone (561) 681-6600, to schedule the pre-construction conference.
- (2) Prior to construction, the permittee shall select a professional biologist that is experienced in the biological sciences that will be available in the event of a frac-out throughout the installation and construction phase of the drill.
- (3) If the attached permit drawings conflict with the specific conditions, then the specific conditions shall prevail.
- (4) The permittee shall be responsible for ensuring that the permit conditions are explained to all construction personnel working on the project, and for providing each contractor and subcontractor with a copy of this permit before construction begins.

SPECIFIC CONDITIONS – CONSTRUCTION ACTIVITIES

- (5) Permanent or temporary impacts to wetlands or other surface waters are not authorized by this permit.
- (6) All HDD activities shall take place during daylight hours only.
- (7) All storage or stockpiling of tools or materials (i.e. lumber, pilings, debris, etc.) shall be limited to uplands.
- (8) The entry and exit points of the directional drill shall be located on uplands and contained with berms/staked hay bales to contain any material from traveling into surrounding areas.
- (9) Additives to the bentonite drilling muds shall not be used without the Department's prior approval. If additives are needed, a permit modification will be required. Toxicity evaluations using marine organisms with concentrations of additives representative of those proposed for HDD boring will be required to evaluate the permit modification request.
- (10) Within 21 days of the pipe installation, the permittee shall fully restore the staging area to its original condition. Paved surfaces shall be repaired and unpaved surface areas shall be replanted with native vegetation.

SPECIFIC CONDITIONS – MANATEE CONDITIONS

- (11) Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the

project. Awareness signs that have already been approved for this use by the Florida Fish and Wildlife Conservation Commission (FWC) must be used. One sign measuring at least 3 ft. by 4 ft. which reads Caution: Manatee Area must be posted. A second sign measuring at least 8 1/2" by 11" explaining the requirements for "Idle Speed/No Wake" and the shutdown of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. Please see the Florida Fish and Wildlife Conservation Commission website for information on how to obtain appropriate signs: http://www.myfwc.com/docs/WildlifeHabitats/Manatee_EducationalSign.pdf

(12) The permittee shall comply with the standard manatee protection construction conditions listed in the attached "2011 Standard Manatee Conditions for In-Water Work".

SPECIFIC CONDITIONS – LISTED SPECIES

(13) This permit does not authorize the permittee to cause any adverse impact to or "take" of state listed species and other regulated species of fish and wildlife. Compliance with state laws regulating the take of fish and wildlife is the responsibility of the owner or applicant associated with this project. Please refer to Chapter 68A-27 of the Florida Administrative Code for definitions of "take" and a list of fish and wildlife species. If listed species are observed onsite, FWC staff are available to provide decision support information or assist in obtaining the appropriate FWC permits. Most marine endangered and threatened species are statutorily protected and a "take" permit cannot be issued. Requests for further information or review can be sent to FWCConservationPlanningServices@MyFWC.com.

GENERAL CONDITIONS FOR INDIVIDUAL PERMITS

The following general conditions are binding on all individual permits issued under chapter 62-330, F.A.C., except where the conditions are not applicable to the authorized activity, or where the conditions must be modified to accommodate project-specific conditions.

(1) All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized may subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.

(2) A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the Agency staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.

(3) Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the State of Florida Erosion and Sediment Control Designer

and Reviewer Manual (Florida Department of Environmental Protection and Florida Department of Transportation June 2007), and the Florida Stormwater Erosion and Sedimentation Control Inspector's Manual (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), which are both incorporated by reference in subparagraph 62-330.050(9)(b)5., F.A.C., unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.

(4) At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the Agency a fully executed Form 62-330.350(1), "Construction Commencement Notice," [October 1, 2013], which is incorporated by reference in paragraph 62-330.350(1)(d), F.A.C., indicating the expected start and completion dates. A copy of this form may be obtained from the Agency, as described in subsection 62-330.010(5), F.A.C. If available, an Agency website that fulfills this notification requirement may be used in lieu of the form.

(5) Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.

(6) Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:

- a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex – "Construction Completion and Inspection Certification for Activities Associated With a Private Single-Family Dwelling Unit" [Form 62-330.310(3)]; or
- b. For all other activities – "As-Built Certification and Request for Conversion to Operational Phase" [Form 62-330.310(1)].
- c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.

(7) If the final operation and maintenance entity is a third party:

- a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as-built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.3 of Volume I) as filed with the Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.
- b. Within 30 days of submittal of the as-built certification, the permittee shall submit "Request for Transfer of Environmental Resource Permit to the Perpetual Operation Entity" [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.

(8) The permittee shall notify the Agency in writing of changes required by any other regulatory agency that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.

- (9) This permit does not:
- a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;
 - b. Convey to the permittee or create in the permittee any interest in real property;
 - c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or
 - d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.

(10) Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.

(11) The permittee shall hold and save the Agency harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.

- (12) The permittee shall notify the Agency in writing:
- a. Immediately if any previously submitted information is discovered to be inaccurate; and
 - b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.

(13) Upon reasonable notice to the permittee, Agency staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.

(14) If any prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, work involving subsurface disturbance in the immediate vicinity of such discoveries shall cease. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section, at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Such subsurface work shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and notification shall be provided in accordance with Section 872.05, F.S.

(15) Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.

(16) The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.

(17) This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the Agency will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.

(18) A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with subsection 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.

GENERAL CONDITIONS FOR SOVEREIGNTY SUBMERGED LANDS AUTHORIZATION

Any use of sovereignty submerged lands is subject to the following general conditions are binding upon the applicant and are enforceable under Chapter 253, F.S. and Chapter 258, F.S.

(1) Sovereignty submerged lands may be used only for the specified activity or use. Any unauthorized deviation from the specified activity or use and the conditions for undertaking that activity or use will constitute a violation. Violation of the authorization will result in suspension or revocation of the applicant's use of the sovereignty submerged lands unless cured to the satisfaction of the Board of Trustees.

(2) Authorization under Rule 18-21.005, F.A.C., conveys no title to sovereignty submerged lands or water column, nor does it constitute recognition or acknowledgment of any other person's title to such land or water.

(3) Authorizations under Rule 18-21.005, F.A.C., may be modified, suspended or revoked in accordance with its terms or the remedies provided in Sections 253.04, F.S. and Chapter 18-14, F.A.C.

(4) Structures or activities will be constructed and used to avoid or minimize adverse impacts to resources.

(5) Construction, use, or operation of the structure or activity will not adversely affect any species which is endangered, threatened or of special concern, as listed in Rules 68A-27.003, 68A-27.004, and 68A-27.005, F.A.C.

(6) Structures or activities will not unreasonably interfere with riparian rights. When a court of competent jurisdiction determines that riparian rights have been unlawfully affected, the structure or activity will be modified in accordance with the court's decision.

- (7) Structures or activities will not create a navigational hazard.
- (8) Structures will be maintained in a functional condition and will be repaired or removed if they become dilapidated to such an extent that they are no longer functional.
- (9) Structures or activities will be constructed, operated, and maintained solely for water dependent purposes.
- (10) The applicant agrees to indemnify, defend and hold harmless the Board of Trustees and the State of Florida from all claims, actions, lawsuits and demands in any form arising out of the authorization to use sovereignty submerged lands or the applicant's use and construction of structures on sovereignty submerged lands. This duty to indemnify and hold harmless will include any and all liabilities that are associated with the structure or activity including special assessments or taxes that are now or in the future assessed against the structure or activity during the period of the authorization.
- (11) Failure by the Board of Trustees to enforce any violation of a provision of the authorization or waiver by the Board of Trustees of any provision of the authorization will not invalidate the provision not enforced or waived, nor will the failure to enforce or a waiver prevent the Board of Trustees from enforcing the unenforced or waived provision in the event of a violation of that provision.
- (12) Applicant binds itself and its successors and assigns to abide by the provisions and conditions set forth in the authorization. If the applicant or its successors or assigns fails or refuses to comply with the provisions and conditions of the authorization, the authorization may be terminated by the Board of Trustees after written notice to the applicant or its successors or assigns. Upon receipt of such notice, the applicant or its successors or assigns will have thirty (30) days in which to correct the violations. Failure to correct the violations within this period will result in the automatic revocation of this authorization.
- (13) All costs incurred by the Board of Trustees in enforcing the terms and conditions of the authorization will be paid by the applicant. Any notice required by law will be made by certified mail at the address shown on page one of the authorization. The applicant will notify the Board of Trustees in writing of any change of address at least ten days before the change becomes effective.
- (14) This authorization does not allow any activity prohibited in a conservation easement or restrictive covenant that prohibits the activity.

NOTICE OF RIGHTS

This action is final and effective on the date filed with the Clerk of the Department unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until a subsequent order of the Department. Because the administrative hearing process is designed to formulate final agency action, the subsequent order may modify or take a different position than this action.

Petition for Administrative Hearing

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rules 28-106.201 and 28-106.301, F.A.C., a petition for an administrative hearing must contain the following information:

- (a) The name and address of each agency affected and each agency's file or identification number, if known;
- (b) The name, address, any e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency decision;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
- (f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us. Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant and persons entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the notice or within 14 days of receipt of the written notice, whichever occurs first. You cannot justifiably rely on the finality of this decision unless notice of this decision and the right of substantially affected persons to challenge this decision has been duly published or otherwise provided to all persons substantially affected by the decision. While you are not required to publish notice of this action, you may elect to do so pursuant Rule 62-110.106(10)(a).

The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C. If you

do not publish notice of this action, this waiver may not apply to persons who have not received a clear point of entry.

Extension of Time

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us, before the deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation

Mediation is not available in this proceeding.

FLAWAC Review

The applicant, or any party within the meaning of Section 373.114(1)(a) or 373.4275, F.S., may also seek appellate review of this order before the Land and Water Adjudicatory Commission under Section 373.114(1) or 373.4275, F.S. Requests for review before the Land and Water Adjudicatory Commission must be filed with the Secretary of the Commission and served on the Department within 20 days from the date when this order is filed with the Clerk of the Department.

Judicial Review

Once this decision becomes final, any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Florida Rules of Appellate Procedure 9.110 and 9.190 with the Clerk of the Department in the Office of General Counsel (Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000) and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice must be filed within 30 days from the date this action is filed with the Clerk of the Department.

Executed in Palm Beach County, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION



Norva Blandin, MSEM
Permitting Program Administrator
Southeast District

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this permit and all copies were sent on the filing date below to the following listed persons:

FDEP – Norva Blandin MSEM, William Lange, Geneva Alpert, Bailey Daniels, Matthew Anderson
Martin County, env@martin.fl.us
Thomas Jensen, tom.jensen@kimley-horn.com

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to Section 120.52, F. S., with the designated Department Clerk, receipt of which is hereby acknowledged.

Kameil Akbar June 4, 2024
Clerk **Date**

Attachments:

Project Drawings and Design Specs., 4 pages
Standard Manatee Conditions for In-Water Work, 2011
Florida EPPC's 2015 Invasive Plant Species List, 6 pages, can be downloaded at
<http://www.fleppc.org/list/2015FLEPPCLIST-LARGEFORMAT-FINAL.pdf>

STANDARD MANATEE CONDITIONS FOR IN-WATER WORK

2011

The permittee shall comply with the following conditions intended to protect manatees from direct project effects:

- a. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.
- b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- c. Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
- d. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
- e. Any collision with or injury to a manatee shall be reported immediately to the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or Vero Beach (1-772-562-3909) for south Florida, and to FWC at ImperiledSpecies@myFWC.com
- f. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Temporary signs that have already been approved for this use by the FWC must be used. One sign which reads *Caution: Boaters* must be posted. A second sign measuring at least 8 ½" by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. These signs can be viewed at MyFWC.com/manatee. Questions concerning these signs can be sent to the email address listed above.



K:\WPB_GIS\WPB_Environmental\County Line RD GIS\MXD

Kimley»Horn

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 1920 Wekiva Way Suite 200
 West Palm Beach, FL 33411
 Phone (561) 845-0665
 www.kimley-horn.com

Project Location Map

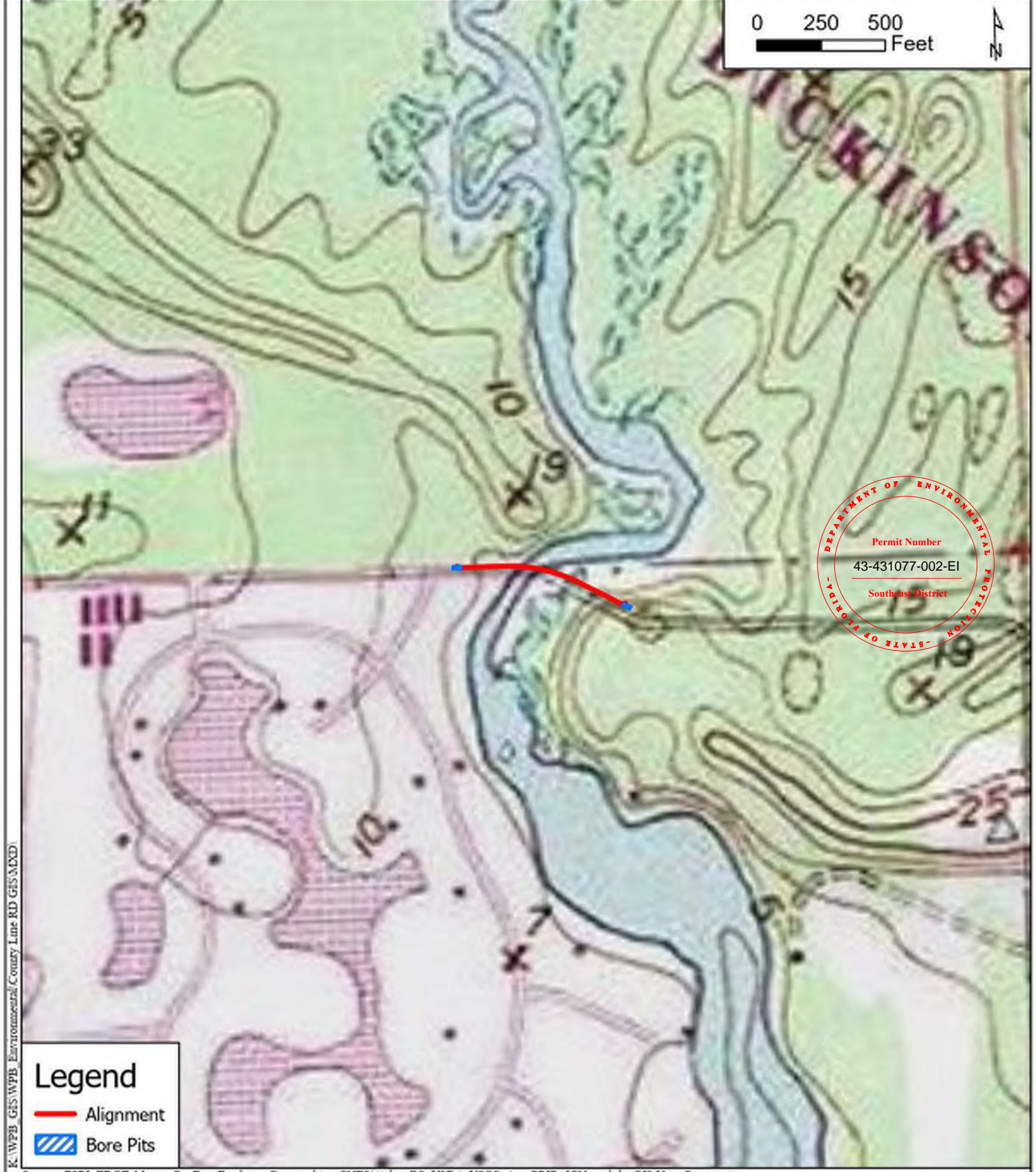
**County Line Road
 Martin County, Florida**

1 inch = 500 feet

PROJECT NUMBER: 140790001

DECEMBER 2022

FIGURE 1



K:\WPB_GIS\WPB_Environmental\County Line RD GIS\MXD

Source: ESRI, FDOT, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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USGS Topographic Map

**County Line Road
 Martin County, Florida**

1 inch = 500 feet

PROJECT NUMBER: 140790001

DECEMBER 2022

FIGURE 2

0 62.5 125 Feet



DEPARTMENT OF ENVIRONMENTAL PROTECTION
Permit Number
43-431077-002-EI
Southeast District



- Legend**
- Alignment
 - 100-ft Buffer
 - Bore Pits
 - Wetlands (± 0.57 Acr.)

K:\WPB_GIS\WPB_Environmental\County Line RD GIS\MXD

Source: ESRI, FDOT, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Wetlands and Surface Waters Map

County Line Road Martin County, Florida



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West Palm Beach, FL 33411
Phone (561) 845-0665
www.kimley-horn.com

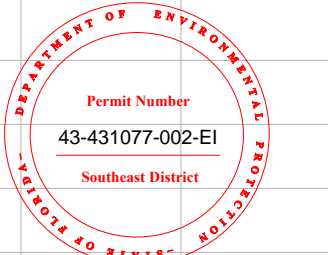
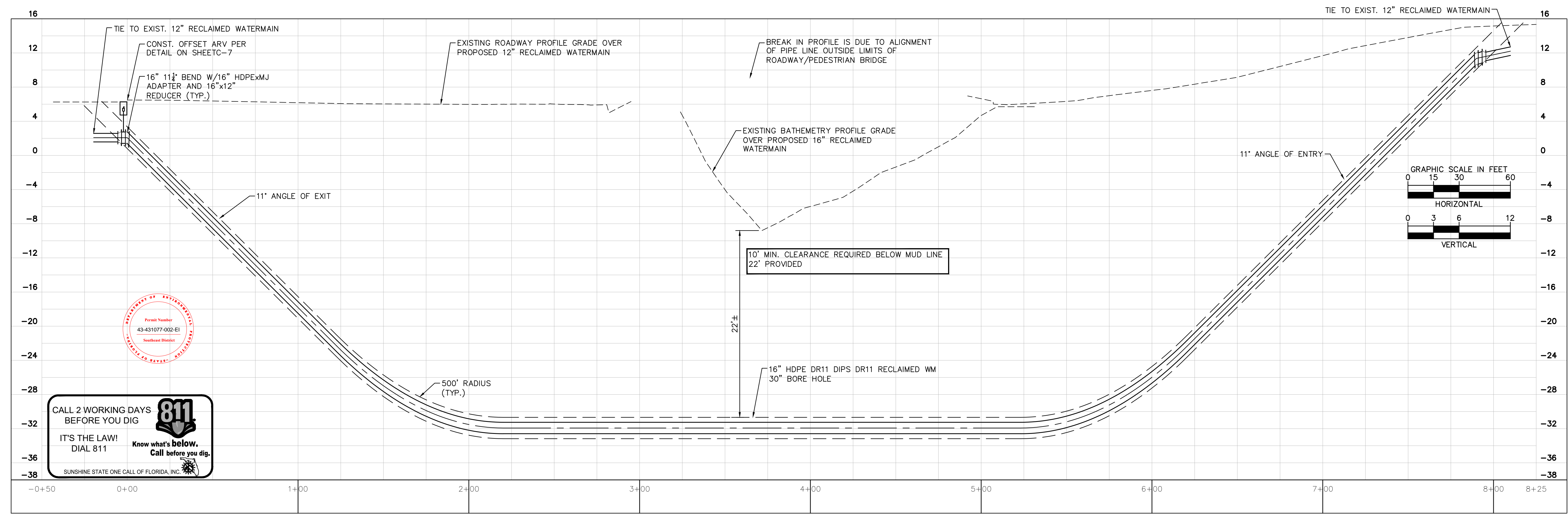
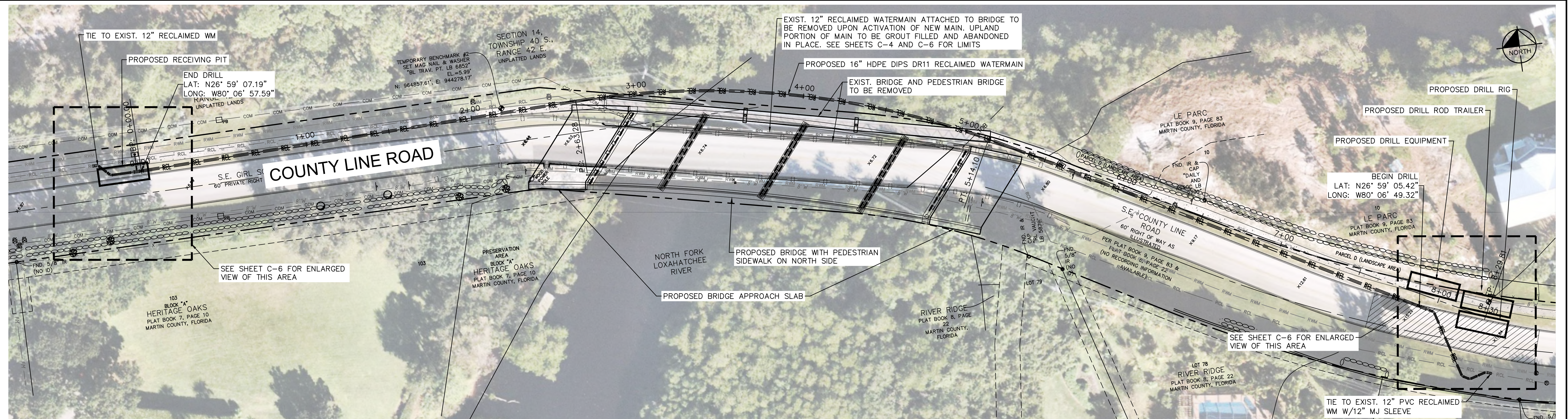
1 inch = 125 feet

PROJECT NUMBER: 140790001

DECEMBER 2022

FIGURE 5

Plotted By: Santoro, Sol Sheet Set: COUNTY LINE ROAD RECLAIMED WATER MAIN RELOCATION, Layout: C-5 OVERALL DIRECTIONAL DRILL PLAN AND PROFILE, January 26, 2023, 08:57:42am, K:\wpb_civil\140790001-ld_county_line_rd\CADD\plansheets\C-5 OVERALL DIRECTIONAL DRILL PLAN AND PROFILE, This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of any improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



CALL 2 WORKING DAYS BEFORE YOU DIG
811
 IT'S THE LAW!
 DIAL 811 Know what's below. Call before you dig.
 SUNSHINE STATE ONE CALL OF FLORIDA, INC.

Kimley»Horn
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 1920 WEKIVA WAY SUITE 200, WEST PALM BEACH, FL 33411
 PHONE: 561-845-0665 FAX: 561-863-8175
 WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT	140790001
DATE	JAN. 2023
SCALE	AS SHOWN
DESIGNED BY	SS
DRAWN BY	SS
CHECKED BY	TCJ

COUNTY LINE ROAD RECLAIMED WATER MAIN RELOCATION
 PREPARED FOR
LOXAHATCHEE RIVER DISTRICT
 MARTIN COUNTY FLORIDA

LICENSED PROFESSIONAL
 THOMAS C. JENSEN
 FLORIDA LICENSE NUMBER
 37290

OVERALL DIRECTIONAL DRILL PLAN AND PROFILE

SHEET NUMBER
C-5

No.	REVISIONS	DATE	BY

Frac-Out Contingency Plan for Horizontal Directional Drilling

1. Background

HDD is less intrusive than traditional open-cut trenching which results in direct disturbance to subaqueous habitat. Frac-out, or inadvertent return of drilling lubricant, is a potential concern when HDD is used under sensitive habitats and waterways. The HDD method uses bentonite slurry, a fine clay material, as a drilling lubricant. Bentonite is non-toxic and commonly used in farming practices, but benthic invertebrates, aquatic plants and fish and their eggs can be smothered by the fine particles if bentonite were discharged to waterways.

2. Purpose

The purpose of this frac-out contingency plan is to:

- Minimize the potential for a frac-out associated with horizontal directional drilling activities.
- Protect areas that are considered environmentally sensitive.
- Ensure an organized, timely, and “minimum-impact” response in the event of a frac-out.
- Ensure that notifications are made to the appropriate regulatory agencies.

3. Approach

To minimize the potential for a frac-out, the following steps will be taken:

- Ensure that all field personnel understand their responsibility for timely reporting of frac-outs.
- Maintain necessary response equipment on-site or at a readily accessible location and in good working order.
- Locate drill entry and exit points a sufficient distance from Waters of the United States (WOTUS) and its adjacent wetlands.
- Clearly mark drill entry and exit locations.
- Erect construction or silt fencing around drill pit locations.

4. Contingency Response

If a frac-out occurs the following actions will be taken:

- Immediately stop work, including recycling of the drilling mud/lubricant. The pressure of water above the pipe will help prevent excess mud from escaping through the fracture.
- Determine the location and extent of the frac-out.
- If the frac-out is terrestrial:
 - Isolate the area with hay bales, sand bags, or silt fencing to surround and contain the drilling mud.
 - Determine the next appropriate action among the following:
 - Use a mobile vacuum truck to pump the drilling mud from the contained area and recycle it to the return pit; or,
 - Leave drilling mud in place.
 - Reseed area as appropriate in order to re-establish vegetation.
- If the frac-out is aquatic (i.e., under water):
 - Monitor frac-out for 4 hours to determine if the drilling mud congeals (bentonite will usually harden, effectively sealing the frac-out location).
 - Consult with FDEP and USACE regarding next appropriate action among the following:
 - If drilling mud congeals, take no other action that would potentially suspend sediments in the water column.
 - If drilling mud does not congeal, erect isolation/containment environment (underwater boom and curtain).

- If the fracture becomes excessively large, a spill response team would be called in to contain and clean up excess drilling mud in the water. Phone numbers of spill response teams in the area will be on site.
 - If the spill affects an area that is vegetated, the area will be seeded and/or replanted using species similar to those in the adjacent area, or allowed to re-grow from existing vegetation.
- After frac-out is stabilized and any required slurry removal is completed, document post-cleanup conditions with photographs and prepare frac-out incident report describing time, place, actions taken to remediate frac-out and measures implemented to prevent recurrence. Incident report will be provided to FDEP and USACE not more than 30 days after the incident.



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT
400 HIGH POINT DRIVE, SUITE 600
COCOA, FLORIDA 32926-6630

June 4, 2024

REPLY TO
ATTENTION OF

Regulatory Division
Cocoa Section
SAJ-2023-00365 (NWP-BAW)

Marjorie Craig
Village of Tequesta
345 Tequesta Dr.
Tequesta, FL 33469

Dear Ms. Craig:

Your application for a Department of the Army permit has been assigned number SAJ-2023-00365 (NWP-BAW). Review of the information and drawings provided shows the proposed work is to install subaqueous utility line(s) beneath the Loxahatchee River, just south of SE County Line Road in Martin County. The proposed construction includes:

- 1) Install a 12-inch HDPE raw water main and a 10-inch HDPE water main beneath the Loxahatchee River,
- 2) The two utility mains shall be installed together in a 30-inch diameter bore hole via horizontal directional drilling, with both the entry and exit bore pits located in adjacent uplands, thus avoiding any surficial impacts to wetlands or waters of the US.

The activities subject to this permit are authorized pursuant to authorities under Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. § 403). The project is located at the Loxahatchee River and SE County Line Road, in Section 23, Township 40 South, Range 42 East, Martin County, Florida. (Approx. center location: Latitude 26.98521°, Longitude -80.11504°).

Your project, as depicted on the enclosed drawings, is authorized by Nationwide General Permit (NWP) Number 58, which is valid until **March 14, 2026**.

For this NWP authorization to be valid, you must ensure that the work is performed in accordance with the Nationwide Permit General Conditions, the Jacksonville District Regional Conditions, and the General and Project-Specific Special Conditions listed below. Furthermore, if you commence or are under contract to commence the proposed activities before the date that this NWP is modified or revoked, you will have 12 months

from the date of the modification or revocation to complete the activities under the present terms and conditions of this NWP.

You can access the U.S. Army Corps of Engineers' (Corps) Jacksonville District's Regulatory Source Book webpage for links to view NWP information at: <https://www.saj.usace.army.mil/Missions/Regulatory/Source-Book/>.

Please be aware this Internet address is case sensitive and should be entered as it appears above. Once there, you will need to select "Nationwide Permits." Among other things, this part of the Source Book contains links to the federal register containing the text of the pertinent NWP authorization and the associated NWP general conditions, as well as separate links to the regional conditions applicable to the pertinent NWP verification.

You must comply with all the special and general conditions for NWP-57, including any project-specific conditions included in this letter and all conditions incorporated by reference as described above.

The following project-specific conditions are included with this authorization:

1. **Reporting Address:** All reports, documentation and correspondence required by the conditions of this permit shall be submitted to the following address (email preferred). The Permittee shall reference this permit number, SAJ-2023-00365 (NWP-BAW), on all submittals. Please choose either email or standard mail (not both)

- a. For standard mail: U.S. Army Corps of Engineers, Regulatory Division, Special Projects and Enforcement Branch, PO Box 4970, Jacksonville, Florida 32232.
- b. For electronic mail: SAJ-RD-Enforcement@usace.army.mil (not to exceed 15 MB).

2. **Commencement Notification:** Within 10 days from the date of initiating the work authorized by this permit, the Permittee shall provide to the Corps a written notification of the date of commencement of work authorized by this permit.

3. **As-Built Certification:** Within 60 days of completion of the work authorized by this permit, the Permittee shall submit as-built drawings of the authorized work and a completed "As-Built Certification by a Professional Engineer" form (attached) to the Corps. The as-built drawings shall be signed and sealed by a registered professional engineer and include the following:

- a. A plan view drawing of the location of the authorized work footprint, as shown on the permit drawings, with transparent overlay of the work as constructed in the same scale as the permit drawings on 8½-inch by 11-inch sheets. The plan view drawing should show all "earth disturbance," including wetland impacts and water management structures.

- b. A list of any deviations between the work authorized by this permit and the work as constructed. In the event that the completed work deviates, in any manner, from the authorized work, describe on the attached "As-Built Certification By Professional Engineer" form the deviations between the work authorized by this permit and the work as constructed. Clearly indicate on the as-built drawings any deviations that have been listed. Please note that the depiction and/or description of any deviations on the drawings and/or "As-Built Certification By Professional Engineer" form does not constitute approval of any deviations by the Corps.
- c. Include the Department of the Army permit number on all sheets submitted.

4. Cultural Resources/Historic Properties:

- a. No structure or work shall adversely affect impact or disturb properties listed in the National Register of Historic Places (NRHP) or those eligible for inclusion in the NRHP.
- b. If during the proposed activities and construction work within the permit area, there are archaeological/cultural materials encountered which were not the subject of a previous cultural resources assessment survey (and which shall include, but not be limited to: pottery, modified shell, flora, fauna, human remains, ceramics, stone tools or metal implements, dugout canoes, evidence of structures or any other physical remains that could be associated with Native American cultures or early colonial or American settlement), the Permittee shall immediately stop all work and ground-disturbing activities within a 100-meter diameter of the discovery and notify the Corps within the same business day (8 hours). The Corps shall then notify the Florida State Historic Preservation Officer (SHPO) and the appropriate Tribal Historic Preservation Officer(s) (THPO(s)) to assess the significance of the discovery and devise appropriate actions.
- c. Additional cultural resources assessments may be required of the permit area in the case of unanticipated discoveries as referenced in accordance with the above Special Condition, and if deemed necessary by the SHPO, THPO(s), or Corps, in accordance with 36 CFR 800 or 33 CFR 325, Appendix C (5). Based, on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend or revoke the permit in accordance with 33 CFR Part 325.7. Such activity shall not resume on non-federal lands without written authorization from the SHPO for finds under his or her jurisdiction, and from the Corps.
- d. If unmarked human remains are identified on non-federal lands, they will be treated in accordance with Section 872.05 Florida Statutes. All work and ground disturbing activities within a 100-meter diameter of the unmarked

human remains shall immediately cease and the Permittee shall immediately notify the medical examiner, Corps, and State Archeologist within the same business day (8-hours). The Corps shall then notify the appropriate SHPO and THPO(s). Based, on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend or revoke the permit in accordance with 33 CFR Part 325.7. Such activity shall not resume without written authorization from the State Archeologist and from the Corps.

5. **Erosion Control:** Prior to the initiation of any work authorized by this permit, the Permittee shall install erosion control measures along the perimeter of all work areas to prevent the displacement of fill material outside the work area into waters of the United States. The erosion control measures shall remain in place and be maintained until all authorized work is completed and the work areas are stabilized.

6. **In the Event of a Frac-Out:** Should a frac-out and release of drilling fluids occur within navigable waters of the U.S., and in-water work is required to remediate the action, the permittee shall comply with the following special conditions:

- a. **Frac-Out Contingency Plan:** The permittee shall comply with the frac-out contingency plan (attached).
- b. **Turbidity Barriers:** Prior to the initiation of any in-water work due to a frac-out, the Permittee shall install floating turbidity barriers with a weighted skirt around all work areas that are in, or adjacent to, surface waters. The turbidity barriers shall remain in place and be maintained until the authorized work has been completed and all suspended and erodible materials have been stabilized. Turbidity barriers shall be removed upon stabilization of the work area.

7. **Notification of Unmarked Utilities:** No work shall be performed until after the permittee provides notification to the owner(s) or operator(s) of any marked utilities in the work area unless the permittee is the same entity as the owner(s) or operator(s).

8. **National Oceanic and Atmospheric Administration (NOAA) Notification of Utilities in Navigable Waters:** Where the proposed subaqueous utility or transmission line is to be installed in or under navigable waters of the United States, at least 2 weeks prior to the start of the authorized work, the permittee must notify the NOAA and the Corps in writing that the work is commencing; and, again, upon completion of the work. The permittee shall notify the District Engineer in writing at the letterhead address, attention Regulatory Division; and, the NOAA, either in mailed correspondence to Nautical Data Branch Office of Coast Survey N/CS26, 1315 East-West Highway, Silver Spring, MD 20910-3282 or by electronic mail correspondence, with scans of the requisite documents attached, through ocs.ndb@noaa.gov. The post-construction notification will include "as-built plans" signed and sealed by a registered

surveyor/engineer licensed in the State of Florida, that certify the project is constructed as authorized; and must include an accurate depiction of the location and configuration of the completed activity in relation to the mean high water of the navigable water.

9. **Horizontal Directional Drilling (HDD):** Except as otherwise required by Special Condition of this RGP, directional boring vaults, junction boxes, and/or pads will not be constructed within 50 feet of the top of the bank of waterways (rivers/streams). HDD pilot, entrance, and exit holes must be the minimum diameter necessary; and must be set back from the waterway (river/stream) bank by a minimum of 50 feet. Excavated materials and drilling mud must be stockpiled on non-wetland areas, where available. Appropriate fabric must be placed beneath all materials stockpiled in wetlands. As part of any verification under this RGP, the permittee must submit a frac-out plan to the Corps for approval.

10. **Depth Below Bottom Contour:** Except as required by Special Conditions of this RGP, all subaqueous utility and/or transmission lines authorized by this RGP must be installed a minimum of 6 feet below the bottom contour of any other water of the United States. The 6-foot criterion applies to the entire authorized width of the crossing, plus a minimum of 10 feet on each side of the crossing.

11. **Assurance of Navigation and Maintenance:** The Permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structures or work herein authorized, or if in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the Permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

11. **Regulatory Agency Changes:** Should any other regulatory agency require changes to the work authorized or obligated by this permit, the Permittee is advised that a modification to this permit instrument is required prior to initiation of those changes. It is the Permittee's responsibility to request a modification of this permit from the Cocoa Regulatory Office.

This authorization does not obviate the necessity to obtain any other Federal, State, or local permits, which may be required. Prior to the initiation of any construction, projects qualifying for this NWP/GP permit must qualify for an exemption under section 403.813(1), F.S. or 373.406, F.S., or otherwise be authorized by the applicable permit required under Part IV of Chapter 373, F.S., by the Department of Environmental Protection, a water management district under section 373.069, F.S., or a local government with delegated authority under section 373.441, F.S., and receive Water Quality Certification (WQC) and applicable Coastal Zone Consistency Concurrence (CZCC) or waiver thereto, as well as any authorizations required for the use of state-owned submerged lands under Chapter 253, F.S., and, as applicable, Chapter 258, F.S.

You should check State-permitting requirements with the Florida Department of Environmental Protection or the appropriate water management district.

This authorization does not include conditions that would prevent the 'take' of a **state-listed** fish or wildlife species. These species are protected under sec. 379.411, Florida Statutes, and listed under Rule 68A-27, Florida Administrative Code. With regard to fish and wildlife species designated as species of special concern or threatened by the State of Florida, you are responsible for coordinating directly with the Florida Fish and Wildlife Conservation Commission (FWC). You can visit the FWC license and permitting webpage (<http://www.myfwc.com/license/wildlife/>) for more information, including a list of those fish and wildlife species designated as species of special concern or threatened. The Florida Natural Areas Inventory (<http://www.fnai.org/>) also maintains updated lists, by county, of documented occurrences of those species.

If you are unable to access the internet or require a hardcopy of any of the conditions, limitations, or expiration date for the above referenced GP, please contact me at the letterhead address, by telephone at 321-504-3771 ext. 0014, or by email at brian.a.west@usace.army.mil

Sincerely,

A handwritten signature in black ink that reads "Brian West". The signature is written in a cursive, slightly slanted style.

Brian West, Project Manager
Cocoa Permits Section

cc: Thomas Jensen (Kimley-Horn & Associates)

GENERAL CONDITIONS
33 CFR PART 320-330

1. The time limit for completing the work authorized ends on the **dates identified in the letter.**
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow a representative from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

COMMENCEMENT
NOTIFICATION

*Within 10 days of initiating the authorized work, submit this form via electronic mail to: saj-rd-enforcement@usace.army.mil (preferred, not to exceed 15 MB) **or** by standard mail to U.S. Army Corps of Engineers, Enforcement Section, P.O. Box 4970, Jacksonville, FL32232-0019.*

1. **Department of the Army Permit Number:** SAJ-2023-00365 (NWP-BAW)

2. **Permittee Information:**

Name: _____

Email: _____

Address: _____

Phone: _____

3. **Construction Start Date:** _____

4. **Contact to Schedule Inspection:**

Name: _____

Email: _____

Phone: _____

Signature of Permittee

Printed Name of Permittee

Date

AS-BUILT CERTIFICATION BY PROFESSIONAL ENGINEER

*Within sixty (60) days of completion of the authorized work, submit this form and one set of as-built engineering drawings via electronic mail to saj-rd-enforcement@usace.army.mil (preferred, but not to exceed 15 MB) **or** by standard mail to U.S. Army Corps of Engineers, Enforcement Section, P.O. Box 4970, Jacksonville, FL 32232-0019. If you have questions regarding this requirement, please contact the Enforcement Branch at 904-232-3697.*

1. Department of the Army Permit Number: SAJ-2023-00365 (NWP-BAW)

2. Permittee Information:

Name: _____

Address: _____

3. Project Site Identification (physical location/address):

4. As-Built Certification: I hereby certify that the authorized work, including any mitigation required by Special Conditions to the permit, has been accomplished in accordance with the Department of the Army permit with any deviations noted below. This determination is based upon on-site observation, scheduled and conducted by me or by a project representative under my direct supervision. I have enclosed one set of as-built engineering drawings.

Signature of Engineer

Name (*Please type*)

(FL, PR, or VI) Reg. Number

Company Name

City

State

ZIP

(Affix Seal)

DEPARTMENT OF THE ARMY PERMIT TRANSFER REQUEST

PERMIT NUMBER: SAJ-2023-00365 (NWP-BAW)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. Although the construction period for works authorized by Department of the Army permits is finite, the permit itself, with its limitations, does not expire.

To validate the transfer of this permit and the associated responsibilities associated with compliance with its terms and conditions, have the transferee sign and date below and mail to the U.S. Army Corps of Engineers, Enforcement Section, Post Office Box 4970, Jacksonville, FL 32232-0019 or by electronic mail at saj-rd-enforcement@usace.army.mil.

(TRANSFEREE-SIGNATURE)

(SUBDIVISION)

(DATE)

(LOT)

(BLOCK)

(NAME-PRINTED)

(STREET ADDRESS)

(MAILING ADDRESS)

(CITY, STATE, ZIP CODE)

Frac-Out Contingency Plan for Horizontal Directional Drilling

1. Background

HDD is less intrusive than traditional open-cut trenching which results in direct disturbance to subaqueous habitat. Frac-out, or inadvertent return of drilling lubricant, is a potential concern when HDD is used under sensitive habitats and waterways. The HDD method uses bentonite slurry, a fine clay material, as a drilling lubricant. Bentonite is non-toxic and commonly used in farming practices, but benthic invertebrates, aquatic plants and fish and their eggs can be smothered by the fine particles if bentonite were discharged to waterways.

2. Purpose

The purpose of this frac-out contingency plan is to:

- Minimize the potential for a frac-out associated with horizontal directional drilling activities.
- Protect areas that are considered environmentally sensitive.
- Ensure an organized, timely, and “minimum-impact” response in the event of a frac-out.
- Ensure that notifications are made to the appropriate regulatory agencies.

3. Approach

To minimize the potential for a frac-out, the following steps will be taken:

- Ensure that all field personnel understand their responsibility for timely reporting of frac-outs.
- Maintain necessary response equipment on-site or at a readily accessible location and in good working order.
- Locate drill entry and exit points a sufficient distance from Waters of the United States (WOTUS) and its adjacent wetlands.
- Clearly mark drill entry and exit locations.
- Erect construction or silt fencing around drill pit locations.

4. Contingency Response

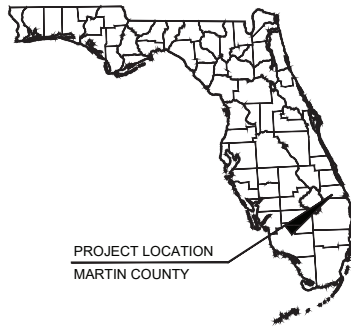
If a frac-out occurs the following actions will be taken:

- Immediately stop work, including recycling of the drilling mud/lubricant. The pressure of water above the pipe will help prevent excess mud from escaping through the fracture.
- Determine the location and extent of the frac-out.
- If the frac-out is terrestrial:
 - Isolate the area with hay bales, sand bags, or silt fencing to surround and contain the drilling mud.
 - Determine the next appropriate action among the following:
 - Use a mobile vacuum truck to pump the drilling mud from the contained area and recycle it to the return pit; or,
 - Leave drilling mud in place.
 - Reseed area as appropriate in order to re-establish vegetation.
- If the frac-out is aquatic (i.e., under water):
 - Monitor frac-out for 4 hours to determine if the drilling mud congeals (bentonite will usually harden, effectively sealing the frac-out location).
 - Consult with FDEP and USACE regarding next appropriate action among the following:
 - If drilling mud congeals, take no other action that would potentially suspend sediments in the water column.
 - If drilling mud does not congeal, erect isolation/containment environment (underwater boom and curtain).

- If the fracture becomes excessively large, a spill response team would be called in to contain and clean up excess drilling mud in the water. Phone numbers of spill response teams in the area will be on site.
- If the spill affects an area that is vegetated, the area will be seeded and/or replanted using species similar to those in the adjacent area, or allowed to re-grow from existing vegetation.
- After frac-out is stabilized and any required slurry removal is completed, document post-cleanup conditions with photographs and prepare frac-out incident report describing time, place, actions taken to remediate frac-out and measures implemented to prevent recurrence. Incident report will be provided to FDEP and USACE not more than 30 days after the incident.

CONSTRUCTION PLANS FOR COUNTY LINE ROAD 8" WATERMAIN AND 12" RAW WATERMAIN RELOCATION

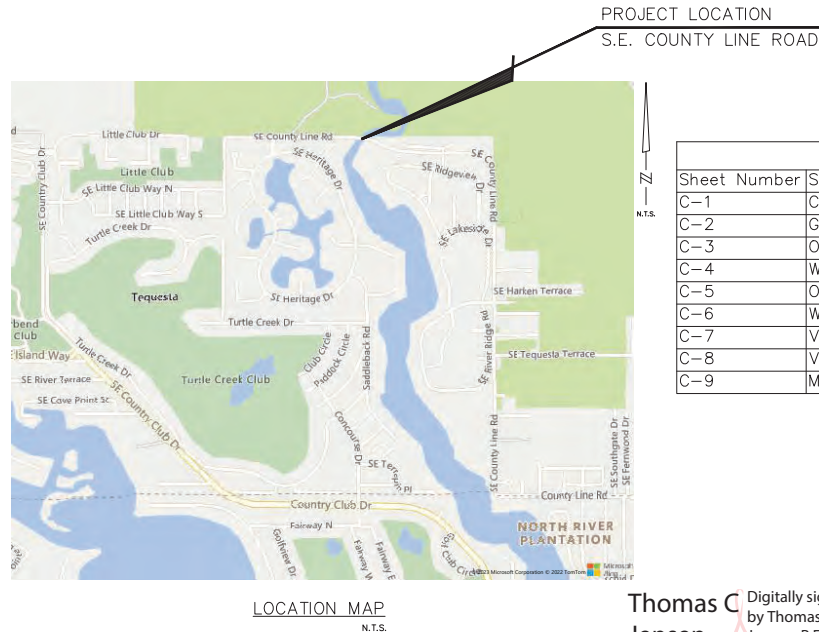
PREPARED FOR THE
VILLAGE OF TEQUESTA
MAY 2023



CITY OFFICIALS

MAYOR
VICE MAYOR
COUNCIL MEMBER
COUNCIL MEMBER
COUNCIL MEMBER
WATER UTILITIES DIRECTOR
VILLAGE MANAGER

MOLLY YOUNG
KYLE STONE
FRANK D'AMBRA
LAURIE BRANDON
AARON JOHNSON
MARJORIE CRAIG
JEREMY ALLEN



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C-5	OVERALL DIRECTIONAL DRILL PLAN AND PROFILE
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C-8	V.O.T. STANDARD DETAILS
C-9	MARTIN COUNTY PUBLIC WORKS - STANDARD DETAILS

100% SUBMITTAL

CALL 2 WORKING DAYS BEFORE YOU DIG

IT'S THE LAW! DIAL 811

Know what's below. Call before you dig.

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

Thomas C. Jensen, P.E.
Digitally signed by Thomas C. Jensen, P.E.

Date: 2024.01.05 11:50:30 -05'00'

THOMAS C. JENSEN
FLORIDA LICENSE NUMBER
37290

Kimley»Horn

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1920 MEKIVA WAY SUITE 200, WEST PALM BEACH, FL 33411
PHONE: 561-845-0665 FAX: 561-863-8175
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT
040087046
DATE
MAY 2023
SCALE AS SHOWN
DESIGNED BY SS
DRAWN BY SS
CHECKED BY TCJ

COUNTY LINE ROAD WATERMAIN AND RAW WATERMAIN RELOCATION
PREPARED FOR
VILLAGE OF TEQUESTA
VILLAGE OF TEQUESTA, FLORIDA

COVER SHEET

SHEET NUMBER
C-1

Printed By: Satorre, S.J. Sheet: S.E. COUNTY LINE RD. RM AND RWM Layout: C-1 COVER SHEET May 17, 2023 01:36:50pm X:\pwp_sdu\CA0097046-county line rd_rwm_and_rwm\CA0097046-county line rd_rwm_and_rwm\CAD\Drawings\C-1 COVER SHEET.dwg This document, together with the concepts and designs presented herein, is an instrument of service, to be used only for the specific purpose and client for which it was prepared. None of our drawings or designs on this document without written authorization and approval by Kimley-Horn and Associates, Inc. shall be used for any other purpose without the written consent of Kimley-Horn and Associates, Inc.

No.	REVISIONS	DATE	BY

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GENERAL CONSTRUCTION NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITIES AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE APPROVING AUTHORITIES, SPECIFICATIONS AND REQUIREMENTS. ALL WORK SHALL BE PERFORMED IN A PROFESSIONAL MANNER AND SHALL CONFORM WITH ALL APPLICABLE CITY, COUNTY, STATE, AND FEDERAL REGULATIONS AND/OR CODES.
- EXISTING UTILITIES SHOWN ARE LOCATED ACCORDING TO THE INFORMATION AVAILABLE TO THE ENGINEER AT THE TIME OF THE TOPOGRAPHIC SURVEY. GUARANTEES IS NOT MADE THAT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN OR THAT THE LOCATION OF THOSE SHOWN ARE ENTIRELY ACCURATE. FINDING THE ACTUAL LOCATION OF ANY EXISTING UTILITIES IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE DONE BEFORE HE COMMENCES ANY WORK IN THE VICINITY. FURTHERMORE, THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE OWNER OR ENGINEER WILL ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES. FOR TEMPORARY BRACING AND SHORING OF SAME, IF IT IS NECESSARY TO SHORE, BRACE, SWING OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE CONSTRUCTION AREA BEFORE COMMENCING WORK. THE CONTRACTOR SHALL PROVIDE 48 HOURS MINIMUM NOTICE TO ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION. A LIST OF THE UTILITY COMPANIES WHICH THE CONTRACTOR MUST CALL BEFORE COMMENCING WORK IS PROVIDED BELOW. THIS LIST SERVES AS A GUIDE ONLY AND IS NOT INTENDED TO LIMIT THE UTILITY COMPANIES WHICH THE CONTRACTOR MAY WISH TO NOTIFY.

LOXAHATCHEE RIVER DISTRICT 2500 JUPITER PARK DR JUPITER, FL 32408 PROJECT CONTACT: KRIS DEAN, P.E. PHONE NUMBER: (561) 401-4024	ATT UTILITY COORDINATOR 2315 GEESE MILL BUSINESS PKWY NE CONYERS, GA 30011 PROJECT CONTACT: PAUL HERRON PHONE NUMBER: (961) 281-6302
COMCAST CABLE 10435 IRONWOOD ROAD PALM BEACH GARDENS, FL 33410 PROJECT CONTACT: MYA FISHER PHONE NUMBER: (561) 454-5848	FLORIDA POWER & LIGHT 4200 W FLAGLER ST MIAMI, FL 33134 PROJECT CONTACT: JOEL BRAY PHONE NUMBER: (888) 536-6403
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED CONSTRUCTION PERMITS, LICENSES, AND BONDS AS REQUIRED PRIOR TO CONSTRUCTION. CONTRACTOR SHALL OBTAIN COPIES OF AND FAMILIARIZE HIMSELF AND HIS SUBCONTRACTORS WITH THE PERMIT CONDITIONS OF ALL OWNERS OBTAINED PERMITS FOR THE WORK.
- ANY DISCREPANCIES ON THE DRAWINGS, INCLUDING ALL DEVIATION FROM THE EXISTING UTILITY SIZE AND LOCATIONS SHOWN ON THE PLANS, SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING TO THE ENGINEER A CERTIFIED RECORD SURVEY SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA DEPICTING THE ACTUAL FIELD LOCATION OF ALL CONSTRUCTED IMPROVEMENTS THAT ARE REQUIRED BY THE JURISDICTIONAL AGENCIES FOR THE CERTIFICATION PROCESS. ALL SURVEY COSTS WILL BE THE CONTRACTOR'S RESPONSIBILITY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING AND MAINTAINING AS-BUILT INFORMATION WHICH SHALL BE RECORDED AS CONSTRUCTION PROGRESSES OR AT THE COMPLETION OF APPROPRIATE CONSTRUCTION INTERVALS AND SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT DRAWINGS TO THE OWNER FOR THE PURPOSE OF CERTIFICATION TO JURISDICTIONAL AGENCIES AS REQUIRED. ALL AS-BUILT DATA SHALL BE COLLECTED BY A STATE OF FLORIDA PROFESSIONAL LAND SURVEYOR WHOSE SERVICES ARE ENGAGED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL PROVIDE VIDEO DOCUMENTATION OF THE SITE CONDITIONS AND EXISTING UTILITY CONDITIONS AS REQUIRED BY THE OWNER PRIOR TO CONSTRUCTION. VIDEO DOCUMENTATION SHALL BE CONDUCTED BY A PROFESSIONAL WITH EXPERIENCE WITH VIDEO DOCUMENTATION OF SIMILAR PROJECTS AND EXISTING UTILITIES. ALL VIDEO DOCUMENTATION COSTS WILL BE THE CONTRACTOR'S RESPONSIBILITY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS, IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER/ENGINEER PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK THAT WOULD BE AFFECTED. FAILURE TO NOTIFY OWNER/ENGINEER OF AN IDENTIFIABLE CONFLICT PRIOR TO PROCEEDING WITH INSTALLATION RELIEVES OWNER OF ANY OBLIGATION TO PAY FOR A RELATED CHANGE ORDER.
- ACCESS TO ADJACENT PROPERTIES SHALL BE MAINTAINED TO THE GREATEST EXTENT PRACTICAL. WHEN ACCESS CANNOT BE MAINTAINED, THE TIME OF NON-ACCESS SHALL BE MINIMIZED AND CLOSELY COORDINATED WITH THE PROPERTY OWNER.
- ANY DAMAGE TO PRIVATE PROPERTY MADE BY THE CONTRACTOR SHALL BE PROMPTLY REPAIRED TO AN EQUAL OR BETTER CONDITION AS IT WAS BEFORE COMMENCEMENT OF THE WORK. ALL REPAIR COSTS WILL BE THE CONTRACTOR'S RESPONSIBILITY.
- ALL RECORD DRAWINGS SHALL BE PROVIDED IN NAVD 1988.
- ALL PAVING, CONSTRUCTION, MATERIALS, AND WORKMANSHIP WITHIN THE RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO PUBLIC RIGHTS-OF-WAY STANDARDS AND EASEMENTS WITHIN THE VILLAGE OF TEQUESTA (VILLAGE'S STANDARDS), FDOT SPECIFICATIONS AND STANDARDS (LATEST EDITION), AND PALM BEACH COUNTY STANDARDS IF NOT COVERED BY LOCAL OR COUNTY REGULATIONS.
- ALL ELEVATIONS SHOWN REFER TO NAVD 1988.
- CONTRACTOR SHALL APPLY FOR AND MAINTAIN APPROPRIATE DEWATERING PERMITS (IF REQUIRED) FOR GOVERNING AGENCIES AND ABIDE BY TERMS AND CONDITIONS OF PERMITS DURING CONSTRUCTION.

DEMOLITION NOTES

- REFER TO THE TOPOGRAPHIC SURVEY FOR ADDITIONAL DETAILS OF EXISTING STRUCTURES, ETC., LOCATED WITHIN THE PROJECT SITE. UNLESS OTHERWISE NOTED, ALL EXISTING STRUCTURES, SLABS, FIRE HYDRANTS, PIPES, VALVES, CONCRETE, ASPHALT, DEBRIS PILES, AND ALL APPURTENANCES TO BE REMOVED FROM THE SITE BY THE CONTRACTOR AND PROPERLY DISPOSED OF IN A LEGAL MANNER AS PART OF THIS CONTRACT. SOME ITEMS TO BE REMOVED MAY NOT BE DEPICTED ON THE TOPOGRAPHIC SURVEY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND DETERMINE THE FULL EXTENT OF ITEMS TO BE REMOVED. IF ANY ITEMS ARE IN QUESTION, THE CONTRACTOR SHALL CONTACT THE OWNER PRIOR TO REMOVAL OF SAID ITEMS.
- THE CONTRACTOR SHALL REFER TO THE PLANS FOR DEMOLITION/PRESERVATION OF EXISTING TREES AND LANDSCAPING. ALL TREES AND LANDSCAPING NOT SPECIFICALLY SHOWN TO BE REMOVED OR RELOCATED SHALL BE PRESERVED AS A PART OF THIS CONTRACT. TREE/LANDSCAPING PROTECTION FENCING SHALL BE INSTALLED PRIOR TO ANY DEMOLITION.
- ALL OUTLETS, ELECTRICAL CONDUITS AND SERVICES TO REMAIN AND BE PROTECTED THROUGHOUT THE PROJECT DURATION.
- LANDSCAPING ELEMENTS, TREES, ETC. MAY REQUIRE TEMPORARY RELOCATION TO COMPLETE THE WORK AS SHOWN. CONTRACTOR TO STORE, PROTECT, AND REINSTALL THESE ITEMS UPON COMPLETION OF THE WORK. CONTRACTOR TO COORDINATE WITH PROPERTY OWNER FOR REMOVAL/REINSTALLATION OF THESE ITEMS, IF THE TREES DO NOT SURVIVE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT IN KIND.
- THE CONTRACTOR SHALL GRADE THE SITE TO RESTORE THE EXISTING DRAINAGE PATTERNS AND SHALL REGRADE WASHOUTS WHERE THEY OCCUR AFTER EVERY RAINFALL.

- AREAS INDICATED AS PAVEMENT SHALL BE REPAIRED IN ACCORDANCE WITH THE TYPICAL PAVEMENT SECTIONS AND AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL INSTALL FILTER FABRIC OVER ALL DRAINAGE STRUCTURES FOR THE DURATION OF CONSTRUCTION AND UNTIL ACCEPTANCE OF THE PROJECT BY THE OWNER. ALL DRAINAGE STRUCTURES SHALL BE CLEANED OF DEBRIS AS REQUIRED DURING AND AT THE END OF CONSTRUCTION TO PROVIDE POSITIVE DRAINAGE FLOWS.
- FIELD DENSITY TESTS SHALL BE TAKEN AT INTERVALS IN ACCORDANCE WITH SPECIFICATIONS, THE LOCAL JURISDICTIONAL AGENCY, OR TO VILLAGE STANDARDS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT REQUIREMENT SHALL GOVERN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF DUST AND DIRT RISING AND SCATTERING IN THE AIR DURING CONSTRUCTION AND SHALL PROVIDE WATER TO KEEP SOIL AREAS AS STABILIZED. THEREAFTER, THE CONTRACTOR MUST REMOVE THE BARRIERS. AT NO TIME SHALL THERE BE ANY OFF-SITE DISCHARGE WHICH VIOLATES THE WATER QUALITY STANDARDS IN CHAPTER 17-302, FLORIDA ADMINISTRATIVE CODE.
- SOD, AND FENCE, WHERE REQUIRED FOR RESTORATION, MUST BE INSTALLED TO MATCH EXISTING AND MAINTAINED THROUGH PROJECT COMPLETION.

WATER UTILITY NOTES

- ALL MATERIALS TO BE PROVIDED SHALL BE IN ACCORDANCE WITH THE VILLAGE OF TEQUESTA'S APPROVED MATERIALS LIST AND DESIGN STANDARDS.
- THE CONTRACTOR SHALL CONSTRUCT DOMESTIC WATER LINES AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL FURNISH ALL NECESSARY MATERIALS, EQUIPMENT, MACHINERY, TOOLS, MEANS OF TRANSPORTATION AND LABOR NECESSARY TO COMPLETE THE WORK IN FULL AND COMPLETE ACCORDANCE WITH THE SHOWN, DESCRIBED AND REASONABLY INTENDED REQUIREMENTS OF THE CONTRACT DOCUMENTS AND VILLAGE OF TEQUESTA REQUIREMENTS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
- ALL EXISTING UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS FOR UTILITY LOCATION AND COORDINATION IN ACCORDANCE WITH THE NOTES CONTAINED IN THE GENERAL CONSTRUCTION SECTION OF THIS SHEET.
- UNLESS OTHERWISE NOTED, PROPOSED WATER MAIN TO BE POLYVINYL CHLORIDE PIPE (PVC) PIPE. ALL FITTINGS AND VALVES TO BE MECHANICAL JOINT UNLESS OTHERWISE NOTED.
 - CEMENT LINED DUCTILE IRON PIPE (ALL SIZES) OR C-900 CLASS 150 DR 18 PVC PIPE (UP TO 12" DIAMETER) SHALL BE ALLOWED FOR POTABLE WATER PIPES. THE LINING FOR DUCTILE IRON PIPE SHALL BE FACTORY APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND SHALL BE WARRANTED BY THE PIPE MANUFACTURER, UNLESS SPECIFIC APPROVAL IS GRANTED. NO WATER MAIN SHALL BE ENCASED IN CONCRETE.
 - PVC PIPE: ALL PRODUCTS SHALL BE AS SPECIFIED BY THE VILLAGE STANDARDS. IF NO STANDARD EXISTS, THE FOLLOWING SHALL BE USED:
 - PVC WATERMAIN SHALL BE BLUE IN COLOR.
 - ALL PVC PIPE SHALL MEET AWWA C-900 AND C-905 STANDARDS AND NSF REQUIREMENTS FOR POTABLE WATER APPLICATION. PVC PIPE 6" THROUGH 12" SHALL BE CLASS 150, DR 18 PIPE CONFORMING TO AWWA C-900. PIPE GREATER THAN 12" SHALL CONFORM TO AWWA C-905, DR 18 OR BETTER.
 - FITTINGS USED IN CONJUNCTION WITH THE C-900 PVC PIPE SHALL BE AWWA DUCTILE IRON FITTINGS.
 - HOPE PIPE - ALL PRODUCTS SHALL BE SPECIFIED BY THE VILLAGE STANDARDS.
 - FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT AND SHALL CONFORM TO ANSI/AWWA STANDARD C110 A21.10 LATEST REVISION. FITTINGS 4" AND LARGER SHALL BE CEMENT LINED.
- REFER TO THE VILLAGE SEPARATION DETAILS FOR INSTALLATION AT PIPE CONFLICTS. IF CROSSING IS NOT SPECIFIED, FOLLOW PART III OF CHAPTER 62-410 FAC FOR MINIMUM PIPE SEPARATION DISTANCES.
- PIPE LENGTHS ARE MEASURED FROM CENTER OF FITTINGS UNLESS OTHERWISE NOTED.
- DEFLECTION OF PIPE JOINTS AND CURVATURE OF PIPE SHALL NOT EXCEED 70% OF THE MANUFACTURER'S SPECIFICATIONS. SECURELY CLOSE ALL OPEN ENDS OF PIPE AND FITTINGS WITH A WATER TIGHT PLUG WHEN WORK IS NOT IN PROGRESS. THE INTERIOR OF ALL PIPES SHALL BE CLEAN AND JOINT SURFACES WIPED CLEAN AND DRY AFTER THE PIPE HAS BEEN LOWERED INTO THE TRENCH. VALVES SHALL BE PLUMB AND LOCATED ACCORDING TO THE PLANS.
- ALL PHASES OF INSTALLATION, INCLUDING UNLOADING, TRENCHING, LAYING AND BACK FILLING, SHALL BE DONE IN A WORKMANLIKE MANNER. ALL PIPE AND FITTINGS SHALL BE CAREFULLY STORED FOLLOWING MANUFACTURER'S RECOMMENDATION. CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE COATING OR LINING IN ANY DL PIPE FITTINGS. ANY PIPE OR FITTING WHICH IS DAMAGED OR WHICH HAS PLAYS OR IMPERFECTIONS WHICH, IN THE OPINION OF THE ENGINEER OR OWNER, RENDERS IT UNFIT FOR USE, SHALL NOT BE USED. ANY PIPE NOT SATISFACTORY FOR USE SHALL BE CLEARLY MARKED AND IMMEDIATELY REMOVED FROM THE JOB SITE, AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- ALL UTILITY AND STORM DRAIN TRENCHES LOCATED UNDER AREAS TO RECEIVE PAVING SHALL BE COMPLETELY BACK FILLED IN ACCORDANCE WITH THE GOVERNING JURISDICTIONAL AGENCY'S SPECIFICATIONS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
- UNDERGROUND LINES SHALL BE SURVEYED BY A STATE OF FLORIDA PROFESSIONAL LAND SURVEYOR BEFORE BACK FILLING. SEE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
- ALL WATER MAIN CONSTRUCTED ON THIS PROJECT SHALL BE RESTRAINED PER VILLAGE OF TEQUESTA STANDARD DETAILS.
- CONTRACTOR SHALL PERFORM AT HIS OWN EXPENSE, ANY AND ALL TESTS REQUIRED BY THE SPECIFICATIONS AND/OR AGENCY HAVING JURISDICTION. THESE TESTS MAY INCLUDE, BUT MY NOT BE LIMITED TO, PRESSURE AND BACTERIOLOGICAL TESTING FOR POTABLE WATER SYSTEMS. A COPY OF THE TEST RESULTS SHALL BE PROVIDED TO THE UTILITY PROVIDER, OWNER AND JURISDICTIONAL AGENCY AS REQUIRED.
- ALL VALVE BOXES, MANHOLE FRAMES AND COVERS ARE TO BE FLUSH WITH PROPOSED FINISHED GRADES OR WALKS, PAVEMENTS, SWALES, ETC. THEY SHALL HAVE CONCRETE PADS POURED IN UNPAVED AREAS, IN ACCORDANCE WITH VALVE, AIR RELEASE & MANHOLE SETTING DETAILS.
- PRESSURE AND LEAKAGE TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE ENGINEER OR AN APPOINTED REPRESENTATIVE. THE CONTRACTOR WILL PROVIDE ALL NECESSARY APPARATUS INCLUDING A PUMP, MEASURING DEVICE, PIPING CONNECTIONS, FITTINGS AND THE NECESSARY LABOR TO CONDUCT THE TEST. THE TEST SHALL BE A MINIMUM 2 HOUR DURATION. DURING THE TEST, THE PIPE BEING TESTED SHALL BE MAINTAINED AT A PRESSURE OF NOT LESS THAN 150 PSI FOR WATER MAINS. THERE SHALL NOT BE A LOSS OR GAIN OF MORE THAN 5 PSI DURING THE TEST. LEAKAGE IS DEFINED AS THE QUANTITY OF WATER ADDED TO THE PIPE AFTER THE TESTING PERIOD. NO PIPE INSTALLATION WILL BE ACCEPTED IF THE LEAKAGE EXCEEDS THE QUANTITIES SPECIFIED IN AWWA C-605 OR C-600 AS APPROPRIATE. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE PROPOSED TESTING PATTERNS TO FOLLOW. THIS SHALL BE SUBMITTED FOR APPROVAL BY THE ENGINEER TO THE VILLAGE PRIOR TO TESTING. UNLESS APPROVED BY THE ENGINEER, THE CONTRACTOR SHALL NOT TEST MORE THAN 1.50 FOOT OF THE PIPE IN A SINGLE TEST, AND ALL SERVICES MUST BE INSTALLED.
- TAPS SHALL NOT BE MADE CLOSER THAN 8" OR TWICE THE PIPE DIAMETER, WHICHEVER IS GREATER.
- ALL LINES SHALL BE BACTERIOLOGICALLY EVALUATED IN ACCORDANCE WITH RULE 62.555.340 FAC.

EROSION CONTROL NOTES

- CONTRACTOR SHALL PREPARE AND SUBMIT A NOTICE OF INTENT TO USE THE APPLICABLE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL PREPARE AN EROSION CONTROL PLAN AS NOTED HERE AND IN THE PROJECT SPECIFICATIONS.
- ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE STATE OF FLORIDA NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (NPDES PERMIT) AND BECOME FAMILIAR WITH THEIR CONTENTS.
- THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES (BMP'S) AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST TO THE OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
- BEST MANAGEMENT PRACTICES AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE AS APPLICABLE. THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY THE PERMITTING AGENCY OR OWNER.
- EROSION CONTROL PLAN MUST CLEARLY DELINEATE ALL STATE WATERBODIES, PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERBODIES OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.
- THE CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT.
- SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL ON SITE AND TRACKING OF SOIL. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
- RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
- ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THE PLAN, SHALL BE INITIATED AS SOON AS PRACTICABLE.
- ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED AS SOON AS POSSIBLE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.

EROSION CONTROL MAINTENANCE

- ALL MEASURES STATED IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON AT LEAST EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A 0.5" RAINFALL EVENT, AND CLEANED AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:
- INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF WEARING, OR DETERIORATION.
 - SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.
 - OUTLET STRUCTURES IN THE SEDIMENTATION BASINS SHALL BE MAINTAINED IN OPERATIONAL CONDITION AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY CUBIC YARDS / ACRE.

PIPE COLOR CODING REQUIREMENTS:

ALL PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT WILL BE COLOR CODED OR MARKED IN ACCORDANCE WITH SUBPARAGRAPH 62-555.320(21)(B)3, F.A.C., USING BLUE AS A PREDOMINANT COLOR. (UNDERGROUND PLASTIC PIPE WILL BE SOLID-WALL BLUE, WILL HAVE A CO-EXTRUDED BLUE EXTERNAL SKIN, OR WILL BE WHITE OR BLACK PIPE WITH BLUE STRIPES INCORPORATED INTO, OR APPLIED TO, THE PIPE WALL; AND UNDERGROUND METAL OR CONCRETE PIPE WILL HAVE BLUE STRIPED APPLIED TO THE PIPE WALL. PIPE STRIPED DURING MANUFACTURING OF THE PIPE WILL HAVE CONTINUOUS STRIPED THAT RUN PARALLEL TO THE AXIS OF THE PIPE, THAT ARE LOCATED AT NO GREATER THAN 90-DEGREE INTERVALS AROUND THE PIPE, AND THAT WILL REMAIN INTACT DURING AND AFTER INSTALLATION OF THE PIPE. IF TAPE OR PAINT IS USED TO STRIPE PIPE DURING INSTALLATION OF THE PIPE, THE TAPE OR PAINT WILL BE APPLIED IN A CONTINUOUS LINE THAT RUNS PARALLEL TO THE AXIS OF THE PIPE AND THAT IS LOCATED ALONG THE TOP OF THE PIPE; FOR PIPE WITH AN INTERNAL DIAMETER OF 24 INCHES OR GREATER, TAPE OR PAINT WILL BE APPLIED IN CONTINUOUS LINES ALONG EACH SIDE OF THE PIPE AS WELL AS ALONG THE TOP OF THE PIPE. ABOVEGROUND PIPE WILL BE PAINTED BLUE OR WILL BE COLOR CODED OR MARKED LIKE UNDERGROUND PIPE). [FAC 62-555.320(21)(B)3]

No.	REVISIONS	DATE	BY



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 1920 MEKIVA WAY SUITE 200, WEST PALM BEACH, FL 33411
 PHONE: 561-845-0665 FAX: 561-863-8175
 WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT 04/08/2046 DATE MAY 2023 SCALE AS SHOWN DESIGNED BY SS DRAWN BY SS CHECKED BY TCJ	<h1 style="margin: 0;">COUNTY LINE ROAD WATERMAIN P.E. AND RAW WATERMAIN RELOCATION</h1> <p style="margin: 0;">PREPARED FOR VILLAGE OF TEQUESTA</p> <p style="margin: 0;">VILLAGE OF TEQUESTA, FLORIDA</p>
--	---

Thomas C Jensen
 Digitally signed by Thomas C Jensen, P.E.
 LICENSED PROFESSIONAL ENGINEER
 Date: 2024.01.05 11:51:05 -05'00'
 THOMAS C. JENSEN
 FLORIDA LICENSE NUMBER
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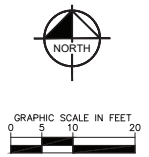
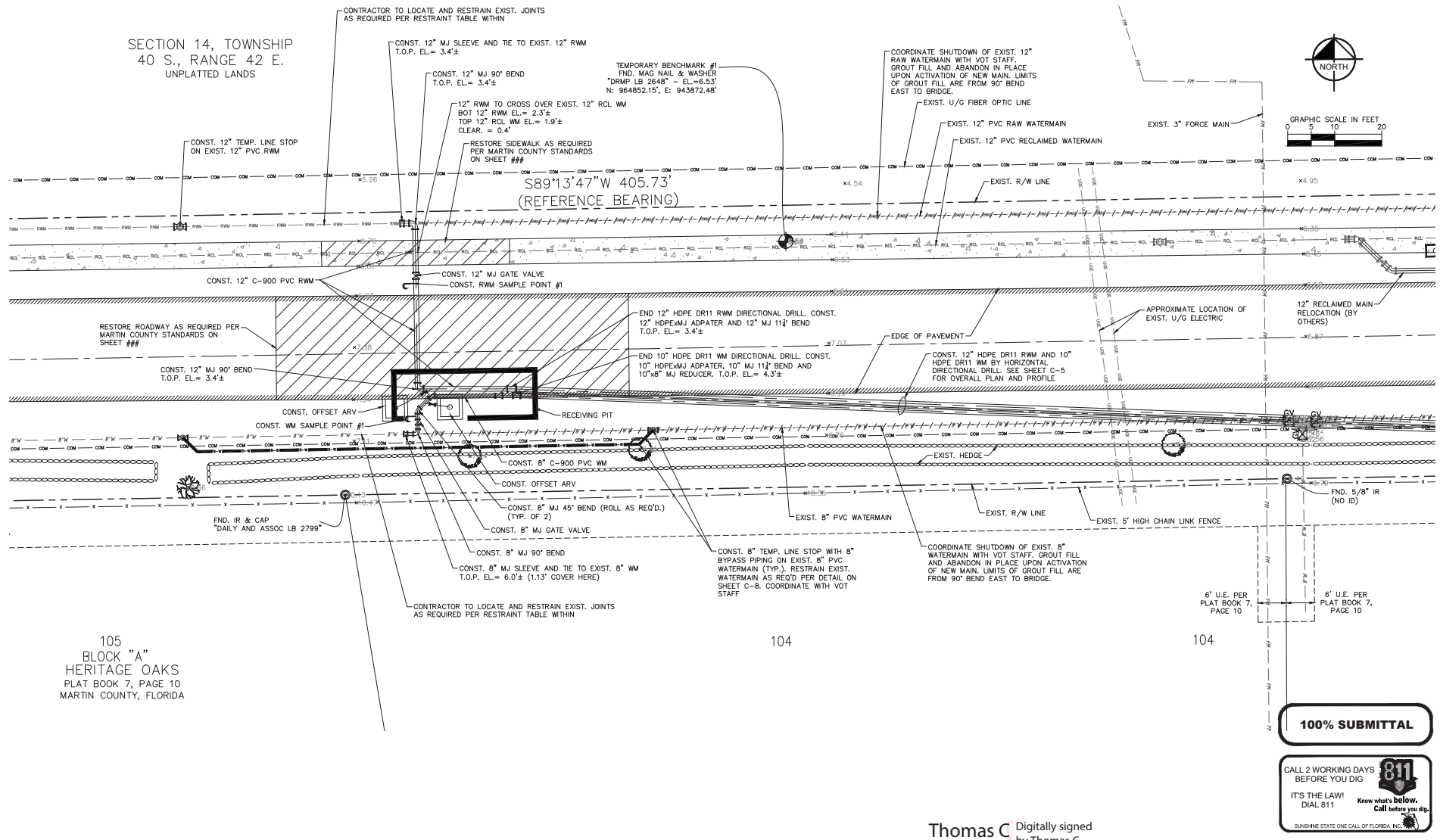
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GENERAL NOTES

SHEET NUMBER
C-2

Printed By: Smitarski, SS
 Sheet: S81-COUNTY LINE RD WM AND RWM - Layout: C-4 WATERMAIN AND RAW WATERMAIN RELOCATION PLAN - May 17, 2023 01:27:05pm
 K:\projects\2023\040937346-county line rd wmv.rvt\DWG\CAD\040937346-county line rd wmv.rvt.dwg
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SECTION 14, TOWNSHIP
40 S., RANGE 42 E.
UNPLATTED LANDS



105
BLOCK "A"
HERITAGE OAKS
PLAT BOOK 7, PAGE 10
MARTIN COUNTY, FLORIDA

104

104

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Digitally signed by Thomas C. Jensen, P.E.
Date: 2024.01.05 11:52:21 -05'00'
THOMAS C. JENSEN
FLORIDA LICENSE NUMBER 37290

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PHONE: 561-845-0665 FAX: 561-863-8175
WWW.KIMLEY-HORN.COM REGISTRY NO. 31016

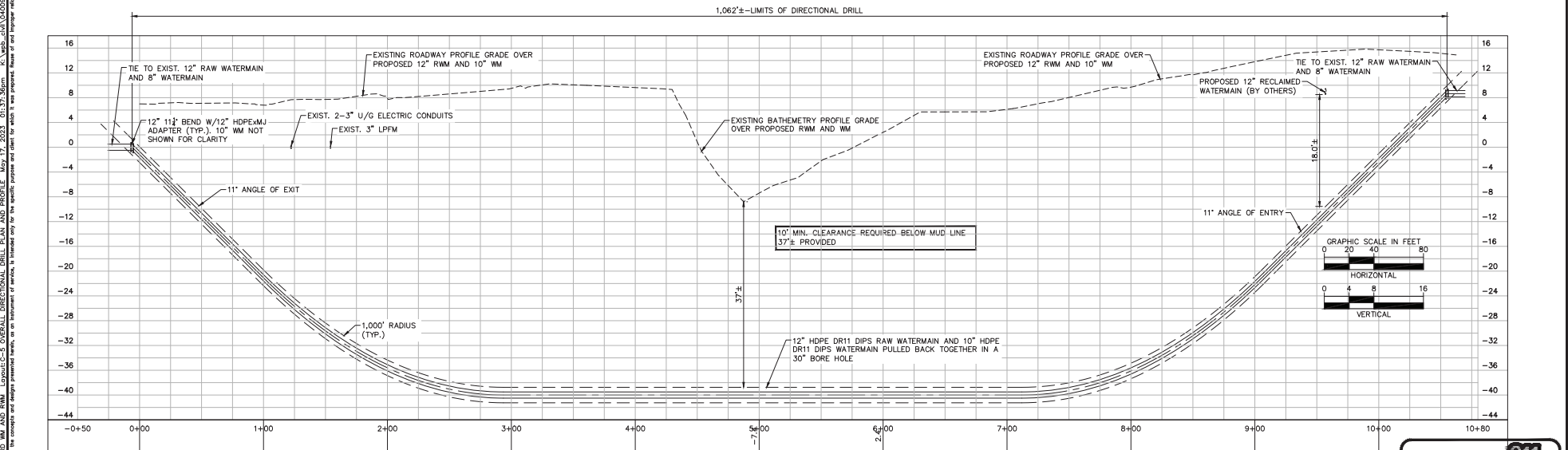
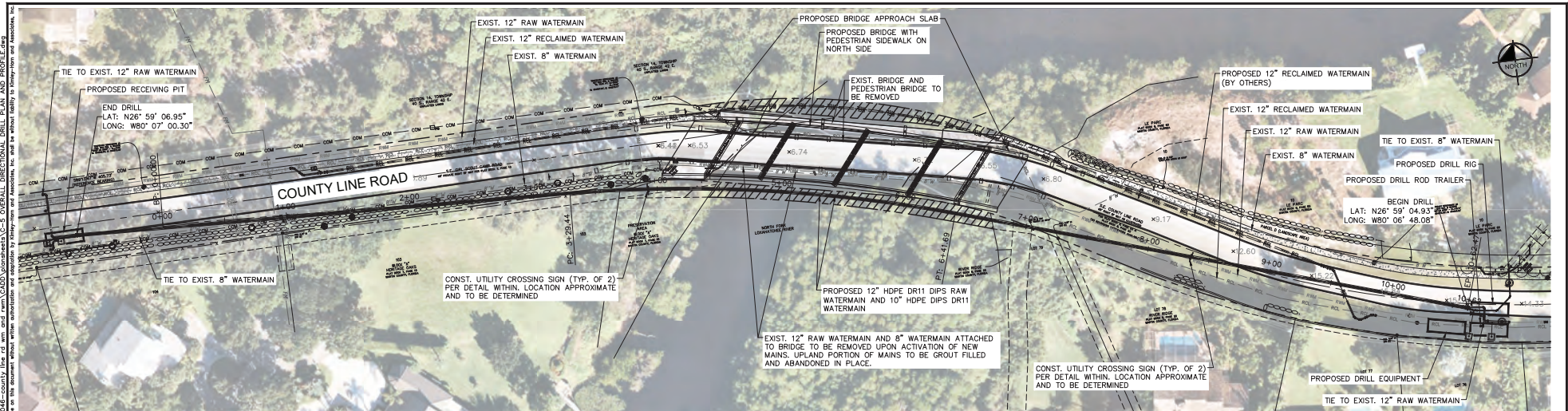
KHA PROJECT 040097046
DATE MAY 2023
SCALE AS SHOWN
DESIGNED BY SS
DRAWN BY SS
CHECKED BY TCJ

COUNTY LINE ROAD WATERMAIN AND RAW WATERMAIN RELOCATION
PREPARED FOR VILLAGE OF TEQUESTA
VILLAGE OF TEQUESTA, FLORIDA

WATERMAIN AND RAW WATERMAIN RELOCATION PLAN
DATE: _____

SHEET NUMBER C-4

No.	REVISIONS	DATE	BY



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KHA PROJECT 040007046
 DATE MAY 2023
 SCALE AS SHOWN
 DESIGNED BY SS
 DRAWN BY SS
 CHECKED BY TCJ

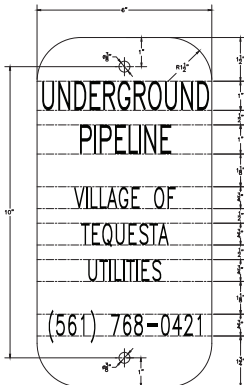
COUNTY LINE ROAD WATERMAIN P.E. AND RAW WATERMAIN RELOCATION

PREPARED FOR VILLAGE OF TEQUESTA, FLORIDA

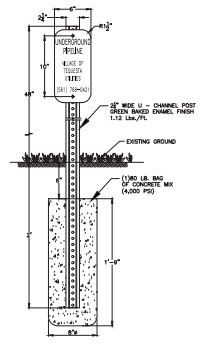
OVERALL DIRECTIONAL DRILL PLAN AND PROFILE

SHEET NUMBER C-5

Project: SHE-COUNTY LINE RD AND R/W - Layout: C-7 - V.O.T. STANDARD DETAILS - May 17, 2023 01:38:03pm - K:\wpb_civil\VA\040097046-county line rd and r/w\VA040097046-C-7 V.O.T. STANDARD DETAILS.dwg
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UTILITY CROSSING SIGN
N.T.S.



NOTE:
 SIDS SHALL BE 4" WIDE X 12" LONG ALUMINUM (2000 GA.)
 SID COVER 5" WIDE WITH BLACK EXTRUSION MOUNTING
 CORNERS (1/2" DIA.), 2 HOLES (3/8" DIA.), 10" O.C.

REVISION: 01/20/2023

TYPICAL TRENCH DETAIL

PAGE NO: D1

REVISION: 01/20/2023

SHELLROCK ROAD DRIVEWAY REPLACEMENT DETAIL

PAGE NO: D3

REVISION: 01/20/2023

WATERMAIN - SANITARY SEWER CONFLICT DETAIL

PAGE NO: D5

REVISION: 01/20/2023

PRESSURE PIPE CONFLICT DETAIL

PAGE NO: D6

DATE	DESCRIPTION	BY	CHK
01/20/2023	ISSUED FOR PERMIT	TCJ	TCJ
01/20/2023	REVISION 1	TCJ	TCJ
01/20/2023	REVISION 2	TCJ	TCJ
01/20/2023	REVISION 3	TCJ	TCJ
01/20/2023	REVISION 4	TCJ	TCJ
01/20/2023	REVISION 5	TCJ	TCJ
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01/20/2023	REVISION 49	TCJ	TCJ
01/20/2023	REVISION 50	TCJ	TCJ

REVISION: 01/20/2023

CONFLICT PIPE CONFLICT DETAIL

PAGE NO: D7

REVISION: 01/20/2023

TYPICAL VALVE SETTING

PAGE NO: D11

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 PHONE: 561-845-0665 FAX: 561-863-8175
 WWW.KIMLEY-HORN.COM REGISTRY NO. 31016

KHA PROJECT	040097046
DATE	MAY 2023
SCALE	AS SHOWN
DRAWN BY	SS
CHECKED BY	TCJ

COUNTY LINE ROAD WATERMAIN AND RAW WATERMAIN RELOCATION
 VILLAGE OF TEQUESTA

PREPARED FOR
 VILLAGE OF TEQUESTA, FLORIDA

DATE: 2024.01.05 11:42:22 -05'00'

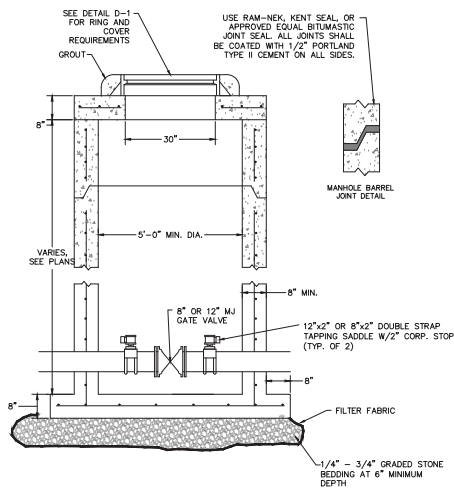
Digitally signed by Thomas C. Jensen, DN: cn=Thomas C. Jensen, o=KIMLEY-HORN AND ASSOCIATES, INC., email=tcj@kimley-horn.com, c=US

THOMAS C. JENSEN
 FLORIDA LICENSE NUMBER 37290

V.O.T. STANDARD DETAILS

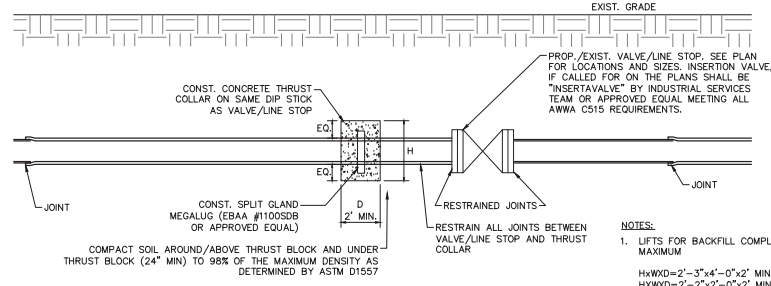
SHEET NUMBER C-7

Project: S-1 COUNTY LINE RD. RM. AND RMW. Layout: C-8 V.O.T. STANDARD DETAILS. Date: 2024.01.15. 11:55:01 -05'00'.
 Sheet: S-1 COUNTY LINE RD. RM. AND RMW. Layout: C-8 V.O.T. STANDARD DETAILS. Date: 2024.01.15. 11:55:01 -05'00'.
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- NOTES:
- MANHOLES SHALL CONFORM TO ASTM C478 (F=4,000 PSI CONCRETE).
 - PIPE PENETRATIONS ON NEW STRUCTURES SHALL BE CAST AT A MINIMUM OF 12 INCHES ABOVE THE MANHOLE BOTTOM. OPENINGS REQUIRED ON EXISTING MANHOLES SHALL BE CURED WITH APPROVED CORING EQUIPMENT.
 - ANNULUS AREA BETWEEN PIPE AND MANHOLE SHALL BE COMPLETELY FILLED WITH CLAY BRICK AND TYPE II PORTLAND CEMENT.
 - MANHOLE BASE AND WALL SHALL BE A MINIMUM OF 8 INCHES THICK CONCRETE WITH #5 RE-BAR AT 12" O.C.E.W. BASE WALLS SHALL BE CAST WITH THE BOTTOM SLAB. REFER TO FDOT SPECIFICATIONS FOR ROADWAY AND TRAFFIC DESIGN, LATEST EDITION FOR ADDITIONAL MANHOLE DESIGN INFORMATION.
 - INSTALLATION OF ALL PIPE AND STRUCTURES MUST MEET THE BEDDING AND BACKFILL REQUIREMENTS FOR NEW STRUCTURES AND PIPE ON PORTAL D-1.

MANHOLE W/TEST PORTS FOR DIRECTIONALLY DRILLED MAINS
N.T.S.



- NOTES:
- LIFTS FOR BACKFILL COMPLETION SHALL BE 12" MAXIMUM.
 $H \times W \times D = 2' - 3' - 4' - 0' - 2' \text{ MIN FOR } 12" \text{ WM}$
 $H \times W \times D = 2' - 2' - 2' - 0' - 2' \text{ MIN FOR } 6" \text{ OR } 8" \text{ WM}$
 - THRUST COLLAR MUST HAVE 25% UNDISTURBED SOIL ON EACH SIDE AT ALL TIMES WHEN VALVE IS CLOSED.
 - THRUST COLLAR NOT REQUIRED IF LINE STOP IS LOCATED A DISTANCE FROM THE EDGE OF THE TIE-IN EXCAVATION PIT THAT IS EQUAL TO OR GREATER THAN THE RESTRAINT LENGTH INDICATED IN THE TABLE SHOWN IN DETAIL W-8 FOR A PLUG-IN-LINE VALVE.

THRUST COLLAR FOR IN LINE VALVE / LINE STOP RESTRAINT DETAIL
N.T.S.

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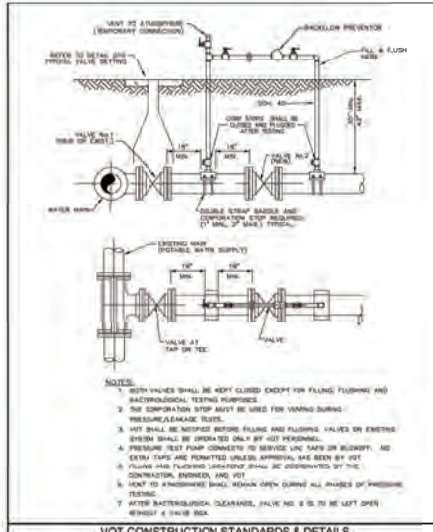
KHA PROJECT	04087046
DATE	MAY 2023
SCALE	AS SHOWN
DESIGNED BY	SS
DRAWN BY	SS
CHECKED BY	TCJ

COUNTY LINE ROAD WATERMAIN JENSEN, P.E. AND RAW WATERMAIN RELOCATION
 PREPARED FOR
VILLAGE OF TEQUESTA

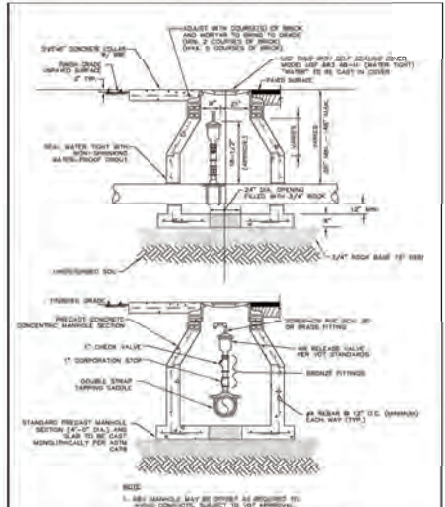
THOMAS C. JENSEN
 LICENSED PROFESSIONAL P.E.
 FLORIDA LICENSE NUMBER 37290

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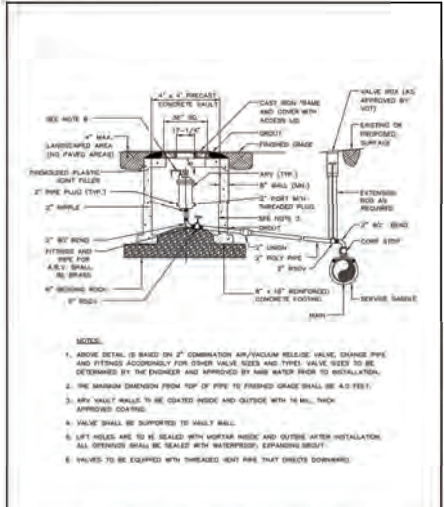
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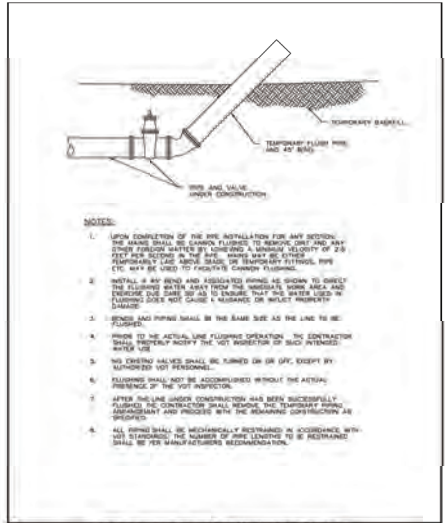
VOT CONSTRUCTION STANDARDS & DETAILS
 REVISION: DOUBLE STRAP SADDLE PAGE NO: D11



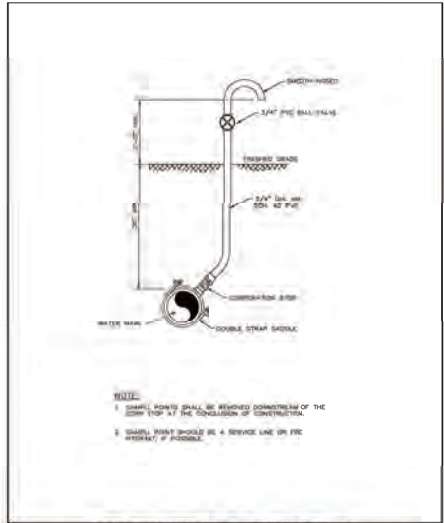
VOT CONSTRUCTION STANDARDS & DETAILS
 REVISION: AIR RELEASE VALVE (UNDERGROUND WATERMAIN) PAGE NO: D12



VOT CONSTRUCTION STANDARDS & DETAILS
 REVISION: OFF-BET AIR RELEASE VALVE (UNDERGROUND WATERMAIN) PAGE NO: D13



VOT CONSTRUCTION STANDARDS & DETAILS
 REVISION: CANNON FLUSHING DETAIL (PIPING LAUNCH BORE) PAGE NO: D14

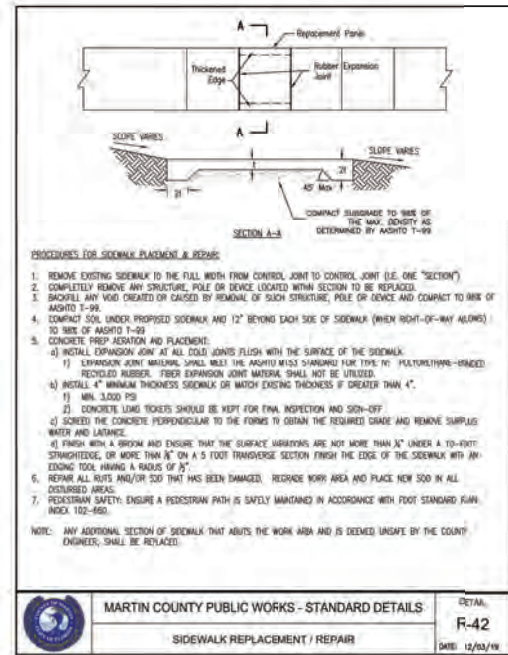
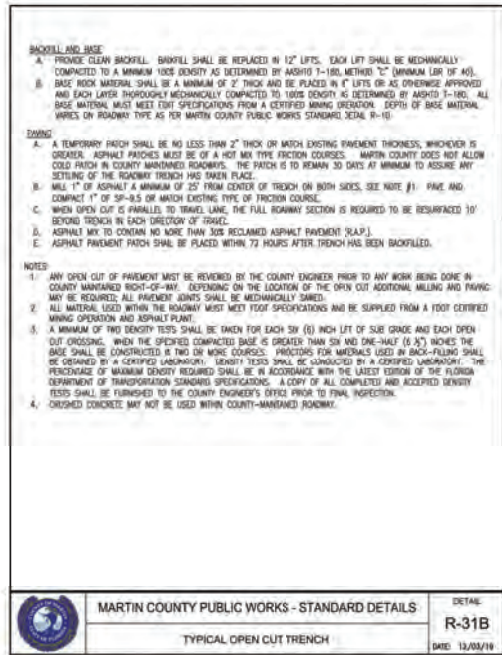
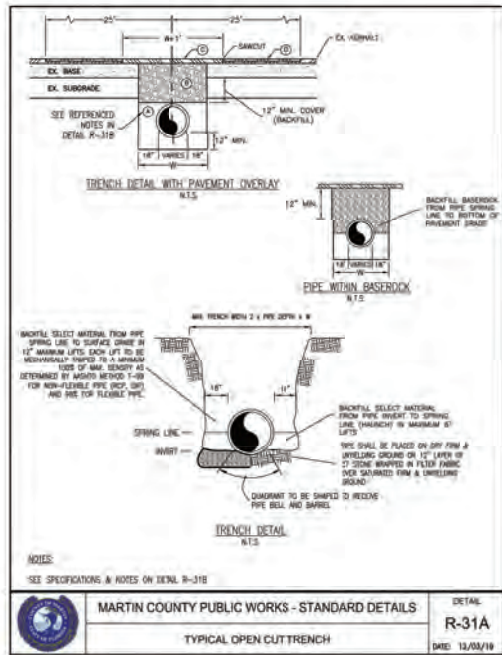


VOT CONSTRUCTION STANDARDS & DETAILS
 REVISION: SAMPLING POINT (ON MAIN) PAGE NO: D15

No.	REVISIONS	DATE	BY

SHEET NUMBER
C-8

Printed By: Stormtro, SSJ
 Sheet: S-1 COUNTY LINE RD, RM AND R/W, Layout: C-9 MARTIN COUNTY PUBLIC WORKS - STANDARD DETAILS, May 17, 2023, 01:36:18pm, k:\web_cad\04097046-county line rd.rvt and ssm\cadd\updates\C-9 MARTIN COUNTY PUBLIC WORKS - STANDARD DETAILS.dwg
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 Digitally signed by Thomas C Jensen, P.E.

Date: 2024.01.05 1:55:42 -05'00'

MARTIN COUNTY PUBLIC WORKS - STANDARD DETAILS

Kimley-Horn

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KHA PROJECT	040087046
DATE	MAY 2023
SCALE	AS SHOWN
DESIGNED BY	SS
DRAWN BY	SS
CHECKED BY	TCJ

COUNTY LINE ROAD WATERMAIN AND RAW WATERMAIN RELOCATION

PREPARED FOR
VILLAGE OF TEQUESTA
 VILLAGE OF TEQUESTA, FLORIDA

THOMAS C. JENSEN
 FLORIDA LICENSE NUMBER 37290

DATE: _____

SHEET NUMBER

C-9

No.	REVISIONS	DATE	BY

Mission:

To protect, promote & improve the health of all people in Florida through integrated state, county & community efforts.



Ron DeSantis
Governor

Joseph A. Ladapo, MD, PhD
State Surgeon General

Vision: To be the Healthiest State in the Nation

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

**In the matter of an
Application for Permit by:**

Jeremy Allen
Village Manager
Village of Tequesta
345 Tequesta Drive
Tequesta, FL
33469
jallen@tequesta.org

DEP FILE: 138296-053-DS
County: Palm Beach
Project: Country Line Road Water Main
and Raw Main Replacement

NOTICE OF PERMIT ISSUANCE

Enclosed is Permit Number 138296-053-DS for replacement of water main and raw water main, for Village of Tequesta, issued pursuant to 403.087(1), Florida Statutes.

This permit is final and effective on the date filed with the clerk of the Florida Department of Health Palm Beach County (the Department) unless a petition is filed in accordance with the paragraphs below or unless a request for extension of time in which to file a petition is filed within the required time frame and conforms to Rule 62-110.106(4), F.A.C. Upon timely filing of a petition or a request for an extension, this permit will not be effective until further Order of the Department.

A person whose substantial interests are affected by this permit may petition for an administrative proceeding (hearing) in accordance with sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) with the Agency Clerk, Florida Department of Health Palm Beach County, Division of Environmental Public Health, 800 Clematis Street, West Palm Beach, Florida 33401, within 14 days of receipt of this Notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under sections 120.569 and 120.57 of the Florida Statutes. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-106.205, F.A.C.

Florida Department of Health, Palm Beach County
Office of Public Health Information
800 Clematis Street – Suite 2-204
West Palm Beach, FL 33401
PHONE: 561-671-4014
chd50feedback@flhealth.org



A petition must contain the following information:

- (a) The name and address of each agency affected and each agency's file or identification number, if known;
- (b) The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;
- (c) A statement of how and when the petitioner received notice of the agency decision;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A concise statement of the ultimate facts alleged, including the specific facts which petitioner contends warrant reversal or modification of the Department's action;
- (f) A statement of the specific rules or statutes the petitioner contends requires reversal or modification of the Department's action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
- (g) A statement of the relief sought by petitioner, stating precisely the action that the petitioner wants the Department to take.


A petition that does not dispute the materials facts on which the Department's action is based shall state that no such facts are in dispute and otherwise contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that, the Department's final action may be different from the position taken by it in this Notice. Persons whose substantial interests will be affected by any such final decision of the Department on the petition have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

When the Order (Permit) is final, any party to the Order has the right to seek judicial review of the Order pursuant to section 120.68 of the Florida Statutes, by filing a Notice of Appeal pursuant to Rule 9.110 of the Florida Rules of Appellate Procedure, with the Clerk of the Department, Florida Department of Health Palm Beach County, Division of Environmental Public Health, 800 Clematis Street, West Palm Beach, Florida 33401; and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days from the date when the final order is filed with the Clerk of the Department.

Executed in the City of West Palm Beach, Florida.

STATE OF FLORIDA DEPARTMENT OF HEALTH
PALM BEACH COUNTY


A

Jorge Patino, P.E.
Environmental Administrator
Division of Environmental Public Health
800 Clematis Street, West Palm Beach, FL 33401
(561) 837-5900

MP/JH/JP

Enclosures: Permit File No. 138296-053-DS

CERTIFICATION OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Notice of Permit Issuance and all copies were mailed/electronically transmitted before the close of business on May 30, 2023 to those persons listed.

Clerk Stamp

FILING AND ACKNOWLEDGEMENT

Filed, on this date, under section 120.52(7), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Rosanne Kavel
Clerk

5-30-23
Date

Copies Furnished to:

Engineer-of-Record: Thomas Jensen, P.E.
Florida DEP: Norva Blandin Electronic Copy

Mission:

To protect, promote & improve the health of all people in Florida through integrated state, county & community efforts.



Ron DeSantis
Governor

Joseph A. Ladapo, MD, PhD
State Surgeon General

Vision: To be the **Healthiest State** in the Nation

STATE OF FLORIDA
APPLICATION FOR A SPECIFIC PERMIT TO CONSTRUCT PWS COMPONENTS

PERMITTEE:

Jeremy Allen
Village Manager
Village of Tequesta
345 Tequesta Drive
Tequesta, FL 33469
rbittner@nadg.com

PWS ID NUMBER: 4501438**PERMIT NUMBER:** 138296-053-DS**DATE OF ISSUE:** May 25, 2023**EXPIRATION DATE:** May 24, 2028**COUNTY:** Palm Beach**PROJECT:** Country Line Road Water Main and Raw Main Replacement

This permit is issued under the provisions of Chapter(s) 403, Florida Statutes, and Florida Administrative Code Rule(s) 62-550, 62-555 & 62-560. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents attached hereto or on file with the department and made a part hereof and specifically described as follows:

Construct: Approximately 1060 LF of 12" HDPE Raw WM, 1060 LF 10" HDPE WM Via directional drill and via open trench 75 LF 8" PVC for the water main and 75 LF 12" PVC for the raw water main, and 2 sample points for the WM.

In Accordance With: Application Form DEP 62-555.900(1), Project Engineering Sheets C-1 to C-9, received May 1, 2023, and Request for Additional Information issued May 4, 2023, and response received May 18, 2023.

Located: County Line Road Bridge over North Fork Section of Loxahatchee River

To Serve: Replacement of an existing water main and raw water main

Subject To: General Conditions 1 – 15, Regulatory Conditions 1 – 11, Construction Standards 1 – 9, Operational Requirements 1 – 5, Monitoring Provisions 1- 2 and Clearance Requirements 1 – 3.

Florida Department of Health
Palm Beach County Division of Environmental Health
P.O. Box 29, 800 Clematis Street, West Palm Beach, FL 33401
PHONE: 561-837-5900 FAX 561-537-5294
chd50feedback@flhealth.org



A. General Conditions

The permittee shall be aware of and operate under the Permit Conditions below. These applicable conditions are binding upon the permittee and enforceable pursuant to Chapter 403, Florida Statutes. [F.A.C. Rule 62-555.533(1)]

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these *conditions*.
2. *This* permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in this permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.
6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.
7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times (reasonable time may depend on the nature of the concern being investigated), access to the premises where the permitted activity is located or conducted to:
 - a. Have access to and copy any records that must be kept under conditions of the permit;
 - b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
 - c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:
 - a. A description of and cause of noncompliance; and
 - b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.
9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.
10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard.
11. This permit is transferable only upon Department approval in accordance with Rule 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.
12. This permit or a copy thereof shall be kept at the work site of the permitted activity.
13. This permit also constitutes:
 - a. Determination of Best Available Control Technology (BACT)
 - b. Determination of Prevention of Significant Deterioration (PSD)
 - c. Certification of compliance with State Water Quality Standards (Section 401, PL 92-500)
 - d. Compliance with New Source Performance Standards
14. The permittee shall comply with the following:
 - a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.
 - b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all

data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

- c. Records of monitoring information shall include:
 - i. the date, exact place, and time of sampling or measurements;
 - ii. the person responsible for performing the sampling or measurements;
 - iii. the dates analyses were performed;
 - iv. the person responsible for performing the analyses;
 - v. the analytical techniques or methods used;
 - vi. the results of such analyses.
15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

B. Regulatory Section

1. All construction must be in accordance with this permit. Before commencing work on project changes for which a construction permit modification is required per 62-555.536(1), the permittee shall submit to the Department a written request for a permit modification. Each such request shall be accompanied by one copy of a revised construction permit application, the proper processing fee and one copy of either a revised preliminary design report or revised drawings, specifications and design data. [F.A.C. Rule 62-555.536].
2. Permitted construction or alteration of public water supply systems must be supervised during construction by a professional engineer registered in the State of Florida if the project was designed under the responsible charge of a professional engineer licensed in the State of Florida. The permittee must retain the service of a professional engineer registered in the State of Florida to observe that construction of the project is in accordance with the engineering plans and specifications as submitted in support of the application for this permit. [F.A.C. Rule 62-555.520(3)].
3. If prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoe remains, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, the permitted project should cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. The permittee, or other designee, should contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section at 850.245.6333 or 800.847.7278, as well as the appropriate permitting agency office. Project activities should not resume without verbal and/or written authorization from the Division of Historical Resources and the permitting agency. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, *Florida Statutes*.
4. If delays will cause project completion to extend beyond the expiration date of this permit, the permittee shall submit to the Department a request to extend the expiration date of this permit including the appropriate processing fee. This request shall specify the reasons for the delay

and shall be submitted to the Department for approval prior to the expiration date of this permit. Note that no specific construction permit shall be extended so as to remain in effect longer than five years. [F.A.C. Rule 62-555.536(4)].

5. In accordance with General Condition #11 of this permit, this permit is transferable only upon Department approval. Persons proposing to transfer this permit must apply jointly for a transfer of the permit within 30 days after the sale or legal transfer of ownership of the permitted project that has not been cleared for service by the Department using form, 62-555.900(8), Application for Transfer of a PWS Construction Permit along with the appropriate fee. [F.A.C. Rule 62-555.536(5)]
6. This permit satisfies Drinking Water permitting requirements only and does not authorize construction or operation of this facility prior to obtaining all other necessary permits from other program areas within the Department, or required permits from other state, federal, or local agencies.
7. This permit is for CONSTRUCTION ONLY of the distribution system project. This permit shall not infer that the clearance necessary for connection will be granted. Any such clearance shall be granted only when the connection point has been permitted and cleared for use by the Department and the public water system to which the water main extension will be connected, has the capacity necessary to meet the design water demands of all customers to be served by the water main extension. Partial clearance may be granted, if required.
8. If gasoline contamination is found at the construction site, work shall be stopped and the proper authorities notified. With the approval of the Department, ductile iron pipe and fittings, and solvent resistant gaskets materials shall be used in the contaminated area. The ductile pipe shall be used in the contaminated area. The ductile iron pipe shall extend 100 feet beyond any solvent noted. Any contaminated soil that is excavated shall be placed on an impermeable mat, covered with waterproof covering, and held for disposal. If the site cannot be properly cleaned, then consultation with the Department is necessary prior to continuing with the project construction.
9. This permit does not constitute approval of construction on jurisdictional wetland areas; therefore, such approval must be obtained separately from the Water Management District or from DEP ERP Section, as applicable, Permittee shall provide a copy of the permit approval to the Department if water main installation involves activities on wetlands.
10. Suppliers of water shall notify the appropriate DEP District Office or ACHD and affected water customers by no later than the previous business day before initiating any planned permanent or temporary conversion from free chlorine to chloramines or vice versa for disinfection. [F.A.C. Rule 62-555.350(10)(c)]
11. Permittee shall ensure that the well and drinking water treatment facilities will be protected to prevent tampering, vandalism, and sabotage as required by Rule 62-555.315(1) & 62-555.320(5), F.A.C.

C. Construction Standards

1. All products, including paints, which shall come into contact with potable water, either directly or indirectly, shall conform with National Sanitation Foundation (NSF) International, Water Chemicals Codex, Food Chemicals Codex, American Water Works Association (AWWA) Standards and the Food and Drug Administration, as provided in Rule 62-555.320(3), F.A.C.
2. Water supply facilities, including mains, pipe, fittings, valves, fire hydrants and other materials shall be installed in accordance with the latest applicable AWWA Standards and Department rules and regulations. The system shall be pressure and leak tested in accordance with AWWA Standard C600 C603, or C605, as applicable, and disinfected in accordance with AWWA Standard C651-653, as well as in accordance with Rule 62-555.340, F.A.C.
3. The installation or repairs of any public water system, or any plumbing in residential or nonresidential facilities providing water for human consumption, which is connected to a public water system shall be lead free in accordance with Rule 62-555.322, F.A.C.
4. When any existing asbestos cement (AC) pipes are replaced under this permit, the permittee shall do so in accordance with the applicable rules of Federal Asbestos Regulation and Florida DEP requirements. **For specific requirements applicable to AC pipes, the permittee should contact the Air and Waste Management section at DOH Palm Beach County prior to commencing any such activities at (561) 837-5900 #3. Please be aware that a notification is required to be submitted to the Department for a regulated project**
5. Setback distances between potable water wells and sanitary hazards shall be in accordance with 62-555.312, F.A.C. Reclaimed water land application areas must not be located within the setback distance from potable water supply wells established in Chapter 62-610, F.A.C.
6. Permittee shall maintain vertical clearance and horizontal separation between water mains and sanitary sewers, storm sewers, etc. unless approved otherwise by the Department, as provided in Rule 62-555.314, F.A.C., and Section 8.6 of *Recommended Standards for Water Works*, a manual adopted by reference in Rule 62-555.330(3), F.A.C.
7. The new or altered aboveground piping at the drinking water treatment plant shall be color coded and labeled as recommended in Section 2.14 of "Recommended Standards for Water Works, 1997 Edition". [F.A.C. Rule 62-555.320(10)]
8. Permittee shall ensure that there shall be no cross-connection with any non-potable water source in accordance with Rule 62-555.360, F.A.C.
9. All pipes shall be buried to a minimum depth of 36 inches below ground unless otherwise noted. All water main gaskets shall be fluorocarbon. All ductile iron fittings and pipes shall be poly wrapped in accordance with DIPRA enhanced poly-ethylene encasement.[Rule 62-555.320(21)(b) F.A.C. and Recommended Standards for Water Works 8.5.7(d)]

D. Operational Requirements

1. The supplier of water shall operate and maintain the public water system so as to comply with applicable standards in F.A.C. Rule 62-550 and 62-555.350.
2. The permittee shall provide an operation and maintenance manual for the new or altered treatment facilities to fulfill the requirements under subsection 62-555.350(13), F.A.C. The manual shall contain operation and control procedures, and preventative maintenance and repair procedures, for all plant equipment and shall be made available for reference at the plant or at a convenient location near the plant. Bound and indexed equipment manufacturer manuals shall be considered sufficient to meet the requirements of the subsection.
3. The permittee shall submit a monthly operations report (MOR) DEP Form 62-555.900, to the Department no later than the tenth of each succeeding month.
4. The permittee shall have complete record drawings produced for the project in accordance with Rule 62-555.530(4), F.A.C.
5. The permittee or suppliers of water shall telephone the State Warning Point (SWP), at 1-800-320-0519 immediately (i.e., within two hours) after discovery of any actual or suspected sabotage or security breach, or any suspicious incident, involving a public water system in accordance with the F.A.C. Rule 62-555.350(10).

E. Monitoring Provisions

1. Permittee shall follow the guidelines of Chapters 62-550, 62-555, and 62-560, F.A.C., regarding public drinking water system standards, monitoring, reporting, permitting, construction, and operation.

This facility is a Community Water System as defined in F.A.C. Rule 62-550.200(12) and shall comply with the applicable chemical, radiological, lead and copper, and bacteriological monitoring requirements of F.A.C. Rule 62-550. Such requirements shall be initiated within the quarter that the water treatment facility is placed into service (i.e. January—March or April—June, the preceding are examples of quarters) and the results submitted to the Department.

2. The water treatment plant shall maintain throughout the distribution system a minimum combined chlorine residual of 0.6 mg/l or its equivalent. A minimum system pressure of 20 psi must be maintained throughout the system. Also, safety equipment shall be provided and located outside of chlorine room.

F. Clearance Requirements

1. The permittee must instruct the engineer of record to request system clearance from the Department within sixty (60) days of completion of construction, testing and disinfecting the system. Bacteriological test results shall be considered unacceptable if the test were completed more than 60 days before the Department received the results. [F.A.C. Rule 62-555.340(2)(c)]

Permitted construction or alteration of a public water system may not be placed into service until a letter of clearance has been issued by this Department. [F.A.C. Rule 62-555.345]

2. Prior to placing this project into service, Permittee shall submit, at a minimum, all of the following to the Department for evaluation and approval for operation, as provided in Rules 62-555.340 and 62-555.345, F.A.C.:
 - a. the engineer's *Certification of Construction Completion and Request for Clearance to Place Permitted PWS Components Into Operation* {DEP Form 62-555.900(9)};
 - b. certified record drawings, if there are any changes noted for the permitted project.
 - c. two consecutive days of satisfactory bacteriological analytical results (see paragraph 3 below).
 - d. copy of a satisfactory pressure test of the process piping performed in accordance with AWWA Standards. [F.A.C. Rule 62-555.320(21)(a)(1)]

In order to facilitate the issuance of a letter of clearance, the Department requests that all of the above information be submitted as one package.

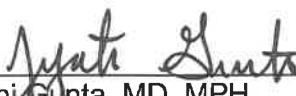
3. The new facilities shall be cleaned, disinfected, and bacteriologically cleared in accordance with Chapter 62-555, F.A.C. The bacteriological clearance data representative of the storage tank (two samples on consecutive days), the well discharge piping and distribution system (in accordance with the instructions for Bacteriological Sampling Locations shown below) and the untreated well water (two samples per day for 5 consecutive days collected at least six hours apart for each of the two wells) shall be submitted to the Department with the engineer's certification of construction completion. [Section 62-555.340 and 62-555.315(6)(b), F.A.C.]

Bacteriological Sampling Locations: Copies of satisfactory bacteriological analyses taken from locations within the distribution system or water main extension to be cleared, in accordance with Rules 62-555.315 (6), 62-555.340 and 62-555.330, F.A.C. and American Water Works Association (AWWA) Standard C 651-92 as follows:

- *The endpoint of the proposed addition;*
- *Any water lines branching off a main extension;*
- *Every 1,200 feet of water main;*
- *Each location shall be sampled on two separate days (at least 6 hours apart) with sample point locations and chlorine residual readings **clearly indicated** on the report and/or drawings.*
- *Bacteriological sample results will be considered unacceptable if the tests were completed more than 60 days before the Department receives the results. Exhibit*

Issued This 26 Day of May, 2023

**STATE OF FLORIDA DEPARTMENT OF HEALTH
PALM BEACH COUNTY**



Jyothi Gonta, MD, MPH
Director



APPLICATION FOR A SPECIFIC PERMIT TO CONSTRUCT PWS COMPONENTS

See page 4 for instructions.

I. General Project Information

A. Name of Project: County Line Road Water Main and Raw Water Main Replacement

B. Description of Project and Its Purpose:

The existing County Line Road bridge is being replaced by Martin County. The Village of Tequesta has an existing 12" ductile iron raw water main and an existing 8" ductile iron water main attached to the bridge. The Village has decided to replace this raw water main with approximately 1,060 linear feet of 12" HDPE raw water main and the water main with approximately 1,060 linear feet of 10" HDPE main installed via a directional drill. An additional 75 linear feet of open trench construction is anticipated for each main (8" C900 PVC for the water main and 12" C900 PVC for the raw water main).

C. Does project create a "new system" as described under subsection 62-555.525(1), F.A.C.? Yes, and a completed copy of Form 62-555.900(20), New Water System Capacity Development Financial and Managerial Operations Plan, is attached. No.

D. Location of Project

1. County Where Project Located: Martin County

2. Description of Project Location:

County Line Road bridge over North Fork section of Loxahatchee River

3. Latitude and Longitude of Each New Treatment Plant and Each New Raw Water Source (attach additional sheets if necessary):

Name of New Treatment Plant or Raw Water Source	Latitude	Longitude
County Line Road Bridge Over Loxahatchee River	26 ° 59 ' 5.65 "N	80 ° 06 ' 50 "W
	° ' "N	° ' "W
	° ' "N	° ' "W
	° ' "N	° ' "W
	° ' "N	° ' "W

E. Estimate of Cost to Construct Project: \$1,000,000

F. Estimate of Dates for Starting and Completing Construction of Project: August 2023 to November 2023

G. Applicant

PWS/Company Name: <u>Village of Tequesta</u>		PWS Identification No.: <u>*4501438</u>	
PWS Type: * <input checked="" type="checkbox"/> Community <input type="checkbox"/> Non-Transient Non-Community <input type="checkbox"/> Transient Non-Community <input type="checkbox"/> Consecutive			
Contact Person: <u>Jeremy Allen</u>		Contact Person's Title: <u>Village Manager</u>	
Contact Person's Mailing Address: <u>345 Tequesta Drive</u>			
City: <u>Village of Tequesta</u>		State: <u>FL</u>	Zip Code: <u>33469</u>
Contact Person's Telephone Number: <u>561-768-0459</u>		Contact Person's Fax Number:	
Contact Person's E-Mail Address: <u>jallen@tequesta.org</u>			

* This information is required only if the applicant is a public water system (PWS).

H. Public Water System (PWS) Supplying Water to Project

PWS Name: <u>Village of Tequesta</u>		PWS Identification No.: <u>4501438</u>	
PWS Type: <input checked="" type="checkbox"/> Community <input type="checkbox"/> Non-Transient Non-Community <input type="checkbox"/> Transient Non-Community <input type="checkbox"/> Consecutive			
PWS Owner: <u>Village of Tequesta</u>			
Contact Person: <u>Jeremy Allen</u>		Contact Person's Title: <u>Village Manager</u>	
Contact Person's Mailing Address: <u>345 Tequesta Drive</u>			
City: <u>Village of Tequesta</u>		State: <u>FL</u>	Zip Code: <u>33469</u>
Contact Person's Telephone Number: <u>561-768-0459</u>		Contact Person's Fax Number:	
Contact Person's E-Mail Address: <u>jallen@tequesta.org</u>			

APPLICATION FOR A SPECIFIC PERMIT TO CONSTRUCT PWS COMPONENTS

Project Name: County Line Road WM & RWM Replacement Applicant: Village of Tequesta

I. Public Water System (PWS) that Will Own Project after It Is Placed into Permanent Operation

PWS Name: Village of Tequesta		PWS Identification No.: * 4501438	
PWS Type: * <input checked="" type="checkbox"/> Community <input type="checkbox"/> Non-Transient Non-Community <input type="checkbox"/> Transient Non-Community <input type="checkbox"/> Consecutive			
PWS Owner: Village of Tequesta			
Contact Person: Jeremy Allen		Contact Person's Title: Village Manager	
Contact Person's Mailing Address:			
City: Village of Tequesta		State: FL	Zip Code: 33469
Contact Person's Telephone Number: 561-768-0459		Contact Person's Fax Number:	
Contact Person's E-Mail Address: jallen@tequesta.org			

* This information is required only if the owner/operator is an existing PWS.

J. Professional Engineer(s) or Other Person(s) in Responsible Charge of Designing Project*

Company Name: Kimley-Horn & Associates			
Designer(s): Thomas C. Jensen, P.E.		Title(s) of Designer(s): Project Engineer	
Qualifications of Designer(s):			
<input checked="" type="checkbox"/> Professional Engineer(s) Licensed in Florida – License Number(s): 37290			
<input type="checkbox"/> Public Officer(s) Employed by State, County, Municipal, or Other Governmental Unit of State†			
<input type="checkbox"/> Plumbing Contractor(s) Licensed in Florida – License Number(s): ^			
Mailing Address of Designer(s): 1920 Wekiva Way, Suite 200			
City: West Palm Beach		State: FL	Zip Code: 33411
Telephone Number of Designer(s): 561-840-0853		Fax Number of Designer(s):	
E-Mail Address(es) of Designer(s): tom.jensen@kimley-horn.com			

* Except as noted in paragraphs 62-555.520(3)(a) and (b), F.A.C., projects shall be designed under the responsible charge of one or more professional engineers licensed in Florida.

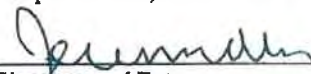
† Attach a detailed construction cost estimate showing that the cost to construct this project is \$10,000 or less.

^ Attach documentation showing that this project will be installed by the plumbing contractor(s) designing this project, documentation showing that this project involves a public water system serving a single property and fewer than 250 fixture units, and a detailed construction cost estimate showing that the cost to construct this project is \$50,000 or less.

II Certifications

A. Certification by Applicant

I am duly authorized to sign this application on behalf of the applicant identified in Part I.G of this application. I certify that, to the best of my knowledge and belief, this project complies with Chapter 62-555, F.A.C., and provides assurance of compliance with Chapter 62-550, F.A.C. I also certify that construction of this project has not begun yet.


	Jeremy Allen	Village Manager
Signature and Date	Printed or Typed Name	Title

B. Certification by PWS Supplying Water to Project

I am duly authorized to sign this application on behalf of the PWS identified in Part I.H of this application. I certify that said PWS will supply the water necessary to meet the design water demands for this project. I certify that, to the best of my knowledge and belief, said PWS's connection to this project will not cause said PWS to be, or contribute to said PWS being, in noncompliance with Chapter 62-550 or 62-555, F.A.C. I also certify that said PWS has reviewed the preliminary design report or drawings, specifications, and design data for this project and that said PWS considers the connection(s) between this project and said PWS acceptable as designed.

- Name(s) of Water Treatment Plant(s) to Which this Project Will Be Connected: Village of Tequesta WTP

- Total Permitted Maximum Day Operating Capacity of Plant(s), gpd: 6,330,000
- Total Maximum Day Flow at Plant(s) as Recorded on Monthly Operating Reports During Past 12 Months, gpd: 3,583,636 (Aug 2022)

	Jeremy Allen	Village Manager
Signature and Date	Printed or Typed Name	Title

APPLICATION FOR A SPECIFIC PERMIT TO CONSTRUCT PWS COMPONENTS

Project Name: County Line Road WM & RWM Replacement	Applicant: Village of Tequesta
---	--------------------------------


C. Certification by PWS that Will Own Project after It Is Placed into Permanent Operation

I am duly authorized to sign this application on behalf of the PWS identified in Part I.I of this application. I certify that said PWS will own this project after it is placed into permanent operation. I also certify that said PWS has reviewed the preliminary design report or drawings, specifications, and design data for this project and that said PWS considers this project acceptable as designed.

	Jeremy Allen	Village Manager
Signature and Date	Printed or Typed Name	Title

D. Certification by Professional Engineer(s) in Responsible Charge of Designing Project*

I, the undersigned professional engineer licensed in Florida, am in responsible charge of preparing the preliminary design report or drawings, specifications, and design data for this project. I certify that, to the best of my knowledge and belief, the design of this project complies with Chapter 62-555, F.A.C., and provides assurance of compliance with Chapter 62-550, F.A.C.

Signature, Seal, and Date: <div style="text-align: center;">  </div>	Signature, Seal, and Date: Affix Seal
Printed/Typed Name: Thomas C. Jensen, P.E.	Printed/Typed Name:
License Number: 37290	License Number:
Portion of Engineering Document(s) for Which Responsible: Civil Design	Portion of Engineering Document(s) for Which Responsible:

Signature, Seal, and Date: Affix Seal	Signature, Seal, and Date: Affix Seal
Printed/Typed Name:	Printed/Typed Name:
License Number:	License Number:
Portion of Engineering Document(s) for Which Responsible:	Portion of Engineering Document(s) for Which Responsible:

* Except as noted in paragraphs 62-555.520(3) (a) and (b), F.A.C., projects shall be designed under the responsible charge of one or more professional engineers (PEs) licensed in Florida. If this project is being designed under the responsible charge of one or more PEs licensed in Florida, Part II.D of this application shall be completed by the PE(s) in responsible charge. If this project is not being designed under the responsible charge of one or more PEs licensed in Florida, Part II.D does not have to be completed.

APPLICATION FOR A SPECIFIC PERMIT TO CONSTRUCT PWS COMPONENTS

INSTRUCTIONS: This application shall be completed and submitted by persons proposing to construct or alter public water system components unless such proposed construction or alteration is permitted under the Department of Environmental Protection's (DEP's) "General Permit for Construction of Water Main Extensions for Public Water Systems," in which case Form 62-555.900(7) is to be completed and submitted, or under the DEP's "General Permit for Construction of Lead or Copper Corrosion Control, or Iron or Manganese Sequestration, Treatment Facilities for Small or Medium Public Water Systems," in which case Form 62-555.900(18) is to be completed and submitted. Complete and submit one copy of this application to the appropriate DEP District Office or Approved County Health Department (ACHD) along with payment of the proper application processing fee and one copy of the following information:

- either a preliminary design report or drawings, specifications, and design data (the preliminary design report or drawings, specifications, and design data shall contain all pertinent information required under subsection 62-555.520(4), F.A.C.); and
- the Florida Public Service Commission (FPSC) certificate of authorization to provide water service if the project involves construction of a new public water system subject to the jurisdiction of the FPSC.

All information provided on this application shall be typed or printed in ink. Application processing fees are listed in paragraph 62-4.050(4) (n), F.A.C. Checks for application processing fees shall be made payable to the Department of Environmental Protection or to the appropriate ACHD. Preliminary design reports, drawings, specifications, and design data prepared under the responsible charge of one or more professional engineers licensed in Florida shall be signed, sealed, and dated by the professional engineer(s) in responsible charge. NOTE THAT A SEPARATE APPLICATION AND A SEPARATE APPLICATION PROCESSING FEE ARE REQUIRED FOR EACH NON-CONTIGUOUS PROJECT.*

* *Non-contiguous projects are projects that are neither interconnected nor located nearby one another (i.e., on the same site, on adjacent streets, or in the same neighborhood).*



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

Shawn Hamilton
Secretary

Project Name: Village of Tequesta - County Line Rd Raw Water Main Relocation

Permittee/Authorized Entity:

Village of Tequesta
c/o Jeremy Allen
345 Tequesta Drive
Tequesta, FL 33469
Email: jallen@tequesta.org

Authorized Agent:

Kimley-Horn & Associates, Inc.
c/o Thomas Jensen
Email: tom.jensen@kimley-horn.com

Environmental Resource Permit - Granted

**State-owned Submerged Lands Authorization – Granted Pending Document
Execution**

U.S. Army Corps of Engineers – Separate Authorization Required

Permit No.: 43-0431472-001-EI
BOT / Easement No's.: 430367016, 42989

Permit Issuance Date: August 22, 2024

Permit Construction Phase Expiration Date: August 22, 2029

**Consolidated Environmental Resource Permit and Recommended Intent to Grant
Sovereignty Submerged Lands Authorization**

Permit No.: 43-0431472-001-EI

PROJECT LOCATION

The activities authorized by this Permit and state-owned submerged lands authorization are located within the North Fork of Loxahatchee River, within the Loxahatchee River-Lake Worth Creek Aquatic Preserve, Outstanding Florida Waters, Class II Waters, starting along SE County Line Road, with the first bore hole located just east of County Line Bridge, continuing west underneath the North Fork of Loxahatchee River, finishing with an exit bore hole just west of County Line Bridge (Section 23, Township 40 South, Range 42 East), in Martin County (Latitude N 26°59'6.8402", Longitude W 80°6'53.5836").

PROJECT DESCRIPTION

This permit authorizes the replacement of an existing approximately 1,065 linear foot 12" ductile iron raw water main and an 8" potable water main that are mounted on the south side of the County Line Road Bridge with the installation of approximately 6,000 linear foot 12" HDPE raw water main and a 10" HDPE potable water main via horizontal directional drilling (HDD). Entrance and exit points will be located within uplands.

No impacts to wetlands are proposed, and submerged resources are not located within the project boundaries; therefore, there will be no adverse impacts to these resources and mitigation is not required.

The attached standard manatee conditions (version 2011) shall be adhered to during all in-water work. Prior to construction commencement, weighted floating turbidity curtains, extending to within one-foot from the submerged bottom shall be utilized around the project area to ensure that any turbidity resulting from construction activities will be contained within the project boundaries. All water bodies, including any adjacent submerged aquatic vegetation outside the specific limits of construction authorized by this permit shall be protected from erosion, siltation, sedimentation, and/or scouring.

AUTHORIZATIONS

Environmental Resource Permit

The Department has determined that the activity qualifies for an Environmental Resource Permit. Therefore, the Environmental Resource Permit is hereby granted, pursuant to Part IV of Chapter 373, Florida Statutes (F.S.), and Chapter 62-330, Florida Administrative Code (F.A.C.).

Sovereignty Submerged Lands Authorization

The activity is located on sovereignty submerged lands owned by the State of Florida. It therefore also requires authorization from the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), pursuant to Article X, Section 11 of the Florida Constitution, and Section 253.77, F.S., and Chapter 258, F.S.

As staff to the Board of Trustees under Sections 253.002, F.S., the Department has determined that the activity qualifies for and requires a public easement, as long as the work performed is located within the boundaries as described and is consistent with the terms and conditions herein.

The final documents required to execute the public easement will be sent to the lessee by the Department's Division of State Lands for execution. The Department intends to issue the public easement, upon satisfactory execution of those documents, including payment of required fees and compliance with the conditions in attached permit. **You may not begin construction of the activities described until you receive a copy of the executed public easement from the Department.**

Federal Authorization

Your proposed activity as outlined on your application and attached drawings **does not qualify** for Federal authorization pursuant to the State Programmatic General Permit and a **SEPARATE permit** or authorization **shall be required** from the Corps. You must apply separately to the Corps using the Application for Department of the Army Permit (ENG 4345) or alternative as allowed by Corps regulations. More information on Corps permitting may be found online in the Jacksonville District Regulatory Division Sourcebook:

(<https://www.saj.usace.army.mil/Missions/Regulatory/Source-Book/>).

Authority for review - an agreement with the USACOE entitled "Coordination Agreement Between the U. S. Army Corps of Engineers (Jacksonville District) and the Florida Department of Environmental Protection (or Duly Authorized Designee), State Programmatic General Permit", Section 10 of the Rivers and Harbor Act of 1899, and Section 404 of the Clean Water Act.

Coastal Zone Management

Issuance of this authorization also constitutes a finding of consistency with Florida's Coastal Zone Management Program, as required by Section 307 of the Coastal Zone Management Act.

Water Quality Certification

This permit also constitutes a water quality certification under Section 401 of the Clean Water Act, 33 U.S.C. 1341.

Other Authorizations

You are advised that authorizations or permits for this activity may be required by other federal, state, regional, or local entities including but not limited to local governments or municipalities. This permit does not relieve you from the requirements to obtain all other required permits or authorizations.

The activity described may be conducted only in accordance with the terms, conditions and attachments contained in this document. Issuance and granting of the permit and authorizations herein do not infer, nor guarantee, nor imply that future permits, authorizations, or modifications will be granted by the Department.

PERMIT & SOVEREIGNTY SUBMERGED LANDS CONDITIONS

The activities described must be conducted in accordance with:

- **The Specific Conditions**
- **The General Conditions**
- **The General Conditions for Sovereignty Submerged Lands Authorization**
- **The limits, conditions and locations of work shown in the attached drawings**
- **The term limits of this authorization**

You are advised to read and understand these conditions and drawings prior to beginning the authorized activities, and to ensure the work is conducted in conformance with all the terms, conditions, and drawings herein. If you are using a contractor, the contractor also should read and understand these conditions and drawings prior to beginning any activity. Failure to comply with these conditions, including any mitigation requirements, shall be grounds for the Department to revoke the permit and authorization and to take appropriate enforcement action.

Operation of the facility is not authorized except when determined to be in conformance with all applicable rules and this permit and sovereignty submerged lands authorization, as described.

SPECIFIC CONDITIONS – EXECUTION OF PROPRIETARY DOCUMENTS

(1) The terms, conditions, and provisions of the required public easement shall be met. Construction of this activity shall not commence on sovereign submerged lands, title to which is held by the Board of Trustees of the Internal Improvement Trust Fund, until all required public easement agreement documents have been executed to the satisfaction of the Department.

SPECIFIC CONDITIONS- PROJECT FORMS & ATTACHMENTS

(2) The attached project drawings (sheets 1 through 9); the Standard Manatee Conditions for In-Water Work, 2011; the Frac-Out Plan(sheets 1 through 2); and DEP forms 62-330.310(3), 62-330.310(1); 62-330.310(2); 62-330.340(1); and 62-330.350(1), which may be downloaded at <http://www.dep.state.fl.us/water/wetlands/erp/forms.htm> become part of this permit. If the permittee does not have access to the Internet, please contact the Department at (561) 681-6600 to request the aforementioned forms and/or document(s).

SPECIFIC CONDITIONS - PRIOR TO CONSTRUCTION

(3) After selection of the contractor to perform the authorized activities and prior to the initiation of any work authorized by this permit, the permittee (or authorized agent) and the contractor shall attend a pre-construction conference with a representative of the Department. It shall be the responsibility of the permittee to contact the Department's Compliance Assistance Program, by email SED_Compliance@FloridaDEP.gov or by phone (561) 681-6600, to schedule the pre-construction conference.

(4) Prior to the initiation of any work authorized by this permit, floating turbidity curtains with weighted skirts that extend to within one foot of the bottom shall be placed around the project site, and shall be maintained and remain in place for the duration of the project construction to ensure that turbid discharges do not occur outside the boundaries of the floating turbidity screens. The permittee shall be responsible for ensuring that turbidity control devices are inspected daily and maintained in good working order during all phases of construction authorized by this permit until all areas that were disturbed during construction are sufficiently stabilized to prevent turbid discharges.

SPECIFIC CONDITIONS – CONSTRUCTION ACTIVITIES

(5) There shall be no storage or stockpiling of tools and materials (i.e., lumber, pilings, debris), along the shoreline adjacent to waters of the state. All excess lumber, scrap wood, trash, garbage, and any other type of debris shall be removed from wetlands/waters of the state within 14 days of completion of the work authorized in this permit. All construction equipment/tools and materials shall be transported to and from the site via upland roadways and barges and all equipment/tools and materials shall be stored on the uplands.

(6) The permittee shall implement the following Best Management Practices (BMPs) to minimize the potential for adverse environmental impacts during HDD activities:

- a) Best management practices for erosion control within the staging area shall be implemented and maintained at all times during construction of the upland entry pit and drilling operations to prevent siltation and turbid discharges in excess of State water quality standards pursuant to Rule 62-302, F.A.C. Methods shall include, but are not limited to, the use of staked hay bales, staked filter cloth, sodding, seeding, and mulching; staged construction; and the installation of turbidity screens around the immediate project site.

(7) The HDD drill pits and all staging shall be within uplands.

(8) All HDD activities shall take place during daylight hours only.

(9) The entry and exit points of the directional drill shall be located on uplands and contained with berms/staked hay bales to contain any material from traveling into surrounding areas.

(10) Return water shall not be discharged into adjacent surface waters and/or wetlands, and all severed materials shall be temporarily placed in self-contained upland containment pits. The spoil containment pits shall be constructed to contain all severed materials and prevent the escape of severed materials and associated effluent into adjacent storm drains, surface waters, and/or wetlands. All containment pits and staging areas shall be located on uplands. Construction personnel shall maintain daily logs (including a depiction of the area inspected) outlining all bore route inspections conducted during construction.

(11) In the event of a frac-out during construction activities, preparedness and avoidance procedures shall be implemented and adhered to as stated in the attached frac-out contingency plan.

(12) Within 14 days of the pipe installation, the permittee shall fully restore the staging area to its original condition. Paved surfaces shall be repaired and unpaved surface areas shall be replanted with native vegetation.

(13) To provide an additional level of resource protection, the volume of bentonite in the drill string shall be monitored at all times during directional drilling operation. Should a drop in volume of bentonite occur, the following measures will be taken:

- b) Immediately conduct a visual inspection of both terrestrial and subaqueous portions of the HDD corridor. If a frac-out is detected, notify the Southeast District Compliance Project Manager listed in the Specific Condition above, within 2 hours of detection.
- c) Should the release of drilling materials occur, the appropriate actions shall take place in strict accordance with the attached “Frac-Out Monitoring & Emergency Management Plan.”

(14) A fully enclosed truck shall remain onsite for frac-out assistance as well as to remove all drilling fluids prior to backfilling containment pits. If nighttime drilling and/or boring activities are performed beneath wetlands or surface waters, the permittee and/or contractor shall provide evidence to the Department that the contracted construction personnel is equipped with the best available lighting to detect a frac-out during low light conditions, which shall be utilized when tracing the HDD at night. Prior to nighttime drilling and/or boring activities, the permittee and/or contractor shall contact the Department a minimum of 48 hours prior to commencement of drilling, etc.

(15) Additives to the bentonite drilling slurry is not authorized under this permit. A permit modification will be required if additional additives or new concentrations are needed. Toxicity evaluations using marine organisms with concentrations of additives representative of those proposed for HDD boring will be required to evaluate the permit modification request.

(16) In order to minimize the possibility of a bentonite release during punch out, the site project manager shall consider the use of water in place of bentonite during the last 30 to 50 feet of the directional bore. The HDD operator shall stop the flow of recirculated bentonite and the borehole shall be flushed with water to remove the bentonite. Once the drill string is clear of bentonite, drilling will continue using only water as the boring medium. The first monitoring report submitted to the Department will discuss if water was used during the final stages of drilling and if not, the reasons why it wasn't feasible.

SPECIFIC CONDITIONS – MONITORING/REPORTING REQUIREMENTS

(17) Turbidity levels outside the construction area shall not exceed 0 NTU's above ambient levels. The following measures shall be taken immediately by the permittee whenever turbidity levels within waters of the State surrounding the project site exceed ambient turbidity levels of the surrounding Outstanding Florida Waters:

- a) Notify the Department at (561) 681-6600 at the time the violation is first detected.
- b) Immediately cease all work contributing to the water quality violation.
- c) Stabilize all exposed soils contributing to the violation. Modify the work procedures that were responsible for the violation, install more turbidity containment devices, and repair any non-functional turbidity containment devices.
- d) As required, perform turbidity monitoring per Specific Conditions below.
- e) Resume construction activities once turbidity levels outside turbidity curtains fall below background levels.

(18) Water turbidity levels shall be monitored if a turbidity plume is observed outside the limits of the required silt fencing. Samples shall be taken every four hours until turbidity subsides at one foot above the bottom, mid-depth, and one-foot below the surface at monitoring stations located as follows:

- f) Approximately 100 feet up-current of the work sites and clearly outside the influence of construction activities. (This shall serve as the natural background sample against which other turbidity readings shall be compared.)
- g) Directly outside the turbidity curtains surrounding the work sites and within the densest portion of any visible turbidity plume. (This sample shall serve as the compliance sample.)

(19) During construction activities, the permittee or permittee's contractor shall collect the following turbidity monitoring data at the frequency and water depths directed by Specific Condition listed above:

- h) Date and time of sampling event
- i) Turbidity sampling results (background 0NTUs, compliance 0NTUs, and the difference between them)
- j) Description of data collection methods
- k) An aerial map indicating the sampling locations
- l) Depth of sample(s)
- m) Weather conditions at times of sampling
- n) Tidal stage and direction of flow

Data shall be collected in a turbidity log and shall include a statement by the individual responsible for implementation of the sampling program attesting to the authenticity, precision, limits of detection, and accuracy of the data. The turbidity log shall be scanned and sent on a weekly basis to the Department's Compliance Assistance Program by email at SED_Compliance@FloridaDEP.gov. The subject line of the email shall include the project name, permit number, and the title "Turbidity Monitoring Reports."

SPECIFIC CONDITIONS – MANATEE CONDITIONS

(20) The permittee shall comply with the standard manatee protection construction conditions listed in the attached "2011 Standard Manatee Conditions for In-Water Work".

(21) The Permittee shall follow the attached Horizontal Directional Drilling Programmatic Consultation Conditions Regarding Manatee Protection for the protection of manatees during the proposed work.

(22) During in-water construction activities and in the event of a frac-out, the following manatee conditions shall be followed:

- a) All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal

Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.

- b) All vessels associated with the construction project shall operate at "Idle Speed/No Wake" while in the project area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible and follow any posted speed zones.
- c) If used, siltation, turbidity barriers, booms or curtains shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
- d) All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shut-down if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
- e) Temporary signs concerning manatees shall be posted on all vessels associated with the project. This sign shall measure at least 8 ½" by 11" and explain the requirements for "Idle Speed/No Wake" and the shutdown of in-water operations. Information on this sign is available at:
<https://myfwc.com/wildlifehabitats/wildlife/manatee/education-for-marinas/>.

(23) If a manatee appears to be in distress after coming in contact with drilling mud, work vessels or equipment, it shall be reported immediately by calling the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922. Any collision with or injury to a manatee shall also be reported immediately. A follow-up written report shall be sent to FWC as soon as practicable at ImperiledSpecies@myfwc.com , including the permit number, dates, details and status of the event

SPECIFIC CONDITIONS – LISTED SPECIES

(24) This permit does not authorize the permittee to cause any adverse impact to or "take" of state listed species and other regulated species of fish and wildlife. Compliance with state laws regulating the take of fish and wildlife is the responsibility of the owner or applicant associated with this project. Please refer to Chapter 68A-27 of the Florida Administrative Code for definitions of "take" and a list of fish and wildlife species. If listed species are observed onsite, FWC staff are available to provide decision support information or assist in obtaining the appropriate FWC permits. Most marine endangered and threatened species are statutorily protected and a "take" permit cannot be issued. Requests for further information or review can be sent to conservationplanningservices@myfwc.com .

GENERAL CONDITIONS FOR INDIVIDUAL PERMITS

The following general conditions are binding on all individual permits issued under chapter 62-330, F.A.C., except where the conditions are not applicable to the authorized activity, or where the conditions must be modified to accommodate project-specific conditions.

(1) All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized may subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.

(2) A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the Agency staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.

(3) Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the State of Florida Erosion and Sediment Control Designer and Reviewer Manual (Florida Department of Environmental Protection and Florida Department of Transportation June 2007), and the Florida Stormwater Erosion and Sedimentation Control Inspector's Manual (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), which are both incorporated by reference in subparagraph 62-330.050(9)(b)5., F.A.C., unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.

(4) At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the Agency a fully executed Form 62-330.350(1), "Construction Commencement Notice," [October 1, 2013], which is incorporated by reference in paragraph 62-330.350(1)(d), F.A.C., indicating the expected start and completion dates. A copy of this form may be obtained from the Agency, as described in subsection 62-330.010(5), F.A.C. If available, an Agency website that fulfills this notification requirement may be used in lieu of the form.

(5) Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.

(6) Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:

- a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex – "Construction Completion and Inspection Certification for Activities Associated With a Private Single-Family Dwelling Unit" [Form 62-330.310(3)]; or

- b. For all other activities – “As-Built Certification and Request for Conversion to Operational Phase” [Form 62-330.310(1)].
- c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.

(7) If the final operation and maintenance entity is a third party:

- a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as- built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.3 of Volume I) as filed with the Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.
- b. Within 30 days of submittal of the as- built certification, the permittee shall submit “Request for Transfer of Environmental Resource Permit to the Perpetual Operation Entity” [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.

(8) The permittee shall notify the Agency in writing of changes required by any other regulatory agency that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.

(9) This permit does not:

- a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;
- b. Convey to the permittee or create in the permittee any interest in real property;
- c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or
- d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.

(10) Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.

(11) The permittee shall hold and save the Agency harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.

(12) The permittee shall notify the Agency in writing:

- a. Immediately if any previously submitted information is discovered to be inaccurate; and
- b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots

or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.

(13) Upon reasonable notice to the permittee, Agency staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.

(14) If any prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, work involving subsurface disturbance in the immediate vicinity of such discoveries shall cease. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section, at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Such subsurface work shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and notification shall be provided in accordance with Section 872.05, F.S.

(15) Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.

(16) The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.

(17) This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the Agency will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.

(18) A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with subsection 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.

GENERAL CONDITIONS FOR SOVEREIGNTY SUBMERGED LANDS AUTHORIZATION

Any use of sovereignty submerged lands is subject to the following general conditions are binding upon the applicant and are enforceable under Chapter 253, F.S. and Chapter 258, F.S.

(19) Sovereignty submerged lands may be used only for the specified activity or use. Any unauthorized deviation from the specified activity or use and the conditions for undertaking that activity or use will constitute a violation. Violation of the authorization will result in

suspension or revocation of the applicant's use of the sovereignty submerged lands unless cured to the satisfaction of the Board of Trustees.

(20) Authorization under Rule 18-21.005, F.A.C., conveys no title to sovereignty submerged lands or water column, nor does it constitute recognition or acknowledgment of any other person's title to such land or water.

(21) Authorizations under Rule 18-21.005, F.A.C., may be modified, suspended or revoked in accordance with its terms or the remedies provided in Sections 253.04, F.S. and Chapter 18-14, F.A.C.

(22) Structures or activities will be constructed and used to avoid or minimize adverse impacts to resources.

(23) Construction, use, or operation of the structure or activity will not adversely affect any species which is endangered, threatened or of special concern, as listed in Rules 68A-27.003, 68A-27.004, and 68A-27.005, F.A.C.

(24) Structures or activities will not unreasonably interfere with riparian rights. When a court of competent jurisdiction determines that riparian rights have been unlawfully affected, the structure or activity will be modified in accordance with the court's decision.

(25) Structures or activities will not create a navigational hazard.

(26) Structures will be maintained in a functional condition and will be repaired or removed if they become dilapidated to such an extent that they are no longer functional.

(27) Structures or activities will be constructed, operated, and maintained solely for water dependent purposes.

(28) The applicant agrees to indemnify, defend and hold harmless the Board of Trustees and the State of Florida from all claims, actions, lawsuits and demands in any form arising out of the authorization to use sovereignty submerged lands or the applicant's use and construction of structures on sovereignty submerged lands. This duty to indemnify and hold harmless will include any and all liabilities that are associated with the structure or activity including special assessments or taxes that are now or in the future assessed against the structure or activity during the period of the authorization.

(29) Failure by the Board of Trustees to enforce any violation of a provision of the authorization or waiver by the Board of Trustees of any provision of the authorization will not invalidate the provision not enforced or waived, nor will the failure to enforce or a waiver prevent the Board of Trustees from enforcing the unenforced or waived provision in the event of a violation of that provision.

(30) Applicant binds itself and its successors and assigns to abide by the provisions and conditions set forth in the authorization. If the applicant or its successors or assigns fails or refuses

to comply with the provisions and conditions of the authorization, the authorization may be terminated by the Board of Trustees after written notice to the applicant or its successors or assigns. Upon receipt of such notice, the applicant or its successors or assigns will have thirty (30) days in which to correct the violations. Failure to correct the violations within this period will result in the automatic revocation of this authorization.

(31) All costs incurred by the Board of Trustees in enforcing the terms and conditions of the authorization will be paid by the applicant. Any notice required by law will be made by certified mail at the address shown on page one of the authorization. The applicant will notify the Board of Trustees in writing of any change of address at least ten days before the change becomes effective.

(32) This authorization does not allow any activity prohibited in a conservation easement or restrictive covenant that prohibits the activity.

NOTICE OF RIGHTS

This action is final and effective on the date filed with the Clerk of the Department unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until a subsequent order of the Department. Because the administrative hearing process is designed to formulate final agency action, the subsequent order may modify or take a different position than this action.

Petition for Administrative Hearing

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rules 28-106.201 and 28-106.301, F.A.C., a petition for an administrative hearing must contain the following information:

- (a) The name and address of each agency affected and each agency's file or identification number, if known;
- (b) The name, address, any e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency decision;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
- (f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and

- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us. Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant and persons entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 of publication of the notice or within 14 days of receipt of the written notice, whichever occurs first. You cannot justifiably rely on the finality of this decision unless notice of this decision and the right of substantially affected persons to challenge this decision has been duly published or otherwise provided to all persons substantially affected by the decision. While you are not required to publish notice of this action, you may elect to do so pursuant Rule 62-110.106(10)(a).

The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C. If you do not publish notice of this action, this waiver may not apply to persons who have not received a clear point of entry.

Extension of Time

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us, before the deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation

Mediation is not available in this proceeding.

FLAWAC Review

The applicant, or any party within the meaning of Section 373.114(1)(a) or 373.4275, F.S., may also seek appellate review of this order before the Land and Water Adjudicatory Commission under Section 373.114(1) or 373.4275, F.S. Requests for review before the Land and Water Adjudicatory Commission must be filed with the Secretary of the Commission and served on the

Department within 20 days from the date when this order is filed with the Clerk of the Department.

Judicial Review

Once this decision becomes final, any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Florida Rules of Appellate Procedure 9.110 and 9.190 with the Clerk of the Department in the Office of General Counsel (Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000) and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice must be filed within 30 days from the date this action is filed with the Clerk of the Department.

Executed in Palm Beach County, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION



Sirena Davila
District Director
Southeast District

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this permit and all copies were sent on the filing date below to the following listed persons:

FDEP – Sirena Davila, Norva Blandin, Danielle Sattelberger, Haley Osborne, Patricia Andrade, Brian Fedak, Irene Arpayoglou, irene.arpayoglou@dep.state.fl.us, Matthew Anderson matthew.r.anderson@floridadep.gov
Martin County, env@martin.fl.us

Bertrand King, Kimley-Horn & Associates, Inc., Bertrand.King@kimley-horn.com
Marjorie Craig, Village of Tequesta, mcraig@tequesta.org

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to Section 120.52, F. S., with the designated Department Clerk, receipt of which is hereby acknowledged.

Danielle Lucido August 22th, 2024

Clerk Date

Attachments:

Project Drawings and Design Specs., 9 pages

Frac-Out Plan, 2 pages

Horizontal Directional Drilling Programmatic Consultation Conditions Regarding Manatee Protection, 2 pages

Standard Manatee Conditions for In-Water Work, 2011

As-built Certification and Request for Conversion to Operational Phase Form 62-330.310(1)*

Request for Transfer to the Perpetual Operation Entity Form 62-330.310(2)*

Request to Transfer Permit Form 62-330.340(1)*

Commencement Notice Form 62-330.350(1)*

*Can be downloaded at: <https://floridadep.gov/water/submerged-lands-environmental-resources-coordination/content/forms-environmental-resource>

Frac-Out Contingency Plan for Horizontal Directional Drilling

1. Background

HDD is less intrusive than traditional open-cut trenching which results in direct disturbance to subaqueous habitat. Frac-out, or inadvertent return of drilling lubricant, is a potential concern when HDD is used under sensitive habitats and waterways. The HDD method uses bentonite slurry, a fine clay material, as a drilling lubricant. Bentonite is non-toxic and commonly used in farming practices, but benthic invertebrates, aquatic plants and fish and their eggs can be smothered by the fine particles if bentonite were discharged to waterways.

2. Purpose

The purpose of this frac-out contingency plan is to:

- Minimize the potential for a frac-out associated with horizontal directional drilling activities.
- Protect areas that are considered environmentally sensitive.
- Ensure an organized, timely, and “minimum-impact” response in the event of a frac-out.
- Ensure that notifications are made to the appropriate regulatory agencies.

3. Approach

To minimize the potential for a frac-out, the following steps will be taken:

- Ensure that all field personnel understand their responsibility for timely reporting of frac-outs.
- Maintain necessary response equipment on-site or at a readily accessible location and in good working order.
- Locate drill entry and exit points a sufficient distance from Waters of the United States (WOTUS) and its adjacent wetlands.
- Clearly mark drill entry and exit locations.
- Erect construction or silt fencing around drill pit locations.

4. Contingency Response

If a frac-out occurs the following actions will be taken:

- Immediately stop work, including recycling of the drilling mud/lubricant. The pressure of water above the pipe will help prevent excess mud from escaping through the fracture.
- Determine the location and extent of the frac-out.
- If the frac-out is terrestrial:
 - Isolate the area with hay bales, sand bags, or silt fencing to surround and contain the drilling mud.
 - Determine the next appropriate action among the following:
 - Use a mobile vacuum truck to pump the drilling mud from the contained area and recycle it to the return pit; or,
 - Leave drilling mud in place.
 - Reseed area as appropriate in order to re-establish vegetation.
- If the frac-out is aquatic (i.e., under water):
 - Monitor frac-out for 4 hours to determine if the drilling mud congeals (bentonite will usually harden, effectively sealing the frac-out location).
 - Consult with FDEP and USACE regarding next appropriate action among the following:
 - If drilling mud congeals, take no other action that would potentially suspend sediments in the water column.
 - If drilling mud does not congeal, erect isolation/containment environment (underwater boom and curtain).

- If the fracture becomes excessively large, a spill response team would be called in to contain and clean up excess drilling mud in the water. Phone numbers of spill response teams in the area will be on site.
 - If the spill affects an area that is vegetated, the area will be seeded and/or replanted using species similar to those in the adjacent area, or allowed to re-grow from existing vegetation.
- After frac-out is stabilized and any required slurry removal is completed, document post-cleanup conditions with photographs and prepare frac-out incident report describing time, place, actions taken to remediate frac-out and measures implemented to prevent recurrence. Incident report will be provided to FDEP and USACE not more than 30 days after the incident.



Florida Fish and Wildlife Conservation Commission Programmatic Consultation Conditions

Horizontal Directional Drilling

Manatee Protection Conservation Measures

The Florida Fish and Wildlife Conservation Commission (FWC) provides conservation conditions for these specific activities to State of Florida regulatory agencies to be added to multiple authorizations through a single consultation letter. The FWC consultation letter associated with this activity, Horizontal Directional Drilling, is dated August 28, 2019.

Activities covered under this programmatic

This programmatic consultation is for the installation of pipelines (such as conduits for electrical, water, cable, etc.) by horizontal directional drilling (HDD) methodology used in waters accessible to manatees. The following scenarios are exceptions to this programmatic:

- Involves trenching in manatee accessible waterways;
- Is intended for the transport of oil, gas or other potentially hazardous materials;
- Is expected to adversely affect submerged aquatic resources;
- Is expected to adversely affect protected marine species other than manatees;
- Is expected to adversely affect listed or protected species during construction in the upland sites;
- Is located within or immediately adjacent to a manatee warm water refuge.
- FWC would like to review projects that may meet the intent of this programmatic if the Department or District believes unique or unforeseen circumstances may adversely affect listed or protected species.

If the proposed project includes any of the above exceptions, this programmatic does not apply and FWC should be consulted for review and comment.

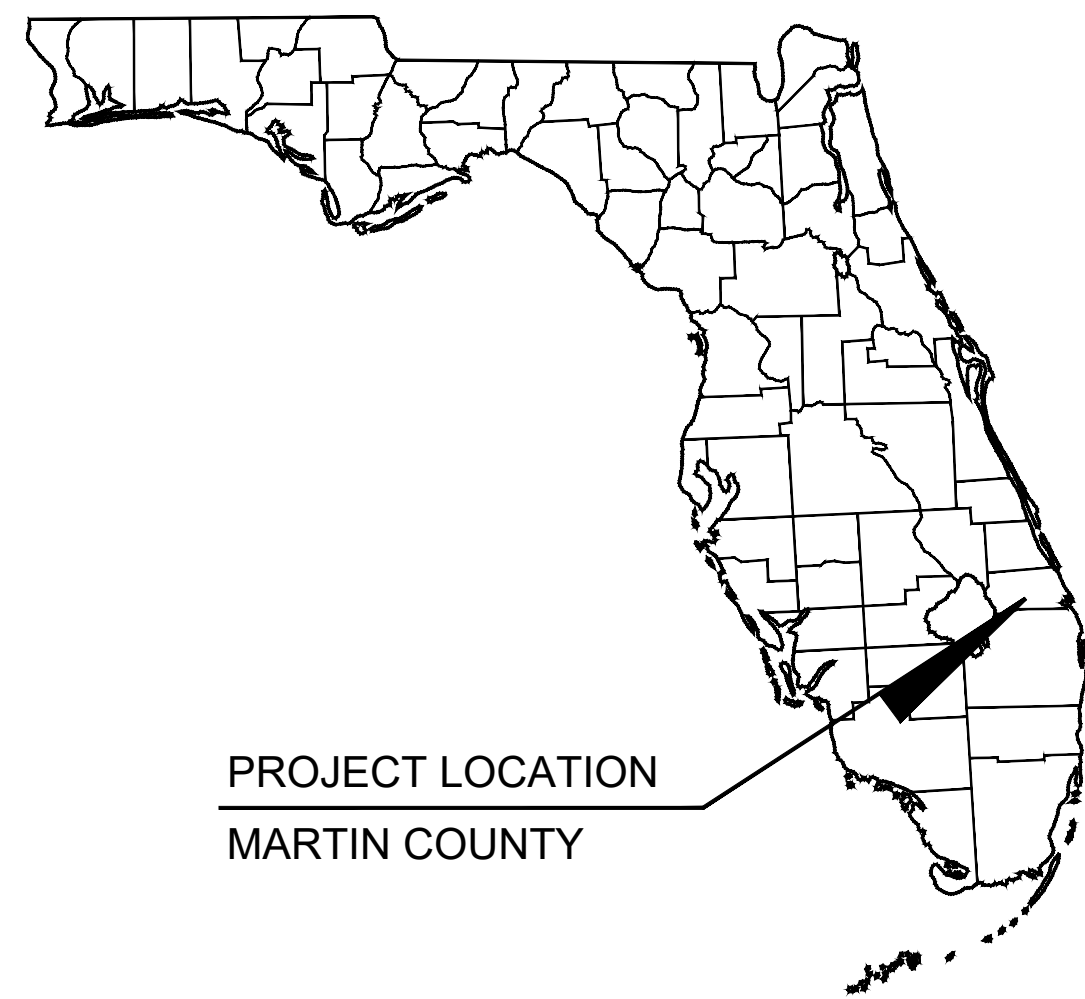
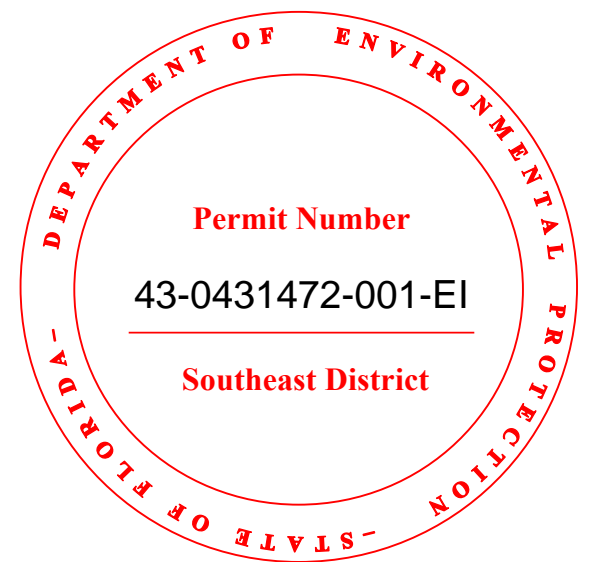
Recommended Manatee Conservation Conditions

If none of the above-mentioned exceptions are applicable, it is our recommendation that the following conservation measures be incorporated as conditions into the final authorization. If these measures are included as conditions in the permit and implemented by the Permittee, all state requirements for the protection of fish and wildlife will be met in accordance with 379.2431(2) and 373.414(1)(a)2 Florida Statutes:

1. If a manatee appears to be in distress after coming in contact with drilling mud, work vessels or equipment, it shall be reported immediately by calling the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922. Any collision with or injury to a manatee shall also be reported immediately. A follow-up written report shall be sent to FWC as soon as practicable at ImperiledSpecies@myfwc.com, including the permit number, dates, details and status of the event.
2. During in-water construction activities and in the event of a frac-out, the following manatee conditions shall be followed:
 - a. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.

CONSTRUCTION PLANS FOR COUNTY LINE ROAD 8" WATERMAIN AND 12" RAW WATERMAIN RELOCATION

PREPARED FOR THE
VILLAGE OF TEQUESTA
APRIL 2023



CITY OFFICIALS

MAYOR
VICE MAYOR
COUNCIL MEMBER
COUNCIL MEMBER
COUNCIL MEMBER
WATER UTILITIES DIRECTOR
VILLAGE MANAGER

MOLLY YOUNG
KYLE STONE
FRANK D'AMBRA
LAURIE BRANDON
AARON JOHNSON
MARJORIE CRAIG
JEREMY ALLEN



LOCATION MAP
N.T.S.

INDEX OF SHEETS	
Sheet Number	Sheet Title
C-1	COVER SHEET
C-2	GENERAL NOTES
C-3	OVERALL AERIAL SITE PLAN AND KET SHEET
C-4	WATERMAIN AND RAW WATERMAIN RELOCATION PLAN
C-5	OVERALL DIRECTIONAL DRILL PLAN AND PROFILE
C-6	WATERMAIN AND RAW WATERMAIN RELOCATION PLAN
C-7	V.O.T. STANDARD DETAILS
C-8	V.O.T. STANDARD DETAILS
C-9	MARTIN COUNTY PUBLIC WORKS – STANDARD DETAILS

100% SUBMITTAL

CALL 2 WORKING DAYS BEFORE YOU DIG
IT'S THE LAW! DIAL 811
Know what's below. Call before you dig.
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

Plotted By: Santoro, Sol. Sheet Set: COUNTY LINE RD.WM AND RWM Layout: C-1 COVER SHEET April 18, 2023 02:34:20pm K:\WPB_Civil\040097046-County Line Rd.WM and RWM\CADD\PlanSheets\C-1 COVER SHEET.dwg This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of any improper reference on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

No.	REVISIONS	DATE	BY

Kimley»Horn

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
1920 WEKIVA WAY SUITE 200, WEST PALM BEACH, FL 33411
PHONE: 561-845-0665 FAX: 561-863-8175
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT	040097046
DATE	APRIL 2023
SCALE	AS SHOWN
DESIGNED BY	SS
DRAWN BY	SS
CHECKED BY	TCJ

COUNTY LINE ROAD WATERMAIN AND RAW WATERMAIN RELOCATION
PREPARED FOR
VILLAGE OF TEQUESTA
VILLAGE OF TEQUESTA, FLORIDA

LICENSED PROFESSIONAL
THOMAS C. JENSEN
FLORIDA LICENSE NUMBER
37290

COVER SHEET

SHEET NUMBER
C-1

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GENERAL CONSTRUCTION NOTES

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITIES AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE APPROVING AUTHORITIES, SPECIFICATIONS AND REQUIREMENTS. ALL WORK SHALL BE PERFORMED IN A PROFESSIONAL MANNER AND SHALL CONFORM WITH ALL APPLICABLE CITY, COUNTY, STATE, AND FEDERAL REGULATIONS AND/OR CODES.
- 2. EXISTING UTILITIES SHOWN ARE LOCATED ACCORDING TO THE INFORMATION AVAILABLE TO THE ENGINEER AT THE TIME OF THE TOPOGRAPHIC SURVEY. GUARANTEE IS NOT MADE THAT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN OR THAT THE LOCATION OF THOSE SHOWN ARE ENTIRELY ACCURATE. FINDING THE ACTUAL LOCATION OF ANY EXISTING UTILITIES IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE DONE BEFORE HE COMMENCES ANY WORK IN THE VICINITY. FURTHERMORE, THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE OWNER OR ENGINEER WILL ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES, NOR FOR TEMPORARY BRACING AND SHORING OF SAME. IF IT IS NECESSARY TO SHORE, BRACE, SWING OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK.
- 3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE CONSTRUCTION AREA BEFORE COMMENCING WORK. THE CONTRACTOR SHALL PROVIDE 48 HOURS MINIMUM NOTICE TO ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION. A LIST OF THE UTILITY COMPANIES WHICH THE CONTRACTOR MUST CALL BEFORE COMMENCING WORK IS PROVIDED BELOW. THIS LIST SERVES AS A GUIDE ONLY AND IS NOT INTENDED TO LIMIT THE UTILITY COMPANIES WHICH THE CONTRACTOR MAY WISH TO NOTIFY.

LOXAHATCHEE RIVER DISTRICT 2500 JUPITER PARK DR JUPITER, FL 33458 PROJECT CONTACT: KRIS DEAN, P.E. PHONE NUMBER: (561) 401-4024	ATT UTILITY COORDINATOR 2315 GEES MILL BUSINESS PKWY NE CONYERS, GA 30013 PROJECT CONTACT: PAUL HERRON PHONE NUMBER: (561) 281-5302
COMCAST CABLE 10435 IRONWOOD ROAD PALM BEACH GARDENS, FL 33410 PROJECT CONTACT: MIYA FISHER PHONE NUMBER: (561) 454-5846	FLORIDA POWER & LIGHT 4200 W FLAGLER ST MIAMI, FL 33134 PROJECT CONTACT: JOEL BRAY PHONE NUMBER: (386) 536-6403
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED CONSTRUCTION PERMITS, LICENSES, AND BONDS AS REQUIRED PRIOR TO CONSTRUCTION. CONTRACTOR SHALL OBTAIN COPIES OF AND FAMILIARIZE HIMSELF AND HIS SUBCONTRACTORS WITH THE PERMIT CONDITIONS OF ALL OWNER OBTAINED PERMITS FOR THE WORK.
- 5. ANY DISCREPANCIES ON THE DRAWINGS, INCLUDING ALL DEVIATION FROM THE EXISTING UTILITY SIZE AND LOCATIONS SHOWN ON THE PLANS, SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING TO THE ENGINEER A CERTIFIED RECORD SURVEY SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF FLORIDA DEPICTING THE ACTUAL FIELD LOCATION OF ALL CONSTRUCTED IMPROVEMENTS THAT ARE REQUIRED BY THE JURISDICTIONAL AGENCIES FOR THE CERTIFICATION PROCESS. ALL SURVEY COSTS WILL BE THE CONTRACTORS RESPONSIBILITY.
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING AND MAINTAINING AS-BUILT INFORMATION WHICH SHALL BE RECORDED AS CONSTRUCTION PROGRESSES OR AT THE COMPLETION OF APPROPRIATE CONSTRUCTION INTERVALS AND SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT DRAWINGS TO THE OWNER FOR THE PURPOSE OF CERTIFICATION TO JURISDICTIONAL AGENCIES AS REQUIRED. ALL AS-BUILT DATA SHALL BE COLLECTED BY A STATE OF FLORIDA PROFESSIONAL LAND SURVEYOR WHOSE SERVICES ARE ENGAGED BY THE CONTRACTOR.
- 8. THE CONTRACTOR SHALL PROVIDE VIDEO DOCUMENTATION OF THE SITE CONDITIONS AND EXISTING UTILITY CONDITIONS AS REQUIRED BY THE OWNER PRIOR TO CONSTRUCTION. VIDEO DOCUMENTATION SHALL BE CONDUCTED BY A PROFESSIONAL WITH EXPERIENCE WITH VIDEO DOCUMENTATION OF SIMILAR PROJECTS AND EXISTING UTILITIES. ALL VIDEO DOCUMENTATION COSTS WILL BE THE CONTRACTORS RESPONSIBILITY.
- 9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER/ENGINEER PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK THAT WOULD BE AFFECTED. FAILURE TO NOTIFY OWNER/ENGINEER OF AN IDENTIFIABLE CONFLICT PRIOR TO PROCEEDING WITH INSTALLATION RELIEVES OWNER OF ANY OBLIGATION TO PAY FOR A RELATED CHANGE ORDER.
- 10. ACCESS TO ADJACENT PROPERTIES SHALL BE MAINTAINED TO THE GREATEST EXTENT PRACTICAL. WHEN ACCESS CANNOT BE MAINTAINED, THE TIME OF NON-ACCESS SHALL BE MINIMIZED AND CLOSELY COORDINATED WITH THE PROPERTY OWNER.
- 11. ANY DAMAGE TO PRIVATE PROPERTY MADE BY THE CONTRACTOR SHALL BE PROMPTLY REPAIRED TO AN EQUAL OR BETTER CONDITION AS IT WAS BEFORE COMMENCEMENT OF THE WORK. ALL REPAIR COSTS WILL BE THE CONTRACTOR'S RESPONSIBILITY.
- 12. ALL RECORD DRAWINGS SHALL BE PROVIDED IN NAVD 1988.
- 13. ALL PAVING, CONSTRUCTION, MATERIALS, AND WORKMANSHIP WITHIN THE RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO PUBLIC RIGHTS-OF-WAY STANDARDS AND EASEMENTS WITHIN THE VILLAGE OF TEQUESTA (VILLAGE'S STANDARDS), FDOT SPECIFICATIONS AND STANDARDS (LATEST EDITION), AND PALM BEACH COUNTY STANDARDS IF NOT COVERED BY LOCAL OR COUNTY REGULATIONS.
- 14. ALL ELEVATIONS SHOWN REFER TO NAVD 1988.
- 15. CONTRACTOR SHALL APPLY FOR AND MAINTAIN APPROPRIATE DEWATERING PERMIT(S) (IF REQUIRED) FOR GOVERNING AGENCIES AND ABIDE BY TERMS AND CONDITIONS OF PERMITS DURING CONSTRUCTION.

DEMOLITION NOTES

- 1. REFER TO THE TOPOGRAPHIC SURVEY FOR ADDITIONAL DETAILS OF EXISTING STRUCTURES, ETC., LOCATED WITHIN THE PROJECT SITE. UNLESS OTHERWISE NOTED, ALL EXISTING STRUCTURES, SLABS, FIRE HYDRANTS, PIPES, VALVES, CONCRETE, ASPHALT, DEBRIS PILES, AND ALL APPURTENANCES TO BE REMOVED FROM THE SITE BY THE CONTRACTOR AND PROPERLY DISPOSED OF IN A LEGAL MANNER AS PART OF THIS CONTRACT. SOME ITEMS TO BE REMOVED MAY NOT BE DEPICTED ON THE TOPOGRAPHIC SURVEY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND DETERMINE THE FULL EXTENT OF ITEMS TO BE REMOVED. IF ANY ITEMS ARE IN QUESTION, THE CONTRACTOR SHALL CONTACT THE OWNER PRIOR TO REMOVAL OF SAID ITEMS.
- 2. THE CONTRACTOR SHALL REFER TO THE PLANS FOR DEMOLITION/PRESERVATION OF EXISTING TREES AND LANDSCAPING. ALL TREES AND LANDSCAPING NOT SPECIFICALLY SHOWN TO BE REMOVED OR RELOCATED SHALL BE PRESERVED AS A PART OF THIS CONTRACT. TREE/LANDSCAPING PROTECTION FENCING SHALL BE INSTALLED PRIOR TO ANY DEMOLITION.
- 3. ALL OUTLETS, ELECTRICAL CONDUITS AND SERVICES TO REMAIN AND BE PROTECTED THROUGHOUT THE PROJECT DURATION.
- 4. LANDSCAPING ELEMENTS, TREES, ETC. MAY REQUIRE TEMPORARY RELOCATION TO COMPLETE THE WORK AS SHOWN. CONTRACTOR TO STORE, PROTECT, AND REINSTALL THESE ITEMS UPON COMPLETION OF THE WORK. CONTRACTOR TO COORDINATE WITH PROPERTY OWNER FOR REMOVAL/REINSTALLATION OF THESE ITEMS. IF THE TREES DO NOT SURVIVE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT IN KIND.
- 5. THE CONTRACTOR SHALL GRADE THE SITE TO RESTORE THE EXISTING DRAINAGE PATTERNS AND SHALL REGRADE WASHOUTS WHERE THEY OCCUR AFTER EVERY RAINFALL.

- 6. AREAS INDICATED AS PAVEMENT SHALL BE REPAIRED IN ACCORDANCE WITH THE TYPICAL PAVEMENT SECTIONS AND AS INDICATED ON THE DRAWINGS.
- 7. THE CONTRACTOR SHALL INSTALL FILTER FABRIC OVER ALL DRAINAGE STRUCTURES FOR THE DURATION OF CONSTRUCTION AND UNTIL ACCEPTANCE OF THE PROJECT BY THE OWNER. ALL DRAINAGE STRUCTURES SHALL BE CLEANED OF DEBRIS AS REQUIRED DURING AND AT THE END OF CONSTRUCTION TO PROVIDE POSITIVE DRAINAGE FLOWS.
- 8. FIELD DENSITY TESTS SHALL BE TAKEN AT INTERVALS IN ACCORDANCE WITH SPECIFICATIONS, THE LOCAL JURISDICTIONAL AGENCY, OR TO VILLAGE STANDARDS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT REQUIREMENT SHALL GOVERN.
- 9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF DUST AND DIRT RISING AND SCATTERING IN THE AIR DURING CONSTRUCTION AND SHALL PROVIDE WATER SPRINKLING OR OTHER SUITABLE METHODS OF CONTROL. THE CONTRACTOR SHALL COMPLY WITH ALL GOVERNING REGULATIONS PERTAINING TO ENVIRONMENTAL PROTECTION.
- 10. THE CONTRACTOR SHALL TAKE ALL REQUIRED MEASURES TO CONTROL TURBIDITY, INCLUDING BUT NOT LIMITED TO THE INSTALLATION OF TURBIDITY BARRIERS AT ALL LOCATIONS WHERE THE POSSIBILITY OF TRANSFERRING SUSPENDED SOLIDS INTO THE RECEIVING WATER BODY EXISTS DUE TO THE PROPOSED WORK. TURBIDITY BARRIERS MUST BE MAINTAINED IN EFFECTIVE CONDITION AT ALL LOCATIONS UNTIL CONSTRUCTION IS COMPLETED AND DISTURBED SOIL AREAS ARE STABILIZED. THEREAFTER, THE CONTRACTOR MUST REMOVE THE BARRIERS. AT NO TIME SHALL THERE BE ANY OFF-SITE DISCHARGE WHICH VIOLATES THE WATER QUALITY STANDARDS IN CHAPTER 17-302, FLORIDA ADMINISTRATIVE CODE.
- 11. SOD, AND FENCE, WHERE REQUIRED FOR RESTORATION, MUST BE INSTALLED TO MATCH EXISTING AND MAINTAINED THROUGH PROJECT COMPLETION.

WATER UTILITY NOTES

- 1. ALL MATERIALS TO BE PROVIDED SHALL BE IN ACCORDANCE WITH THE VILLAGE OF TEQUESTA'S APPROVED MATERIALS LIST AND DESIGN STANDARDS.
- 2. THE CONTRACTOR SHALL CONSTRUCT DOMESTIC WATER LINES AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL FURNISH ALL NECESSARY MATERIALS, EQUIPMENT, MACHINERY, TOOLS, MEANS OF TRANSPORTATION AND LABOR NECESSARY TO COMPLETE THE WORK IN FULL AND COMPLETE ACCORDANCE WITH THE SHOWN, DESCRIBED AND REASONABLY INTENDED REQUIREMENTS OF THE CONTRACT DOCUMENTS AND VILLAGE OF TEQUESTA REQUIREMENTS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
- 3. ALL EXISTING UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS FOR UTILITY LOCATION AND COORDINATION IN ACCORDANCE WITH THE NOTES CONTAINED IN THE GENERAL CONSTRUCTION SECTION OF THIS SHEET.
- 4. UNLESS OTHERWISE NOTED, PROPOSED WATER MAIN TO BE POLYVINYL CHLORIDE PIPE (PVC) PIPE. ALL FITTINGS AND VALVES TO BE MECHANICAL JOINT UNLESS OTHERWISE NOTED.
 - A. CEMENT LINED DUCTILE IRON PIPE (ALL SIZES) OR C-900 CLASS 150 DR 18 PVC PIPE (UP TO 12" DIAMETER) SHALL BE ALLOWED FOR POTABLE WATER PIPES. THE LINING FOR DUCTILE IRON PIPE SHALL BE FACTORY APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND SHALL BE WARRANTED BY THE PIPE MANUFACTURER. UNLESS SPECIFIC APPROVAL IS GRANTED, NO WATER MAIN SHALL BE ENCASED IN CONCRETE.
 - B. PVC PIPE - ALL PRODUCTS SHALL BE AS SPECIFIED BY THE VILLAGE STANDARDS. IF NO STANDARD EXISTS, THE FOLLOWING SHALL BE USED:
 - a. AWWA C-900 AND C-905 PVC PIPE
 - b. ALL PVC PIPE SHALL MEET AWWA C-900 AND C-905 STANDARDS AND NSF REQUIREMENTS FOR POTABLE WATER APPLICATION. PVC PIPE 6" THROUGH 12" SHALL BE CLASS 150, DR 18 PIPE CONFORMING TO AWWA C-900. PIPE GREATER THAN 12" SHALL CONFORM TO AWWA C-905, DR 18 OR BETTER.
 - c. FITTINGS USED IN CONJUNCTION WITH THE C-900 PVC PIPE SHALL BE AWWA DUCTILE IRON FITTINGS.
 - d. PVC WATERMAIN SHALL BE BLUE IN COLOR.
 - C. HDPE PIPE - ALL PRODUCTS SHALL BE SPECIFIED BY THE VILLAGE STANDARDS.
 - D. FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT AND SHALL CONFORM TO ANSI/AWWA STANDARD C110.A21.10 LATEST REVISION. FITTINGS 4" AND LARGER SHALL BE CEMENT LINED.
- 5. REFER TO THE VILLAGE SEPARATION DETAILS FOR INSTALLATION AT PIPE CONFLICTS. IF CROSSING IS NOT SPECIFIED, FOLLOW PART III OF CHAPTER 62-610 FAC FOR MINIMUM PIPE SEPARATION DISTANCES.
- 6. PIPE LENGTHS ARE MEASURED FROM CENTER OF FITTINGS UNLESS OTHERWISE NOTED.
- 7. DEFLECTION OF PIPE JOINTS AND CURVATURE OF PIPE SHALL NOT EXCEED 75% OF THE MANUFACTURER'S SPECIFICATIONS. SECURELY CLOSE ALL OPEN ENDS OF PIPE AND FITTINGS WITH A WATERTIGHT PLUG WHEN WORK IS NOT IN PROGRESS. THE INTERIOR OF ALL PIPES SHALL BE CLEAN AND JOINT SURFACES WIPED CLEAN AND DRY AFTER THE PIPE HAS BEEN LOWERED INTO THE TRENCH. VALVES SHALL BE PLUMB AND LOCATED ACCORDING TO THE PLANS.
- 8. ALL PHASES OF INSTALLATION, INCLUDING UNLOADING, TRENCHING, LAYING AND BACK FILLING, SHALL BE DONE IN A WORKMANLIKE MANNER. ALL PIPE AND FITTINGS SHALL BE CAREFULLY STORED FOLLOWING MANUFACTURER'S RECOMMENDATIONS. CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE COATING OR LINING IN ANY DI. PIPE FITTINGS. ANY PIPE OR FITTING WHICH IS DAMAGED OR WHICH HAS FLAWS OR IMPERFECTIONS WHICH, IN THE OPINION OF THE ENGINEER OR OWNER, RENDERS IT UNFIT FOR USE, SHALL NOT BE USED. ANY PIPE NOT SATISFACTORY FOR USE SHALL BE CLEARLY MARKED AND IMMEDIATELY REMOVED FROM THE JOB SITE, AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- 9. ALL UTILITY AND STORM DRAIN TRENCHES LOCATED UNDER AREAS TO RECEIVE PAVING SHALL BE COMPLETELY BACK FILLED IN ACCORDANCE WITH THE GOVERNING JURISDICTIONAL AGENCY'S SPECIFICATIONS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
- 10. UNDERGROUND LINES SHALL BE SURVEYED BY A STATE OF FLORIDA PROFESSIONAL LAND SURVEYOR BEFORE BACK FILLING. SEE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
- 11. ALL WATER MAIN CONSTRUCTED ON THIS PROJECT SHALL BE RESTRAINED PER VILLAGE OF TEQUESTA STANDARD DETAILS.
- 12. CONTRACTOR SHALL PERFORM, AT HIS OWN EXPENSE, ANY AND ALL TESTS REQUIRED BY THE SPECIFICATIONS AND/OR AGENCY HAVING JURISDICTION. THESE TESTS MAY INCLUDE, BUT MY NOT BE LIMITED TO, PRESSURE AND BACTERIOLOGICAL TESTING FOR POTABLE WATER SYSTEMS. A COPY OF THE TEST RESULTS SHALL BE PROVIDED TO THE UTILITY PROVIDER, OWNER AND JURISDICTIONAL AGENCY AS REQUIRED.
- 13. ALL VALVE BOXES, MANHOLE FRAMES AND COVERS ARE TO BE FLUSH WITH PROPOSED FINISHED GRADES OR WALKS, PAVEMENTS, SWALES, ETC. THEY SHALL HAVE CONCRETE PADS POURED IN UNPAVED AREAS, IN ACCORDANCE WITH VALVE, AIR RELEASE & MANHOLE SETTING DETAILS.
- 14. PRESSURE AND LEAKAGE TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE ENGINEER OR AN APPOINTED REPRESENTATIVE. THE CONTRACTOR WILL PROVIDE ALL NECESSARY APPARATUS INCLUDING A PUMP, MEASURING DEVICE, PIPING CONNECTIONS, FITTINGS AND THE NECESSARY LABOR TO CONDUCT THE TEST. THE TEST SHALL BE A MINIMUM 2 HOUR DURATION. DURING THE TEST, THE PIPE BEING TESTED SHALL BE MAINTAINED AT A PRESSURE OF NOT LESS THAN 150 PSI FOR WATER MAINS. THERE SHALL NOT BE A LOSS OR GAIN OF MORE THAN 5 PSI DURING THE TEST. LEAKAGE IS DEFINED AS THE QUANTITY OF WATER ADDED TO THE PIPE AFTER THE TESTING PERIOD. NO PIPE INSTALLATION WILL BE ACCEPTED IF THE LEAKAGE EXCEEDS THE QUANTITIES SPECIFIED IN AWWA C-605 OR C-600 AS APPROPRIATE. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE PROPOSED TESTING PATTERN TO FOLLOW. THIS SHALL BE SUBMITTED FOR APPROVAL BY THE ENGINEER TO THE VILLAGE PRIOR TO TESTING. UNLESS APPROVED BY THE ENGINEER, THE CONTRACTOR SHALL NOT TEST MORE THAN 1,500 FT OF THE PIPE IN A SINGLE TEST, AND ALL SERVICES MUST BE INSTALLED.
- 15. TAPS SHALL NOT BE MADE CLOSER THAN 8" OR TWICE THE PIPE DIAMETER, WHICHEVER IS GREATER.
- 16. ALL LINES SHALL BE BACTERIOLOGICALLY EVALUATED IN ACCORDANCE WITH RULE 62.555 340 FAC.

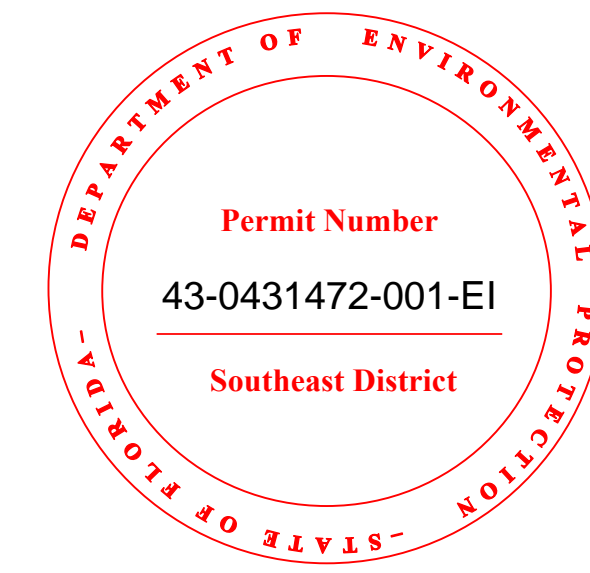
EROSION CONTROL NOTES

- 1. CONTRACTOR SHALL PREPARE AND SUBMIT A NOTICE OF INTENT TO USE THE APPLICABLE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT PRIOR TO THE START OF WORK. THE CONTRACTOR SHALL PREPARE AN EROSION CONTROL PLAN AS NOTED HERE AND IN THE PROJECT SPECIFICATIONS.
- 2. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE STATE OF FLORIDA NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (NPDES PERMIT) AND BECOME FAMILIAR WITH THEIR CONTENTS.
- 3. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES (BMP'S) AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST TO THE OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
- 4. BEST MANAGEMENT PRACTICES AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY THE PERMITTING AGENCY OR OWNER.
- 5. EROSION CONTROL PLAN MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.
- 6. THE CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT.
- 7. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
- 8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL ON SITE AND TRACKING OF SOIL. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
- 9. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
- 10. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THE PLAN, SHALL BE INITIATED AS SOON AS PRACTICABLE.
- 11. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED AS SOON AS POSSIBLE.
- 12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.

EROSION CONTROL MAINTENANCE

ALL MEASURES STATED IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A 0.5" RAINFALL EVENT, AND CLEANED AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

- 1. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING, OR DETERIORATION.
- 2. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.
- 3. OUTLET STRUCTURES IN THE SEDIMENTATION BASINS SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 55 CUBIC YARDS / ACRE.



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WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT 040097046
DATE APRIL 2023
SCALE AS SHOWN
DESIGNED BY SS
DRAWN BY SS
CHECKED BY TCJ

COUNTY LINE ROAD WATERMAIN AND RAW WATERMAIN RELOCATION

PREPARED FOR
VILLAGE OF TEQUESTA

VILLAGE OF TEQUESTA, FLORIDA

LICENSED PROFESSIONAL

THOMAS C. JENSEN

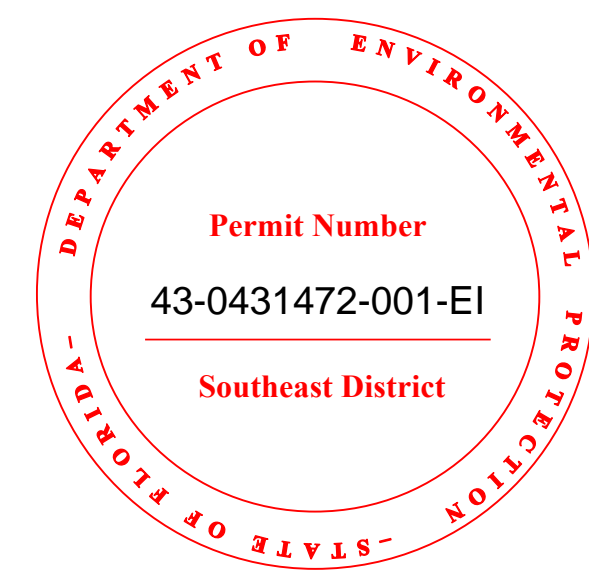
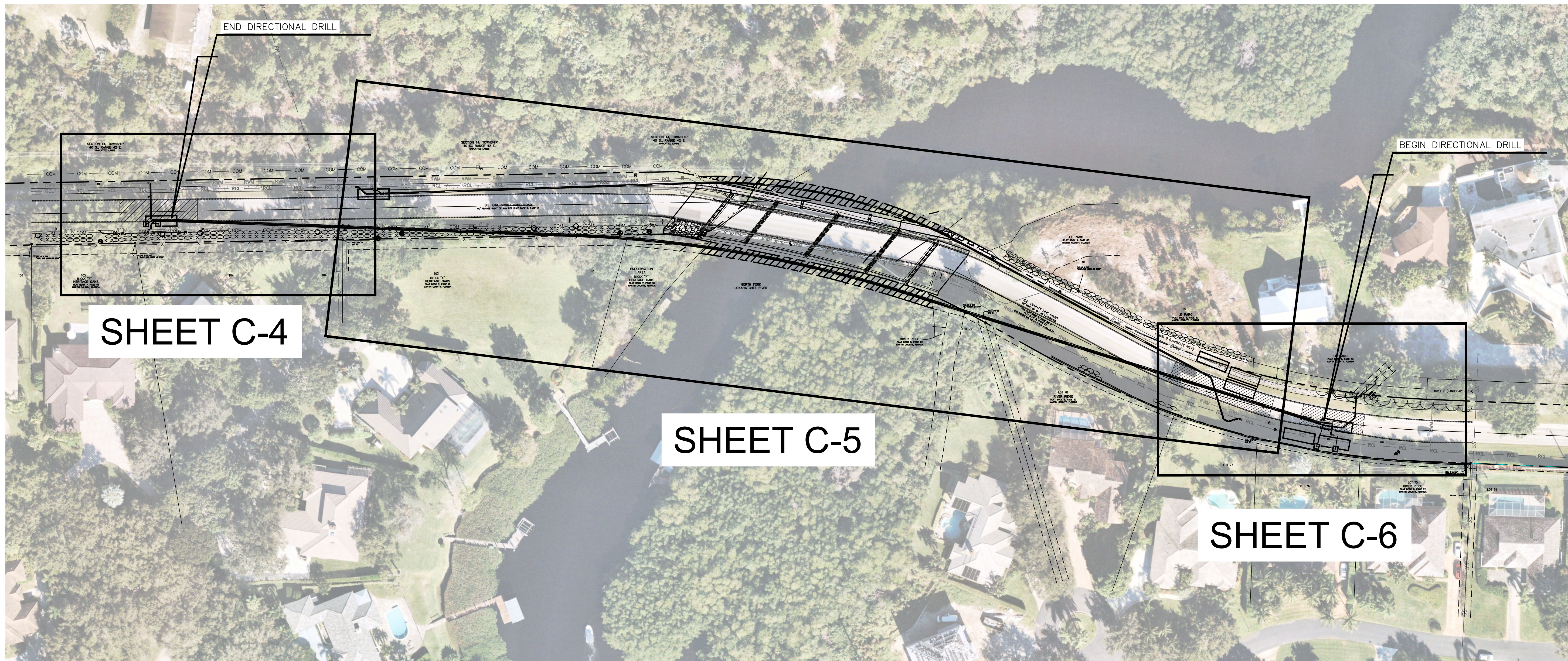
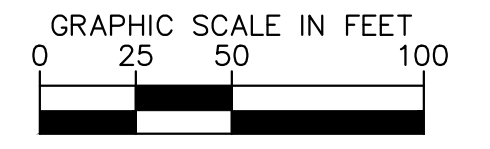
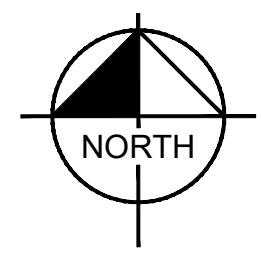
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GENERAL NOTES

SHEET NUMBER

C-2

Plotted By: Santoro, Sol. Sheet Set: COUNTY LINE RD. WM. AND RWM. Layout: C-3 OVERALL AERIAL SITE PLAN AND KET SHEET. April 18, 2023 02:34:36pm. K:\WEB_Civil\040097046-County Line Rd. WM. and RWM.CADD\PlanSheets\C-3 OVERALL AERIAL SITE PLAN AND KET SHEET.dwg. This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of any information contained herein without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



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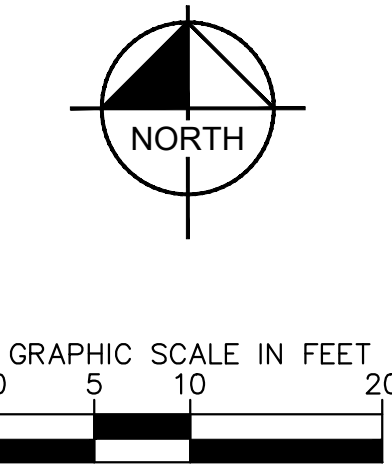
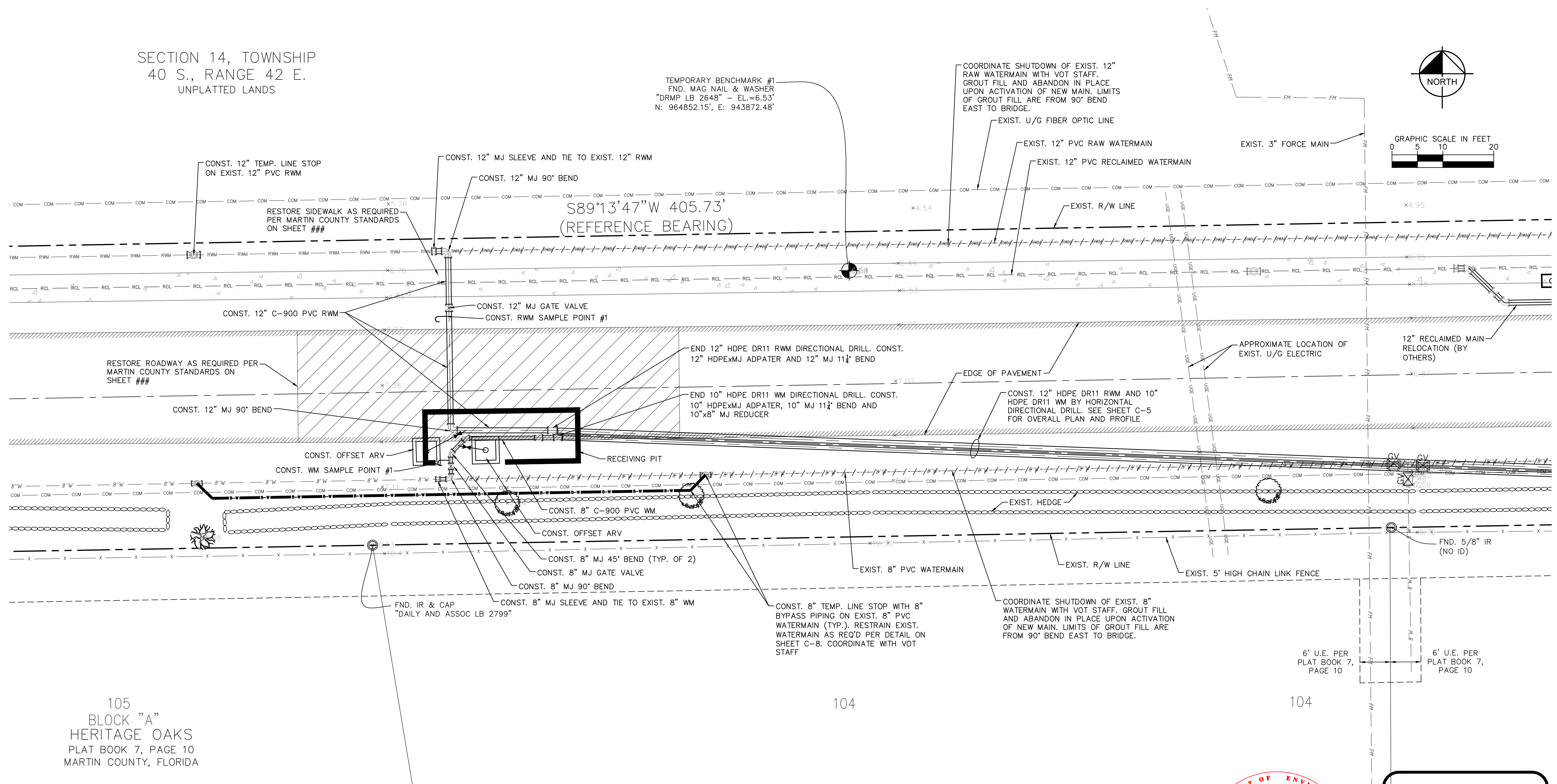
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OVERALL AERIAL SITE PLAN AND KET SHEET

SHEET NUMBER
C-3

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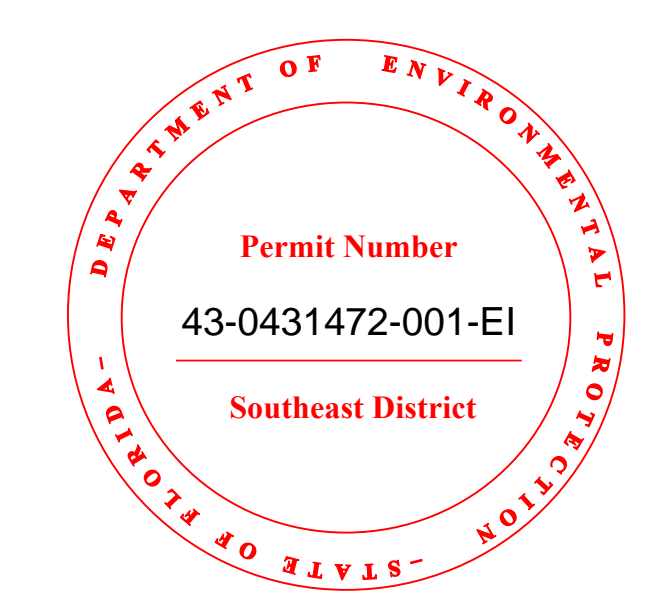
SECTION 14, TOWNSHIP
40 S., RANGE 42 E.
UNPLATTED LANDS



105
BLOCK "A"
HERITAGE OAKS
PLAT BOOK 7, PAGE 10
MARTIN COUNTY, FLORIDA

104

104



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COUNTY LINE ROAD WATERMAIN AND RAW WATERMAIN RELOCATION

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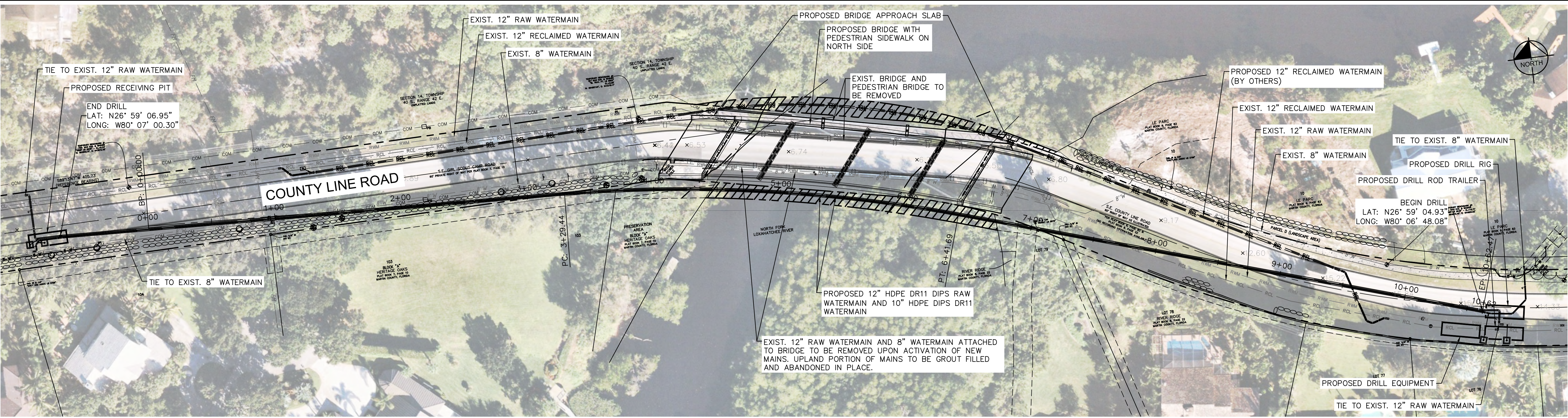
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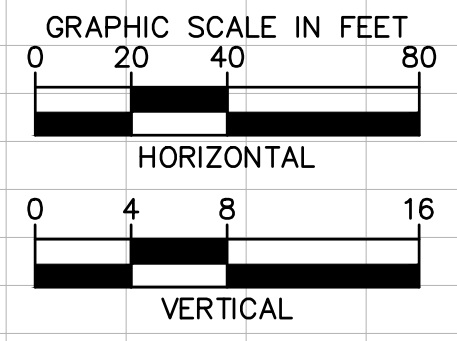
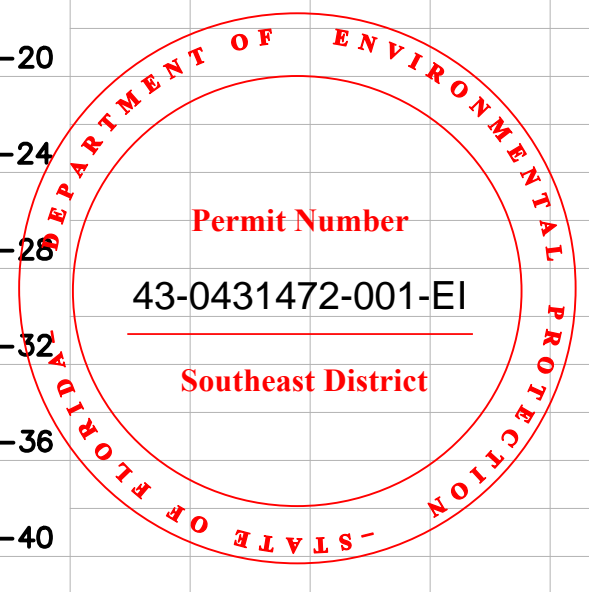
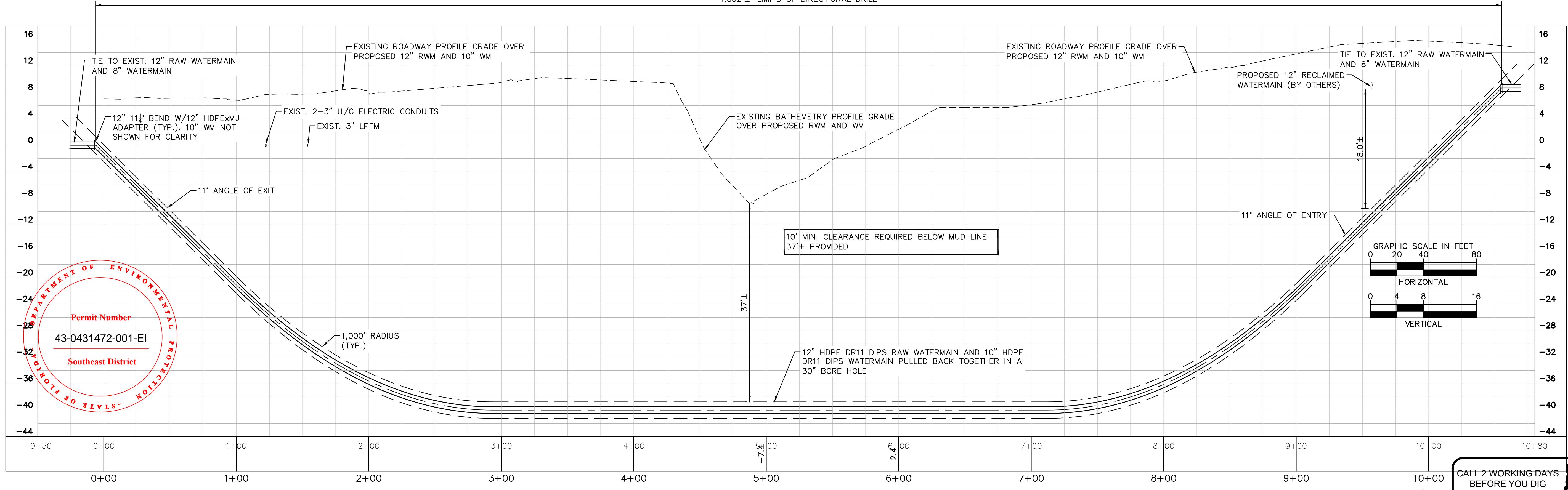
WATERMAIN AND RAW WATERMAIN RELOCATION PLAN

SHEET NUMBER
C-4

Plotted By: Santoro, Sol. Sheet Set: COUNTY LINE RD. WM AND RWM. Layout: C-5 OVERALL DIRECTIONAL DRILL PLAN AND PROFILE. April 18, 2023. 02:35:07pm. K:\WEB_Civil\040097046-County Line Rd. WM and RWM\CADD\PlanSheets\C-5 OVERALL DIRECTIONAL DRILL PLAN AND PROFILE.dwg
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1,062'±—LIMITS OF DIRECTIONAL DRILL



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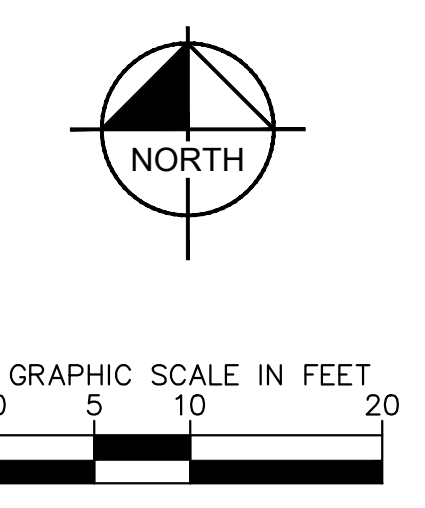
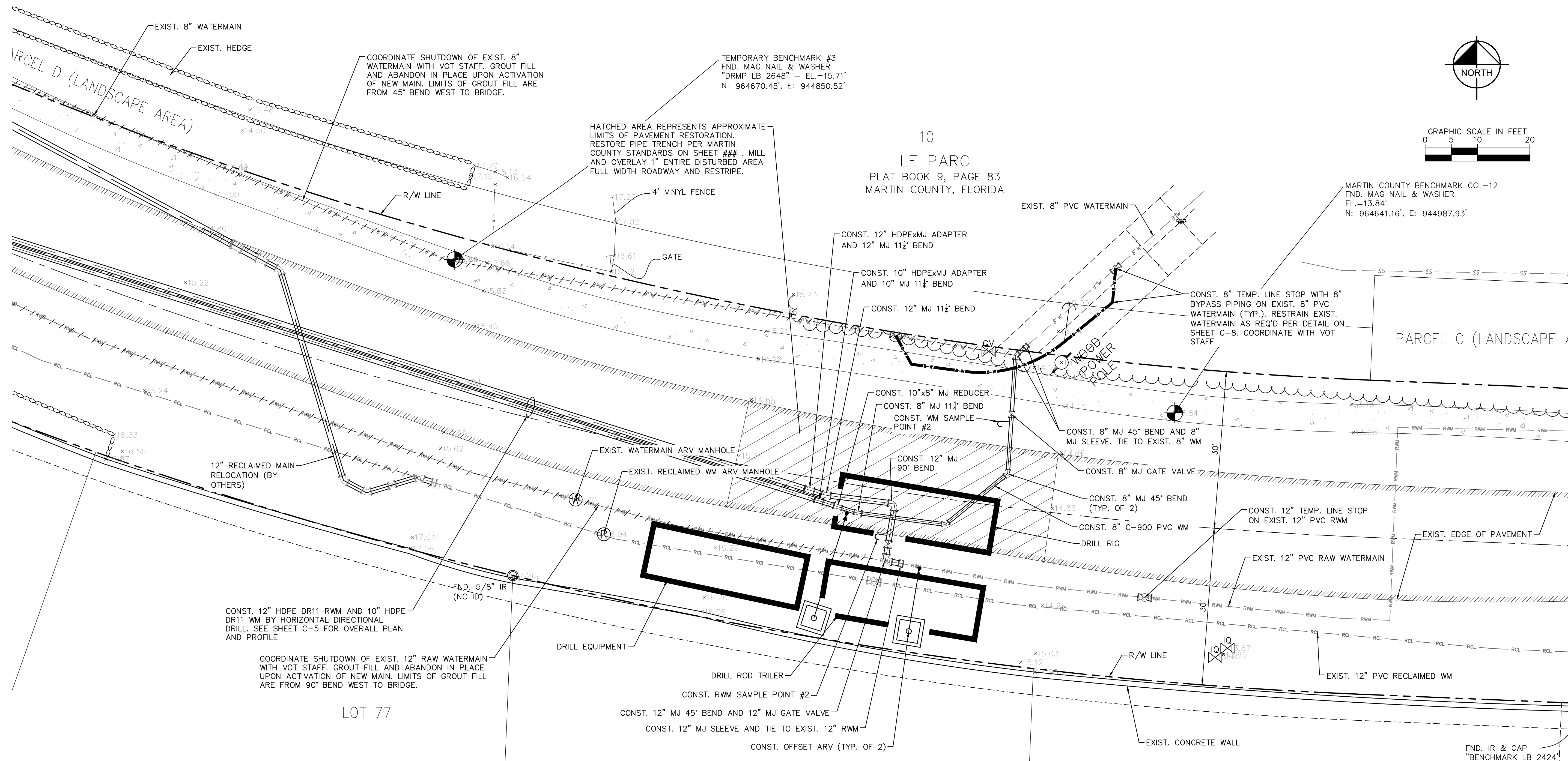
COUNTY LINE ROAD WATERMAIN AND RAW WATERMAIN RELOCATION
 PREPARED FOR VILLAGE OF TEQUESTA
 VILLAGE OF TEQUESTA, FLORIDA

LICENSED PROFESSIONAL
 THOMAS C. JENSEN
 FLORIDA LICENSE NUMBER 37290

OVERALL DIRECTIONAL DRILL PLAN AND PROFILE

SHEET NUMBER
C-5

K:\WPB_Civil\040097046-COUNTY LINE RD WM AND RAW WATERMAIN AND RAW WATERMAIN RELOCATION PLAN.dwg
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MARTIN COUNTY BENCHMARK CCL-12
 FND. MAG NAIL & WASHER
 EL.=13.84'
 N: 964641.16', E: 944987.93'

PARCEL C (LANDSCAPE AREA)

LOT 77

TEMPORARY BENCHMARK #3
 FND. MAG NAIL & WASHER
 "DRMP LB 2648" - EL.=15.71'
 N: 964670.45', E: 944850.52'

HATCHED AREA REPRESENTS APPROXIMATE LIMITS OF PAVEMENT RESTORATION. RESTORE PIPE TRENCH PER MARTIN COUNTY STANDARDS ON SHEET ###. MILL AND OVERLAY 1" ENTIRE DISTURBED AREA FULL WIDTH ROADWAY AND RESTRIPE.

10
 LE PARC
 PLAT BOOK 9, PAGE 83
 MARTIN COUNTY, FLORIDA

SS — SS — SS — SS — SS — SS — SS — SS

CONST. 12" HDPE DR11 RWM AND 10" HDPE DR11 WM BY HORIZONTAL DIRECTIONAL DRILL. SEE SHEET C-5 FOR OVERALL PLAN AND PROFILE

COORDINATE SHUTDOWN OF EXIST. 12" RAW WATERMAIN WITH VOT STAFF. GROUT FILL AND ABANDON IN PLACE UPON ACTIVATION OF NEW MAIN. LIMITS OF GROUT FILL ARE FROM 90° BEND WEST TO BRIDGE.

CONST. 8" TEMP. LINE STOP WITH 8" BYPASS PIPING ON EXIST. 8" PVC WATERMAIN (TYP.). RESTRAIN EXIST. WATERMAIN AS REQ'D PER DETAIL ON SHEET C-8. COORDINATE WITH VOT STAFF

WOOD POWER POLE

CONST. 12" MJ 45° BEND AND 12" MJ GATE VALVE
 CONST. 12" MJ SLEEVE AND TIE TO EXIST. 12" RWM
 CONST. OFFSET ARV (TYP. OF 2)

CONST. 8" MJ 45° BEND (TYP. OF 2)
 CONST. 8" C-900 PVC WM
 DRILL RIG

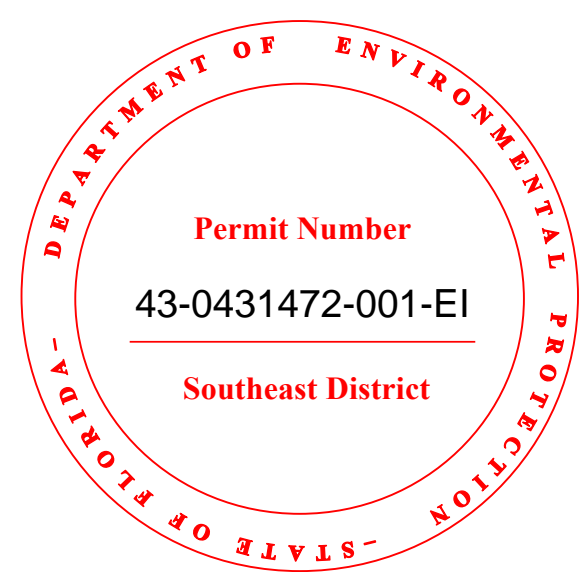
CONST. 12" TEMP. LINE STOP ON EXIST. 12" PVC RWM

EXIST. EDGE OF PAVEMENT

EXIST. 12" PVC RAW WATERMAIN

EXIST. 12" PVC RECLAIMED WM

FND. IR & CAP
 "BENCHMARK LB 2424"



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COUNTY LINE ROAD WATERMAIN AND RAW WATERMAIN RELOCATION

PREPARED FOR
VILLAGE OF TEQUESTA

VILLAGE OF TEQUESTA, FLORIDA

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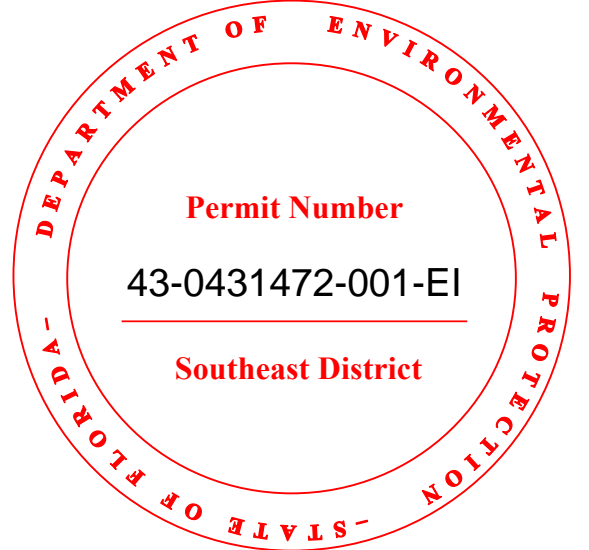
THOMAS C. JENSEN

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WATERMAIN AND RAW WATERMAIN RELOCATION PLAN

SHEET NUMBER
C-6

Plotted By: Sontore, Sai | Sheet Set: COUNTY LINE RD WM AND RWM | Layout: C-7 V.O.T. STANDARD DETAILS | April 18, 2023 02:35:31pm | K:\WPB\Civil\040097046-County Line Rd WM and RWM\CADD\PlanSheets\C-7 V.O.T. STANDARD DETAILS.dwg | This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



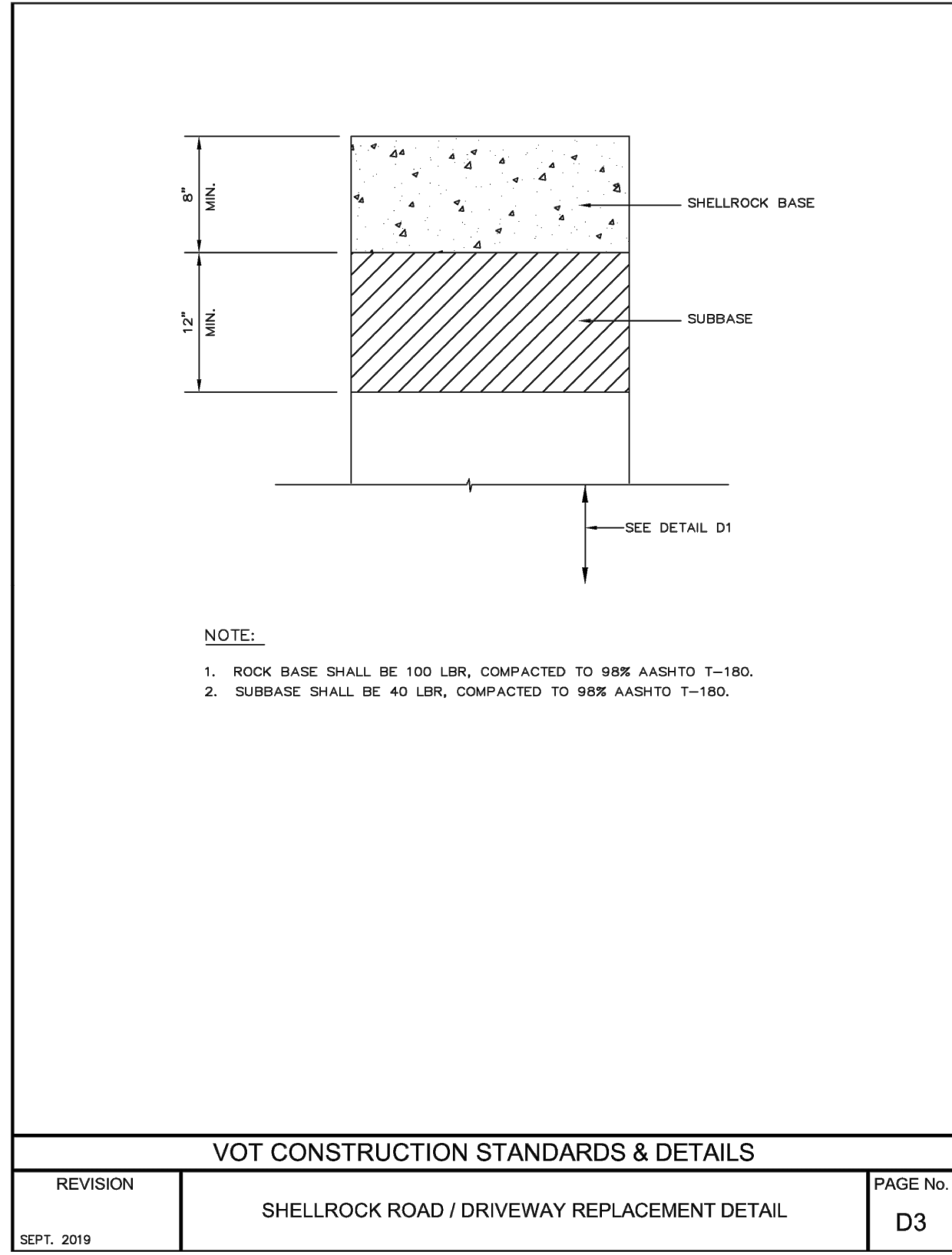
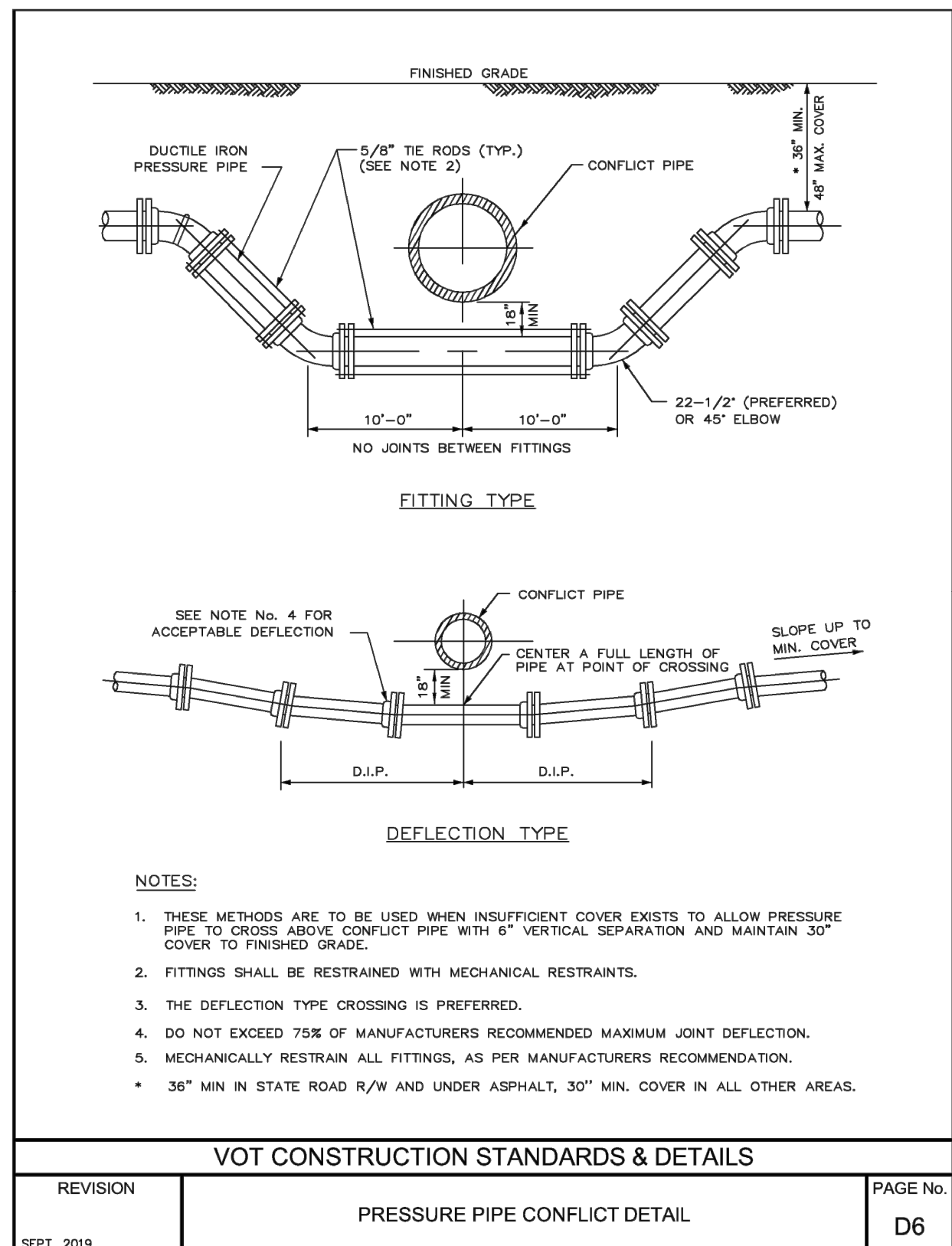
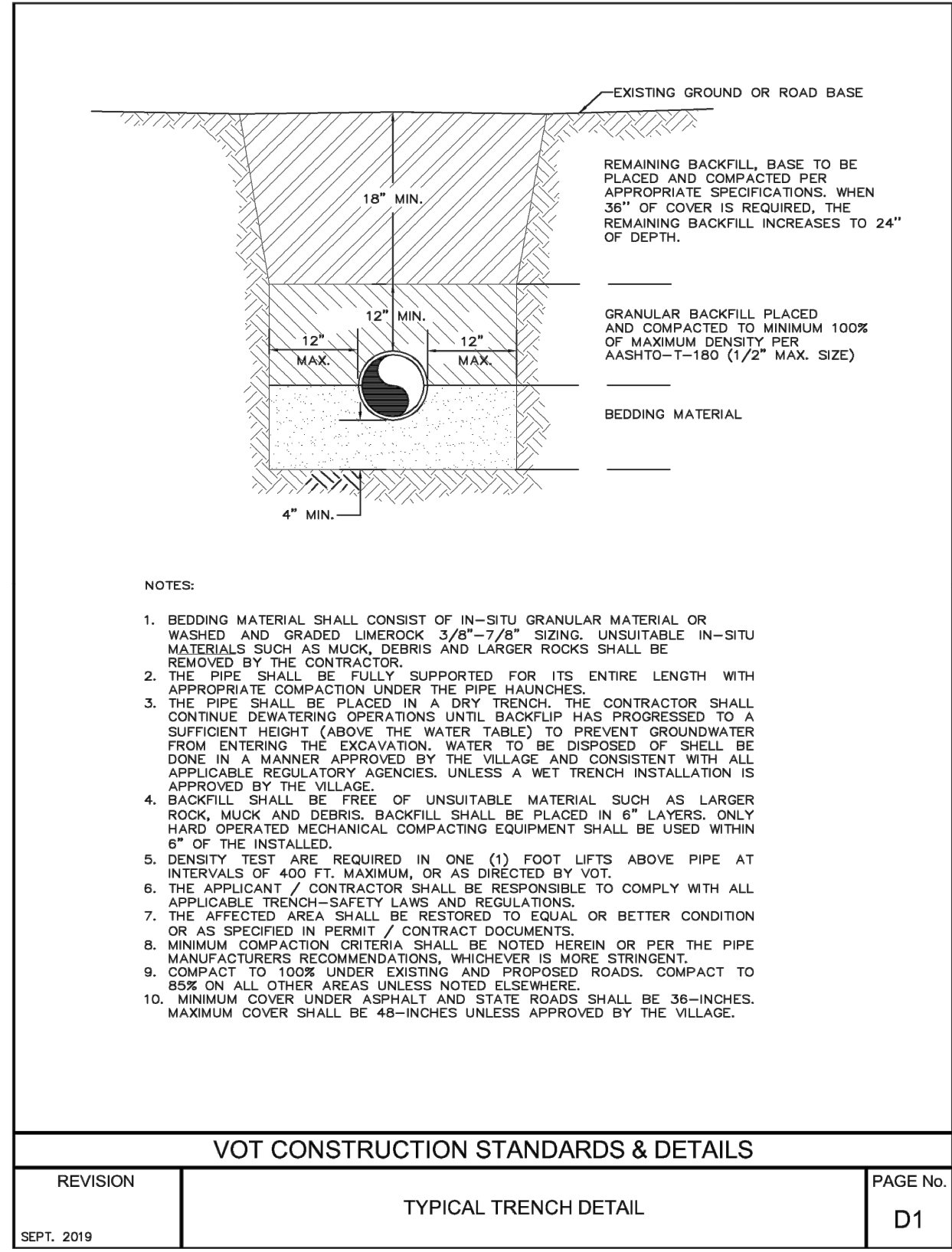
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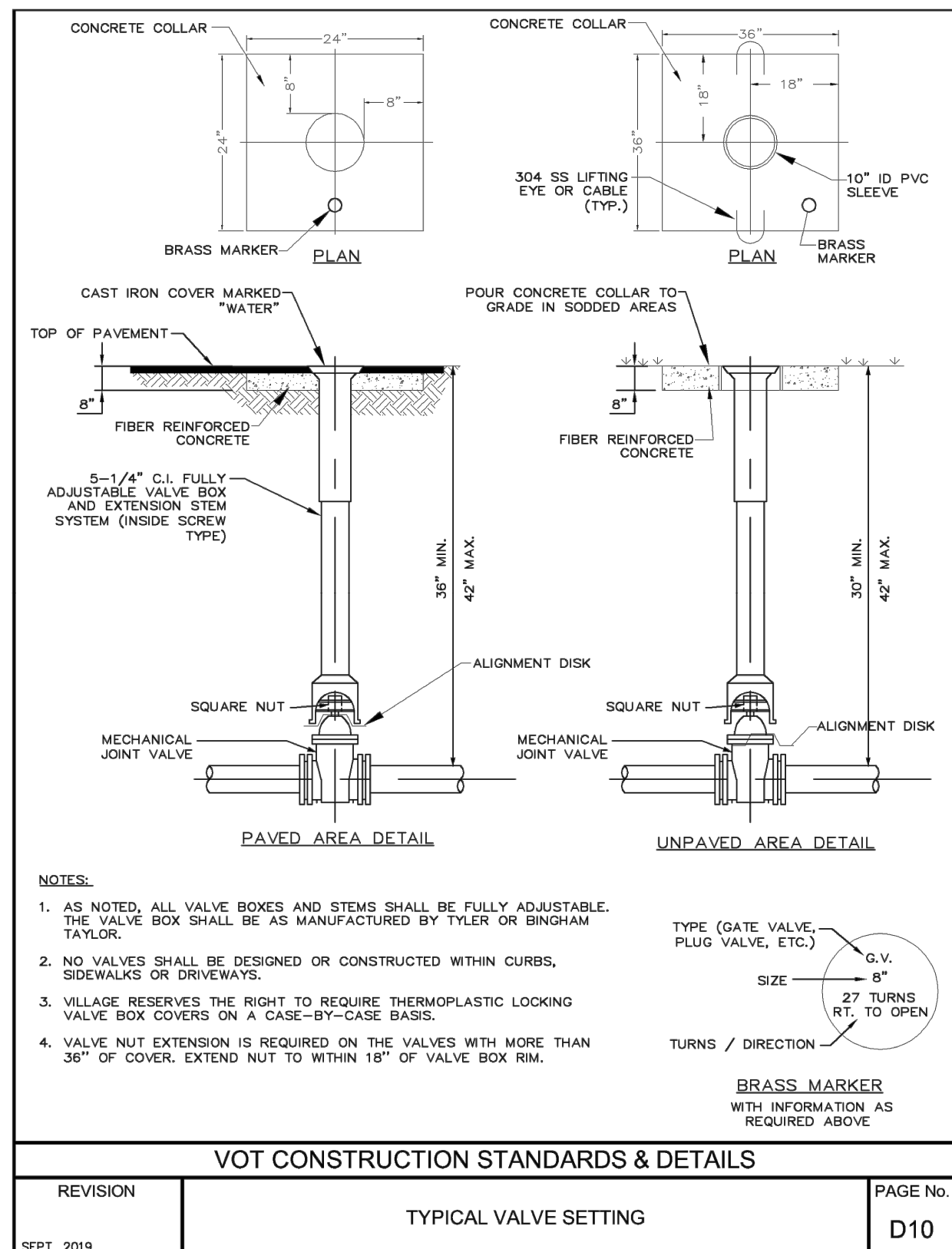
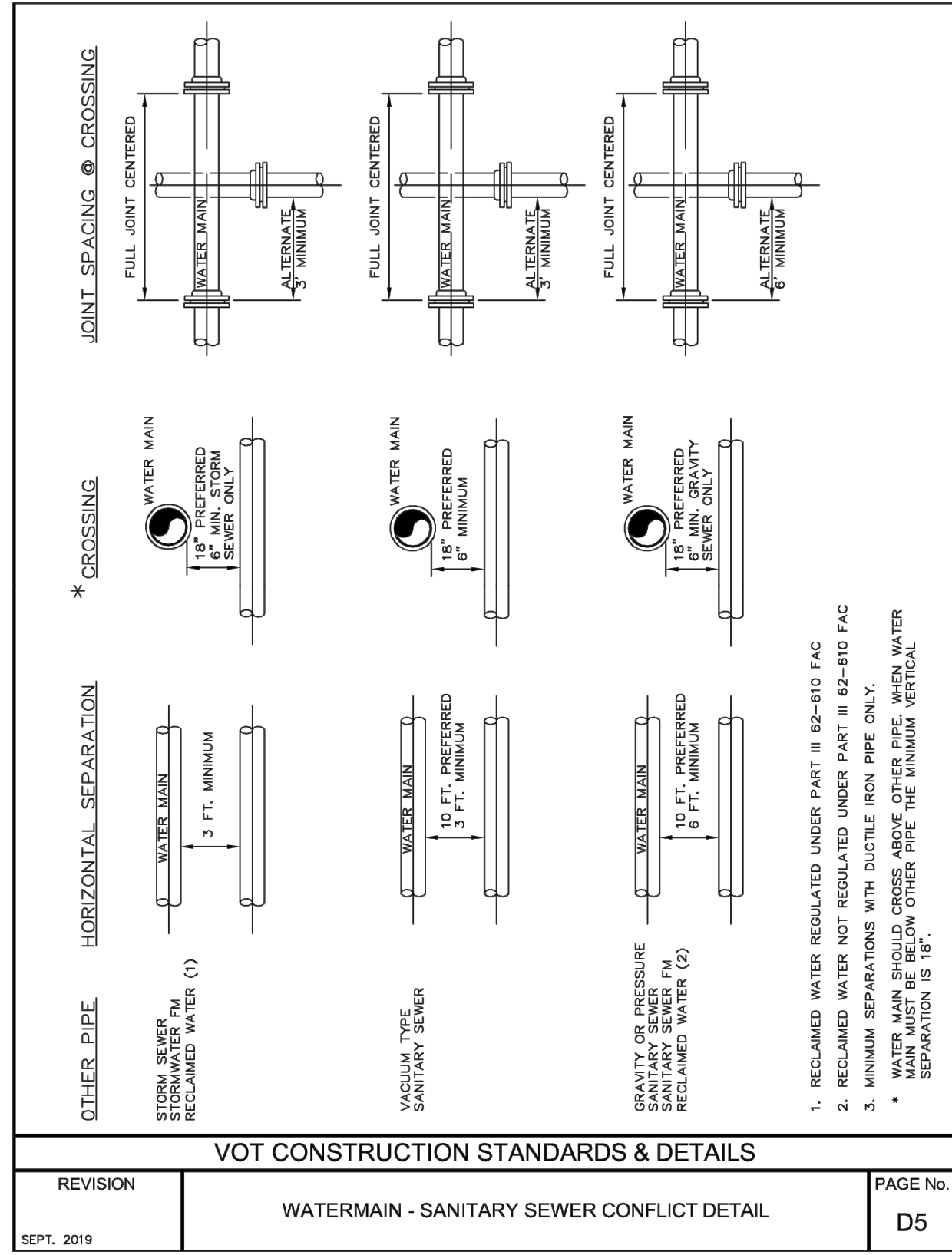
SUNSHINE STATE ONE CALL OF FLORIDA, INC.



VOT CONSTRUCTION STANDARDS & DETAILS

CONFLICT MANHOLE DETAIL

MIN. LENGTH OF PIPE (FEET) TO BE RESTRAINED		SOURCE: THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE, DIPRA 6TH EDITION, 2006	
FITTING TYPE	PIPE SIZE (ø)	PIPE SIZE (ø)	
		4\"/>	
HORIZ. 90° BEND	4\"/>		
HORIZ. 45° BEND	4\"/>		
HORIZ. 22.5° BEND	4\"/>		
HORIZ. 11.25° BEND	4\"/>		
90° VERT. OFFSET BEND	UPPER BEND	31	44
	LOWER BEND	18	25
45° VERT. OFFSET BEND	UPPER BEND	13	19
	LOWER BEND	8	11
22.5° VERT. OFFSET BEND	UPPER BEND	7	9
	LOWER BEND	4	5
11.25° VERT. OFFSET BEND	UPPER BEND	4	5
	LOWER BEND	2	3
4\"/>			
8\"/>			
10\"/>			
12\"/>			
14\"/>			
16\"/>			
18\"/>			
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24\"/>			
30\"/>			
36\"/>			
42\"/>			
60\"/>			
REDUCER (LARGER PIPE RESTRAINT)	10\"/>		
	12\"/>		
	14\"/>		
	16\"/>		
	18\"/>		
	20\"/>		
	24\"/>		
	30\"/>		
	36\"/>		
	42\"/>		
	60\"/>		
FLUG / IN-LINE VALVE	31	44	58



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PHONE: 561-845-0665 FAX: 561-863-8175
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

KHA PROJECT 040097046
 DATE APRIL 2023
 SCALE AS SHOWN
 DESIGNED BY SS
 DRAWN BY SS
 CHECKED BY TCJ

COUNTY LINE ROAD WATERMAIN AND RAW WATERMAIN RELOCATION
 PREPARED FOR VILLAGE OF TEQUESTA
 VILLAGE OF TEQUESTA, FLORIDA

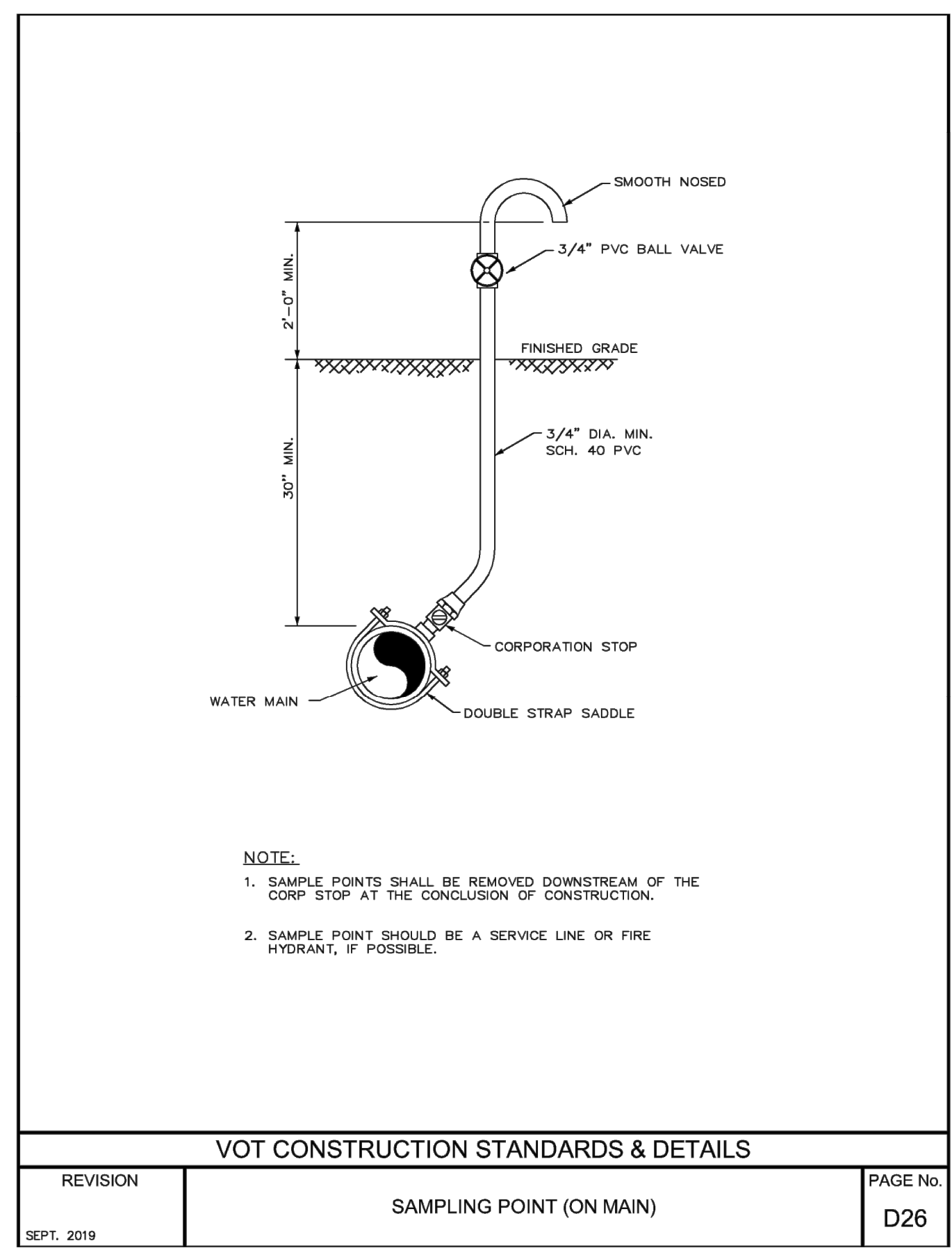
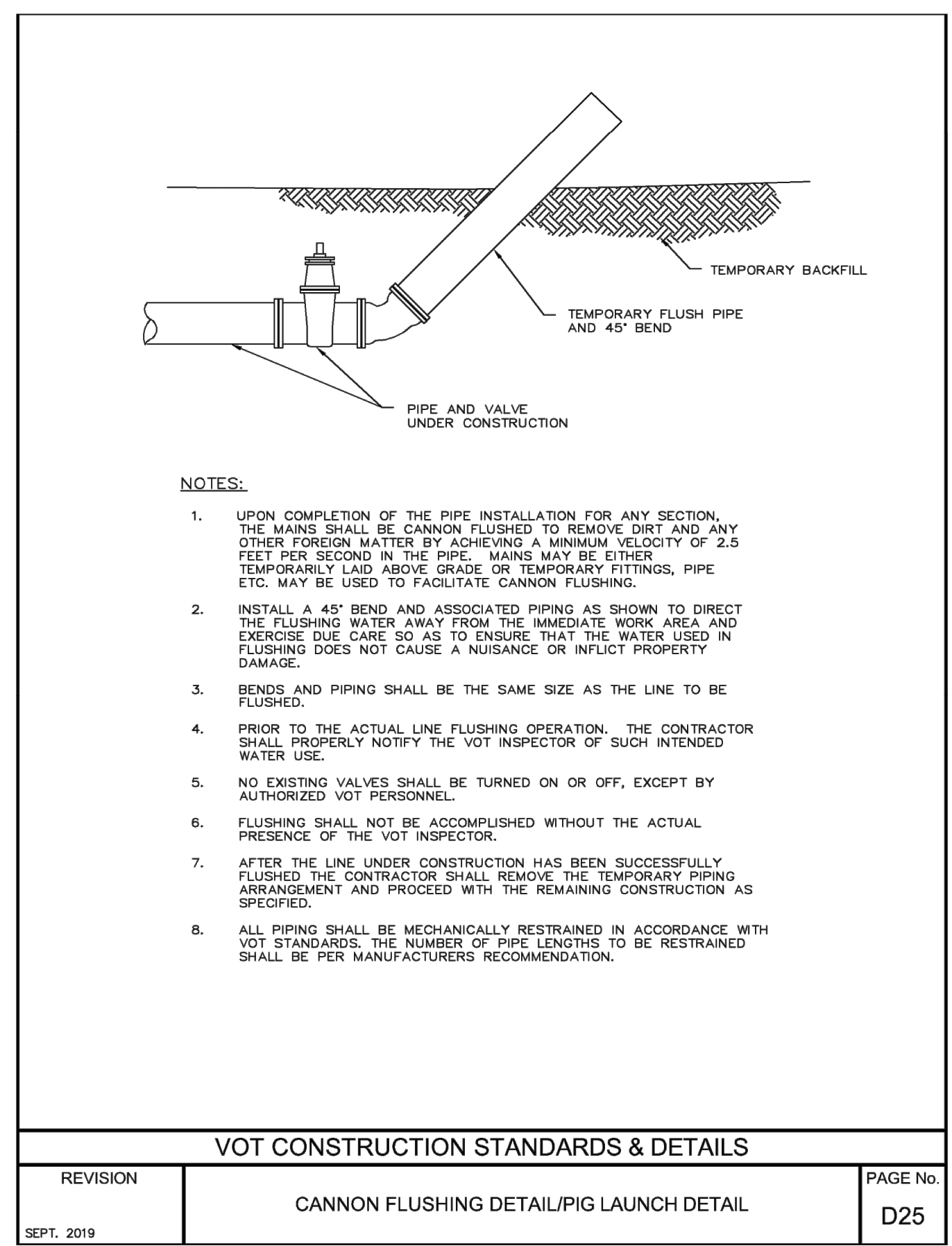
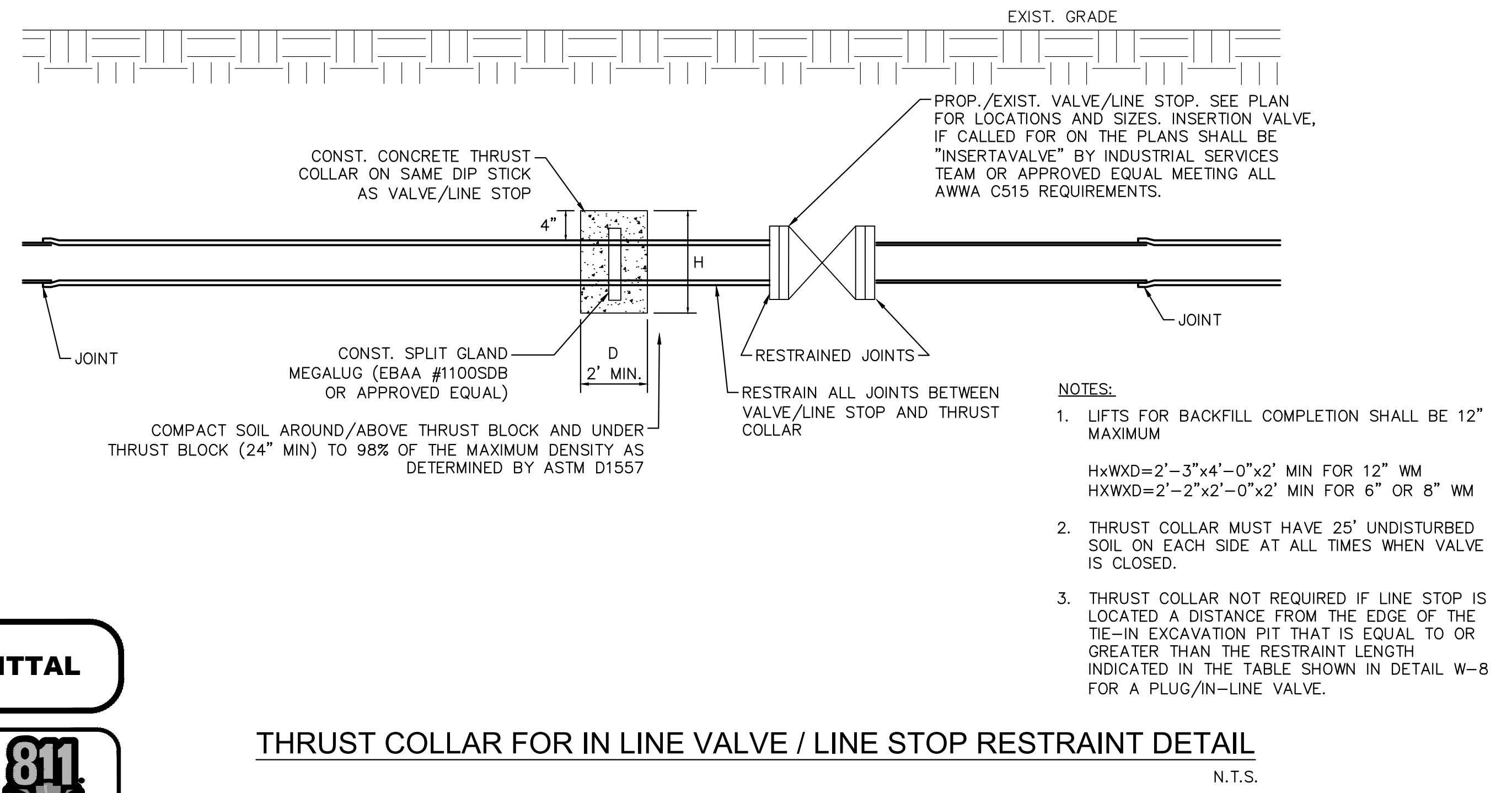
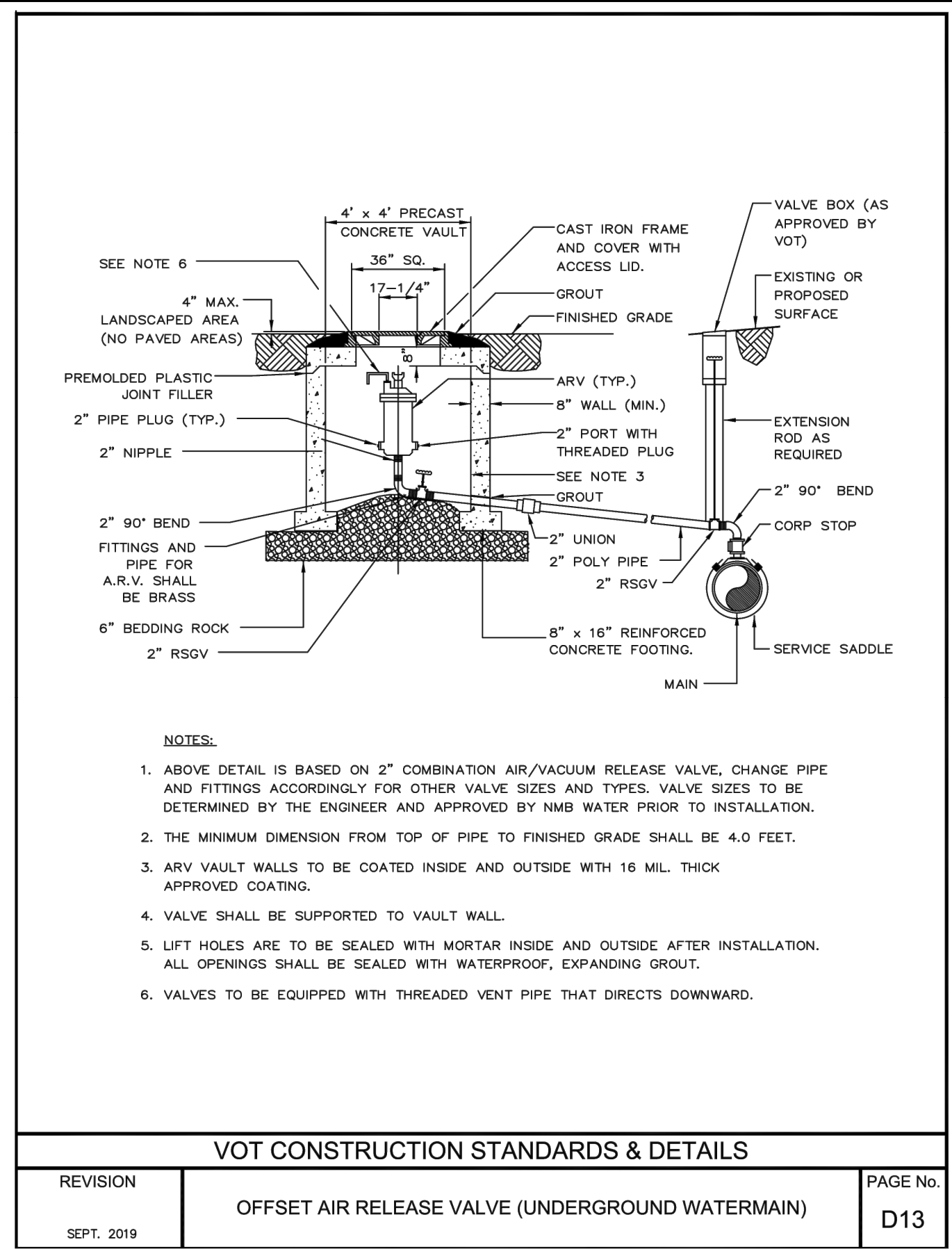
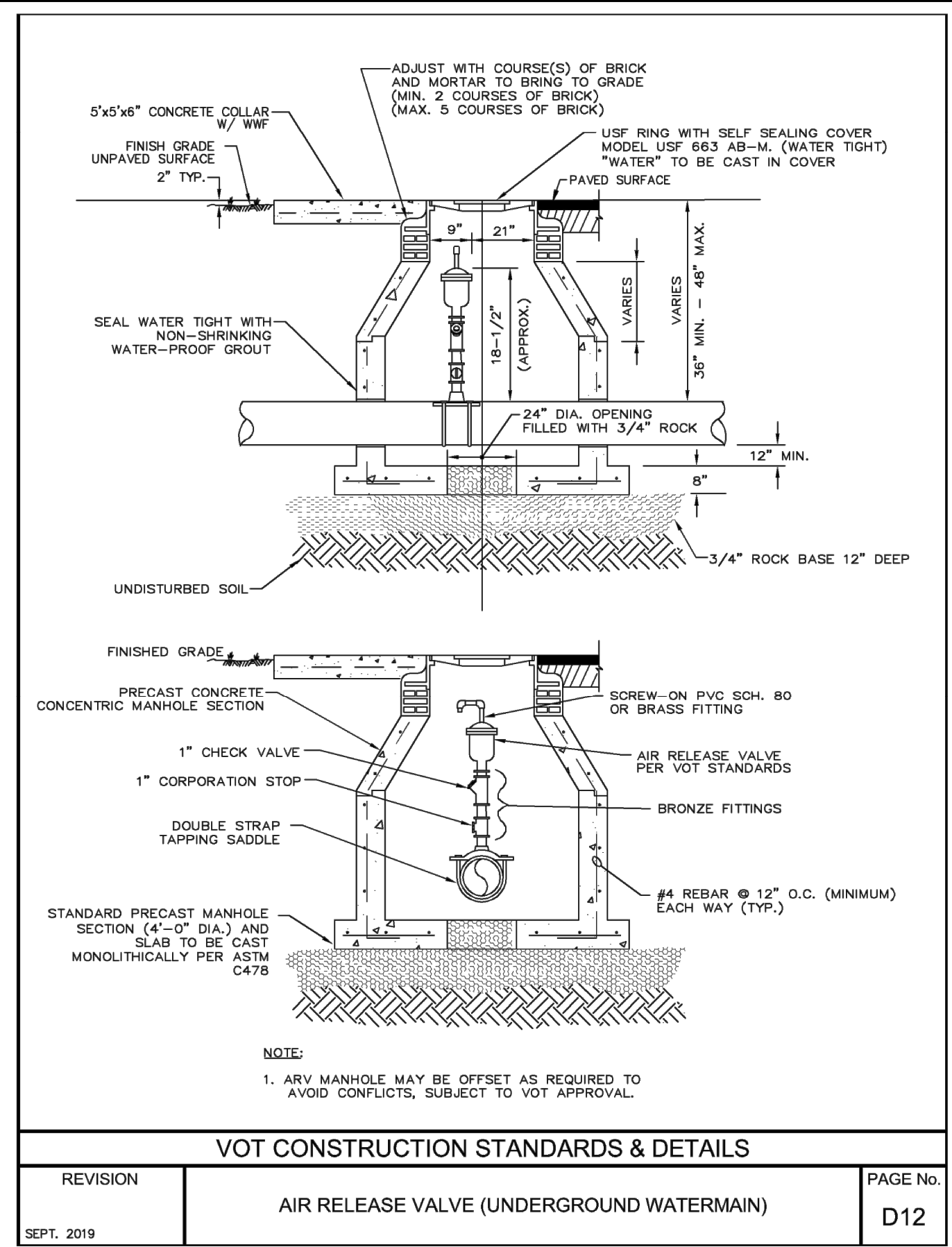
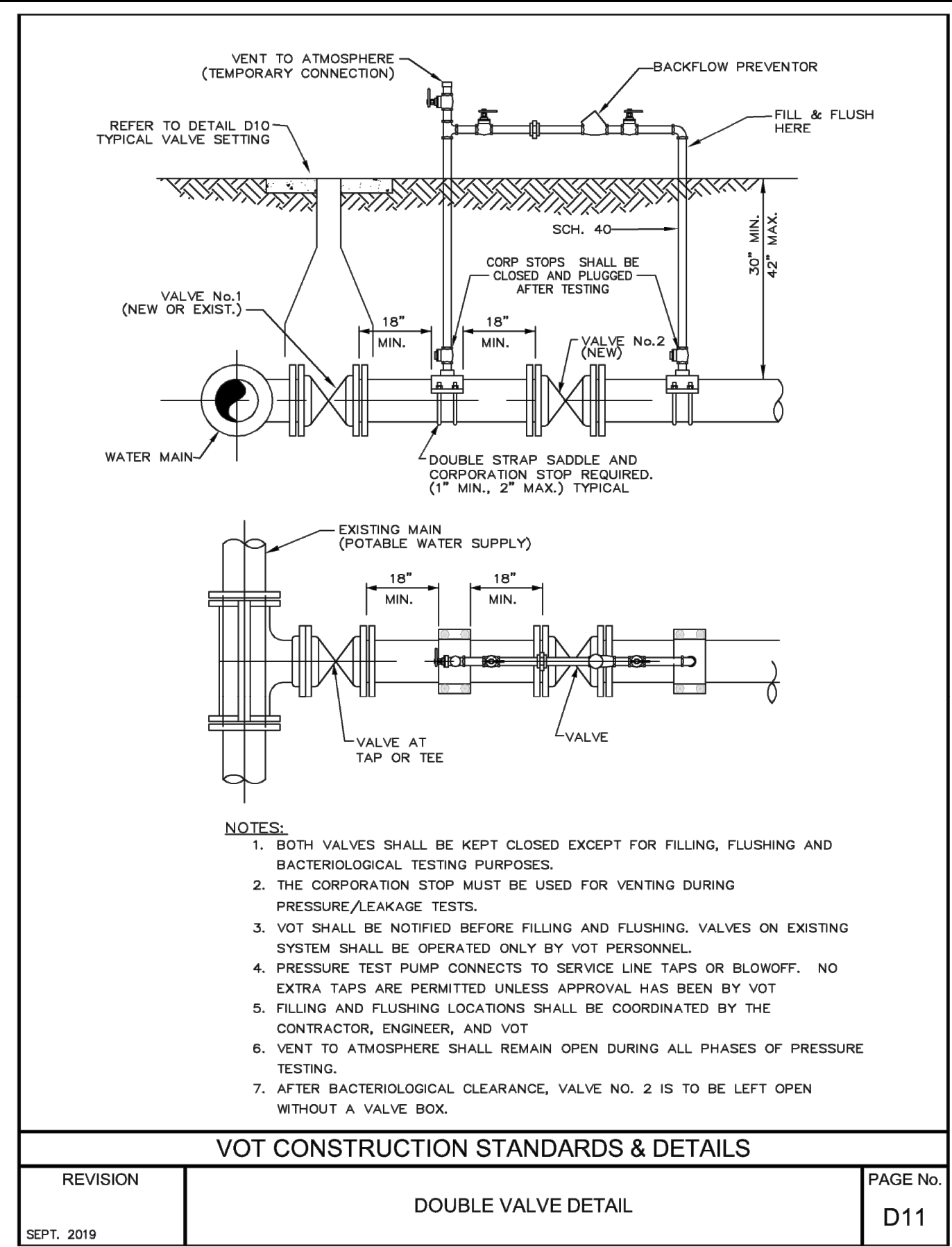
LICENSED PROFESSIONAL
 THOMAS C. JENSEN
 FLORIDA LICENSE NUMBER 37290
 DATE: _____

V.O.T. STANDARD DETAILS

SHEET NUMBER **C-7**

No.	REVISIONS	DATE	BY

Plotted By: Santore, Sol Sheet Set: COUNTY LINE RD WM AND RAW V.O.T. STANDARD DETAILS - April 18, 2023 02:35:34pm K:\WEB_Civil\040097046-County Line Rd WM and RAW\CADD\PlanSheets\C-8 V.O.T. STANDARD DETAILS.dwg
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KHA PROJECT
040097046
DATE
APRIL 2023
SCALE AS SHOWN
DESIGNED BY SS
DRAWN BY SS
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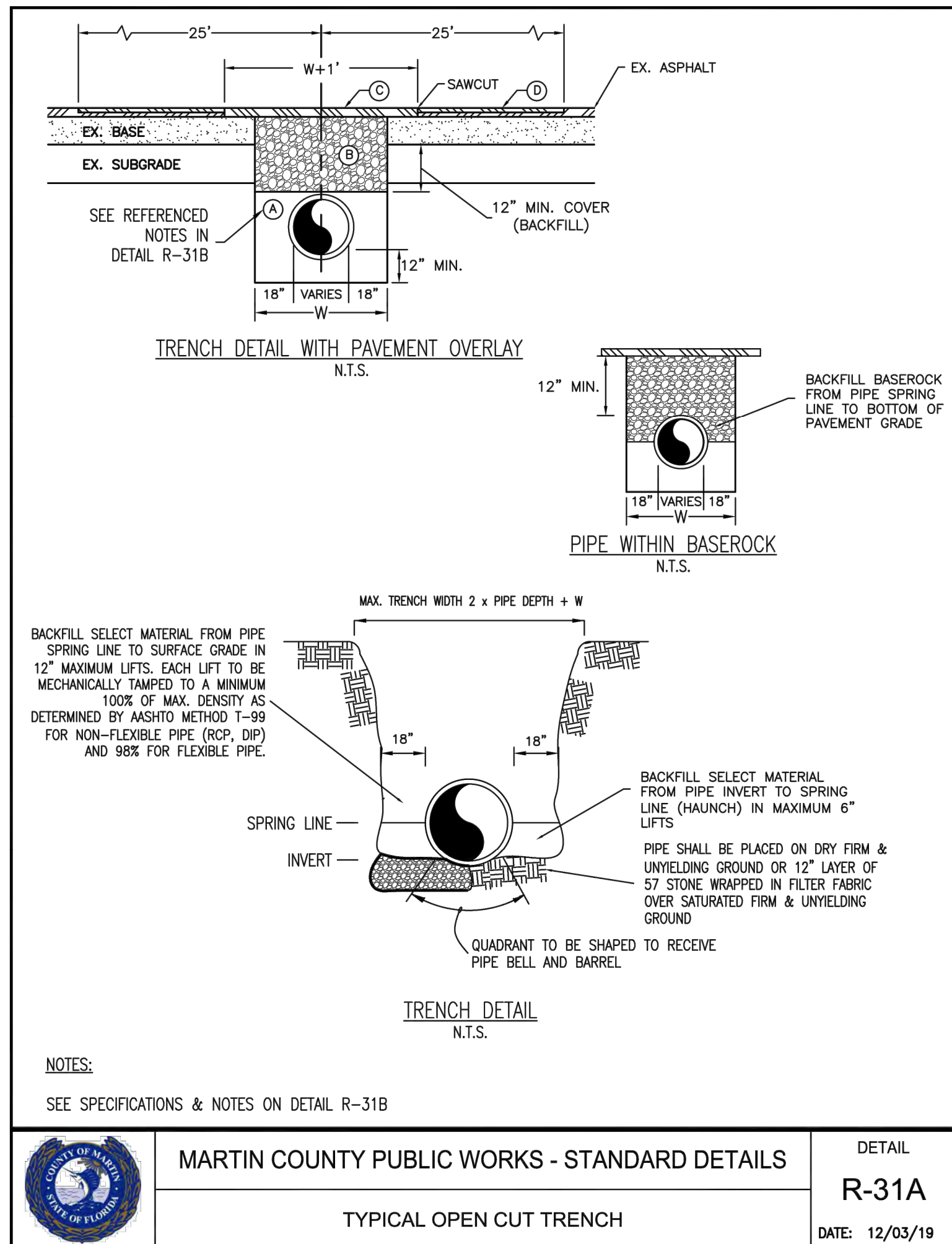
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 PREPARED FOR
VILLAGE OF TEQUESTA
 VILLAGE OF TEQUESTA, FLORIDA

LICENSED PROFESSIONAL
 THOMAS C. JENSEN
 FLORIDA LICENSE NUMBER
 37290

V.O.T. STANDARD DETAILS

SHEET NUMBER
C-8

Plotted By: Santore, Sol Sheet Set: COUNTY LINE RD, WM AND RWM Layout: C-9 MARTIN COUNTY PUBLIC WORKS - STANDARD DETAILS - APRIL 18, 2023 02:35:48pm K:\WPB_Civil\040097046-County Line Rd, WM and RWM\CADD\PlanSheets\C-9 MARTIN COUNTY PUBLIC WORKS - STANDARD DETAILS.dwg
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	MARTIN COUNTY PUBLIC WORKS - STANDARD DETAILS	DETAIL
	TYPICAL OPEN CUT TRENCH	R-31A
		DATE: 12/03/19

BACKFILL AND BASE

- PROVIDE CLEAN BACKFILL. BACKFILL SHALL BE REPLACED IN 12" LIFTS. EACH LIFT SHALL BE MECHANICALLY COMPACTED TO A MINIMUM 100% DENSITY AS DETERMINED BY AASHTO T-180, METHOD "C" (MINIMUM LBR OF 40).
- BASE ROCK MATERIAL SHALL BE A MINIMUM OF 2' THICK AND BE PLACED IN 6" LIFTS OR AS OTHERWISE APPROVED AND EACH LAYER THOROUGHLY MECHANICALLY COMPACTED TO 100% DENSITY AS DETERMINED BY AASHTO T-180. ALL BASE MATERIAL MUST MEET FDOT SPECIFICATIONS FROM A CERTIFIED MINING OPERATION. DEPTH OF BASE MATERIAL VARIES ON ROADWAY TYPE AS PER MARTIN COUNTY PUBLIC WORKS STANDARD DETAIL R-10.

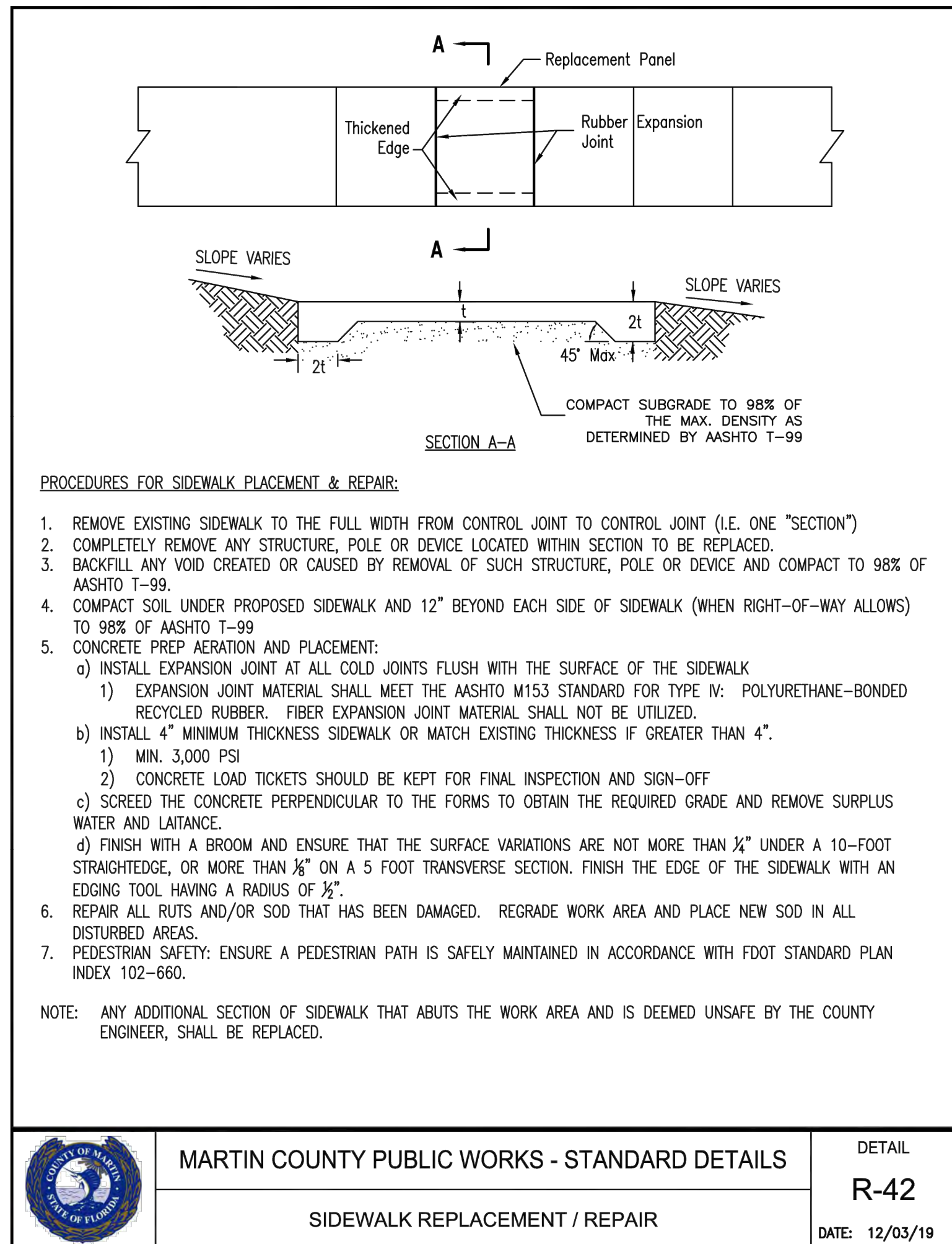
PAVING

- A TEMPORARY PATCH SHALL BE NO LESS THAN 2" THICK OR MATCH EXISTING PAVEMENT THICKNESS, WHICHEVER IS GREATER. ASPHALT PATCHES MUST BE OF A HOT MIX TYPE FRICTION COURSE. MARTIN COUNTY DOES NOT ALLOW COLD PATCH IN COUNTY MAINTAINED ROADWAYS. THE PATCH IS TO REMAIN 30 DAYS AT MINIMUM TO ASSURE ANY SETTLING OF THE ROADWAY TRENCH HAS TAKEN PLACE.
- MILL 1" OF ASPHALT A MINIMUM OF 25' FROM CENTER OF TRENCH ON BOTH SIDES, SEE NOTE #1. PAVE AND COMPACT 1" OF SP-9.5 OR MATCH EXISTING TYPE OF FRICTION COURSE.
- WHEN OPEN CUT IS PARALLEL TO TRAVEL LANE, THE FULL ROADWAY SECTION IS REQUIRED TO BE RESURFACED 10' BEYOND TRENCH IN EACH DIRECTION OF TRAVEL.
- ASPHALT MIX TO CONTAIN NO MORE THAN 30% RECLAIMED ASPHALT PAVEMENT (R.A.P.).
- ASPHALT PAVEMENT PATCH SHALL BE PLACED WITHIN 72 HOURS AFTER TRENCH HAS BEEN BACKFILLED.

NOTES:

- ANY OPEN CUT OF PAVEMENT MUST BE REVIEWED BY THE COUNTY ENGINEER PRIOR TO ANY WORK BEING DONE IN COUNTY MAINTAINED RIGHT-OF-WAY. DEPENDING ON THE LOCATION OF THE OPEN CUT ADDITIONAL MILLING AND PAVING MAY BE REQUIRED; ALL PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
- ALL MATERIAL USED WITHIN THE ROADWAY MUST MEET FDOT SPECIFICATIONS AND BE SUPPLIED FROM A FDOT CERTIFIED MINING OPERATION AND ASPHALT PLANT.
- A MINIMUM OF TWO DENSITY TESTS SHALL BE TAKEN FOR EACH SIX (6) INCH LIFT OF SUB GRADE AND EACH OPEN CUT CROSSING. WHEN THE SPECIFIED COMPACTED BASE IS GREATER THAN SIX AND ONE-HALF (6 1/2) INCHES THE BASE SHALL BE CONSTRUCTED IN TWO OR MORE COURSES. PROCTORS FOR MATERIALS USED IN BACK-FILLING SHALL BE OBTAINED BY A CERTIFIED LABORATORY. DENSITY TESTS SHALL BE CONDUCTED BY A CERTIFIED LABORATORY. THE PERCENTAGE OF MAXIMUM DENSITY REQUIRED SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS. A COPY OF ALL COMPLETED AND ACCEPTED DENSITY TESTS SHALL BE FURNISHED TO THE COUNTY ENGINEER'S OFFICE PRIOR TO FINAL INSPECTION.
- CRUSHED CONCRETE MAY NOT BE USED WITHIN COUNTY-MAINTAINED ROADWAY.

	MARTIN COUNTY PUBLIC WORKS - STANDARD DETAILS	DETAIL
	TYPICAL OPEN CUT TRENCH	R-31B
		DATE: 12/03/19



	MARTIN COUNTY PUBLIC WORKS - STANDARD DETAILS	DETAIL
	SIDEWALK REPLACEMENT / REPAIR	R-42
		DATE: 12/03/19

No.	REVISIONS	DATE	BY

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VILLAGE OF TEQUESTA

VILLAGE OF TEQUESTA, FLORIDA

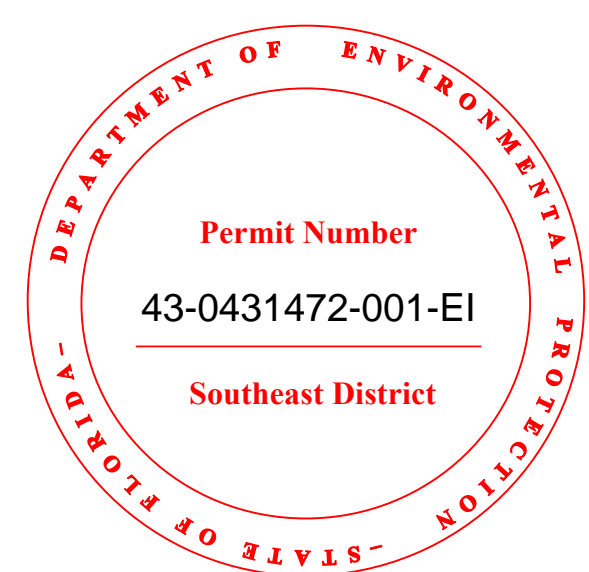
LICENSED PROFESSIONAL

THOMAS C. JENSEN

FLORIDA LICENSE NUMBER
 37290

MARTIN COUNTY PUBLIC WORKS - STANDARD DETAILS

SHEET NUMBER
C-9



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Florida Fish and Wildlife Conservation Commission Programmatic Consultation Conditions

Horizontal Directional Drilling

Manatee Protection Conservation Measures

- b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" while in the project area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible and follow any posted speed zones.
- c. If used, siltation, turbidity barriers, booms or curtains shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
- d. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shut-down if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
- e. Temporary signs concerning manatees shall be posted on all vessels associated with the project. This sign shall measure at least 8 ½" by 11" and explain the requirements for "Idle Speed/No Wake" and the shutdown of in-water operations. Information on this sign is available at:
<https://myfwc.com/wildlifehabitats/wildlife/manatee/education-for-marinas/>.

Periodic updates to the programmatic opinion and the conservation conditions may be required in the future. For other activities not covered under this programmatic consultation, FWC review may be needed.

For more information contact FWC at ImperiledSpecies@myfwc.com.

STANDARD MANATEE CONDITIONS FOR IN-WATER WORK
2011

The permittee shall comply with the following conditions intended to protect manatees from direct project effects:

- a. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.
- b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- c. Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
- d. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
- e. Any collision with or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-3922. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or Vero Beach (1-772-562-3909) for south Florida, and to FWC at ImperiledSpecies@myFWC.com
- f. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Temporary signs that have already been approved for this use by the Florida Fish and Wildlife Conservation Commission (FWC) must be used (see MyFWC.com/manatee). One sign which reads *Caution: Boaters* must be posted. A second sign measuring at least 8 1/2" by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. Questions concerning these signs can be sent to the email address listed above.

CAUTION: MANATEE HABITAT

All project vessels

IDLE SPEED / NO WAKE

When a manatee is within 50 feet of work
all in-water activities must

SHUT DOWN

Report any collision with or injury to a manatee:

Wildlife Alert:

1-888-404-FWCC(3922)

cell *FWC or #FWC



Muchecheterere, Mark

From: King, Bertrand
Sent: Monday, November 11, 2024 12:48 PM
To: Muchecheterere, Mark
Subject: FW: Right of Way Application - County Line Road Bridge Reclaimed Water Main Replacement
Attachments: LRD County Line Rd - ROW Permit Application-LRECD signed.pdf; LRD Directional Drill Plan.pdf; 102-603 - FDOT - Lane Closure.pdf

From: Carol Higgins <chiggins@martin.fl.us>
Sent: Wednesday, March 1, 2023 1:18 PM
To: King, Bertrand <Bertrand.King@kimley-horn.com>
Cc: Jensen, Tom <Tom.Jensen@kimley-horn.com>; Sheetal Patel <sheetal.patel@lrecd.org>; Susan Kingsley <skingsley@martin.fl.us>; Christine Madsen <cmadsen@martin.fl.us>
Subject: RE: Right of Way Application - County Line Road Bridge Reclaimed Water Main Replacement

Good Afternoon Bertrand,

Martin County Public Works has received your permit submittal for SE County Line Road. At this time, your submittal has not met all our intake criteria. Please see outstanding items below:

- 1) Application with original signature (see attached and link)
<https://www.martin.fl.us/resources/right-of-way-use-permit-application-form-pdf>
- 2) Two copies of Engineer original signed and sealed detail plans.
- 3) Site map indicating where the work will be performed.
- 4) Contractor License
- 5) Contractors Certificate of Insurance with Martin County BOCC being named as Certificate Holder and additional insured.

Please submit all outstanding documents to Public Works Department, Permit Securities Coordinator. Shall you have any questions, please don't hesitate to reach out.

Thank you,

Carol Higgins, Permit/Securities Coordinator
Public Works Department
Martin County Board of County Commissioners
2401 SE Monterey Road, 2nd floor
Stuart, FL 34996
chiggins@martin.fl.us
(772)-288-5462 Office


From: King, Bertrand <Bertrand.King@kimley-horn.com>
Sent: Thursday, February 23, 2023 12:08 PM
To: PWD Permits <pwdpermits@martin.fl.us>

Cc: Jensen, Tom <Tom.Jensen@kimley-horn.com>; Sheetal Patel <sheetal.patel@lrecd.org>

Subject: Right of Way Application - County Line Road Bridge Reclaimed Water Main Replacement

**Caution: This email originated from an external source.
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Hello,

On behalf of the Loxahatchee River Environmental Control District (LRD), we are submitting a ROW permit application. LRD is replacing the reclaimed water main connected to the County Line Rd Bridge. This main will be installed via horizontal directional drilling. One lane of road closure will be required at the entry and exit drill pits before and after the bridge. See attached plan for further detail.

Regards,

Bertrand (Bert) King, EI | Analyst

Kimley-Horn | 1920 Wekiva Way, Suite 200, West Palm Beach, FL 33411

Direct: (561) 840-0270 | Main: (561) 845-0665 |

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APPENDIX D
SYSTEM SHUTDOWN PLAN

(TO BE PROVIDED BY CONTRACTOR IF NEEDED)



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
GEOTECHNICAL REPORT

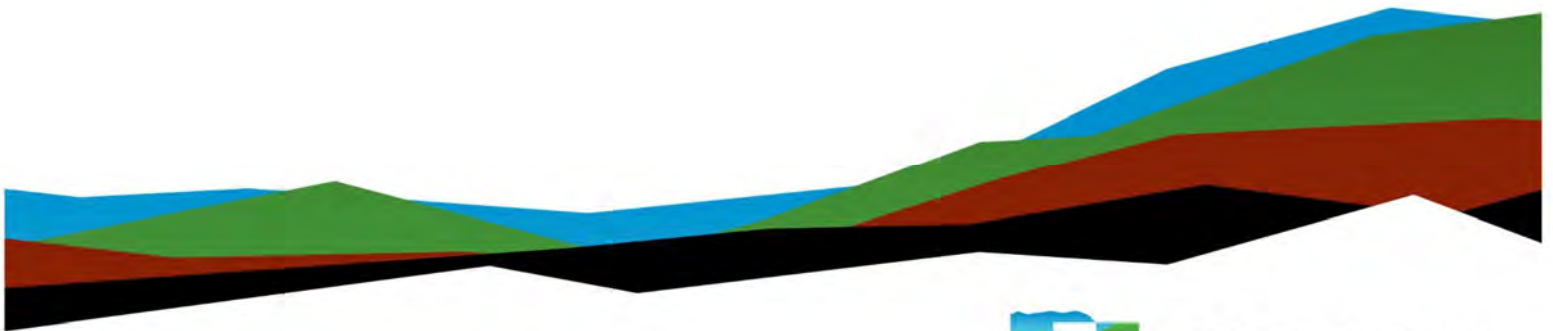
SE County Line Rd Bridge Watermain Crossing

Geotechnical Engineering Report

September 11, 2023 | Terracon Project No. HD225061

Prepared for:

Kimley-Horn & Associates, Inc.
1920 Wekiva Way, Suite 200
West Palm Beach, Florida 33411



Nationwide

[Terracon.com](https://www.terracon.com)

- Facilities
- Environmental
- Geotechnical
- Materials



1225 Omar Road
West Palm Beach, Florida 33405
P (561) 689-4299
Terracon.com

September 11, 2023

Kimley-Horn & Associates, Inc.
1920 Wekiva Way, Suite 200
West Palm Beach, Florida 33411

Attn: Thomas Jensen, P.E.
P: 561-840-0853
E: tom.jensen@kimley-horn.com

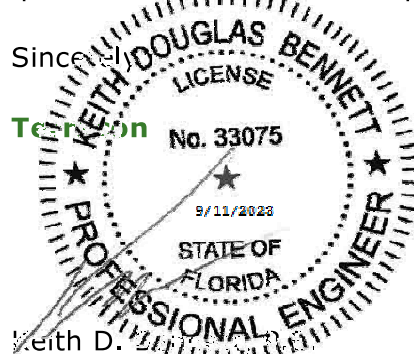
Re: Geotechnical Engineering Report
SE County Line Rd Bridge Watermain Crossing
SE County Line Rd at 1,200 ft west of SE Le Parc Way
Tequesta, Florida
Terracon Project No. HD225061

Dear Mr. Jensen:

We have completed the scope of Geotechnical Engineering services for the above referenced project in general accordance with the Individual Project Order No. 20220510 issued by Kimley-Horn and Associates, Inc., signed July 17, 2023. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning the planned force main pipeline construction.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,



Keith D. Bennett
Principal/Senior Geotechnical Engineer
Florida Registration No.: 33075

 for
Douglas C. Dunkelberger, P.E.
Senior Principal
Florida Registration No. 33317

This report has been digitally signed and sealed by Keith D. Bennett, P.E. on the date adjacent to the seal.
Printed copies are not considered signed and sealed and the signature must be verified on any electronic copies.

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Seismic Site Class	2
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Groundwater Conditions.....	3
Geotechnical Overview	4
Lateral Earth Pressure Parameters	4
Design Parameters.....	4
Trench Backfill Recommendations	6
General Comments	7

Figures

GeoModel


Attachments

Exploration and Testing Procedures

Site Location and Exploration Plans

Exploration Results

Supporting Information

Note: This report was originally delivered in a web-based format. **Blue Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the  logo will bring you back to this page. For more interactive features, please view your project online at client.terracon.com.

Refer to each individual Attachment for a listing of contents.

Introduction

This report presents the results of our subsurface exploration and Geotechnical Engineering services performed for the proposed Force Main to be located along various roadways in Tequesta, Florida. The purpose of these services was to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil conditions
- Groundwater conditions
- Seismic site discussion
- Site preparation and earthwork
- Lateral earth pressure
- Trench backfill considerations
- Dewatering considerations

The geotechnical engineering Scope of Services for this project included the advancement of one test boring to a depth of approximately 75 feet below existing site grades, engineering analysis, and preparation of this report.

Maps showing the site and boring locations are shown on the [Site Location](#) and [Exploration Plan](#), respectively.

Project Description

Our initial understanding of the project was provided in our proposal and was discussed during project planning. A period of collaboration has transpired since the project was initiated, and our final understanding of the project conditions is as follows:

Item	Description
Information Provided	Mr. Tom Jensen, P.E., provided 100% Construction Plans prepared by Kimley Horn & Associates, Inc. (dated June 2023).
Project Description	The project consists of the installation of one water main segment below the North Fork Loxahatchee River. We understand the pipeline would be installed using Horizontal Direction Drilling (HDD) techniques. The directional drill segment is about 8,000 lf of planned force main construction and have a designed maximum bottom elevation of -35 feet NAVD.

Terracon should be notified if any of the above information is inconsistent with the planned construction, especially the grading limits, as modifications to our recommendations may be necessary.

Site Conditions

The following description of site conditions is derived from our site visit in association with the field exploration and our review of publicly available maps.

Item	Description
<p>Location Information</p>	<p>The proposed reclaimed watermain will pass beneath the North Loxahatchee River alongside the SE County Line Road bridge in Tequesta, Florida.</p> <p>The latitude and longitude of the crossing is about 26° 59' 7" N and 80° 6' 54" W, respectively.</p> <p>See Site Location.</p>
<p>Existing Improvements</p>	<p>Nearby single-family residences, roadways, and underground utilities. The existing bridge over the North Loxahatchee River is also adjacent to the proposed HDD. This bridge is scheduled to be replaced which is the reason for the HDD as the existing reclaimed water main is collocated with the existing bridge.</p>
<p>Current Ground Cover</p>	<p>Light to moderately vegetated or short grasses.</p>
<p>Existing Topography</p>	<p>The existing roadway elevation is about +6 to +7 feet NAVD on both sides of the bridge. The existing bottom elevation of the canal is shown as about -9 feet at its deepest point.</p>

Seismic Site Class

Florida is under the jurisdiction of its own building code rather than the international Building Code. Under Chapter 1, Part 1, Section 101.2 Scope – Exceptions, is a statement “Code requirements that address snow loads and earthquake protection are pervasive; they are left in place but shall not be utilized or enforced because Florida has no snow load or earthquake threat.”

Geotechnical Characterization

We have developed a general characterization of the subsurface conditions based upon our review of the subsurface exploration, laboratory data, and our understanding of the project. This characterization, termed GeoModel, forms the basis of our geotechnical calculations and evaluation of the site. Conditions observed at the exploration point are indicated on the individual log. The individual log can be found in the [Exploration Results](#) and the GeoModel can be found in the [Figures](#) attachment of this report.



As part of our analyses, we identified the following Model Layers within the subsurface profile. For a more detailed view of the Model Layer depths at each boring location, refer to the GeoModel.

Model Layer	Layer Name	General Description
1	Flexible Pavement	Asphalt
2	Fill	Poorly graded fine SAND
3	Sand	Poorly graded fine SAND (SP), some lenses with trace silt
4	Coquina Limestone	Coquina Limestone Formation

The boring generally found loose to medium dense fine sands with trace amounts of silt that extend to about 62 feet. The trace of silt was not observed from 41 to 62 feet. A Coquina Limestone was encountered from 62 feet to the maximum exploration depth of 75 feet. Described by FDOT methods, this limestone would be referred to as “hard”.

In general, the SPT blow count data (i.e., N-values) indicate the sands are loose to medium dense to about 62 feet, followed by the limestone with blow counts ranging from 49 to 105 to the termination depth of 75 feet below the ground surface.

The relatively clean sands (SP by U.S.C.S classification) will involve high permeability rates, especially where loose. Based on the bottom of the HDD at ±-35 feet and the top of the limestone at ±-55 feet, it is not expected that the limestone would affect the HDD. If for some reason the HDD is drilled deeper and encounters the limestone, expect difficult drilling conditions within the limestone.

Casing was not required and there were no significant losses of drill fluid circulation during drilling of the boring.

Groundwater Conditions

Groundwater was found at a depth of 6 feet below ground surface (bgs) while sampling on August 29, 2023.

It should be recognized that groundwater level fluctuations can occur due to rainfall, runoff, water levels in the river and other conditions not apparent at the time of drilling. Therefore, groundwater levels during construction or at other times in the life of the project may be higher or lower than the levels indicated herein. Long-term groundwater monitoring was outside the scope of services for this project.

Geotechnical Overview

In general, the boring found relatively clean sands within the planned invert elevations for the HDD force main that are in a loose to medium dense condition in Boring B-1. Groundwater at the time of our field study was relatively shallow being within about 6 feet of the existing ground surface. The subsurface conditions should not pose any significant (i.e., more than typical or usual) constraints on the planned HDD installation, although zones of higher permeability in the sands should be expected within the depths of installation.

With the sending and receiving pits shown at about elevations 0 and -5 respectively, it should be expected that dewatering will be necessary to maintain dry working conditions within the pits.

The **Lateral Earth Pressures** section provides soil parameters for the planning of any below grade operations. The **Trench Backfill Recommendations** section addresses recommendations for backfilling trenches associated with the planned construction.

The recommendations contained in this report are based upon the results of field testing (presented in the **Exploration Results**), engineering analyses, and our current understanding of the proposed project. The **General Comments** section provides an understanding of the report limitations.

Lateral Earth Pressure Parameters

Design Parameters

The soil parameters shown in the table on the following page should be assumed for the planning of any below grade operations. The parameters are based on the results of our field exploration, visual classification of soils, empirical correlations (ref: Florida Department of Transportation Soils and Foundations Handbook, 2022) with SPT blow counts (N-Values), and our experience with similar materials and projects with similar scope.

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Depth	USCS Type	Avg. SPT N-Value	Dry Unit Weight (pcf)	In-situ Unit Weight (pcf)	Saturated Unit Weight (pcf)	Submerged Weight (pcf)	Friction Angle (ϕ') (deg.)	Lateral Earth Pressure Coefficients		
								Active (Ka)	Passive (Kp)	At-Rest (K ₀)
0 to 22	SP	5	100	100	100	38	29	0.347	2.88	0.50
22 to 32	SP	12	105	105	105	43	30	0.333	3.00	0.50
32 to 41 ¹	SP	8	105	115	115	43	30	0.347	2.88	0.50
41 to 62	SP	11	105	105	105	43	30	0.333	3.00	0.50
62 to 75	LMS ¹	75	105	120	120	58	38	1.0	1.0	1.0

1. LMS (Limestone) is not a USCS designation.

Estimated shear modulus values based on depth, average relative density, and general soil types are provided in the following table.

Depth (feet)	U.S.C.S.	Relative Density	Shear Modulus, G (psf) ¹
0 to 22	SP	Loose to Medium Dense	100,000
22 to 32	SP	Loose to Medium Dense	176,000
32 to 41	SP	Loose to Medium Dense	133,000
41 to 62	SP	Very Loose to Medium Dense	165,000
62 to 75	LMS ²	Hard	365,000

1. In estimating shear modulus values, an empirical formula (*Foundation Design-Principles and Practices* by D.P. Coduto, *Second Edition, 2001*) was used to relate the elastic modulus to both N-value and soil type. We assigned Poisson's ratios of 0.2 for loose soils and 0.3 for medium dense soils (*Geotechnical and GeoEnvironmental Engineering Handbook* by R. K. Rowe, 2000).
2. LMS (Limestone) is not a USCS designation. The "relative density" is that suggested for use by FDOT.

Trench Backfill Recommendations

For any segments of the pipeline involving “cut and cover” installation, the following recommendations should be followed:

- Any open trench excavations (for tying into the existing pipeline) should be accomplished in the dry (i.e. not in saturated or submerged conditions). Dewatering may be needed to accommodate compaction of bedding soils and backfill. The necessity for dewatering will be dependent on the depth of excavation below existing grade and the groundwater levels at the time of construction and may vary between ends of the HDD. The groundwater level should be maintained at least 2 feet below the bottom of the excavations. Actual dewatering “means and methods” should be left up to a contractor experienced in installation and operation of dewatering systems.
- Any unsuitable soils (very soft and/or loose soils), if encountered during construction, should be removed in their entirety from the bottom of the excavations and replaced with compacted, granular backfill.
- The excavation should be “over-excavated” a minimum of 12 inches (deep) and replaced with clean gravel (No. 57 Stone) working surface preferably that is wrapped with a filter fabric.
- Backfill should consist of relatively clean sands or gravels, with a maximum of 12% passing the U.S. No. 200 sieve and no particle size larger than 1 inch in any dimension. The near-surface sands found in the soil boring (with SP classifications per U.S.C.S) should generally meet this criterion.
- The fill should be placed in the dry in lifts that do not exceed 12 inches in vertical measure. Thinner lifts may be needed if compaction is not achieved because larger compaction equipment cannot be used in the excavations. Each lift should be compacted to at least 95% of the modified Proctor maximum dry density (ASTM D-1557).
- As a minimum, all temporary excavations should be sloped or braced to provide stability and safe working conditions. The utility contractor, by contract, is usually responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations, as required, to maintain stability of both the excavation sides and bottom. All excavations should comply with applicable local, state, and federal safety regulations including the current Occupational Health and Safety Administration (OSHA) Excavation and Trench Safety Standards.

General Comments

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Variations will occur (particularly as we performed only the one boring) due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly effect excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety and cost estimating including excavation support and dewatering requirements/design are the responsibility of others. Construction and site development have the potential to affect adjacent properties. Such impacts can include damages due to vibration, modification of groundwater/surface water flow during construction, foundation movement due to undermining or subsidence from excavation, as well as noise or air quality concerns. Evaluation of these items on nearby properties are commonly associated with contractor means and methods and are not addressed in this report. The owner and contractor should consider a preconstruction/precondition survey of surrounding development. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

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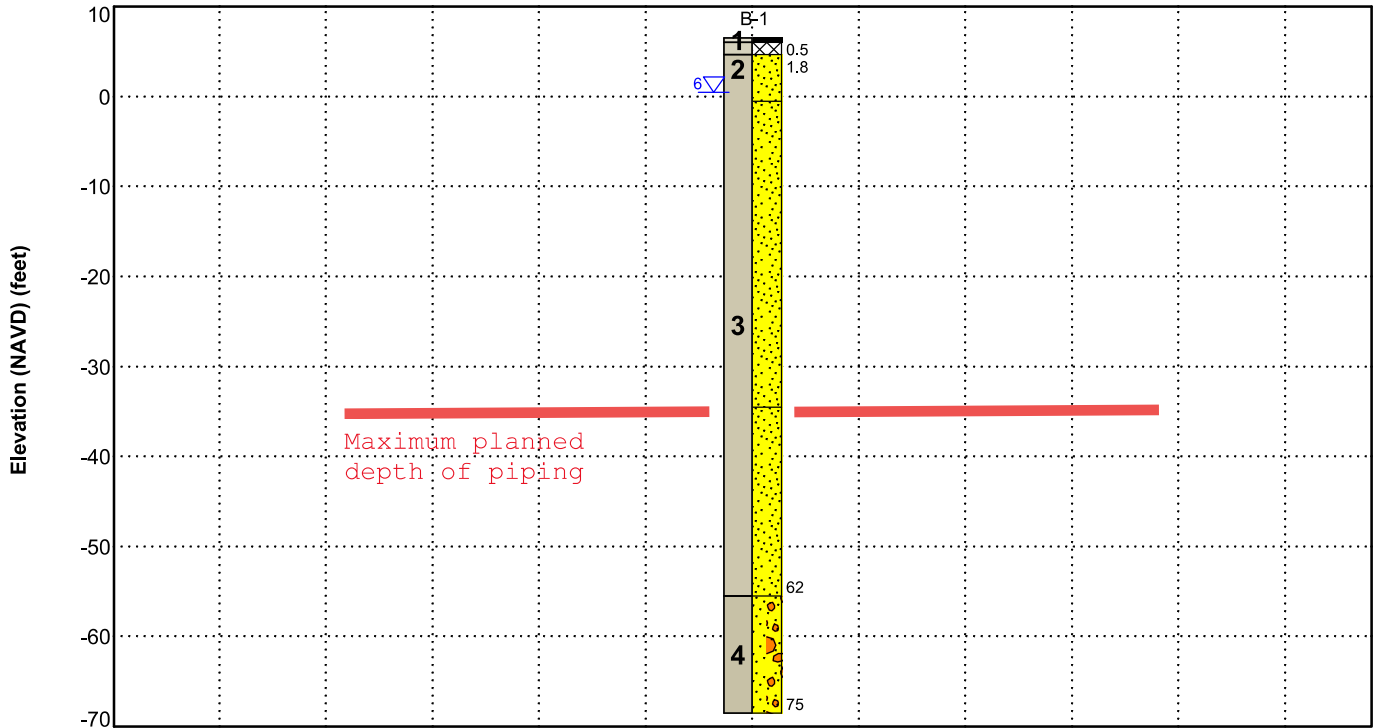


Figures

Contents:

GeoModel

GeoModel



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	Flexible Pavement	Asphalt
2	Fill	Poorly graded fine SAND with trace shell & limestone fragments
3	Sand	Poorly graded fine SAND (SP), some lenses with trace silt
4	Coquina Limestone	Coquina Limestone formation

LEGEND

- Flexible Pavement
- Coquina Limestone
- Fill
- Poorly-graded Sand

▽ First Water Observation

The groundwater levels shown are representative of the date and time of our exploration. Significant changes are possible over time. Water levels shown are as measured during and/or after drilling. In some cases, boring advancement methods mask the presence/absence of groundwater. See individual logs for details.

NOTES:

Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project. Numbers adjacent to soil column indicate depth below ground surface.

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Attachments

Exploration and Testing Procedures

Field Exploration

Number of Borings	Approximate Boring Depth (feet)	Location
1	75	East Side General HDD Area

Boring Layout and Elevations: Terracon personnel provided the boring layout using handheld GPS equipment (estimated horizontal accuracy of about ± 20 feet) and referencing existing site features. Approximate ground surface elevations were estimated using the Plans provided. If elevations and a more precise boring layout are desired, we recommend borings be surveyed.

Subsurface Exploration Procedures: The boring was advanced with a truck-mounted, drill rig using mud rotary procedures. Five samples were obtained in the upper 10 feet of the boring and at intervals of 5 feet thereafter. In the split barrel sampling procedure, a standard 2-inch outer diameter split barrel sampling spoon was driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon for each six-inch penetration interval is recorded. The 2nd and 3rd six-inch increments are added together and reported as the Standard Penetration (SPT) resistance value. The SPT resistance We observed and recorded groundwater levels during drilling. The boring was backfilled with bentonite chips with an asphalt patch at completion.

The sampling depths, penetration distances, and other sampling information was recorded on the field boring logs. The samples were placed in appropriate containers and taken to our soil laboratory for testing and classification under guidance of a Geotechnical Engineer. Our exploration team prepared field boring logs as part of the drilling operations. The field log included visual classifications of the materials observed during drilling and our interpretation of the subsurface conditions between samples. The final boring log was prepared from the field log. The final boring log represents the Geotechnical Engineer's interpretation of the field log and include modifications based on observations of the samples in our laboratory.

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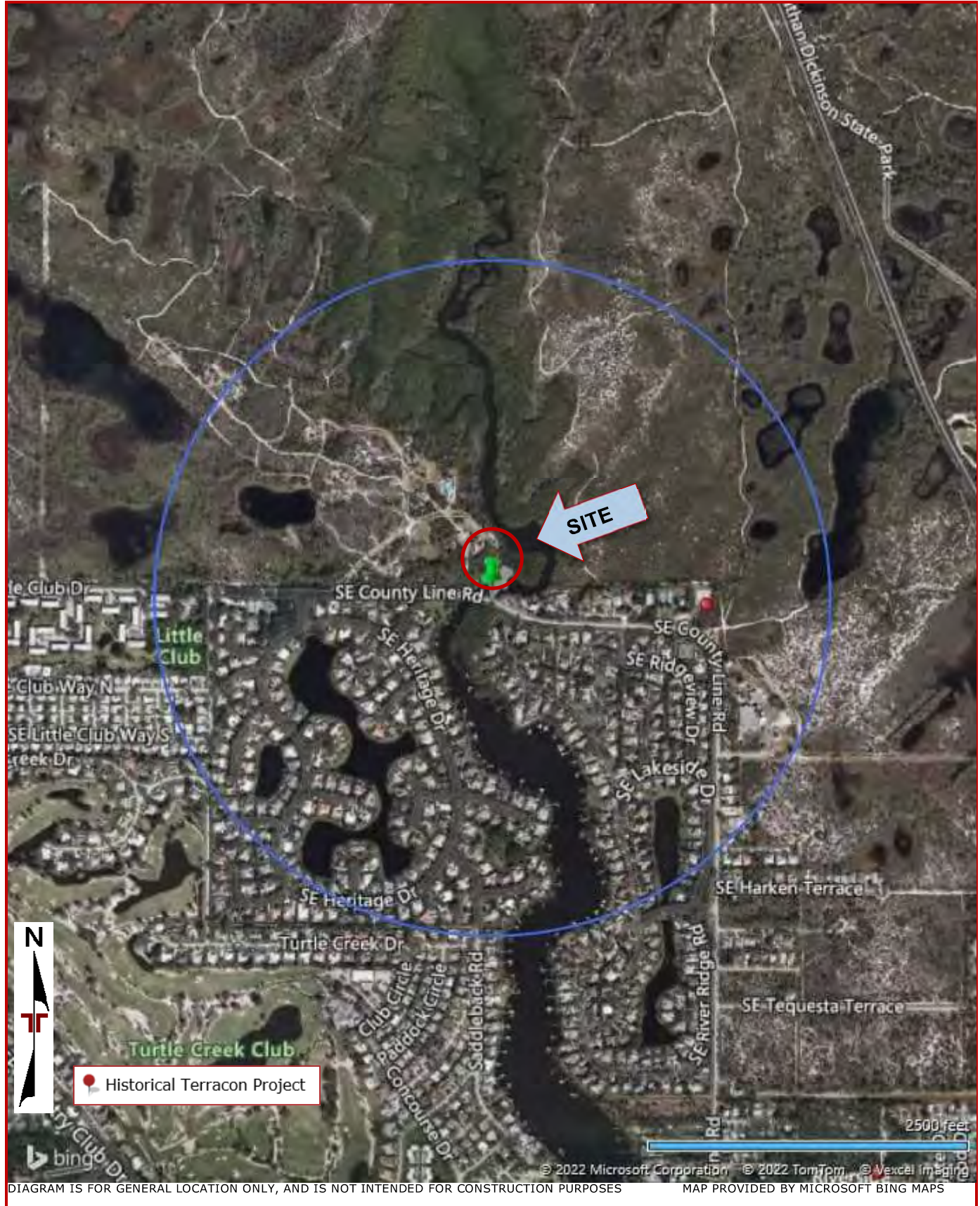
Site Location and Exploration Plans

Contents:

Site Location Plan

Exploration Plan

Site Location



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Exploration Plan

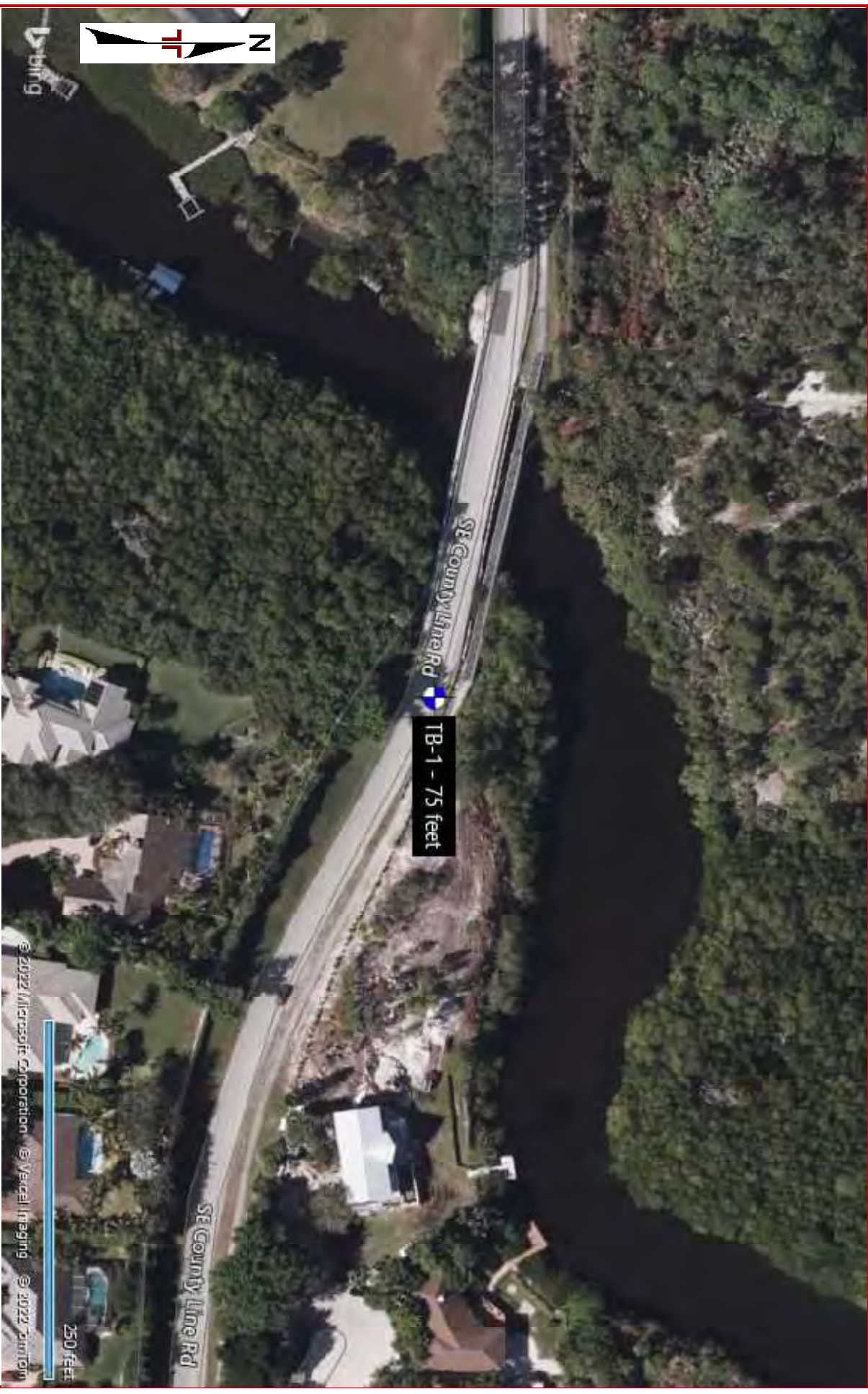


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

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Exploration and Laboratory Results

Contents:

Boring Log

Boring Log No. B-1

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 26.9852° Longitude: -80.1144° Depth (Ft.)	Elevation: 6.5 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results
1		0.5		6			
2		1.8		4.7			
		FILL - SAND , with trace shell and limestone fragments					44-25-20-22 N=45
		SAND (SP) , fine grained, light gray, medium dense to dense MC = 19.5% -200 = 1%					20-16-13-13 N=29
		7.0		-0.5			8-5-4-4 N=9
		SAND (SP) , some lenses with trace silt, fine grained, dark brown to brown, loose to medium dense MC = 49% -200 = 1%					2-1-1-2 N=2
							1-1-1-2 N=2
							3-3-3-4 N=6
							1-2-3-5 N=5
							5-5-8-9 N=13
							3-5-6-8 N=11
3							3-4-5-7 N=9
							3-4-3-5 N=7
		41.0		-34.5			13-5-5-7 N=10
		SAND (SP) , fine grained, dark gray to gray, medium dense MC = 21% -200 = 3%					3-5-6-9 N=11
							4-5-7-10 N=12
							3-7-5-5 N=12
		62.0		-55.5			16-23-26-35 N=49
		COQUINA LIMESTONE , sandy, light gray					31-40-36-36 N=76
4							43-53-52-49 N=105
		75.0		-68.5			

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations</p> <p>▽ 6 ft. during initial sampling</p>	<p>Drill Rig CME 55</p> <p>Hammer Type Automatic</p> <p>Driller T.S.</p> <p>Logged by</p>
<p>Notes</p> <p>Begin Mud Rotary at 8 feet Elevation shown is in NAVD</p>	<p>Advancement Method Mud Rotary Continuous sampling upper 10 feet Samples at 5 foot intervals thereafter</p> <p>Abandonment Method Boring backfilled with bentonite chips and surfaced with cold patch asphalt upon completion.</p>	<p>Boring Started 08-29-2023</p> <p>Boring Completed 08-29-2023</p>

Geotechnical Engineering Report

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
Supporting Information

Contents:

General Notes

Unified Soil Classification System

General Notes

Sampling	Water Level	Field Tests
 Auger Cuttings  Standard Penetration Test	 Water Initially Encountered  Water Level After a Specified Period of Time  Water Level After a Specified Period of Time  Cave In Encountered Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.	N Standard Penetration Test Resistance (Blows/Ft.) (HP) Hand Penetrometer (T) Torvane (DCP) Dynamic Cone Penetrometer UC Unconfined Compressive Strength (PID) Photo-Ionization Detector (OVA) Organic Vapor Analyzer

Descriptive Soil Classification

Soil classification as noted on the soil boring logs is based Unified Soil Classification System. Where sufficient laboratory data exist to classify the soils consistent with ASTM D2487 "Classification of Soils for Engineering Purposes" this procedure is used. ASTM D2488 "Description and Identification of Soils (Visual-Manual Procedure)" is also used to classify the soils, particularly where insufficient laboratory data exist to classify the soils in accordance with ASTM D2487. In addition to USCS classification, coarse grained soils are classified on the basis of their in-place relative density, and fine-grained soils are classified on the basis of their consistency. See "Strength Terms" table below for details. The ASTM standards noted above are for reference to methodology in general. In some cases, variations to methods are applied as a result of local practice or professional judgment.

Location And Elevation Notes

Exploration point locations as shown on the Exploration Plan and as noted on the soil boring logs in the form of Latitude and Longitude are approximate. See Exploration and Testing Procedures in the report for the methods used to locate the exploration points for this project. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

Strength Terms

Relative Density of Coarse-Grained Soils <small>(More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance</small>		Consistency of Fine-Grained Soils <small>(50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance</small>		
Relative Density	Standard Penetration or N-Value (Blows/Ft.)	Consistency	Unconfined Compressive Strength Qu (tsf)	Standard Penetration or N-Value (Blows/Ft.)
Very Loose	0 - 3	Very Soft	less than 0.25	0 - 1
Loose	4 - 9	Soft	0.25 to 0.50	2 - 4
Medium Dense	10 - 29	Medium Stiff	0.50 to 1.00	4 - 8
Dense	30 - 50	Stiff	1.00 to 2.00	8 - 15
Very Dense	> 50	Very Stiff	2.00 to 4.00	15 - 30
		Hard	> 4.00	> 30

Relevance of Exploration and Laboratory Test Results

Exploration/field results and/or laboratory test data contained within this document are intended for application to the project as described in this document. Use of such exploration/field results and/or laboratory test data should not be used independently of this document.

Unified Soil Classification System

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A				Soil Classification		
				Group Symbol	Group Name ^B	
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	Gravels: More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels: Less than 5% fines ^C	Cu ≥ 4 and 1 ≤ Cc ≤ 3 ^E	GW	Well-graded gravel ^F	
		Gravels with Fines: More than 12% fines ^C	Cu < 4 and/or [Cc < 1 or Cc > 3.0] ^E	GP	Poorly graded gravel ^F	
			Fines classify as ML or MH	GM	Silty gravel ^{F, G, H}	
		Sands: 50% or more of coarse fraction passes No. 4 sieve	Clean Sands: Less than 5% fines ^D	Fines classify as CL or CH	GC	Clayey gravel ^{F, G, H}
	Cu ≥ 6 and 1 ≤ Cc ≤ 3 ^E			SW	Well-graded sand ^I	
	Sands with Fines: More than 12% fines ^D	Sands with Fines: More than 12% fines ^D	Cu < 6 and/or [Cc < 1 or Cc > 3.0] ^E	SP	Poorly graded sand ^I	
			Fines classify as ML or MH	SM	Silty sand ^{G, H, I}	
	Fine-Grained Soils: 50% or more passes the No. 200 sieve	Silts and Clays: Liquid limit less than 50	Inorganic:	PI > 7 and plots above "A" line ^J	CL	Lean clay ^{K, L, M}
				PI < 4 or plots below "A" line ^J	ML	Silt ^{K, L, M}
			Organic:	$\frac{LL \text{ oven dried}}{LL \text{ not dried}} < 0.75$	OL	Organic clay ^{K, L, M, N}
					Organic silt ^{K, L, M, O}	
Silts and Clays: Liquid limit 50 or more		Inorganic:	PI plots on or above "A" line	CH	Fat clay ^{K, L, M}	
			PI plots below "A" line	MH	Elastic silt ^{K, L, M}	
		Organic:	$\frac{LL \text{ oven dried}}{LL \text{ not dried}} < 0.75$	OH	Organic clay ^{K, L, M, P}	
					Organic silt ^{K, L, M, Q}	
Highly organic soils:	Primarily organic matter, dark in color, and organic odor			PT	Peat	

^A Based on the material passing the 3-inch (75-mm) sieve.

^B If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

^C Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

^D Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

^E $Cu = D_{60}/D_{10}$ $Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$

^F If soil contains ≥ 15% sand, add "with sand" to group name.

^G If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

^H If fines are organic, add "with organic fines" to group name.

^I If soil contains ≥ 15% gravel, add "with gravel" to group name.

^J If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

^K If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

^L If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.

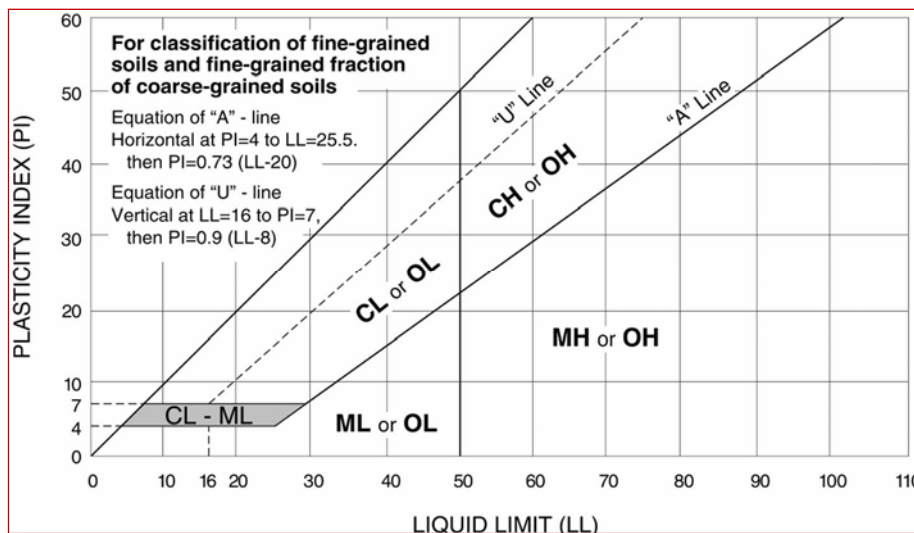
^M If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.

^N PI ≥ 4 and plots on or above "A" line.

^O PI < 4 or plots below "A" line.

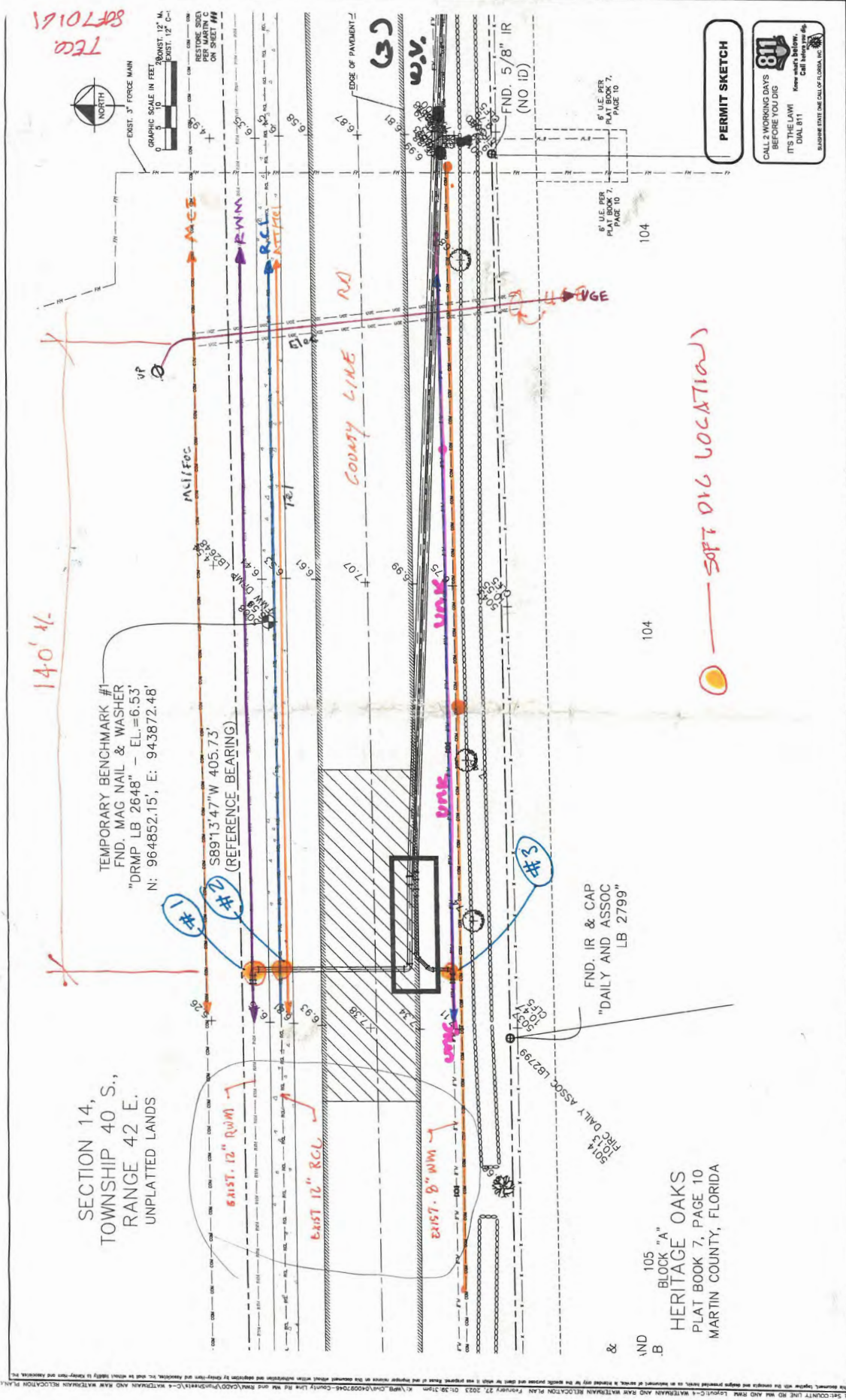
^P PI plots on or above "A" line.

^Q PI plots below "A" line.



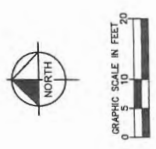
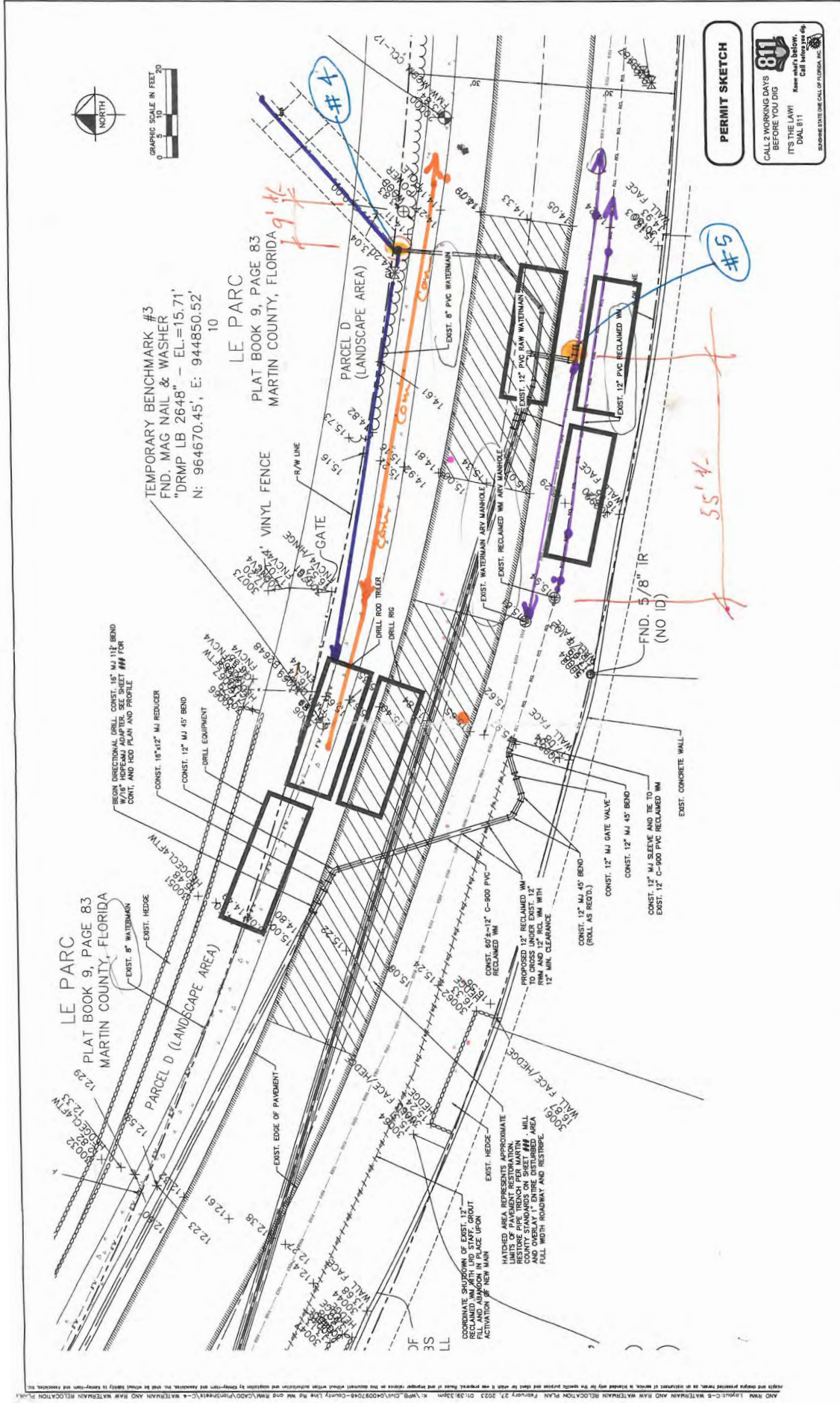
APPENDIX F
SUBSURFACE SURVEY

SUBSURFACE SURVEY - SOFT DIG LOCATION SKETCH (WEST)
FOR REFERENCE ONLY



SHEET NUMBER C-4	
WATERMAIN AND RAW WATERMAIN RELOCATION PLAN	
COUNTY LINE ROAD WATERMAIN AND RAW WATERMAIN RELOCATION PREPARED FOR VILLAGE OF TEQUESTA VILLAGE OF TEQUESTA, FLORIDA	LICENSED PROFESSIONAL THOMAS C. JENSEN FLORIDA LICENSE NUMBER 37290
N/A PROJECT CADDINGS DATE FEB. 2023 SCALE AS SHOWN DESIGNED BY SS DRAWN BY SS CHECKED BY TCJ	KIMLEY HORN © 2023 KIMLEY-HORN AND ASSOCIATES, INC. 1820 WENNA WAY SUITE 200, WEST PALM BEACH, FL 33411 PHONE: 561-845-0665 FAX: 561-863-8175 WWW.KIMLEY-HORN.COM REGISTRY NO. 35106
REVISIONS No. DATE BY	

SUBSURFACE SURVEY - SOFT DIG LOCATION SKETCH (EAST)
FOR REFERENCE ONLY



PERMIT SKETCH

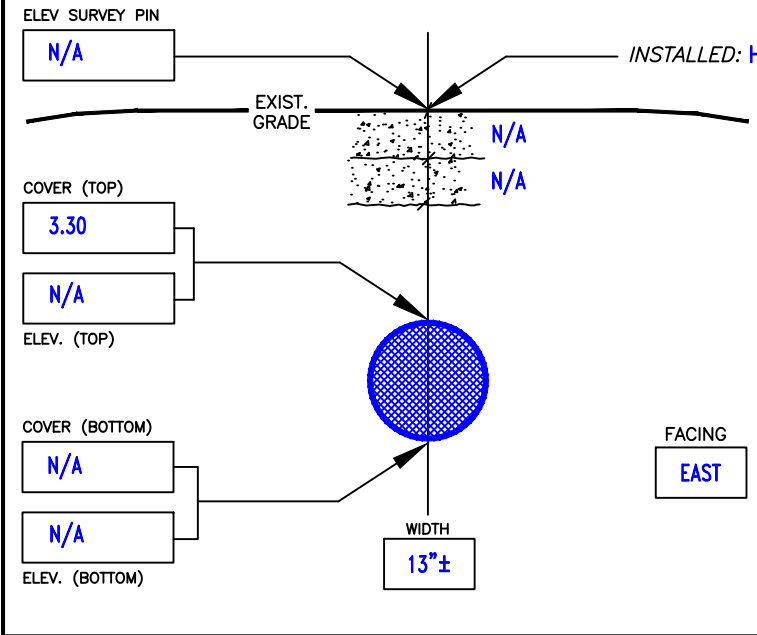
CALL 2 WORKING DAYS BEFORE YOU DIG
IT'S THE LAW!
DIAL 811
811
New plans before. Call 811 before you dig.
ENGINEER LIVE ONE CALL OF FLORIDA, INC.

SHEET NUMBER C-6	
WATERMAIN AND RAW WATERMAIN RELOCATION PLAN	
COUNTY LINE ROAD WATERMAIN AND RAW WATERMAIN RELOCATION PREPARED FOR VILLAGE OF TEQUESTA	FLORIDA, DATE VILLAGE OF TEQUESTA
LICENSURE PROFESSIONAL THOMAS C. JENSEN FLORIDA LICENSE NUMBER 37290	
PWA PROJECT 0400297046 DATE FEB. 2023 SCALE AS SHOWN DESIGNED BY SS DRAWN BY SS CHECKED BY TCJ	
Kimley»Horn © 2023 KIMLEY-HORN AND ASSOCIATES, INC. 1920 NEXAVIA WAY SUITE 200, WEST PALM BEACH, FL 33411 PHONE: 561-845-0660 FAX: 561-863-8175 WWW.KIMLEY-HORN.COM REGISTRY NO. 35106	
DATE	BY

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PROJECT NAME:	COUNTY LINE ROAD BRIDGE PROJECT - THS
LOCATE REQUESTED BY:	KIMLEY-HORN
UTILITY REQUESTED:	12" WATER
UTILITY FOUND:	WATER
MATERIAL AS FOUND:	PVC (GREEN)
SIZE AS FOUND:	12"

CLIENT JOB#	N/A	WORK ORDER #	N/A
PROJECT LOCATION:	LOXAHATCHEE RIVER DISTRIC, FL		
SHEET #:	4	OF	N/A
PROPOSED:	UTILITY WORK		
FORM BY:	SD	ASSISTED BY:	MP, VT
# OF HOLES:	1		
PAVING CONDITION:	N/A	DATE DUG:	3-28-23
SOIL CONDITIONS:	SOFT MOIST DRY SAND		
UTILITY CONDITION:	GOOD		

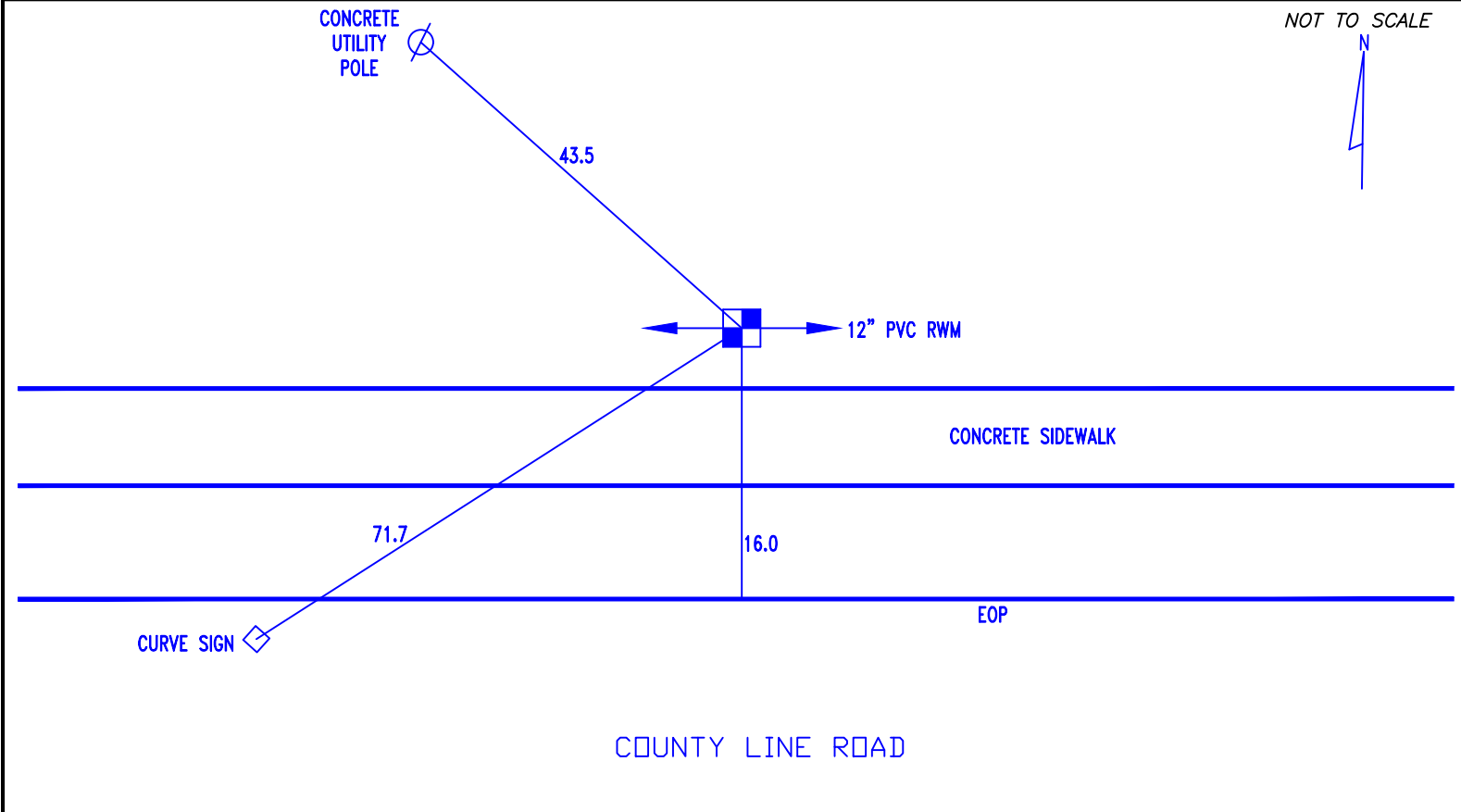


SURVEY PIN LOCATED BY: OTHERS

SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH / METRIC UNITS (FEET / METERS).

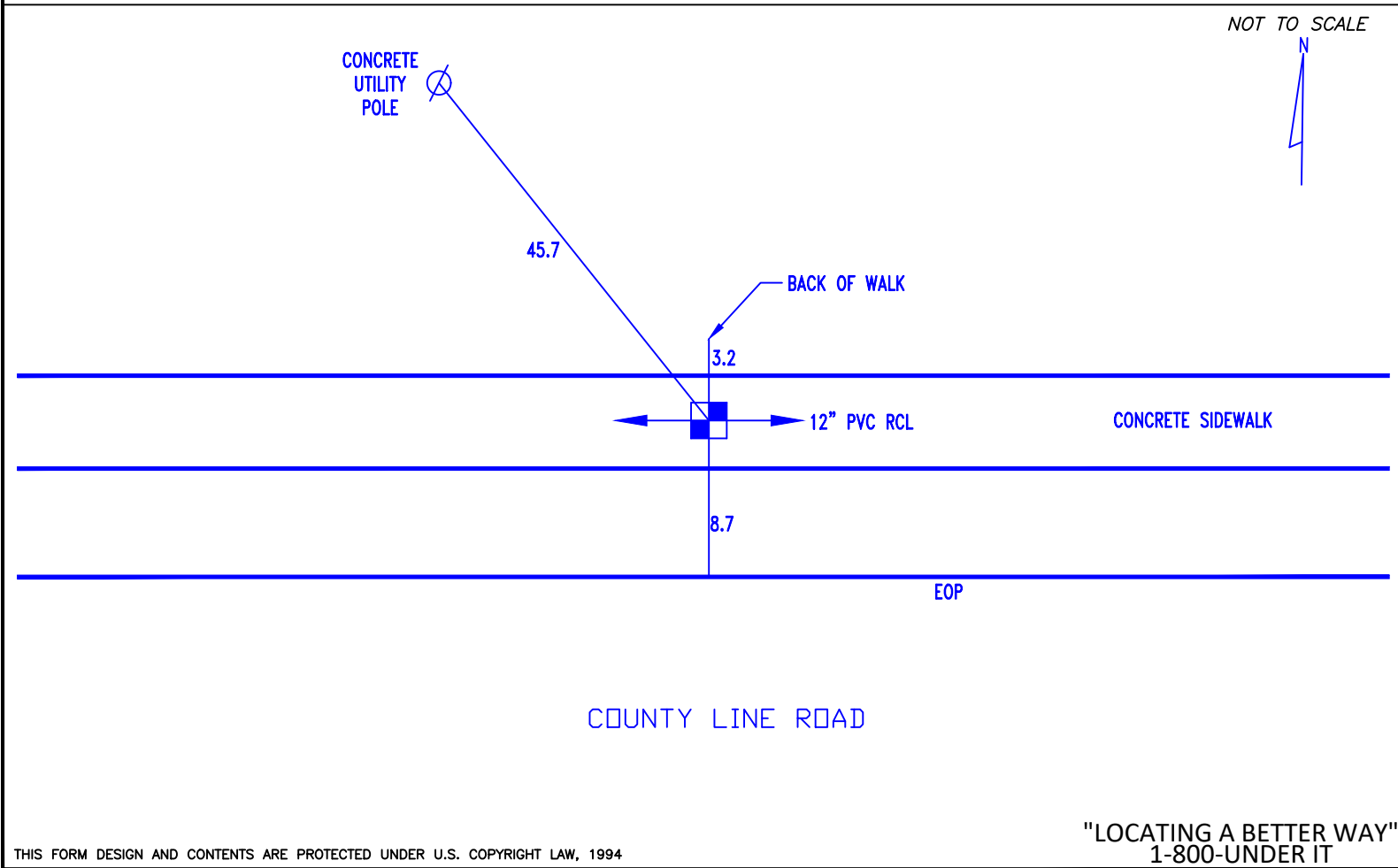
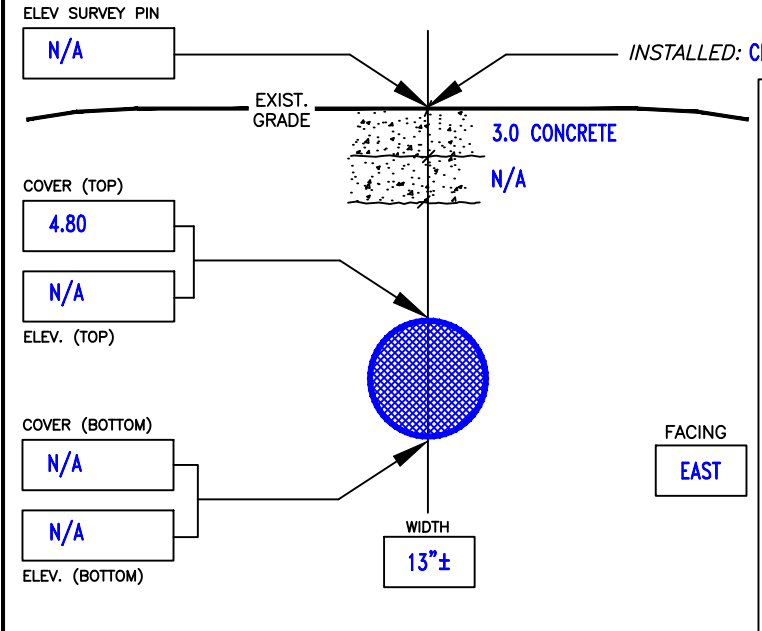
NO SURVEY REQUIRED.

NOTES:



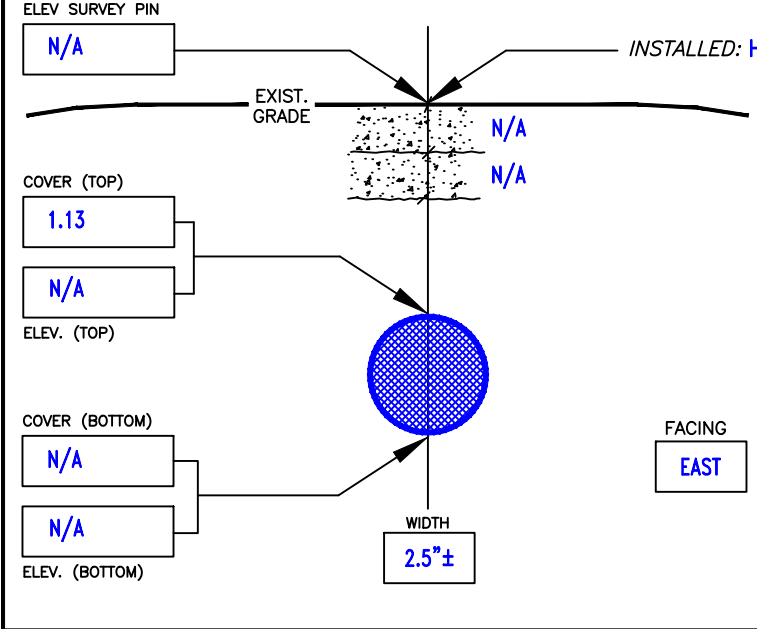
PROJECT NAME:	COUNTY LINE ROAD BRIDGE PROJECT - THS
LOCATE REQUESTED BY:	KIMLEY-HORN
UTILITY REQUESTED:	12" WATER
UTILITY FOUND:	WATER
MATERIAL AS FOUND:	PVC (GREEN)
SIZE AS FOUND:	12"

CLIENT JOB#	N/A	WORK ORDER #	N/A
PROJECT LOCATION:	LOXAHATCHEE RIVER DISTRIC, FL		
SHEET #:	4	OF	N/A
PROPOSED:	UTILITY WORK		
FORM BY:	SD	ASSISTED BY:	MP, VT
# OF HOLES:	1		
PAVING CONDITION:	GOOD	DATE DUG:	3-28-23
SOIL CONDITIONS:	HARD SOFT MOIST DRY SAND		
UTILITY CONDITION:	GOOD		



PROJECT NAME:	COUNTY LINE ROAD BRIDGE PROJECT - THS
LOCATE REQUESTED BY:	KIMLEY-HORN
UTILITY REQUESTED:	8" WATER
UTILITY FOUND:	UNKNOWN
MATERIAL AS FOUND:	PVC (WHITE)
SIZE AS FOUND:	2"

CLIENT JOB#	N/A	WORK ORDER #	N/A
PROJECT LOCATION:	LOXAHATCHEE RIVER DISTRICT, FL		
SHEET #:	4	OF	N/A
PROPOSED:	UTILITY WORK		
FORM BY:	SD	ASSISTED BY:	MP, VT
# OF HOLES:	1		
PAVING CONDITION:	N/A	DATE DUG:	3-28-23
SOIL CONDITIONS:	SOFT MOIST DRY SAND		
UTILITY CONDITION:	GOOD		



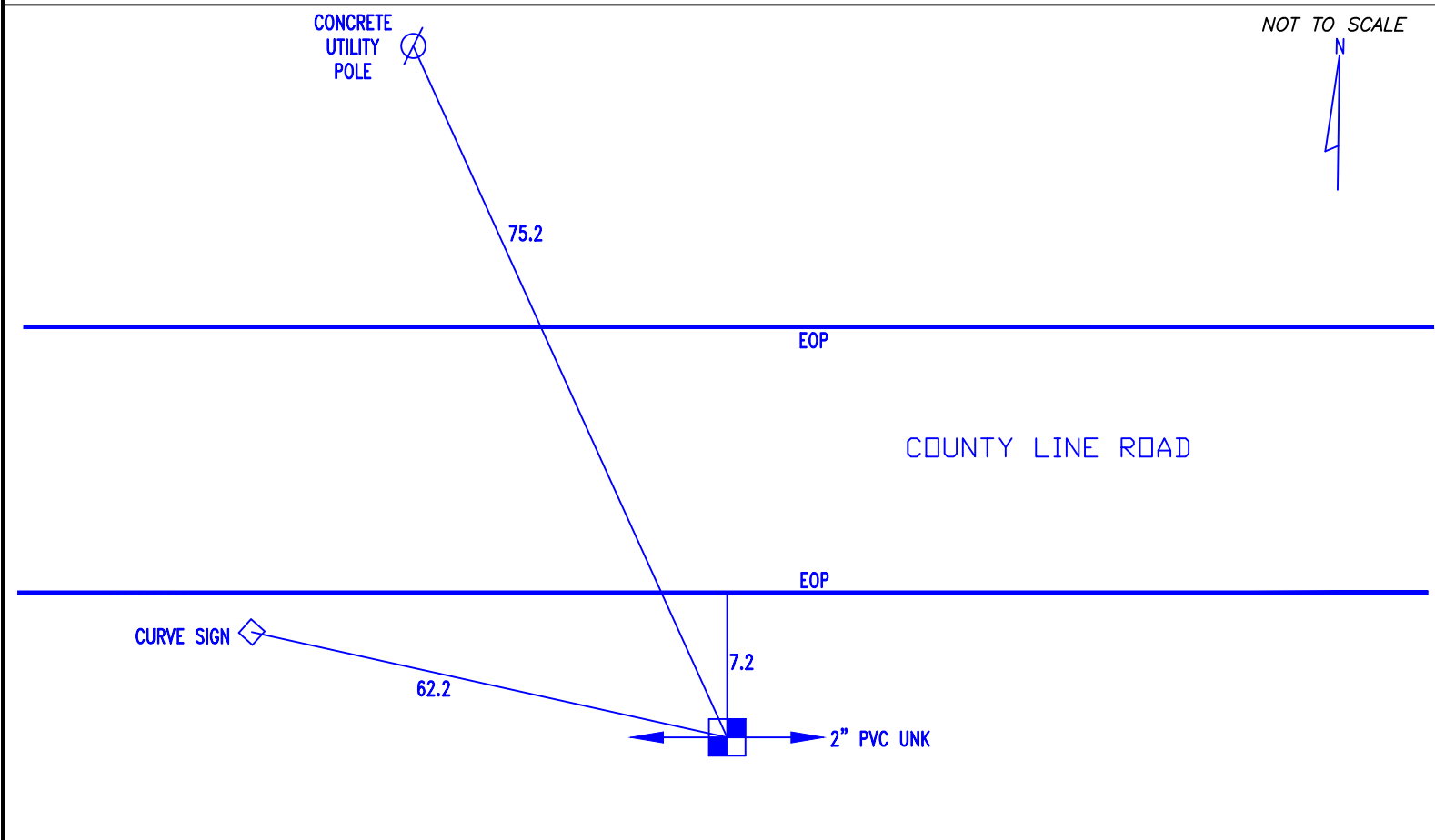
INSTALLATION: HUB & TACK AT: CROWN OF UTILITY MARKING TAPE: PINK

SURVEY PIN LOCATED BY: OTHERS

SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH / METRIC UNITS (FEET / METERS).

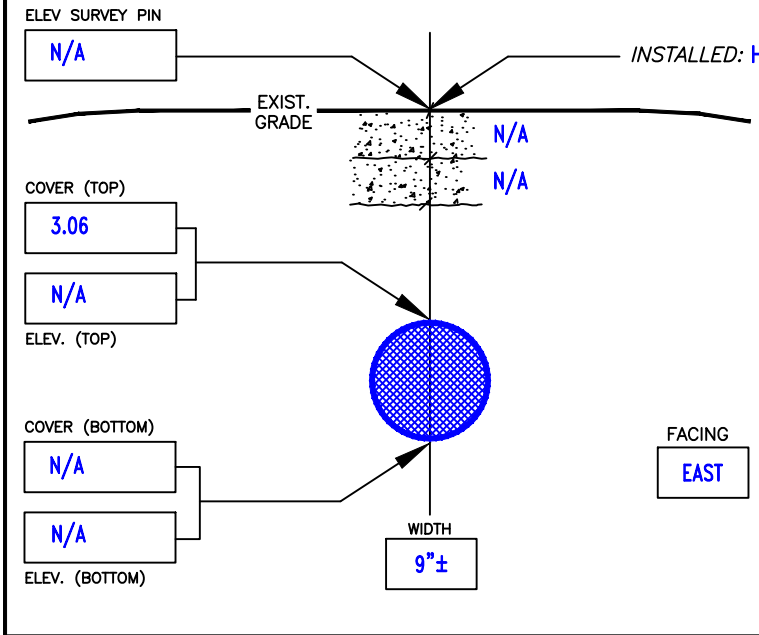
NO SURVEY REQUIRED.

NOTES: TEST HOLE REVEALED A 2" PVC WHITE PVC PIPE. UNKNOWN UTILITY. PROBES EAST AT WATER VALVE SET AND FOUND NO MAIN CONTINUING EAST ON WEST SIDE OF WESTERN MOST VALVE BY SCAN AREA 1.



PROJECT NAME:	COUNTY LINE ROAD BRIDGE PROJECT - THS
LOCATE REQUESTED BY:	KIMLEY-HORN
UTILITY REQUESTED:	8" WATER
UTILITY FOUND:	WATER
MATERIAL AS FOUND:	PVC (WHITE)
SIZE AS FOUND:	8"

CLIENT JOB#	N/A	WORK ORDER #	N/A
PROJECT LOCATION:	LOXAHATCHEE RIVER DISTRIC, FL		
SHEET #:	6	OF	N/A
PROPOSED:	UTILITY WORK		
FORM BY:	DL	ASSISTED BY:	DC
# OF HOLES:	1		
PAVING CONDITION:	N/A	DATE DUG:	3-28-23
SOIL CONDITIONS:	SOFT DRY SAND		
UTILITY CONDITION:	FAIR		

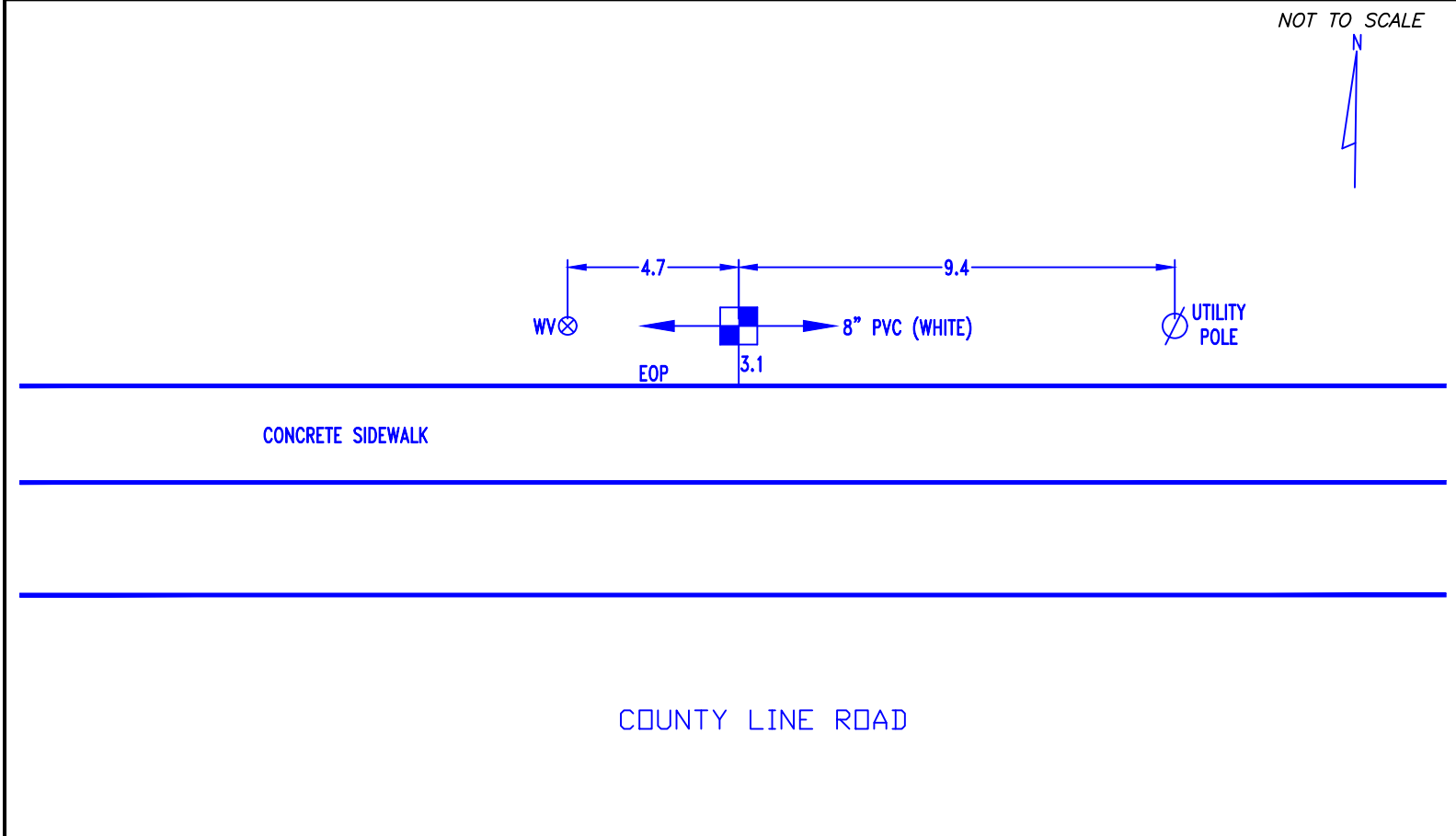


SURVEY PIN LOCATED BY: OTHERS

SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH / METRIC UNITS (FEET / METERS).

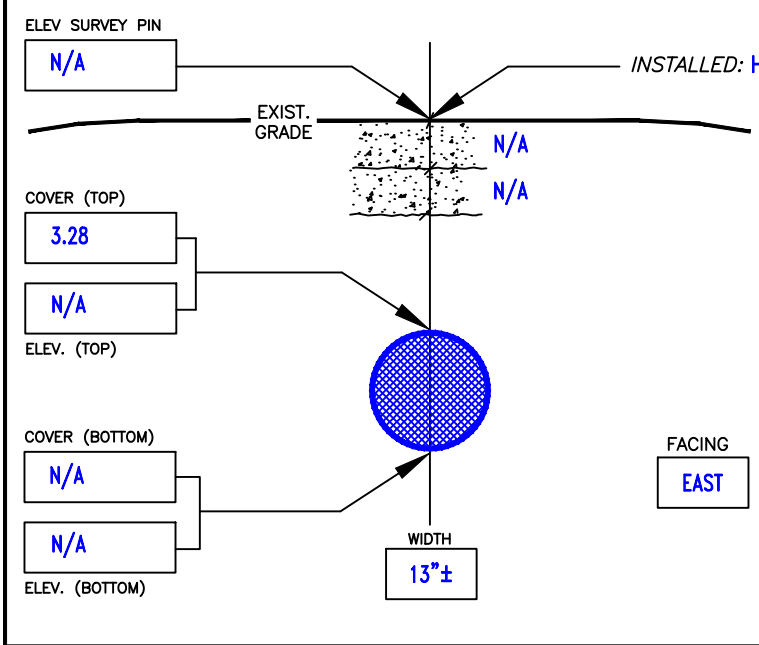
NO SURVEY REQUIRED.

NOTES:



PROJECT NAME:	COUNTY LINE ROAD BRIDGE PROJECT - THS
LOCATE REQUESTED BY:	KIMLEY-HORN
UTILITY REQUESTED:	WATER
UTILITY FOUND:	WATER
MATERIAL AS FOUND:	PVC (GREEN)
SIZE AS FOUND:	12"

CLIENT JOB#	N/A	WORK ORDER #	N/A
PROJECT LOCATION:	LOXAHATCHEE RIVER DISTRICT, FL		
SHEET #:	6	OF	N/A
PROPOSED:	UTILITY WORK		
FORM BY:	DL	ASSISTED BY:	DC
# OF HOLES:	1		
PAVING CONDITION:	N/A	DATE DUG:	3-28-23
SOIL CONDITIONS:	SOFT DRY SAND		
UTILITY CONDITION:	FAIR		

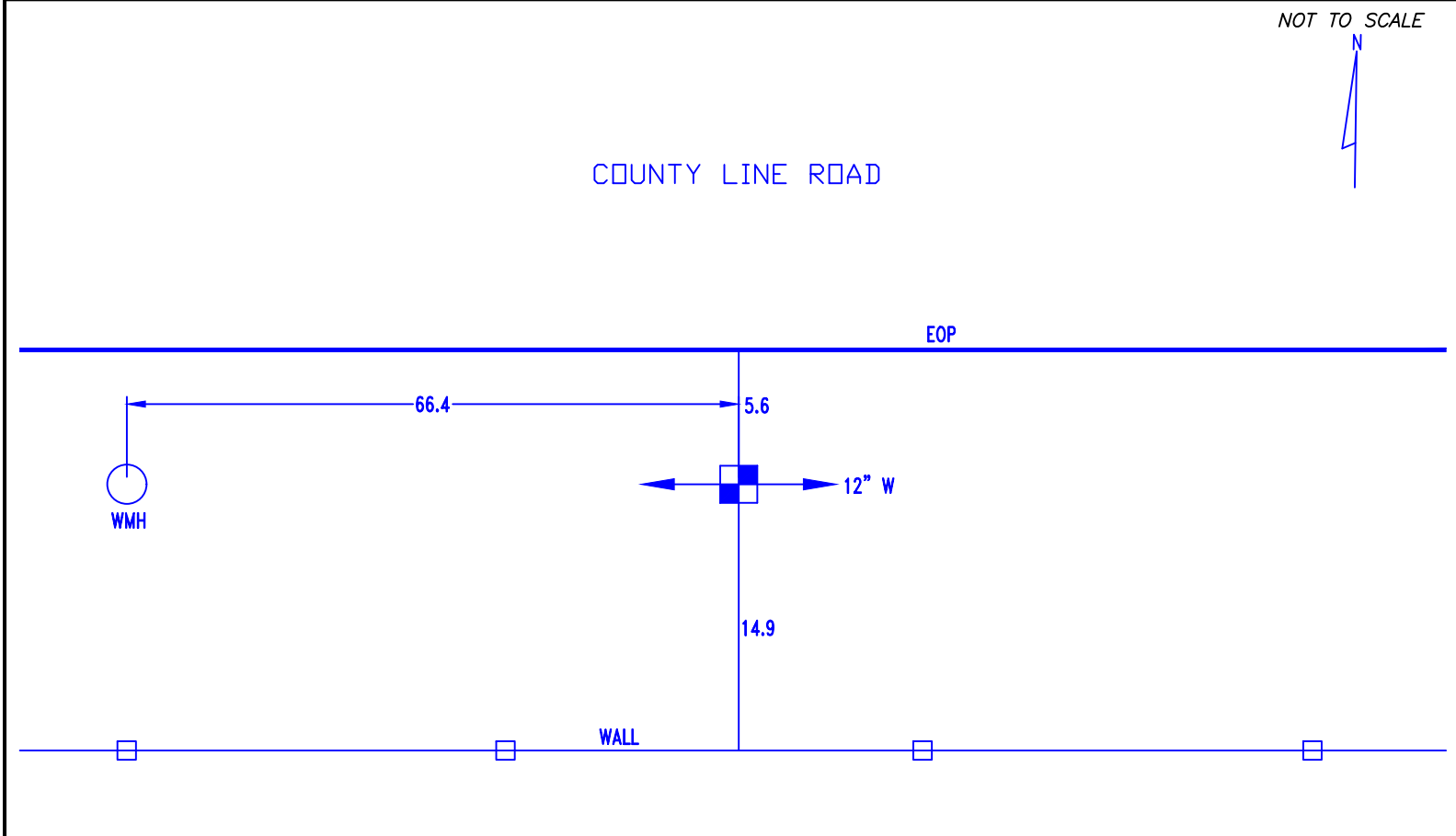


SURVEY PIN LOCATED BY: OTHERS

SURVEY INFO.: ALL MEASUREMENTS ON THIS FORM ARE IN ENGLISH / METRIC UNITS (FEET / METERS).

NO SURVEY REQUIRED.

NOTES:





TEST HOLE INVENTORY
PROJECT: COUNTY LINE ROAD BRIDGE PROJECT TEST HOLES
PROJECT NO.: PF22068
PROJECT MANAGER: ANDRES GARCIA
CLIENT: KIMLEY-HORN
DATE: 4/6/23

TH#	REQUESTED UTILITY	UTILITY FOUND	REMARKS
1	12" WATER	12" WATER	
2	12" WATER	12" WATER	
3	8" WATER	2" UNKNOWN	SEE NOTE
4	8" WATER	8" WATER	
5	WATER	12" WATER	