

Craig A. Smith & Associates

**WALNUT CREEK
CDD**

**EROSION AND
SEDIMENTATION
PROJECT
NW 72nd AVENUE
CANAL**

**CONTRACT DOCUMENTS AND
SPECIFICATIONS**

CAS PROJECT No. 21-2171

JANUARY 2026



**1425 E. Newport Center Drive
Deerfield Beach, FL 33432
(561) 314-4445**

SECTION 00010

TABLE OF CONTENTS

<u>SECTION No.</u>	<u>DESCRIPTION</u>
DIVISION 0	INFORMATION, BIDDING, AND CONTRACTING
00010	Table of Contents
00015	List of Drawings
00103	Invitation to Bid
00200	Instructions to Bidders
00330	Existing Conditions
00410	Bid Form
00433	Bid Bond
00451	Contractor's Qualification Form
00452	Disadvantaged Business Enterprise Form
00453	Public Entity Crimes Statement
00457	Acknowledgment of Conformance With O.S.H.A. Standards
00458	Bidder's Affidavit In Compliance With Florida Trench Safety Act
00459	Drug Free Work Place Form
00490	Addendum No. __
00500	Agreement
00510	Notice of Award
00550	Notice to Proceed

DIVISION 0**INFORMATION, BIDDING, AND CONTRACTING
(CONTINUED)**

- 00614 Performance Bond
- 00615 Payment Bond
- 00700 General Conditions
- 00800 Special Conditions and Supplementary Conditions
- 00890 Permits
- 00931 Change Order

DIVISION 1**GENERAL REQUIREMENTS**

- 01110 Summary of the Work
- 01140 Work Restrictions
- 01290 Payment Procedure
- 01291 Schedule of Values
- 01293 Applications for Payment
- 01312 Project Meetings
- 01321 Construction Photographs and Video Recording
- 01327 Scheduling of Construction
- 01330 Submittal Procedures
- 01334 Shop Drawings, Product Data, and Samples
- 01437 Contractor's Qualifications
- 01450 Quality Control
- 01451 Contractor's Quality Control
- 01458 Testing and Testing Laboratory Services

DIVISION 1	GENERAL REQUIREMENTS (CONTINUED)
01500	Temporary Facilities and Controls
01540	Construction Aids
01550	Traffic Control
01560	Tree and Plant Protection
01568	Security Measures
01600	Equipment and Materials
01610	Basic Product Requirements
01630	Product Substitution Procedures
01660	Product Storage and Handling Requirements
01723	Protection of Adjacent Construction
01740	Cleaning
01741	Final Cleaning
01770	Closeout Procedures
01780	Closeout Submittals
01785	Project Record Documents

DIVISION 2	SITE CONSTRUCTION
02200	Site Preparation
02220	Site Demolition

DIVISION 2	SITE CONSTRUCTION (CONTINUED)
02300	Earthwork

02310 Grading

DIVISION 3	CONCRETE	(not used)
DIVISION 4	MASONRY	(not used)
DIVISION 5	METALS	(not used)
DIVISION 6	WOOD AND PLASTICS	(not used)
DIVISION 7	THERMAL AND MOISTURE PROTECTION	(not used)
DIVISION 8	DOORS AND WINDOWS	(not used)
DIVISION 9	FINISHES	(not used)
DIVISION 10	SPECIALTIES	(not used)
DIVISION 11	EQUIPMENT	(not used)
DIVISION 12	FURNISHINGS	(not used)
DIVISION 13	SPECIAL CONSTRUCTIONS	(not used)
DIVISION 14	CONVEYING SYSTEMS	(not used)
DIVISION 15	MECHANICAL	(not used)
DIVISION 16	ELECTRICAL	(not used)

END OF SECTION

SECTION 00015

LIST OF DRAWINGS

PART 1 GENERAL

1.01 SUMMARY

A. Itemized below are the Contract Drawings for Craig A. Smith and Associates, Inc.

Project Number: 21-2171, Walnut Creek CDD Erosion and Sedimentation

Project – NW 72nd Avenue Canal:

SHEET	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES
3	LEGEND AND ABBREVIATIONS
4	TOPOGRAPHIC PLAN
5	SURVEY CONTROL PLAN
6	EROSION ELEMENT CONTROL PLAN
7-8	PLAN AND CROSS SECTIONS
9-10	PLAN AND PROFILE
11	BATHYMETRIC PLAN
12-13	DETAILS
14	SUMMARY AND QUANTITIES
15-17	MANUFACTURER'S SPECIFICATIONS
S1	SURVEY

END OF SECTION

**WALNUT CREEK CDD
INVITATION TO BID
EROSION AND SEDIMENTATION PROJECT
NW 72 AVENUE CANAL
CAS PROJECT NO. 21-2171**

Sealed bids for the construction of the following project will be **received by Walnut Creek CDD (Owner) until 2:00 p.m., on [REDACTED] at [REDACTED]**. Any bids received after the time specified will not be accepted. The bid opening will occur immediately after the deadline for receipt.

All material furnished and all work performed shall be in accordance with the Drawings, Specifications and Contract Documents pertaining thereto, which may be examined at or obtained from:

(Project Engineer)
Craig A. Smith & Associates of Florida, Inc.
1425 E. Newport Center Drive
Deerfield Beach, FL 33432
(561) 314-4445

Work to be performed under this Contract consists of furnishing materials, equipment, and labor necessary for the completion of the Canal Erosion and Sedimentation Project as shown in the Engineering Drawings and described in the Specifications. The Construction activity shall be performed within the limits of the NW 72nd Avenue Canal rights-of-way.

A non-refundable deposit of \$75.00 will be required for the complete set of Drawings, Specifications and Contract Documents if a printed copy is requested. Checks are to be made payable to Craig A. Smith & Associates, Inc. (CAS). Plans and Contract documents can be downloaded from the District's website www.walnutcreekcdd.org or on www.DemandStar.com.

Bidders will confine their bids to the project in its entirety. Partial bids will not be accepted. Each bidder will submit with its bid evidence that the bidder is licensed to perform the work and services. Bidders who fail to include proper evidence of licensure will be considered non-responsive and their Bid will be discarded.

Each bid must be submitted either electronically through the DemandStar E-Bid process, or hard-copy in TRIPPLICATE (ONE ORIGINAL AND TWO COPIES) plus one electronic copy (USB flash drive) and accompanied by an acceptable Bid Bond in an amount equal to at least five percent (5%) of the amount of the bid payable to The District, as a guarantee that if the bid is accepted the bidder will execute the contract and file acceptable performance and payment surety bonds, each equal to one hundred percent (100%) of the contract price within ten (10) days after written notice of the award of contract.

Contractors currently in default on a construction contract or currently in litigation with the District or another District/Municipality may not submit a Bid Proposal for this Contract. In addition, no entity convicted of a public entity crime may submit a bid for a period of 36 months from the date of being placed on the convicted vendor list. Contractors submitting a bid under any of the circumstances mentioned above will be rejected as being non-responsive.

No bidder may withdraw their bid for a period of ninety (90) days after date set for opening of this bid. It is incumbent upon each bidder to check the listed CAS link for addendums and submit addendum acknowledgements as required and with the bid submittal.

There will be a mandatory Zoom pre-bid conference at [REDACTED].

Zoom Link: [REDACTED]

The District reserves the right to reject all bids, waive informalities in any bid, and delete any portion of the project, whenever such action is in the interest of the District.

If in the opinion of the bidder, inconsistencies appear to exist in the specifications, it is the bidder's responsibility to seek clarification from the Project Engineer in writing. Last day to submit requests for additional information is on [REDACTED]. Additionally, it is incumbent upon all bidders to conduct a personal investigation as to the requirements of the District, CBWCD and Overall Project.

If submitting electronically through DemandStar, bidders must choose the sealed option. If submitting hard copies, bids must be sealed and the outside of the envelope MUST be marked: "BID – WALNUT CREEK CDD-EROSION AND SEDIMENTATION PROJECT NW 72ND AVENUE CANAL- RFP [REDACTED], CAS PROJECT NO. 21-2171."

END OF SECTION

SECTION 00200
INSTRUCTIONS TO BIDDERS

<u>PARAGRAPH</u>	<u>TITLE</u>	<u>PAGE NO.</u>
1.	FORMAT	3
2.	SPECIFICATION LANGUAGE	3
3.	GENERAL DESCRIPTION OF THE PROJECT	3
4.	QUALIFICATION OF CONTRACTORS	3
5.	DOCUMENT INTERPRETATION	3
6.	BIDDER'S UNDERSTANDING	3
7.	DRAWINGS	4
8.	TYPE OF PROPOSAL	4
9.	PREPARATION OF PROPOSALS	4
10.	CHANGES IN QUANTITIES	5
11.	STATE & LOCAL SALES AND USE TAXES	5
12.	SUBMISSION OF PROPOSALS	5
13.	TELEGRAPHIC OR WRITTEN MODIFICATION OF PROPOSAL	6
14.	WITHDRAWAL OF PROPOSAL	6
15.	BID SECURITY	6
16.	RETURN OF BID SECURITY	6
17.	AWARD OF CONTRACT	6
18.	BASIS OF AWARD	8
19.	EXECUTION OF CONTRACT	8
20.	PLANS FOR CONSTRUCTION	8
21.	PERFORMANCE AND PAYMENT BONDS	8
22.	FAILURE TO EXECUTE CONTRACT AND FURNISH BOND	8

INSTRUCTIONS TO BIDDERS (continued)

<u>PARAGRAPH</u>	<u>TITLE</u>	<u>PAGE NO.</u>
23.	TIME OF COMPLETION	9
24.	SWORN STATEMENT ON PUBLIC ENTITY CRIMES	9
25.	PUBLIC RECORDS	9

1. FORMAT

The Contract Documents are divided into parts, divisions, and sections in keeping with accepted industry practice to separate categories of subject matter for convenient reference thereto. Generally, there has been no attempt to divide the specification sections into work performed by the various building trades, work by separate subcontractors, or work required for separate facilities in the project.

2. SPECIFICATION LANGUAGE

"Command" type sentences are used in the Contract Documents. These refer to and are directed to the Contractor.

3. GENERAL DESCRIPTION OF THE PROJECT

A general description of the work to be done is contained in the Invitation to Bid. The scope is indicated on the plans and is specified in applicable parts of these Contract Documents. Bidders shall rely on the drawings, specifications, contract documents and addenda in preparing their proposal.

4. QUALIFICATION OF CONTRACTORS

The prospective bidders must meet the statutorily prescribed requirements before Award of Contract by **the Walnut Creek CDD (OWNER)**.

5. DOCUMENT INTERPRETATION

The Contract Drawings governing the work proposed herein consist of the Drawings and all material bound herewith. These Contract Documents are intended to be mutually cooperative and to provide all details reasonably required for the execution of the proposed work. Any person contemplating the submission of a proposal shall have thoroughly examined all of the various parts of these documents, and should there be any doubt as to the meaning or intent of said Contract Documents, the Bidder should request the Engineer, in writing, (at least seven (7) calendar days prior to bid opening or as specified in the bid advertisement) an interpretation thereof. Any interpretation or change in said Contract Documents will be made only in writing, in the form of Addenda to the Documents which will be furnished to all Bidders receiving a set of the Documents. Bidders shall submit with their proposals, or indicate receipt of, all Addenda. Neither Owner nor Engineer will be responsible for any other explanation or interpretations of said Documents not issued in writing by Addendum.

6. BIDDER'S UNDERSTANDING

Each Bidder must inform himself of the conditions relating to the execution of the work and it is assumed that he will inspect the site and make himself thoroughly familiar with all the Contract Documents. Failure to do so will not relieve the successful Bidder of his obligation to enter into a Contract and complete the contemplated work in strict accordance with the Contract Documents. It shall be the Bidder's obligation to verify for himself and to his complete satisfaction all information concerning site and subsurface conditions. Bidders are responsible for basing their bids on the most recent plans and specifications.

- 6.1 Information derived from inspection of Drawings showing location of utilities and structures will not in any way relieve the Contractor from any risk, or from properly examining the sites and making such additional investigations as he may elect, or from properly fulfilling all the terms of the Contract Documents.
- 6.2 Each Bidder shall inform himself of, and the Bidder awarded a Contract shall comply with, Federal, State, District, CBWCD and local laws, statutes, and ordinances relative to the execution of the work. This requirement includes, but is not limited to, applicable regulations concerning minimum wage rates, nondiscrimination in the employment of labor, protection of public and employee safety and health, environmental protection, the protection of natural resources, fire protection, burning and non-burning requirements, permits, fees, and similar subjects.

7. DRAWINGS

No return of Drawings is required and no refund of the Drawing purchase price will be made.

8. TYPE OF PROPOSAL

When the Proposal for the work is to be submitted on a unit price basis, unit price Proposals will be accepted on all items of work set forth in the Proposal, except those designated to be paid for as a lump sum. The estimate of quantities of work to be done is tabulated in the Proposal and, although stated with as much accuracy as possible, is approximate only and is assumed solely for the basis of calculation upon which the award of Contract shall be made. Payment to the Contractor will be made on the measurement of the work actually performed by the Contractor as specified in the Contract Documents. The Owner reserves the right to increase or decrease the amount of any class of work as may be deemed necessary, unless otherwise specified in the Supplementary Conditions.

- 8.1 When the proposal for the work is to be submitted on a lump sum basis, the lump sum price shall include all labor, materials, and equipment to complete the work described in the bid item included in the bid schedule. The bid items are intended to be general in nature and are not meant to be exhaustive in detail. Payment for all portions of the work associated with and necessary for the completion of a bid item shall be included in the lump sum price for that item whether or not it is mentioned specifically in the bid item description. All work described in the plans and specifications shall be accomplished and paid for as a part of one or more bid items. If the Contractor believes that a portion of the work as described in the plans and specifications has not been included in any bid item, he shall bring this fact to the attention of the Engineer at least one week before the bids are to be received. Otherwise, it shall be assumed that the Contractor's proposal includes reimbursement for all work described in the plans and specifications.

9. PREPARATION OF PROPOSALS

Bidders must complete and return the following:

- Bid - Section 00410
- Bid Bond - Section 00433
- Contractor's Qualifications Form – Section 00451
- Disadvantaged Business Enterprise Form - Section 00452

- Sworn Statement On Public Entity Crimes - Section 00453
- Acknowledgment Of Conformance With O.S.H.A. Standards - Section 00457
- Bidder's Affidavit In Compliance With Florida Trench Safety Act - Section 00458
- Drug Free Work Place Form - Section 00459

9.1 Bidders must submit bid prices for all items. All blank spaces in the Proposal form must be filled in, preferably in blue ink, in both words and figures where required. No changes shall be made in the phraseology of the forms. Written amount shall govern in case of discrepancy between the amounts stated in writing and the amounts stated in figures. In case of discrepancy between unit prices and totals, unit prices will prevail. Bidders must complete all forms included with the Bid Documents accompanied by such certificates and forms as specified elsewhere herein.

9.2 Any proposal shall be deemed non-responsive which contains materials omissions, or irregularities, or in which any of the prices are obviously unbalanced, or which in any manner shall fail to conform to the conditions of the published Invitation to Bid.

9.3 Only one bid from any individual, firm, partnership, or corporation, under the same or different names, will be considered. Should it appear to the Owner that any Bidder is interested in more than one bid for work contemplated, all bids in which such a Bidder is interested will be rejected.

9.4 The bidder shall sign his Proposal in the blank space provided therefore. If the Bidder is a corporation, the legal name of the corporation shall be set forth above, together with the signature of the officer or officers authorized to sign Contracts on behalf of the corporation. If Bidder is a partnership, the true name of the firm shall be set forth above, together with the signature of the partner or partners authorized to sign Contracts in behalf of the partnership. If signature is by an agent, other than an officer of a corporation or a member of a partnership, a notarized power-of-attorney must be on file with the Owner prior to opening of proposals or submitted with the Proposal.

10. CHANGES IN QUANTITIES

The Owner reserves the right to increase or decrease the amount of any class of unit price work that may be deemed necessary, except that such increases or decreases in amounts shall not be more than twenty-five (25%) percent of the quantities shown on the Drawings, and Specifications without a negotiated Change Order.

11. STATE AND LOCAL SALES AND USE TAXES

Unless Supplementary Conditions contains a statement that the Owner is exempt from State sales tax on materials incorporated into the work due to the qualification of the work under this Contract, all State and local sales and use taxes, as required by the laws and statutes of the State and its political subdivisions, shall be paid by the Contractor. Prices quoted in the Proposal shall include all nonexempt sales and use taxes, unless provision is made in the proposal form to separately itemize the tax.

12. SUBMISSION OF PROPOSALS

All Proposals must be received not later than the time prescribed, at the place, and in the manner set forth in the Invitation to Bid. Proposals must be made on the Proposal Forms provided herein.

12.1 The Owner will not accept Proposal forms separated from the Contract Documents. Each Proposal must be submitted in a sealed envelope, marked "**BID - WALNUT CREEK CDD EROSION AND SEDIMENTATION PROJECT NW 72ND AVENUE CANAL, CAS PROJECT NO. 21-2171**". If forwarded by mail, the sealed envelope containing the BID must be enclosed in another envelope addressed to **Walnut Creek CDD, 8785 SW 165th Avenue, Suite 200 Miami, FL 33193 (786-347-2711)**.

13. TELEGRAPHIC OR WRITTEN MODIFICATION OF PROPOSAL

Any Bidder may modify his bid by telegraphic or written communication at any time prior to the scheduled closing time for receipt of bids, provided such communication is received by the Owner prior to the closing time. The telegraphic or written communication should not reveal the bid price; it should, however, state the addition or subtraction or modification so that the final prices or terms will not be known by the Owner until the sealed bid is opened.

14. WITHDRAWAL OF PROPOSAL

Any Proposal may be withdrawn prior to the scheduled time for the opening of proposals either by telegraphic or written request, or in person. No proposal may be withdrawn after the time scheduled for opening of proposals, for a period of 90 days.

15. BID SECURITY

Proposals must be accompanied by cash, a certified check, or cashier's check drawn on a local bank in good standing, or a bid bond issued by a Surety authorized to issue such bonds in the State of Florida, in the amount of five (5%) percent of the total amount of the Proposal submitted. This bid security shall be given as guarantee that the Bidder will not withdraw or modify his Proposal for a period of ninety (90) days after bid opening, and that if awarded the Contract, the successful bidder will execute the attached Contract and furnish properly executed Performance and Payment Bonds, equal to the total price of the Contract within the time specified.

- 15.1 The Attorney-in-Fact (Resident Agent) who executes this bond in behalf of the Surety must attach a notarized copy of his power-of-attorney as evidence of his authority to bind the Surety on the date of execution of the bond.
- 15.2 If the Bidder elects to furnish a Bid Bond, he shall use the Bid Bond form found bound herewith, or one conforming substantially thereto in form and content.

16. RETURN OF BID SECURITY

Within fifteen (15) days after the award of the Contract, the Owner will return the Bid securities to all Bidders whose Proposals are not to be further considered in awarding the Contract. Retained bid securities will be held until the Contract has been finally executed, after which all bid securities, other than Bidders' bonds and any guarantees which have been forfeited, will be returned to the respective bidders whose proposals they accompanied.

17. AWARD OF CONTRACT

Within thirty (30) calendar days after the opening of Proposals, unless otherwise stated in the Invitation to Bid or Supplementary Conditions of these Documents, the Owner will accept one of the Proposals or will act in accordance with BASIS OF AWARD, below. The acceptance of the Proposal will be by written Notice of Award, mailed or delivered to the office designated in the Proposal. In the event of failure of the lower responsible and responsive qualified Bidder to sign and return the Contract with acceptable Performance and Payment bonds, as prescribed herein, the Owner may award the Contract to the next lowest responsible and responsive qualified Bidder. Such award, if made, will be made within sixty (60) days after the opening of proposals.

18. BASIS OF AWARD

The Contract will be awarded to the responsive, responsible Bidder submitting the lowest acceptable Proposal. Responsive Bidder shall be defined as any person, firm or corporation submitting a bid for the work contemplated whose Bid Form is complete and regular, free of exclusions or special conditions and has no alternative bids for any items unless requested in the technical specifications. Responsible Bidder shall be defined as any person, firm, or corporation, having the proper qualifications, licensure or registration as may be required to perform the work as specified within these Contract Documents, submitting a bid for the work contemplated who maintains a permanent place of business, has adequate personnel and equipment to do the work properly and within the time limit that is established, and has adequate status to meet his obligations contingent to the work.

- 18.1 The Owner reserves the right to award the Contract as best serves the interests of the Owner. In determining a responsible bidder, the Owner may conduct a thorough background investigation of the company, its share holder(s) and officers; take into consideration the experience of the company; take into consideration the experience of the qualifier; current, pending, and/or prior litigation, whether as plaintiff or defendant regardless of whether the claim resulted in a judgment; recommendation by prior employer(s) of company and/or qualifier; bonding/surety company; history of change orders; cost estimate; minority use; warrant; local office; and any other factor the Owner deems appropriate to establish that Proposer is deemed responsible and has adequate status to meet his obligation to perform the work. Further to these items, the Owner, at his discretion and expense, may solicit a report from Dunn & Bradstreet or any other reporting agency to make a determination as to the credit worthiness and solvency of each Proposer. Submission of a bid proposal constitutes an acceptance of these terms and provides the Owner or his designated representative, full permission and authority to perform said background investigations.
- 18.2 The Owner, in the process of evaluating the proposals submitted to determine the lowest responsive and responsible Proposer, may at his discretion analyze in addition to the above the following minimal criteria; experience of the proposing firm, experience of the firm's qualifier, incidents of past utility damage, aggregate bonding capacity, current staffing, equipment and workload and any past or present warranty claim issues.
- 18.3 If, in the opinion of the Owner or his designee, the information gathered or discovered in conjunction with the aforementioned background investigation reflects negatively on the

Proposer to such a degree that the Owner has serious doubts or reservations as to the Proposer's ability to perform or complete the required work within the time specified, the Owner may discard said proposal and award the Contract to the next lowest responsive, responsible Proposer.

- 18.4 If, at the time this Contract is to be awarded, the total of the lowest acceptable Proposal exceeds the funds then estimated by the Owner as available, the Owner may reject all bids or take such other action as best serves the Owner's interests.
- 18.5 The Owner reserves the right to reject any and all Proposals for any reason where the Owner deems rejection to be in its best interest, or to reject any proposal not in compliance with the Contract Documents. The Owner reserves the right to waive any informalities and irregularities in said Proposals.
- 18.6 The decision of the Owner shall be final. Proposers eliminated due to any of the factors listed herein and above shall not be entitled to any compensation or recovery, notwithstanding clear and evident violations of law.

19. EXECUTION OF CONTRACT

The successful Bidder shall, within seven (7) calendar days after receiving notice of award, sign and deliver to the Owner the Contract hereto attached together with the acceptable bonds as required in these Documents. Within fourteen (14) calendar days after receiving the signed Contract with acceptable bonds from the successful Bidder, the Owner's authorized agent will sign the Contract. Signature by both parties constitutes execution of the Contract.

- 19.1 Failure on behalf of the Bidder to deliver the Contract hereto attached together with the acceptable bonds as required in these Documents within seven (7) calendar days shall constitute a finding of default on behalf of the Bidder and shall be grounds for the Owner to award the Contract to the next lowest responsive responsible Bidder as stipulated in Section 18 of these Documents.

20. PLANS FOR CONSTRUCTION

The successful Bidder will be furnished four sets (2 – 24" x 36", 2 – 11" x 17") of Contract Documents without charge. Any additional copies required will be furnished to the Bidder at reproduction cost. Reproduction costs shall be fixed at the rate of \$ 5.00 per sheet in 24" x 36" size and \$ 2.00 per sheet in 11" x 17" size, for the duration of this Agreement.

21. PERFORMANCE AND PAYMENT BOND

The successful Bidder shall file with the Owner a Performance Bond and a Payment Bond on the forms bound herewith, each in the amount of 100 percent of the Contract Price in accordance with the requirement of Florida Statutes Section 255.05 or 713.23, as applicable, as security for the faithful performance of the Contract and the payment of all persons supplying labor and materials for the construction of the work, and to cover all guarantees against defective workmanship or materials for the construction of the work, and to cover all guarantees against defective workmanship or materials, or both, for a period of 1 year after the day of final acceptance of the work by the Owner. The Surety furnishing this bond shall have a sound financial standing and a record of service satisfactory to the Owner, shall be authorized to do business in the State of Florida, and shall be listed on the current U.S. Department of Treasury Circular Number 570, or amendments thereto in the Federal Register, of acceptable

Sureties for Federal projects. The attorney-in-fact (Resident Agent) who executes this Performance and Payment Bond in behalf of the Surety must attach a notarized copy of his power-of-attorney as evidence of his authority to bind the Surety on the date of execution of the Bond.

21.1 All Contracts, Performance and Payment Bonds, and respective powers-of-attorney shall have the same date.

22. FAILURE TO EXECUTE CONTRACT AND FURNISH BOND

The Bidder who has a Contract awarded to him and who fails to promptly and properly execute the Contract and furnish the Performance and Payment Bond shall forfeit the bid security that accompanied his bid, and the bid security shall be retained as liquidated damages by the Owner, and it is agreed that this sum is a fair estimate of the amount of damages the Owner will sustain in case the Bidder fails to enter into a Contract and furnish the bond as hereinbefore provided. Bid security deposited in the form of cash, a certified check, or cashier's check drawn on a local bank in good standing shall be subject to the same requirements as a Bid Bond.

23. TIME OF COMPLETION

The time of completion of the work to be performed under this Contract is in the essence of the Contract. Delays and extensions of time may be allowed only in accordance with the provisions stated in the appropriate section of the General Conditions. The time allowed for the completion of the work shall be stated in the proposal.

24. SWORN STATEMENT - PUBLIC ENTITY CRIMES

No public entity shall accept any bid from, award any contract to, or transact any business with any person or affiliate in excess of the threshold for Category II in 287.017, Florida Statutes for a period of thirty-six (36) months from the date the person or affiliate was placed on the convicted vendors list. This applies to contractors, suppliers, subcontractors and consultants.

25. IF THE CONTRACTOR HAD QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT: Walnut Creek CDD- District Manager, 8785 SW 165th Avenue, Suite 200 Miami, FL 33193, (786-347-2711), gperez@sdsinc.org .

Contractor is to comply with Florida's Public Records Laws, specifically to:

- a. Keep and maintain public records required by the public agency to perform the service.
- b. Upon request from the public agency's custodian of public records, provide the public agency with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in this chapter or as otherwise provided by law.
- c. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following

completion of the contract if the contractor does not transfer the records to the public agency.

- d. Upon completion of the contract, transfer, at no cost, to the public agency all public records in possession of the contractor or keep and maintain public records required by the public agency to perform the service. If the contractor transfers all public records to the public agency upon completion of the contract, the contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the contractor keeps and maintains public records upon completion of the contract, the contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the public agency, upon request from the public agency's custodian of public records, in a format that is compatible with the information technology systems of the public agency.

END OF SECTION

SECTION 00330

EXISTING CONDITIONS

PART 1 GENERAL

1.01 SUMMARY

- A. Site visit is mandatory prior to submittal of a proposal to verify the existing conditions and evaluate the suitability for erection of the facilities.**
- B. Bidders visiting the project site must wear appropriate clothing for safety and identification purposes and must call the Town 24 hours in advance at 305.932.0744. Failure to do so may be considered trespassing and may be asked to leave.**

1.02 RELATED SECTIONS

- A. General Conditions - Bidding and Contract Requirement**
- B. General Requirements - Division 1**
- C. Construction Photographs and Video Recording - Division 1**

1.03 SITE INVESTIGATION AND REPRESENTATION

- A. CONTRACTOR acknowledges the nature and location of the Work, the general and local conditions, particularly those bearing upon availability of transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads, uncertainties of weather or similar physical conditions of the ground, the character of equipment and facilities needed preliminary to and during execution of the work and matters which can affect the work or the cost thereof under this contract.**
- B. The CONTRACTOR further acknowledges that he has satisfied himself as to the character, quality and quantity of surface and subsurface materials to be encountered from inspecting the site and from evaluating information derived from exploratory work that may have been done by the OWNER or included in these Contract Documents.**
- C. Failure by the CONTRACTOR to acquaint himself with the available information will not relieve him from responsibility for properly estimating the difficulty or cost of successfully performing the work.**

1.04 INFORMATION ON SITE CONDITIONS

- A. Information obtained by the OWNER regarding site conditions, topography, subsurface information, groundwater elevations, existing construction of site facilities as applicable and similar data will be available for inspection at the office of the ENGINEER upon request.
 - 1. This information is offered as supplementary information only.
 - 2. Neither the ENGINEER nor the OWNER assumes responsibility for the completeness or for the CONTRACTOR's interpretation of this supplementary information.

1.05 SUBSURFACE INFORMATION

- A. Information regarding the subsurface at the project site that the OWNER has obtained, may be examined by prospective bidders prior to the receipt of proposals.

1.06 BIDDER'S SUBSURFACE INVESTIGATION

- A. Bidders are invited, at their own expense, to make additional subsurface investigation by boring or test pit excavation as may be desired, provided however, that this work be scheduled by appointment with the ENGINEER.

1.07 DIFFERING SUBSURFACE CONDITIONS

- A. In the event subsurface or latent physical conditions are found materially different from those indicated in these Documents and differing materially from those ordinarily encountered and generally recognized as inherent in the character of work covered in these Contract Documents, promptly and before these conditions are disturbed, notify the ENGINEER in writing of these changed conditions.
- B. The ENGINEER will investigate these conditions promptly and following this investigation, the CONTRACTOR shall proceed with the work unless otherwise instructed by the ENGINEER.
 - 1. If the ENGINEER finds that these conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for performing the work, the ENGINEER will recommend to the OWNER the amount of adjustment in cost and time he considers reasonable.
 - 2. The OWNER will make the final decision on Change Orders to the Contract regarding adjustment in cost or time for completion.

1.08 EXISTING UTILITIES

- A. Known utilities and structures adjacent to or encountered in the work are shown in the Drawings.
 - 1. The locations shown are taken from existing records and the best information available from existing utility plans; however, it is expected that there may be some discrepancies and omissions in the locations and quantities of utilities and structures shown.
 - 2. Those shown are for the convenience of the CONTRACTOR only, and no responsibility is assumed by either the OWNER or the ENGINEER for their accuracy or completeness.
- B. Additional costs incurred for idle time of equipment or labor as a result of uncovering unknown utilities shall be for the CONTRACTOR's account.
- C. Notify the ENGINEER of conflict between existing utilities and work to be performed.

1.09 CONTRACTOR'S RESPONSIBILITY FOR UTILITY, PROPERTY, AND SERVICE

- A. Make arrangements for protection of utilities, properties, and services such as railway, telegraph, television, power, oil, gas, water, sewer, or irrigation systems.
- B. Notify utility offices affected by construction operation at least forty-eight (48) hours in advance.
 - 1. Under no circumstance shall utilities be exposed without first obtaining permission from the appropriate agency.
 - 2. Once permission has been granted, the existing underground utilities may be located, exposed and temporary support of these utilities shall be provided.
- C. CONTRACTOR is responsible to the owner and operators of these properties for damage, injury, expense, loss, inconvenience, delay, suits, actions, or claims of character brought because of injuries or damage which may result from the construction operations under this Contract.
- D. Neither the OWNER nor its officers or agents shall be responsible to the CONTRACTOR for damages as a result of the CONTRACTOR's failure to protect utilities encountered in the work.
- E. In the event of interruption to domestic water, sewer, storm drain or other utility services as a result of accidental breakage due to construction operations, promptly notify the owner of the utility and cooperate with the owner in restoration of service as promptly as possible and bear costs of repair.

1. In no event shall interruption of utility service be allowed outside working hours unless granted by the owner of the utility.
- F. With prior approval by owner of utility and at CONTRACTOR's expense interfering water service lines may be cut, dug through restored with similar approved materials.
- G. Replace other existing utilities or structures removed or damaged during construction, at CONTRACTOR's expense, unless otherwise provided for in the Contract Documents.

1.10 INTERFERING STRUCTURES

- A. Take necessary precautions to prevent damage to existing structures whether on the surface, above ground, or underground.
 1. An attempt has been made to show major structures in the Drawings.
 2. While the information has been compiled from the best available sources, its completeness and accuracy cannot be guaranteed, and it is presented as a guide to avoid possible difficulties.
- B. Protect existing structures from damage, whether or not they lie within the limits of the easements obtained by the OWNER.
 1. Where existing fences, gates, barns, sheds, buildings, or other structure must be removed to properly carry out the work or are damaged during the work, they shall be restored at the CONTRACTOR's expense to their original condition and to the satisfaction of the property owner.
- C. Without additional compensation, the CONTRACTOR may remove and replace, in a condition as good as or better than original, small structures such as fences, mailboxes, and signposts that interfere with the CONTRACTOR's operations.

1.11 FIELD RELOCATIONS

- A. Relocations shall be made only by direction of the ENGINEER.
- B. If existing structures are encountered that will prevent construction as shown, notify the ENGINEER before continuing with the work in order that the ENGINEER may make these field revisions to avoid conflict with the existing structures.

C. If the CONTRACTOR fails to notify the ENGINEER when an existing structure is encountered and proceeds with the work despite this interference, he shall do so at his own risk.

1.12 EASEMENTS

A. Work will be located on CBWCD or City owned or leased land, easements, and permits have been provided by the OWNER.

1. Easements will provide for the use of property for construction purposes only to the extent indicated on the easements.
2. It shall be the CONTRACTOR's responsibility to determine the adequacy of the easement obtained in every case and abide by requirements and provisions of the easement.
3. Confine contract construction operations to within the easement limits or make special arrangements with the OWNER for the additional area required.
4. Damage to property, either inside or outside the limits of the easements provided by the OWNER, shall be the responsibility of the CONTRACTOR.

1.13 SURVEYS

A. Verify accuracy of survey or existing site information shown in the Drawings or in specifications.

1. Notify the ENGINEER immediately upon finding errors, inaccuracies or omissions in the survey data.
2. The commencing of the work by the CONTRACTOR shall be held as acceptance by the CONTRACTOR of the survey data, after which the CONTRACTOR shall have no claim against the OWNER resulting from alleged errors, inaccuracies, or omissions in the survey data.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 00410

BID FORM

**WALNUT CREEK CDD
EROSION AND SEDIMENTATION PROJECT- NW 72ND AVENUE CANAL
CAS PROJECT No. 21-2171**

THIS BID IS SUBMITTED TO:

**Walnut Creek CDD
8785 SW 165th Avenue, Suite 200
Miami, FL 33193**

1. The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an agreement with Owner in the form included in the Contract Documents to perform and furnish all Work as specified or indicated in the Contract Documents for the Contract Price and within the Contract Time indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.
2. BIDDER accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for ninety (90) days after the day of Bid opening. BIDDER will sign and submit the Agreement with the Bonds and other documents required by the Bidding Requirements within ten days after the date of Owner's Notice of Award.
3. In submitting this Bid, BIDDER represents, as more fully set forth in the Agreement, that:

(a) BIDDER has examined copies of all the Bidding Documents and of the following Addenda (receipt of all which is hereby acknowledged.)

Addendum No: _____ Dated:

(b) BIDDER has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality, and all local conditions and Law and Regulations that in any manner may affect cost, progress, performance or furnishing of the Work.

(c) BIDDER has studied carefully all reports and drawings of subsurface conditions and drawings of physical conditions.

(d) BIDDER has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests and

studies (in addition to or to supplement those referred to in (c) above) which pertain to the subsurface or physical conditions at the site or otherwise may affect the cost, progress performance or furnishing of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, and no additional examinations, investigations, explorations, tests, reports or similar information or data are or will be required by BIDDER for such purposes.

- (e) BIDDER has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports or similar information or data in respect of said Underground Facilities are or will be required to be performed by Owner for Bidder in order for Bidder to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents.
- (f) BIDDER has correlated the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.
- (g) BIDDER has given ENGINEER written notice of all conflicts, errors, discrepancies that it has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to BIDDER.
- (h) This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporation; BIDDER has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; BIDDER has not solicited or induced any person, firm or corporation to refrain from bidding; and BIDDER has not sought by collusion to obtain for itself any advantage over any other Bidder or over the Owner.

4. Bidder agrees to complete the work for the following total price:

Bid Total \$ _____
Dollars and cents in numbers

Total Amount in Dollar and cents Written out in words

5. BIDDER agrees that the work will be complete within **ninety (90)** calendar days after the date stipulated in the Notice to Proceed.

Bidders Name _____

6. Communications concerning this Bid shall be addressed to:

Bidder: _____
Name of Individual, Firm, Partnership, Corporation or Joint Venture

Address: _____
Mailing address

Address: _____
Street Address, City, State, and Zip Code

To Attention of: _____

7. The terms used in this Bid, which are defined in the General Conditions of the Construction Contract included as part of the Contract documents, have the same meanings assigned to them as found in the General Conditions - Definitions.

SUBMITTED on this _____ day of _____, 20____.

Bidders Name _____

If BIDDER is:

An Individual

By: _____
Individual's Name _____

(SEAL)

doing business as _____

Business address: _____

Phone No: _____ Facsimile No: _____

E-mail Address: _____ Cellular Phone No: _____

Emergency Contact Number: _____

Emergency Contact Number: _____

Emergency Contact Number: _____

Bidders Name _____

If BIDDER is:

A Partnership

By: _____
Firm's Name _____

(SEAL)

General Partner

Business address: _____

Phone No: _____ Facsimile No: _____

E-mail Address: _____ Cellular Phone No: _____

Emergency Contact Number: _____

Emergency Contact Number: _____

Emergency Contact Number: _____

Bidders Name _____

If BIDDER is:

A Corporation

By _____
Corporation name

State of Incorporation

By _____
Name of Person Authorized to Sign
Title

(Corporate Seal)

Attest _____
President

Business address: _____

Phone No: _____ Facsimile No: _____

E-mail Address: _____ Cellular Phone No: _____

Emergency Contact Number: _____

Emergency Contact Number: _____

Emergency Contact Number: _____

Bidders Name _____

If BIDDER is:

A Joint Venture

By: _____

Print or Type Name of First Party to Joint Venture

Street Address, City, State, and Zip Code

(Corporate Seal)

Attest _____ Title _____

Signature of Owner, President or Authorized Representative

Print or type title

Business address: _____

Phone No: _____ Facsimile No: _____

E-mail Address: _____ Cellular Phone No: _____

Emergency Contact No: _____

Emergency Contact No: _____

Emergency Contact No: _____

By: _____

Print or Type Name of Second Party to Joint Venture

Street Address, City, State, and Zip Code

(Corporate Seal)

Attest _____ Title _____

Signature of Owner, President or Authorized Representative

Print or type title

Business address: _____

Phone No: _____ Facsimile No: _____

E-mail Address: _____ Cellular Phone No: _____

Emergency Contact No: _____

Emergency Contact No: _____

Emergency Contact No: _____

Bidders Name _____

(Each Individual, Firm, Partnership, or Corporation of the Joint Venture must sign. The manner of signing for each entity that is a party to the Joint Venture should be in the manner indicated above. Add additional sheets as necessary.)

Walnut Creek CDD
Erosion & Sedimentation Project
NW 72nd Avenue Canal
CAS Project No. 21-2171

00410 - 8

Bid Form

SUBCONTRACTORS

In the form provided below, the Bidder shall list all Subcontractors proposed for use on this project, if the Bidder is awarded the Contract for this project. Note that all Subcontractors shall meet the standards that apply to the prime contractor.

WORK CLASSIFICATION**NAME AND ADDRESS OF SUBCONTRACTOR**

Print or Type Class of Work

Print or Type Name of Individual, Firm, Partnership, or Corporation

Print or Type Street address, City, State, and Zip Code

Print or Type Class of Work

Print or Type Name of Individual, Firm, Partnership, or Corporation

Print or Type Street address, City, State, and Zip Code

Print or Type Class of Work

Print or Type Name of Individual, Firm, Partnership, or Corporation

Print or Type Street address, City, State, and Zip Code

Print or Type Class of Work

Print or Type Name of Individual, Firm, Partnership, or Corporation

Print or Type Street address, City, State, and Zip Code

Print or Type Class of Work

Print or Type Name of Individual, Firm, Partnership, or Corporation

Print or Type Street address, City, State, and Zip Code

Print or Type Class of Work

Print or Type Name of Individual, Firm, Partnership, or Corporation

Print or Type Street address, City, State, and Zip Code

Print or Type Class of Work

Print or Type Name of Individual, Firm, Partnership, or Corporation

Print or Type Street address, City, State, and Zip Code

Print or Type Class of Work

Print or Type Name of Individual, Firm, Partnership, or Corporation

Print or Type Street address, City, State, and Zip Code

Print or Type Class of Work

Print or Type Name of Individual, Firm, Partnership, or Corporation

Print or Type Street address, City, State, and Zip Code

QUESTIONNAIRE

Questionnaire sheet to be filled in by BIDDER.

The undersigned guarantees the truth and accuracy of all statements and answers herein contained:

1. How many years has your organization been in business as a general contractor?

2. List any public works contracts you have performed with any governmental agency having a value in excess of \$800,000 within the last 10 years:

3. Were all contracts listed in No. 2 above completed within the time period without extensions?

4. Were liquidated damages incurred by you, the contractor, for non-timely completion?

Were liquidated damages incurred by you, the contractor, the extent to which additional time extensions were granted on all contracts that were not so timely completed?

5. Was the Surety on any Public Works Section 255.05 Bond ever notified that the BIDDER was in default in the performance of such contracts? And if such default notice was so given, please indicate in detail how much claim default was resolved:

6. Indicate the number of times in which arbitration or litigation ensued from any said Public Works contract within the last 10 years as well as the result of such arbitration or litigation (i.e. whether the same was settled or resolved by trial and who prevailed between the BIDDER and the governmental agency involved.):

7. Please provide a current work load, percent completed for each project, and history of similar projects you have completed, other than those listed in No. 2 above. Including Project Name, Owner (phone number), Value of Work Performed, Percentage Completed (attach separate sheet as needed).

8. What is the last project of this nature that you have completed involving a stormwater pump station? Provide Owner's name and phone.

9. Have you ever failed to complete work awarded to you? If so, where and why?

10. The following are named as three corporations or individuals for which you have performed work and to which you refer.

11. Have you personally inspected the proposed work?

12. How much of the work will you be performing on the project?

Provide a percentage: _____ %

Will you sublet any part of this work? If so, give details and provide percentage breakdowns. Provide references for a subcontractor in the event the subcontractor will be performing the majority (51% or >) of the work if applicable and **provide working relationship history**.

13. **Attach the following requested information to your bid. Failure to do so may render the bid as non-responsive.**

Qualifications

Bidder's relevant experience, qualifications and past performance:

- **An explanation of why the Bidder is the best qualified to perform the contract and demonstrate its qualifications including an item-by-item disclosure outlining how the firm meets or exceeds the requirements of this Bid.**
- **A schedule of proposed services.** The schedule should include the Bidder's understanding of the issues and tasks of the project at hand.
- **A list of similar completed projects for work completed in the last eight (8) years.**
- **Owned equipment to be utilized on the project noting if it is owned by the prime, subcontractor or rented.**

Staffing

Relevant experience and qualifications of key personnel, including key personnel of subcontractors, that will be assigned to this project and experience and qualifications of subcontractors. The composition of the staff team should include:

- **The names of the employees in the area responsible for this contract.**
- **Their function in the company.**
- **The name of the person who will be responsible for the coordination of work.**

- **Experience and qualifications of staff and satisfactory record of performance of staff.**
- **Education, certificates and licenses held by key staff.**
- **Bidder must confirm that it will comply with E-Verify as referenced in the United States Citizenship and Immigration Services with I-9 form to be provided to the District (<https://www.uscis.gov/e-verify>).**

Note: changes in personnel after bid award must receive prior approval by Engineer and/or the District.

Schedule / Methodology

- **Bidders approach methodology to providing the services requested in this solicitation**
- **Suitability of the methodologies and approaches used in achieving tasks**
- **Overall organization to completing the project**
- **Ability to meet desired timelines and deadlines**

14. Identify FDEP certified Stormwater, Erosion, and Sedimentation Control Inspector(s) (<http://www.dep.state.fl.us/water/nonpoint/erosion.htm>) on staff. Provide names of personnel responsible to oversee the Erosion, and Sedimentation Control efforts of the project & FDEP Inspector Number for each. Bidder shall maintain daily logs of monitoring and update/maintain all installed control measures.

Are you fully familiar with the implementation of sediment and erosion control best management practices via a stormwater pollution prevention plan (SWPPP) and the regulatory expectations and requirements of the SFWMD, Broward County, & FDEP for proposed construction activities?

(yes/no) _____

Bidders Name _____

15. State the true, exact, correct and complete name of the partnership, corporation or trade name under which you do business, and the address of the place of business. If a corporation, state the name of the president and secretary. If a partnership, state the names of all partners. If a trade name, state the names of the individuals who do business under the trade name). It is absolutely necessary that this information be furnished.

(Correct Name of BIDDER)

(a) The business is a _____

(b) The address of principal place of business is:

(c) The names of the corporate officers, or partners, or individuals doing business under a trade name are as follows:

(BIDDER)

**WALNUT CREEK CDD
EROSION & SEDIMENTATION PROJECT
NW 72nd AVENUE CANAL
CAS PROJECT NUMBER 21-2171**

1. BIDDER AGREES TO PERFORM ALL THE WORK DESCRIBED IN THE CONTRACT DOCUMENTS TO PROVIDE A COMPLETE PROJECT AS SHOWN ON THE PLANS AND SPECIFICATIONS UNDER THE FOLLOWING LUMP SUM AND/OR UNIT PRICES.
2. THE OWNER RESERVES THE RIGHT TO SUBSTITUTE AND/OR DELETE ITEMS AS NECESSARY TO MEET THE FUNDING BUDGET.
3. BIDS SHALL INCLUDE SALES TAX AND ALL OTHER APPLICABLE TAXES AND FEES.
4. BIDDER UNDERSTANDS THAT THE EXTENDED TOTAL FOR EACH AND EVERY ITEM IS THE RESULT OF MULTIPLYING THE QUANTITY TIMES THAT UNIT COST AS STATED IN THE FIGURES.
5. IN THE CASE OF A DISCREPANCY BETWEEN THE UNIT COST AND THE TOTAL, THE DISCREPANCY SHALL FAVOR THE OWNER (LOWER RESULTING TOTAL COST).

BID ITEMS

GENERAL CONDITIONS (ITEMS 1-6)

THE LUMP SUM (LS) PRICES FOR ITEMS 1-6 SHALL BE FOR WORK DONE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND SPECIFICATIONS AND ALL APPLICABLE FEDERAL, FDOT, LSE (LANDSHORE ENTERPRISES, LLC), CBWCD AND LOCAL REQUIREMENTS.

DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL
1 Mobilization and Demobilization Includes Mobilization, Demobilization, Bonds and General Conditions. This lump sum amount shall include preparatory and closing work, operations in mobilizing for beginning and completing the work at the end of the project, including, but not limited to: all required permits; operations necessary for the movement of personnel, equipment, materials, supplies and incidentals to and from the project site; temporary utilities and other facilities; cleanup and disposal of debris, asphalt and surplus excavation; preconstruction investigations and tests; costs for maintaining current all performance, payment and maintenance bonds; all required insurances; and any other costs, incidental or necessary, as required by these Specifications, FDOT Reference No. 01026-1, State and local laws/regulations needed to initiate and terminate construction shall be included in this bid item (exclude work related to any other Bid Item listed below).	1	LS		
2 Maintenance of Traffic Maintenance of Traffic (M.O.T.) in accordance with the Florida Department of Transportation (FDOT) Standard Specifications for Road & Bridge Construction Latest edition and the Roadway & Traffic design standards Index Number 600 to 655 latest Edition. The contractor's proposed maintenance of traffic plan is to be submitted to and approved by the Engineer. Lump sum shall include the costs of barricades, lighting, flagman, off duty policeman and any other work needed to control traffic and minimize inconveniences to the public.	1	LS		
3 Survey Stakeout and As-Builts Includes construction survey, stake out, and preparation of As-Built record drawings signed and sealed by a state licensed surveyor. All survey is to be done in conformance with the drawings, specifications , and permit requirements.	1	LS		
4 Density Testing Provide density tests as required in the plans and specifications.	1	LS		
5 Pre- and Post- Construction Video Documentation Record pre- and post- construction conditions of all areas of work and provide a copy of the video to the Engineer prior to beginning work.	1	LS		
6 Erosion Control/ SWPPP and NPDES Permitting Furnish and Install perimeter silt fence (per FDOT Reference No. 104-11-3), floating turbidity screen (Type 1) (per FDOT Reference No. 104-11-1) and any other BMP'S necessary for sediment and erosion control. The SWPPP plan and NPDES permit will be submitted by the Contractor at the pre-construction meeting. The Contractor is to assume full responsibility for all conditions for the duration of the project pertaining to sediment and erosion control.	1	LS		

CANAL CLEARING, GRUBBING AND DREDGING (ITEMS 7-8)

THE UNIT PRICE FOR EACH CANAL CLEARING, GRUBBING AND DREDGING WORK ITEM SHALL INCLUDE BUT NOT BE LIMITED TO ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO REMOVE THESE ITEMS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, CBWCD AND CITY SPECIFICATIONS INCLUDING BUT NOT LIMITED TO THE FOLLOWING: LANDSCAPING, SOD, FILL AND OTHER DELETERIOUS MATERIALS AND CONCRETE REMOVAL AND DISPOSAL, SURFACE CLEARING AND GRUBBING, DEWATERING, GRADING AND LEVELING, PERMITTING, COMPACTION AND SOILS TESTING AND, IF CONTAMINATED, PROPER DISPOSAL OF MATERIALS PER FDEP STANDARD METHODS, INSPECTIONS AND ANY OTHER CLEARING, GRUBBING AND DREDGING WORK AND APPURTENANCES REQUIRED FOR PREPARATION OF THE SITE PRIOR TO INSTALLATION OF THE IMPROVEMENTS, AS SHOWN ON THE PLANS. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR CHANGES IN ALIGNMENT OR GRADE.

DESCRIPTION	QTY.	UNIT	UNIT COST	TOTAL
7 Clearing and Grubbing (Per FDOT 110-1-1)	1	LS	_____	_____
8 Regular Excavation/ Dredging Canal Bottom (Per FDOT 120-1)	680	CY	_____	_____

CANAL IMPROVEMENTS (ITEMS 9-14)

THE UNIT PRICE FOR EACH CANAL IMPROVEMENTS ITEM SHALL INCLUDE BUT NOT BE LIMITED TO ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO INSTALL AND CONSTRUCT THESE ITEMS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, CBWCD AND CITY SPECIFICATIONS INCLUDING BUT NOT LIMITED TO THE FOLLOWING: INSTALLATION OF NON-WOVEN FILTER MATERIAL AND FILTER POINT FABRIC LINING, EROSION CONTROL BLANKET, VERTICAL TRENCH ANCHORS, BACKFILL BASE MATERIAL, COMPACTION, GRADING AND LEVELING, HARMONIZATION AND RESTORATION, PERMITTING, TESTING, INSPECTIONS AND ANY OTHER MISCELLANEOUS WORK AND APPURTENANCES REQUIRED TO RESTORE THE AREA OF WORK BACK TO IT'S ORIGINAL CONDITION AFTER INSTALLATION OF THE IMPROVEMENTS, AS SHOWN ON THE PLANS. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR CHANGES IN ALIGNMENT OR GRADE.

9 Embankment (Per FDOT 120-6)	530	CY	_____	_____
10 Non-Woven Filter Material (Per FDOT 900-4)	1820	SY	_____	_____
11 Filter Point Fabric Lining (Average Thickness - 4 inches) (Per LSE E400-21-4.2)	1820	SY	_____	_____
12 Erosion Control Blanket (Per FDOT 900-2)	780	SY	_____	_____
13 Sodding (Per FDOT 02930-2.1)	720	SY	_____	_____
14 Access Area Repair (Per LSE E900-100-200)	480	SY	_____	_____

BID TOTAL (ITEMS 1 - 14) \$ _____

(Written Total Dollar Amount)

Bidders Name

IN THE CASE OF A DISCREPANCY BETWEEN THE UNIT COST AND THE TOTAL, THE DISCREPANCY SHALL FAVOR THE OWNER .

(LOWER RESULTING TOTAL COST)

Completion Time: The work will be substantially complete within Ninety (90) days after the date when the Contract Times commence to run, and completed and ready for final payment within One Hundred and Twenty (120) days after the date when the Contract Times commence to run. The project will be considered substantially complete when all portions of the project have been tested and approved by the Engineer, CBWCD and local permitting agencies. The project will be considered complete and ready for final payment when, following substantial completion, the ENGINEER on behalf of the OWNER confirms in writing that the CONTRACTOR has completed the Work in accordance with the contract, including completion of all punch list items, clean-up work and delivery of all required guarantees, warranties, licenses, record drawings, releases and other required deliverables.

Bidder: _____

By: _____

Title: _____

Signature: _____

Attest: _____ (CORPORATE SEAL)

END OF SECTION

SECTION 00433

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, _____

as Principal and Contractor, and _____

hereinafter called Surety, are held and firmly bound unto Owner, a political entity of the State of Florida, and represented by its Chairman called Owner, in the sum of five percent (5%) of the total amount bid of:

(Written Dollar Amount)

dollars (\$_____) lawful money of the United States of America, for the payment of which well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally by these presents.

WHEREAS, the Principal contemplates submitting or has submitted, a bid to the Owner for the furnishing of all labor, materials, equipment, machinery, tools, apparatus, means of transportation for, and the performance of the work covered in the Proposal and the detailed Drawings and Specifications, entitled:

**WALNUT CREEK CDD
EROSION AND SEDIMENTATION PROJECT NW 72ND AVENUE CANAL
CAS PROJECT No. 21-2171**

WHEREAS, it was a condition precedent to the submission of said bid that a cashier's check, certified check, or bid bond in the amount of 5 percent of the Base Bid be submitted with said bid as a guarantee that the Bidder would, if awarded the Contract, enter into a written Contract with the Owner for the performance of said Contract, within 10 consecutive calendar days after written notice having been given of the award of the Contract.

NOW, THEREFORE, the conditions of this obligation are such that if the Principal within 10 consecutive calendar days after written notice of such acceptance, enters into a written Contract with Owner and furnishes the Performance and Payment Bonds, each in an amount equal to 100 percent of the Awarded Bid, satisfactory to the Owner, then this obligation shall be void; otherwise the sum herein stated shall be due and payable to Owner and the Surety herein agrees to pay said sum immediately upon demand of the Owner in good and lawful money of the United States of America, as liquidated damages for failure thereof of said Principal.

IN WITNESS WHEREOF, the said _____
as Principal herein, has caused these presents to be signed in its name by
its _____ and
attested by its _____
under its corporate seal, and the said _____

as Surety herein, has caused these presents to be signed in its name by
its _____
and attested in its name by its _____
under its corporate seal, this _____ day of _____ A.D., 20__.

Signed, sealed and delivered PRINCIPAL: _____
in the presence of:

_____ BY: _____

As to Principal NAME: _____

_____ Surety

BY: _____
Attorney-in-Fact
(Power-of-Attorney to be attached)

_____ BY: _____
Resident Agent

As to Surety _____

END OF SECTION

SECTION 00451

CONTRACTOR'S QUALIFICATIONS FORM

WALNUT CREEK CDD:

We, _____, hereby attest and
(Prime Contractor)

swear that as CONTRACTORS for **WALNUT CREEK CDD EROSION AND SEDIMENTATION PROJECT NW 72ND AVENUE CANAL, CAS PROJECT No. 21-2171** that

(Underground Contractor's Names)

is the Florida Licensed Underground Contractor for this project and that this Underground Contractor fully complies with Florida regulation governing Underground Contractors and that:

Prime Contractor

Signature: _____

Printed Name: _____

Title: _____

Company _____

License No. _____

Expiration _____

Date _____

Underground Contractor

Signature: _____

Printed Name: _____

Title: _____

Company _____

License No. _____

Expiration _____

Date _____

SWORN to and subscribed before me this _____ day of _____, 20__.

Signature of NOTARY PUBLIC, State of Florida at Large

(Notary Seal)

My Commission expires: _____

END OF SECTION

SECTION 00452
(OPTIONAL)

DISADVANTAGED BUSINESS ENTERPRISE FORM

VENDOR REPRESENTS THAT HE/SHE IS A:

Black Minority Business Enterprise ()
Hispanic Minority Business Enterprise ()
Other Minority Business Enterprise () Specify: _____
Woman's Business Enterprise ()
Non-minority Vendor ()

NAME OF FIRM: _____

BY: _____
(Signature) (Title)

ADDRESS: _____

TELEPHONE NO: _____ STATE LICENSE #: _____
(if applicable)

COUNTY LICENSE #: _____
(if applicable)

CERT. OF COMPLIANCE? YES _____ NO _____

AUTHORIZED NAME TYPED: _____ TITLE: _____

AUTHORIZED SIGNATURE: _____ DATE: _____

END OF SECTION

SWORN STATEMENT
ON PUBLIC ENTITY CRIMES
UNDER FLORIDA STATUTES CHAPTER 287.133(3)(a).

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

1. This sworn statement is submitted with Bid, Proposal or Contract No. _____ for _____.
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 (Please print name of individual signing) relationship to the entity named 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 a "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, and 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 a *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 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. (Please 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 or 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, AND (Please indicate which additional statement applies.)

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 _____)
) ss.
CITY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 20____ by _____, who is personally known to me or who has produced _____, as identification and who did (did not) take an oath.

(Signature of person taking acknowledgment)

(Name of officer taking acknowledgment)

(Title or Rank)

END OF SECTION

00453- 3

Public Entities Crime

Walnut Creek CDD
Erosion & Sedimentation Project
NW 72nd Avenue Canal
CAS Project No. 21-2171

SECTION 00457

ACKNOWLEDGEMENT OF CONFORMANCE
WITH O.S.H.A. STANDARDS

TO WALNUT CREEK CDD:

We, _____, hereby acknowledge and
(Prime Contractor)

agree that as CONTRACTORS for THE **WALNUT CREEK CDD EROSION AND SEDIMENTATION PROJECT NW 72ND AVENUE CANAL**, as specified have the sole responsibility for compliance with all the requirements of the Federal Occupational Safety and Health Act of 1970, and all State and local safety and health regulations, and agree to indemnify and hold harmless **WALNUT CREEK CDD** and Craig A. Smith & Associates of Florida, Inc. against any and all liability, claims, damages, losses and expenses they may incur due to the failure of

(Subcontractor's Names)

to comply with such act or regulation.

CONTRACTOR

ATTEST

BY: _____

ATTEST

DATE

END OF SECTION

SECTION 00458

**BIDDER'S AFFIDAVIT IN COMPLIANCE WITH
FLORIDA TRENCH SAFETY ACT (CHAPTER 553.60-553.64, FLORIDA STATUTES)**

STATE OF FLORIDA)
)ss.
WALNUT CREEK CDD)

BEFORE ME, the undersigned authority, personally appeared
_____, who being duly sworn deposes and says as
follows:

That he/she is duly authorized representative of _____ and such
(Owner) (Partner) (President or other Corporate Officer)

has full authority to execute this Bidder's Affidavit.

1. The full legal name and business address of the person or entity submitting this bid:

2. By submission of this bid and subsequent execution of this Contract, the undersigned Bidder certifies that as successful Bidder (Contractor) all trench excavation done within his control (by his own forces or by his Subcontractors) shall be accomplished in strict adherence with OSHA trench safety standards contained in 29 C.F.R., s. 1926.650, Subpart P, including all subsequent revisions or updates to these standards as adopted by the Department of Labor and Employment Security.
3. The undersigned Bidder certifies that as successful Bidder (Contractor) he has obtained or will obtain identical certification from his proposed Subcontractors that will perform trench excavation prior to award of the subcontracts and that he will retain such certifications in his files for a period of not less than three years following final acceptance.
4. The Bidder acknowledges that included in the various items listed in the Schedule of Prices Bid and in the Total Amount Bid are costs for complying with the Florida

Trench Safety Act (Chapter 553.60-553.64, Florida Statutes). The bidder further identifies the costs to be summarized below*:

Trench Safety Measure	Units of Measure	Unit Quantity	Unit Cost	Extended Cost
A. _____	_____	_____	_____	_____
B. _____	_____	_____	_____	_____
C. _____	_____	_____	_____	_____
D. _____	_____	_____	_____	_____

TOTAL:

Method of Compliance (Specify) _____

Date: _____, 19____

NAME OF AFFIANT

SWORN to and subscribed before me this

day of _____, 20__.

NOTARY PUBLIC, State of Florida at Large

(Notary Seal)

My Commission expires: _____

*Bidders: Add extra sheet(s), if needed.

If Bidder fails to complete and execute this sworn statement/affidavit, his Bid may be declared non-responsive and rejected by **WALNUT CREEK CDD**.

END OF SECTION

SECTION 00459

DRUG FREE WORK PLACE FORM

The undersigned vendor in accordance with Florida Statute 287-087 hereby certifies that
does:

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are proposed a copy of the statement specified in subsection (1).
4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.

Proposer's Signature

END OF SECTION

MEMORANDUM

CRAIG A. SMITH AND ASSOCIATES, INC.
1425 E. Newport Center Drive
Deerfield Beach, FL 33432
TEL (561) 314-4445
FAX (561) 314-4458

To: Bidders
From: Craig A. Smith & Associates
Date:
Project:
Subject: ADDENDUM NO. __

Bidders are required to acknowledge receipt of this ADDENDUM on Page 00410-1 of the Contract Documents and by returning the acknowledgment on Page 00490-2 of the Contract Documents to our office immediately via fax. Failure to do so may cause the bid to be considered informal or irregular and subject to rejection.

The Contract Documents, Specifications and Drawings are hereby amended as follows:

A. CONTRACT DOCUMENTS AND SPECIFICATIONS:

1.

Addendum No. _____

ACKNOWLEDGMENT OF RECEIPT OF ADDENDUM

I hereby acknowledge receipt of Addendum No. _____ to the Contract Documents, Specifications and Drawings (consisting of _____ pages) for the **WALNUT CREEK CDD EROSION AND SEDIMENTATION PROJECT NW 72ND AVENUE CANAL (CAS PROJECT No. 21-2171)**.

Name of Bidder: _____
Print or type name of firm

By: _____ Title: _____
Print or type name and Title of authorized company official

Signature: _____
Signature OF authorized company official

Date: _____, 20____

END OF SECTION

SECTION 00500

AGREEMENT

THIS AGREEMENT, made and entered into on this _____ day of _____, 2026, by and between _____, Party of the First Part, and **Walnut Creek CDD** (OWNER), Party of the Second Part:

W I T N E S S E T H:

That, the First Party, for the consideration hereinafter fully set out, hereby agrees with the Second Party as follows:

1. That the First Party shall furnish all the materials, and perform all of the work in manner and form as provided by the Drawings Identified in Section 00015 List of Drawings, Specifications Identified in Section 00010, and Documents which are attached hereto and made a part hereof, as if fully contained here;
2. That the First Party shall commence the work to be performed under this Agreement on a date to be specified in a written order of the Second Party and shall complete all work hereunder within the length of time stipulated in the BID.
3. That the Second Party hereby agrees to pay to the First Party for the faithful performance of this Agreement, subject to additions and deductions as provided in the Specifications of Proposal, in lawful money of the United States, the amount of:

(Written Dollar Amount)

dollars (\$_____), based on the estimated quantities and Unit or Lump Sum Prices contained herein.

4. That the Second Party shall make monthly partial payments to the First Party on the basis of a duly certified and approved estimate of work performed during each calendar month by the First Party, LESS the retainage provided in the General Conditions, which is to be withheld by the Second Party until work within a particular part has been performed strictly in accordance with this Agreement and until such work has been accepted by the Second Party.
5. That upon submission by the First Party of evidence satisfactory to the Second Party that all payrolls, material bills, and other costs incurred by the First Party in connection with the construction of the work have been paid in full, final payment on

account of this Agreement shall be made within 60 days after the completion by the First Party of all work covered by this Agreement and the acceptance of such work by the Second Party.

6. In the event that the Contractor shall fail to complete the work within the time limit or the extended time limit agreed upon, as more particularly set forth in the Contract Documents, liquidated damages shall be paid at the rate of [REDACTED] per day until Substantial Completion is reached, plus any monies paid by the OWNER to the Engineer for additional engineering and inspection services associated with such delay.

After Substantial Completion is achieved and in the event that the Contractor shall fail to complete the work within the time limit or the extended time limit agreed upon, as more particularly set forth in the Contract Documents to close-out the project, liquidated damages shall be paid at the rate of [REDACTED] per day until Final Completion is reached, plus any monies paid by the OWNER to the Engineer for additional engineering and inspection services associated with such delay.

7. It is further mutually agreed between the parties hereto that if, at any time after the execution of this Agreement and the Surety Bond hereto attached for its faithful performance and payment, the Second Party shall deem the Surety or Sureties upon such bond to be unsatisfactory, or if, for any reason such bond ceases to be adequate to cover the performance of the work, the First Party shall, at its expense within 5 days after the receipt of notice from the Second Party so to do, furnish an additional bond or bonds in such form and amount and with such Surety or Sureties as shall be satisfactory to the Second Party. In such event, no further payment to the First Party shall be deemed to be due under this Agreement until such new or additional security for the faithful performance of the work shall be furnished in manner and form satisfactory to the Second Party.
8. No additional work or extras shall be done unless the same shall be duly authorized by appropriate action by the Party of the Second Part.
9. ANTI-HUMAN TRAFFICKING AFFIDAVIT. Contractor shall provide the District with an affidavit executed by an officer or representative of the Contractor under penalty of perjury attesting that the Contractor does not use coercion for labor or services as defined in Section 787.06(13), Florida Statutes.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and date first above written, in three (3) counterparts, each of which shall, without proof or accounting for the other counterpart be deemed an original Contract.

WITNESSES:

CONTRACTOR:

BY: _____

NAME: _____

TITLE: _____

President

OWNER: _____

Walnut Creek CDD

BY: _____

NAME: _____

TITLE: _____

AUTHENTICATION:

BY: _____

NAME: _____

TITLE: _____

APPROVED AS TO FORM:

BY: _____

NAME: _____

TITLE: _____

END OF SECTION

SECTION 00510

NOTICE OF AWARD

TO: _____

PROJECT DESCRIPTION: **WALNUT CREEK CDD EROSION AND SEDIMENTATION PROJECT NW 72ND AVENUE CANAL (CAS PROJECT No. 21-2171)** in accordance with PLANS and CONTRACT DOCUMENTS as prepared by Landshore Enterprises, LLC.

WALNUT CREEK CDD (Owner) has considered the BID submitted by you for the above described WORK in response to its ADVERTISEMENT FOR BIDS and INSTRUCTIONS TO BIDDERS.

You are hereby notified that your Bid has been accepted for the construction in the amount of \$_____ approved by Walnut Creek CDD.

Upon receipt of the contract documents, you are required by the INSTRUCTIONS TO BIDDERS to execute the AGREEMENT and furnish the required CONTRACTOR'S PERFORMANCE BOND, PAYMENT BOND and certificates of insurance within seven (7) days from the date of this NOTICE to you.

If you fail to execute said AGREEMENT and to furnish said BONDS within seven (7) days from the date of this NOTICE, said Owner will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the Owner.

Dated this ____ day of _____, 20____.

BY: _____
Stephen C. Smith, PE
Craig A. Smith & Associates

TITLE: President

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF AWARD is hereby acknowledged by ____ this ____ day of _____, 20____.

BY: _____

TITLE: _____

END OF SECTION

SECTION 00550

NOTICE TO PROCEED

TO: _____

Date: _____

PROJECT DESCRIPTION: WALNUT CREEK CDD EROSION AND SEDIMENTATION PROJECT NW 72ND AVENUE CANAL (CAS PROJECT No. 21-2171) in accordance with PLANS, as prepared by Landshore Enterprises, LLC and CONTRACT DOCUMENTS as prepared by Craig A. Smith & Associates.

You are hereby notified to COMMENCE WORK in accordance with the AGREEMENT dated _____, on or before _____ for the construction of this project and you are to achieve SUBSTANTIAL COMPLETION prior to _____ achieving FINAL COMPLETION by _____.

Craig A. Smith & Associates

BY: _____
Stephen C. Smith, PE

TITLE: President

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged by

_____ this _____ day of _____, 20 ____.

BY: _____

TITLE: President

END OF SECTION

SECTION 00614

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that we, _____, as Principal and Contractor, and _____, hereinafter called Surety, are held and firmly bound unto

WALNUT CREEK CDD

a local unit of special purpose government, established pursuant to Chapter 190, Florida Statutes, and represented by its **DISTRICT MANAGER**, in the sum of

(Written Dollar Amount)

dollars (\$ _____), lawful money of the United States of America, for the payment of which well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, by these present.

WHEREAS, the above named Principal has entered into a Contract with **WALNUT CREEK CDD** (Owner), dated this _____ day of _____, 20____ to furnish at his own cost, charges, and expense all the necessary materials, equipment, and/or labor in strict and express accordance with said Contract **WALNUT CREEK CDD EROSION AND SEDIMENTATION PROJECT NW 72ND AVENUE CANAL (CAS PROJECT No. 21-2171)** and the Plans and Drawings, prepared by Landshore Enterprises, LLC and Specifications prepared by Craig A. Smith & Associates, all of which is made a part of said contract by certain terms and conditions in said Contract more particularly mentioned, which Contract, consisting of the various Contract Documents specifically mentioned herein and relative thereto, is made a part of this Bond as fully and completely as if said Contract Documents were set forth herein;

NOW THEREFORE, the conditions of this obligation are such that if the above bounded Principal shall in all respects comply with the terms and conditions of said Contract and his obligation thereunder, including the Contract Documents (which include the Plans, Drawings, Specifications and Conditions as prepared by said Consulting Engineers, Invitation to Bid, Instruction to Bidders, the Contractor's Bid as accepted by the Owner against and from all costs, expenses, damages, attorneys fees, including appellate proceedings, injury, or loss to which said Owner may be subject by reason of any wrongdoing, misconduct, want of care or skill, negligence, failure to petition within the prescribed time, or default, including patent infringements, on the part of said Principal, his agents or employees, in the execution or performance of said Contract; then this obligation shall be void; otherwise, to remain in full force and effect for the term of said Contract,

including any and all guarantee periods as specifically mentioned in said Contract Documents;

AND, the said Surety for Value received, hereby stipulates and agrees that no change involving any extension of time, or addition to the terms of the Contract or to the work to be performed, or materials to be furnished thereunder, or in the Plans, Drawings and Specifications accompanying the said contract shall affect said obligation of said Surety on this Bond, and the said Surety does hereby waive notice of any such changes, extension of time, alterations, or additions of the terms of the Contract, or to the work, or to the Drawings and Specifications. Claimant shall give written notice to the Contractor and to the Surety as required by Florida Statutes, Section 255.05 or Section 713.23. Any actions against the Contractor or the Surety shall be brought within the time specified by Section 255.05 or Section 713.23.

IN WITNESS WHEREOF, said _____, as Principal and Contractor hereunder has caused these presents to be assigned in **three (3)** original counterparts in his name, and witnessed by two attesting and subscribing witnesses and the said _____, as Surety, has caused these presents to be signed in **three (3)** original counterparts in its name by its _____ under its corporate seal, this _____ day of _____ 20____

Signed, sealed and delivered
in the presence of:

PRINCIPAL-CONTRACTOR

BY: _____

TITLE: _____

AS TO PRINCIPAL

SURETY

BY: _____
ATTORNEY-IN-FACT
(POWER-OF-ATTORNEY
TO BE ATTACHED)

AS TO SURETY

BY: _____
RESIDENT AGENT

END OF SECTION

SECTION 00615

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that we, _____, as Principal and Contractor, AND _____

hereinafter called Surety, are held and firmly bound unto

WALNUT CREEK CDD

a local unit of special purpose government, established pursuant to Chapter 190, Florida Statutes, and represented by its **DISTRICT MANAGER**, in the sum of

(Written Dollar Amount)

dollars (\$_____), lawful money of the United States of America, for the payment of which well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, by these present.

WHEREAS, the above named Principal has entered into a Contract with the Owner, dated this __ day of _____, 20__ to furnish at his own cost, charges and expense all the necessary materials, equipment, and/or labor in strict and express accordance with said Contract **WALNUT CREEK CDD EROSION AND SEDIMENTATION PROJECT NW 72ND AVENUE CANAL (CAS PROJECT No. 21-2171)** and the Plans, Drawings and Specifications prepared by Craig A. Smith & Associates of which is made a part of said contract by certain terms and conditions in said Contract more particularly mentioned, which Contract, consisting of the various Contract Documents specifically mentioned herein and relative thereto, is made a part of this Bond as fully and completely as if said Contract Documents were set forth herein;

NOW THEREFORE, the conditions of this obligation are such that if the above bounded Principal shall in all respects comply with the terms and conditions of said Contract and his obligation thereunder, including the Contract Documents (which include the Plans and Drawings, prepared by Landshore Enterprises, LLC and Specifications and Conditions as prepared by Craig A. Smith & Associates, Invitation to Bid, Instructions to Bidders, the Contractor's bid as accepted by the Owner, the Bid and the Contract Performance and Payment Bonds, and all Addenda, if any, issued prior to the opening of bids), and further that if said Principal shall promptly make all payments to all persons supplying materials, equipment, and/or labor used directly or indirectly by said Contractor or subcontractors in the prosecution of the work provided for in said Contract in accordance with Florida Statutes, Section 255.05 or Section 713.23; then this obligation shall be void; otherwise, to remain in full force and effect for the term of said Contract, including any and all guarantee periods as specifically mentioned in said Contract Documents;

AND, the said Surety for Value received, hereby stipulates and agrees that no change involving any extension of time, or addition to the terms of the Contract or to the work to be performed, or materials to be furnished thereunder, or in the Plans, Drawings, and Specifications accompanying the said contract shall affect said obligation of said Surety on this Bond, and the said Surety on this Bond, and the said Surety does hereby waive notice of any such changes, extension of time, alterations, or additions of the terms of the Contract, or to the work, or to the Drawings and Specifications. Claimant shall give written notice to the Contractor and to the Surety as required by Florida Statutes, Section 255.05 of Section 713.23.

IN WITNESS WHEREOF, said _____, as Principal and Contractor hereunder has caused these presents to be assigned in three (3) original counterparts in his name, and witnessed by two attesting and subscribing witnesses and the said _____ as Surety, has caused these presents to be signed in three (3) original counterparts in its name by its _____ under its corporate seal, this ___ day of _____ 20___

Signed, sealed and delivered
in the presence of:

PRINCIPAL-CONTRACTOR

BY: _____

TITLE: _____

AS TO PRINCIPAL

SURETY

BY: _____
ATTORNEY-IN-FACT
(POWER-OF-ATTORNEY
TO BE ATTACHED)

AS TO SURETY

BY: _____
RESIDENT AGENT

END OF SECTION

SECTION 00700

GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS

Wherever used in these General Conditions or in the other Contract Documents, the following terms shall have the meanings indicated which shall be applicable to both the singular and plural thereof:

Acceptance: By the OWNER of the Work as being fully complete in accordance with the Contract Documents subject to waiver of claims.

Agreement: The written agreement between the OWNER and the CONTRACTOR covering the Work to be performed; the Contract Documents are attached to and made a part of the Agreement. Also designated as the Contract.

Addenda: Written or graphic instruments issued prior to the execution of the Agreement which modify or interpret the Contract Documents, Drawings and Specifications, by addition, deletions, clarifications or corrections.

Application for Payment: The form furnished by the ENGINEER which is to be used by the CONTRACTOR in requesting progress payments theretofore received from the OWNER on account of the Work have been applied by the CONTRACTOR to discharge in full all of the CONTRACTOR'S obligations stated in prior applications for payment.

Approved: Means approved by the ENGINEER of Record.

Bid: The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

Bidder: Any person, firm or corporation submitting a BID for Work.

Bonds: Bid, performance and payment bonds and other instruments of security, furnished by the CONTRACTOR and his surety in accordance with the Contract Documents and in accordance with the law of the place of the project.

Change Order: 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 issued after execution of the Agreement.

Contract Documents: The Agreement, Addenda, Instructions to Bidders, CONTRACTOR'S Bid, the Bonds, the Notice of Award, these General Conditions, Special

Conditions, the Specifications, Drawings and Modifications, Notice to Proceed, Invitation to Bid, Acknowledgment of Conformance with OSHA Standards.

Contract Price: The total monies payable to the CONTRACTOR under the Contract Documents.

Contract Time: The number of calendar days stated in the Agreement for the completion of the Work.

CONTRACTING OFFICER: The owner (Grantee) - The individual who is authorized to sign the contract documents on behalf of the owner's governing body.

CONTRACTOR: The person, firm or corporation with whom the OWNER has executed the Agreement.

Day: A calendar day of twenty-four hours measured from midnight to the next midnight.

Drawings: The drawings which show the character and scope of the Work to be performed and which have been prepared or approved by the ENGINEER and are referred to in the Contract Documents.

ENGINEER: Craig A. Smith & Associates, 1425 E. Newport Center Drive, Deerfield Beach, FL 33442 (561) 314 4445.

Field Order: A written order issued by the ENGINEER which clarifies or interprets the Contract Documents in accordance with paragraph 9.3 or orders minor changes in the Work in accordance with paragraph 10.2.

Modification: (a) A written amendment of the Contract Documents signed by both parties, (b) a Change Order, (c) a written clarification or interpretation issued by the ENGINEER in accordance with paragraph 9.3 or (d) a written order for minor change or alteration in the Work issued by the ENGINEER pursuant to paragraph 10.2. A modification may only be issued after execution of the Agreement.

Notice of Award: The written notice by OWNER to the apparent successful Bidder stating that upon compliance with the conditions precedent to be fulfilled by him within the time specified, OWNER will execute and deliver the Agreement to him.

Notice to Proceed: A written notice given by OWNER to CONTRACTOR (with copy to ENGINEER) fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform his obligations under the Contract Documents.

OWNER: **WALNUT CREEK CDD, C/O Special District Services, Inc.**
2501A Burns Road, Palm Beach Gardens, FL 33410.

Project: The entire construction to be performed as provided in the Contract Documents.

Construction Observer: An authorized representative of the ENGINEER assigned to observe the Work performed and materials furnished by the CONTRACTOR or such other person as may be appointed by the OWNER as his representative. The CONTRACTOR shall be notified in writing of the identity of this representative.

Shop Drawings: All drawings, diagrams, illustrations, brochures, schedules and other data which are prepared by the CONTRACTOR, a subcontractor, manufacturer, supplier, or distributor, and which illustrate the equipment, material, or some portion of the Work and as required by the Contract Documents.

Samples: Physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

Specifications: Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work.

Subcontractor: An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

Substantial Completion: The date as certified by the ENGINEER when the construction of the Project or a specified part thereof is sufficiently completed, in accordance with the Contract Documents, 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 paragraph 14.11.

Supplier: Any person or organization who supplies materials or equipment for the work, including that fabricated to a special design, but who does not perform labor at the site.

Surety: The corporate body which is bound with the CONTRACTOR and which engages to be responsible for the CONTRACTOR and his acceptable performance of the Work.

Work: 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 and other incidentals, and the furnishing thereof.

Written Notice: The term "Notice" as used herein shall mean and include all written notices, demands, instructions, claims, approvals, and disapprovals required to obtain compliance with Contract requirements. Written notice shall be deemed to have been duly served if delivered in person to the individual or to a member of the firm or to an officer of

the corporation for whom it is intended, or to an authorized representative or such individual, firm, or corporation, or if delivered at or sent by registered mail to the last business address known to him who gives the notice. Unless otherwise stated in writing, any notice to or demand upon the OWNER under this Contract shall be delivered to the OWNER through the ENGINEER.

ARTICLE 2 - PRELIMINARY MATTERS

Award:

2.1 The OWNER reserves the right to reject any and all Bids and is not bound by law to accept the lowest Bid. Bids are awarded by the OWNER and its decision is final. No Notice of Award will be given until the OWNER has concluded such investigations as it deems necessary to establish the responsibility, qualifications and financial ability of the Bidders to do the Work in accordance with the Contract Documents to the satisfaction of the OWNER within the time prescribed. The OWNER reserves the right to reject the Bid of any Bidder who does not pass such investigation to the OWNER'S satisfaction. In analyzing Bids, the OWNER may take into consideration alternates and unit prices, if requested by the Bid forms. If the Contract is awarded, the OWNER will issue the Notice of Award and give the successful Bidder a contract for execution within sixty days after opening of Bids.

Execution of Agreement:

2.2 At least four counterparts of the Agreement and such other Contract Documents as practicable will be executed and delivered by CONTRACTOR to the OWNER within 10 calendar days of receipt from the OWNER .

Forfeiture of Bid Security:

2.3 Failure of the successful Bidder to execute and deliver the Agreement and deliver the required bonds as stipulated in paragraph 2.2 shall be cause for the OWNER to annul the Notice of Award and declare the Bid and any security therefore forfeited.

Contractor's Pre-Start Representations:

2.4 CONTRACTOR represents that he has familiarized himself with, and assumes full responsibility for having familiarized himself with the nature and extent of the Contract Documents, work, locality, and with all local conditions and federal, state and local laws, ordinances, rules and regulations that may in any manner affect performance of the Work, and represents that he has correlated his study and observations with the requirements of the Contract Documents. CONTRACTOR also represents that he has studied all surveys and investigation reports of subsurface and latent physical conditions referred to in the specifications and made

such additional surveys and investigations as he deems necessary for the performance of the Work at the Contract Documents and that he has correlated the results of all such data with the requirements of the Contract Documents.

Commencement of Contract Time:

2.5 The Contract Time will commence to run on the date stated in the Notice to Proceed.

Starting the Project:

2.6 CONTRACTOR shall start to perform his obligations under the Contract Documents on the date when the Contract Time commences to run. No Work shall be done at the site prior to the date on which the Contract Time commences to run, except with the written consent of the OWNER.

Before Starting Construction:

2.7 Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. He shall at once report in writing to ENGINEER any conflict, error, or discrepancy which he may discover; however, he shall not be liable to OWNER, or ENGINEER for his failure to discover any conflict, error, or discrepancy in the Drawings or Specifications.

Schedule of Completion:

2.8 Within ten days after delivery of the Notice to Proceed by OWNER to CONTRACTOR, CONTRACTOR shall submit to ENGINEER for approval, an estimated progress schedule with earnings indicating the starting and completion dates of the various stages of the Work, and a preliminary schedule of Shop Drawing submissions. See paragraph 6.23. The ENGINEER shall approve this schedule or require revisions thereto within 14 days of its submittal.

If there is more than one CONTRACTOR involved in a Project the responsibility for coordinating the Work of all CONTRACTORS shall be as provided in the Special Conditions and Contract Documents.

Preconstruction Conference:

2.9 Within twenty days after delivery of the executed Agreement by OWNER to CONTRACTOR, but before starting the Work at the site, a preconstruction conference will be held to review the above schedules, to establish procedures for handling Shop Drawings and other submissions, and for processing Applications for Payment, and to establish a working understanding between the parties as to the Project. Present at the conference will be the OWNER or his representative,

ENGINEER, Resident Project Representatives, CONTRACTOR and his Superintendent.

Qualification of Subcontractors, Materialmen and Suppliers:

2.10 Within ten working days after bid opening, the CONTRACTOR will submit to the OWNER and the ENGINEER for acceptance a list of the names of subcontractors and such other persons and organizations (including those who are to furnish principal items of materials or equipment) proposed for those portions of the Work as to which the identity of the Subcontractors and other persons and organizations must be submitted as specified in the Contract Documents. Within thirty working days after receiving the list, the ENGINEER will notify the CONTRACTOR in writing if either the OWNER or the ENGINEER, after due investigation, has reasonable objection to any Subcontractor, person, or organization on such list. The failure of the OWNER or the ENGINEER to make objection to any Subcontractor, person or organization on the list within thirty days of receipt shall constitute an acceptance of such Subcontractor, person or organization. Acceptance of any such Subcontractor, person or organization shall not constitute a waiver of any right of the OWNER or the ENGINEER to reject defective Work, material or equipment, or work, material or equipment not in conformance with the requirements of the Contract Documents.

Rejection of Subcontractor:

2.11 If, prior to the Notice of Award, the OWNER or the ENGINEER has reasonable objection to and refuses to accept any Subcontractor, person or organization listed, the apparent low Bidder may, prior to Notice of Award either (i) submit an acceptable substitute without an increase in his bid price or (ii) withdraw his Bid without forfeiting his Bid security.

ARTICLE 3 - CORRELATION, INTERPRETATION AND INTENT OF CONTRACT DOCUMENTS

3.1 It is the intent of the Specifications and Drawings to describe a complete Project to be constructed in accordance with the Contract Documents. The Contract Documents comprise the entire Agreement between the OWNER and the CONTRACTOR. They may be altered only by a Modification.

3.2 The Contract Documents are complementary; what is called for by one is as binding as if called for by all. If CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, he shall call it to the ENGINEER's attention in writing at once and before proceeding with the Work affected thereby; however, he shall not be liable to OWNER or ENGINEER for his failure to discover any conflict, error or discrepancy in the Specifications or Drawings. The various Contract Documents shall be given precedence in case of conflict, error or discrepancy, as follows:

Supplemental General Conditions, Agreement Modifications, Addenda, Special Conditions, Instructions to Bidders, General Conditions, Specifications and Drawings. If the requirements of other Contract Documents are more stringent than those of the Supplemental General Conditions, the more stringent requirements shall apply.

3.3 The words "furnish" and "furnish and install", "install", and "provide" or words with similar meaning shall be interpreted, unless otherwise specifically stated, to mean "furnish and install complete in place and ready for service".

3.4 Miscellaneous items and accessories which are not specifically mentioned, but which are essential to produce a complete and properly operating installation, or usable structure or plant, providing the indicated function, shall be furnished and installed without change in the Contract Price. Such miscellaneous items and accessories shall be of the same quality standards, including material, style, finish, strength, class, weight and other applicable characteristics, as specified for the major component of which the miscellaneous item or accessory is an essential part, and shall be approved by the ENGINEER before installation. The above requirement is not intended to include major components not covered by or inferable from the Drawings and Specifications.

3.5 The Work of all trades under this Contract shall be coordinated by the CONTRACTOR in such a manner as to obtain the best workmanship possible for the entire Project, and all components of the Work shall be installed or erected in accordance with the best practices of the particular trade.

3.6 The CONTRACTOR shall be responsible for making the construction of habitable structures under this Contract rainproof, and for making equipment and utility installations properly perform the specified function.

If he is prevented from so doing by any limitations of the Drawings or Specifications, the CONTRACTOR shall immediately notify the ENGINEER in writing of such limitations before proceeding with construction in the area where the problem or limitation exists.

3.7 Manufacturer's literature, when referenced, shall be dated and numbered and is intended to establish the minimum requirements acceptable. Whenever reference is given to codes, or standard specifications or other data published by regulating agencies or accepted organizations, including but not limited to National Electrical Code, applicable State Building Code, Federal Specifications, ASTM Specifications, various institute specifications, and the like, it shall be understood that such reference is to the latest edition including addenda in effect on the date of the Bid.

3.8 Brand names where used in the technical specifications, are intended to denote the standard or quality required for the particular material or product. The term "equal" or "equivalent", when used in connection with brand names, shall be interpreted to mean a material or product that is similar and equal in type, quality, size, capacity, composition, finish, color and other applicable characteristics to the material or product specified by trade name, and that is suitable for the same use and capable of performing the same function, in the opinion of the ENGINEER, as the material or product so specified. Proposed equivalent items must be approved by ENGINEER before they are purchased or incorporated in the Work. (When a brand name, catalog number, model number, or other identification, is used without the phrase "or equal", the CONTRACTOR shall use the brand specified).

ARTICLE 4 - AVAILABILITY OF LANDS, SUBSURFACE CONDITIONS, REFERENCE POINTS:

Availability of Lands:

4.1 The OWNER will furnish, as indicated in Contract Documents, the lands upon which the Work is to be done, rights-or-way for access thereto, and such other lands which are designated for the use of the CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the OWNER, unless otherwise specified in the Contract Documents. Other access to such lands or rights-of-way for the CONTRACTOR'S convenience shall be the responsibility of the CONTRACTOR.

The CONTRACTOR will provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of material and equipment.

Bidder's Furnished Copy of Surveys:

4.2 The OWNER will, upon request, furnish to the BIDDERS copies of all available boundary surveys.

Subsurface Conditions:

4.3 The CONTRACTOR acknowledges that he has investigated prior to bidding and satisfied himself as to the conditions affecting the Work, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, river stages, tides, water tables or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during prosecution of the Work. The CONTRACTOR further acknowledges that he has satisfied himself as to the character, quality and quantity of surface and subsurface materials or obstacles to

be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the OWNER/ENGINEER on the site or any contiguous site, as well as from information presented by the Drawings and Specifications made part of this Contract, or any other information made available to him prior to receipt of Bids. Any failure by the CONTRACTOR to acquaint himself with the available information will not relieve him from responsibility for estimating properly the difficulty or cost of successfully performing the Work. The OWNER assumes no responsibility for any conclusions or interpretations made by the CONTRACTOR on the basis of the information made available by the OWNER/ENGINEER.

Differing Site Conditions:

4.4 (a) The CONTRACTOR shall promptly, and before such conditions are disturbed, notify the OWNER and ENGINEER in writing, of: (1) subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or (2) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this contract. The OWNER shall promptly investigate the conditions, and if he finds that such conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under this contract, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the contract modified in writing accordingly.

(b) No claim of the CONTRACTOR under this clause shall be allowed unless the CONTRACTOR has given the notice required in (a) above; provided, however, the time prescribed therefore may be extended by the OWNER.

(c) No claim by the CONTRACTOR for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

ARTICLE 5 - INSURANCE

Contractor's Liability Insurance:

5.1 The CONTRACTOR will, at his own expense, purchase and maintain such insurance as will protect the OWNER and the CONTRACTOR from claims under Workmen's Compensation laws, disability benefit laws or other similar employee benefits laws; from claims for damages because of bodily injury, occupational sickness or disease, or death of his employees, and claims insured by usual personal injury liability coverage; from claims for damages because of bodily injury, sickness or disease or death of any person other than his employees including claims insured by usual personal bodily injury liability coverage; and from claims for injury to or destruction of tangible property, including loss of use resulting therefrom

- any or all of which may arise out of or result from the Contractor's operations under the Contract Documents whether such operations be by any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be legally liable. The Contractor shall maintain the following insurance coverages during the execution and performance of this Project: Comprehensive General Liability covering all operations, including legal liability and completed operations/products liability, with minimum limits of \$1,000,000 combined single limit occurrence; Comprehensive Automobile Liability Insurance covering owned, non-owned, or rented automotive equipment to be used in performance of the Work with minimum limits of \$100,000; and Workers compensation insurance in a form and in amounts prescribed by the laws of the State of Florida. The District shall be named as the Insurance Certificate Holder and shall be an additional named insured on all policies of liability insurance. Before starting the work, the CONTRACTOR will file with the OWNER and ENGINEER certificates of such insurance, acceptable to the OWNER; these certificates shall contain a provision that the coverage afforded under the policies will not be cancelled or materially changed until at least 30 days prior written notice has been given to the OWNER and ENGINEER by certified mail. The certificate of insurance shall show the amount of employee's liability coverage that is being carried by the CONTRACTOR under Workmen's Compensation.

Subcontractor's Liability Insurance:

5.2 The CONTRACTOR agrees that if any part of the Work under the Contract is sublet, he will require the Subcontractor(s) to carry insurance as required, and that he will require the Subcontractor(s) to furnish to him insurance certificates similar to those required by the OWNER in 5.1 above.

OWNER's Liability Insurance:

5.3 The OWNER will be responsible for purchasing and maintaining its own liability insurance and, at its option, may purchase and maintain such insurance as will protect it against claims which may arise from operations under the Contract Documents.

Fire and Extended Coverage Insurance (Builders' Risk):

5.4 The CONTRACTOR shall maintain, as applicable, in an Insurance Company or Insurance Companies acceptable to the OWNER, Fire, Extended Coverage and Vandalism & Malicious Mischief Insurance on buildings and structures, while in the course of construction, including 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.

The policy shall be in the name of the OWNER and the CONTRACTOR, as their interests may appear, and shall also cover the interests of all Subcontractors performing work.

Proof of Insurance:

5.5 The CONTRACTOR shall provide the OWNER with satisfactory evidence certifying that the foregoing insurance is in force; and such evidence shall include provisions that the insurance shall not be cancelled, allowed to expire or be materially changed without giving the OWNER advance notice by registered mail.

Cancellation and Re-Insurance:

5.6 If any insurance should be cancelled or changed by the insurance company or should any insurance expire during the period of this contract, the CONTRACTOR shall be responsible for securing other acceptable insurance to provide the coverage specified in this section to maintain coverage during the life of this Contract.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

Supervision and Superintendent:

6.1 The CONTRACTOR will supervise and direct the Work. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The CONTRACTOR will employ and maintain a qualified supervisor or superintendent at the work site who shall have been designated in writing by the CONTRACTOR as the CONTRACTOR'S representative at the site. The supervisor shall have full authority to act on behalf of the CONTRACTOR and all communications given to the supervisor shall be as binding as if given to the CONTRACTOR. The supervisors shall be present on each site at all times as required to perform adequate supervision and coordination of the work. (Copies of written communications given to the Superintendent shall be mailed to the Contractor's home office).

Labor, Materials and Equipment:

6.2 The CONTRACTOR will provide competent, suitably qualified personnel to lay out the Work and perform construction as required by the Contract Documents. He will at all times maintain good discipline and order at the site.

Contractor Furnishes All Materials:

6.3 The CONTRACTOR will furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, local telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of the Work.

Type of Material:

6.4 All materials and equipment will be new, except as otherwise provided in the Contract Documents. When special makes or grades of material which are normally packaged by the supplier or manufacturer are specified or approved, such materials shall be delivered to the site in their original packages or container with seals unbroken and labels intact.

Installation Instructions:

6.5 All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator or processors, except as otherwise provided in the Contract Documents.

Materials, Equipment, Products and Substitutions:

6.6 Materials, equipment and products incorporated in the work must be approved for use before being purchased by the CONTRACTOR. The CONTRACTOR shall submit to the ENGINEER a list of proposed materials, equipment or products, together with such samples as may be necessary for him to determine their acceptability and obtain his approval, within ninety calendar days after award of Contract unless otherwise stipulated in the Special Conditions. No request for payment for "or equal" equipment will be approved until this list has been received and approved by the ENGINEER.

6.6.1 Whenever a material, article or piece of equipment is identified on the Drawings or Specifications by reference to brand name or catalog number, it shall be understood that this is referenced for the purpose of defining the performance of other salient requirements, and that other products of equal capacities, quality and function shall be considered. The CONTRACTOR may recommend the substitution of a material, article, or piece of equipment of equal substance and function for those referred to in the Contract Documents by reference to brand name or catalog number, and if, in the opinion of the ENGINEER, such material, article, or piece of equipment is of equal substance and function to that specified, the ENGINEER may approve its substitution and use by the CONTRACTOR. Incidental changes or extra component parts required to accommodate the substitute will be made by the CONTRACTOR without a change in the Contract Price or Contract time.

6.6.2 No substitute shall be ordered or installed without the written approval of the ENGINEER who shall be the judge of equality.

6.6.3 Delay caused by obtaining approvals for substitute materials will not be considered justifiable grounds for an extension of construction time.

6.6.4 Should any work or materials, equipment or products not conform with requirements of the Drawings and Specifications or become damaged during the progress of the Work, such Work or materials shall be removed and replaced, together with any Work disarranged by such alterations, at any time before completion and acceptance of the Project. All such work shall be done at the expense of the CONTRACTOR. See paragraph 7.10.

6.6.5 No materials or supplies for the Work shall be purchased by the CONTRACTOR or by any Subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the Seller. The CONTRACTOR warrants that he has good title to all materials and supplies used by him in the Work.

Concerning Subcontractors:

6.7 The CONTRACTOR will not employ any subcontractor, other person or organization of the types referred to in paragraph 2.10 (whether initially or as a substitute) against whom the OWNER or the ENGINEER may have reasonable objection, nor will the CONTRACTOR be required to employ any Subcontractor who has been accepted by the OWNER and the ENGINEER, unless the ENGINEER determines that there is good cause for doing so.

Contractor Responsibilities:

6.8 The CONTRACTOR shall be fully responsible for all acts and omissions of his Subcontractors and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that he is responsible for the acts and omissions of persons directly employed by him. Nothing in the Contract Documents shall create any contractual relationship between OWNER or ENGINEER and any Subcontractor or other person or organization having a direct contract with CONTRACTOR, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any persons due any Subcontractor or other person or organization, except as may otherwise be required by law. OWNER or ENGINEER may furnish to any Subcontractor or other person or organization, to the extent practicable, evidence of amounts paid to CONTRACTOR on account of specific Work done in accordance with the schedule of values.

Identification of Drawings:

Walnut Creek CDD
Erosion & Sedimentation Project
NW 72nd Avenue Canal
CAS Project No. 21-2171

00700-13

General Conditions

6.9 The divisions and sections of the Specifications and the identifications of any Drawings shall not control the CONTRACTOR in dividing the Work among Subcontractors or delineating the Work to be performed by any specific trade.

Subcontractor's Terms:

6.10 The CONTRACTOR agrees to bind specifically every Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of the OWNER.

Subcontractor's Agreement:

6.11 All Work performed for the CONTRACTOR by a Subcontractor shall be pursuant to an appropriate agreement between the CONTRACTOR and the Subcontractor.

Subcontractor's Provisions:

6.12 The CONTRACTOR shall be responsible for the coordination of the trades, Subcontractors and materialmen engaged upon his Work.

6.12.1 The CONTRACTOR shall cause appropriate provisions to be inserted in all subcontracts relative to the Work to bind Subcontractors to the CONTRACTOR by the terms of these General Conditions and other Contract Documents insofar as applicable to the Work of Subcontractors, and give the CONTRACTOR the same power as regards to terminating any subcontract that the OWNER may exercise over the CONTRACTOR under any provisions of the Contract Documents.

6.12.2 The OWNER or ENGINEER will not undertake to settle any differences between the CONTRACTOR and his Subcontractors or between Subcontractors.

6.12.3 If in the opinion of the ENGINEER, any subcontractor on the Project proves to be incompetent or otherwise unsatisfactory, he shall be replaced if and when directed by the ENGINEER in writing.

Patent Fees and Royalties:

6.13 The CONTRACTOR will pay all license fees and royalties and assume all costs incident to the use of any invention, design, process or device which is the subject of patent rights or copyrights held by others. He will indemnify and hold harmless the OWNER and the ENGINEER and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses (including attorneys' fees) arising out of any infringement of such rights

during or after completion of the Work, and shall defend all such claims in connection with any alleged infringement of such rights.

Determining Application:

6.14 The CONTRACTOR shall be responsible for determining the application of patent rights and royalties on materials, appliances, articles or systems prior to bidding. However, he shall not be responsible for such determination on systems which do not involve purchase by him of materials, appliances and articles.

Permits

6.15 The CONTRACTOR will secure and pay for all construction permits and licenses and will pay for all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of his Bid.

When such charges are normally made by the OWNER and when so stated in the SPECIAL CONDITIONS, there will be no charges to the CONTRACTOR. The OWNER shall assist the CONTRACTOR, when necessary, in obtaining such permits and licenses. The CONTRACTOR will also pay all public utility charges.

Electric Power and Lighting:

6.16 Electrical power required during construction shall be provided by each prime contractor as required by him. This service shall be installed by a qualified electrical contractor approved by the ENGINEER. Lighting shall be provided by the General CONTRACTOR in all spaces at all times where necessary for good and proper workmanship, for inspection or for safety. No temporary power shall be used off temporary lighting lines without specific approval of the General CONTRACTOR.

Laws and Regulations:

6.17 The CONTRACTOR will give all notices and comply with all laws, ordinances, rules and regulations applicable to the Work. If the CONTRACTOR observes that the Specifications or Drawings are at variance therewith, he will give the ENGINEER prompt written notice thereof, and any necessary changes shall be adjusted by an appropriate modification. If the CONTRACTOR performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the ENGINEER, he will bear all costs arising therefrom; however, it shall not be his primary responsibility to make certain that the Drawings and Specifications are in accordance with such laws, ordinances, rules and regulations.

Taxes:

Walnut Creek CDD
Erosion & Sedimentation Project
NW 72nd Avenue Canal
CAS Project No. 21-2171

00700-15

General Conditions

6.18 Cost of all sales and other taxes for which the CONTRACTOR is liable under the Contract shall be included in the Contract Price stated by the CONTRACTOR.

Record Drawings:

6.19 The CONTRACTOR will keep one record copy of all Specifications, Drawings, Addenda, Modifications and Shop Drawings at the site in good order and annotated to show all changes made during the construction process. The CONTRACTOR must provide complete RECORD DRAWINGS signed and sealed by a Registered Surveyor in the State of Florida for all underground utilities (water and sewer).

Safety and Protection:

6.20 The CONTRACTOR will be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. He will take all necessary precautions for the safety of, and will provide the necessary protection to prevent damage, injury or loss to:

6.20.1 All employees on the Work and other persons who may be affected thereby,

6.20.2 All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and

6.20.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

Prevention of Accidents:

6.21 The CONTRACTOR will designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the CONTRACTOR'S superintendent unless otherwise designated in writing by the CONTRACTOR to the OWNER.

Emergencies:

6.22 In emergencies affecting the safety of persons or the Work or property at the site or adjacent thereto, the CONTRACTOR, without special instruction or authorization from the ENGINEER or OWNER, is obligated to act, at his discretion, to prevent threatened damage, injury or loss. He will give the ENGINEER prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby, and a Change Order shall thereupon be issued covering the changes and deviations involved. If the CONTRACTOR believes that

additional work done by him in an emergency which arose from causes beyond his control entitles him to an increase in the Contract Price or an extension of the Contract Time, he may make a claim therefore as provided in Articles 11 and 12.

Shop Drawings and Samples:

6.23 After checking and verifying all field measurements, the CONTRACTOR will submit to the ENGINEER for review, in accordance with the accepted schedule of shop drawing submissions (see paragraph 2.8) six copies (or at the ENGINEER'S option, one reproducible copy) of all Shop Drawings, which shall have been checked by and stamped with the approval of the CONTRACTOR and identified as the ENGINEER may require. The data shown on the Shop Drawings will be complete with respect to dimensions, design criteria, materials of construction and the like to enable the ENGINEER to review the information as required.

Samples Required by Contractor:

6.24 The CONTRACTOR will also submit to the ENGINEER for review, with such promptness as to cause no delay in Work, all samples required by the Contract Documents.

All samples will have been checked by and stamped with the approval of the CONTRACTOR, identified clearly as to material, manufacturer, any pertinent catalog numbers and the use for which intended.

Deviations in Shop Drawings:

6.25 At the time of each submission, the CONTRACTOR will in writing call the ENGINEER'S attention to any deviations that the Shop Drawings or sample may have from the requirements of the Contract Documents.

Review of Shop Drawings:

6.26 The ENGINEER will review with responsible promptness Shop Drawings and samples, but his review shall be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents. The review of a separate item as such will not indicate review of the assembly in which the item functions. The CONTRACTOR will make any corrections required by the ENGINEER and will return the required number of corrected copies of Shop Drawings and resubmit new samples until the review is satisfactory to the ENGINEER. The CONTRACTOR shall direct specific attention in writing or on resubmitted Shop drawings to revisions other than the corrections called for by the ENGINEER on previous submissions. The CONTRACTOR'S stamp of approval on any Shop Drawing or sample shall constitute representation to the OWNER and the ENGINEER that the CONTRACTOR has either determined

and verified all quantities, dimensions, field construction criteria, materials, catalog numbers and similar data or he assumes full responsibility for doing so, and that he has reviewed or coordinated each Shop Drawing or sample with the requirements of the Work and the Contract Documents.

Commencing Work:

6.27 No work requiring a Shop Drawing or sample submission shall be commenced until the submission has been reviewed by the ENGINEER. A copy of each Shop Drawing and each approved sample shall be kept in good order by the CONTRACTOR at the site and shall be available to the ENGINEER.

Deviations in Work:

6.28 The ENGINEER'S review of Shop Drawings or samples shall not relieve the CONTRACTOR from his responsibility for any deviations from the requirements of the Contract Documents unless the CONTRACTOR has in writing called the ENGINEER'S attention to each deviation at the time of submission and the ENGINEER has given written approval to the specific deviation, nor shall any review by the ENGINEER relieve the CONTRACTOR from responsibility for errors or omissions in the Shop Drawings.

Cleaning Up Site:

6.29 The CONTRACTOR shall clean up behind the Work as much as is reasonably possible as the work progresses. Upon completion of the Work, and before acceptance of final payment for the Project by the OWNER, the CONTRACTOR shall remove all his surplus and discarded materials, excavated material and rubbish from the roadways, sidewalks, parking areas, lawn and all adjacent property; shall clean his portion of Work involved in any building under this Contract, so that no further cleaning by the OWNER is necessary prior to his occupancy; shall restore all property, both public and private, which has been disturbed or damaged during the prosecution of the Work; and shall leave the whole in a neat and presentable condition.

Cleaning Up General:

6.30 In case of dispute, the OWNER may remove the rubbish and charge the cost to the CONTRACTOR as the ENGINEER shall determine to be just.

Public Convenience and Safety:

6.31 The CONTRACTOR shall, at all times, conduct the Work in such manner as to insure the least practicable obstruction to public travel. The convenience of the general public and of the residents along and adjacent to the area of Work shall be

provided for in a satisfactory manner, consistent with the operation and local conditions. "Street Closed" signs shall be placed immediately adjacent to the Work, in a conspicuous position, at such locations as traffic demands. At any time that streets are required to be closed, the CONTRACTOR shall notify law enforcement agencies vehicles before the street is closed and again as soon as it is opened. Access to fire hydrants and other fire extinguishing equipment shall be provided and maintained at all times.

Sanitary Provisions:

6.32 The General CONTRACTOR shall provide on-site office, and necessary toilet conveniences, secluded from public observation, for use of all personnel on the Work, whether or not in his employ. They shall be kept in a clean and sanitary condition and shall comply with the requirements and regulations of the Public Authorities having jurisdiction. He shall commit no public nuisance. Temporary field office and sanitary facilities shall be removed upon completion of the Work and the premises shall be left clean.

Indemnification:

6.33 In consideration of twenty-five dollars (\$25.00) and other valuable consideration, the CONTRACTOR shall indemnify and save harmless the OWNER and ENGINEER, their officers, agents and employees, from or on account of any injuries or damages, received or sustained by any person or persons during or on account of any operations connected with the construction of this Project; or by or in consequence of any negligence (excluding negligence of OWNER and ENGINEER), in connection with the same; or by use of any improper materials or by or on account of any act or omission of the said CONTRACTOR or his Subcontractor, agents, servants or employees. The CONTRACTOR will indemnify and hold harmless the OWNER and the ENGINEER and their agents and employees from and against all claims, damages, losses and expenses including attorneys' fees arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than Work itself) including the loss of use resulting therefrom and (b) is caused in whole or in part by any negligent act or omission of the CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder.

Claims:

6.34 In any and all claims against the OWNER or the ENGINEER or any of their agents or employees, by any employee of the CONTRACTOR, any Subcontractor, anyone for whose acts any of them may be liable, the indemnification obligation

under paragraph 6.33 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any Subcontractor under workman's compensation acts, disability acts or other employee benefit acts.

Liability of Engineer:

6.35 The obligations of the CONTRACTOR under paragraph 6.33 shall not extend to the liability of the ENGINEER, his agents or employees arising out of (a) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or specifications or (b) the giving of or the failure to give directions or instructions by the ENGINEER, his agents or employees provided such giving or failure to give is the primary cause of injury or damage.

Responsibility for Connection to Existing Work:

6.36 It shall be the express responsibility of the CONTRACTOR to connect his Work to each part of the existing work or work previously installed as required by the Drawings and Specifications to provide a complete installation.

Work in Street, Highway and Other Rights-of-Way:

6.37 Excavation, grading, fill, storm drainage, paving and any other construction or installations in rights-of-way of streets, highways, public carrier lines, utility lines either aerial, surface or subsurface), etc., shall be done in accordance with requirements of the special conditions. The OWNER will be responsible for obtaining all permits necessary for the Work. Upon completion of the Work, the CONTRACTOR shall present to the ENGINEER certificates, in triplicate, from the proper authorities stating that the Work has been done in accordance with their requirements.

6.37.1 The OWNER will cooperate with the CONTRACTOR in obtaining action from any utilities or public authorities involved in the above requirements.

6.37.2 The CONTRACTOR shall be responsible for obtaining elevations of curbs and gutters, pavement, storm drainage structures, and other items as soon as grading operations are begun on the site and, in any case, sufficiently early in the construction period to prevent any adverse affect on the Project.

Cooperation with Governmental Departments Public Utilities, Etc.:

6.38 The CONTRACTOR shall be responsible for making all necessary arrangements with governmental departments, public utilities, public carriers, service companies and corporations owning or controlling roadways, railways, water, sewer, gas, electrical, telephone, and telegraph facilities such as pavements, tracks, piping, wires, cables, conduits, poles, guys, etc., including incidental structures connected therewith, that are encountered in the Work in order that such items may be properly shored, supported and protected, or the CONTRACTOR may relocate them if he so desires. The CONTRACTOR shall give all proper notices, shall comply with requirements of such parties in the performance of his Work, shall permit entrance of such parties on the project in order that they may perform their necessary work, and shall pay all charges and fees made by such parties for this Work.

6.38.1 The CONTRACTOR'S attention is called to the fact that there may be delays on the Project due to Work to be done by governmental departments, public utilities, and others in repairing or moving poles, conduits, etc. The CONTRACTOR shall cooperate with the above parties in every way possible, so that the construction can be completed in the least possible time.

6.38.2 The CONTRACTOR shall have made himself familiar with all codes, laws, ordinances, and regulations which in any manner affect those engaged or employed in the Work, or materials and equipment used in or upon the Work, or in any way affect the conduct of the Work, and no plea of misunderstanding will be considered on account of his ignorance thereof.

Use of Premises:

6.39 CONTRACTOR shall confine his apparatus, storage of materials, and operations of his workmen to the limits indicated by law, ordinances, permits and directions of ENGINEER and OWNER, and shall not unnecessarily encumber any part of the site.

6.39.1 CONTRACTOR shall not overload or permit any part of any structure to be loaded with such weight as will endanger its safety, nor shall he subject any part of the work to stresses or pressures that will endanger it.

6.39.2 CONTRACTOR shall enforce ENGINEER'S and OWNER'S instructions in connection with signs, advertisements, fires and smoking.

6.39.3 CONTRACTOR shall arrange and cooperate with OWNER in routing and parking of automobiles of his employees, subcontractors and other

personnel, and in routine material delivery trucks and other vehicles to the Project site.

6.39.4 The CONTRACTOR shall furnish, install and maintain adequate construction office facilities for all workmen employed by him or by his Subcontractors. Temporary offices shall be provided and located where directed and approved by the ENGINEER. All such facilities shall be furnished in strict accordance with existing governing regulations. Field offices shall include telephone facilities.

Protection of Existing Property Improvements:

6.40 The locations of existing utilities within the work areas shown on the plan **are approximate** and are not guaranteed to be complete. Any existing surface or subsurface improvements, such as pavements, curbs, sidewalks, pipes or utilities, footings, or structures (including portions thereof), trees and shrubbery, not indicated on the Drawings or noted in the Specifications as being removed or altered shall be protected from damage during construction of the Project. Any such improvements damaged during construction of the Project shall be restored at the expense of the CONTRACTOR to a condition equal to that existing at the time of award of Contract.

Explosives:

6.41 When the use of explosives is necessary in the prosecution of the Work, the CONTRACTOR shall be charged with the utmost care in the handling and usage of such explosives to the protection of life and property. When directed by the ENGINEER, the number and size of charges shall be reduced. All explosives shall be stored in a safe manner and storage places shall be clearly marked "Danger - Explosives", and placed in the care of competent watchmen. When such use of explosives becomes necessary, the CONTRACTOR shall furnish to the ENGINEER competent proof of coverage adequately providing public liability and property damage insurance, as a rider attached to his regular policies unless otherwise included.

ARTICLE 7 - WORK BY OTHERS

7.1 The OWNER may perform additional work related to the Project by himself, or he may let other direct contracts therefore which shall contain General Conditions similar to these.

The CONTRACTOR will afford the other contractors who are parties to such direct contracts (or the OWNER, if he is performing the additional Work himself), reasonable opportunity for the introduction and storage of materials and equipment

and the execution of Work, and shall properly connect and coordinate his Work with theirs.

7.2 If any part of the CONTRACTOR'S Work depends for proper execution or results upon the Work of any such other CONTRACTOR (or the OWNER), the CONTRACTOR will promptly report to the ENGINEER in writing any defects or deficiencies in such Work that render it unsuitable for such proper execution and results.

7.3 The CONTRACTOR will do all cutting, fitting and patching of his Work that may be required to make its several parts come together properly and fit it to receive or be received by such other work. The CONTRACTOR will not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of the ENGINEER and of the other Contractors whose work will be affected.

7.4 If the performance of additional work by other contractors or the OWNER is not noted in the Contract Documents prior to the execution of the Contract, written notice thereof shall be given to the CONTRACTOR prior to starting any such additional work. If the CONTRACTOR believes that the performance of such additional work by the OWNER or others involves him in additional expense or entitles him to an extension of the Contract Time, he may make a claim therefore as provided in Articles 11 and 12.

7.5 Where practicable, the General CONTRACTOR shall build around the work of other separate contractors or shall leave chases, slots and holes as required to receive and to conceal within the general construction work the work of such other separate contractors as directed by them. Where such chases, slots, etc., are impracticable, the work shall require specific approval of the ENGINEER.

7.6 Necessary chases, slots, and holes not built or left by the General CONTRACTOR shall be cut by the separate contractor requiring such alterations after approval of the General CONTRACTOR. The General CONTRACTOR shall do all patching and finishing of his Work where cut by other contractors at the expense of such other contractors.

7.7 Cooperation is required in the use of site facilities and in the detailed execution of the Work. Each CONTRACTOR shall coordinate his operations with those of the other contractors for the best interest of the Work in order to prevent delay in the execution thereof.

7.8 Each CONTRACTOR shall keep himself informed of the progress of the Work of other contractors. Should lack of progress or defective workmanship on the part of other contractors interfere with his operations, the CONTRACTOR shall notify the ENGINEER immediately. Lack of such notice to the ENGINEER will be

construed as acceptance by the CONTRACTOR of the status of the work of other contractors as being satisfactory for proper coordination of his own Work.

7.9 Each CONTRACTOR shall give notices of the progress of his work so as to allow other contractors adequate work. The General CONTRACTOR shall give notices of the progress of his Work so that work of other contractors, when required to be concealed, may be placed before the general construction Work. All such notices shall be submitted to the ENGINEER with copies of other prime contractors on the Project sufficiently ahead of job progress to permit adequate time for the other prime contractors to coordinate their work.

7.10 The cost of extra work resulting from lack of notices, untimely notices, failure to respond to notices, defective work or lack of coordination shall be borne by the CONTRACTOR responsible for such lack of notices, etc.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.1 The OWNER will issue all communications to the CONTRACTOR through the ENGINEER.

8.2 In case of termination of employment of the ENGINEER, the OWNER will appoint an engineer against whom the CONTRACTOR makes no reasonable objection, whose status under the Contract Documents shall be that of the former ENGINEER.

8.3 The OWNER will furnish the data required of him under the Contract Documents promptly and shall make payments to the CONTRACTOR promptly after they are due as provided in paragraph 14.4.

8.4 The OWNER's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.2. The OWNER shall provide sufficient survey staking to set up horizontal and vertical controls. All re-staking or additional staking required by CONTRACTOR shall be by the OWNER'S surveyor at the CONTRACTOR'S expense. Paragraph 4.2 refers to the OWNER'S identifying and making available to the CONTRACTOR copies of surveys and investigation reports of subsurface and latent physical conditions at the site or otherwise affecting performance of the Work which have been relied upon by the ENGINEER in preparing the Drawings and Specifications.

8.5 The OWNER'S responsibilities in respect of liability and property insurance are set forth in paragraph 5.3.

8.6 In addition to his rights to request changes in the Work in accordance with Article 10, the OWNER (especially in certain instances as provided in paragraph 10.4) will be obligated to execute Change Orders.

8.7 In connection with the OWNER'S right to stop Work or suspend Work, see paragraph 15.1. Paragraph 15.3 deals with the OWNER'S right to terminate services of the CONTRACTOR under certain circumstances.

8.8 The OWNER shall have the right to take possession of and use any completed or partially completed portions of the Work, notwithstanding the fact that the time for completing the entire Work or any portion thereof may not have expired; but such taking possession and use shall not be deemed an acceptance of any Work not completed in accordance with the Contract Documents. If such prior use increases the cost of or delays the Work, the CONTRACTOR shall be entitled to such extra compensation or extension of time or both, except by prior agreement, as the ENGINEER may determine. See paragraph 14.11.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

Owner's Representative:

9.1 The ENGINEER shall be the OWNER'S representative during the construction period. The duties and responsibilities and the limitations of authority of the ENGINEER as the

OWNER'S representative during construction are set forth in Articles 1 through 16 of these General Conditions and shall not be extended without written consent of the OWNER and the ENGINEER.

9.1.1 The ENGINEER'S decision, in matters relating to aesthetics, shall be final, if within the terms of the Contract Documents.

9.1.2 Except as may be otherwise provided in this contract, all claims, counterclaims, disputes and other matters in question between the OWNER and the CONTRACTOR arising out of or relating to this agreement or the breach thereof will be decided in a court of competent jurisdiction within the State in which the OWNER is located.

Visits to Site:

9.2 The ENGINEER will provide an inspector to make periodic visits to the site to observe the progress and quality of the executed work and to determine, in general, if the work is proceeding in accordance with the Contract Documents. His efforts will be directed toward providing assurance for the OWNER that the completed Project will conform to the requirements of the Contract Documents. On the basis

of these on-site observations as an experienced and qualified design professional, he will keep the OWNER informed of the progress of the work and will endeavor to guard the OWNER against defects and deficiencies in the work of contractors.

Clarifications and Interpretations:

9.3 The ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the Contract Documents (in the form of Drawings or otherwise) as he may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. If the CONTRACTOR believes that a written clarification and interpretation entitles him to an increase in the Contract Price or extension of Contract Time, he may make a claim therefore as provided in Articles 11 and 12.

Measurement of Quantities:

9.4 All work completed under the Contract will be measured by the ENGINEER according to the United States Standard Measures. All linear surface measurements will be made horizontally or vertically as required by the item measured.

Rejecting Defective Work:

9.5 The ENGINEER will have authority to disapprove or reject Work which is "defective" (which term is hereinafter used to describe Work that is unsatisfactory, faulty or defective, or does not conform to the requirements of the Contract Documents or does not meet the requirements of any inspection, test or approval referred to in the Special Condition, or has been damaged prior to final acceptance). He will also have authority to require special inspection or testing of the Work as provided in the Special Conditions whether or not the Work is fabricated, installed or completed.

Shop Drawings, Change Orders and Payments:

9.6 In connection with the ENGINEER'S responsibility as to Shop Drawings and samples, see paragraphs 6.25 through 6.28, inclusive.

Responsibility for Change Orders:

9.7 In connection with the ENGINEER'S responsibility for Change Orders, see Articles 10, 11, and 12.

Application of Payments:

9.8 In connection with the ENGINEER'S responsibilities in respect of Application of Payment, etc., see Article 14.

Resident Project Representative:

9.9 The ENGINEER will provide construction observation and inspection sufficient to confirm to the OWNER and all applicable regulatory agencies that construction is in compliance with the Construction Drawings and the contract specifications.

Decisions on Disagreements:

9.10 The ENGINEER will be the interpreter of the terms and conditions of the Contract Documents and the judge of the performance thereunder. In his capacity as interpreter and judge he will exercise his best efforts to insure faithful performance by both the OWNER and the CONTRACTOR. He will not show partiality to either and shall not be liable for the result of any interpretation or decision rendered in good faith. Claims, disputes and other matters relating to the execution and progress of the Work or the interpretation of a performance under the Contract Documents shall be referred to the ENGINEER for decision, which he shall render in writing within ten days of the time that such claim has been presented to him in writing.

Limitations on Engineer's Responsibilities:

9.11.1 Neither the ENGINEER'S authority to act under this Article 9 nor any decision made by him in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of the ENGINEER to the CONTRACTOR, any Subcontractor, any of their agents or employees or any other person performing any of the Work.

9.11.2 The ENGINEER will not be responsible for the construction means, methods, techniques, sequences or procedures, or the safety precautions and programs incident thereto, and he will not be responsible for the CONTRACTOR'S failure to perform the Work in accordance with the Contract Documents.

9.11.3 The ENGINEER will not be responsible for the acts or omissions of the CONTRACTOR, or any Subcontractors, or any of his or their agents or employees, or any other persons performing any of the work.

ARTICLE 10 - CHANGES IN THE WORK

10.1 Without invalidating the Agreement, the OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work; these shall be authorized by Change Orders. Upon receipt of a Change Order, the CONTRACTOR will proceed with the Work involved. All such Work shall be

executed under the applicable conditions of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made as provided in Article 11 or Article 12. A Change Order signed by the CONTRACTOR indicates his agreement therewith.

10.2 The ENGINEER may authorize minor changes or alterations in the Work not involving extra cost and not inconsistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order. If the CONTRACTOR believes that any minor change or alteration authorized by the ENGINEER entitles him to an increase in the Contract Price or extension of Contract Time, he may make a claim therefor as provided in Articles 11 and 12.

10.3 Additional Work performed by the CONTRACTOR without authorization of a Change Order will not entitle him to an increase in the Contract Price or an extension of the Contract Time, except in the case of an emergency as provided in paragraph 6.22 and except as provided in paragraph 10.2.

10.4 The OWNER will execute appropriate Change Orders prepared by the ENGINEER covering changes in the Work, to be performed as provided in paragraph 4.4, and Work performed in an emergency as provided in paragraph 6.22 and any other claim of the CONTRACTOR for a change in the Contract Time or the Contract Price which is approved by the ENGINEER.

10.5 It is the CONTRACTOR'S responsibility to notify his surety of any changes affecting the general scope of the

Work or change in the Contract Price and the amount of the applicable bonds shall be adjusted accordingly. The CONTRACTOR will furnish proof of such an adjustment to the OWNER.

ARTICLE 11 - CHANGE OF CONTRACT PRICE

11.1 The Contract Price constitutes the total compensation payable to the CONTRACTOR for performing the work. All duties, responsibilities and obligations assigned to or undertaken by the CONTRACTOR shall be at his expense without changing the Contract Price.

11.2 (a) The OWNER may, at any time, without written notice to the sureties, by written order designated or indicated to be a change order, make any change in the Work within the general scope of the Contract, including but not limited to changes:

- (1) in the specifications (including drawings and designs);
- (2) in the method or manner of performance of the work.

(3) in the OWNER-furnished facilities, equipment, materials, services, or site; or

(4) directing acceleration in the performance of the work.

(b) Any other written order or an oral order (which terms as used in this paragraph (b) shall include direction, instruction, interpretation or determination) from the OWNER, which causes any such change, shall be treated as a change order under this clause, provided that the CONTRACTOR gives the OWNER written notice stating the date, circumstances, and source of the order and that the CONTRACTOR regards the order as a change order.

(c) Except as herein provided, no order, statement, or conduct of the OWNER shall be treated as a change under this clause or entitle the CONTRACTOR to an equitable adjustment hereunder.

(d) If any change order under this clause causes an increase or decrease in the CONTRACTOR'S cost of, or the time required for, the performance of any part of the work, under this contract, whether or not changed by any order, an equitable adjustment shall be made and the contract modified in writing accordingly: Provided, however, that except for claims based on defective specifications, no claim for any change order under (b) above shall be allowed for any costs incurred more than 20 days before the CONTRACTOR gives written notice as therein required: and provided further, that in the case of defective specifications for which the OWNER is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the CONTRACTOR in attempting to comply with such defective specifications.

(e) If the CONTRACTOR intends to assert a claim for an equitable adjustment under this clause, he must, within 30 days after receipt of a written change order under (a) above or the furnishing of a written notice under (b) above, submit to the OWNER a written statement setting forth the general nature and monetary extent of such claim, unless this period is extended by the OWNER. The statement of claim hereunder may be included in the notice under (b) above.

(f) No claim by the CONTRACTOR for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

11.3 The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

11.3.1 Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved. Should the Work (by quantity) be increased or decreased by 25 percent from that stipulated in the Contract Documents, the OWNER and the CONTRACTOR may request adjustment of the unit prices by negotiation.

11.3.2 By negotiated lump sum.

11.3.3 The actual cost for labor, direct overhead, materials, supplies, equipment, and other services necessary to complete the work plus a fixed amount to be agreed upon to cover the cost of general overhead and profit to be negotiated.

11.4 The term Cost of the Work means the sum of all costs necessarily incurred and paid by the CONTRACTOR in the proper performance of the Work.

Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph 11.5.

11.4.1 Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the costs of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing work after regular working hours, on Sunday or legal holidays shall be include in the above to the extent authorized by OWNER.

11.4.2 Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and manufacturers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds, and all returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

11.4.3 Payments made by CONTRACTOR to the Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from Subcontractors acceptable to him and shall deliver such bids to OWNER who will then determine with the advice of ENGINEER, which Bids will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of Cost of Work plus a fee, the cost of the Work shall be determined in accordance with paragraphs 11.4 and 11.5. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

11.4.4 Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, lawyers and accountants) employed for services specifically related to the Work.

11.4.5 Supplemental costs including the following:

11.4.5.1 The proportion of necessary transportation, traveling and subsistence expenses of CONTRACTORS' employees incurred in discharge of duties connected with the Work.

11.4.5.2 Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the Workmen, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remains the property of CONTRACTOR.

11.4.5.3 Rentals of all construction equipment and machinery and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advise of ENGINEER, and the costs of transportation, loading, unloading, installation, dismantling and removal thereof - all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.

11.4.5.4 Sales, use or similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by any governmental authority.

11.4.5.5 Deposits lost for causes other than CONTRACTOR'S negligence, royalty payments and fees for permits and licenses. Costs for permits and licenses must be shown as a separate item.

11.4.5.6 Losses, damages and expenses, not compensated by insurance or otherwise sustained by CONTRACTOR in connection with the execution of, and to, the Work, provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR'S fee. If, however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, he shall be paid for his services a fee proportionate to that stated in paragraph 11.6.2.

11.4.5.7 The cost of utilities, fuel and sanitary facilities at the site.

11.4.5.8 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

11.4.5.9 Cost of premiums for additional Bonds and Insurance be required because of changes in the Work.

11.5 The term Cost of the Work shall not include any of the following:

11.5.1 Payroll costs and other compensation of CONTRACTOR'S officers, executives, principal (of partnership and sole proprietorships), general managers, engineers, architects, estimators, lawyers, agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in his principal or a branch office for general administration of the Work and not specifically included in the schedule referred to in subparagraph 11.4.1 - all of which are to be considered administrative costs covered by the CONTRACTOR'S fee.

11.5.2 Expenses of CONTRACTOR'S principal and branch offices other than his office at the site.

11.5.3 Any part of CONTRACTOR'S capital expenses, including interest on CONTRACTOR'S capital employed for the Work and charges against CONTRACTOR for delinquent payments.

11.5.4 Cost of premiums for all bonds and for all insurance policies whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except as otherwise provided in subparagraph 11.4.5.9).

11.5.5 Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective work, disposal of materials or equipment wrongly supplied and making good any damage to property.

11.5.6 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 11.4.

11.6 The CONTRACTOR'S fee which shall be allowed to CONTRACTOR for his overhead and profit shall be determined as follows:

11.6.1 A mutually acceptable firm fixed price; or if none can be agreed upon,

11.6.2 A mutually acceptable fixed fee based on the estimate of the various portions of the Cost of the Work.

11.7 The amount of credit to be allowed by CONTRACTOR to OWNER for any such change which results in a net decrease in cost, will be the amount of the actual net decrease. When both additions and credits are involved in any one change, the net shall be computed to include overhead and profit, identified separately, for both additions and credits.

11.8 Whenever cost of any Work is to be determined pursuant to paragraphs 11.4 and 11.5, CONTRACTOR will submit in form prescribed by ENGINEER an itemized cost breakdown together with supporting data.

11.9 Allowances: It is understood that the CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such materialmen, suppliers or Subcontractors and for such sums within the limit of the allowances as the ENGINEER may approve. Upon final payment, the Contract Price shall be adjusted as required and an appropriate Change Order issued. The CONTRACTOR agrees that the original Contract Price includes such sums as he deems proper for costs and profit on account of cash allowances. No demand for additional cost or profit in connection therewith will be allowed.

11.9.1 These allowances shall cover the cost to the CONTRACTOR, less any applicable trade discount, of the materials and equipment required by the allowance delivered at the site, and all applicable taxes.

11.9.2 The CONTRACTOR'S costs for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated

for the original allowance shall be included in the Contract Price and not in the allowance.

11.9.3 Whenever the cost, as described in 11.9.1 above, is more than or less than the allowance, the Contract Price shall be adjusted accordingly by Change Order. The amount of the Change Order will recognize changes, if any, in handling costs on the site, labor, installation costs, overhead, profit and other expenses, except that whenever unit price allowances are stipulated for Work, the Change Order will not include any cost as described in 11.5 above.

ARTICLE 12 - TIME FOR COMPLETION, LIQUIDATED DAMAGES AND CHANGE OF THE CONTRACT TIME

12.1 The date of beginning and the time for completion of the Work are essential conditions of the CONTRACT DOCUMENTS and the Work embraced shall be commenced on a date specified in the NOTICE TO PROCEED.

12.2 The CONTRACTOR will proceed with the Work at such rate of progress to insure full completion within the CONTRACT TIME. It is expressly understood and agreed, by and between the CONTRACTOR and the OWNER, that the CONTRACT TIME for the completion of the Work described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the WORK.

12.3 If the CONTRACTOR shall fail to complete the Work within the CONTRACT TIME, or extension of time granted by the OWNER, then the CONTRACTOR will pay to the OWNER the amount for liquidated damages as specified in the BID for each calendar day that the CONTRACTOR shall be default after the time stipulated in the CONTRACT DOCUMENTS.

12.4 The CONTRACT TIME may only be changed by a Change Order. Any claim for an extension in the CONTRACT TIME shall be based on written notice delivered to the OWNER and ENGINEER within ten days of the occurrence of the event giving rise to the claim.

Notice of the extent of the claim with supporting data shall be delivered within forty-five days of such occurrence unless ENGINEER allows an additional period of time to ascertain more accurate data. All claims for adjustment in the CONTRACT TIME shall be determined by ENGINEER if OWNER and CONTRACTOR cannot otherwise agree. Any change in the CONTRACT TIME resulting from any such claim shall be incorporated in a Change Order.

12.5 The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of CONTRACTOR if he makes a claim therefore as provided in paragraph 12.4 Such delays shall include, but not be restricted to, acts or neglect by any separate contractor employed by OWNER, fires, floods, labor disputes, epidemics, abnormal weather conditions, or acts of God.

12.6 All time limits stated in the Contract Documents are of The essence of the Agreement. The provisions of this Article 12 shall not exclude recovery for damages (including compensation for additional professional services) for delay by either party.

12.7 No claim for delay shall be allowed because of failure to furnish Drawings until two weeks after demand for such Drawings and not then unless such claim be reasonable.

12.8 This article does not exclude the recovery of damages for delay by either party under other provisions in the Contract Documents.

12.9 No claim for extension of time will be considered because of unusual weather conditions, and no reparation shall be made to the CONTRACTOR for damages to the Work resulting therefrom, except as stipulated in paragraph 15.2 and as follows. The ENGINEER shall be responsible for determining the extent of extension of time, and shall notify the OWNER and CONTRACTOR in writing thereof within seven days after CONTRACTOR has been notified to resume work. Such extension shall be covered by a Change Order adjusting the Contract Time.

ARTICLE 13 - GUARANTEE

13.1 The CONTRACTOR shall guarantee all materials and equipment furnished and Work performed for a period of one (1) year from the date of SUBSTANTIAL COMPLETION. The CONTRACTOR warrants and guarantees for a period of one (1) year from the date of SUBSTANTIAL COMPLETION of the system that the completed system is free from all defects due to faulty materials or workmanship and the CONTRACTOR shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any damage to other parts of the system resulting from such defects. The OWNER will give notice of observed defects with reasonable promptness. In the event that the CONTRACTOR should fail to make such repairs, adjustments, or the Work that may be made necessary by such defects, the OWNER may do so and charge the CONTRACTOR the cost thereby incurred. The performance BOND shall remain in full force and effect through the guarantee period.

ARTICLE 14 - PAYMENTS AND COMPLETION

Payments to Contractor:

Walnut Creek CDD
Erosion & Sedimentation Project
NW 72nd Avenue Canal
CAS Project No. 21-2171

00700-35

General Conditions

14.1 At least ten (10) days before each progress payment falls due (but not more often than once a month), the CONTRACTOR will submit to the ENGINEER a partial payment estimate filled out and signed by the CONTRACTOR covering the WORK performed during the period covered by the partial payment estimate and supported by such data as the ENGINEER may reasonably require.

If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at or near site, the partial payment estimate shall also be accompanied by such supporting data, satisfactory to the OWNER, as will establish the OWNER'S title to the material and equipment and protect his interest therein, including applicable insurance. The CONTRACTOR shall replace at his expense any stored materials paid for which are either damaged or stolen before installation. The ENGINEER will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing his approval of payment and present the partial payment estimate to the OWNER, or return the partial payment estimate to the CONTRACTOR indicating in writing his reasons for refusing to approve payment. In the latter case, the CONTRACTOR may make the necessary corrections and resubmit the partial payment estimate. The OWNER, will within thirty (30) days of presentation to him of any approved partial payment estimate, pay the CONTRACTOR a progress payment on the basis of the approved partial payment estimate. Except as State law otherwise provides, the OWNER may retain ten (10) percent of the amount of each payment until final completion and acceptance of all work covered by the Contract Documents. The OWNER at any time, however, after fifty (50) percent of the Work has been completed, if he finds that satisfactory progress is being made, may reduce retainage on the current and remaining estimates upon recommendation by the ENGINEER. When the work is substantially complete (operational or beneficial occupancy), the retained amount may be further reduced to only that amount necessary to assure completion upon recommendation by the ENGINEER. On completion and acceptance of a part of the Work on which the price is stated separately in the Contract Documents, payment may be made in full, including retained percentages, less authorized deductions. The OWNER may reinstate up to 10 percent withholding if the OWNER determines, at its discretion, that the CONTRACTOR is not making satisfactory progress or there is other specific cause for such withholding.

Final Release of Lien:

14.2 The OWNER shall have the right to demand and receive from the CONTRACTOR, before he shall receive final payment, final releases of lien executed by all persons, firms or corporations who have performed or furnished labor, services or materials, directly or indirectly, used in the Work. Likewise, as a condition to receiving any progress payment, the OWNER may require the CONTRACTOR to furnish partial releases of lien executed by all persons, firms and

corporations who have furnished labor, services or materials incorporated into the Work during the period of time for which the progress payment is due, releasing such lien rights as those persons, firms or corporations may have for that period.

Contractor's Warranty of Title:

14.3 The CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by an Application for Payment, whether incorporated in the Project or not, will have passed to the OWNER prior to the making of the Application for Payment, free and clear of all liens, claims, security interests and encumbrances (hereafter in these General Conditions referred to as "Liens"); and that no work, materials or equipment covered by an Application for Payment will have been acquired by the CONTRACTOR or by any other person performing the Work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or encumbrance thereon is retained by the seller or otherwise imposed by the CONTRACTOR or such other person.

Approval of Payments:

14.4 The ENGINEER will, within ten days after receipt of each Application for Payment, either indicate in writing his approval of payment and present the Application to the OWNER, or return the Application to the CONTRACTOR indicating in writing his reasons for refusing to approve payment. In the latter case, the CONTRACTOR may make necessary corrections and resubmit the application. The OWNER will, within thirty days of presentation to him of an approved Application for Payment, pay the CONTRACTOR the amount approved by the ENGINEER.

Representation:

14.5 The ENGINEER'S approval of any payment requested in an Application for Payment shall constitute a representation by him to the OWNER, based on the ENGINEER'S on-site observations of the Work in progress as an experienced and qualified design professional and on his review of the Application for Payment and the supporting data, that the Work has progressed to the point indicated; that, to the best of his knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning Project upon substantial completion, to the results of any subsequent tests called for in the Contract Documents and any qualifications stated in his approval); and that the CONTRACTOR is entitled to payment of the amount approved. However, by approving any such payment the ENGINEER shall not thereby be deemed to have represented that he made exhaustive or continuous on-site observations to check the quality or the quantity of the Work, or that he has reviewed the means, methods, techniques, sequences and procedures of construction or that he has made any examination to ascertain how or for what

purpose the CONTRACTOR has used the moneys paid or to be paid to him on account of the Contract Price, or that title to any Work, materials, or equipment has passed to the OWNER free and clear of any liens.

Certification on Request:

14.6 The CONTRACTOR shall make the following certification on each request for payment: "I hereby certify that the labor and materials listed on this request for payment have been used in the construction of this work or that all materials included in this request for payment and not yet incorporated into the construction fare now on the site or stored at an approved location; and payment received from the last request for payment has been used to make payments to all first tier subcontractors and suppliers except as listed below".

Final Payment:

14.7 The ENGINEER'S approval of final payment shall constitute an additional representation by him to the OWNER that the conditions precedent to the CONTRACTOR'S being entitled to final payment as set forth in paragraph 14.13 have been fulfilled.

Refusal to Pay:

14.8 The ENGINEER may refuse to approve the whole or any part of any payment if, in his opinion, he is unable to make such representations to the OWNER. He may also refuse to approve any such payment, or because of subsequently discovered evidence or the results of subsequent inspection or tests, nullify any such payment previously approved, to such extent as may be necessary in his opinion to protect the OWNER from loss because:

14.8.1 The Work is defective, or completed Work has been damaged requiring correction or replacement,

14.8.2 The Work for which payment is requested cannot be verified,

14.8.3 Claims or Liens have been filed or there is reasonable evidence indicating the probable filing thereof,

14.8.4 The Contract Price has been reduced because of modifications,

14.8.5 The OWNER has been required to correct defective Work or complete the Work in accordance with Article 13.

14.8.6 Of unsatisfactory prosecution of the Work, including failure to clean up as required by paragraphs 6.29 and 6.30,

14.8.7 Of persistent failure to cooperate with other contractors on the Project and persistent failure to carry out the Work in accordance with the Contract Documents,

14.8.8 Of liquidated damages payable by the CONTRACTOR, or

14.8.9 Of any other violation of, or failure to comply with, the provisions of the Contract Documents.

Substantial Completion:

14.9 Prior to Substantial Completion, the OWNER, with the approval of the ENGINEER and with the concurrence of the CONTRACTOR, may use any completed or substantially completed portions of the Work. Such use shall not constitute an acceptance of such portions of the Work.

Entering Premises:

14.10 The OWNER shall have the right to enter the premises for the purpose of doing work not covered by the Contract Documents. This provision shall not be construed as relieving the CONTRACTOR of the sole responsibility for the care and protection of the Work, or the restoration of any damaged Work except such as may be caused by agents or employees of the OWNER.

Engineer's Certificate:

14.11 Upon completion and acceptance of the Work the ENGINEER shall issue a certificate attached to the final payment request that the Work has been accepted by him under the conditions of the Contract Documents. The entire balance found to be due the CONTRACTOR, including the retained percentages, but except such sums as may be lawfully retained by the OWNER, shall be paid to the CONTRACTOR within thirty (30) days of completion and acceptance of the Work.

Indemnification:

14.12 The CONTRACTOR will indemnify and save the OWNER or the OWNER'S agents harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workmen, mechanics, materialmen, and furnishers of machinery and parts thereof, equipment, tools, and all supplies, incurred in the furtherance of the performance of the Work. The CONTRACTOR shall, at the OWNER'S request, furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the CONTRACTOR fails to do so the OWNER may, after having notified the CONTRACTOR, either pay unpaid bills or withhold from the CONTRACTOR'S unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until

satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the CONTRACTOR shall be resumed, in accordance with the terms of the Contract Documents, but in no event shall the provisions of this sentence be construed to impose any obligations upon the OWNER to either the CONTRACTOR, his Surety, or any third party. In paying unpaid bills of the CONTRACTOR, any payment so made by the OWNER shall be considered as a payment made under the Contract Documents by the OWNER to the CONTRACTOR and the OWNER shall not be liable to the CONTRACTOR for any such payments made in good faith.

Acceptance of Final Payment as Release:

14.13 The acceptance by the CONTRACTOR of final payment shall be and shall operate as a release to the OWNER of all claims and all liability to the CONTRACTOR other than claims in stated amounts as may be specifically excepted by the CONTRACTOR for all things done or furnished in connection with this Work and for every act and neglect of the OWNER and others relating to or arising out of this Work. Any payment, however, final or otherwise, shall not release the CONTRACTOR or his sureties from any obligations under the Contract Documents or the Performance Bond and Payment Bonds.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

OWNER May Suspend Work:

15.1 The OWNER may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to the CONTRACTOR and the ENGINEER which shall fix the date on which Work shall be resumed. The CONTRACTOR will resume the Work on the date so fixed. The CONTRACTOR will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if he makes a claim therefor as provided in Articles 11 and 12.

Work During Inclement Weather:

15.2 No work shall be done under these specifications except by permission of the ENGINEER when the weather is unfit for good and careful work to be performed. Should the severity of the weather continue, the CONTRACTOR, upon the direction of the ENGINEER, shall suspend all work until instructed to resume operations by the ENGINEER and the Contract Time shall be extended to cover the duration of the order. Work damaged during periods of suspension due to inclement weather shall be repaired and/or replaced by the CONTRACTOR. Any compensation for repairs or replacements shall be subject to approval of the OWNER.

OWNER May Terminate:

15.3 If the CONTRACTOR is adjudged bankrupt or insolvent, or if he makes a general assignment for the benefit of his creditors, or if a trustee or receiver is appointed for the CONTRACTOR or for any of his property, or if he files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or similar laws, or if he repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or if he repeatedly fails to make prompt payments to Subcontractors or for labor, materials or equipment or he disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction, or if he disregards the authority of the ENGINEER, or if he otherwise violates any provision of, the Contract Documents, then the OWNER may, without prejudice to any other right or remedy and after giving the CONTRACTOR and his surety seven days' written notice, terminate the services of the CONTRACTOR and take possession of the Project and of all materials, equipment, tools, construction equipment and machinery thereon owned by the CONTRACTOR, and finish the Work by whatever method he may deem expedient. In such case the CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct and indirect costs of completing the Project, including compensation for additional professional services, such excess shall be paid to the CONTRACTOR. If such costs exceed such unpaid balance, the CONTRACTOR will pay the difference to the OWNER. Such costs incurred by the OWNER will be determined by the ENGINEER and incorporated in a Change Order.

Contractor Termination:

15.4 Where the CONTRACTOR'S services have been so terminated by the OWNER, said terminations shall not affect any rights of the OWNER against the CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys by the OWNER due the CONTRACTOR will not release the CONTRACTOR from liability.

Seven Days Notice:

15.5 Upon seven days' written notice to the CONTRACTOR and the ENGINEER, the OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Project and terminate the Agreement. In such case, the CONTRACTOR shall be paid for all Work executed and any expense sustained plus a reasonable profit.

Removal of Equipment:

15.6 In the case of termination of this Contract before completion for any cause whatever, the CONTRACTOR, if notified to do so by the OWNER, shall promptly

remove any part or all of his equipment and supplies from the property of the OWNER. Should the CONTRACTOR not remove such equipment and supplies, the OWNER shall have the right to remove them at the expense of the CONTRACTOR. Equipment and supplies shall not be construed to include such items for which the CONTRACTOR has been paid in whole or in part.

Contractor May Stop Work or Terminate:

15.7 If, through no act or fault of the CONTRACTOR, the Work is suspended for a period of more than ninety days by the OWNER or under an order of court or other public authority, or the ENGINEER fails to act on any Application for Payment within thirty days after it is submitted, or the OWNER fails to pay the CONTRACTOR any sum approved by the ENGINEER, within thirty days of its approval and presentation, then the CONTRACTOR may, upon seven days' written notice to the OWNER and the ENGINEER, terminate the Agreement and recover from the OWNER payment for all Work executed and any expense sustained plus a reasonable profit. In addition and in lieu of terminating the Agreement, if the ENGINEER has failed to act on an Application for Payment or the OWNER has failed to make any payment as aforesaid, the CONTRACTOR may upon seven days' notice to the OWNER and the ENGINEER stop the Work until he has been paid all amounts then due.

OWNER Furnished Equipment:

15.8 In case the OWNER furnishes equipment to the CONTRACTOR to install, but fails to deliver it to the CONTRACTOR as required by SUPPLEMENTARY CONDITIONS or SPECIAL CONDITIONS, and in case such failure causes the CONTRACTOR additional expense or need for extension of time, the CONTRACTOR may make such claims upon the OWNER and obtain adjustments as provided herein.

ARTICLE 16 - MISCELLANEOUS

16.1 Whenever any provision of the Contract Documents requires the giving of written notice it shall be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to him who gives the notice.

16.2 All Specifications, Drawings and copies thereof furnished by the ENGINEER shall remain his property. They shall not be used on another Project, and with the exception of those sets which have been signed in connection with the execution of the Agreement, shall be returned to him on request upon completion of the Project.

16.3 The duties and obligations imposed by these General Conditions, Special Conditions and Supplemental Conditions and the rights and remedies available hereunder, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 6.36 and 14.3 and those in the Special Conditions and the rights and remedies available to the OWNER and ENGINEER thereunder, shall be in addition to, and shall not be construed in any way as a limitation of, any rights and remedies available by law, by special guarantee or by other provisions of the Contract Documents.

16.4 Should the OWNER or the CONTRACTOR suffer injury or damage to its person or property because of any error, omission, or act of the other or of any of his employees or agents or others for whose acts he is legally liable, claim shall be made in writing to the other party within a reasonable time of the first observance of such injury or damage.

END OF SECTION

SECTION 00800

SPECIAL CONDITIONS AND SUPPLEMENTARY CONDITIONS

ENGINEER is as follows:

CRAIG A. SMITH & ASSOCIATES
1425 E. Newport Center Drive, Deerfield Beach, FL 33442
(561) 314 4445

SPECIAL CONDITIONS

1. **Normal work hours for this project are 7:00 a.m. to 6:00 p.m. Monday through Saturday. Any work done outside these hours shall require permission from the OWNER.**
2. **All work done by the CONTRACTOR or any subcontractor shall be done with minimal disturbance to the existing operating facilities.**
3. **The OWNER and/or ENGINEER shall be present during all necessary testing. The CONTRACTOR shall pay for the cost of any required test.**
4. **The Project Plans and Drawings have provided vertical control for the layout of the work in the forms of benchmarks located adjacent to the work. From these benchmarks and from horizontal controls provided by the Project Plans and Drawings, the CONTRACTOR shall develop and make all detailed surveys needed for construction and shall establish all working points, lines and elevations necessary to perform the work. A Professional Surveyor currently registered in the State of Florida shall supervise this surveying work.**

It is the sole responsibility of the CONTRACTOR to confirm and verify the accuracy of horizontal and vertical controls prior to commencement of construction. The CONTRACTOR shall not be allowed additional payments on the basis of incorrect horizontal and vertical control.

5. **Central Broward Water Control District's (CBWCD) Specifications, related to this project, have been included in this section.**

END OF SECTION

1. GENERAL

1.01 SCOPE

The provisions of these regulations and criteria shall apply to all existing and future development, construction, or reconstruction within the boundaries of the Central Broward Water Control District (District or CBWCD). District boundaries are shown in the Exhibits. For the purpose of these regulations and criteria development, construction or reconstruction shall be defined as any work which would affect the flow or level of water, whether surface or subterranean in origin; the alteration of ground elevations and/or dredging or filling activities.

1.02 PURPOSE

The purpose of these regulations and criteria are to promote the general health, safety, welfare, convenience, and economic well-being of the citizens within the Central Broward Water Control District by minimizing flooding and ensuring proper water management.

These regulations and criteria have been developed to provide engineers, surveyors and mappers, architects, and land planners with requirements for the design of all projects within the District.

1.03 AUTHORITY

These regulations and criteria have been prepared under the authority of the Central Broward Water Control District (District) as provided by an act of the State Legislature in 1982 describing the District boundary and authority, and additionally that authority vested and granted by the Water Resources Act, Chapter 61-1969, Laws of Florida.

1.04 REQUIREMENTS

All projects within the regulatory area of the District shall require that a Florida Registered Professional Engineer submit to the District a permit application for approval of the paving, grading, drainage and storm water management and discharge into the District's Waterway. The project information, documentation details, standard, and engineering analysis shall conform in content to the requirements stipulated in these regulations and criteria.

The permit holder shall be responsible for ensuring the constructed project meets the District's design criteria at the time of permit approval. The applicant shall submit sufficient details and avoid errors and omissions in the plans and supporting documentation to ensure the project is constructed in accordance with

District criteria. The permit holder shall correct any deviations from District criteria in the constructed project unless specifically exempted by a variance.

Submittal of a permit application and permitting by the District shall in no way eliminate the applicant's responsibility to conform to the rules, regulations, policies or permitting requirements of other regulatory agencies such as: U.S. Army Corps of Engineers (USACE), Florida Department of Environmental Protection (FDEP), Florida Department of Transportation (FDOT), South Florida Water Management District (SFWMD), Broward County Environmental Protection and Growth Management Department (EPGMD), and the Applicable Unit of Local Government. If the permitted plans include work that is outside of the project property limits, then the applicant must acquire written permission to perform such work and shall provide proper documentation (agreements, easements, approvals, etc.) to the District to work outside the limits of the applicant's property.

The criteria herein set forth by the District are the minimum criteria which must be met by an applicant in order to seek approval of the commission. Nothing herein shall prevent the District's Commission from imposing more stringent requirements than set forth by the criteria as circumstances may warrant on a case-by-case basis to protect the health, safety, and welfare of the residents of the District.

1.04.1 EXISTING ROADWAYS

Projects that abut a public road or street where there is no existing drainage, shall address this problem for the prevention of standing water.

1.04.2 EXISTING CANALS

Projects whose traffic circulation elements (existing or proposed) abut District canals shall provide guardrail when there is insufficient recovery area.

1.04.3 CANAL RIGHTS-OF-WAY

Where the District requires canal Rights-of-Way, the Developer shall dedicate such right-of-way, and in addition shall dedicate a minimum twenty foot (20') strip of land from the top of bank of the canal for a maintenance easement.

1.04.4 DRAINAGE EASEMENTS

All projects within the District, shall dedicate to the District, drainage easements as the District deems necessary for the project; to provide for adjacent property and for conformance with the District's Water Control Plan.

1.04.5 MAINTENANCE EASEMENTS

Except as provided for in Section 2.14 of this criteria, all canal rights-of-way, canal easements, canal maintenance easements, drainage, flowage and storage easements, lake maintenance easements, drainage easements, and ingress/egress easements shall be kept free and clear of all improvements. The following improvements are allowed within a drainage, drainage/flowage/storage, lake maintenance, and ingress/egress easement to be dedicated to the District subject to providing adequate access: asphalt/concrete pavement; curbing; sidewalks and hardscape; chain link fencing; and guardrail.

No utilities shall be placed in any District easement or right-of-way without approval by the District, and the utility system owner entering into a hold harmless and indemnification agreement with the District.

1.05 MAINTENANCE

Unless otherwise provided, all drainage easements dedicated to the District shall be maintained by the property owner or a property owners' association.

1.05.1 Drainage within the Rights-of-Way of public streets is the maintenance responsibility of the unit of local government responsible for the maintenance of the street.

1.05.2 Maintenance of lakes and water bodies is the responsibility of the property owner abutting, or a property owners association.

1.05.3 Notwithstanding the above, the District retains the right to enter into and perform such maintenance as it feels necessary to protect the District's drainage system.

In the event the District performs such maintenance, it will assess the property owner(s) for the costs involved and will lien the property as necessary.

1.06 RENEWALS

District Operating permits shall be valid for a period not to exceed five (5) years from the date that project as-built drawings are approved. Renewal applications shall be submitted to the District 60 days prior to permit expiration.

Paving and drainage plans and maintenance agreements approved by the District prior to renewal requirements shall submit renewal applications within 120 days of receiving notification by the District. Such surface water management works shall comply with all conditions and requirements at the time of District approval.

Each renewal application shall be accompanied by the applicable fee, a log of the operation and maintenance schedules for all the components of the stormwater management system, and a stormwater certification report (Exhibit V) signed and sealed by a Florida registered Professional Engineer certifying that the components of the stormwater management system are functioning as permitted. If required, the property owner shall upgrade the drainage system to ensure proper operation for water quality and drainage as required and in place at the time of the original approval.

1.07 EXISTING DEVELOPMENT

All water management works for which permits, approved paving and drainage plans, and/or maintenance agreements have been issued by the District shall continue to comply with all conditions and requirements at the time of District approval. If such water management works are determined to have caused, are causing, or will cause an immediate adverse impact on the public, the property owner shall be required to modify the portion of the water management works which is causing or will cause the adverse impact.

Existing development and water management works constructed prior to the requirement for permits and District approved paving and drainage plans, shall be exempt from the requirements of these regulations and criteria. If it is determined that the existing works (or lack of water management works) have caused, are causing, or are predicted to cause an immediate adverse impact on the public, the property owner shall be required to modify the portion of the water management work which is causing or will cause the adverse impact to meet the District's current criteria to the extent practical and in the discretion of the District.

2. ENGINEERING CRITERIA

2.01 GENERAL

The following regulations and criteria will be utilized by the District in the review of plans, plats, as-builts, or other submittals.

2.01.1 DEFINITIONS

Definition and terms that are not defined below shall be given their ordinary and customary meaning or usage of the trade or will be defined using published, generally accepted dictionaries, together with any rules and statutes of the Agencies that have additional authority over the regulated activities.

“Aquatic plant” or “aquatic vegetation” means a plant, including the roots, which typically floats on water or requires water for its entire structural support, or which will desiccate outside of water.

“As-Built Drawings” means plans that accurately represent the constructed condition of the permitted facility that is certified by a Florida registered Professional Surveyor and Mapper.

“Detention” means the collection and temporary storage of stormwater in an impoundment in such a manner as to provide for treatment through physical, chemical, and biological processes with subsequent gradual release of the stormwater.

“Discharge” means to allow or cause water to flow.

“Exotic species” means a plant species introduced to Florida, purposefully or accidentally, from a natural range outside of Florida, including naturalized exotic species (an exotic plant that sustains itself outside cultivation) and invasive exotic species (an exotic plant that not only has naturalized, but is expanding on its own in Florida native plant communities). Exotic plant species are defined by the “Florida Exotic Pest Plant Council” (EPPC), and include cattails, melaleuca, Brazilian pepper, Australian pine, laurel fig (ficus) and other nuisance species that are not native to Florida, exhibit rapid growth, out compete native vegetation, and can clog lakes and canals (Exhibit “U”). Additional information on Florida’s exotic plant species is available at: <http://www.fleppc.org/>.

“Filling” or “fill” means the deposition or to deposit, by any means, of materials in a lake, pond, wetland, canal, other waterway, detention, or retention area.

“NAVD 88” means North American Vertical Datum of 1988.

“NGVD 29” means National Geodetic Vertical Datum of 1929.

“Nuisance species” means any species of flora or fauna whose noxious characteristics or presence in sufficient number, biomass, or areal extent that prevents, or interferes with, uses or management of resources, and which are native or naturalized in the area where it occurs.

“Positive outfall” means discharge via a device or devices designed to convey discharges of stormwater from the applicant’s property across downstream properties and ultimately into a District canal by means of a system consisting of one or a combination of pipes, culverts, canals, swales, or ditches in a concentrated and not diffuse manner.

“Pre-development” means the land use immediately previous to submittal of an application for paving and drainage approval if no District water management works permit was issued for the property, or the land use and storm water management design described in the latest District approved water management works permit for the property.

“Record drawing” means plans certified by a registered professional that accurately represent the constructed condition of an activity, including identifying any substantial deviations from the permitted design that are based on the As-built drawings submitted by the contractor and certified by a Florida registered Professional Surveyor and Mapper..

“Registered Professional” means a professional registered or licensed by and in the State of Florida and practicing under Chapter 471, 472, 481, or 492, F.S.

“Retention” means a system designed to prevent the discharge of a given volume of stormwater runoff into surface waters in the state by complete on-site storage. Examples are systems such as excavated or natural depression storage areas, pervious pavement with subgrade, or above ground storage areas.

“Structural slab-on-ground” means a slab that is cast directly on the ground and is a required part of a load path which transmits vertical or lateral loads to the ground and must conform to applicable structural building codes. Non-structural slabs-on-ground serve only as an architectural wearing surface and are not subject to structural building code requirements and are not subject to the six inches (6”) above berm elevation requirement.

“Substantial Damage” means damage of any origin sustained by a structure (i.e., a building, storm sewer, culvert, or bridge) whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before damage occurred.

“Substantial Improvement” means any repair, reconstruction, rehabilitation, alteration, addition or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the improvement or repair is started. The term does not, however, include any project for improvement of a building required to correct existing health, sanitary or safety code violations identified by the building official having jurisdiction and that is the minimum necessary to assure safe living conditions.

“Swale” means a manmade trench that: (a) Has a top width to depth ratio of the cross-section equal to or greater than 6:1, or side slopes equal to or greater than 3 feet horizontal to 1-foot vertical; (b) Contains contiguous areas of standing or flowing water only following a rainfall event; (c) Is planted with vegetation suitable for soil stabilization, stormwater treatment, and nutrient uptake; (d) is designed to take into account the soil erodibility, soil percolation, slope, slope length, and drainage area so as to prevent erosion and reduce pollutant concentration of any discharge; and (e) has a channel invert no lower than one (1) foot above the water control elevation.

2.01.2 VERTICAL DATUM

Elevation data in engineering documents and construction drawings submitted to the District shall be based on the NAVD 88 datum. Requests for modifications to permits issued prior to the updated FEMA Flood Insurance Rate Maps that took effect on August 18, 2014 shall include on the paving, drainage and grading drawings the site-specific conversion factor between NGVD 29 and NAVD 88 data for historical record keeping purposes.

2.02 FINISHED FLOOR, 100 YEAR ELEVATIONS

All habitable structures shall be set at or above the higher of:

- 2.02.1 Federal Emergency Management Act (FEMA) Flood Studies
- 2.02.2 Broward County 100 Year Flood Studies
- 2.02.3 Eighteen inches (18") above the nearest crown of road
- 2.02.4 Stage storage calculations for the 100-year, 3-day rainfall with zero discharge
- 2.02.5 Florida Building Code in accordance with the American Society of Civil Engineers Standard 24 – Flood Resistant Design and Construction (ASCE 24), latest edition

Nonresidential structures shall be set at or above the higher of Criterion 2.02.1, 2.02.2, and 2.02.4 enumerated herein and six inches (6") above the nearest crown of road of the adjacent roadway, whichever is higher.

Applicants shall verify that structural slabs-on-ground elevations are at least six inches (6") above the proposed berm elevation.

2.03 ROAD FLOOD CRITERIA

All roadways (public and private) and parking lots (public and private) shall have a minimum crown elevation (normal or inverted) set at the higher elevation of:

2.03.1 10-year flood criteria map of Broward County

2.03.2 Peak stage storage calculations for the 10-year, 1-day rainfall

The minimum crown elevation for inverted road sections shall refer to the center of the roadway and the minimum crown elevation for parking lots shall refer to the centerline of each drive aisle.

Rims of drainage structures may be set no more than six inches (6") below the edge of the roadway, parking lot or drive aisle provided the structure is located outside of the limits of the driving surface (e.g., inside a green area adjacent to the driving surface).

2.04 EXCAVATIONS

All lake, pond, canal, or other excavations shall be in accordance with South Florida Water Management District (SFWMD) Environmental Resource Permit (ERP) rules for Storage Areas.

2.04.1 Canal shall be defined as a surface water body intended primarily to convey flows and which has a very limited storage capacity for flood attenuation or water quality control (wet detention). A surface water body that provides flood or water quality detention storage shall be considered a lake, wetland, or pond.

2.04.2 Canal excavation shall have a side slope that provides stability against erosion from the top of bank (elevation 5.0 feet NGVD 29 [3.4 feet NAVD 88] minimum) to 3.0 feet below the water control elevation. Canal side slopes shall be no steeper than 4:1 (horizontal:vertical) from top of bank to 3.0 feet below the water control elevation. Below this point, side slopes shall be as the material permits, but no steeper than 2:1 unless a steeper slope can be justified based on supporting engineering and geotechnical information. Canals shall be excavated

to provide a minimum of ten feet (10') of depth below the water control elevation.

2.04.2.1 Existing District canals adjacent to properties applying for a stormwater management permit or plat approval shall be brought to the design standards of the District, including provision of a 20-foot Canal Maintenance Easement, and removal of all trees, shrubbery, and exotic species from canal water, banks, slopes, and maintenance easements.

2.04.3 Lake, wetland, or pond excavations shall have a side slope that provides stability against erosion. All shorelines shall be planted with aquatic vegetation in littoral zones around the perimeter of the lake, wetland, or pond excavation to create an average minimum littoral zone width of twenty feet (20') located within the vertical limits established in 2.04.5.2. As an alternative to planting the entire shoreline, an equivalent area of aquatic vegetation may be concentrated along common areas or the center of the lake or pond. Exhibit "T" provides a list of suggested species and planting depths. For shorelines planted with aquatic vegetation, side slopes shall be no steeper than 4:1 (horizontal to vertical) from the top of bank (minimum elevation of 5.0 feet NGVD 29 [3.4 feet NAVD 88] west of SW 100th Avenue, 4.0 feet NGVD 29 [2.4 feet NAVD 88] from SW 100th Avenue to the Florida Turnpike, 3.0 feet NGVD 29 [1.4 feet NAVD 88] east of the Florida Turnpike) to a depth of 2 feet below the water control elevation; thereafter, a flat slope shall be provided from the toe of the slope (2 foot deep) and extending 12 feet into the lake. Beyond that point, side slopes shall be as the material permits, but no steeper than 2:1 unless a steeper slope can be justified based on supporting engineering and geotechnical information.

For shorelines not planted with aquatic vegetation, side slopes shall be no steeper than 5:1 (horizontal to vertical) from the top of bank (minimum elevation of 5.0 feet NGVD 29 [3.4 feet NAVD 88] west of SW 100th Avenue, 4.0 feet NGVD 29 [2.4 feet NAVD 88] from SW 100th Avenue to the Florida Turnpike, 3.0 feet NGVD 29 [1.4 feet NAVD 88] east of the Florida Turnpike) NGVD 29 to a depth of 3 feet below the water control elevation. Beyond that point, side slopes shall be as the material permits, but no steeper than 2:1 unless a steeper slope can be justified based on supporting engineering and geotechnical information.

Lake or pond excavation shall have a minimum depth of ten feet (10') below the water control elevation and a maximum depth as governed by SFWMD Environmental Resource Permit (ERP) Applicant's

Handbook Volume II or a bottom elevation of (-) 40.0 feet NGVD 29 [(-) 41.6 feet NAVD 88], whichever is less.

2.04.4 Dry retention or detention areas shall have a side slope of 4:1 (horizontal to vertical) and shall be excavated no deeper than one foot (1') above the control elevation. Control elevation in the District is defined as elevation 4.00' NGVD 29 [2.4' NAVD 88] west of SW 100th Avenue (Palm Avenue/Nob Hill Road), 3.00' NGVD 29 [1.4' NAVD 88] from SW 100th Avenue to the Florida Turnpike, and 2.00' NGVD 29 [0.4' NAVD 88] east of the Florida Turnpike. The bottom of dry retention or detention areas shall be sodded.

2.04.4.1 Dry retention or detention areas shall be de-mucked and filled with permeable material that will allow the stored water to infiltrate into the ground water.

2.04.4.2 Retaining walls shall not be allowed within retention or detention areas except for retention or detention areas abutting retaining wall berms which shall be designed in accordance with the detail in Exhibit "I".

2.04.5 All side slopes of excavations shall be stabilized with a suitable vegetative cover in conformance with these criteria.

2.04.5.1 Except for littoral zones to be planted with aquatic vegetation, canal, lake, and pond side slopes shall be sodded (not seeded) from the top of bank to the water surface control elevation.

2.04.5.2 Lake, wetland, and pond side slopes shall be planted with aquatic vegetation from up to one foot (1') above to a depth of 1 foot (1') to 2 feet (2') below the water control elevation as recommended by the applicant's biologist, landscape architect or environmental engineer. The area planted shall have hydric soils suitable for wetland plants. A minimum hydric top soil (i.e., muck) depth of 0.5 feet shall be provided.

Wetland plantings adjacent to residential homes shall not exceed 4-feet in height for mature plants as measured from the control water elevation. Plantings of trees adjacent to residential homes and within District easements shall be subject to approval by the Board.

2.04.5.3 Exotic plant species as defined by the "Florida Exotic Pest Plant Council" (EPPC), such as cattails, melaleuca, Brazilian

pepper, Australian pine, laurel fig (ficus) and others, shall not be planted on canals, lakes, wetlands, ponds, or District property and Right-of-way. These plants are considered nuisance species because they are not native to Florida, exhibit rapid growth, outcompete native vegetation, and can clog lakes and canals. Exhibit "U" provides a copy of the EPPC list.

2.04.5.4 Permanent signs shall be visibly posted on lake and pond side slopes planted with suitable aquatic vegetation to prevent removal or spraying with harmful chemicals. The sign panel must be visible above the expected mature height of aquatic plantings. Exhibit "Y" provides a typical detail for the required signage. The location and spacing of the signs shall be determined by the District.

2.04.5.5 Restoration and repair of lake, wetland, and pond side slopes shall require plans, specifications, and supporting documentation submitted to the District Manager for review and approval. The District Manager may require any such plans to be signed and sealed by a Florida Professional Registered Engineer.

Restoration and repair of side slopes shall utilize gradual slopes and erosion control blankets made of natural fibers, and the slopes sodded as per section 2.04.5.1. For more severe erosion, stabilization shall be accomplished using a combination of filter fabric and interlocking concrete blocks sodded above the water line.

The use of seawalls, bulkheads, and retaining walls is discouraged. However, if a seawall, bulkhead, or retaining wall is proposed, the top of such wall shall be constructed no higher than 1 foot above the lake control elevation and shall be aesthetically consistent with the established pattern of existing seawalls, bulkheads, and retaining walls within the lake. Plans for seawalls, bulkheads, and retaining walls shall be signed and sealed by a Florida Professional Registered Engineer.

2.04.6 All lake, wetland, pond, canal or other waterway shall have a stabilized maintenance easement twenty feet in width, measured from the top of bank, with a maximum gradient of 20:1. This twenty feet (20') shall be considered a setback for any buildings, structures, or water bodies and shall be suitable for vehicular traffic. For the purpose of this

paragraph, structure is defined as any installed, or erected object on or in the ground.

2.04.7 Where a conservation easement is in place with Broward County and/or South Florida Water Management District the 20-foot Lake Maintenance Easement (LME) may be reduced to a 10-foot LME to allow for foot traffic only. However, the 20- foot setback to any building shall still apply. In addition, proper easements for maintenance and access shall be provided for any drainage structures or culverts.

2.04.8 All lake, pond, canal, or other waterway maintenance areas shall be cleared of all trees and shrubbery and no new trees or shrubbery shall be planted. Lake maintenance easement areas that are reduced to 10 (10) feet adjacent to conservation easements may be planted with appropriate ground cover plants such as sedges and rushes in lieu of sodding.

2.04.9 All lakes, ponds, or other waterways shall be provided with a concrete boat ramp from the top of bank to two feet below control elevation. The ramp shall be twelve feet (12') in width. A stabilized easement twenty feet (20') in width shall be provided from the nearest roadway to the ramp.

2.04.10 No natural or artificial lake, pond, wetland, canal, other waterway, detention, or retention area- collectively referred to herein as a water body- shall be partially filled unless the remaining portion of the water body is hydraulically connected to a proposed water body and the storage volume of the proposed water body is greater than the volume of the existing water body to be filled. Otherwise, no water body shall be filled unless a variance is granted by the Board of Commissioners of the Central Broward Water Control District. This section does not apply to the filling of water bodies having a bottom elevation higher than the elevation depicted in the Broward County Water Table Map for Average Wet Season, or the construction of culverts within the secondary system as covered under Section 2.12, Culverts.

2.04.10.1 Any water body to be filled, excluding the construction of culverts within the secondary system as covered under Section 2.12 shall be accompanied by the following.

A. Survey and engineering data to include:

- a. area at top of bank, water control elevation, and bottom of water body to be filled
- b. maximum/minimum depth from top of bank to bottom of water body
- c. cross sections (top-of-bank to top-of-bank) every 100' of perimeter at top of bank
- d. volume of fill to be placed from the District water control elevation to the 100-year flood stage at the top of bank
- e. volume of fill to be placed from the District water control elevation to the bottom of the water body
- f. volume of material to be dredged above and below the District water control elevation

B. Biological report showing no adverse impacts to aquatic life as a result of the proposed work. This section does not apply to the filling of dry detention or dry retention areas. The report must include:

- a. the methodology and data sources used to assess aquatic life (both flora and fauna) present, or could potentially be present, at the subject site(s).
- b. an assessment of flora and fauna present, or could potentially be present, at the subject site(s).
- c. a determination with respect to whether the proposed work will adversely affect aquatic life at the subject site(s).
- d. If the determination concludes that the proposed work could adversely affect aquatic life, then it must include the proposed measures necessary to mitigate the impacts resulting from the proposed work at each site.

2.04.11 A variance in accordance with Section 7, Variance and Appeals, shall be required for underground or vault storage systems proposed for flood control or floodplain compensation storage. The District will only consider these requests when a hardship is proven and when open storage systems (lakes and retention areas) are not feasible to meet the criteria of the District.

2.04.11.1 Underground storage systems shall provide for diversion of the first flush into isolated chambers with observation ports and full maintenance access with the intent of capturing at least 90% of sediments. These chambers shall be accessible for periodic cleaning using readily available equipment.

2.04.11.2 Prior to installation of the underground system, soils with poor percolation capacity, such as muck, shall be removed and replaced with permeable soils that will allow stored water to infiltrate into the ground.

2.04.11.3 Underground storage shall amount to 150% of the required storage for vault storage and 200% of the required storage for seepage systems as determined by routing calculations. For underground storage in seepage systems, the SFWMD ERP Exfiltration Trench formula parameter “ V_{add} ” shall equal the flood control or floodplain compensation volume and the Factor of Safety, FS, shall be 2.0 (i.e., $V_{add} \times FS = 200\%$ of required storage volume). Refer to the SFWMD ERP Information Manual, Part III – References and Design Aids, Appendix G, Exfiltration Trenches, Equation 7 and 8.

2.04.11.4 A 3-year letter of credit or 3-year bond for 110% of the value of the underground system shall be provided as a condition of approval of the variance and stormwater management permit.

2.04.11.5 The stormwater management permit shall be renewed **annually** in accordance with Section 1.06, Renewals, as a condition for final release of the 3-year bond or letter of credit.

2.04.11.6 **Minimum operation, inspection and maintenance procedures or schedules shall be provided to CBWCD for review and approval prior to approval of the as-built drawings.**

2.05 WATER QUALITY RETENTION VOLUME

All projects shall provide on-site retention for one inch of run off from the total project area, or $2\frac{1}{2}$ ” times SFWMD ERP percent impervious, whichever is greater. Additionally, commercial or industrial sites shall provide dry retention for

one half inch (1/2") of run off from the total project area. The designer shall allow for SFWMD ERP criteria as a minimum. In addition, the District shall require dry pretreatment for the first one half inch (1/2") runoff for roadway projects and other projects where the impervious area exceeds 60% of the total area.

All retention areas (dry and wet) must be capable of percolating the water quality design storage volume within 72 hours. One "open hole test" in accordance with SFWMD ERP Applicant's Handbook Volume II, shall be performed for each 500 feet or fraction thereof of retention area perimeter to determine the hydraulic conductivity of the soil. Copies of test results along with hydraulic calculations (Exhibit "X") shall be submitted to the District along with the permit application.

Projects located upstream of a secondary canal where the canal flow or elevation is controlled by a District operated control structure are exempt from the water quality retention requirement described in 2.05 except that dry pretreatment shall be provided on-site for commercial and industrial projects, roadway projects, and other projects where the impervious area exceeds 60% of the total area.

2.06 ADJACENT PROPERTY

In addition to the grant of easement required in Section 1.04 of this criteria, applicants shall be required to design and/or construct the drainage system so as not to preclude existing upstream drainage from reaching a District facility.

- 2.06.1** No developed property shall shed water on adjacent land. The applicant shall erect either a wall or berm, or combination thereof, to retain the runoff from the twenty-five year, three-day storm event.
- 2.06.2** Perimeter berms shall be designed in accordance with Exhibit "I". Retaining walls and foundations shall be located sufficiently away from the applicant's property line to permit construction of the wall without encroaching into adjacent property, unless the applicant secures a written letter of no objection from the affected property owner to construct the wall prior to construction commencement.
- 2.06.3** Perimeter berm elevations shall be 6 inches (6") below structural slab elevations.

2.07 DISCHARGE CRITERIA

The maximum allowable discharge into the District's canals is outlined in SFWMD ERP Applicant's Handbook Volume II, and is repeated herein. In the west C-11 basin (west of SW 100th and/or Palm Avenue) maximum discharge is three quarters of one inch (3/4") per day, or 20 CSM (cubic feet per second per square mile). In the east C-11, maximum discharge is one and one half inches per day, or 40 CSM. Maximum allowable discharge is computed on the twenty-five year, three-day event.

Projects located upstream of a secondary canal where the canal flow or elevation is controlled by a District operated control structure are exempt from the maximum discharge requirement.

- 2.07.1** Project discharge shall be the sum of individual discharge values determined for the project. In determining allowable discharge, the capacity of all elements in the control structure (notches, orifices, etc.) shall be considered.
- 2.07.2** Discharge shall be evaluated at the control elevations established herein.
- 2.07.3** Minimum allowable orifice size shall be the equivalent of a 3-inch diameter for circular orifices, or the equivalent for other geometries.
- 2.07.4** All properties shall provide for a positive outfall with the capacity to discharge the allowable discharge.

2.08 RUNOFF

Ground storage capacity may be taken into account in determining total runoff volume. Storage capacity of soils are described in the SFWMD ERP Applicant's Handbook Volume II and should be used. For the purpose of determining soil storage, the wet season water table shall be the control elevations established by the District; 4.00' NGVD 29 [2.4' NAVD 88] west of SW 100th Avenue (Palm Avenue/Nob Hill Road), 3.00' NGVD 29 [1.4' NAVD 88] from SW 100th Avenue to the Florida Turnpike, and 2.00' NGVD 29 [0.4' NAVD 88] east of the Florida Turnpike.

2.08.1 ROOF RUNOFF

Roof runoff from roofs of 2500 square feet or more, and from zero lot line housing, shall be specifically addressed on the plans as it relates to erosion and protection of adjacent property. Details shall be provided which indicate points at which runoff will be collected and the method utilized to control it.

Drainage easements in accordance with Section 3.04 of these criteria shall be required.

2.09 GRADING

Grade slopes shall be away from structures to be protected and toward drainage facilities. A grading plan shall be prepared and submitted to the District; said plan shall clearly indicate that no runoff from the applicants project shall discharge or flow onto adjacent property (refer also to 2.06 this criteria).

2.09.1 Roadways and roadway swale sections shall have a minimum gradient of three tenths of one percent (0.3%) or .003 foot per foot. A maximum run of three hundred feet (300') between high point and low point shall be permitted. No roadway swale shall be permitted which has an elevation less than one foot above the District's Control Elevation.

2.09.2 In addition to a longitudinal gradient herein specified, all roadways and parking lots shall have a minimum cross pitch (transverse gradient) of one eighth of an inch per foot (1/8" per foot) or one percent (1.0%), and a maximum gradient of five percent (5.0%).

2.10 DRAINAGE SYSTEMS

All roadways and parking lots shall have a drainage system designed to convey the rainfall from a three-year rainfall. The rational formula, $Q = CIA$, shall be used for design. The rainfall intensity (I) shall be obtained from the Florida Department of Transportation (FDOT) Zone 10 rainfall curves. A breakdown of this curve is included herein. The minimum time of concentration shall be ten (10) minutes. Design of the drainage system shall be such that no hydraulic gradient (energy line) is above the frame and/or grate of any drainage structure in the system.

2.10.1 Minimum drain pipe diameter in the District:

- “Building Storm Drains” and “Building Storm Sewers” (as defined in the Florida Building Code) downstream to first yard drain, catch basin, or manhole: size according to the

Florida Building Code – Plumbing – Storm Drainage chapter, latest edition

- Pipes that: convey runoff from greater than 0.25 acres of contributory drainage area, or; form part of a storm sewer main trunk line that discharges into a stormwater detention or retention facility, or outfall: 15" minimum
- Perforated or slotted pipe in exfiltration trenches, excluding under drain systems in detention/retention areas: 15" minimum
- Lake interconnecting pipes: 48" minimum

2.10.1.1 The maximum pipe spacing between structures shall be as follows:

<u>Diameter (inches)</u>	<u>Spacing (feet)</u>
Up to 18"	300'
24" to 36"	400'
42" and up	500'

2.10.2 The following drainage pipe materials are permitted which shall utilize the following roughness coefficients "N." Pipes under roadways in public rights-of-way shall be reinforced concrete pipe unless other pipe materials are allowed by the entity that owns the right-of-way.

<u>Pipe Material</u>	<u>MANNING "N"</u>
Concrete	.012
CMP	.021
CAMP	.019
P.V.C.	.009
HDPE	.012

2.10.3 Hydraulic design shall utilize a static tail water elevation equal to the stage at the end of hour 12 of stage storage calculations for the 3-year, 1-day rainfall.

2.10.4 Catch basins and drainage collection structures shall be designed with an eighteen inch (18") vertical sump from the invert elevation (or bottom of baffle) to the bottom of the structure. In addition, a twelve inch (12") diameter open sump, filled with washed grade rock, no larger than one and one half inches (1 1/2") shall be placed in the base of the structure. Prior to discharge to any body of water or any seepage trench, a pollution retardant baffle shall be installed.

2.10.5 All outfalls shall be protected with an appropriately designed headwall of either concrete or rip-rap. In the case of rip-rap, a six inch (6") poured concrete cap is required (Exhibits "H" or "K").

2.10.5.1 The top of the headwall shall be set at the crown elevation of roadway for culvert crossings of the secondary canals (Exhibit "K").

2.10.5.2 The top of the headwall shall be set no higher than the water control elevation (Exhibit "H").

At the discretion of the District Manager or Engineer, headwalls of deep outfalls to lakes or ponds may be replaced with a metal pipe attached to a concrete jacket in accordance with FDOT design standards.

2.10.6 When routing stormwater to a wet detention treatment facility, inlets to the facility shall be directed to the opposite side of the facility from the discharge structure.

2.10.7 Pipes interconnecting lake systems shall be sized to comply with all the provisions of this Section 2, Engineering Criteria. Stage-storage routing shall be performed to demonstrate that interconnected lakes comply with the criteria for all design storm events (3-year, 10-year, 25-year, and 100-year).

2.11 SEEPAGE SYSTEMS

Seepage systems may be used for purposes of water quality retention, but shall not be used for purposes of flood control. The storage and exfiltration capacity of a seepage system shall not be credited to pipe routing calculations. The storage and exfiltration capacity of seepage systems may be credited toward stage-storage routing calculations, provided that the maximum amount of credit shall not exceed the water quality design volume of the seepage system. Excess seepage system capacity beyond the required water quality design volume shall not be credited toward stage-storage routing calculations.

On-site subsurface retention, seepage system, or french drain shall be considered as being a perforated pipe system (fifteen inch (15") minimum diameter) surrounded by three quarter of an inch (3/4") washed rock, and protected on four (4) sides by a pervious geotextile (mirafi, typar).

2.11.1 Design and length of seepage systems shall be in accordance with SFWMD ERP Information Manual, Part III – References and Design Aids, Appendix G, Exfiltration Trenches . An applicant may include the parameter "V_{add}" to determine the length of exfiltration

trench required to store any additional volume beyond the required water quality treatment volume only if the applicant receives approval for the use of underground storage in accordance with Section 2.04.11.

- 2.11.2** One standard open hole falling head percolation test shall be taken for each five hundred feet (500') or fraction thereof of seepage system designed, copies of which shall be submitted to the District with hydraulic calculations.
- 2.11.3** Depth to water table shall be from finished grade to the District Control elevation 4.00' NGVD 29 [2.4' NAVD 88] west of SW 100th Avenue (Palm Avenue/Nob Hill Road), 3.00' NGVD 29 [1.4' NAVD 88] from SW 100th Avenue to the Florida Turnpike, and 2.00' NGVD 29 [0.4' NAVD 88] east of the Florida Turnpike.
- 2.11.4** No seepage system shall be considered as dry retention unless the invert of the perforated pipe is at or above the District Control Elevation 4.00' NGVD 29 [2.4' NAVD 88] west of SW 100th Avenue (Palm Avenue/Nob Hill Road), 3.00' NGVD 29 [1.4' NAVD 88] from SW 100th Avenue to the Florida Turnpike, and 2.00' NGVD 29 [0.4' NAVD 88] east of the Florida Turnpike.
- 2.11.5** Maintenance structures shall be placed at the terminal ends of all french drains/seepage systems and debris baffles shall be placed on the drain field side of all drainage inlets.

2.12 CULVERTS

Culverts shall be installed where roadways and driveways cross District canals. The size of new culverts or culvert replacements shall be determined by the District Engineer, but in no case shall be less than required to pass the allowable discharge for the basin or 48 inches in diameter, whichever is higher. The applicant shall provide calculations to demonstrate that the proposed culvert will pass the 100-year peak design flows with a head loss under 0.10 feet including entrance losses; or has the equivalent hydraulic capacity of 110% of the design cross-section of the channel as determined by the District. Additionally, the applicant will be required to excavate the canal to two feet (2') below the proposed culvert invert for a distance of fifty feet (50') upstream and downstream of the crossing. No driveway culvert shall be installed within fifty feet (50') of an existing culvert. As a condition of permitting, the District may require dedication of a roadway easement for adjacent property owners.

- 2.12.1** Notwithstanding the provisions of this section, no additional culverts will be permitted in the District's S-35 canal (Hancock Road), N-27 canal (Boy Scout Road), N-25 canal (SW 37 Avenue), S-22 canal

(SW 106 Avenue), S-24 canal (SW 48 Street), and S-25 canal (Hiatus Road). All future crossings on these canals shall be made by a bridge with a clear span of 15 feet (15') and a minimum bottom of structure elevation of 6.0' NGVD 29 [3.4' NAVD 88]. An applicant may utilize a concrete culvert, box culvert, or arch culvert in lieu of a bridge crossing provided the culvert creates no more than 0.01' of total head loss (including form, entrance and exit losses) and meets the other requirements of this Section. The District may impose additional conditions such as improving the conveyance capacity of existing nearby culverts as mitigation for anticipated head loss resulting from the addition of a culvert in the Canals referenced in this sub-section.

- 2.12.2** No culverts in the secondary canal system shall exceed 100 feet without a variance.
- 2.12.3** All culverts in the secondary canal system shall be made of reinforced concrete.
- 2.12.4** The culvert crown elevation shall be set at the District's water control elevation: 4.00' NGVD 29 [2.4' NAVD 88] west of SW 100 Avenue (Palm Avenue/Nob Hill Road), 3.00' NGVD 29 [1.4' NAVD 88] from SW 100 Avenue to the Florida Turnpike, and 2.00' NGVD 29 [0.4' NAVD 88] east of the Florida Turnpike.
- 2.12.5** A minimum safety factor of 6 inches shall be added to the minimum required culvert size.
- 2.12.6** Culvert replacements and driveway culverts on Secondary Canals that provide access to buildings undergoing substantial improvement shall conform to the design requirements of new culverts.

2.13 UTILITY CROSSINGS

- 2.13.1** Overhead power, telephone, cable, and other utility crossings must have a minimum vertical clearance of twenty five feet (25') between low wire elevation and the elevation of the maintenance berm or natural ground.
- 2.13.2** Over water crossings shall be supported on piling with a minimum spacing between piles of twenty feet (20'). A clear height of six feet (6') from the District control elevation to the underside of any portion of the structure shall be provided.

2.13.3 Submarine or subaqueous crossings of any nature shall be laid to a depth of two feet (2') below the depth and cross section of the District's canal's ultimate or design bottom elevation. Additionally, a concrete cover eight inches (8") in thickness shall be placed immediately above the crossing if utilizing a "cut and cover" excavation method. The cover shall be the full width of the canal and shall extend two feet (2') outside the crossing material. If utilizing a horizontal directional drilling installation method, the minimum clearance between the canal bottom and the outside of the pipe shall be 2'. The applicant shall install an object marker with the appropriate message along the centerline of the crossing and within five feet (5) of the top of bank on both sides of the canal. The message shall describe the type of utility crossing (e.g., Gas, Electric, Sewer, Cable, etc.)

2.13.4 Notwithstanding the provisions of this section, the utility system owner which owns or will own the utility, shall be required to enter into a hold harmless and indemnification agreement, indemnifying and holding the District harmless from any and all damages as a result of the utility line being constructed in the District's property.

2.14 DOCKS, DECKS, AND OTHER STRUCTURES

2.14.1 Docks and Decks may be erected in a drainage, flowage and storage easement, or lake maintenance easement with permission of the District.

2.14.1.1 In order to obtain permission the property owner shall be required to enter into an agreement with the District. The agreement is described in Exhibit "S", Dock and Deck Agreement.

2.14.2 No structure of any nature (refer to 2.04.6) shall be erected which would encroach into a canal, canal right-of-way, canal easement, or canal maintenance easement.

2.15 SINGLE FAMILY HOMES

Single family home sites not covered under a District approved stormwater management permit shall, at a minimum, comply with the following requirements. Compliance with other provisions of the engineering criteria shall be at the discretion of the District Manager.

2.15.1 Prior to initiating any construction activity, including clearing grubbing, or earth moving operations, applicants shall submit two sets of plans and the information in Exhibit "W", Checklist for Single

Family Homes Plan Approval, for review and approval by the District Manager.

2.15.2 No developed property shall shed water on adjacent land. The applicant will be required to erect either a wall or berm, or combination thereof, to retain the runoff from the twenty-five year, three-day storm event.

2.15.3 At a minimum, thirty percent (30%) of the site shall remain at existing grade to provide for storage of the 25-year, 3-day, rain storm event. Proposed grade shall be one foot above elevation 4.00' NGVD 29 [2.4' NAVD 88] west of SW 100 Avenue (Palm Avenue/Nob Hill Road), 3.00' NGVD 29 [1.4' NAVD 88] from SW 100 Avenue to the Florida Turnpike, and 2.00' NGVD 29 [0.4' NAVD 88] east of the Florida Turnpike. Higher proposed elevations may be allowed provided that ground elevations in the general area are naturally higher and that the proposed grade elevation is no higher than ground elevations of adjacent properties. The surface water management area (30% of the site) shall be designated and recorded with the Broward County Board of County Commissioners, County Records Division, Recording Section, 115 South Andrews Avenue, Room 114, Fort Lauderdale, FL 33301, utilizing the forms provided in Exhibit "Z".

2.15.4 If offsite discharges are designed to occur during 25-year and lesser storms, the applicant shall utilize best management practices, in accordance with these engineering criteria, to reduce pollutant discharges.

2.15.5 Prior to receiving the Certificate of Occupancy, the applicant shall submit as-built drawings in accordance with the Checklist for Single Family Homes Plan Approval (Exhibit "W") for the review and approval of the District Manager. Applicant shall grant District staff access to the property for the purpose of conducting visual inspections.

2.16 FLOOD PLAIN ENCROACHMENT

No net encroachment into the floodplain shall be allowed that adversely affects the existing rights of others. With regard to runoff storage, the volume of useful storage available to the basin shall not be decreased as a result of proposed development or redevelopment. The area subject to no net encroachment shall extend from the 100-year water surface elevation to 4.00' NGVD 29 [2.4' NAVD 88] west of SW 100 Avenue (Palm Avenue/Nob Hill Road), 3.00' NGVD 29 [1.4' NAVD 88] from SW 100 Avenue to the Florida Turnpike, and 2.00' NGVD 29 [0.4' NAVD 88] east of the Florida Turnpike. Calculations to demonstrate no net

floodplain encroachment shall follow the same guidelines as the SFWMD ERP Applicant's Handbook Volume II. In addition, the applicant shall provide calculations demonstrating that the allowable storage to the basin has not been reduced at the District 100-year flood encroachment elevation. The District 100-year flood encroachment elevation shall be provided by the District Engineer.

A request for a variance from this Section does not require demonstrating a genuine hardship with respect to Sub-Section 7.02.1 of the Criteria. Any variance requested shall be the minimum necessary deviation from the Criteria to afford relief considering the flood heights or flood hazard. In lieu of demonstrating a genuine hardship, the District may require alternative mitigation measures be provided as part of any request for variance. Alternative measures include, but not necessarily limited to, upgrading existing secondary canal culverts, providing additional off-site flood plain storage, or providing a basin-specific capital improvement or maintenance project.

- 2.16.1** Applicants have the option of performing floodplain encroachment calculations using the guidelines of the SFWMD ERP Applicant's Handbook Volume II, or providing a lake size of 25% of the area of the property for properties exceeding 10 acres in size, or 15% of the property for properties of 10 acres or less. In either case, these percentages are the maximum lake area required after the applicant demonstrates to the District Engineer that the site grading has been lowered to the maximum extent practicable. Lake areas shall be measured at the top of bank minimum elevation of 6.00' NGVD 29 [3.40' NAVD 88] west of SW 100 Avenue (Palm Avenue/Nob Hill Road), 5.00' NGVD 29 [2.40' NAVD 88] from SW 100 Avenue to the Florida Turnpike, and 4.00' NGVD 29 [2.4' NAVD 88] east of the Florida Turnpike.
- 2.16.2** Applicants have the option of providing a lake or a retention or detention area, provided that the site storage of the retention or detention area is no less than the site storage provided by the required lake area, as measured from the lake's top of bank elevation to the 100-year water surface elevation of the nearest District canal.
- 2.16.3** Projects located upstream of a secondary canal where the canal flow or elevation is controlled by a District operated control structure shall maintain pre-development flood plain storage volumes on-site, or provide the necessary flood plain storage volume based on a site-specific engineering analysis that complies with District criteria, whichever is greater.

2.17 LANDSCAPING

Stormwater management permit applications shall include a landscape plan identifying proposed vegetation and existing vegetation to remain along with a legend identifying all species. The landscape plan shall show the location of all vegetation in relation to existing or proposed easements, right-of-ways, stormwater management systems, drainage structures, and overall site plan.

Easements dedicated to the District (canal easements, canal maintenance easements, drainage, flowage and storage easements, lake maintenance easements, drainage easements, and ingress/egress easements) shall be cleared of all trees, shrubbery, and exotic plant species, and no new trees or shrubbery shall be planted.

2.17.1 Trees where the lateral extent of the drip line of the canopy at mature height is expected to encroach within ten (10) feet of the near edge of a storm sewer shall not be planted closer than ten (10) feet from the near edge of a storm sewer pipe.

2.18 EXHIBITS

Exhibits referenced in these regulations and criteria form a part thereof and are incorporated by reference. In the case of conflict, the more stringent shall apply. Copies of the exhibits are available at the District's office and on the District's web site centralbrowardwcd.org.

SECTION 00890

PERMITS

PART 1 GENERAL

1.01 SUMMARY

- A. Construction permits, initiated by the contractor, will be required with the City of Pembroke Park and the Central Broward Water Control District.
- B. Prior to beginning work contact the Sunshine/One-Call utility mark out agency. Obtain from Sunshine a number and immediately report same to the Engineer.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 00931

CHANGE ORDER

DATE OF ISSUANCE: -

No. #

PROJECT: **WALNUT CREEK CDD**
EROSION AND SEDIMENTATION PROJECT NE 72ND AVENUE CANAL
CAS PROJECT No. 21-2171

OWNER: **WALNUT CREEK CDD**

CONTRACTOR:

ENGINEER: **CRAIG A. SMITH & ASSOCIATES**

CONTRACT FOR:

YOU ARE DIRECTED TO MAKE THE FOLLOWING CHANGES IN THE CONTRACT DOCUMENTS.

DESCRIPTION:

ATTACHMENTS:

CHANGE IN CONTRACT PRICE:	CHANGE IN CONTRACT TIME:
Original Contract Price \$	Original Contract Time Days
Previous Change Orders	Net change from previous Change Orders
Contract Price prior to this Change Order \$	Contract Time prior to this Change Order Days

Net increase/decrease of this Change Order	Net Increase/decrease of this Change Order
\$	Days
Contract Price with all approved Change Orders	Contract Time with all approved Change Orders
\$	Days

RECOMMENDED :

By _____
CRAIG A. SMITH & ASSOCIATES

ACCEPTED :

By _____
CONTRACTOR

APPROVED :

By _____
OWNER

END OF SECTION

SECTION 01110

SUMMARY OF THE WORK

PART 1 GENERAL

1.01 SUMMARY

- A. Detailed requirements and work extent are stated in applicable specification sections, as prepared by Craig A. Smith & Associates, of these and as shown in the Drawings, as prepared by Land Shore Enterprises, LLC., **WALNUT CREEK CDD EROSION AND SEDIMENTATION PROJECT NW 72ND AVENUE CANAL.**
- B. Provide and pay for labor, materials, equipment, tools, construction equipment, applicable taxes, other facilities, and services necessary for the execution, testing, and completion of the Work under this Contract.
- C. Perform work not mentioned in the Specifications but shown in the Drawings or Work not shown in the Drawings but included in the Specifications, or items not specifically called out in the Contract Documents, which are necessary or normally required to make each installation satisfactory and legally operable, as incidental work without extra cost to the OWNER and include this expense in the applicable bid items listed for the work.

1.02 CONTRACT DOCUMENTS

- A. Contract Documents include the Bidding Requirements, Contract Forms, Conditions of Contract, General Conditions, Supplemental General Conditions, Specifications, Drawings, Addenda, and requirements and provisions incorporated therein by specific reference thereto.
- B. Contract Documents are intended to be self explanatory and complimentary and to describe and provide for the complete work.
- C. Bidders are required to familiarize themselves with the provisions of the Contract Documents and make available to prospective suppliers and subcontractors appropriate information from the Contract Documents.

1.03 SPECIFICATIONS

- A. Specifications included in these Contract Documents establish the performance and quality requirements for materials and equipment and the minimum standards for the quality of workmanship and appearance.

- B. No attempt has been made to separate the Specification Sections into groups of work of separate subcontractors or for work to be performed by the various trades.
- C. Questions regarding the interpretation of a Specification should be directed to the ENGINEER prior to the submittal of a proposal for, or execution of, the work under this Contract.

1.04 DESCRIPTION OF WORK

- A. **Work to be performed under this Contract consists of furnishing materials, equipment, and labor necessary for site improvements to the proposed Walnut Creek CDD Erosion and Sedimentation Project NW 72nd Avenue Canal to include canal stabilization improvements as shown in the Engineering Drawings and described in the Specifications.**
- B. The project shall consist of but is not limited to:
 1. **Sediment removal and canal stabilization improvements with full restoration work at the Walnut Creek CDD Erosion and Sedimentation Project NW 72nd Avenue Canal site.**
 2. Means and methods (construction, dewatering, dams, etc.) and managing the SWPPP is left up to the contractor.
 3. Provide for the ENGINEER's approval complete and accurate survey of constructed system
- C. Work under this Contract shall be constructed in accordance with the lines and grades shown on the Contract Drawings or as directed by the ENGINEER.
- C. Elevations of existing ground, structures, and appurtenances, size, and location of existing piping are believed to be reasonably correct but are not guaranteed to be absolute and therefore are presented only as an approximation.
- D. Errors or discrepancies in the data shown or omissions of data required for accurately accomplishing the stakeout survey shall be referred immediately to the ENGINEER for interpretation or correction.
- E. Survey work for construction control processes shall be made by the CONTRACTOR at his expense.

1.05 WORK BY OTHERS

- A. Conduct operations to cause a minimum of interference with the work of other CONTRACTORS.

PART 2 PRODUCTS

2.01 AMERICAN IRON & STEEL

- A. Not Applicable

PART 3 EXECUTION

3.01 TIME FOR COMPLETION

- A. Work shall be commenced at the time stipulated in the written Notice to Proceed and shall be completed within the time stipulated in the Notice to Proceed.

3.02 LIQUIDATED DAMAGES

- A. Liquidated damages for the work specified herein shall be as described in **Page 00500-2**.

- B. Work must be completed within the time specified in the Contract Documents.

1. It is understood and agreed that deductions at the rates stipulated shall be made from the total contract price for each and every calendar day after and exclusive of the day within which completion was required, and up to and including the date of completion and acceptance by the OWNER.

2. Completion of the work, as mentioned above, shall include startup and testing of portions of the project, unless explicitly excluded.

- C. The amount as set forth as liquidated damages is understood and agreed not to be a penalty; the said sum being specifically agreed upon in advance as the measure of damage to the OWNER resulting from the delay in completion of the work.

1. The expiration of the time stipulated without the work having been completed shall in itself constitute a default without the necessity of any notice being given by the OWNER to the CONTRACTOR.

2. The CONTRACTOR agrees and consents that the Contract price reduced by the aggregate of the entire damages so deducted shall be accepted by the CONTRACTOR in full satisfaction for work done under the Contract.

END OF SECTION

Walnut Creek CDD
Erosion & Sedimentation Project
NW 72nd Avenue Canal
CAS Project No. 02-2171

01110 – 4

Summary of Work

SECTION 01140

WORK RESTRICTIONS

PART 1 GENERAL

1.01 SUMMARY

- A. Work under this contract shall not reduce utility services provided to the residents of the **WALNUT CREEK CDD** nor dramatically impact the vehicular traffic in the area of this project.
- B. Submit to the OWNER and ENGINEER a construction schedule explaining shut down procedures in detail.
 - 1. Submit written notification 48 hours in advance of requested shut down.

1.02 CONNECTION TO EXISTING SYSTEMS

- A. Connections to existing systems shall be performed with no damage and no interruption to the existing installation.
 - 1. Damage caused to existing installations shall be repaired or replaced by the CONTRACTOR at no additional cost to the OWNER.
- B. CONTRACTOR must contain and properly dispose of wastewater and sludge drained from existing pipelines and structures during construction.

1.03 COORDINATION WITH UTILITY PERSONNEL

- A. Before commencing work involving removing or placing in operation existing or new facilities, notify the OWNER at least twenty (20) days in advance in writing.
 - 1. The OWNER shall be responsible for removing facilities from operation.

1.04 PROTECTION OF PROPERTY

- A. Protect property that may be affected by construction work or operations.
 - 1. The location and extent of underground and covered facilities are not guaranteed.
 - 2. Proceed with care in order to prevent the undermining or damage to existing structures, piping, or facilities.
- B. Protect new and existing mechanical equipment from dust and debris.

1. Protective measures shall be furnished, installed, lighted, maintained, and removed at the CONTRACTOR's own cost.
- C. When potable water is being used, the supply source shall be protected against contamination in accordance with existing codes and regulations.
- D. Repair property damaged during construction.

1.05 WEATHER CONDITIONS

- A. Work that may be affected by inclement weather shall be suspended until proper conditions prevail.
 1. In the event of impeding storms, take necessary precautions to protect work, materials and equipment from exposure.
 2. The OWNER reserves the right, through the opinion of the ENGINEER, to order that additional protection measures over and beyond those proposed by the CONTRACTOR, be taken to safeguard components of the project.
 3. Do not claim compensation for precautionary measures so ordered, nor claim compensation from the OWNER for damage to the work from the elements of weather.
- B. Provide, within 15 days of contract signing, a hurricane preparedness plan to be enacted in the event of hurricane conditions during construction.**

1.06 FIRE PROTECTION

- A. Prevent fires at or adjacent to the Work.
- B. Provide adequate fire extinguishers and hose line stations.

1.07 SAFETY AND HEALTH REQUIREMENTS

- A. Comply with Federal, State, and Local safety and health regulations.
- B. Provide barricades and flashing lights or other devices to warn pedestrians and area traffic.

1.08 WORK HOURS & RESTRICTIONS

- A. Normal work hours for this project are from 8:00 AM to 5:00 PM Monday through Friday. Any work done outside these hours will require permission from the OWNER. No work will be allowed on federally recognized holidays. Noises from construction activity, tools or equipment used and operated on a construction site between the hours mentioned, provided that all tools or motorized equipment used in such activity are equipped with all sound reducing features and equipment originally part of the tool or equipment, or other effective sound control devices similar to those provided or as effective as that installed as original equipment.

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 01290

PAYMENT PROCEDURE

PART 1 GENERAL

1.01 SUMMARY

- A. Payments to the CONTRACTOR shall be made on the basis of the Proposal Bid Forms as full and complete payment for furnishing materials, labor, tools and equipment, and for performing operations necessary to complete the Work included in the Contract Documents.
 - 1. This compensation shall also include payments for loss or damages arising directly or indirectly from the work, or from discrepancies between the actual quantities of work and those shown in the Contract Documents, or from unforeseen difficulties, which may be encountered during the execution of the work until final acceptance by the OWNER.
- B. The prices stated in the Proposal include costs and expenses for taxes, labor, equipment, materials, commissions, transportation charges and expenses, patent fees and royalties, labor for handling materials during inspection, other costs and expenses for performing and completing the work as shown on the details and specified herein.
 - 1. The Basis of Payment for an item at the price shown in the Proposal Bid Form shall be in accordance with its description of the item in this Section and as related to the work specified.
 - 2. Unit prices will be applied to the actual quantities furnished and installed in conformance with the Contract Documents.
- C. Quotations for the various items of work are intended to establish a total price for completing the work in its entirety.
 - 1. Should the CONTRACTOR feel that the cost for an item of work has not been established in the Proposal Bid Form or this Section, the cost for that Work shall be included in some other applicable Bid Item, so that the Proposal for the project reflects the total price for completing the work in its entirety.

1.02 MEASUREMENT

- A. The quantities for payment under the Contract shall be full compensation determined by actual measurement of the completed items in place, ready for service and accepted by the OWNER, unless otherwise specified.

1. The OWNER will witness field measurements.
- B. When depth of cuts are indicated in the bid items, they shall be measured vertically from the existing grade, paved or unpaved, to the pipe invert.
- C. Linear measurements (such as pipe Items) and area measurements (such as surface restoration Items) shall be made in the horizontal plane, only.

1.03 LUMP SUM WORK

- A. Items for which quantities are indicated "Lump Sum", "L.S.", or "Job", shall be paid for at the price indicated in the Bid.
 1. This payment shall be full compensation for the items of work and work appurtenant thereto.
- B. When requested by the ENGINEER, submit to the ENGINEER, within 15 days after award of CONTRACTOR, a detailed schedule in triplicate, to be used only as a basis for determining progress payments on a lump sum contract or designated lump sum bid item.
 1. This schedule shall equal the lump sum bid and shall be in the form and sufficiently detailed as to satisfy the ENGINEER that it correctly represents a reasonable apportionment of the lump sum.

1.04 PAYMENT

- A. The quantities listed in the Bid schedule will not govern final payment.
 1. Payment to the CONTRACTOR will be made only for actual quantities of Contract items constructed in accordance with the Drawings and Specifications.
 2. Upon completion of construction, if the actual quantities show either an increase or decrease from the quantities given in the Bid schedule, an adjustment in payment will be made.
 3. This adjustment will be based upon the increase or decrease in quantity and the Contract Unit Price.
- B. Payment will not be made for excess material placed, materials wasted or disposed of in a manner not called for under the Contract.

1. This includes rejected material not unloaded from vehicles, material rejected after it has been placed, and material placed outside of the plan or payment limit lines.
2. No compensation will be allowed for disposing of rejected or excess material.

PART 2 PRODUCTS

- A. The OWNER will not provide space or place to store materials for this Project.
 1. No payment will be made for stored materials.
- B. It is intended that work required to complete this Contract will be included in the various bid items as described in the following paragraphs:

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 01291

SCHEDULE OF VALUES

PART 1 GENERAL

1.01 SUMMARY

- A. Submit to the ENGINEER a Schedule of Values allocated to the various portions of the Work, within fifteen (15) workdays after Notice of Award.
- B. Upon request of the ENGINEER, support the values with data that will substantiate their correctness.
- C. The Schedule of Values shall be used as the basis for the CONTRACTOR's Applications for Payment.

1.02 RELATED REQUIREMENTS

- A. Conditions of the Contract - Division 0.
- B. Applications and Certification for Payment - Division 1.

1.03 FORM AND CONTENT OF SCHEDULE OF VALUES

- A. Type schedule on an 8-1/2 inches by 11 inches or 8-1/2 inches by 14 inches white paper; CONTRACTOR's standard forms and automated printout will be considered for approval by the ENGINEER upon CONTRACTOR's request.
- B. Identify schedule with:
 1. Title of Project and location
 2. ENGINEER and Project number
 3. Name and Address of CONTRACTOR
 4. Contract designation
 5. Date of submission
- C. Schedule shall list the installed value of the component parts to include excavation, piping, paving, of the Work (as required) in sufficient detail to serve as a basis for computing values for progress payments during construction.

D. For the various portions of the Work:

1. Each item shall include a directly proportional amount of the CONTRACTOR's overhead and profit.

E. The sum of values listed in the schedule shall equal the total Contract Sum.

F. Schedules are subject to ENGINEER's approval wherein additional line item detail may be required.

G. Submit current revision of the Schedule of Values with Application for Payment.

PART 2 PRODUCTS (Not Used)

PART 3 PRODUCTS (Not Used)

END OF SECTION

SECTION 01293

APPLICATIONS FOR PAYMENT

PART 1 GENERAL

1.01 SUMMARY

- A. Submit Applications for Payment to the ENGINEER in accordance with the schedule established by Conditions of the Contract and Agreement Between OWNER and CONTRACTOR.

1.02 RELATED REQUIREMENTS

- A. Agreement between OWNER and CONTRACTOR consisting of an approved payment schedule by the OWNER.
- B. Conditions of the Contract: Progress Payments, Retainages, Final Payment, schedule of values, and Record Documents.

1.03 FORMAT AND DATA REQUIRED

- A. Submit applications typed on forms provided by the OWNER, Application for Payment, with itemized data typed on 8½ inches by 14 inches white paper and continuation sheets.
- B. Payment forms shall show significant detail to substantiate request.
 1. Additional details may be required by the 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 date of submittal of application.
2. Fill in summary of dollar value to agree with respective totals indicated on continuation sheets.
3. Execute certification with signature of a responsible officer of CONTRACTOR's firm.

B. Continuation Sheets:

1. Fill in total list of scheduled component items of work, with item number and scheduled dollar value for each item.
2. Fill in dollar value in each column for each scheduled line item when work has been performed or products stored.
 - a. Round off values to nearest dollar, or as specified.
3. List each Change Order Number, and description, as for an original component item or work.
 - a. List by Change Order Number, and description, as for an original component item or work.
4. Payment for Material and Equipment stored, but not yet incorporated into the Work, will not be allowed.

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
- B. Submit one copy of data cover letter for each copy of application.
- C. As a prerequisite for payment, submit a "Surety Acknowledgment of Payment Request" letter showing amount of progress payment that the CONTRACTOR is requesting.
- D. Maintain an updated set of Project Drawings to be used as certified "As-Built" drawings in accordance with Division 1.
 1. As a prerequisite for monthly progress payments, submit the updated as-built drawings for review by the ENGINEER per Division 1.
- E. As a prerequisite for payment, submit monthly construction photographs in accordance with Division 1.
- F. As a prerequisite for payment, submit monthly Construction Schedule in accordance with Division 1.

G. As a prerequisite for payment, submit monthly current Revision of the Schedule of Values in accordance with Division 1.

1.06 PREPARATION OF APPLICATION FOR FINAL PAYMENT

- A. Fill in Application form as specified for progress payments.
- B. Use continuation sheet for presenting the final statement of accounting as specified in Division 1 - Contract Closeout.
- C. Submit final record drawings.

1.07 SUBMITTAL PROCEDURE

- A. Submit Applications for Payment to the ENGINEER at the times stipulated in the Agreement.
- B. Number: Four (4) copies of each Application.
- C. When the ENGINEER finds Application properly completed and correct, he will transmit certificate of payment to OWNER, with copy to CONTRACTOR.

PART 2 PRODUCTS (Not Used).

PART 3 EXECUTION (Not Used).

END OF SECTION

SECTION 01312

PROJECT MEETINGS

PART 1 GENERAL

1.01 SUMMARY

- A. The ENGINEER shall schedule and administer pre-construction meetings, periodic progress meetings, and specially called meetings throughout the progress of work.
- B. For these meetings the ENGINEER shall:
 - 1. Prepare agenda for meetings.
 - 2. Make physical arrangements for meetings.
 - 3. Preside at meetings.
 - 4. Record the minutes; include significant proceedings and decisions.
 - 5. Reproduce and distribute copies of minutes within five (5) working days after each meeting.
 - a. To participants in the meeting.
 - b. To parties affected by decisions made at the meeting.
- C. Representatives of CONTRACTOR, subcontractors, and suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents.
- D. The CONTRACTOR shall attend meetings to ascertain that work is executed consistent with Contract Documents and construction schedules.

1.02 RELATED SECTIONS

- A. Instructions to Bidders - Division 0.
- B. Scheduling of Construction - Division 1.
- C. Shop Drawings, Working Drawings, and Samples - Division 1.
- D. Project Record Documents - Division 1.

1.03 PRECONSTRUCTION MEETING

- A. Schedule a pre-construction meeting no later than fifteen (15) days after date of Notice of Award.
- B. Location: A central site, convenient for parties designated by the OWNER.
- C. Attendance:
 - 1. OWNER's Representative.
 - 2. ENGINEER and his Professional Consultants.
 - 3. Resident Project Representative.
 - 4. CONTRACTOR's Superintendent.
 - 5. Major Subcontractors.
 - 6. Major Suppliers.
 - 7. Utilities.
 - 8. Others as appropriate.
- D. Suggested Agenda:
 - 1. Distribution and discussion of:
 - a. List of major subcontractors and suppliers.
 - b. Projected Construction Schedule.
 - 2. Critical work sequencing/critical path scheduling.
 - 3. Major equipment deliveries and priorities.
 - 4. Project Coordination.
 - a. Designation of responsible personnel.
 - 5. Procedures and processing of:
 - a. Field decisions.

- b. Proposal requests.
- c. Submittals.
- d. Change Orders.
- e. Applications for Payments.

6. Adequacy of Distribution of Contract Documents.
7. Procedures for maintaining Record Documents.
8. Use of Premises:
 - a. Office, Work, and Storage Areas.
 - b. OWNER's Requirements.
9. Construction facilities, controls, and construction aids.
10. Temporary Utilities.
11. Maintenance of Traffic (MOT)

1.04 PROGRESS MEETINGS

- A. Schedule regular periodic meetings.
- B. The progress meetings will be held as required by progress of the work.
- C. Hold called meetings as required by progress of the work.
- D. Location of the meetings: Project field office of the CONTRACTOR or ENGINEER.

E. Attendance:

1. ENGINEER, and his professional consultants as needed.
2. CONTRACTOR's Superintendent.
3. Subcontractors as appropriate to the agenda.
4. Suppliers as appropriate to the agenda.

5. Others as appropriate.
6. OWNER's Representative

F. Suggested Agenda:

1. Review, approval of minutes of previous meeting.
2. Review of work progress since previous meeting.
3. Field observations, problems, conflicts.
4. Problems which impede Construction Schedule.
5. Review of off site fabrication, delivery schedule.
6. Corrective measures and procedures to regain projected schedule.
7. Revisions to Construction Schedule.
8. Progress, schedule, during succeeding work period.
9. Coordination of schedules.
10. Review submittal schedules; expedite as required.
11. Maintenance of quality standards.
12. Pending changes and substitutions.
13. Review proposed changes for:
 - a. Effect on Construction Schedule and on a completion date.
 - b. Effect on other contracts of the Project.
14. Other business.
15. Construction schedule.
16. Critical/long lead items.

G. The CONTRACTOR is to study previous meeting minutes and current agenda items, in order to be prepared to discuss pertinent topics such as deliveries of materials and equipment and progress of work.

H. The CONTRACTOR is to provide a current submittal log at each progress meeting in accordance with Division 1.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 01321

CONSTRUCTION PHOTOGRAPHS AND VIDEO RECORDING

PART 1 GENERAL

1.01 SUMMARY

- A. Employ a competent photographer to take construction record photographs for preconstruction conditions, periodically during course of Work, and post-construction.
- B. Employ a competent video recording professional to take pre-construction, existing conditions video record.
- C. Employ a competent video recording professional to perform gravity sanitary pipe inspection video recording.
- D. Employ a competent independent contractor to prepare a thorough pre-construction survey of all surface areas and features, structures, etc.

1.02 RELATED SECTIONS

- A. Application for Payment - Division 1.
- B. Project Record Documents - Division 1.

1.03 PHOTOGRAPHY REQUIRED

- A. Provide photographs taken on cutoff date for each scheduled Application for Payment.
- B. View and Quantities Required:
 1. Take a minimum of twelve (12) exposures of the site and adjacent property at pre-construction, monthly, and post-construction.
 2. Aerial photography shall be acceptable.

1.04 COSTS OF PHOTOGRAPHER

- A. The CONTRACTOR to pay all costs for specified photography and prints.
 1. Parties requiring additional photography or prints will pay photographer directly.

1.05 VIDEO REQUIRED

A. Prior to work commencement, provide continuous color audio-video tape recording taken along the entire length of the individual project work sites to serve as a record of pre-construction conditions.

1. The purpose of creating this record is to be able to fairly establish the prework condition that the CONTRACTOR must protect or restore after the facilities are installed.
2. It is in the CONTRACTOR's interest that this record be as inclusive as possible, to protect the CONTRACTOR and the OWNER from spurious claims of private and public property damaged by the CONTRACTOR's operations.
3. No construction shall begin prior to review and approval of the tapes covering the construction area by the ENGINEER.
4. The ENGINEER shall have the authority to reject video tape not conforming to the specifications and order that it be redone at no additional charge.
5. Reschedule unacceptable coverage within five (5) days after being notified.
6. The ENGINEER shall designate those areas, if any, to be omitted from or added to the audio-video coverage.
7. Tape recordings shall not be made more than thirty (30) days prior to construction in any area.
8. Tapes and written records shall become the property of the OWNER.

1.06 PRE-CONSTRUCTION SURVEY REQUIRED

A. Prior to work commencement, provide a detailed pre-construction survey that includes a thorough inspection. The survey must include existing structural documentation (i.e. color audio-video tape recording, photographs and measurements) taken within the interior and exterior of all structures located along the entire length of the individual project work sites to serve as a record of pre-construction conditions.

1. The purpose of creating this record is to be able to fairly establish the pre-work condition that the CONTRACTOR must protect or restore after the facilities are installed.

2. It is in the CONTRACTOR's interest that the pre-construction survey be as inclusive as possible, to protect the CONTRACTOR and the OWNER from spurious claims of private and public property damaged by the CONTRACTOR's operations.
3. It is the responsibility of the CONTRACTOR to take all precautions to protect existing conditions from the dynamic affect of construction vibrations. In cases where pile driving activities are within close proximity of existing structures, the use of vibration measurements may become necessary.
4. No construction shall begin prior to review of the pre-construction survey covering the construction area by the ENGINEER.
5. The ENGINEER shall have the authority to reject any documentation not conforming to the specifications and order that it be redone at no additional charge.
6. Reschedule unacceptable coverage within five (5) days after being notified.
7. The ENGINEER shall designate those areas, if any, to be omitted from or added to the pre-construction survey coverage.
8. All pre-construction survey documentation shall not be made more than thirty (30) days prior to construction in any area.
9. Tapes and written records shall become the property of the OWNER.

PART 2 PRODUCTS

2.01 PHOTOGRAPHIC PRINTS

- A. Identify each 8.5" x 11" color print on back, listing:
 1. Name of Project
 2. Orientation of View
 3. Date and time of exposure
 4. Name and address of photographer
 5. Photographer's numbered identification of exposure.

2.02 VIDEO EQUIPMENT

- A. Furnish equipment, accessories, materials and labor to perform this service.
- B. Provide bright, sharp, clear pictures with accurate colors and shall be free from distortion, tearing, rolls or any other form of imperfection.
 - 1. The audio portion of the recording shall reproduce the commentary of the camera operator with proper volume, clarity and be free from distortion and interruptions.
- C. The color video camera used in the recording system shall be in DVD format with the ability to view the videoed site conditions directly by use of a conventional DVD player or computer.

2.03 VIDEO MEASUREMENT AND PAYMENT

- A. Payment for the work in this section shall be included as part of the appropriate lump sum bid prices stated in the Proposal Bid Form.

2.04 VIDEO (DVD)

- A. High quality DVD shall be used for all site condition taping.
 - 1. DVD shall become the property of the OWNER.

PART 3 EXECUTION

3.01 TECHNIQUE

- A. Factual presentation
- B. Correct exposure and focus
 - 1. High resolution and sharpness
 - 2. Maximum depth-of-field
 - 3. Minimum distortion

3.02 PHOTOGRAPHIC VIEWS REQUIRED

- A. Photograph from locations to adequately illustrate condition of construction and state of progress.

1. At successive periods of photography, take at least one photograph from the same overall view as previously.
2. Consult with the ENGINEER at each period of photography for instructions concerning views required.

3.03 DELIVERY OF PRINTS

- A. Deliver two (2) sets of prints to the OWNER to accompany each Application for payment with digital files.

3.04 RECORDED INFORMATION - AUDIO

- A. The audio track shall consist of an original live recording of the narrative commentary of the person video taping the work sites.
 1. The tape shall begin with the current date, project name, and municipality and each section of the tape will have the general location, i.e. Construction Work Section, name of street, house address, viewing side, and direction of progress for each individual work site.

3.05 RECORDED INFORMATION - VIDEO

- A. The video track shall consist of taping the pre-construction surface conditions of each individual work site for the Piping System Improvements.
 1. The video taping shall show the full extents of the surface conditions from close-up and in the distance, both directly along the route of the work and the conditions to the sides of the work zones (i.e.; curbs, sidewalks, ditches and culverts, utility features, fences, bushes, trees and other landscaped features in and near yards, structures which could be impacted by the work).
 2. The person video taping the site conditions shall use good photographic procedures and practices, such as steady handling of the video recorder, taping with their back to the position of the sun, refraining from taping in poor lighting, rain or other adverse weather conditions or moving the video camera too quickly.

3.06 SUBMITTAL OF DVD

- A. Audio-visual tape recordings of the pre-construction surface conditions of each individual work site shall be submitted to the OWNER and ENGINEER.
 1. Acceptance of a video tape record by the ENGINEER will not relieve the CONTRACTOR of any liability he may incur by his failure to document a pre-work fault or defect that he may later be accused of causing.

END OF SECTION

Walnut Creek CDD
Erosion & Sedimentation Project
NW 72nd Avenue Canal
CAS Project No. 21-2171

01321- 6

Construction Photographs and Video
Recording

SECTION 01327

SCHEDULING OF CONSTRUCTION

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Submit to the ENGINEER for approval, within fifteen (15) days after Notice of Award the estimated construction progress schedules for the work, with subschedules of related activities which are essential to its progress.**
- B. Submit revised progress schedules on a monthly basis.**
- C. No partial payments shall be approved by the ENGINEER until there is an approved construction progress schedule on hand.
- D. An authorized representative of the CONTRACTOR's firm shall be designate and responsible for development and maintenance of the schedule and of progress and payment reports.
 - 1. This representative of the CONTRACTOR shall have direct project control and complete authority to act on behalf of the CONTRACTOR's schedule.

1.02 RELATED REQUIREMENTS

- A. Existing Conditions - Division 0
- B. Summary of the Work - Division 1
- C. Project Meetings - Division 1
- D. Shop Drawings, Product Data, and Samples - Division 1
- E. Work Restrictions - Division 1

1.03 FORM OF SCHEDULES

- A. Prepare schedules in the form of a horizontal bar chart.
 - 1. Provide separate horizontal bar for each trade or operation within each structure or item.
 - 2. Horizontal time scale: In weeks from start of construction and identify the first workday of each month.

3. Scale and spacing: To allow space for notations and future revisions.
4. Minimum sheet size: 11 inches x 17 inches.

B. Format of listings: The chronological order of the start of each item of work.

C. Identification of listings: By major specification section numbers as applicable and structure.

D. Illustrate the expected progress payment for each month.

1.04 CONTENT OF SCHEDULES

A. Construction Progress Schedule:

1. Show the complete sequence of construction by activity.
2. Show the dates for the beginning of, and completion of, each major element of construction in no more than a two week increment scale.
3. At a minimum, Specifically list:
 - a. Site Clearing
 - b. Demucking
 - c. Excavation
 - d. Pipeline Work
 - e. Structure Construction
 - f. Electrical Construction
 - g. Mechanical Construction
 - h. Testing
 - i. Start-up
 - j. Restoration
 - k. As-built Drawings

4. Show projected percentage of completion for each item, as of the first of each month.
5. Show projected dollar cash flow requirements for each month of construction.

B. Submittals Schedule for Shop Drawings, and Samples in accordance Division 1.

1. Show:
 - a. The dates for CONTRACTOR's submittals.
 - b. The dates submittals will be required for OWNER furnished products, if applicable.
 - c. The dates approved submittals will be required from the ENGINEER.

C. Provide a list of long lead items (equipment and materials).

1.05 PROGRESS REVISIONS

A. Indicate progress of each activity to date of submission.

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 area, anticipated delays, and the impact on the schedule.
2. Corrective action recommended, and its effect.
3. The effect of changes on schedules of other prime CONTRACTORS.

1.06 SUBMISSIONS

A. Submit initial schedules to the ENGINEER within fifteen (15) days after the effective date of the Agreement.

- 1. The ENGINEER will review schedules and return review copy within twenty-one (21) days after receipt.**
- 2. If required, resubmit within seven (7) days after return of review copy.**

B. Submit 4 copies of revised monthly progress schedules with that month's application for payment.

1.07 DISTRIBUTION

- A. Distribute copies of reviewed schedules to:
 1. ENGINEER (Two Copies)
 2. Job Site File
 3. Subcontractors
 4. Other Concerned Parties
 5. OWNER (Two copies)
- B. Instruct recipients to report promptly to the CONTRACTOR, in writing, any problems anticipated by the projections shown in the schedule.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 01330
SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

- A. Prepare and submit documentation to support material, equipment, and work as required by the Contract Documents.
- B. Individual specification sections in these Contract Documents may contain additional and special submittal requirements.
 - 1. The OWNER reserves the right to direct and modify the procedures and requirements for submittals as necessary to accomplish the specific purpose of each submittal.
 - 2. Should the CONTRACTOR be in doubt as to the procedure, purpose, or extent of submittal, he should direct his inquiry to the ENGINEER.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.01 HEADWAY

- A. Unless otherwise specified or instructed, submittals under this contract shall be directed to the ENGINEER.

3.02 ADMINISTRATIVE SUBMITTALS

- A. Provide submittals specified in The Bid Documents, the General Conditions, as may be specifically required in other parts of the Contract Documents, and as requested by the ENGINEER.

3.03 TECHNICAL SUBMITTALS

A. Miscellaneous

- 1. Requirements in this section are in addition to specific requirements for submittals specified in other Divisions and Sections of these Contract Documents.

2. Submitted data shall be fully sufficient in detail for determination of compliance with the Contract Documents.
3. Review, acceptance of substitutions, schedules, shop drawings, lists of materials, and procedures submitted or requested by the CONTRACTOR shall not add to the contract amount and additional costs which may result therefrom shall be solely the obligation of the CONTRACTOR.
4. The OWNER is not precluded, by virtue of review, acceptance, or approval from obtaining a credit for construction savings resulting from allowed concessions in the work or supply of equipment and materials.
5. The OWNER shall have no responsibility for the provision of engineering or other services to protect the CONTRACTOR from additional costs accruing from approvals or submittals.
6. No equipment or material for which listings, drawings, or descriptive material is required shall be purchased, fabricated, or installed until the ENGINEER has, on hand, copies of approved lists, and the appropriately stamped final shop drawings.
7. Submittals will be acted upon by the ENGINEER as promptly as possible and returned to the CONTRACTOR not later than the time allowed for review in the Shop Drawing Submittal Procedure.
8. Delays caused by the need for resubmittals shall not constitute reason for extension of the contract time.

3.04 SHOP DRAWING SUBMITTAL PROCEDURE

- A. The Contract Documents outlines general guidelines regarding submittal and approval of shop drawings.
 1. This section is intended to furnish details of the contents, identification, and final record requirements of shop drawings.
- B. Shop Drawing Requirements
 1. Shop drawings as referred to herein, shall include shop drawings and other submittals for both shop and field-fabricated items.
 2. Submit, as applicable, the following for prefabricated or manufactured structural, mechanical, electrical, and plumbing equipment and materials:

- a. Shop drawings or Equipment drawings including dimensions, size and location of connections and weight of equipment.
- b. Catalog information and cuts.
 - 1) Each separate catalog, brochure, or single page submitted shall have identification noted herein.
 - 2) Catalogs or brochures submitted containing multiple items for approval, need the identification only on the exterior.
 - 3) In these cases the identification shall include the page and catalog item numbers.
- c. Setting plans or installation drawings for equipment, drives, and bases.
- d. Supporting calculations for equipment and associated supports, or hangers required or specified to be designed by equipment manufacturers.
- e. Complete manufacturer's specifications, including materials description and paint system.
- f. List of materials and supplies furnished with the equipment.
- g. Special handling instructions.
- h. Requirements for storage and protection prior to installation.
- i. Requirements for routine maintenance required prior to start up.
- j. List of requested exceptions to the Contract Documents.

C. Identification Data:

- 1. Submittals for approval shall have the following identification data, as applicable, contained thereon or permanently adhered thereto:
 - a. Project name and location.
 - b. Job number.
 - c. Subcontractor's vendor's and/or manufacturer's name and address.
 - d. Product identification.

- e. Shop drawing title, drawing number, revision number, date of drawing and revision.
- f. Applicable contract drawings and specification section numbers.
- g. Vacant space 6 inches by 4 inches shall be provided to receive the ENGINEER's review stamp.

2. Catalog data ("cut sheets")
 - a. Each separate catalog, brochure, or single page submitted shall have the identification required hereinbefore.
 - b. Catalogs or brochures submitted containing multiple items for approval needs the identification only on the exterior.
 - c. In these instances the identification shall include page and catalog item numbers.

D. CONTRACTOR's Responsibility

1. Submittal of shop drawing or catalog data, bearing the CONTRACTOR's approval stamp, represents that the CONTRACTOR has determined and verified field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data, or will do so, and that he has checked and coordinated each item with other applicable approved shop drawings and the contract requirements.
 - a. Shop drawings and catalog data submitted without the CONTRACTOR's stamp of approval will be returned to the CONTRACTOR without review.
2. Approval of shop drawings, samples, or catalog data by the ENGINEER shall not authorize deviation from the requirement of the Contract Documents nor shall this approval relieve the CONTRACTOR from responsibility for errors or omissions therein.

E. Shop Drawing Review

- 1. The ENGINEER shall have ten (10) working days to review shop drawings.**
 - a. In this case, working days shall be defined as days in which the ENGINEER's office is open for regular business.

3.05 FINAL SHOP DRAWINGS TO BE SUBMITTED TO OWNER

- A. Complete sets of reproducible final shop drawings shall be submitted to the ENGINEER before, or at the time of, delivery of equipment to the site.

3.06 RECORD DRAWINGS

- A. The CONTRACTOR will prepare a set of record drawings for the project, which will include the changes made in materials, equipment locations, and dimensions of the work.
 - 1. Each month, or as otherwise agreed, submit to the ENGINEER a current listing and description of each change incorporated into the work since the preceding submittal.
 - 2. At the end of the project, submit to the ENGINEER as-built information and deviations from the Drawings and Specifications as required per Section 001785 of the contract documents.

END OF SECTION

SECTION 01334

SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 GENERAL

1.01 SUMMARY

- A. Submit to the ENGINEER for review, such working drawings, shop drawings, test reports and data on materials and equipment (hereinafter in this article called data), and material samples (hereinafter in this article called samples) as are required for the proper control of work, including but not limited to those working drawings, shop drawings, data and samples for materials and equipment specified elsewhere in the Specifications and in the Contract Drawings.
- B. Submit two (2) copies of shop drawings or other data to the ENGINEER.**
- C. Submit to the ENGINEER a complete list of preliminary data for which shop drawings are to be submitted.
 1. **Submit within thirty (30) calendar days after the effective date of the Notice to Proceed.**
 2. Included in this list shall be the names of proposed manufacturers furnishing specific items.
- D. Review of this list by the ENGINEER shall in no way expressed or implied relieve the CONTRACTOR from submitting complete shop drawings and providing materials, equipment, fully in accordance with the Specifications.
- E. Maintain an accurate updated submittal log and bring this log to each scheduled progress meeting with the OWNER and ENGINEER.
 1. This log should include the following items:
 - a. Submittal-Description and Number assigned.
 - b. Date to ENGINEER.
 - c. Date returned to CONTRACTOR (from ENGINEER).
 - d. Status of Submittal (Approved/Resubmit/Rejected).
 - e. Date of Re-submittal and Return (as applicable).

- f. Date material released (for fabrication).
- g. Projected date of fabrication.
- h. Projected date of delivery to site.
- i. Status of O & M submittal.

F. Designate in the construction schedule, or in a separate coordinated schedule, the dates for submission and the dates that reviewed shop drawings, Working Drawings and Samples will be needed.

G. For Projects funded under the State Revolving Fund (SRF), all domestic equipment and materials used in the construction of the project shall be in accordance with and comply with American Iron & Steel requirements.

H. Product and Shop Drawing submittals (for water utilities) should be consistent with City standards and approved products / materials lists.

1.02 RELATED SECTIONS

1. Standard General Conditions of the Construction Contract - Division 0.
2. Scheduling of Construction - Division 1.
3. Equipment and Material - Division 1.
4. Project Record Documents - Division 1.

1.03 CONTRACTOR'S RESPONSIBILITY

A. Check drawings, data and samples prepared by or for him before submitting them to the ENGINEER for review.

1. The drawings and data sheets shall bear CONTRACTOR's stamp.
 - a. The CONTRACTOR's un-stamped or improperly stamped drawings and data sheets will be returned to the CONTRACTOR for conformance with this requirement.
2. Shop drawings shall indicate deviations in the submittal from requirements of the Contract Documents.

B. Determine and verify:

1. Field measurements
2. Field construction criteria
3. Catalog numbers and similar data
4. Conformance and Specifications

C. Furnish the ENGINEER a schedule of shop drawing submittals fixing the respective dates for the submission of shop and working drawings, the beginning of manufacture, testing and installation of materials, supplies and equipment.

1. This schedule shall indicate those that are critical to the progress schedule.

D. Begin no work covered by a drawing, data, or a sample returned for correction until a revision or correction thereof has been reviewed and returned to him, by the ENGINEER approved.

E. Submit to the ENGINEER drawings and schedules sufficiently in advance of construction requirements to provide no less than twenty-one (21) calendar days for checking and appropriate action from the time the ENGINEER receives them.

F. Submit five (5) copies of descriptive or product data submittals to complement shop drawings for the ENGINEER plus the number of copies which the CONTRACTOR requires.

1. Blueprint shop drawings shall be submitted with one (1) set of reproducible and four (4) sets of print.
2. The ENGINEER will review the drawings and return to the CONTRACTOR the set of marked-up drawings with appropriate review comments.

G. Accept responsibility for and bear cost of damages, which may result from the ordering of material or from proceeding with part of work prior to the review by ENGINEER of the necessary shop drawings.

1.04 ENGINEER'S REVIEW OF SHOP DRAWINGS

A. The ENGINEER's review of drawings, data and samples submitted by the CONTRACTOR will cover only general conformity to the Specifications, external connections, and dimensions that affect the installation.

1. The ENGINEER's review will not constitute an approval of dimensions, quantities, and details of the material, equipment, device, or item shown.

- B. The review of drawings and schedules will be general, and shall not be construed:
 - 1. As permitting departure from the Contract requirements.
 - 2. As relieving the CONTRACTOR of responsibility for errors, including details, dimensions, and materials.
 - 3. As approving departures from details furnished by the ENGINEER, except as otherwise provided herein.
- C. If the drawings or schedule as submitted describe variations and show a departure from the Contract requirements, in which the ENGINEER finds to be in the interest of the OWNER and to be minor as not to involve a change in the Contract Price or time for performance, the ENGINEER may return the reviewed drawings without noting an exception.
- D. When reviewed by the ENGINEER, each of the shop drawings will be identified as having received such review being so stamped and dated.
 - 1. Shop drawings stamped "REJECTED" and with required corrections shown will be returned to the CONTRACTOR for correction and re-submittal.
- E. Resubmittals will be handled in the same manner as the first submittals.
 - 1. On resubmittals, direct specific attention, in writing or on resubmitted shop drawings, to revisions other than the corrections requested by the ENGINEER on previous submissions.
 - 2. Make corrections required by the ENGINEER.
- F. If the CONTRACTOR considers correction indicated on the drawings to constitute a change to the Contract Drawings or Specifications, give written notice thereof to the ENGINEER.
- G. The ENGINEER will review a submittal/re-submittal a maximum of three (3) times after which cost of review will be borne by the CONTRACTOR.
 - 1. The cost of engineering shall be equal to the ENGINEER's charges to the OWNER under the terms of the ENGINEER's agreement with the OWNER.
- H. When the shop drawings have been approved, carry out the construction in accordance therewith and make no further changes therein except upon written instructions from the ENGINEER.

I. No partial submittals will be reviewed.

1. Submittals not complete will be returned to the CONTRACTOR and will not be considered "Rejected" until resubmitted.

1.05 SHOP DRAWINGS

A. When used in the Contract Documents, the term "shop drawings" shall be considered to mean CONTRACTOR's plans for material and equipment, which become an integral part of the Project.

1. These drawings shall be complete and detailed.
2. Shop drawings shall consist of fabrication, erection and setting drawings and schedule drawings, manufacturer's scale drawings, and wiring and control diagrams.
3. Cuts, catalogs, pamphlets, descriptive literature, and performance and test data, shall be considered only as supportive to required Shop.

B. Drawings and schedules shall be checked and coordinated with work of trades involved, before they are submitted for review by the ENGINEER and shall bear the CONTRACTOR's stamp of approval as evidence of such checking and coordination.

1. Drawings or schedules submitted without this stamp of approval shall be returned to the CONTRACTOR for resubmission.

C. Each shop drawing, shall have a blank area 4 inches by 4 inches, located adjacent to the title block.

1. The title block shall display the following:

- a. Number and title of the drawing.
- b. Date of drawing or revision.
- c. Name of project building or facility.
- d. Name of CONTRACTOR and subcontractor submitting drawing.
- e. Clear identification of contents and location of work.
- f. Specification title and number.

- D. If drawings show variations from Contract requirements because of standard shop practice or for other reasons, describe such variations in his letter of transmittal.
 - 1. If acceptable, proper adjustment in the Contract shall be implemented where appropriate.
 - 2. If the CONTRACTOR fails to describe such variations he shall not be relieved of the responsibility for executing the work in accordance with the Contract, even though such drawings have been reviewed.
- E. Data on materials and equipment include, without limitation, materials and equipment lists, catalog data sheets, cuts, performance curves, diagrams, materials of construction and similar descriptive material.
 - 1. Materials and equipment lists shall give, for each item thereon, the name and location of the supplier or manufacturer, trade name, catalog reference, size, finish and other pertinent data.
- F. For mechanical and electrical equipment furnished, provide a list including the equipment name, address and telephone number of the manufacturer's representative and service company so that service and spare parts can be readily obtained.
 - 1. Submit along with each shop drawing submittal a maintenance and lubrication schedule for each piece of equipment.
- G. Manufacturers or equipment supplier who propose to furnish equipment or products under Divisions 1, 12, 13, 14, 15 and 16 shall submit an installation list to the ENGINEER along with the required shop drawings.
 - 1. The installation list shall include at least five installations where identical equipment has been installed and has been in operation for a period of at least one (1) year.
- H. Only the ENGINEER will utilize the color "red" in marking shop drawing submittals.
- I. Before final payment is made, furnish to ENGINEER two (2) sets of record shop drawings clearly revised, complete and up to date showing the permanent construction as actually made for reinforcing and structural steel, miscellaneous metals, process and mechanical equipment, yard piping, electrical system and instrumentation system.

1.06 WORKING DRAWINGS

- A. When used in the Contract Documents, the term "working drawings" shall be considered to mean the CONTRACTOR's plans for temporary structures such as temporary bulkheads, support of open cut excavation, support of utilities, ground water control systems, forming and false-work; for underpinning; and for such other work as may be required for construction, but does not become an integral part of the project.
- B. Submit copies of working drawings to the ENGINEER where required by the Contract Documents or requested by the ENGINEER.
 - 1. Submit at least thirty (30) calendar days (unless otherwise specified by the ENGINEER) in advance of their being required for work.
- C. Working drawings shall be signed by a Registered Professional ENGINEER, currently licensed to practice in the State of Florida and shall convey, or be accompanied by, calculation or other sufficient information to completely explain the structure, machine, or system described and its intended manner of use.
 - 1. Prior to commencing such work, working drawings must have been reviewed without specific exceptions by the ENGINEER, which review will be for general conformance and will not relieve the CONTRACTOR in any way from his responsibility with regard to the fulfillment of the terms of the Contract.
 - 2. Risks of error are assumed by the CONTRACTOR; the OWNER and ENGINEER shall have no responsibility therefore.

1.07 SAMPLES

- A. Furnish, for the approval of the ENGINEER, samples required by the Contract Documents or requested by the ENGINEER.
 - 1. Samples shall be delivered to the ENGINEER as specified or directed.
 - 2. Prepay shipping charges on samples.
 - 3. Materials or equipment for which samples are required shall not be used in work until approved by the ENGINEER.
- B. Samples shall be of sufficient size and quantity to clearly illustrate:
 - 1. Functional characteristics of the product, with integrally related parts and attachment devices.
 - 2. Full range of color, texture and pattern.
 - 3. A minimum of two samples of each item shall be submitted.

C. Each sample shall have a label indicating:

1. Name of Project
2. Name of CONTRACTOR and Subcontractor
3. Material or Equipment Represented
4. Place of Origin
5. Name of Producer and Brand (if any)
6. Location in Project
7. Samples of finished materials shall have additional marking that will identify them under the finished schedules.

D. Prepare a transmittal letter in triplicate for each shipment of samples.

1. Enclose a copy of the transmittal letter with the shipment and send a copy of this letter to the ENGINEER.
2. Approval of a sample shall be only for the characteristics or use named in such approval and shall not be construed to change or modify Contract requirements.

E. Approved samples not destroyed in testing shall be sent to the ENGINEER or stored at the site of the work.

1. Approved samples of the hardware in good condition will be marked for identification and may be used in the work.
2. Materials and equipment incorporated in work shall match the approved samples.
3. Samples, which failed testing or were not approved samples, will be returned to the CONTRACTOR at his expense, if so requested at time of submission.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used).

END OF SECTION

Walnut Creek CDD
Erosion & Sedimentation Project
NW 72nd Avenue Canal
CAS Project No. 21-2171

01334- 9

Shop Drawings, Product Data, and Samples

SECTION 01437

CONTRACTOR'S QUALIFICATIONS

PART 1 GENERAL

1.01 SUMMARY

- A. This section defines the minimum qualifications necessary for a contractor to bid the project as defined in Section 01110.
- B. Provide Form 00451 Contractor's Qualification Form, signed and notarized, as part of the bid documentation.

1.02 RELATED SECTIONS

- A. General Conditions
- B. Supplemental General Conditions
- C. Summary of Work - Section 01110

1.03 Quality Assurance

- A. CONTRACTOR attests and swears that the Underground Contractor for this project is:
 1. A Florida Licensed Underground Contractor
 2. In full compliance with Florida regulations governing Underground Contractors.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 01450

QUALITY CONTROL

PART 1 GENERAL

1.01 SUMMARY

- A. This section defines the CONTRACTOR's responsibilities regarding inspection of the work by the ENGINEER and/or third parties, tests on materials supplied for the work and completed portions of the work, schedules to be submitted by the CONTRACTOR including specific instructions covering the beginning and completion of each portion of the work and monthly reports to be submitted by the CONTRACTOR regarding progress to date and adjustments to previously submitted work schedules.
- B. The work and reports set forth in this section shall not be taken to exclude other requirements as specified in other sections of the Contract Documents, as instructed by the ENGINEER or other incidentals necessary to complete the work in accordance with the plans and schedules.

1.02 RELATED SECTIONS

- A. General Conditions
- B. Supplemental General Conditions
- C. Technical Specifications.
- D. Submittal Procedure - division 1.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.01 INSPECTIONS

- A. Provide continuous safe access to the work for the OWNER, ENGINEER, and their authorized representatives.

- B. If the specifications, the ENGINEER's instructions, laws, ordinances, or public authority require work to be specially tested or approved, give timely notice of its readiness for inspection.
 - 1. Inspections to be conducted by the ENGINEER will be made promptly and where practicable, at the source of supply.
 - 2. If work should be covered up without approval or consent of the ENGINEER, it shall if required by the ENGINEER, be uncovered for examination at the CONTRACTOR's expense.
- C. Reexamination of questioned work may be ordered by the ENGINEER, and if so ordered, the work shall be uncovered by the CONTRACTOR.
 - 1. If this work is found to be in accordance with the Contract Documents, the OWNER will pay the cost of reexamination and replacement.
 - 2. If this work is found not to be in accordance with the Contract Documents, correct the defective work and the cost of reexamination and correction of the defective work shall be paid by the CONTRACTOR.
- D. When the CONTRACTOR's work requires inspection or test, notify the ENGINEER twenty-four (24) hours in advance of required tests or inspections.**
 - 1. Cooperate with the testing laboratory's representatives by giving ample notice of time, location and extent of work to be inspected or tested, by performing concrete slump tests, preparing concrete and other samples as instructed and by providing necessary facilities at the project site or in the shop for the testing agency.

3.02 TESTS

- A. Furnish, without extra charge, the necessary test pieces and samples, including facilities and labor for obtaining the same, as requested by the ENGINEER.
 - 1. When required, Furnish certificates of tests of materials and equipment made at the point of manufacture by a recognized testing laboratory.
- B. Give the ENGINEER ample advance notice of appropriate times for tests.
 - 1. Specified tests will be approved and supervised by the ENGINEER.
 - 2. When specific inspections or tests are required, the work involved shall not proceed beyond that point until the ENGINEER has made or waived inspections or tests.

3.03 EXECUTION

- A. Time is of the essence for the time of beginning, rate of progress, and time of completion of the work within this Contract.
 1. The work shall be executed as may be required to complete the project as contemplated in the Contract Documents and the approved construction schedule.
- B. Within thirty (30) days after the award of the Contract, submit to the ENGINEER, in triplicate, a listing of subcontractors, manufacturers, and suppliers who will be participating in the construction or who will be supplying materials and/or equipment for the project.
 1. The address of each firm shall be listed and type of material furnished or work performed.

END OF SECTION

SECTION 01451

CONTRACTOR'S QUALITY CONTROL

PART 1 GENERAL

1.01 SUMMARY

- A. Furnish personnel and equipment, which will be efficient appropriate and of sufficient quantity to secure a satisfactory quality of work and a rate of progress that will insure the completion of the work within the time stipulated in the Proposal.
 - 1. If at any time such personnel appear to the ENGINEER to be inefficient, inappropriate or insufficient for securing the quality of work required or for producing the rate of progress aforesaid, he may order the CONTRACTOR to increase the efficiency, change the character or increase the personnel and equipment, and the CONTRACTOR shall conform to such order.
 - 2. Failure of the ENGINEER to give such order shall in no way relieve the CONTRACTOR of his obligations to secure the quality of the work and rate of progress required.

1.02 PRIVATE LAND

- A. Do not enter or occupy private land outside of easements, except by written permission of the OWNER.

1.03 PIPE LOCATIONS

- A. Locate pipeline substantially as indicated on the Drawings, but the ENGINEER reserves the right to make such modifications in locations as may be found desirable to avoid interference with existing structures or for other reasons.

1.04 OPEN EXCAVATIONS

- A. Safeguard open excavation by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons and damage to property.
 - 1. Provide safe temporary bridges accommodating travel by pedestrians and workmen.
 - 2. Remove temporary bridges when no longer required.

3. The length of open trench will be controlled by the particular surrounding conditions, but shall always be confined to the limits prescribed by the ENGINEER.
4. If the excavation becomes a hazard, or if it excessively restricts traffic at any point, the ENGINEER may require special construction procedures such as limiting the length of open trench, prohibiting stacking excavated material in the street, and requiring that the trench shall not remain open overnight.

B. Take precautions to prevent injury to the public due to open trenches.

1. Trenches, excavated material, equipment, or other obstacles, which could be dangerous to the public, shall be well lighted at night.

1.05 TEST PITS

A. Test pits for the purpose of locating underground pipeline or structures in advance of the construction shall be excavated and backfilled with no additional cost to OWNER and at the direction of the ENGINEER.

1. Test pits shall be backfilled immediately after their purpose has been satisfied and the surface restored and maintained in a manner satisfactory to the ENGINEER.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 COOPERATION WITHIN THIS CONTRACT

- A. Firms or persons authorized to perform any work under this Contract shall cooperate with the General CONTRACTOR and his subcontractors or trades, and shall assist in incorporating the work of other trades where necessary or required.
- B. Cutting and patching, drilling and fitting shall be carried out where required by the trade or subcontractor having jurisdiction, unless otherwise indicated herein or directed by the ENGINEER.

3.02 PROTECTION OF CONSTRUCTION AND EQUIPMENT

- A. Protect newly constructed work from damage.
 1. Reconstruct damaged work at no additional cost to OWNER.

2. No wheeling, walking, or placing of heavy loads on it shall be allowed.

B. Protect structures in a manner approved by the ENGINEER.

1. Should any of the floors or other parts of the structures become heaved, cracked or otherwise damaged, all such damaged portions of the work shall be completely repaired and made good by the CONTRACTOR at his own expense and to the satisfaction of the ENGINEER.
2. Special attention is directed to substructure bracing requirements described in Division 2.
3. If, in the final inspection of the work, any defects, faults or omissions are found, the CONTRACTOR shall cause the same to be repaired or removed and replaced by proper materials and workmanship without extra compensation for the materials and labor required.
4. Assume responsibility for the satisfactory maintenance and repair of the construction and other work undertaken herein, for at least the guarantee period described in the contract.

C. Take necessary precaution to prevent damage to any structure due to water pressure during and after construction and until such structure is accepted and taken over by the OWNER.

END OF SECTION

SECTION 01458

TESTING AND TESTING LABORATORY SERVICES

PART 1 GENERAL

1.01 SUMMARY

- A. The CONTRACTOR shall retain the services of an Independent Testing Laboratory to perform materials testing specifically indicated in the Contract Documents and the ENGINEER may at any time elect to have materials and equipment tested for conformity with the Contract Documents.
 - 1. Cooperate with the laboratory to facilitate the execution of its required services.
 - 2. Employment of the laboratory shall in no way relieve CONTRACTOR's obligations to perform the Work of the Contract.

1.02 RELATED REQUIREMENTS

- A. Conditions of the Contract: Inspections and testing required by laws, ordinances, rules, regulations, orders or approvals of public authorities.
- B. Respective sections of specifications: Certification of products.
- C. Each specification section listed: Laboratory tests required and standards for testing.
- D. Testing laboratory inspection, sampling and testing is required for, but not limited to concrete work, rebar, asphalt mix, soil densities and compaction tests.

1.03 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

1.04 CONTRACTOR'S RESPONSIBILITIES

- A. Cooperate with laboratory personnel, and provide access to Work and to Manufacturer's operations.
- B. Secure and deliver to the laboratory adequate quantities of representational 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 materials mixes, which require control by the testing laboratory.
- D. Materials and equipment used in the performance of work under this Contract are subject to inspection and testing at the point of manufacture or fabrication.
 - 1. Standard specifications for quality and workmanship are indicated in the Contract Documents.
 - 2. The ENGINEER may require the CONTRACTOR to provide statements or certificates from the manufacturers and fabricators that the materials and equipment provided by them are manufactured or fabricated in full accordance with the standard specifications for quality and workmanship indicated in the CONTRACTOR Documents.
 - 3. Costs of this testing and providing statements and certificates shall be a subsidiary obligation of the CONTRACTOR, and no extra charge to the OWNER shall be allowed on account of such testing and certification.
- E. Furnish incidental labor and facilities:
 - 1. To provide access to Work to be tested
 - 2. To obtain and handle samples at the Project site or at the source of the product to be tested
 - 3. To facilitate inspections and tests
 - 4. For storage and curing of test samples
- F. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.
 - 1. When tests or inspections cannot be performed after such notice, the CONTRACTOR shall reimburse the laboratory personnel for travel time incurred due to the CONTRACTOR's negligence.
- G. Employ and pay for the services of a qualified independent testing laboratory to perform inspections, sampling, and testing required.

PART 2 PRODUCTS
PART 3 EXECUTION

(Not Used)
(Not Used)
END OF SECTION

Walnut Creek CDD
Erosion & Sedimentation Project
NW 72nd Avenue Canal
CAS Project No. 21-2171

01458- 3

Testing and Testing Laboratory Services

SECTION 01500

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SUMMARY

- A. The CONTRACTOR shall furnish labor, materials, and equipment and perform functions required for the complete installation and maintenance of the Work covered by this section.
- 1. This Work shall include but not be limited to project field offices, sanitary facilities, construction utilities, construction consumable, safety and protection devices, storage facilities, security, traffic control and other construction aids and incidentals required for the completion of the Contract in accordance with the Contract Documents.
- B. Construction operations including storage of materials, location of field offices, construction parking and delivery routing shall be limited to the limits of construction indicated or as directed by the Owner.

1.02 RELATED SECTIONS

- A. General Conditions - Division 0.
- B. Supplementary General Conditions - Division 0
- C. Technical Specifications - Divisions 1 through 16
- D. Submittals - Division 1

1.03 REFERENCES

- A. Applicable Standards
 - 1 National Electric Code.
 - 2 Occupational Safety and Health Administration.
 - 3 Florida State Department of Transportation's "Standard Specifications For Road And Bridge Construction" - latest edition.

B. Governmental Agencies

1. Work shall comply with the applicable standards of the appropriate governing body.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 SANITATION FACILITIES

A. Provide and maintain, for the duration of the Work on the Project, toilet facilities for persons engaged in Work on the Project and provide said toilet facilities with adequate means of locking when workmen are not engaged on the Project.

1. Temporary toilets shall be chemical or other portable type approved by local health authorities and shall be removed upon completion of construction.

3.02 SAFETY AND PROTECTIVE DEVICES

A. Protect persons from injury and to avoid property damage.

1. Adequate barricades, construction signs, torches, red lanterns and guards as required shall be placed and maintained during the progress of the construction work for the protection of the public in compliance with federal, OSHA and local ordinances.

B. Repair or replace damages to the property or adjacent properties caused in the execution of this Contract.

C. Take necessary precautions for the safety of his employees on the job and shall comply with applicable provisions of Federal, State, County and Municipal safety laws and regulations to prevent accidents or injury to persons on, about, or adjacent to the premises where the Work is being performed.

1. The Owner reserves the right to seek restitution from the Contractor for fines incurred by the Owner as a result of the Contractor's non-compliance with said regulations.

D. In the event the Contractor's tools or materials delivered to the premises are stolen or damaged, the Contractor is responsible for such theft.

1. When the Work has been declared Substantially Complete and has been accepted by the Owner, the Owner will assume the responsibility for theft or damage.
2. Replace or repair stolen or damaged materials as soon as possible as directed by the Owner.

3.03 STORAGE FACILITIES

- A. Maintain this storage facilities on the Project site as necessary for the proper execution of the Work.
 1. These facilities shall be located so as to cause no interference to Work to be performed on the site.
 2. Propose location and other requirements for approval by Owner.
- B. Storage facilities shall provide protection from physical damage due to construction procedures, dampness, water, and excessive temperatures, and shall provide reasonable protection from loss due to fire or theft.
- C. Storage facilities constructed for that sole purpose shall remain the property of the Contractor and shall be removed by him when they are no longer required or when so directed.

END OF SECTION

SECTION 01540
CONSTRUCTION AIDS

PART 1 GENERAL

1.01 SUMMARY

- A. Furnish, install, and maintain required construction aids, remove on completion of Work.

1.02 RELATED SECTIONS

- A. Summary of Work - Division 1

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 CONSTRUCTION AIDS

- A. Provide construction aids and equipment required by personnel and to facilitate execution of the Work.

- 1. Scaffolds, staging, ladders, stairs, ramps, runways, platforms, railings, hoists, cranes, chutes, and other facilities and equipment.
- 2. Refer to respective sections for particular requirements for each trade.

- B. Maintain facilities and equipment in first-class condition.

2.03 TEMPORARY ENCLOSURES

- A. Provide temporary weather-tight enclosure of exterior walls for storage of materials as work progresses, as necessary to, provide weather protection for materials, and to prevent entry of unauthorized persons.

- 1. Provide temporary exterior doors with self-closing hardware and padlocks.

2. Other enclosures shall be removable as necessary for work and for handling of materials.

PART 3 EXECUTION

3.01 PREPARATION

- A. Consult with the ENGINEER, review site conditions and factors that affect construction procedures and construction aids. Including adjacent properties and public facilities, which may be affected by execution of the Work.

3.02 GENERAL

- A. Comply with applicable requirements specified in sections of Divisions 2 through 16.
- B. Relocate construction aids as required by progress of construction, by storage or work requirements, and to accommodate legitimate requirements of OWNER and other CONTRACTOR's employed at the site.

3.03 REMOVAL

- A. Completely remove temporary materials, equipment and services:
 1. When construction needs can be met by use of permanent construction.
 2. At completion of Work.
- B. Clean and repair damage caused by installations for construction aids.
 1. Remove foundations and underground installations for construction aids.
 2. Grade areas of site affected by temporary installations to required elevations and slopes, and clean the area.
- C. Restore permanent facilities used for temporary purposes to specified condition or in kind if not specified.

END OF SECTION

SECTION 01550

TRAFFIC CONTROL

PART 1 GENERAL

1.01 SUMMARY

- A. The CONTRACTOR shall maintain traffic on existing roads affected by the construction and protect the traveling public from damage to person and property for the duration of the contract.
 1. Abide by applicable laws, regulations, and codes thereof pertaining to Maintenance of Traffic (MOT) on public streets, detour of traffic, traffic control and other provisions as may be required for this Project.
 2. Comply fully with the MOT provisions contained in the permits.
 3. Work shall be in accordance with Florida Department of Transportation (FDOT) "Standard Specifications for Road and Bridge Construction", latest edition, and the "Roadway and Traffic Design Standards" Index Nos. 600 to 651, latest edition, including preparation of a proposed Maintenance of Traffic Plan.
- B. The CONTRACTOR shall assume responsibility for MOT on public streets, detour of traffic (including furnishing and maintaining regulatory and informative signs along the detour route), traffic control, and other provisions, throughout the Project, as required by the local Department of Public Works, Roads Department, or FDOT, as applicable.
 1. Maintain traffic over a reasonably smooth traveled way which shall be so marked by signs, delineators, guiding devices, and other methods that a person who has no knowledge of conditions may safely and with a minimum of discomfort and inconvenience ride, drive, or walk, day or night, over the roadway where traffic is to be maintained.
 2. Work shall conform to the drawings and to the requirements of the local Department of Public Works, Roads Department, or FDOT, as applicable.

1.02 RELATED SECTIONS

- A. General Conditions
- B. Supplementary General Conditions

C. Technical Specifications.

D. Submittals - Division 1

E. Permits - Division 1

1.03 STANDARDS AND REGULATIONS

A. Applicable Standards

1. Occupational Safety and Health Administration.
2. FDOT "Standard Specifications for Road and Bridge Construction", latest edition, and the "Roadway and Traffic Design Standards" Index Nos. 600 to 651, latest edition, including preparation of a proposed Maintenance of Traffic Plan.

B. Governmental Agencies

1. Work shall comply with the applicable standards of the appropriate governing body.

1.04 Roadway Physical Conditions

A. Surface

1. Maintain the surface condition of the traveled way so it is consistent with the appropriate speed limits.

B. Drainage

1. Maintain the drainage facilities and other highway elements, old or new including detours.

C. Temporary Roads

1. Provide temporary relocated roads to maintain the required right-of-way.

D. Intersecting Roads

1. Provide ingress and egress to and from intersecting roads, buildings, and other facilities.

E. Haul Roads

1. Repair damage from CONTRACTOR's hauling operations along existing roads, and such operations shall be conducted with minimum interference to public traffic, as directed by the local Department of Public Works, Roads Department, or FDOT, as applicable.

F. Dust Control and Spillage

1. Control dust and keep the traveled way free from material spilled from hauling equipment.
2. This shall also apply to dust control and spilled material resulting from the CONTRACTOR's operations in the areas outside the contract limits.

G. Flagmen

1. Provide the necessary repairs to existing pavement and Flagmen for adequate traffic control on the traveled way.
2. Sign paddles are required.

H. Delineation and Guiding Devices

1. Provide and maintain delineation and guiding devices which shall include delineators, drums, cones, railing, temporary curb and other similar materials or methods indicated or directed.
2. The installation or moving of delineators or guiding devices together with removal of existing pavement markings shall be included in the work.

I. Project Site Patrol

1. Provide personnel to patrol the contract area as necessary to ensure that conditions on the site are adequate for public safety and convenience.

J. Construction Sign Barriers, Construction Barricades, and Lighting for Construction Barricades

1. Furnish, install, move, and maintain construction signs, barriers, construction barricades with warning lights, necessary arrow boards and signs, to warn motorists of the work throughout the Project.
2. Erected and maintained adequate approved devices to detour traffic away from the project during work.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.01 CONSTRUCTION

- A. Notify the local Department of Public Works, Roads Department, or FDOT, as applicable, 48 hours in advance of the construction date.
- B. Pavement markings damaged during construction shall be remarked promptly by the CONTRACTOR as required by the local Department of Public Works, Roads Department, or FDOT, as applicable.

3.01 DRAINAGE

- A. Keep drainage facilities fully operative.
 1. Provide ditches to adequately drain the traveled way and the remainder of the right-of-way.

3.02 INGRESS AND EGRESS

- A. Provide and maintain safe and adequate ingress and egress for intersecting points.

3.03 EXISTING PAVEMENT MARKINGS

- A. Remove, as soon as practical, existing pavement markings, as required by local Department of Public Works, Roads Department, or FDOT, as applicable.

3.04 QUALITY CONTROL

- A. Establish and maintain quality control for operations under this section to assure compliance with contract requirements and maintain records of his quality control for materials, equipment, and construction operations, including but not limited to the following:
 1. Scheduling and traffic control.
 2. Temporary pavement and drainage provisions.
 3. Traffic control devices.
 4. Maintaining traveled way.
 5. Maintaining drainage.

END OF SECTION

SECTION 01560

TREE AND PLANT PROTECTION

PART 1 GENERAL

1.01 SUMMARY

- A. Remove trees as noted in the Drawings.
- B. Abide by requirements and conditions of the governing authority.
- C. Assume full responsible for maintaining, in good condition, cultivated grass plots, trees, and shrubs.
 - 1. Where maintained shrubbery, grass strips or area must be removed or destroyed incident to the construction operation, replace or restore to the original condition destroyed or damaged shrubbery or grass areas.
 - 2. Tree limbs, which interfere with equipment operation and are approved for pruning, shall be neatly trimmed and the tree cut coated with a tree paint.
- D. Grass areas shall be solid sodded with sod to match the existing grass and shall first be leveled, and debris, rocks and other matter removed.
- E. The sod shall be placed with closely abutting joints, and shall completely cover the areas shown in the Drawings to be grassed.
 - 1. The top of the new sod shall coincide with the top of pavement and sidewalk, both existing and proposed.
 - 2. The sod shall be covered with a light top dressing of topsoil and shall then be thoroughly watered.
- F. Weeded areas need not be replaced with grass sod, but shall be restored to a "green" area by dressing the area with a layer of top soil, and sowing a variety of permanent type grass seed, over the area as approved by the ENGINEER.
 - 1. Water and maintain the seeded area until the ENGINEER is assured a good grass growth has developed, but not to exceed a maximum period of 60 days.

1.02 STANDARDS AND REGULATIONS

- A. Work shall conform to the applicable standard.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 01568

SECURITY MEASURES

PART 1 GENERAL

1.01 SUMMARY

- A. Security Program
- B. Entry Control
- C. Personnel Identification
- D. Miscellaneous Restrictions

1.02 RELATED SECTIONS

- A. Summary of Work - Division 1
- B. Temporary Utilities - Division 1

1.03 SECURITY PROGRAM

- A. Protect Work, existing premises and OWNER's operations from theft, vandalism and unauthorized entry.
- B. Initiate program in coordination with OWNER's existing security system at job mobilization.
- C. Maintain program throughout construction period until OWNER occupancy as directed by ENGINEER.

1.04 ENTRY CONTROL

- A. Restrict entrance of persons and vehicles into project site and existing facilities.
- B. Allow entrance only to authorized persons with proper identification.
- C. Maintain log of workmen and visitors, make available to OWNER on request.
- D. Coordinate access of OWNER's personnel to site in coordination with OWNER's security forces.

1.05 PERSONNEL IDENTIFICATION

- A. Become familiar with OWNER and ENGINEER representatives.
- B. Restrict access to job site to these representatives.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 01600
EQUIPMENT AND MATERIALS

PART 1 GENERAL

1.01 SUMMARY

- A. Incorporate new and unused equipment, materials, instruments, or devices in this project, unless indicated otherwise in the Contract Documents.
- B. Deliver equipment and materials to be incorporated in the work sufficiently in advance of their installation and use to prevent delay in the execution of the work, and in order as required for reasonable executing the work.
- C. Prevent deterioration and damage to equipment and materials.
 - 1. Prevent warping, twisting, bending, breaking, chipping, rusting, damage, or theft of the equipment and materials handled and stored by the manufacturer, fabricator supplier, and CONTRACTOR before, during, and after shipment.
 - 2. Removed and replaced warped, twisted, bent, broken, chipped, rusted, damaged equipment at the CONTRACTOR's expense for both labor and materials.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 01610

BASIC PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

- A. Material and equipment incorporated into the Work:
 - 1. Conform to applicable specifications and standards.
 - 2. Comply with size, make, type and qualify specified, or as specifically approved in writing by the ENGINEER.
 - 3. Manufactured and Fabricated products:
 - a. Design, fabricate and assemble in accord with the best engineering and shop practices.
 - b. Manufacture like part of duplicate units to standard sizes and gauges, to be interchangeable.
 - c. Two or more items of the same kind shall be identical, by the same manufacturer.
 - d. Products shall be suitable for service conditions.
 - e. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.
 - 4. Do not use material or equipment for purposes other than that for which it is designed or is specified.

1.02 RELATED REQUIREMENTS

- A. General Conditions - Division 0
- B. Summary of Work - Division 1
- C. Special Project Procedures - Division 1
- D. Shop Drawings, Working Drawings and Samples - Division 1
- E. Project Record Documents - Division 1

F. Operating & Maintenance Data - Division 1

G. Warranties and Bonds - Division 1

H. Installation - Division 1

I. Product Delivery Requirements - Division 1

J. Product Storage and Handling - Division 1

K. Product Substitution Requirements - Division 1

1.03 APPROVAL OF MATERIALS

A. Only new materials and equipment shall be incorporated in the work.

1. Materials and equipment furnished are subject to the inspection and approval of the ENGINEER.
2. No material shall be delivered to the work without prior approval of the ENGINEER.

B. Within 30 days after the effective date of the Agreement, submit to the ENGINEER, data relating to materials and equipment he proposes to furnish for the work.

1. Data shall be in sufficient detail to enable the ENGINEER to identify the particular product and to form an opinion as to its conformity to the specifications.
2. The data shall comply with product submittals.

C. Furnish facilities and labor for handling and inspection of materials and equipment.

1. Prior to beginning or during progress of the work, submit samples of materials for such special tests as required by the ENGINEER to demonstrate that they conform to the specifications.
2. Samples shall be furnished, stored, packed, and shipped as directed at the CONTRACTOR's expense.
3. Except as otherwise noted, the OWNER will make arrangements for and pay for the tests.

- D. Submit data and samples sufficiently early to permit consideration and approval before materials are necessary for incorporation in the work.
 - 1. Delay of approval resulting from the CONTRACTOR's failure to submit samples or data promptly shall not be used as a basis of claim against the OWNER or the ENGINEER.
- E. Provide samples of workmanship or finish as may be required.
- F. The materials and equipment used on the work shall correspond to the approved samples or other data.

1.04 MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION

- A. Provide manufacturer's printed instruction, obtain and distribute copies of such instructions to parties involved in the installation, including copies to the ENGINEER.
 - 1. Maintain one set of complete instructions at the job site during installation and until completion.
- B. Handle, install, connect, clean, and adjust products in strict accord with such instructions and in conformity with specified requirements.
 - 1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with ENGINEER for further instructions.
 - 2. Do not proceed with work without clear instructions.
- C. Perform work in accord with manufacturer's instructions.
 - 1. Do not omit preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

1.05 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of products in accord with construction schedules. Coordinate to avoid conflict with work and conditions at the site.
- B. Deliver products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
 - 1. Immediately on delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and that products are properly protected and undamaged.

- C. Provide equipment and personnel to handle products by methods to prevent soiling or damage to products or packaging.

1.06 STORAGE AND PROTECTION

- A. Furnish a covered, weather-protected storage structure providing a clean, dry, non-corrosive environment for mechanical equipment, valves, electrical and instrumentation equipment, and special equipment to be incorporated into this project.
 1. Storage of equipment shall be performed to allow easy access and be in strict accordance with the "instructions for storage" of each equipment supplier and manufacturer including weather/humidity protection, connection of heaters, placing of storage lubricants in equipment, blocking, or skid storage.
 2. Replace corroded, damaged, or deteriorated equipment and parts before acceptance of the project.
- B. Store products in accord with manufacturer's instructions, with seals and labels intact and legible.
 1. Store products subject to damage by the elements in weather-tight enclosures.
 2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.
 3. Store fabricated products above the ground on blocking or skids to prevent soiling or staining.
 4. Cover products which are subject to deterioration with impervious sheet coverings, provide adequate ventilation to avoid condensation.
 5. Store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter.
- C. Materials and equipment to be incorporated in the work shall be handled and stored by the CONTRACTOR before, during, and after shipment in a manner to prevent warping, twisting, bending, breaking, chipping, rusting, and injury, theft or damage to the material or equipment.
- D. Store cement, sand, and lime under a roof and off the ground and keep completely dry.
- E. Store structural and miscellaneous steel, and reinforcing steel off the ground or otherwise to prevent accumulations of dirt or grease, and to minimize rusting.

- F. Store and handle brick, block, and similar masonry products in a manner to reduce breakage, chipping, and cracking.
- G. Moving parts shall be rotated, no less than weekly, to insure proper lubrications and to avoid metal-to-metal "welding".
- H. Upon installation of the equipment, start the equipment, at least half load, weekly for an adequate period of time to insure that the equipment does not deteriorate from lack of use.
- I. Materials, which in the opinion of the ENGINEER have become so damaged as to be unfit for the use intended or specified, shall be promptly removed from the site of the work, and receive no compensation for the damaged material or its removal.
- J. Arrange storage in a manner to provide easy access for inspection.
 - 1. Make periodic inspections of stored products to assure that products are maintained under specific conditions, and free from damage or deterioration.
- K. Protection After Installation:
 - 1. Provide substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations.
 - 2. Remove on completion.
- I. Assume responsibility for materials, equipment, and supplies sold and delivered to the OWNER under this Contract until final inspection of the work and acceptance thereof by the OWNER.
 - 1. In the event material, equipment, and supplies are lost, stolen, damaged, or destroyed prior to final inspection and acceptance, replace same without additional cost to the OWNER.
- M. Should the CONTRACTOR fail to take proper action on storage and handling of equipment supplied under this Contract within seven days after written notice to do so has been given, the OWNER retains the right to correct deficiencies noted in previously transmitted written notice and deduct the cost associated with these corrections from the CONTRACTOR's Contract.
 - 1. These costs may be comprised of expenditures for labor, equipment usage, administrative, clerical, engineering, and other costs associated with making the necessary corrections.

1.07 SPECIAL TOOLS

- A. Furnish special tools (including grease guns or other lubricating devices) required for normal adjustment, operations and maintenance, together with instructions for their use.
- B. Preserve and deliver to the OWNER these tools and instructions in good order no later than upon completion of the Contract.

1.08 WARRANTY

- A. For major pieces of equipment, submit a warranty from the equipment manufacturer.

1.09 SPARE PARTS

- A. Spare parts for certain equipment provided under Division 11 through 16 have been specified in the pertinent sections of the Specifications.
 1. Collect and store spare parts as recommended by the manufacturer in a safe location.
 2. Provide an inventory listing spare parts, the equipment they are associated with, the name and address of the supplier, and the delivered cost of each item.
 3. Provide copies of actual invoices for each item furnished to substantiate the delivered cost.

1.10 GREASE, OIL, AND FUEL

- A. Furnish grease, oil, and fuel required for testing of equipment with the respective equipment.
 1. Furnish the OWNER a one (1) year supply of required lubricants including grease and oil of the type recommended by the manufacturer with each item of the equipment supplied under Division 11 through 16.
- B. Assume responsibility for changing the oil in drives and intermediate drives of each mechanical equipment after initial break-in of the equipment, which in no event shall be longer than three weeks of operation.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

Walnut Creek CDD
Erosion & Sedimentation Project
NW 72nd Avenue Canal
CAS Project No. 21-2171

01610- 7

Basic Product Requirements

SECTION 01630

PRODUCT SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

- A. Materials or equipment specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular manufacturer, fabricator, supplier, or distributor; the naming of the item is intended to establish the type, function and quality of the item.
- B. Materials or equipment of other manufacturers, fabricators, suppliers, or distributors may be accepted by the ENGINEER, provided that sufficient information is submitted by the CONTRACTOR to allow the ENGINEER to determine its equivalency.
- C. No substitution is permitted if specifically identified that no substitution is permitted for that product or item.

1.02 CONDITIONS FOR REVIEW OF ALTERNATES

- A. Requests for review of substitute items of material and equipment will not be accepted by the ENGINEER from anyone other than the CONTRACTOR.
 1. If the CONTRACTOR wishes to furnish or use a substitute item of material or equipment, make a written application to the ENGINEER for acceptance thereof, certifying that the proposed substitute will adequately perform the functions and achieve the results required and be suitable for the same use as the material or equipment specified.
 2. The application shall state that the evaluation and acceptance of the proposed substitute will not affect the CONTRACTOR's time of completion, whether or not acceptance of the substitute for use in the work required a change in the Contract Documents to adapt the substitute into the design or whether or not substitution in connection with the work is subject to payment of royalty or licensing fee.
- B. Variations of the proposed substitute from that specified shall be identified in the application. Available maintenance, repair and replacement services shall be included.

1. The application shall also contain a statement that the CONTRACTOR agrees to pay direct and indirect costs, resulting from acceptance of the substitute, including redesign and claims of other CONTRACTORS affected by the resulting change.
2. The ENGINEER may require additional data, at the CONTRACTOR's expense for proper evaluation of the proposed substitute.

C. The ENGINEER will be allowed reasonable time for the evaluation of proposed substitution and the Engineer's decision regarding acceptability will be final.

1. No substitute shall be ordered or installed prior to the Engineer's written acceptance.

D. The OWNER may require the CONTRACTOR, at the CONTRACTOR's expense, to supply a specific performance guarantee or other surety covering the substitution.

E. The ENGINEER will record time required by the ENGINEER or required Consultants in evaluating proposed substitutes by the CONTRACTOR as well as costs required for modification of the Contract Documents as a result thereof.

1. Reimburse the OWNER for costs of ENGINEER services associated with evaluating proposed substitute that does not meet the requirements of the Contract Documents.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION

3.01 SUBSTITUTIONS

A. Submit requests for substitution in writing, to the ENGINEER for review, and within thirty (30) days from the date of issue of the contract Notice To Proceed.

1. Requests submitted after the specified period may be rejected, at the Engineer's option, without review.

B. Each request for substitution shall be submitted separately in five (5) copies and shall contain complete data substantiating compliance of the proposed substitution with the Contract Documents.

3.02 CONTRACTORS OPTIONS

- A. Requests for substitution can be classified into two general categories, products or construction methods.
 - 1. Products (Materials or Equipment)
 - a. Provide products, to the maximum extent possible, of the same generic kind meeting the quality and performance of the referenced standard and from a single source.
 - b. Products specified by naming several products or manufacturers, select one of the products or manufacturers named which complies with the Contract Documents.
 - c. Products specified by naming one or more products or manufacturers and stating "or equal", submit a request for substitution for product or manufacturer not specifically named.
 - d. Products specified by naming one product or manufacturer and followed by words indicating no substitution, there is no option and no request for substitution will be considered.
 - e. Where more than one choice is available, as a CONTRACTOR's option, select a product that is compatible with other products specified or selected.
 - f. Requests for substitution for products or manufacturers shall contain product identification including: manufacturer's name and address; manufacturer's literature with model or catalog number; product description; test data; utility consumption (if applicable); justification for the proposed substitution; samples (if appropriate); name and address of similar projects on which product was used and date of installation; other data as requested by the ENGINEER to establish that the proposed substitution is equal to or better than that specified.
 - 2. Construction Method
 - a. Detailed description of the proposed method(s) including name and address of projects where the method was used; drawings illustrating method(s) and reason or justification for the proposed substitution; other data as deemed necessary or as requested by the ENGINEER to establish that the proposed substitution is equal or superior to that specified.

3. Justification For Request For Substitution

- a. In making a request for substitution, the CONTRACTOR represents that CONTRACTOR has investigated the proposed substitution and has determined that it is equal or superior to that specified; that the CONTRACTOR will provide equal to or better warranties or bonds for the proposed substitution as for the product or method specified, that the CONTRACTOR waives claims for additional costs or extension of time related to the proposed substitution that may subsequently become apparent.

3.03 ENGINEER'S OPTIONS

- A. Requests for substitutions may be rejected by the ENGINEER without further review if the request:
 1. Is received more than thirty (30) days after the date of the Notice To Proceed.
 2. Effects the project completion date.
 3. Jeopardizes the performance or the intent of the project.
 4. Requires substantial revision of the Contract Documents.
- B. Requests will not be accepted that are indicated or implied on shop drawings, and are not accompanied by a formal request for substitution by the CONTRACTOR.
- C. If the ENGINEER determines that a proposed substitute meets the requirements of the Contract Documents and is suitable for the purpose intended, it may be accepted and if accepted, reimbursement to the OWNER for the Engineer's review will not be required.
- D. If the ENGINEER determines that a proposed substitute does not meet the requirements of the Contract Documents and is not acceptable, furnish the specified product, manufacturer or method at no additional cost to the OWNER and shall reimburse the OWNER for the cost of the Engineer's review.
- E. If the ENGINEER determines that a proposed substitute does not meet the requirements of the Contract Documents as specified but is suitable as a substitute for the purpose intended:

1. Reimburse the OWNER for the Engineer's review.
2. Furnish the product, manufacturer or method specified at no additional cost to the OWNER.
3. Request that the ENGINEER issue a change order in which case provide accurate cost data on the proposed substitution and comparison with the product or method specified, provide the OWNER with the benefit of savings in cost and reimburse the OWNER for the Engineer's cost of preparation and negotiation of the change order.

F. In the event an agreement cannot be reached, furnish the product or method specified at no additional cost to the OWNER and shall reimburse the OWNER for the Engineer's preparation and negotiation of the change order.

3.04 SHOP DRAWINGS

- A. Acceptance of a substitution will not relieve the CONTRACTOR from the requirement for submission of Shop Drawings as set forth in the Contract Documents.

END OF SECTION

SECTION 01660

PRODUCT STORAGE AND HANDLING REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

A. STORAGE

1. Store equipment and materials at the jobsite in accordance with the manufacturer's recommendations and directed by the OWNER.
2. Do not store unnecessary materials or equipment on the jobsite.
3. Prevent any structure from being overloaded and endanger the safety of his personnel or others.
4. Enforce the instructions of the OWNER and ENGINEER regarding the posting of regulatory signs for loadings on structures, fire safety and smoking area.

B. HANDLING AND MAINTENANCE

1. Follow manufacturer's storage instructions or approved written deviations.
 - a. Forward a copy of manufacturer's approved written deviations to the ENGINEER.
2. Equipment with moving parts shall be rotated per the manufacturer's recommendations while in storage and during the period between installation and acceptance.
3. Equipment shall be stored fully lubricated unless otherwise instructed by the manufacturer.
4. Lubricants shall be changed upon completion of installation and as frequently as required thereafter during the period between installation and acceptance.
5. New lubricants shall be put into the equipment at the time of acceptance.
6. Equipment having moving parts such as gears, and electric motors and instruments, control panels, and switchgear shall be stored in a temperature and humidity controlled building until such time as the equipment is to be installed.

7. Shafts shall be rotated as required per manufacturer's recommendations for storage.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 01723

PROTECTION OF ADJACENT CONSTRUCTION

PART 1 GENERAL

1.01 SUMMARY

- A. The underground utilities, structures, and other facilities shown in the Drawings are located according to the best information available, but may very by several feet from both the location and elevation shown.
 - 1. Explore far enough in advance of his main trench to determine the exact location and condition of utilities, structures, or facilities so that, before the pipe is installed, the ENGINEER may change the line or grade of the pipe, should that become necessary to avoid a conflict.
- B. Cost for changing the grade of the proposed main downward or upward in order to clear obstructions located differently than shown in the Drawings, or not shown in the Drawings, shall be included in the price established in the Proposal for the new depth of cut range that the main is installed in.
- C. Where the main is deflected either horizontally or vertically, and the ENGINEER requires additional work and items such as paving, air release valve assemblies, and similar items for which a pay item was established in the proposal, additional work and items will be paid for at the price bid.
- D. Determine the locations of recent additions to the systems and not shown in the Drawings.
 - 1. Exercise extreme to prevent damage to utilities resulting from contract activities.
 - 2. The location of the overhead utilities shall be verified and the ENGINEER shall be notified of conflict that might occur.
 - 3. Comply with the requirements of the utility companies and the ENGINEER for determining which poles will need shoring during excavation and shall provide shoring and support as required.
- E. Where it is necessary to temporarily interrupt house or building services, notify the house or building owner or occupant, both before the interruption and again immediately before service is resumed.

1. Before disconnecting pipes or cables, obtain permission from the OWNER, or shall make suitable arrangements for their disconnection by the OWNER.
- F. Assume responsibility for damage to pipes, conduits, or cables, and restore damaged items to service promptly.
- G. Various drainage culverts and drainage ditches may be encountered along the route of the work.
 1. Repair, restore, or reinstall culverts that are disturbed, damaged, or removed.
 2. Drainage ditches shall be restored to the original cross sections existing prior to construction of this work.
 3. Ditches shall be left clean and free of excavated materials or other materials deposited in them as a result of this construction.
 4. Existing headwalls and slabs for drainage ditches, removed or damaged as a result of this construction, shall be restored.
 5. This work shall be performed as directed by the ENGINEER, and the work shall be considered an incidental item and the cost included in the items listed in the Proposal.

1.03 REFERENCES

A. Governmental Agencies

1. Work shall conform to the applicable standards of local government engineering departments.

1.04 RELOCATE OF EXISTING UTILITIES

A. Relocate existing utilities, as noted in the Drawings, or for the convenience of construction.

1. This work shall be completed by either the forces of the existing utility or the CONTRACTOR's forces at the discretion of the responsible utility.
2. Perform work in accordance with the utility company's requirements.

B. Coordinate existing utility relocations with the appropriate utilities.

1. Provide temporary supports or protective encasements are required during the construction, at no additional cost.

- C. Conflicts between the field investigation and the information shown in the Drawings shall be brought to the immediate attention of the ENGINEER.
 - 1. There shall be no additional payment for adjustments in grades or location resulting from locations of existing utilities.
- D. Representatives of the utility companies shall be notified in accordance with the provisions set forth in the relevant sections of the Specifications and the permitting documents.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 01740

CLEANING

PART 1 GENERAL

1.01 SUMMARY

- A. Execute cleaning, during progress of the Work, and at completion of the Work, as required by General Conditions.

1.02 RELATED SECTIONS

- A. Conditions of the Contract.
- B. Each Specification Section: Cleaning for specific Products or work.

1.03 DISPOSAL REQUIREMENTS

- A. Conduct cleaning and disposal operations to comply with codes, ordinances, regulations, and anti-pollution laws.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.
- B. Use only those cleaning materials and methods recommended by manufacturer of the surface material to be cleaned.
- C. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 EXECUTION

3.01 DURING CONSTRUCTION

- A. Execute periodic cleaning to keep the Work, the site and adjacent properties, free from accumulations of waste materials, rubbish and windblown debris, resulting from construction operations.

- B. Provide on-site containers for the collection of waste materials, debris, and rubbish.
- C. Remove waste materials, debris and rubbish from the site periodically and dispose of at legal disposal areas away from the site.

3.02 DUST CONTROL

- A. Clean interior spaces prior to the start of finish painting and continue cleaning on an as-needed basis until painting is finished.
- B. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly-coated surfaces.

3.03 FINAL CLEANING

- A. Employ skilled workmen for final cleaning.
- B. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior surfaces.
- C. Wash and shine glazing and mirrors.
- D. Polish glossy surfaces to a clear shine.
- E. Ventilating Systems:
 - 1. Clean permanent filters and replace disposable filters if units were operated during construction.
 - 2. Clean ducts, blowers and coils if units were operated without filters during construction.
- F. Broom clean exterior paved surfaces and rake clean other surfaces of the grounds.
- G. Prior to final completion, or OWNER occupancy, CONTRACTOR shall conduct an inspection of sight-exposed interior and exterior surfaces, and work areas to verify that the entire work is clean.

END OF SECTION

SECTION 01741

FINAL CLEANING

PART 1 GENERAL

1.01 SUMMARY

- A. The CONTRACTOR shall provide equipment, tools, materials, and labor required to maintain the project site in a clean and orderly manner throughout the duration of construction and for final cleaning and touch up at end of construction. This work shall include but not be limited to, sweeping, brushing, dust control, washing, waxing and polishing, debris removal, removal of excess materials, tools, equipment and scaffolding and final cleaning of installed work.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Cleaning materials and equipment used shall be selected and employed with care to avoid scratching, marring, defacing, staining, or discoloring the surfaces cleaned. Cleaning materials shall be as recommended by the manufacturer of products and materials being cleaned.

PART 3 EXECUTION

3.01 CLEAN-UP DURING CONSTRUCTION

- A. Clean-up shall be performed as required to prevent accidents to personnel, protect work in place, and to affect the progress of the work in a timely and orderly manner.
- B. Construction clean-up shall consists of, but not be limited to, the removal of mud, oil, grease, sand, gravel, dirt, trash, scrap, debris, and excess materials from the work site on a continuous basis. Small scrap and debris may be collected in containers and large materials may be stockpiled in an area to be removed from the site periodically at the Contractor's cost.
- C. Immediately prior to the Contractors request for final inspection of the project or portion thereof, final cleanup shall be performed. Pavement damaged shall be repaired in a manner approved by the Engineer. Final grade in the area of the pipe installation shall be returned to the pre-construction elevation and condition.

END OF SECTION

SECTION 01770

CLOSEOUT PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

- A. Comply with requirements stated in Conditions of the Contract and in Specifications for administrative procedures in closing out the work.

1.02 RELATED SECTIONS

- A. Conditions of the Contract.
 - 1. Fiscal provisions, legal submittals, and additional administrative requirements.
- B. Project Record Documents - Division 1.
- C. Closeout Submittals - Division 1.

1.03 BENEFICIAL OCCUPANCY

- A. When the OWNER considers work is substantially complete for beneficial use, he will submit a letter to the CONTRACTOR informing intent to take early possession of the facility for partial use.
 - 1. The written notice shall describe the OWNER's reason for early beneficial occupancy.
- B. Adjust construction work schedule to accommodate the OWNER's plan to utilize the facility.
 - 1. Continue the work while allowing the OWNER full access and use of the facility.
- C. Requests for time extension or additional costs based upon the OWNER's early occupancy of the site and use of the facilities shall not be considered.
 - 1. Additional costs associated with the OWNER's early occupancy of the site shall be borne by the CONTRACTOR.

1.04 SUBSTANTIAL COMPLETION

- A. When the CONTRACTOR considers the work is substantially complete, he shall submit to the Engineer:
 - 1. A written notice that the work, or designated portion thereof, is substantially complete.
 - 2. A list of items to be completed or corrected.
- B. Within a reasonable time after receipt of such notice, the ENGINEER will make an inspection to determine the status of completion.
- C. Should the ENGINEER determine that the work is not substantially complete:
 - 1. The ENGINEER will promptly notify the CONTRACTOR in writing, giving the reasons therefore.
 - 2. The CONTRACTOR shall remedy the deficiencies in the work and send a second written notice of substantial completion to the Engineer.
 - 3. The ENGINEER will reinspect the work.
- D. When the ENGINEER finds that the work is substantially complete, he will:
 - 1. Prepare and deliver to the 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 as provided by Conditions of the Contract, and when the 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.

1.05 RE-INSPECTION FEES

- A. Should the ENGINEER perform re-inspections due to failure of the Work to comply with the claims of status of completion made by the CONTRACTOR:
 - 1. The OWNER will compensate the ENGINEER for such additional services.
 - 2. The OWNER will deduct the amount of such compensation from the final payment to the CONTRACTOR.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

Walnut Creek CDD
Erosion & Sedimentation Project
NW 72nd Avenue Canal
CAS Project No. 21-2171

01770- 3

Closeout Procedures

SECTION 01780

CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SUMMARY

- A. Upon final inspection and before acceptance and final payment, the CONTRACTOR shall deliver to the OWNER guarantees and warranties, affidavits of payments of claims and Record Drawings.
- B. Required guarantees shall be bound in booklet form with covers properly labeled to identify the project and content.
- C. Maintain a complete set of Contract Documents at the project site and on which maintain a complete record of actual construction, which differs from what is shown in the Contract Documents.
 1. Show actual installed locations of buried pipe and conduit and other matters or equipment, which is indicated diagrammatically.
 2. Make markings in a neat, legible manner and full identified and/or explained by notes.

1.02 RELATED SECTIONS

- A. Conditions of the Contract: Fiscal provisions, legal submittals and additional administrative requirements.
- B. Project Record Documents - Division 1.
- C. Closeout Procedures - Division 1.

1.03 FINAL INSPECTION

- A. When the CONTRACTOR considers the work is complete, he shall submit written certification that:
 1. Contract Documents have been reviewed.
 2. Work has been inspected 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 inspection.

B. The ENGINEER will make an inspection to verify the status of completion with reasonable promptness after receipt of such certification.

C. Should the ENGINEER consider that the work is incomplete or defective:

1. The ENGINEER will promptly notify the CONTRACTOR in writing, listing the incomplete or defective work.
2. Remedy the stated deficiencies and send a second written certificate to the ENGINEER that the work is complete.
3. The ENGINEER will re-inspect the work.

D. When the ENGINEER finds that the work is acceptable under the Contract Documents, he shall request the CONTRACTOR to make closeout submittals.

1.04 CONTRACTOR'S CLOSEOUT SUBMITTALS TO ENGINEER

- A. Evidence of compliance with requirements of governing authorities.
- B. Project Record Documents: To requirements of Division 1.
- C. Spare Parts and Maintenance Materials: Division 1.
- D. Evidence of Payment and Release of Liens: To requirements of General and Supplementary Conditions.

1.05 FINAL ADJUSTMENT OF ACCOUNTS

- A. Submit a final statement of accounting to the Engineer.
- B. Statement shall reflect all adjustment 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. Penalties and Bonuses
- f. Deductions for liquidated damages
- g. Deductions for re-inspection payments
- h. 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 where not previously made by Change Orders.

1.06 FINAL APPLICATION FOR PAYMENT

- A. Submit the final Application for Payment in accordance with procedures and requirements stated in the Conditions of the Contract.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 01785

PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 SUMMARY

- A. Maintain at the site for the OWNER one record copy of:
 - 1. Contract Drawings
 - 2. Contract Specifications
 - 3. Record Drawings
 - 4. Addenda
 - 5. Change Orders and other Modifications to the Contract
 - 6. ENGINEER'S Field Orders or Written Instructions
 - 7. Approved Shop Drawings, Working Drawings, and Samples
 - 8. Field Test Reports
 - 9. Construction Photographs

1.02 RELATED SECTIONS

- A. Construction Photographs and Video Recordings – Section 01321
- B. Shop Drawings, Product Data, and Samples – Section 01334
- C. Closeout Procedure – Section 01770

1.03 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. Store documents and samples in CONTRACTOR's field office apart from documents used for construction.
- B. File documents and samples in accordance with Construction Specifications Institute (CSI) Master Format number system.
- C. Maintain documents in a clean, dry, legible condition and in good order

1. Do not use record documents for construction purposes.
- D. Make documents and samples available at all times for inspection by the ENGINEER.
- E. As a prerequisite for monthly progress payments, the CONTRACTOR is to exhibit the currently updated "record documents" for review by the ENGINEER and the OWNER.

1.04 RECORD DOCUMENTS

- A. Label each document "RECORD" in neat large printed letters.
- B. Record information concurrently with construction progress.
- C. Drawings; Prepared a Certified Survey, by Professional Surveyor and Mapper (PSM) registered in the State of Florida, including elevations and stationing at increments specified by the ENGINEER, with the following information:
 1. Depths of various elements of foundation in relation to datum.
 2. Underground utilities.
 - a. Record horizontal and vertical locations of existing underground utilities (water, sewer, gas, electricity, signal cables, and drainage) impacted by the work, with ties from permanent features to manholes, valves, forcemain elbows, service lateral plugged ends, and connections to sewer mains and final surface grades, wherever it varies from existing grades and appurtenances uncovered during construction referenced to permanent surface improvements.
 - b. Record horizontal and vertical locations of new underground utilities and appurtenances: manholes, valves, elbows, fittings, service lateral plugged ends, connections to sewer mains, and final surface grades, referenced to permanent surface improvements.
 3. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.
 4. Field changes of dimensions and details.
 5. Changes made by Field Order or by Change Order.
 6. Details not in original Contract Drawings.
 7. Equipment and piping relocations.

8. Building and tank locations.
- D. 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.
- E. Shop drawings (after final review and approval)
 1. One set of record shop drawings for each process equipment, piping, (including casings) electrical system and instrumentation system.

1.05 SUBMITTAL

- A. At the completion of work, the CONTRACTOR must deliver complete "As-Built" drawings to the ENGINEER for the OWNER. They shall consist of one (1) 24" x 36" reproducible set, six (6) 24" x 36" blackline sets, and one (1) CD consisting of the electronic CADD files, in the software version mentioned in Section 00800, Par. 10.
 1. These "As-Built" drawings are to be signed and sealed by a Professional Surveyor and Mapper (PSM), currently registered and licensed in the state of Florida.
 2. The ENGINEER will supply the electronic CADD files to the CONTRACTOR in the software version mentioned in Section 00800, Par. 10.
 3. The "As-Built" electronic CADD files shall be generated in .dgn, .dwg, or .dxf file format, as specified by the ENGINEER.
- B. 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
- C. Submittal of "As-Built" drawings shall be in accordance with Division 1.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

SECTION 02200

SITE PREPARATION

PART 1 GENERAL

1.01 SUMMARY

- A. Provide equipment, materials, and labor and performing functions necessary to move personnel and equipment on site, set up offices, trailers, facilities, construction utilities, obtain permits, and prepare the sites for construction.
- B. Remove personnel, equipment, temporary facilities, and provide final clean up of the sites when construction is complete.

1.02 WORK SPECIFIED ELSEWHERE

- A. Contract Documents
- B. General Requirements - Division 1
- C. Temporary Utilities - Division 1
- D. Earthwork - Division 2
- E. Bituminous Concrete Pavement - Division 2
- F. Clearing and Grubbing - Division 2
- G. Construction Facilities - Division 1

PART 2 PRODUCTS

2.01 TEMPORARY FACILITIES

- A. Provide temporary facilities required for performing the work.

2.02 PARKING FACILITIES

- A. Provide parking facilities for personnel working on the project.
 - 1. No employee or equipment parking will be permitted on the OWNER's property except as specifically designated for CONTRACTOR's use.

2.03 PROJECT SIGNS

- A. Construction and installation of project sign is required and must be done in accordance with the OWNER'S requirements (Ref. Sec 00800).**

2.04 CONTRACTOR'S STAGING AREA

- A. At no expense to the OWNER, arrange for and provide staging area to base CONTRACTORS' office and for material and equipment storage.**
 - 1. The OWNER will not provide any land for this purpose.**

PART 3 EXECUTION

3.01 LAYOUT

- A. Set up construction facilities in a neat and orderly manner within a designated area at the location of his choice as approved by the OWNER and the ENGINEER.**
- B. Accomplish required work in accordance with applicable sections of these specifications or as approved.**
- C. Provide the services of a Professional Land Surveyor, currently licensed and registered in Florida, to provide necessary horizontal and vertical survey lines and control, based upon principal control points and bench marks provided by the OWNER, as required by the General Conditions.**

3.02 OBSTRUCTIONS

- A. Some obstructions may not be shown.**
 - 1. Bidders are advised to carefully inspect the existing facilities before preparing their proposals.**
 - 2. The removal and replacement of minor obstructions such as electrical conduits, air, water, waste piping, and similar items shall be anticipated and accomplished, even though not shown or specifically mentioned.**
- B. Major obstructions encountered that are not shown in the Drawings or could not have been foreseen by visual inspection of the site prior to bidding should immediately be brought to the attention of the ENGINEER.**

1. The ENGINEER will make a determination for proceeding with the work.
2. If the ENGINEER finds that the obstruction adversely affects the CONTRACTOR's costs or schedule for completion, a proper adjustment to the Contract will be made in accordance with the General Conditions.

3.03 HOUSEKEEPING

- A. Maintain the work site and the temporary facilities in a clean and orderly manner.
1. The OWNER reserves the right to maintain the property in a neat and orderly state at the CONTRACTOR's expense if the CONTRACTOR fails to respond to notices by the OWNER within reasonable time.

3.04 DEMOBILIZATION

- A. At the completion of work on each phase or portion of the project, remove construction personnel, equipment, and temporary facilities from the site.
- B. Transporting unused materials belonging to the OWNER to a place of storage designated by the ENGINEER.
- C. Remove and dispose of other materials and debris resulting from the construction, to an approved site.
- D. Return areas to their original condition.

3.05 PROJECT SIGNS

- A. If the CONTRACTOR is required to erect project signs, the ENGINEER will direct where the signs are to be placed.
 1. Maintain signs in good condition until final completion of the project.
 2. Remove the signs and restore the sites when directed.

3.06 RECORDS

- A. Keep one record copy of Specifications, Drawings, Addenda, Modifications, and Shop Drawings at the site in good order and annotated to show changes made during the construction process.

END OF SECTION

SECTION 02220

SITE DEMOLITION

PART 1 GENERAL

1.01 SUMMARY

- A. This section includes furnishing labor, materials, equipment and incidentals required for the demolition, relocation and/or disposal of building materials and equipment to be removed from the project.
- B. This section provides for the complete or partial removal and disposal of specified existing structures, foundations, slabs, piping, mechanical, electrical, existing (to be abandoned) piping and miscellaneous appurtenances encountered during construction operations.
- C. This Section calls attention to certain activities necessary to maintain and facilitate operation during and immediately following construction and do not purport to cover of the activities necessary.
 - 1. Diligently direct activities toward maintaining continuous operation of the existing facilities and minimizing operation inconvenience.
 - 2. Develop a Demolition and Removal Plan in accordance with Paragraph 1.06 of this Section.
- D. Demolition includes:
 - 1. Demolition, partial removal and cutting of existing masonry as required for the new construction.
 - 2. Distribution of salvageable and excess unacceptable material as specified below.
 - 3. Off-site disposal of excess and unacceptable materials.
- E. Examine the drawings regarding the existing system, visit the site and determine the extent of the work and operational conditions under which the work is to be performed.

1.02 PERMITS AND NOTICES

- A. Permits and Licenses:

1. Obtain necessary permits and licenses for performing the work and furnish a copy to the ENGINEER prior to commencing the work.
2. Comply with the requirements of the permits.

B. Notices:

1. Issue written notices of planned demolition to companies or local authorities owning utility conduit, wires or pipes running to or through the project site.
2. Submit copies of the notices to the ENGINEER.

C. Utility Services:

1. Notify utility companies or local authorities furnishing gas, water, electrical, telephone, or sewer service to remove equipment owned by them in structures to be demolished and to remove, disconnect, cap, or plug their services to facilitate demolition.

1.03 CONDITIONS OF STRUCTURES

- A. The OWNER and the ENGINEER assume no responsibility for the actual condition of the structures to be demolished or modified.
- B. Conditions existing at the time of inspection for bidding purposes will be maintained by the OWNER insofar as practicable.
 1. However, variations within the structure may occur prior to the start of demolition work.

1.04 RULES AND REGULATIONS

- A. The Standard Building Codes shall control the demolition, modification or alteration of the existing buildings or structures.
- B. No blasting shall be done on site.
 1. Do not bring to or store explosives on the project site.

1.05 DISPOSAL OF MATERIAL

- A. Salvageable or specifically requested material is the property of the OWNER.
 1. Dismantle material to such a size that it can be readily handled, and deliver the salvageable material requested by the OWNER to a storage area designated by the OWNER.

- B. Materials that the OWNER rejects shall become the CONTRACTOR's property and must be removed from the site.
- C. Haul concrete, concrete block, and unsalvageable brick to a waste disposal site.
- D. Haul other material to a waste disposal site.
- E. On site storage or sale of removed items is not allowed.

1.06 SUBMITTALS

- A. Submit to the ENGINEER for approval, six (6) copies of the proposed Demolition and Removal Plan for the structures and modifications specified below prior to the start of work.
 - 1. Include in the coordination of shutoff, capping and continuation of utility service as required.
 - 2. Include in the Demolition and Removal Plan, the following:
 - a. A detailed sequence of demolition and removal work to ensure the uninterrupted progress of the OWNER's operations, and the expeditious completion of the CONTRACTOR's work.
 - b. Evidence (by signature) of approval of the OWNER of the work plan.
- B. Before commencing demolition work, modifications necessary to bypass the affected structure will be completed.
 - 1. Actual work will not begin until the ENGINEER has inspected and approved the modifications, and authorized commencement of the demolition work.
- C. The above procedure must be followed for each individual demolition operation.

1.07 TRAFFIC AND ACCESS

- A. Conduct demolition and modification operations, and the removal of equipment and debris to ensure minimum interference with roads, streets, walks both on-site and off-site and to ensure minimum interference with occupied or used facilities.
- B. Special attention is directed towards maintaining safe and convenient access to the existing facilities by plant personnel and plant associated vehicles.**

- 1. Relocation of the CONTRACTOR's materials, labor, or equipment due to uncoordinated interruption will be at the CONTRACTOR's expense.**
- C. Do not close or obstruct streets, walks or other occupied or used facilities without permission from the ENGINEER and Plant Supervisor.
 1. Provide alternate routes around closed or obstructed traffic in access ways.

1.08 DAMAGE

- A. Promptly repair damage caused to adjacent facilities by demolition operations as directed by the ENGINEER and at no cost to the OWNER.

1.09 UTILITIES

- A. Maintain existing utilities to remain in service and protect against damage during demolition operations.
- B. Do not interrupt existing utilities serving occupied or used facilities, except when authorized by the ENGINEER.
 1. Provide temporary services during interruptions to existing utilities as acceptable to the ENGINEER.
- C. Cooperate with the OWNER to shut off utilities serving structures of the existing facilities as required by demolition operations.
- D. Assume responsibility for making necessary arrangements and performing work involved in connections with the discontinuance or interruption of public and private utilities or services under the jurisdiction of the utility companies.
- E. At the service mains disconnect and terminate utilities being abandoned
 1. Maintain conformance with the requirement of the utility companies or the municipality owning or controlling them.

1.10 POLLUTION CONTROL

- A. For pollution control, use water sprinkling, temporary enclosures, and other suitable methods as necessary to limit the amount of dust and dirt rising and scattering in the air to the lowest level of air pollution practical for the conditions of work.
 1. Comply with the governing regulations.
- B. Clean structures and improvements of dust, dirt and debris caused by demolition operations as directed by the ENGINEER.

1. Return areas to conditions existing prior to the start of work.

1.11 QUALITY CONTROL

- Protect existing materials and equipment to be salvaged or reused from damage.
- Cup or plug pipelines to be abandoned.
 - Place covers and label junction boxes, conduits and wire as abandoned.
- Leave exposed ends of pipe and conduit or junction boxes covered and safe.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 SEQUENCE OF WORK

- The sequence of demolition and renovation of existing facilities will be in accordance with the approved Demolition and Removal Plan as specified in Paragraph 1.06 of this Section.
- Reduce the out of service time for the equipment to be removed, refurbished, and relocated.

3.02 REMOVAL OF EXISTING PROCESS EQUIPMENT, PIPING, AND APPURTEANCES

- Clean, flush, and drain equipment, piping, and appurtenances.
 - Equipment to be retained by the OWNER as specified in Paragraph 1.05 above shall be dismantled sufficiently to permit thorough cleaning and draining.
 - Leave valves open.
 - Cap and sleeve abandoned piping.
 - Plug and seal openings remaining after removal of the existing equipment, piping, and appurtenances, as directed by the ENGINEER.

3.03 STRUCTURES TO BE COMPLETELY DEMOLISHED

A. Demolish existing structures as shown in the Drawings.

- 1. Demolish above ground structures to make room for construction or new facilities, unless otherwise shown in the Drawings.**
- 2. Remove demolished material and equipment from site.**
- 3. Remove mechanical, electrical, instrumentation, piping, and miscellaneous appurtenances before commencing structural demolition.**

B. Removal of existing structures by blasting will not be acceptable.

END OF SECTION

SECTION 02300

EARTHWORK

PART 1 GENERAL

1.01 SUMMARY

- A. Furnish equipment, materials, and labor and performing functions required for earthwork as specified in the Drawings and Specifications as well as unspecified earthwork necessary to complete the work as specified, including demucking, excavating, filling, grading, compaction, and disposal of excess material.
- B. Any list of equipment and/or materials set forth in this section shall not be taken to exclude other incidentals necessary to complete the work in accordance with the Drawings and Specifications for the intended use.

1.02 RELATED SECTIONS

- A. General Conditions - Bidding and Contract Requirement
- B. General Requirements - Division 1
- C. Site Conditions - Division 1
- D. Payment Procedures - Division 1
- E. Site Preparation - Division 2
- F. Pipe and Tubes - Division 2

1.03 STANDARDS AND REGULATIONS

- A. Florida Department of Transportation - Standard Specifications for Road and Bridge Construction - Latest Edition.
- B. American Association of State Highway and Transportation Officials (AASHTO).

1.04 SUBMITTALS

- A. Submit a schedule of earthwork activities together with an estimated list of equipment to be used.
- B. The schedule shall be subject to approval by the ENGINEER and shall be updated periodically as requested by the ENGINEER.

1.05 MEASUREMENT AND PAYMENT

- A. Measurement and payment will be compensated on a unit and/or lump sum price as delineated in the Proposal Bid Form for which price and payment shall constitute full compensation for furnishing labor, equipment, and materials to perform work in connection therewith.

1.06 GUARANTEES

- A. Guarantee materials and work performed for a period of one (1) year from the date of substantial completion.
- B. Take corrective action to eliminate defective materials or workmanship for the guarantee period.

1.07 TESTS AND CERTIFICATES

- A. Perform compaction tests as specified, as requested by the ENGINEER, and in accordance with AASHTO.

1.08 EXISTING CONDITIONS

- A. Project borings and soils report are presented in Division 1.

PART 2 PRODUCTS

2.01. BEDDING AND BACKFILL:

- A. Refer to Division 2 Excavation and Fill and as shown in the Drawings.
- B. UNSATISFACTORY MATERIALS
 - 1. Unsatisfactory materials, as are identified below.
 - a. Materials that cannot be satisfactorily placed and compacted to a stable and durable condition.
 - b. Soil that contains excessive moisture or moisture that will limit the degree of compaction.
 - 1) At the CONTRACTORS option and expense, material may be dried and used for backfill.
 - 2) New material shall be at CONTRACTORS expense.

- c. Materials including, but not limited to, materials containing roots, loam, wood, or other organic matter, trash, debris, muck, sod, peat, or other objectionable materials which may be compressible or cannot be properly compacted.
- d. Man-made fills, refuse, or backfills from previous construction.

B. UNYIELDING MATERIALS

- 1. Shall consist of rock and gravelly soils with stones greater than 3 inches in any dimension or as defined by the pipe manufacturer, whichever is smaller.

D. SATISFACTORY MATERIALS

- 1. Refer to the details shown in the Drawings for specific requirements.

E. ROCK BEDDING, HAUNCHING, AND INITIAL BACKFILL MATERIAL

- 1. Rock bedding shall meet the Florida Department of Transportation Standard Specification for No. 57 stone.
- 2. Pipe haunching shall contain good clean structural type fill.
- 3. Initial backfill material shall be common fill as described above.

F. BACKFILL MATERIALS

- 1. Shall consist of satisfactory material consisting of natural, predominantly well graded materials with no more than 40 percent by weight passing the No. 200 sieve and at a moisture content that will facilitate compaction, free from stones of such size as recommended by the pipe manufacturer, or larger than 2 inches in any dimension, whichever is smaller.
- 2. The backfill material shall be free of stones larger than 1 inch in any dimension, or as recommended by the pipe manufacturer, whichever is smaller, when pipe is coated or wrapped for protection against corrosion.
- 3. Shall be clean earth fill, composed of sand, sand and clay, sand and rock, or crushed rock.
- 4. Where concrete or other encasement of pipe or other utilities is indicated, the backfill shall begin after the encasement has been inspected and approved and has attained 3/4 of its designed strength.

5. Material for the first layers of backfill shall be lowered to within 2 feet above the top of pipes before it is allowed to fall on the pipes, unless the material is placed with approved chutes or other devices that protect the pipes from the impact of stones conveyed from greater height.

G. FINE MATERIALS

1. Shall be carefully placed and tamped around the lower half of the utility; backfilling shall be carefully continued in layers not exceeding 6-inches above the top of the utility, using the best available material from the excavation, if approved, and excluding stones or rock fragments larger than:

3 inches	On concrete, cast-iron or steel pipe
1 1/2 inches	On clay pipe
1 inch	On plastic pipe
1/2 inch	On fiber and asbestos cement pipe

H. BORROW MATERIALS

1. Shall be used if suitable material from the excavation is not available.

2.02 PLASTIC WARNING TAPE:

- A. Plastic marking tape shall be acid and alkali resistant polyethylene film, 6 inches wide with minimum thickness of 0.004 inch.
- B. Tape shall have a minimum strength of 1750 psi lengthwise and 1500 psi crosswise.
- C. The tape shall be manufactured with integral wires, foil backing, or other means to enable detection by a metal detector when the tape is buried up to 3 feet deep.
- D. The tape shall be of a type specifically manufactured for marking and locating underground utilities.
- E. The metallic core of the tape shall be encased in a protective jacket or provided with other means to protect it from corrosion.
- F. Tape color shall be as specified in Table 1 and shall bear a continuous printed inscription describing the specific utility.

TABLE 1. Tape Color

Red:	Electric
Orange:	Telephone, Alarm, and Communications
Blue:	Water Systems
Green:	Sewer Force Mains, Sewer Service Laterals

2.03 GEOTEXTILE FILTER FABRIC:

- A. Filter fabric for mats and liners shall be a pervious sheet of polyester, nylon, or polypropylene filaments woven or otherwise formed into a uniform pattern with distinct and measurable openings.
- B. The filter fabric shall provide an Equivalent Opening Size (EOS) no finer than the US Standard Sieve No. 100 and no coarser than the US Standard Sieve No. 50.
 - 1. EOS is defined as the number of the US Standard Sieve having openings closest in size to the filter fabric openings.
- C. The filaments shall consist of a long-chain synthetic polymer composed of at least 85 percent, by weight, of propylene, ethylene, or vinylidene-chloride.
- D. The filaments shall contain stabilizers and/or inhibitors added to the base plastic to make the filaments resistant to deterioration due to ultraviolet and heat exposure.
- E. The fabric shall have a minimum physical strength of 50 pounds per inch in direction when tested in accordance with ASTM D 1682, using the Grab Test Method with one square inch jaws and a constant rate of travel of 12 inches per minute.
- F. Elongation at failure shall be between 30 and 70 percent.
- G. The fabric shall be constructed so that the filaments will retain their relative position with respect to each other.
- H. The edges of the fabric shall be selvaged or otherwise finished to prevent the outer material from pulling away from the fabric.
- I. The fabric shall be woven into a width such that it may be installed without longitudinal seams.

PART 3 EXECUTION

3.01 DEMUCKING

- A. Muck, organic matter, or other unsuitable material within the limits of the worksite, shall be excavated and removed.
- B. Depth of removal shall be that required to reach suitable material.
- C. The muck hole shall be dewatered to provide visual inspection by the ENGINEER.
- D. The muck shall be removed in such a manner as to prevent the unsuitable materials from mixing with suitable material to be used for backfilling.
- E. Where muck is encountered at the boundary of the site; sheeting shall be installed and left in place to preclude future damage to the installed fill by adjacent muck.
- F. Suitable material shall be placed and compacted where muck or other unsuitable material has been removed and as required to elevate the site to finish grade as specified in this section.
- G. Muck and other unsuitable material shall be disposed of at locations secured by the CONTRACTOR and approved by the ENGINEER.
- H. Furnish to the ENGINEER, a written release from the OWNER of the property on which the excess material is disposed, stating that the agreements have satisfactorily been fulfilled.
- I. Material shall be spread in a manner to drain properly and not disturb existing drainage conditions.
- J. Where approved by the ENGINEER muck may be stockpiled and used for top dressing on areas to be grassed.
 - 1. The muck to be used for top dressing shall be free from appreciable quantities of hard clods, stiff clay, hard pan, gravel, brush, large roots, or other deleterious materials, and of reasonably uniform quality.
 - 2. The organic content shall be at least 5 percent and the pH shall be in the range of 5.0 to 7.0.

3.02 UTILITIES

- A. Furnish equipment, materials, and labor required to complete excavating, trenching and backfilling for utilities, including dewatering, shoring, bracing, utility bed compacting, protecting slabs, restoration of surfaces, and disposing of surplus materials as identified in the Drawings and/or Specifications.

- B. Length of trench to be excavated ahead of pipelaying shall be limited to sufficient trench for one day's pipe laying operation.
- C. Where existing utilities are indicated, or their presence is suspected, employ appropriate detection methods to locate the utilities.
- D. Excavation in the vicinity of utilities shall be carefully carried out to prevent damage to the existing utilities.
- E. Excavation within 12-inches of existing utility shall be by hand.

3.03 TRENCH EXCAVATION

- A. Where trenches are to be cut in pavement, the pavement cut shall be made ahead of the excavation, leaving a uniform edge with minimum disturbance of the remaining pavement.
- B. Pavement pieces 6-inches and larger are not to be mixed with other excavated material, but are to be disposed of away from the work site before the remainder of the excavation is made.
- C. Minimum width of the trench shall be equal to the outside diameter of the pipe at the joint plus 12-inches on each side.
- D. Maximum trench width shall not exceed the nominal diameter plus 2-feet.
- E. Trench walls shall be vertical, however, for large diameter piping, or where deep trenching is required, sloped sides may be permitted subject to the approval of the ENGINEER.

3.04 BEDDING

- A. The pipe bed shall be adequately graded and shaped such that the pipe will be in continuous contact for its full length and the bottom 1/3 of its circumference, spaces for joints, fittings, manholes and pump stations shall be excavated with space to install joint couplings and other connecting devices.
- B. Bell holes shall be excavated to the necessary size at each joint or coupling to eliminate point bearing.
- C. Stones of one inch or greater in dimension, or as recommended by the pipe manufacturer, whichever is smaller, shall be removed to avoid point bearing.
- D. Filter material and bedding shall be provided under utility lines, where indicated or specified.

- E. Trench grade for utilities or structures not requiring special bedding material are to be defined as the grade of the bottom surface of the utility or structure to be considered to be part of this work.
- F. Trench grade for utilities in rock shall be defined as 4-inches below the outside of the bottom of the utility or structure, which 4-inches shall be backfilled with suitable bedding material.
- G. Overexcavation made in error shall be backfilled to trench grade with suitable compacted fill at the CONTRACTOR's expense.

3.05 GRAVITY PIPE AND STRUCTURES

- A. Where the Drawings indicate a force main paralleling a gravity sewer, the CONTRACTOR may utilize a common trench, subject to the ENGINEER's approval.
- B. Where a common trench is used, the force main shall be founded on a shelf of undistributed soil.
- C. Excavation for manholes and wetwells, or similar structures, shall be of sufficient size to permit the installation of precast structures or the placement and removal of forms for the full length and width of cast-in-place structure footings and foundations, as shown.
- D. When concrete or masonry is to be placed in an excavated area, special care shall be taken not to disturb the bottom of the excavation.
- E. Excavation to the final grade level shall be verified before the concrete or masonry is to be placed.

3.06 ROCK

- A. Rock shall be cleaned of loose debris and cut to a firm surface, either level, stepped or serrated, as shown or as directed.
- B. Loose disintegrated rock and thin strata shall be removed.

3.07 SHEETING

- A. Sheetings and bracing shall be provided and continuously maintained where required to prevent damage to property, injury to persons, or erosion and cave-ins.

- B. Where practical sheeting shall be driven prior to excavation to avoid loss of material to be retained.
- C. When excavating below the sheeting, care shall be taken to avoid trimming that will cause voids in the banks to be retained.
- D. Sheeting and bracing shall be removed as backfilling progresses and shall be completely removed when the trench has been backfilled to at least 1/2 its depth or when removal will not endanger construction or adjacent structures.
- E. Voids caused by removal shall be backfilled immediately with sand or other approved fine material and compacted by ramming or by watering.
- F. When required and directed in writing, by the ENGINEER, sheeting, bracing, or shoring shall be left in place and the top shall be cut off neatly at an approved elevation below finished grade.

3.08 SEQUENCE OF EXCAVATION

- A. Excavation in a given area shall proceed from the deepest excavation to the shallowest excavation to avoid undermining completed roadways, utilities or structures.

3.09 DEWATERING

- A. Utilities are to be laid "in the dry."
 - 1. Trench excavations may be dewatered by using one or more of the following methods:
 - a. Well point systems:
 - 1) Shall be efficient enough to lower the water level in advance of the excavation and maintain the level continuously to keep the trench bottom and sides firm and dry
 - 2) Shall be designed especially for this type of service, and the pumping unit used is to be capable of maintaining a high vacuum and at the same time of handling large volumes of air as well as water.
 - 3) Shall be operated in such a manner as to prevent damage to other property.
 - b. Gravity underdrain systems

- 1) Shall have adequate capacity to lower the water level in the trench such that the main utility may be laid "in the dry."
- c. Sumps
 - 1) Shall be provided at various points along the route of the underdrain system for the use of pumps to remove the water.
 - 2) If the material encountered at trench grade is suitable for passage of water without destroying the sides or bottom of the trench sumps may be provided at intervals at the side of the main trench excavation and pumps may be used to lower the water level by taking their suction from these sumps.
 - 3) Care shall be exercised to prevent the movement of utility foundation material and a bed of crushed stone may be required.
- B. Grading shall be done, as may be necessary to prevent surface water from flowing into the excavation, and water accumulating therein shall be removed so that the stability of the bottom and sides of the excavation is maintained.
- C. The excavation shall be dewatered by appropriate methods where and when necessary to maintain a dry and stable excavation bottom, and keep free from water during construction.
- D. Obtain required dewatering permits from applicable agency having jurisdiction.
 1. Costs of complying with such permit requirements shall be borne solely by the CONTRACTOR.
- E. Water from trench dewatering operations shall be disposed of without causing damage or inconvenience to the work, the surrounding area or general public.

3.10 OBSTRUCTIONS

- A. The exact location of pipes, conduits, wires, mains, footings and other underground structures and obstructions encountered in trenching or excavating shall be determined.
- B. The obstructions shall be protected adequately from damage or displacement.
- C. Damage thereto shall be promptly and properly repaired, and displacements shall be corrected.
- D. Survey monuments or benchmarks, which are to be disturbed by this work, shall be carefully witnessed before removal and replaced upon completion of the work by a Registered Land Surveyor.

3.11 BEDDING, BACKFILL, AND COMPACTION

- A. Bedding shall be of the type and thickness shown.
- B. Maximum stone size shall not exceed 3/4-inch, or the maximum size recommended by the pipe manufacturer, whichever is smaller.
- C. Initial backfill material shall be placed in layers of a maximum of 6 inches loose thickness and compacted with approved tampers to 95 percent maximum density and to a height of at least 1-foot above the utility pipe or conduit.
- D. The first layers of the backfill shall be thoroughly compacted and be completed before the remainder of the trench is backfilled.
 - 1. Compaction shall be equal to 98 percent of maximum density, as determined by AASHTO Specification T-99.
- E. Compaction by water flooding or jetting will not be permitted.
- F. Density tests for determination of the above-specified compaction shall be made by a testing laboratory designated by the ENGINEER and at the expense of the CONTRACTOR.
- G. Test locations will be determined by the ENGINEER, but shall be spaced not more than 300 feet apart where the trench cut is continuous in pavements or areas to be paved.
- H. Tests shall also be made where a trench crosses a paved roadway or future paved roadway.
 - I. If test results are unsatisfactory, re-excavate and re-compact the backfill at his expense until the desired compaction is obtained.
 - J. For continuous trenches, additional compaction tests shall be made on each side of an unsatisfactory test to determine the extent of re-excavation and re-compaction necessary.
- K. Spacing of the additional tests will be determined by the ENGINEER.
- L. Backfilling operations for excavations for utilities within buildings that have soil-bearing floor slabs shall be conducted in a manner resulting in densities comparable to the densities of the soil adjacent to the excavation.
- M. Excavation within buildings shall be maintained free of water until the backfilling is completed.

- N. Flooding or puddling with water to consolidate backfill may be done in unpaved areas, only when approved by the ENGINEER.
- O. Where approved, the flooding or puddling operation shall be repeated with each 2 feet of backfill placed.
- P. Mechanical compaction shall be accomplished using pneumatic or gasoline-powered tampers and/or flat plate vibrators, except in close proximity to the utility in the first layers of the backfill where compaction is to be obtained with hand-operated tamping devices.

3.12 BACKFILL ON SIDES OF PIPE

- A. The backfill shall be brought up evenly on both sides of pipe for the full length of the pipe.
- B. Care shall be taken to ensure thorough compaction of the fill under the haunches of the pipe.

3.13 BACKFILL ABOVE THE PIPE

- A. The remainder of the trench shall be backfilled in layers not exceeding 9-inches.
- B. Maximum dimension of a stone or rock fragment shall be 6-inches.
- C. Backfill shall be suitably compacted by rolling, tamping, or other settlement.
- D. When trenches are cut in pavements or areas to be paved, compaction, as determined by AASHTO Specification T-99, shall be equal to 98 percent of maximum density; in other areas compaction shall not be less than 98 percent of maximum density.
- E. Backfill for sidewalks, turned, or seeded area and miscellaneous areas not specifically designated above shall be deposited in layers of a maximum of 10 inches loose thickness, and compacted to 85 percent maximum density for cohesive soils and 90 percent maximum density for cohesionless soils.
- F. Plastic warning tape shall be placed directly over the pipes and conduits at a depth of 18 inches below finished grade for the sewage force main, sewer service laterals, water lines, electric lines, alarm and communications lines.

3.14 SLAB

- A. Where insufficient cover, excessive loads or local jurisdiction require, a protective concrete slab 6 inches thick, as indicated in the Drawings or as required by local authority, whichever is of greatest depth, shall be provided.
- B. The trench shall be properly stepped back, as required, but the width of the slab shall not be less than the width of the trench plus 2 feet.
- C. Concrete shall be ready-mixed and have twenty-eight (28) day compressive strength of 3,000 psi.
 - 1. Finished top surface shall be screened.
- D. Minimum reinforcement shall be welded wire fabric, 6 inches by 6 inches - w2.9 by w2.9.
- E. Top of slab shall be 1-inch minimum below finished grade of the final surface course.

3.15 EXISTING OBSTRUCTIONS

- A. Pavement cut or damaged in connection with the work under this section shall be rebuilt or repaired.
- B. Restored pavement shall be at least equal in every respect to the pavement that was cut or damaged, including the base course, surface treatment and grade.
- C. Temporary sand seal coat pavement surface shall be applied to the cut or damaged areas.
- D. This temporary surfacing shall be replaced by the final restored pavement.
- E. Sand seal coat temporary surfacing shall not be removed until fifteen (15) days after it has been constructed.
- F. Existing pavement shall be cut back a minimum of 1 foot beyond each edge of the pavement that was cut when the trenching was done or 1 foot beyond each edge of the trench, whichever is greater.
- G. Temporary surfacing, backfill, existing pavement and its base course shall be removed to a depth of 7 inches or to the depth indicated.

3.16 STOCKPILING OF SUITABLE EXCESS MATERIAL

- A. During excavation, excess material from one trench area that is satisfactory for backfilling shall be stockpiled for use in other areas of the work in an orderly manner, at a distance from the banks of the trench sufficient to avoid overloading and to prevent slides or cave-ins.
- B. Failure to protect the stockpiles and allowing material to becomes unsatisfactory as a result, such material, if directed, shall be removed and replaced with satisfactory on-site or imported material from approved sources at no additional cost to the OWNER.
- C. Excavated material not required or not satisfactory for backfill shall be removed from the site and shall be disposed of in designated areas.
- D. Excess suitable material shall be carefully stockpiled for use in other portions of the work, as specified below.
- E. Debris and excess material shall be disposed of off site, as approved by the ENGINEER.

END OF SECTION

SECTION 02310

GRADING

PART 1 GENERAL

1.01 SUMMARY

- A. Perform grading work within the limits, elevations and grades indicated in the Drawings and as specified herein.
- B. This Section specifies material and placement of fill above existing grades that is not to be located under roads or under structures.

1.02 QUALITY CONTROL

- A. Grade the site to the required elevations.
- B. Spot elevations are shown in the Drawings and uniformly slope the finished surfaces between these locations.
- C. Excavated material meeting the requirements noted in the paragraph "Fill" may be used in the formation of embankments as shown in the Drawings.
- D. Provide from off-site sources additional fill material required to complete the embankments.

PART 2 PRODUCTS

2.01 FILL

- A. Fill material shall meet the requirements as described in Division 2 - "Earthwork".
- B. Fill material shall be reviewed by the Engineer prior to use.
- C. Determine the volume of material required for the site.

PART 3 EXECUTION

3.01 GRADING AND COMPACTION

- A. Place fill material in lifts not to exceed 12-inches and compacted to a density of not less than 95 percent of maximum dry density at optimum moisture as determined by ASTM D1557 method D.
- B. Place fill material with a moisture content within plus or minus 2 percentage points of optimum.

3.02 FINE GRADING

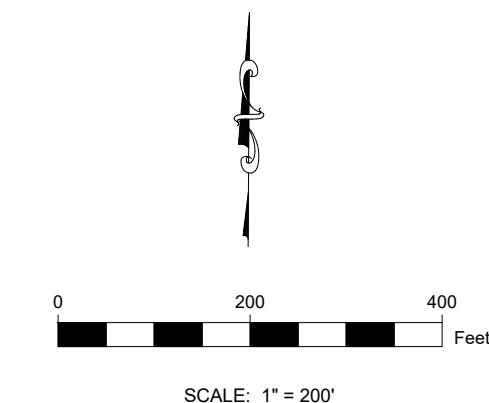
- A. Fine grade disturbed areas after structures, bases, and pavements are completed and the yard piping trenches backfilled.
- B. Remove lumber, undesirable materials and rocks larger than the 3-inch size from the surface.
- C. Shaped and sloped the completed surface to drain away from the structures.
- D. Completed surface elevations shall be within 0.1 foot of the elevation shown in the Drawings, unless directed by the ENGINEER.
- E. Minor adjustments to line and grade may be required as the work progresses in order to satisfy field conditions.

END OF SECTION

Erosion and Sedimentation Control Plan for Walnut Creek Community Development District Canal

PROJECT NOTES:

1. GOVERNING STANDARDS AND SPECIFICATIONS: FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARDS SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, AS AMENDED BY CONSTRUCTION DOCUMENTS.
2. PLANS WERE PREPARED ACCORDING TO INFORMATION COLLECTING IN THE FIELD WITH SURVEYING INSTRUMENTS, HISTORICAL DATA FROM PUBLICLY AVAILABLE SOURCES, AND PALM BEACH COUNTY GIS DATA ON PARCELS, LOTS, ROADWAY, ETC.
3. THIS IS NOT A BOUNDARY SURVEY.
4. SURVEY WAS PERFORMED ON 12/11/2024 BY LANDSHORE ENTERPRISES, LLC.
5. THE SCALES OF THE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION, PLAN SHEETS ARE RECOMMENDED TO BE PRINTED OR PLOTTED ON 11"X17" PAPER.
6. COORDINATE SYSTEMS HEREON FOR THE HORIZONTAL SYSTEM ARE BASED ON NORTH AMERICA DATUM OF 1983 (NAD 83) FLORIDA STATES PLANES, EAST ZONE AND FOR THE VERTICAL SYSTEM ARE BASED ON NORTH AMERICA VERTICAL DATUM 1988 (NAVD 88), AND THE UNITS ARE BASED ON US FOOT.
7. THE BEARINGS VALUES SHOWN HEREON ARE BASED ON GPS/RTK OBSERVATIONS AND RTK CORRECTIONS FROM THE FLORIDA DEPARTMENT OF TRANSPORTATION, FLORIDA PERMANENT REFERENCE NETWORK.
8. THE PROJECT SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF AN ABSTRACT OF TITLE. THERE MAY BE INSTRUMENTS OF RECORD AND NOT OF RECORD, AFFECTING THE SUBJECT PARCEL THAT ARE NOT SHOWN ON THIS SURVEY.
9. CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE-CALL AT 1-(800)-432-4770 AT LEAST 48 HOURS PRIOR TO PERFORMING ANY DIGGING TO VERIFY THE EXACT LOCATION OF EXISTING UTILITIES. A CONTRACTOR'S REPRESENTATIVE MUST BE PRESENT WHEN UTILITY COMPANIES LOCATE THEIR FACILITIES.



Section 10 Township 51 South, Range 41 East

Section S10 T51S R41E
Meridian Tallahassee
State Florida
Source USFS
GLO Township Records

MARCH 07, 2025

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY PIETER M. LOMBARD ON THE DATE ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.



ENGINEER: PIETER M. LOMBARD

66596
FLORIDA PROFESSIONAL ENGINEER
REGISTER NUMBER

INDEX OF SHEETS

SHEET NO.	SHEET DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES
3	LEGEND AND ABBREVIATIONS
4	TOPOGRAPHIC PLAN
5	SURVEY CONTROL PLAN
6	EROSION ELEMENT CONTROL PLAN
7-8	PLAN AND CROSS SECTIONS
9-10	PLAN AND PROFILE
11	BATHYMETRIC PLAN
12-13	DETAILS
14	SUMMARY AND QUANTITIES
15-17	MANUFACTURER'S SPECIFICATIONS

PREPARED FOR
Walnut Creek Community
Development District
1800 NW 76th Ave
Pembroke Pines, FL 33024

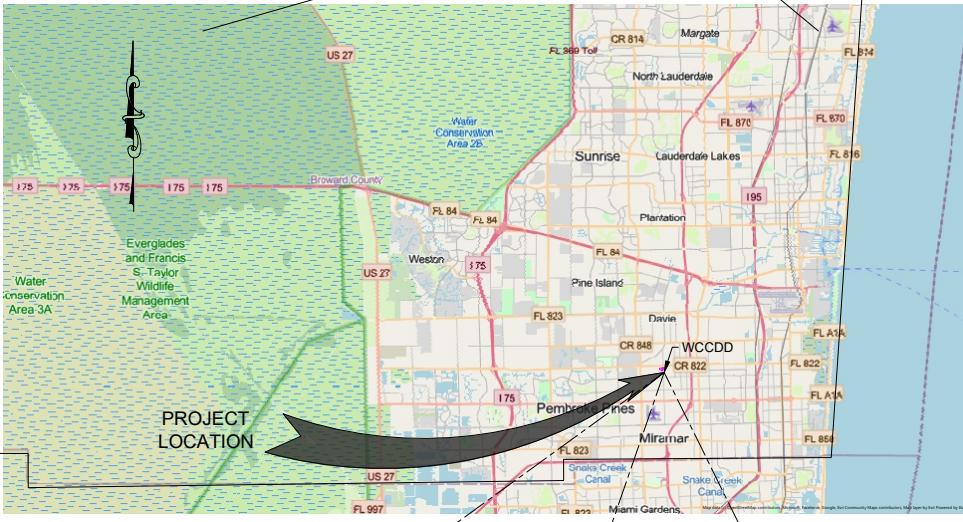
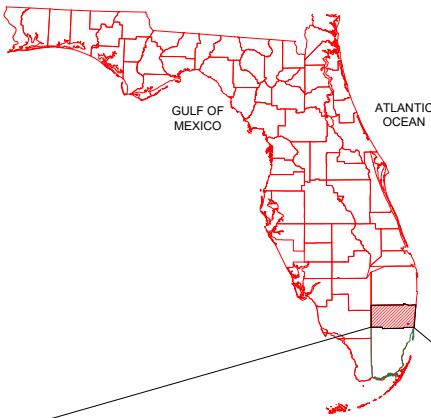
PREPARED BY

Landshore Enterprises, LLC
"Your Shoreline Protection Specialists"
118 Shamrock Blvd.
Venice, FL 34293
Office: 941-303-5238
Fax: 941-218-6113
E-mail: info@landshore.com

PIETER M. LOMBARD,
ENGINEER, P.E.
FLORIDA REGISTRATION No. 66596

DESIGNED BY: NV
DRAWN BY: NV
CHECKED BY: AVDB
APPROVED BY: PML
PROJECT NO: 2024-064

SHEET 1
OF 17



LOCATION MAP

GENERAL NOTES

- ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF GOVERNMENT ENTITIES WHICH WILL APPLY, AND ALL OTHER LOCAL AND NATIONAL CODES WHERE APPLICABLE.
- ALL CONSTRUCTION SHALL BE PERFORMED IN A SAFE MANNER, SPECIFICALLY, THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) SHALL BE STRICTLY OBSERVED.
- CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO COMMENCING CONSTRUCTION.
- UPON RECEIPT OF NOTICE OF AWARD AND AFTER OBTAINING AN ENGINEERING CONSTRUCTION PERMIT FROM APPLICABLE AGENCIES, THE CONTRACTOR SHALL ARRANGE A PRE-CONSTRUCTION CONFERENCE TO INCLUDE CLIENT, THE CONTRACTOR, AND THE ENGINEER OF RECORD.
- CONTRACTOR SHALL CONTACT STATE 811, AT LEAST 48 HOURS PRIOR TO PERFORMING ANY DIGGING TO VERIFY THE EXACT LOCATION OF EXISTING UTILITIES. A CONTRACTOR'S REPRESENTATIVE MUST BE PRESENT WHEN UTILITY COMPANIES LOCATE THEIR FACILITIES.
- THE CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD AND UNDERGROUND UTILITIES.
- EXISTING UNDERGROUND UTILITIES, IF SHOWN ON THE DRAWINGS, HAVE BEEN SHOWN BASED UPON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE REQUIRED TO MARK AND CLEARLY DELINATE LOCATIONS OF EXISTING UTILITIES WITHIN AREAS OF WORK PRIOR TO EXCAVATION TO AVOID DAMAGE. THE CONTRACTOR SHALL MAKE ALL REASONABLE EFFORTS TO LOCATE, IDENTIFY AND MARK EXISTING UTILITIES BY FIELD VERIFICATION, COORDINATION WITH UTILITY COMPANIES AND ELECTRONIC OR OTHER SUCH DETECTION TECHNOLOGY AND MEANS AND SHALL BEAR ALL COSTS FOR THIS WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REPAIRS AND COSTS TO CORRECT DAMAGES RESULTING FROM FAILURE TO TAKE ALL NECESSARY PRECAUTIONS INCLUDING LOCATING, MARKING AND CAREFUL EXCAVATION. (CONTRACTOR SHALL AVOID DAMAGING EXISTING IRRIGATION SYSTEMS. IN CASE OF DAMAGE, THE CONTRACTOR SHALL REPLACE IRRIGATION SYSTEMS TO MATCH EXISTING CONDITIONS AND LOCATION).
- IF UPON EXCAVATION, AN EXISTING UTILITY IS FOUND TO BE IN CONFLICT WITH THE PROPOSED CONSTRUCTION OR TO BE OF A SIZE OR MATERIAL DIFFERENT FROM THAT SHOWN ON THE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER.
- CONTRACTOR SHALL PROVIDE HIS OWN LINE AND GRADE FROM HORIZONTAL AND VERTICAL CONTROL.
- FOR EACH PROJECT AREA, VERTICAL CONTROL IS BASED ON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88).
- ANY N.A.V.D. BENCH MARK MONUMENTS WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED AND PROPERLY REFERENCED BY A REGISTERED-PROFESSIONAL ENGINEER IN ACCORDANCE WITH THE MINIMUM TECHNICAL STANDARDS OF THE STATE BOARD OF PROFESSIONAL LAND SURVEYORS PRIOR TO BEGINNING WORK AT THE SITE.
- ALL STATIONS AND OFFSETS REFER TO [BASELINE] OF CONSTRUCTION, UNLESS OTHERWISE STATED.
- CONTRACTOR SHALL NOT SCALE DIMENSIONS FROM PLANS FOR CONSTRUCTION PURPOSES.
- THE CONTRACTOR IS ALERTED TO THE PRESENCE OF UNDERGROUND WIRES AND POLES IN THE PROJECT AREA. THE METHOD OF CONSTRUCTION IN THESE LOCATIONS MUST COMPLY WITH ALL OSHA SAFETY STANDARDS. THE CONTRACTOR SHALL INSPECT THESE SITES AND BE RESPONSIBLE FOR DETERMINING WHAT METHOD OF PREPARATION AND CONSTRUCTION WILL BE USED TO COMPLY WITH THESE REQUIREMENTS.
- THE CONTRACTOR SHALL NOTIFY THE CLIENT AT LEAST 24 HOURS PRIOR TO BEGINNING OF WORK.
- WHERE MATERIAL OR DEBRIS HAS WASHED OR FLOWED INTO OR BEEN PLACED IN WATER COURSES, GRAVITY SEWER, DITCHES, DRAINS, CATCH BASINS, OR ELSEWHERE AS A RESULT OF THE CONTRACTOR'S OPERATIONS, SUCH MATERIAL OR DEBRIS SHALL BE REMOVED AND SATISFACTORILY DISPOSED OF DURING PROGRESS OF THE WORK, AND THE AREA KEPT IN A CLEAN AND NEAT CONDITION.
- THE CONTRACTOR SHALL RESTORE OR REPLACE, WHEN AND AS DIRECTED BY THE CLIENT ANY PUBLIC OR PRIVATE PROPERTY DAMAGED BY THE WORK, EQUIPMENT, EMPLOYEES OR SUBCONTRACTORS TO A CONDITION AT LEAST EQUAL TO THAT EXISTING IMMEDIATELY PRIOR TO THE BEGINNING OF OPERATIONS.
- CONTRACTOR SHALL MAINTAIN EXISTING TRAFFIC FLOW PATTERNS THROUGHOUT ALL WORK OPERATIONS. MAINTENANCE OF TRAFFIC IN THE PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE CITY, STATE AND LOCAL GOVERNMENT CODES.
- ALL EXCAVATIONS SHALL COMPLY WITH OSHA'S EXCAVATION SAFETY STANDARDS AND TRENCH SAFETY CODES, CONTRACTOR SHALL FURNISH THE OWNER WITH WRITTEN ASSURANCE THAT HE WILL COMPLY WITH THESE REGULATIONS.
- THE PROJECT SITE AND ALL ADJACENT AREAS SHALL BE MAINTAINED IN A NEAT AND CLEAN MANNER. UPON FINAL CLEAN UP, THE PROJECT SITE SHALL BE LEFT CLEAR OF ALL SURPLUS MATERIAL OR TRASH.
- CONTRACTOR IS TO VERIFY THE EXACT LOCATION OF ALL EXISTING TREES, STRUCTURES AND UTILITIES WHICH MAY NOT BE SHOWN ON PLANS. ANY STRUCTURE, PAVEMENT, TREES OR OTHER EXISTING IMPROVEMENT NOT SPECIFIED FOR REMOVAL WHICH IS TEMPORARILY DAMAGED, EXPOSED OR IN ANY WAY DISTURBED BY CONSTRUCTION PERFORMED UNDER THIS CONTRACT, SHALL BE REPAIRED, PATCHED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR TO RELOCATE TREES AS DIRECTED BY THE CLIENT. CONTRACTOR SHALL AVOID DAMAGE TO ANY EXISTING TREES TO REMAIN. EXISTING TREES SHALL BE REMOVED ONLY IF REQUIRED FOR CONSTRUCTION. THOSE TREES NOT INTERFERING WITH CONSTRUCTION SHALL BE PROTECTED IN PLACE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING AT HIS OWN EXPENSE ANY ITEMS, INCLUDING BUT NOT LIMITED TO NEARBY PROPERTIES AND EXISTING DRAINAGE INFRASTRUCTURE, DAMAGED DUE TO HIS PERSONNEL OR EQUIPMENT INSIDE AND/OR OUTSIDE OF THE CONSTRUCTION AREA.
- CONTRACTOR SHALL ENSURE THAT ALL MUD OR ANY OTHER TYPE OF DEBRIS IS CLEANED FROM ADJACENT ROADWAYS (WHERE APPLICABLE) AT THE END OF EACH DAY. CONTRACTOR SHALL BE LIABLE FOR ANY PERSONAL OR PROPERTY DAMAGE CAUSED BY ANY TYPE OF DEBRIS LEFT ON ROADWAYS AND/OR PEDESTRIAN WAYS.
- CONTRACTOR SHALL AVOID DAMAGING EXISTING IRRIGATION SYSTEMS. IF PLANS AND BLUEPRINTS ARE NOT PROVIDED OR AVAILABLE THE CONTRACTOR WILL NOT BE RESPONSIBLE.
- THE INFORMATION PROVIDED IN THESE DRAWINGS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF CONDITIONS WHICH WILL BE ENCOUNTERED DURING THE COURSE OF WORK. THE CONTRACTORS ARE DIRECTED, PRIOR TO BIDDING, TO CONDUCT WHATEVER INVESTIGATIONS THEY DEEM NECESSARY TO ARRIVE AT THEIR OWN CONCLUSION REGARDING THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND UPON WHICH BIDS WILL BE BASED.

SOIL EROSION, SEDIMENT, AND TURBIDITY CONTROL GENERAL NOTES

- THIS PROJECT IS SUBJECT TO ALL RELATED ENVIRONMENTAL REQUIREMENTS WHICH INCLUDE A "CONTROL OF EROSION AND SEDIMENTATION PLAN". THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING NECESSARY AND ADEQUATE MEASURES FOR PROPER CONTROL OF EROSION DUE TO SEDIMENTATION RUNOFF FROM THE SITE PRIOR TO CONSTRUCTION OPERATIONS IN A PARTICULAR AREA. ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO START OF CONSTRUCTION. FIELD ADJUSTMENTS WITH RESPECT TO LOCATIONS AND DIMENSIONS MAY BE MADE BY THE ENGINEER AS REQUIRED.
- EROSION CONTROL MEASURES WILL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RAIN FOR DAMAGE AND GENERAL EFFECTIVENESS. ANY DAMAGED OR INEFFECTIVE CONTROLS SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR.
- ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED, IF DEEMED NECESSARY, BY THE ON-SITE INSPECTOR.
- EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. TEMPORARY AND PERMANENT MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- ALL TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE LEFT IN PLACE AND MAINTAINED UNTIL THE AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION.
- ALL CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ON TO ANY PUBLIC RIGHT-OF-WAY. THIS SHALL REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS REQUIRE. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED ON TO PUBLIC RIGHT-OF-WAY OR INTO STORM DRAINS SHALL BE PROMPTLY REMOVED BY CONTRACTOR.
- FLOATING TURBIDITY BARRIERS SHALL BE INSTALLED AND MAINTAINED AS CLOSE AS POSSIBLE TO THE CONSTRUCTION OPERATION UPSTREAM AND DOWNSTREAM OF CANALS. TURBIDITY BARRIERS SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS AND DETAILS.
- TURBIDITY BARRIERS WILL BE RELOCATED ALONG THE SHORELINE AS THE SECTIONS/PHASES OF CONSTRUCTION ARE COMPLETED.
- TURBIDITY SCREENS OR EQUIVALENT SHALL BE PROPERLY EMPLOYED AND MAINTAINED AS NECESSARY DURING CONSTRUCTION ACTIVITIES SO THAT TURBIDITY LEVELS DO NOT EXCEED 29 NTU's ABOVE NATURAL BACKGROUND 50 FEET DOWNSTREAM OF POINT OF DISCHARGE. IF TURBIDITY LEVELS EXCEED THESE LIMITS, PROJECT ACTIVITIES SHALL IMMEDIATELY CEASE, AND WORK SHALL NOT RESUME UNTIL TURBIDITY LEVELS DROP TO WITHIN THESE LIMITS.
- CONTRACTOR SHALL SOD GRASS AREAS DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COST TO OWNER.
- CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES).
- IF 1 ACRE OR MORE IS DISTURBED, A NPDES GENERAL PERMIT IS REQUIRED.

© Erosion Restoration, LLC.

REVISIONS	Erosion and Sedimentation Control Plan for Walnut Creek Community Development District Creek		LANDSHORE [®] ENTERPRISES	118 Shamrock Blvd., Venice, FL 34293 Office: 941-303-5238 Fax: 941-218-6113 E-mail: info@landshore.com	THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY PIETER M. LOMBARD ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.	GENERAL NOTES	PROJECT NO. 2024-064	HEET 2	OF 17
DATE	BY	DESCRIPTION					DRAWN BY: NV	DATE: 03/07/2025	SCALE: N.T.S.

LEGEND

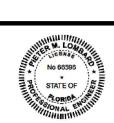
SYMBOL/LINE	DESCRIPTION	SYMBOL/LINE	DESCRIPTION
	BASELINE		DETAIL NUMBER
N32°59'57.19"E	BEARING		Typical Detail Call Out
	CATCH BASIN		Detail Sheet Number
	CENTERLINE		Filter Point Fabric (FPFs)
	DIAMETER		BEDDING STONE/CRUSHED CONCRETE
2.94	EXISTING GROUND ELEVATION (FROM SURVEY)		EMBANKMENT
	HYDRANT		REGULAR EXCAVATION
	LIGHTPOLE		RIP-RAP
	OFFICIAL BENCHMARK (BM)		RIP-RAP (BOULDER)
	PALM TREES		CONCRETE BLOCK EROSION CONTROL MAT (FLEXAMAT/SHOREFLEX). TOP VIEW
	POLE		PLANTS
	SET OR FOUND SURVEY CONTROL POINT		SEAWALL
	SIGN (SINGLE SUPPORT)		STACKED CANAL BANK STABILIZATION (CBS)
	SIGNAL MAST ARM		STRUCTURAL FILL
	SURVEY CONTROL POINT (SCP)		EROSION CONTROL PANEL
	SURVEY CONTROL POINT (SCP/TBM)		TREE FOLIAGE
	TEMPORARY BENCHMARK (TBM)		PTOB PROPOSED TOP OF BANK
	TREES		TOB TOP OF BANK
— — — — —	CANAL MAINTENANCE EASEMENT		TOS TOP OF SLOPE
— — — — —	CANAL RIGHT OF WAY		TURBIDITY BARRIER
— — — — —	CANAL RIGHTS ON RESERVATION		WARNING BARRIER FENCE
	EFT 6' SACRIFICIAL TUBE		WL WATER LINE
	EFT 7.5' BASE TUBE		TREE AND PALM TO BE REMOVED
	EFT 7.5' SUPPORTING TUBE		LOCAL HARD SURFACE ROAD
	EFT 10' BASE TUBE		INTERSTATE ROUTE
	EFT 10' SUPPORTING TUBE		TOLL ROUTE
	EXISTING GEOTUBE DONE BY OTHERS		U.S. ROUTE
	EXISTING ECO-FILTER TUBE		STATE ROUTE
	EXISTING FENCE		DIVISION OF PLANNING ROUTE DESIGNATION
	EXISTING CHAIN LINK FENCE		COUNTY ROUTE
	EXISTING GUARDRAIL		RAILROAD TRACK
	EXISTING SHRUBS		MULTIPLE RAILROAD TRACK
	GRASS SOD		TRI-RAIL STATION
	FLEXAMAT		RAILROAD STATION
	GUY ANCHOR		GRADE CROSSING
	PRIORITY 01: SERIOUS CONDITION		RAILROAD BELOW
	PRIORITY 02: POOR CONDITION		
	PRIORITY 03: FAIR CONDITION		
	PROPOSED CHAIN LINK FENCE		
	PROPOSED HANDRAIL		
	Sheet Piling		
	FILTER POINT FABRIC		

ABBREVIATIONS

ASPH =	ASPHALT	NTS =	NOT TO SCALE
	BASELINE	NTU =	NEPHELOMETRIC TURBIDITY UNITS
BLCP =	BASELINE CONTROL POINT (TO BE SET BY CONTRACTOR)	OWT =	OBSERVED WATER TABLE
BM =	BENCHMARK		PROPERTY LINE
	CENTERLINE	PB =	PLAT BOOK
C.L.F. =	CHAIN LINK FENCE	PED =	PEDESTRIAN
C.M.E. =	CANAL MAINTENANCE EASEMENT	PG =	PAGE
CAP =	CORRUGATED ALUMINUM PIPE	PI =	POINT OF INTERSECTION
CBS =	CANAL BANK STABILIZATION	P&P =	PLAN AND PROFILE
CES =	CONTROL ELEVATION STRUCTURE	PR =	PRACTICE RANGE
CMP =	CORRUGATED METAL PIPE	PROP. =	PROPOSED
COA =	COLLAPSED AREA	PVC =	POLYVINYL CHLORIDE
CONC =	CONCRETE	PVMT =	PAVEMENT
COR =	CORNER	R/W =	RIGHT OF WAY
CS =	CLEAN SAND	RT =	OFFSET RIGHT
CSLAB =	CONCRETE SLAB	SAN =	SANITARY
DC =	DATA COLLECTOR	SCP =	SURVEY CONTROL POINT
DIP =	DUCTILE IRON PIPE	SDWK =	SIDEWALK
DWT =	DESIGN WATER TABLE	WMD =	WATER MANAGEMENT DISTRICT
ELEV =	ELEVATION	SP =	SHEET PILING
EOP =	EDGE OF PAVEMENT	SPK =	SPRINKLER
EOW =	EDGE OF WATER	SWPPP =	STORMWATER POLLUTION PREVENTION PLAN
ERA =	ERODED AREA	ST =	STORM
ESMT =	EASEMENT	STA =	STATION
ETOB =	EXISTING TOP OF BANK	STD =	STANDARD
EXIST =	EXISTING	TBM =	TEMPORARY BENCHMARK
EG =	EXISTING GROUND	TOBP =	TOP OF BANK (PROPOSED)
FG =	FINISH GRADE	TOB =	TOP OF BANK
FDOT =	FLORIDA DEPARTMENT OF TRANSPORTATION	TOS =	TOP OF SLOPE
FT =	FEET	TYP =	TYPICAL
G =	GAS	UT =	UTILITY
GR =	GRADE	VERT =	VERTICAL
HFT =	HOUSE FOOTPRINT	W =	WATER
HOR =	HORIZONTAL	WD =	WOOD DOCKS
HWT =	HIGH WATER TABLE	WL =	WATERLINE
INV =	INVERT	WCCDD =	WALNUT CREEK COMMUNITY DEVELOPMENT DISTRICT
IRR =	IRRIGATION	XS =	CROSS SECTION
LB =	POUND		
LT =	OFFSET LEFT		
MUTCD =	MANUAL OF UNIFORM TRAFFIC DEVICES		
N/A =	NOT APPLICABLE		
NAD =	NORTH AMERICAN DATUM		
NAVD =	NATIONAL AMERICAN VERTICAL DATUM		
NG =	NATURAL GRADE		
NGVD =	NATIONAL GEODETIC VERTICAL DATUM		

REVISIONS		
DATE	BY	DESCRIPTION
		Erosion and Sedimentation Control Plan for Walnut Creek Community Development District Creek

118 Shamrock Blvd,
Venice, FL 34293
Office: 941-303-5238
Fax: 941-218-6113
E-mail: info@landshore.com

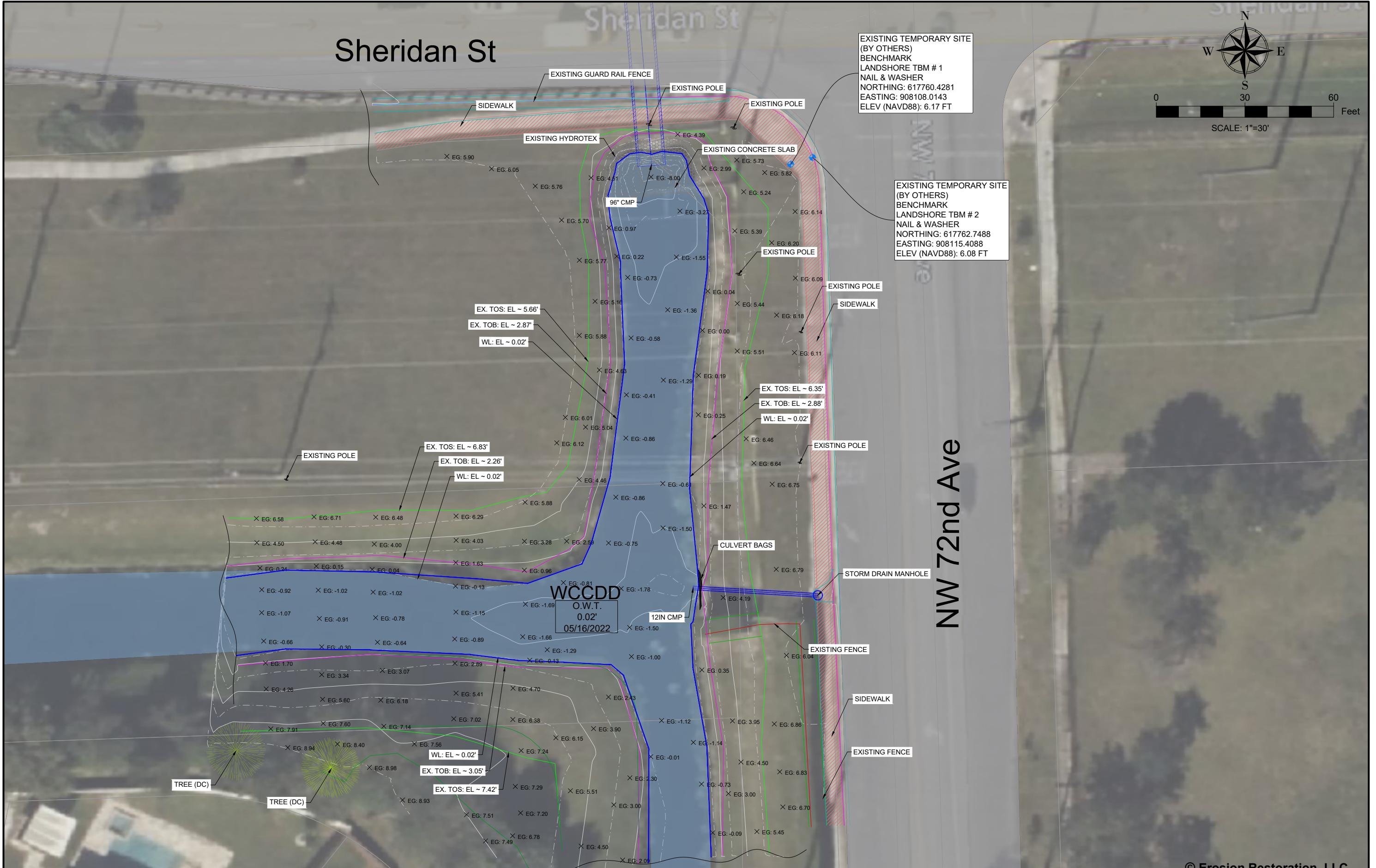


THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY PIETER M. LOMBARD ON THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

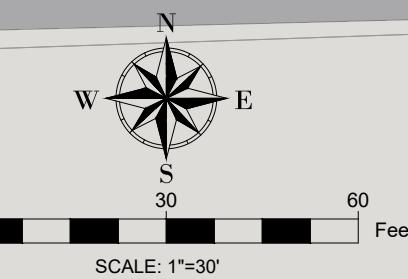
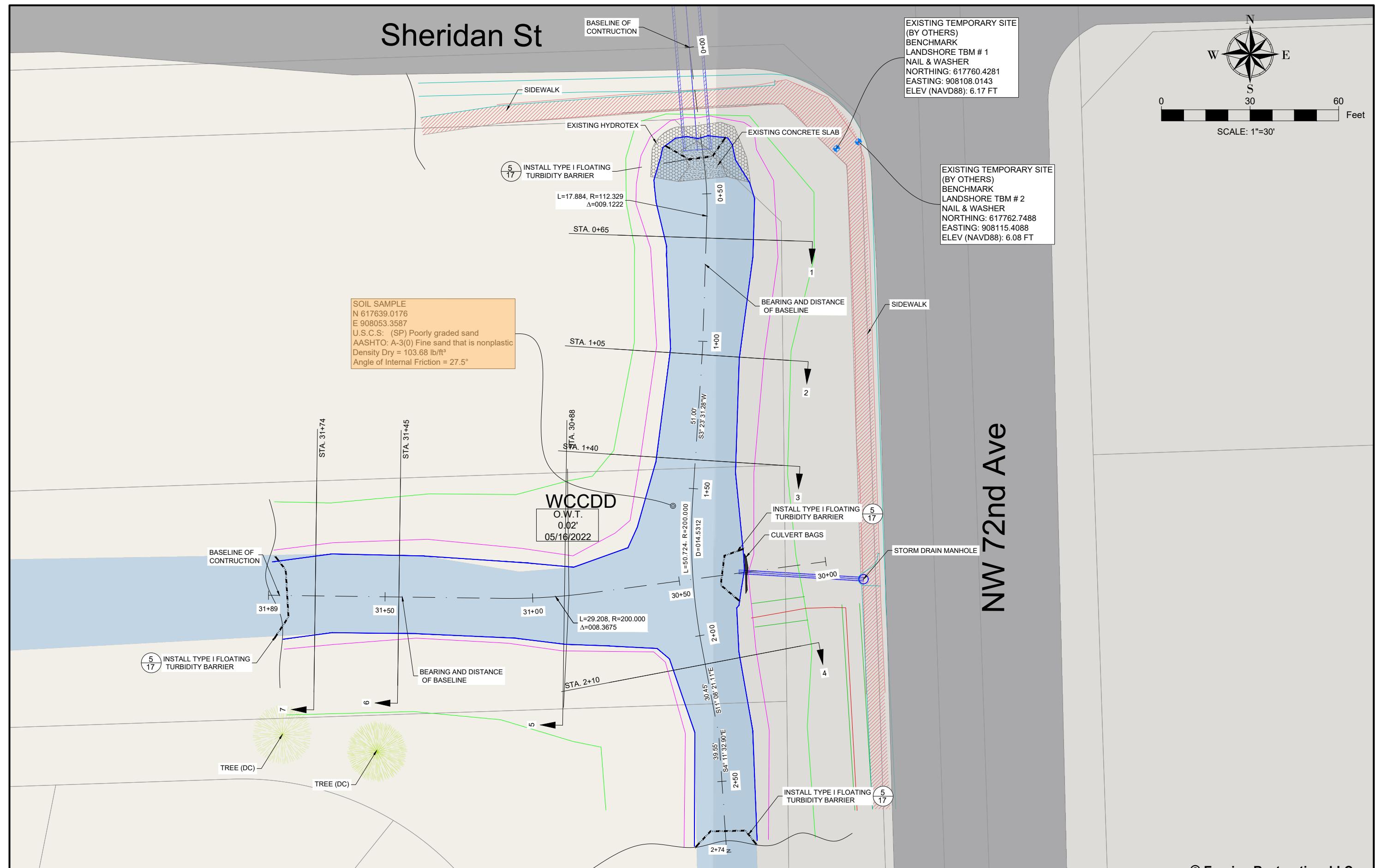
LEGEND AND ABBREVIATIONS

PROJECT NO.	3	OF
2024-064		17
DRAWN BY:		SCALE:
NV	03/07/2025	NTS

© Erosion Restoration, LLC.



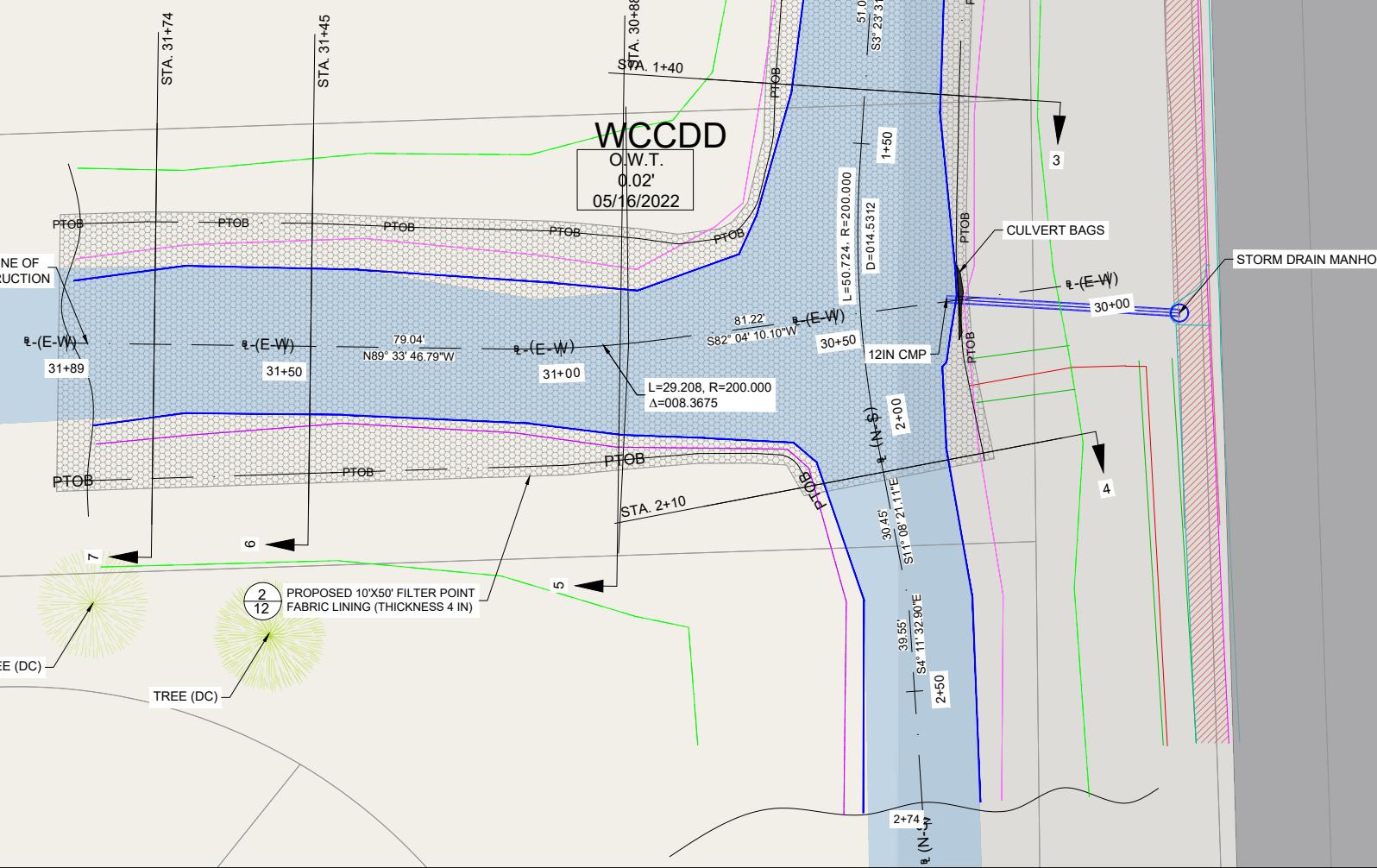
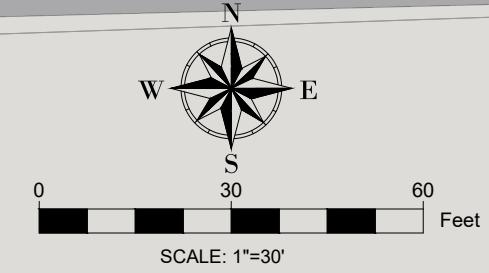
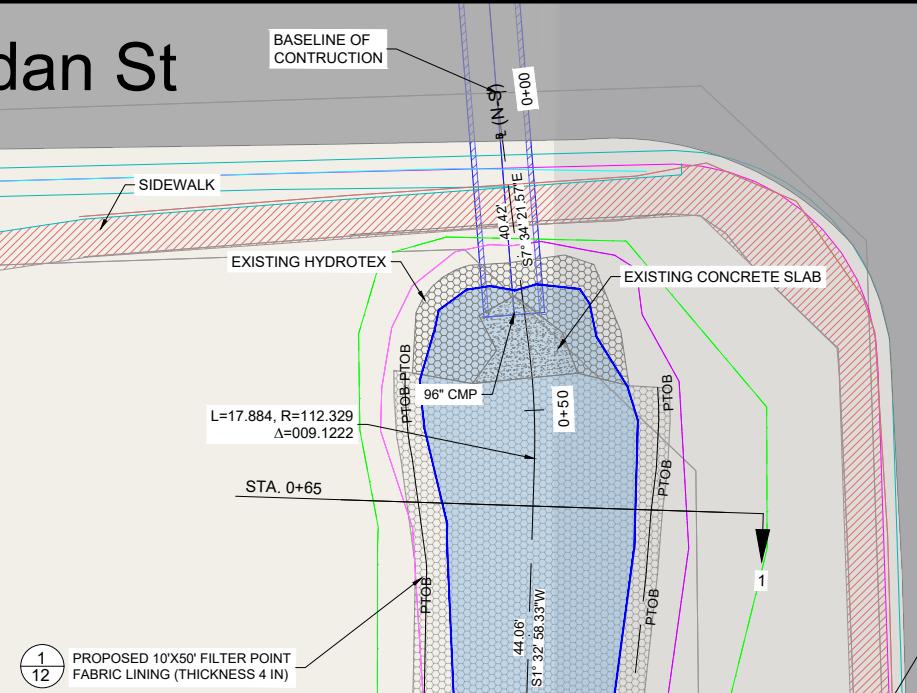
Sheridan St



© Erosion Restoration, LLC.

SECTIONS	STATIONS	LENGTH (FT)	WIDTH (FT)	EROSION CONTROL ELEMENT
01	0+45 TO 2+11	166	10	PROPOSED 10'x50' FILTER POINT FABRIC LINING AVERAGE THICKNESS 4 IN, C125 EROSION CONTROL BLANKET OR SIMILAR, AND ST AUGUSTINE SOD OR SIMILAR
02	30+45 TO 31+89	144	8	PROPOSED 10'x50' FILTER POINT FABRIC LINING AVERAGE THICKNESS 4 IN, C125 EROSION CONTROL BLANKET OR SIMILAR, AND ST AUGUSTINE SOD OR SIMILAR

Sheridan St



NW 72nd Ave

© Erosion Restoration, LLC.

REVISIONS		
DATE	BY	DESCRIPTION

Erosion and Sedimentation Control Plan for
Walnut Creek Community Development District
Creek



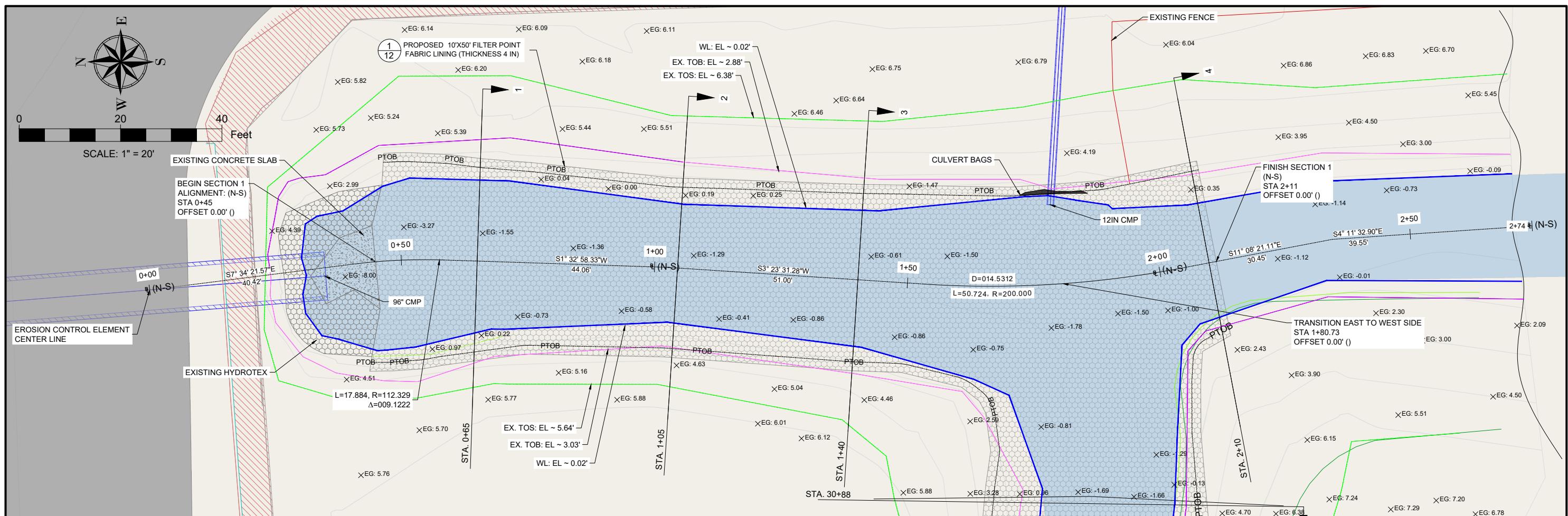
118 Shamrock Blvd.,
Venice, FL 34293
Office: 941-303-5238
Fax: 941-218-6113
E-mail: info@landshore.com



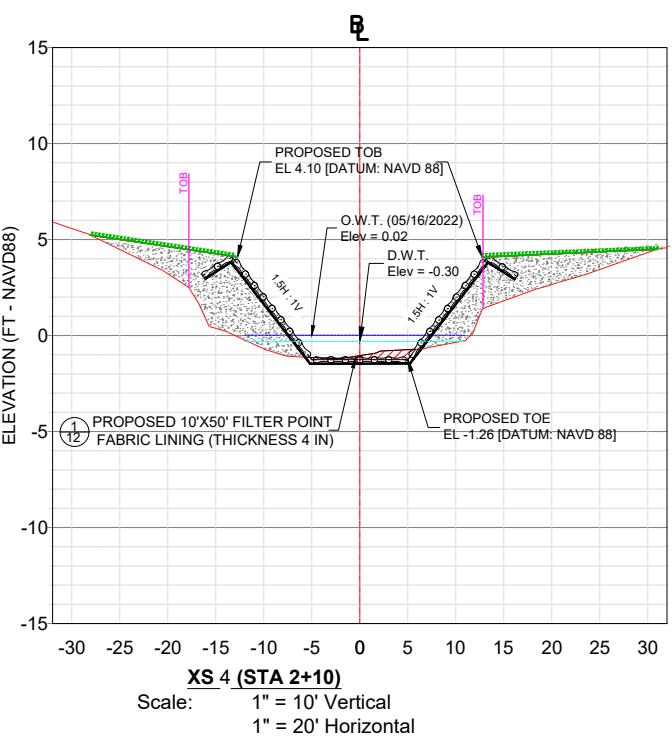
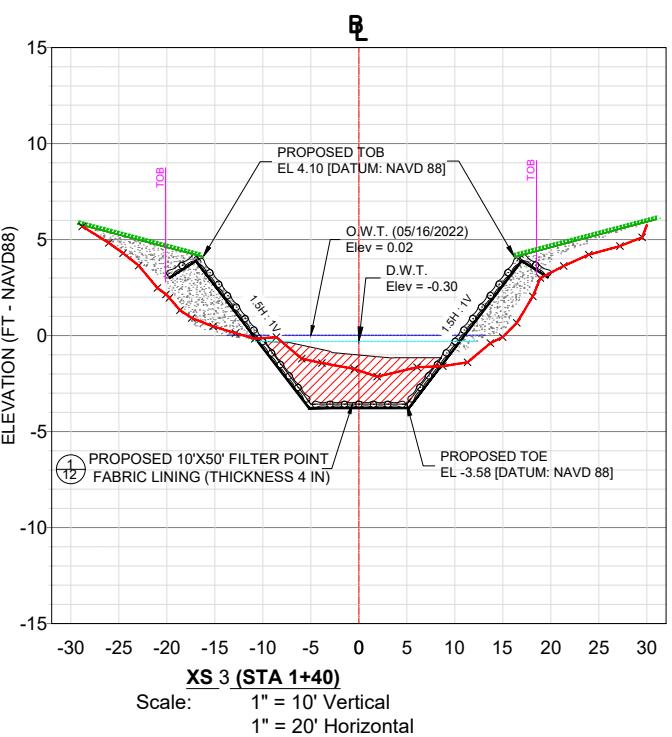
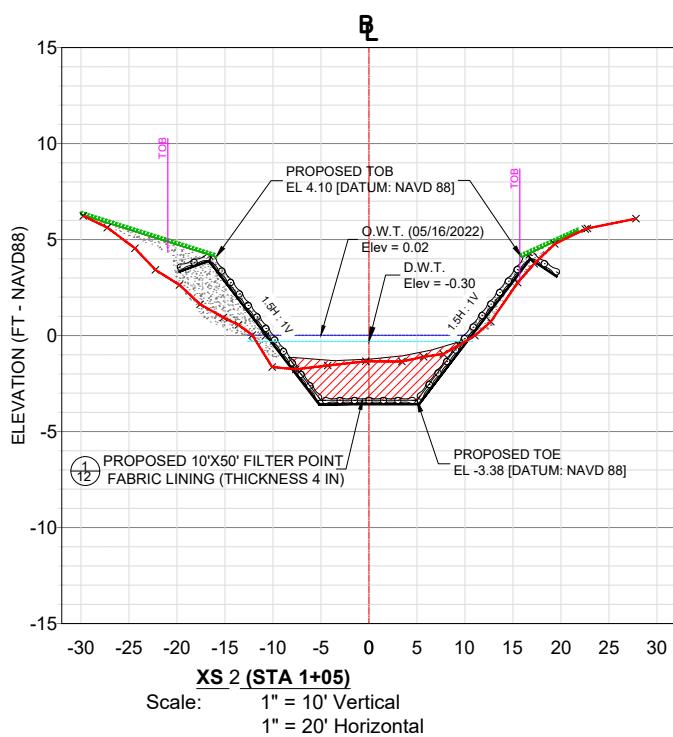
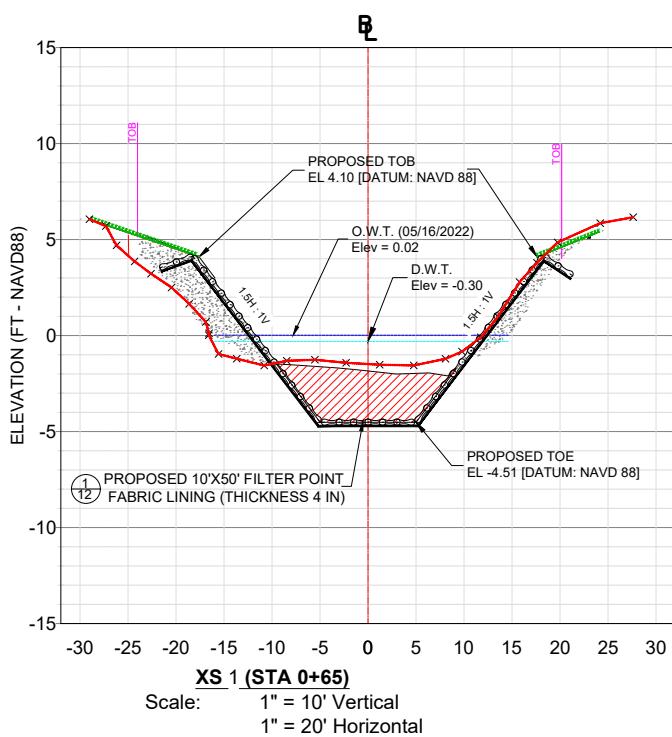
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY PIETER M. LOMBARD ON THE
DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED
AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

EROSION ELEMENT CONTROL PLAN

PROJECT NO. 2024-064	sheet 6	OF 17
DRAWN BY: NV	DATE: 03/07/2025	SCALE: 1"=30'



SECTION # 1 NORTH - SOUTH SIDE



© Erosion Restoration, LLC.

Erosion and Sedimentation Control Plan for Walnut Creek Community Development District Creek



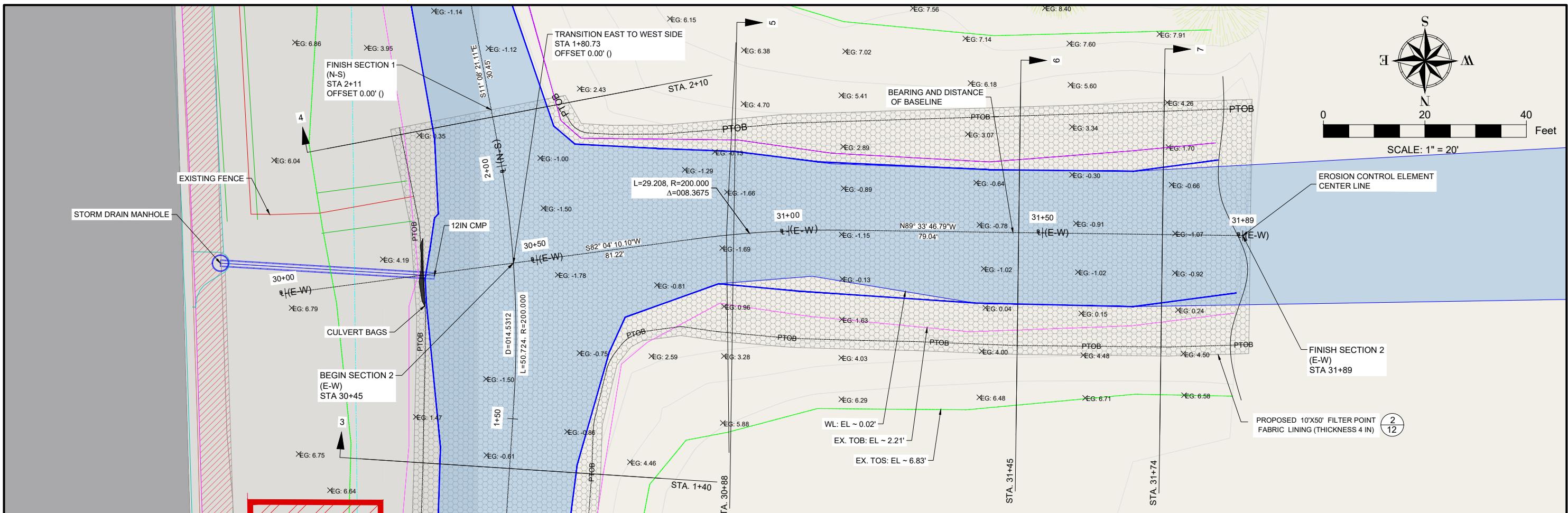
**LANDSHORE
APPROPRIATES**
118 Shamrock Blvd.,
Venice, FL 34293
Office: 941-303-5238
Fax: 941-218-6113
E-mail: info@landshore.com



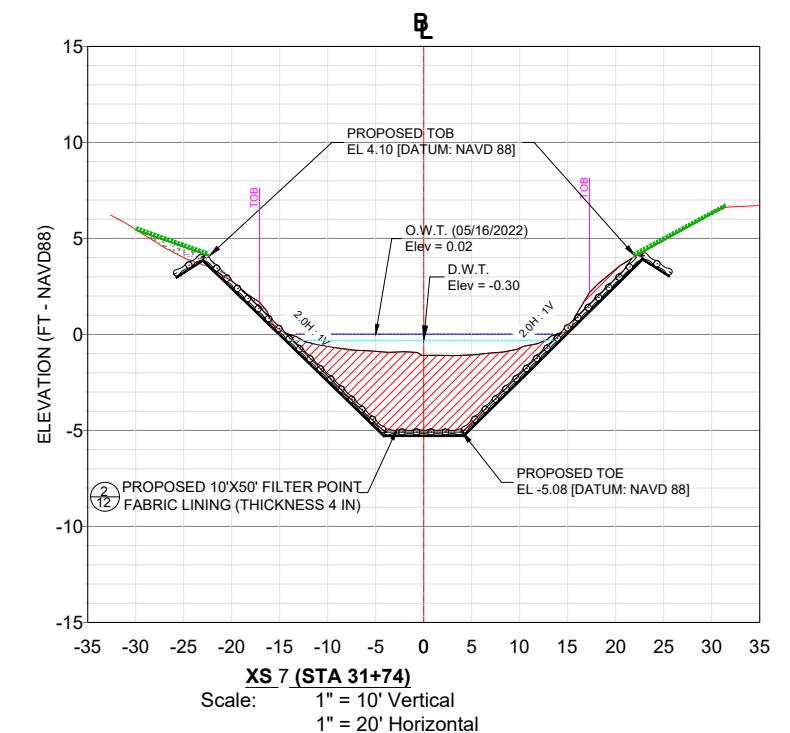
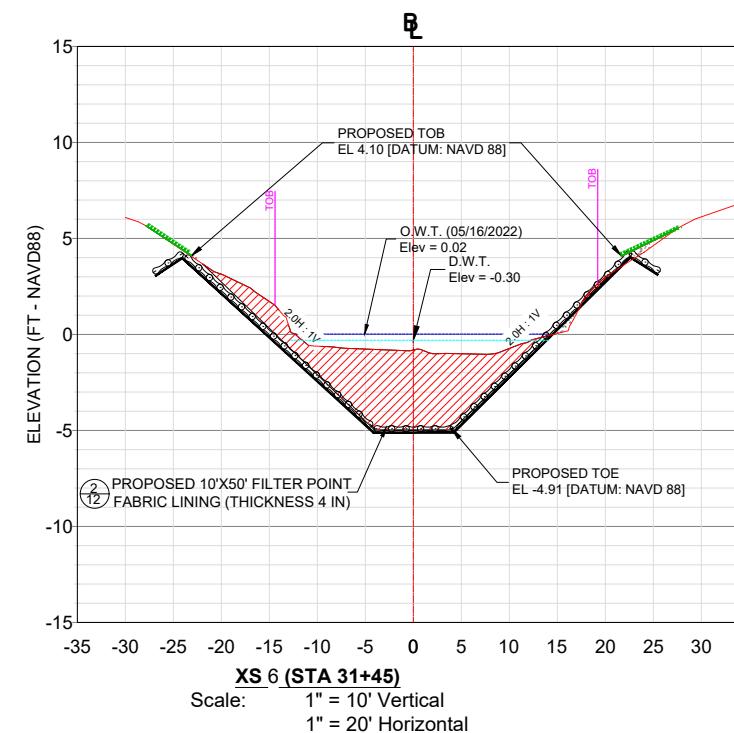
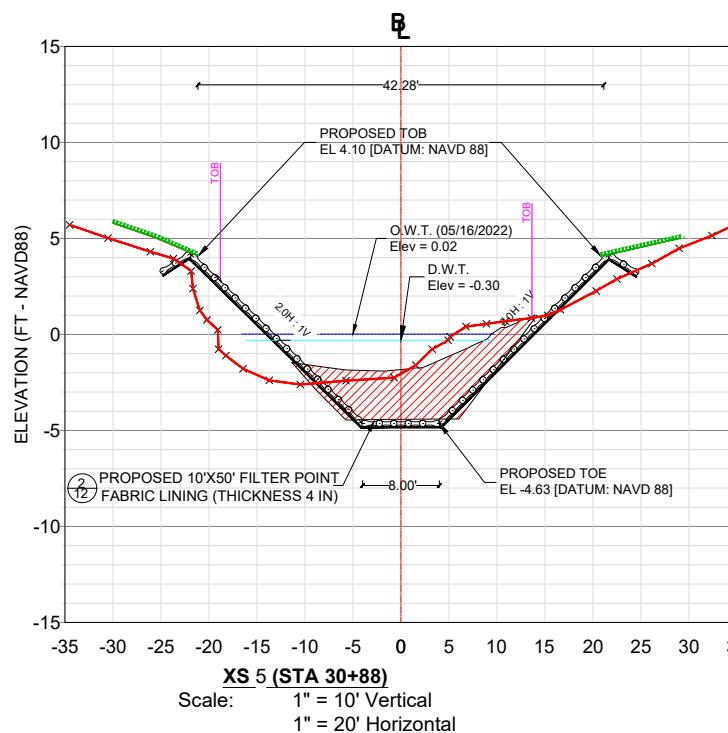
THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY PIETER M. LOMBARD ON THE DATE ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

PLAN AND CROSS SECTIONS



SECTION # 2 EAST-WEST SIDE



© Erosion Restoration, LLC.

REVISIONS		
DATE	BY	DESC

Erosion and Sedimentation Control Plan for Walnut Creek Community Development District Creek

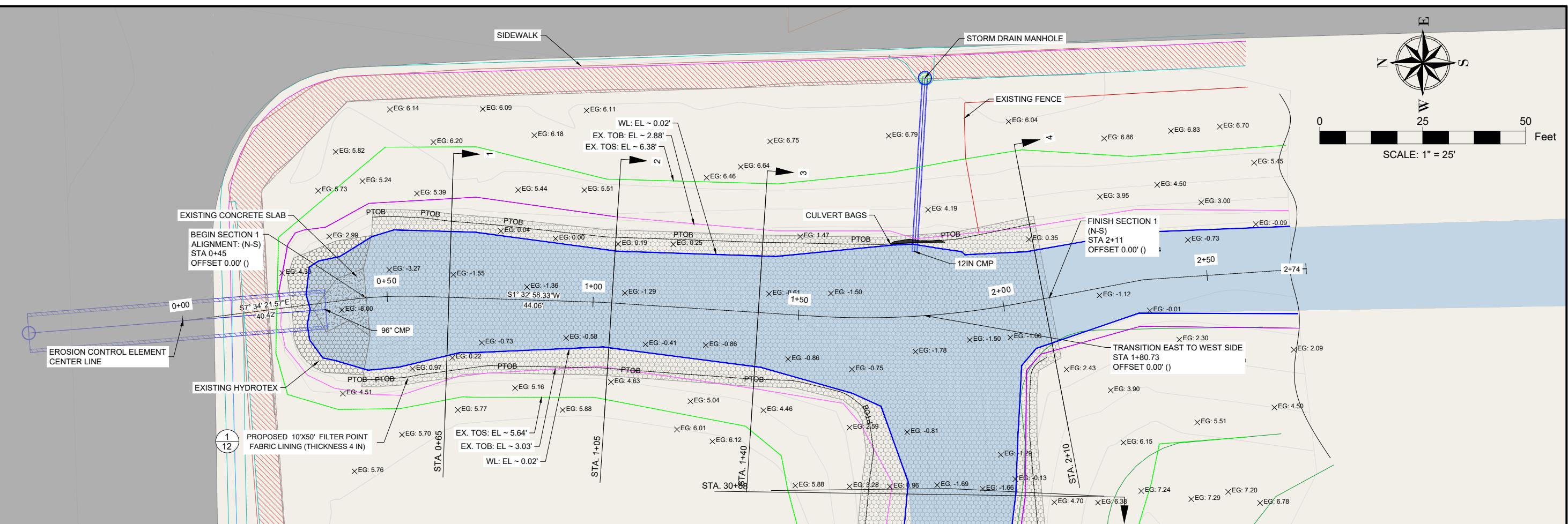


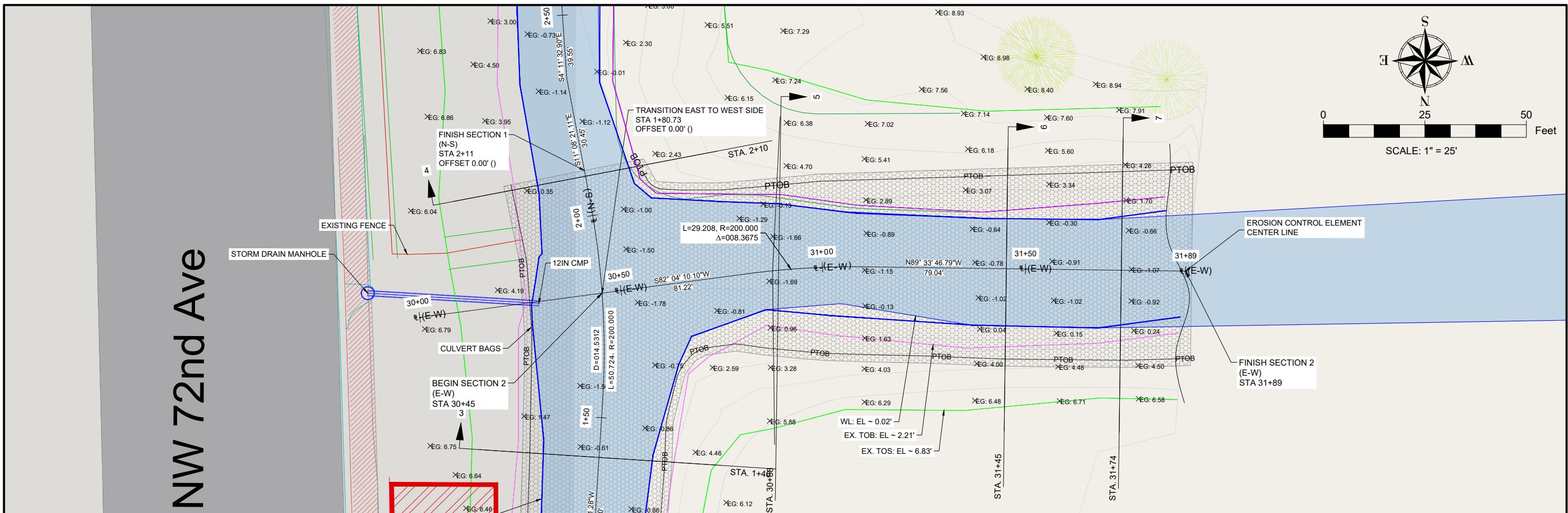
RE[®]
APRISES
118 Shamrock Blvd.,
Venice, FL 34293
Office: 941-303-5238
Fax: 941-218-6113
E-mail: info@landshore.com

A circular seal for Peter M. Lombard, Professional Engineer, State of Florida, License No. 66385. The seal is divided into four quadrants. The top-left quadrant contains the text 'PETER M. LOMBARD' and 'PROFESSIONAL ENGINEER'. The top-right quadrant contains 'LICENSING' and 'NO. 66385'. The bottom-left quadrant contains 'PETER M. LOMBARD' and 'PROFESSIONAL ENGINEER'. The bottom-right quadrant contains 'LICENSING' and 'NO. 66385'. The seal is surrounded by a circular border with the words 'PETER M. LOMBARD' and 'PROFESSIONAL ENGINEER' repeated twice.

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY PIETER M. LOMBARD ON THE DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

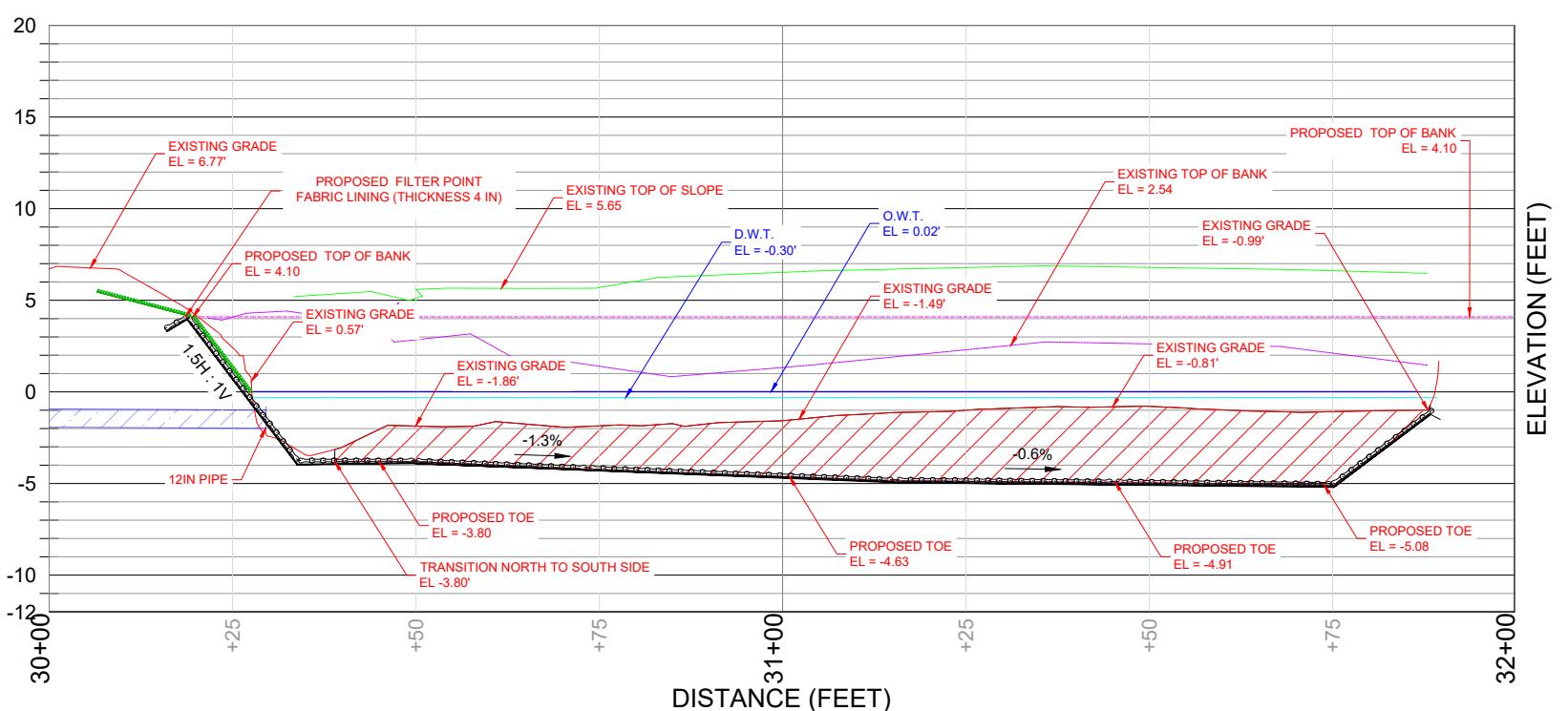
PLAN AND CROSS SECTIONS





SECTION # 2 PROFILE

PROFILE



Scale:
Horizontal = 1" = 25'
Vertical = 1" = 10'

© Erosion Restoration, LLC.

REVISIONS		
DATE	BY	DESCRIPTION

Erosion and Sedimentation Control Plan for
Walnut Creek Community Development District
Creek



118 Shamrock Blvd.,
Venice, FL 34293
Office: 941-303-5238
Fax: 941-218-6113
E-mail: info@landshore.com



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY PIETER M. LOMBARD ON THE DATE ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

PLAN AND PROFILE

PROJECT NO.	SHEET	OF
2024-064	10	17
DRAWN BY:	DATE:	SCALE:
NV	03/07/2025	AS SHOWN

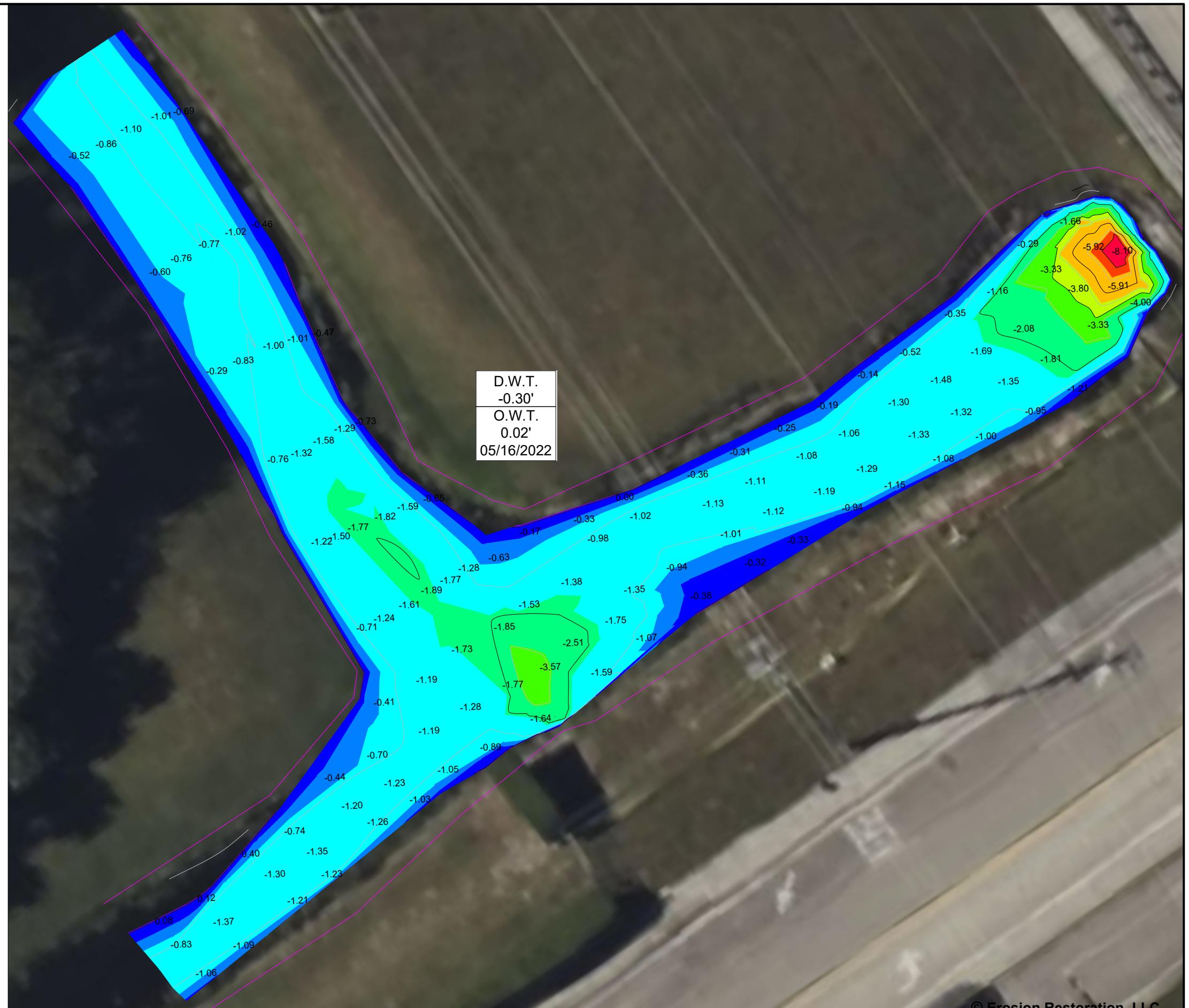


Bathymetric Table

Bathymetric Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	-8.50'	-8.00'	Red
2	-8.00'	-7.20'	Orange
3	-7.20'	-5.10'	Yellow
4	-5.10'	-4.00'	Light Green
5	-4.00'	-2.90'	Green
6	-2.90'	-1.80'	Light Blue
7	-1.80'	-0.70'	Blue
8	-0.70'	-0.35'	Dark Blue
9	-0.35'	0.00'	Black
10	0.00'	0.02'	Purple

Lake Characteristics

Date	: 05/16/2022
Area	: 9956 Sq. Ft.
Perimeter	: 1335 Ft.
Capacity	: 590 CY
Av. Sed.	: \pm 1.20 Ft
M.W.T.	: 0.02Ft
Depth	: \pm 8.50Ft.
Min. Slope	: Horizontal
Max. Slope	: 0.08H:1V
Mean Slope	: 4.76H:1V



© Erosion Restoration, LLC.

Erosion and Sedimentation Control Plan for Walnut Creek Community Development District Creek



118 Shamrock Blvd
Venice, FL 34293
Office: 941-303-5233
Fax: 941-218-6113
E-mail: info@landshore.com

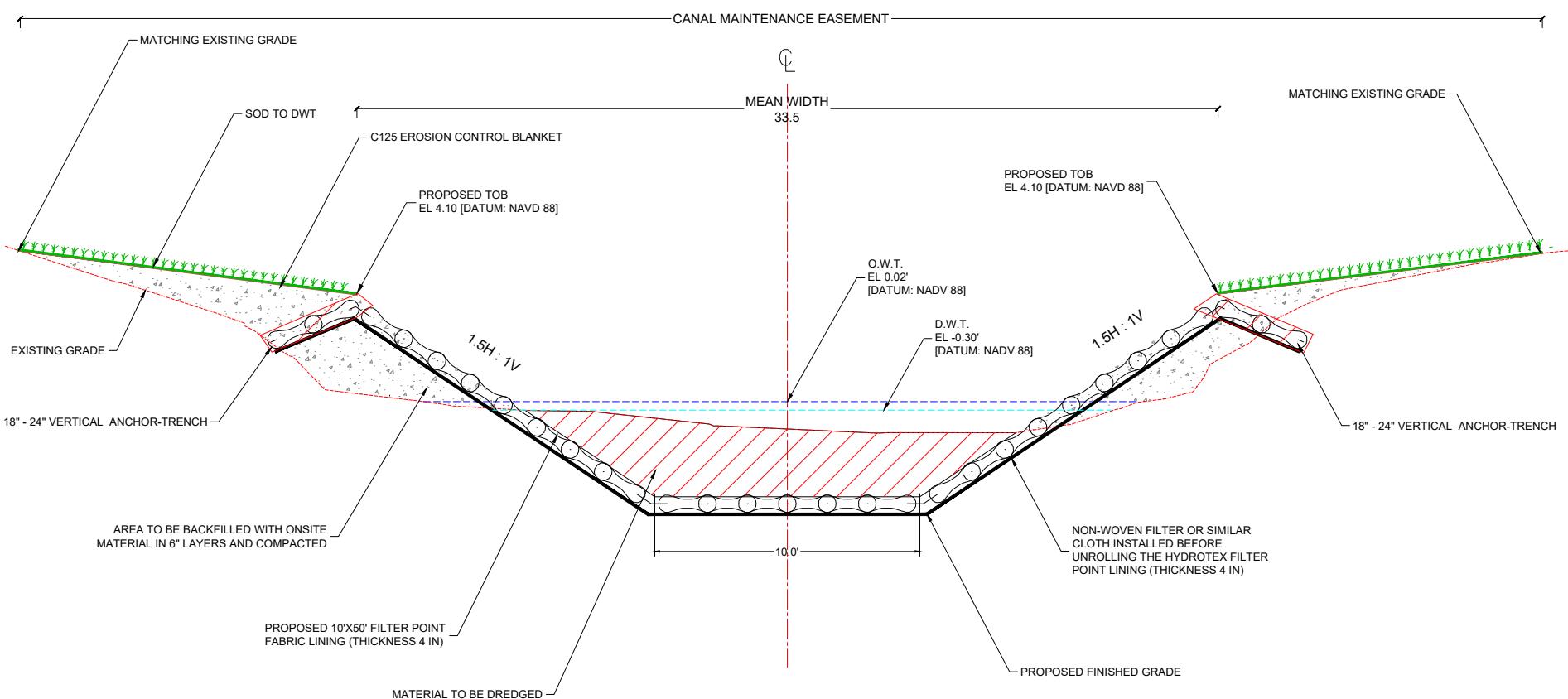


THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY PIETER M. LOMBARD ON
DATE ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED.
AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

BATHYMETRIC PLAN

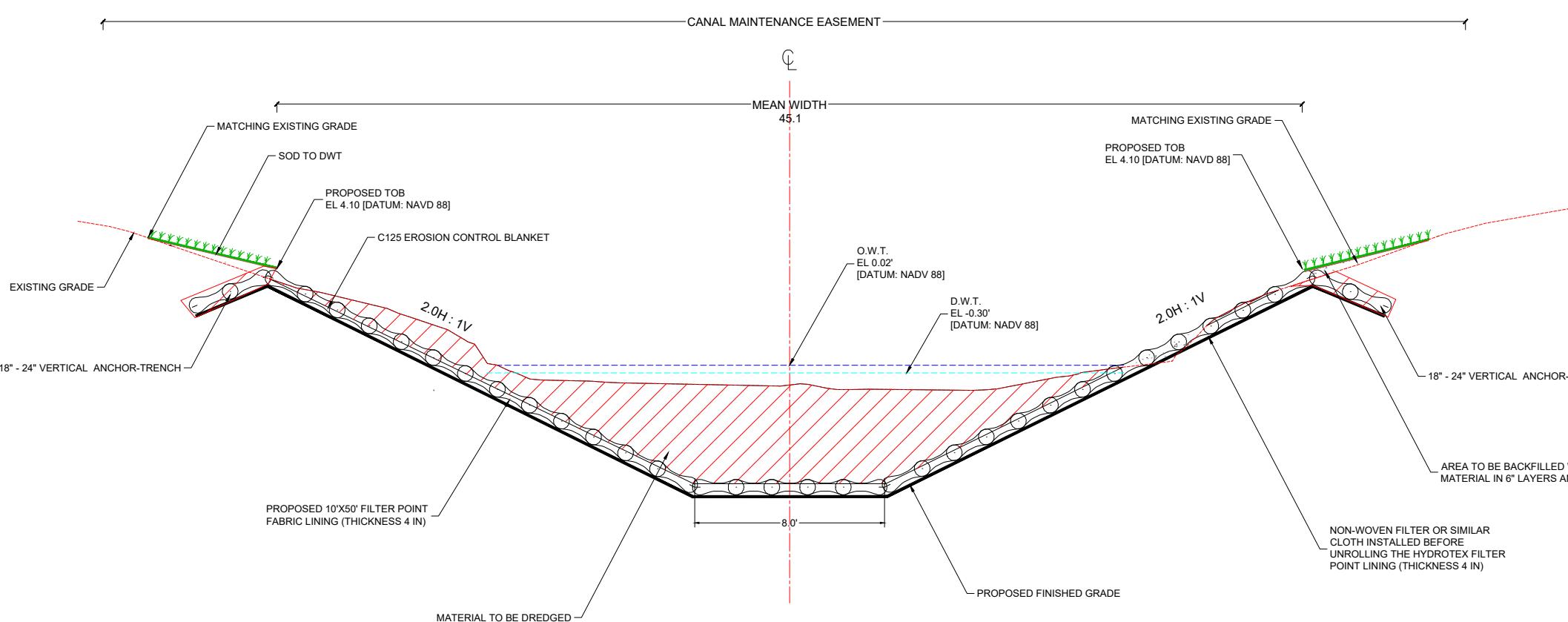
1. TYPICAL SECTION: NORTH-SOUTH SIDE
PROPOSED DESIGN TYP.



Worksheet for Trapezoidal Channel

Friction Method	Manning Formula
Solve For	Manning "n" and discharge
Input Data	
Roughness Coefficient (n)	0.0220
Channel Slope (R/L)	0.0056
Normal Depth (R)	7.85
Left Side Slope	1.50 H : 1V
Right Side Slope	1.50 H : 1V
Bottom Width (R)	10.00
Unit Constant, k	1.49
Upstream Bottom Elev. (ft)	-3.00
Upstream Station	0+74
Downstream Bottom Elev. (ft)	-3.59
Downstream Station	1+80
Length of Conveyance Channel (ft)	106.17
Results	
Discharge, Q (ft³/s)	216.72
Flow area, a (ft²)	170.77
Wetted Perimeter, P (ft)	38.29
Normal Top Width, Tn (ft)	33.5
Hydraulic Radius, R (ft)	4.46
Normal Hydraulic Depth, Dn (ft)	5.09
Normal Velocity, V (ft/s)	13.64
Normal Froude Number, F:	1.07
Flow type	Critical
Gravitational Acceleration, g (ft/s²)	32.17
Specific Energy, Sc (ft)	10.74
OutPut	
Critical Depth, yc (ft)	2.44
Critical Flow Discharge, q (ft³/s)	21.67
Critical Flow Area, Ac (ft²)	24.44
Critical Flow Velocity, Vc (ft/s)	0.89
Critical Wetted Perimeter, Pc (ft)	14.89
Critical Hydraulic Radius, Rch (ft)	1.64
Critical Bottom Slope, Sc/ft	0.00885
Manning Equation: $Q = V A \quad V = \frac{k}{n} \left(\frac{A}{P} \right)^{2/3} S^{1/2}$	
k is a unit conversion factor: k=1.49 for English units (feet and seconds). k=1.0 for SI units (meters and seconds).	
A =Flow area of the channel.	
P =Wetted perimeter which is the portion of the circumference that is in contact with water.	
Q =Discharge (flow rate).	
S =Downward (longitudinal) slope of the culvert.	
V =Average velocity in the pipe, culvert, or channel.	

2. TYPICAL SECTION: EAST-WEST SIDE
PROPOSED DESIGN TYP.



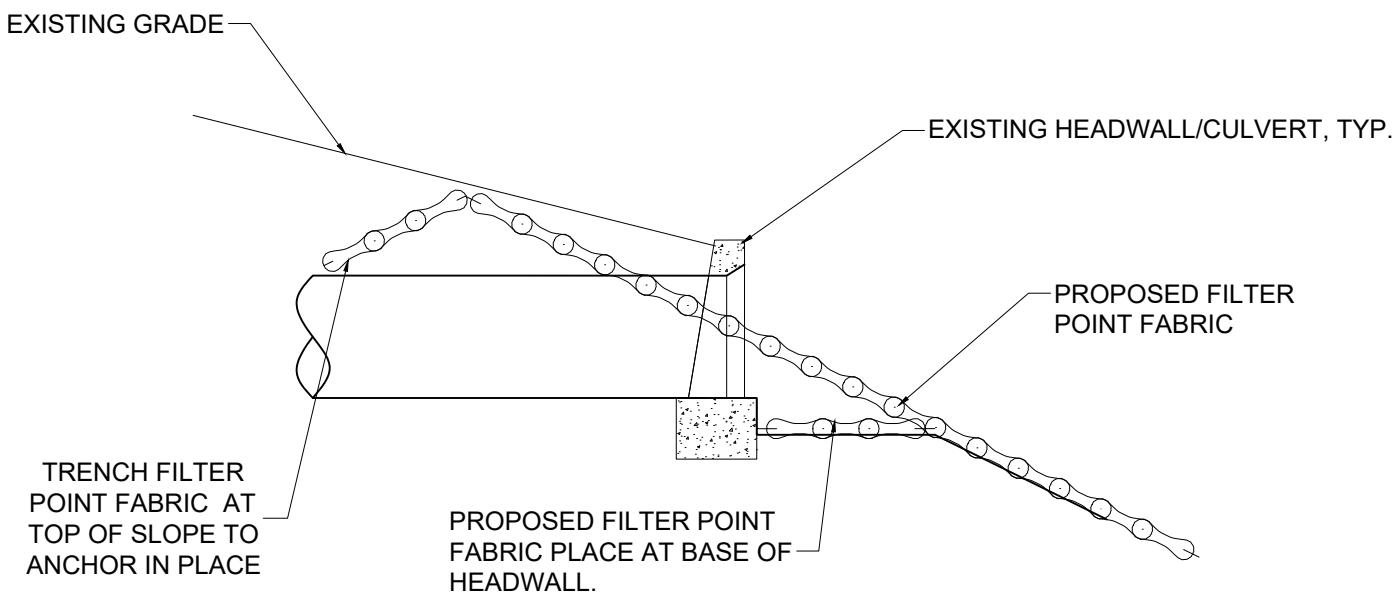
Worksheet for Trapezoidal Channel

Friction Method	Manning Formula
Solve For	Manning "n" and discharge
Input Data	
Roughness Coefficient (n)	0.0220
Channel Slope (R/L)	0.0061
Normal Depth (R)	9.27
Left Side Slope	2.00 H : 1V
Right Side Slope	2.00 H : 1V
Bottom Width (R)	8.00
Unit Constant, k	1.49
Upstream Bottom Elev. (ft)	-4.43
Upstream Station	31+01
Downstream Bottom Elev. (ft)	-4.97
Downstream Station	31+90
Length of Conveyance Channel (ft)	89.00
Results	
Discharge, Q (ft³/s)	216.72
Flow area, a (ft²)	246.18
Wetted Perimeter, P (ft)	49.47
Normal Top Width, Tn (ft)	45.1
Hydraulic Radius, R (ft)	4.98
Normal Hydraulic Depth, Dn (ft)	5.46
Normal Velocity, V (ft/s)	15.34
Normal Froude Number, F:	1.16
Flow type	Critical
Gravitational Acceleration, g (ft/s²)	32.17
Specific Energy, Sc (ft)	12.93
OutPut	
Critical Depth, yc (ft)	2.84
Critical Flow Discharge, q (ft³/s)	27.09
Critical Flow Area, Ac (ft²)	22.69
Critical Flow Velocity, Vc (ft/s)	1.19
Critical Wetted Perimeter, Pc (ft)	13.67
Critical Hydraulic Radius, Rch (ft)	1.66
Critical Bottom Slope, Sc/ft	0.01012
Manning Equation: $Q = V A \quad V = \frac{k}{n} \left(\frac{A}{P} \right)^{2/3} S^{1/2}$	
k is a unit conversion factor: k=1.49 for English units (feet and seconds). k=1.0 for SI units (meters and seconds).	
A =Flow area of the channel.	
P =Wetted perimeter which is the portion of the circumference that is in contact with water.	
Q =Discharge (flow rate).	
S =Downward (longitudinal) slope of the culvert.	
V =Average velocity in the pipe, culvert, or channel.	

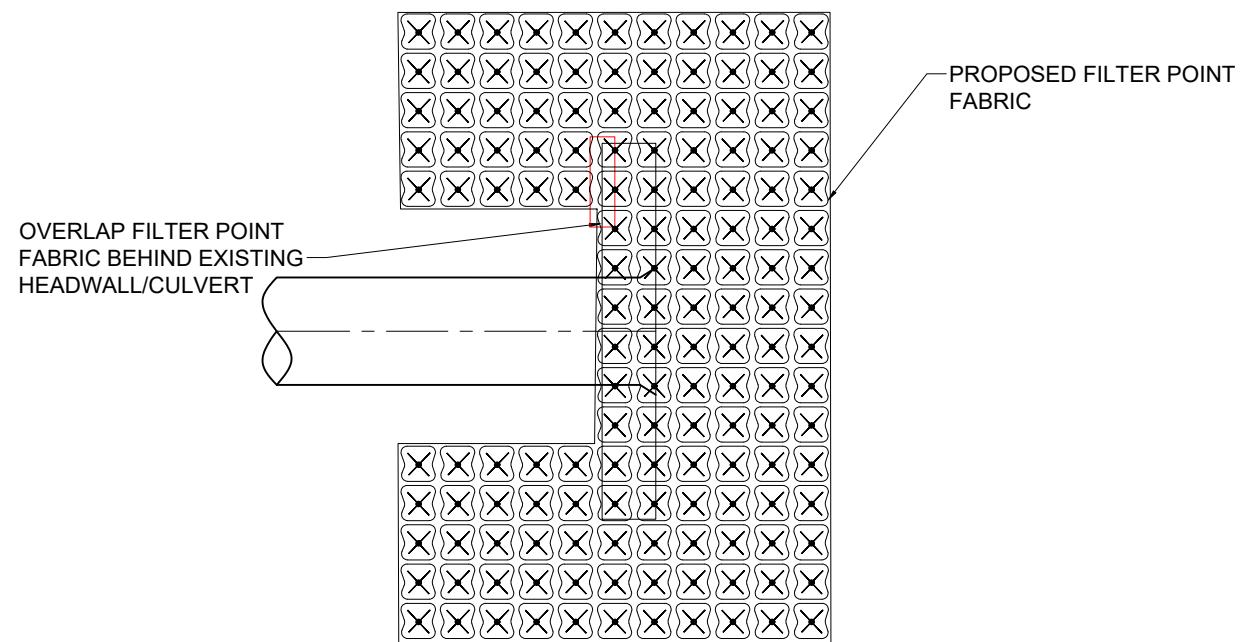
© Erosion Restoration, LLC.

REVISIONS	Erosion and Sedimentation Control Plan for Walnut Creek Community Development District Creek			LANDSHORE [®] ENTERPRISES	118 Shamrock Blvd., Venice, FL 34293 Office: 941-303-5238 Fax: 941-218-6113 E-mail: info@landshore.com	THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY PIETER M. LOMBARD ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.	DETAILS	PROJECT NO. 2024-064	SHEET 12	OF 17
DATE	BY	DESCRIPTION						DRAWN BY: NV	DATE: 03/07/2025	SCALE: N.T.S.

1. SIDE VIEW. HEADWALL/CULVERT AND FILTER POINT FABRIC INTERACTION

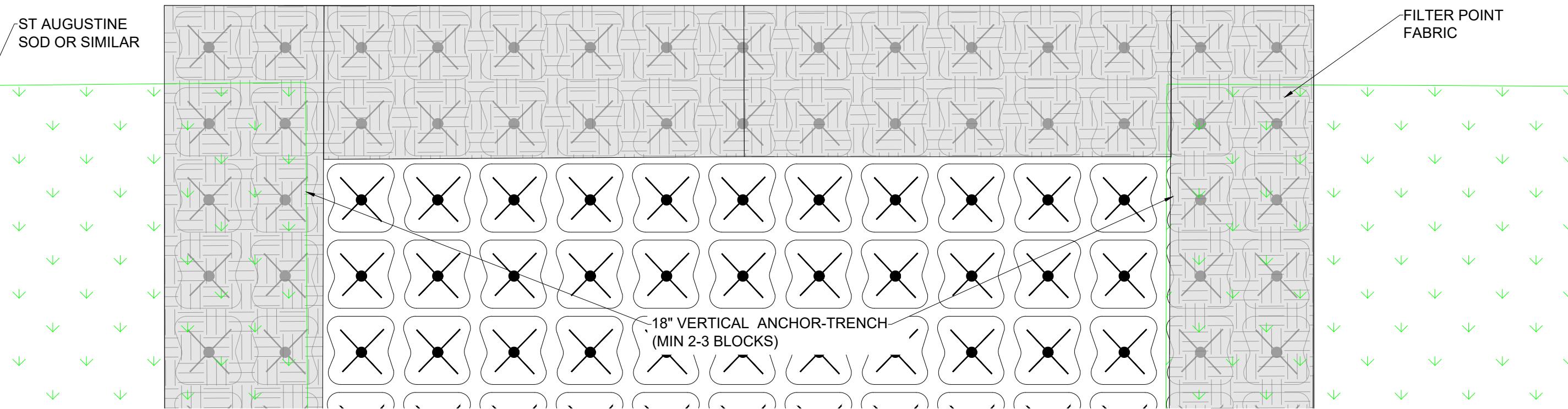


2. TOP SHOREFLEX. HEADWALL/CULVERT AND FILTER POINT FABRIC INTERACTION



TOP VIEW. FILTER POINT FABRIC TRENCH DETAIL

— VARIES — VARIES 8' OR 10' — VARIES —



© Erosion Restoration, LLC.

REVISIONS		
DATE	BY	DESCRIPTION

Erosion and Sedimentation Control Plan for
Walnut Creek Community Development District
Creek



118 Shamrock Blvd.,
Venice, FL 34293
Office: 941-303-5238
Fax: 941-218-6113
E-mail: info@landshore.com



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY PIETER M. LOMBARD ON THE
DATE ADJACENT TO THE SEAL.
PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED
AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

DETAILS

PROJECT NO.	SHEET	OF
2024-064	13	17
DRAWN BY:	DATE:	SCALE:
NV	03/07/2025	N.T.S.

ITEM NUMBER	FDOT OR LSE REFERENCE NUMBER	DESCRIPTION	UNIT	NORTH-SOUTH SIDE	EAST-WEST SIDE	"QUANTITY TOTAL"
1	01026 1	MOBILIZATION AND DEMOBILIZATION	LS	1	1	2
2	104-11-3	SILT FENCE (PER LF)	LF	200	0	200
3	104-11-I	FLOATING TURBIDITY BARRIER. TYPE I	LF	50	50	100
4	110-1-1	CLEARING AND GRUBBING	LS	1	1	2
5	120- 1	REGULAR EXCAVATION/ DREDGING CANAL BOTTOM	CY	291	383	674
6	120-6	EMBANKMENT	CY	503	21	524
7	900-4	NON-WOVEN FILTER	SY	968	840	1808
8	E400-21-4.2	FILTER POINT FABRIC LINING AVERAGE THICKNESS 4 IN	SY	968	840	1808
9	900-2	EROSION CONTROL BLANKET	SY	542	235	777
10	02930-2.1	SODDING	SY	504	202	705
11	E900-100-200	ACCESS AREA REPAIR	SY	480	0	480

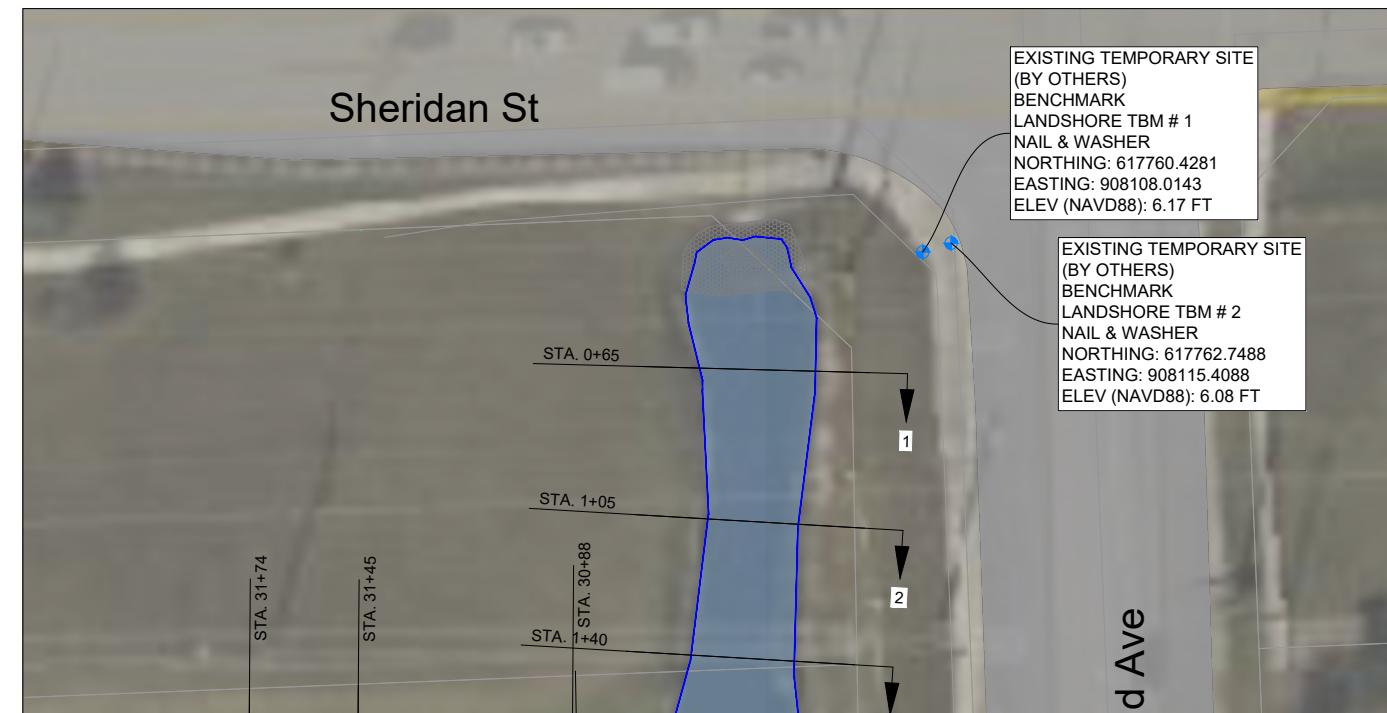
QUANTITY INFORMATION FOOTNOTES:

1. PROJECT LENGTH = 325.50 FT
2. 110-1-1 - INCLUDES CLEARING AND GRUBBING OF ALL MATERIAL THAT WILL BE REMOVED FROM THE JOB SITE.
3. 120-1 - INCLUDES ALL EXCAVATING AND EXPORTING EXCESS AND UNSUITABLE MATERIAL OFF-SITE, AND ALSO INCLUDES MATERIAL THAT WILL BE MECHANICALLY DREDGED OR OTHER DREDGING SYSTEM DESIRED BY THE E.O.R. TO COMPLETE THE PLACEMENT OF THE CONCRETE BLOCK EROSION CONTROL MAT.
4. 120-6 - INCLUDES SUITABLE BACKFILL TO COMPLETE THE GRADING AND SHAPING COMPACTED TO 95% DENSITY AT OPTIMUM MOISTURE (ACCORDING ASTM D 698).
5. 02930-2.1 - INCLUDES GROUND PREPARATION AND COMPLETE MAINTENANCE OF THE AREA UNTIL FINAL COMPLETION. REFER TO VEGETATION SPECIFICATION 02930 FOR ADDITIONAL PLANTING DETAILS.

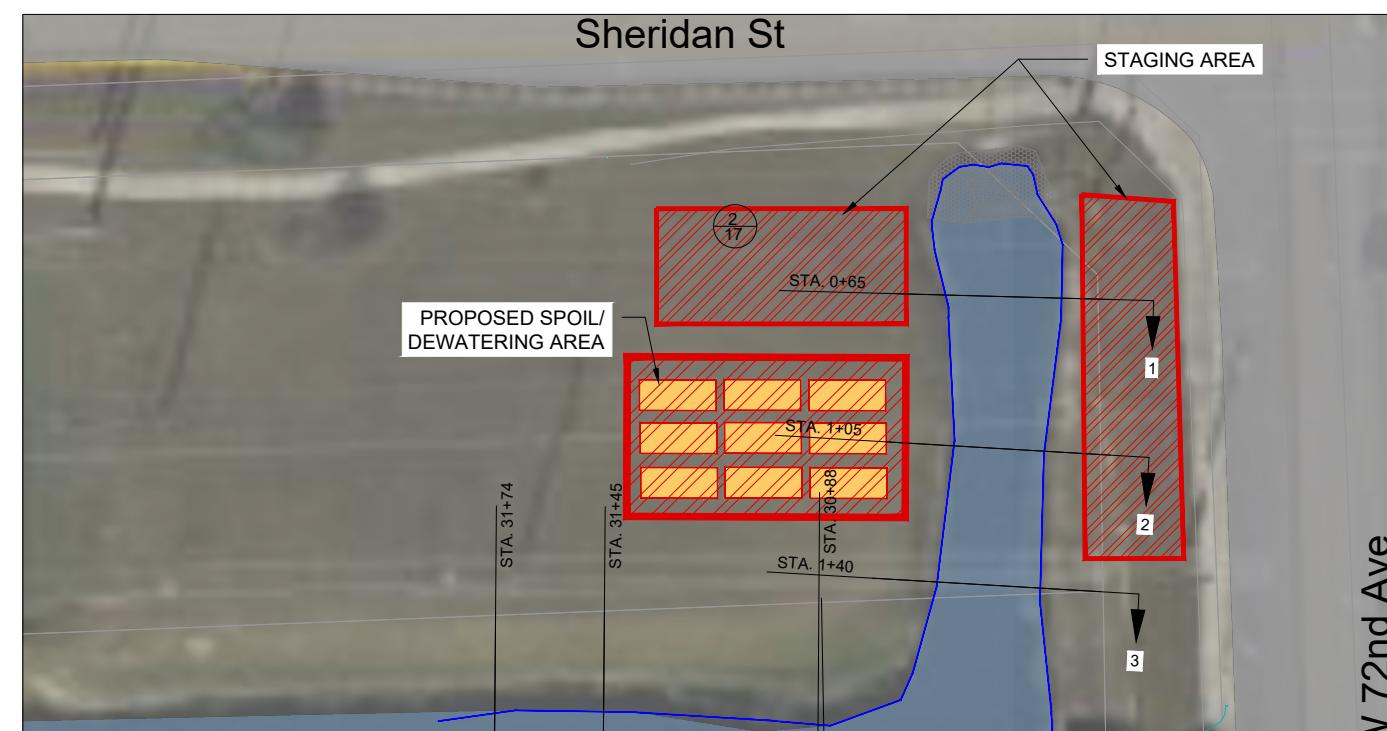
FDOT: FLORIDA DEPARTMENT OF TRANSPORTATION
LSE: LANDSHORE ENTERPRISES, LLC

REVISIONS	Erosion and Sedimentation Control Plan for Walnut Creek Community Development District Creek			118 Shamrock Blvd., Venice, FL 34293 Office: 941-303-5238 Fax: 941-218-6113 E-mail: info@landshore.com	THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY PIETER M. LOMBARD ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.	PROJECT NO. 2024-064 SHEET 14 OF 17 DRAWN BY: NV DATE: 03/07/2025 SCALE: N.T.S.
DATE	BY	DESCRIPTION				SUMMARY AND QUANTITIES

BENCHMARK LOCATION

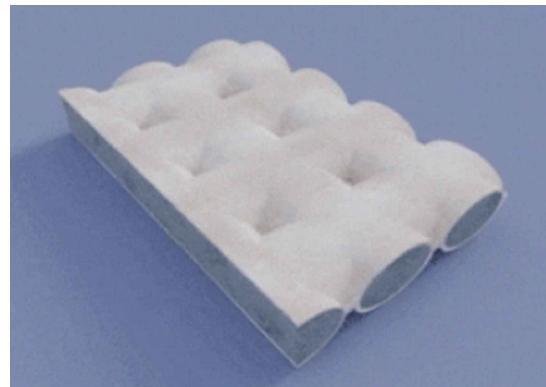


STAGING AREA LOCATION



© Erosion Restoration, LLC.

FILTER POINT FABRIC LINING (ARMORFORM) DATA SHEET AND PERFORMANCE



Filter Point Mat (FPM) is an erosion resistant, permeable concrete lining formed with a double-layer woven fabric, joined together by interwoven, filter points (drains). Once pumped, the cobbled surface and relatively high coefficient of friction act to reduce velocity and wave run-up. The filter points provide for the relief of hydrostatic uplift pressure, increasing the system's stability.

Filter Point Mat (FPM) form a lining of average thickness and specified weight to provide strength and erosion protection to resist the calculated tractive forces. The design criterion for selection of lining thickness is the same as that used to determine the thickness of conventional concrete slope paving. FPM is custom fabricated into multiple mill width panels, designed to fit actual site dimensions and topography.



DESIGN CONSIDERATIONS

1. FPM is used where velocities are low, bedload and ice formations are light and a roughness coefficient of $N = 0.025$ to 0.030 is acceptable.
2. FPM is used where wave action is light.
3. FPM is ideal for underwater placement.
4. FPM should be installed on engineered slopes.

APPLICATIONS

- * Bridge Abutments
- * Storm Sewer Outfalls
- * Channel Lining
- * Pond Lining
- * Shoreline Revetments
- * Spillway/Weir Structures
- * Embankments



FILTER POINT MAT (FPM)				
STYLE	SPACING	AVERAGE THICKNESS	UNIT WEIGHT	CONCRETE COVERAGE
5" FPM	5"	2.2"	26 lbs./ft ²	115 sq. ft./cy
8" FPM	8"	4.0"	47 lbs./ft ²	73 sq. ft./cy
10" FPM	10"	6.0"	70 lbs./ft ²	49 sq. ft./cy

MATERIAL PROPERTY – ARMORFORM FABRICS			
PROPERTY	TEST	UNITS	VALUE
PHYSICAL			
Composition of Yarns	-	-	Polyester
Mass Per Unit Area (Double-Layer)	ASTM D 5261	oz/yd ²	14
Thickness (Single-Layer)	ASTM D 5199	mils	27
Mill Width (Woven)		inch	72
MECHANICAL			
Wide-Width Strip Tensile Strength - WARP FILL	ASTM D 4595	lbs./inch	340/270
Elongation at Break - WARP FILL - Max.		%	12/12
Trapezoidal Tear Strength - WARP FILL	ASTM D 4533	lbs.	180/170
Grab Tensile Strength	ASTM D4632	lbf	364/310
Grab Tensile Elongation		%	25/21
CBR Puncture Strength	ASTM D 6241	lbs.	1575
HYDRAULIC			
Apparent Opening Size (AOS) ³	ASTM D 4751	U.S. Standard (mm)	20
Flow Rate	ASTM D 4491	gal/min/ft ²	125

© Erosion Restoration, LLC.

REVISIONS	DATE	BY	DESCRIPTION	Erosion and Sedimentation Control Plan for Walnut Creek Community Development District Creek	LANDSHORE [®] ENTERPRISES	118 Shamrock Blvd., Venice, FL 34293 Office: 941-303-5238 Fax: 941-218-6113 E-mail: info@landshore.com	STATE OF FLORIDA DEPARTMENT OF AGRICULTURE No. 65005 Seal PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.	THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY PIETER M. LOMBARD ON THE DATE ADJACENT TO THE SEAL.	MANUFACTURER'S SPECIFICATIONS	PROJECT NO. 2024-064	SHEET 15 OF 17	
											DRAWN BY: NV	DATE: 03/07/2025



Specification Sheet
EroNet™ C125® Erosion Control Blanket

DESCRIPTION

The long-term double net erosion control blanket shall be a machine-produced mat of 100% coconut fiber with a functional longevity of up to 36 months. (NOTE: functional longevity may vary depending upon climatic conditions, soil, geographical location, and elevation). The blanket shall be of consistent thickness with the coconut evenly distributed over the entire area of the mat. The blanket shall be covered on the top and bottom sides with a heavyweight photodegradable polypropylene netting having ultraviolet additives to delay breakdown and an approximate 0.63 x 0.63 in (1.59 x 1.59 cm) mesh. The blanket shall be sewn together on 1.50 inch (3.81 cm) centers with degradable thread. The blanket shall be manufactured with a colored thread stitched along both outer edges (approximately 2-5 inches [5-12.5 cm] from the edge) as an overlap guide for adjacent mats. The C125 shall meet Type 4 specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FP-03 Section 713.17

Material Content

Matrix	100% Coconut Fiber	0.5 lbs/sq yd (0.27 kg/sm)
Netting	Heavyweight photodegradable with UV additives	3 lbs/1000 sq ft (14.6 g/sm)
Thread	Black polypropylene	

Standard Roll Sizes

Width	6.67 (2.03 m)	8 ft (2.44 m)	16 ft (4.87 m)
Length	108 ft (32.92 m)	112 ft (35.14 m)	112 ft (34.14 m)
Weight ± 10%	44 lbs (19.95 kg)	56.25 lbs (25.5 kg)	112.5 lbs (51 kg)
Area	80 sq yd (66.9 sm)	100 sq yd (83.61 sm)	200 sq yd (167.22 sm)

Slope Design Data: C Factors

Slope Gradients (S)			
Slope Length (L)	≤ 3:1	3:1 – 2:1	≥ 2:1
≤ 20 ft (6 m)	0.001	0.029	0.082
20-50 ft	0.036	0.060	0.096
≥ 50 ft (15.2 m)	0.070	0.090	0.110

Roughness Coefficients – Unveg.

Flow Depth	Manning's n
≤ 0.50 ft (0.15 m)	0.022
0.50 – 2.0 ft	0.022-0.014
≥ 2.0 ft (0.60 m)	0.014



Western Green
4609 E. Booneville-New Harmony Rd.
Evansville, IN 47725
nagreen.com
800-772-2040

©2019, North American Green is a registered trademark from Western Green. Certain products and/or applications described or illustrated herein are protected under one or more U.S. patents. Other U.S. patents are pending, and certain foreign patents and patent applications may also exist. Trademark rights also apply as indicated herein. Final determination of the suitability of any information or material for the use contemplated, and its manner of use, is the sole responsibility of the user. Printed in the U.S.A.

EC_RMX_MPDS_C125_3.20

TENCATE GEOSYNTHETICS
Americas

TENCATE GEOSYNTHETICS
Americas

Mirafi® 160 N

Mirafi® 160N is a nonwoven geotextile composed of polypropylene fibers, which are formed into a stable network such that the fibers retain their relative position. Mirafi® 160N is inert to biological degradation and resists naturally encountered chemicals, alkalies, and acids. Mirafi® 160N meets AASHTO M288 Class 2 for Elongation > 50%.

TenCate Geosynthetics Americas Laboratories are accredited by Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP). NTPEP Listed

Mechanical Properties	Test Method	Unit	Minimum Average Roll Value	
			MD	CD
Grab Tensile Strength	ASTM D4632	lbs (N)	160 (712)	160 (712)
Grab Tensile Elongation	ASTM D4632	%	50	50
Trapezoid Tear Strength	ASTM D4533	lbs (N)	60 (267)	60 (267)
CBR Puncture Strength	ASTM D6241	lbs (N)	410 (1825)	
			Maximum Opening Size	
Apparent Opening Size (AOS)	ASTM D4751	U.S. Sieve (mm)	70 (0.212)	
			Minimum Roll Value	
Permittivity	ASTM D4491	sec-1	1.5	
Flow Rate	ASTM D4491	gal/min/ft ² (l/min/m ²)	110 (4481)	
			Minimum Test Value	
UV Resistance (at 500 hours)	ASTM D4355	% strength retained	70	
Physical Properties			Unit	Roll Size
			ft (m)	15 x 300 (4.5 x 91)
			yd2 (m ²)	500 (418)

Mirafi® FW404

Mirafi® FW404 is composed of high-tenacity monofilament polypropylene yarns, which are woven into a stable network such that the yarns retain their relative position. Mirafi® FW404 geotextile is inert to biological degradation and resists naturally encountered chemicals, alkalies, and acids

TenCate Geosynthetics Americas Laboratories are accredited by Geosynthetic Accreditation Institute – Laboratory Accreditation Program (GAI-LAP). NTPEP Listed

Mechanical Properties	Test Method	Unit	Minimum Average Roll Value	
			MD	CD
Grab Tensile Strength	ASTM D4632	lbs (N)	400 (1780)	315 (1402)
Grab Tensile Elongation	ASTM D4632	%	15	15
Trapezoid Tear Strength	ASTM D4533	lbs (N)	150 (668)	165 (734)
CBR Puncture Strength	ASTM D6241	lbs (N)	1150 (5118)	
			Minimum Roll Value	
Percent Open Area	COE-02215	%	1.0	
Permittivity	ASTM D4491	sec-1	0.9	
Flow Rate	ASTM D4491	gal/min/ft ² (l/min/m ²)	70 (2852)	
			Maximum Opening Size	
Apparent Opening Size (AOS)	ASTM D4751	U.S. Sieve (mm)	40 (0.425)	
			Minimum Test Value	
UV Resistance (at 500 hours)	ASTM D4355	% strength retained	90	
			Unit	Roll Size
			ft (m)	15 x 300 (4.57 x 91.4)
			yd2 (m ²)	500 (418)

Disclaimer: TenCate assumes no liability for the accuracy or completeness of this information or for the ultimate use by the purchaser. TenCate disclaims any and all express, implied, or statutory standards, warranties or guarantees, including without limitation any implied warranty as to merchantability or fitness for a particular purpose or arising from a course of dealing or usage of trade as to any equipment, materials, or information furnished herewith. This document should not be construed as engineering advice.

Mirafi® is a registered trademark of Nicolon Corporation.

Copyright © 2015 Nicolon Corporation. All Rights Reserved.

365 South Holland Drive
Pendergrass, GA 30567
Tel 706 693 2226
Tel 888 795 0808
Fax 706 693 4400
www.tencate.com

FGS000015
ETQR29

GAH-LAP-25-97

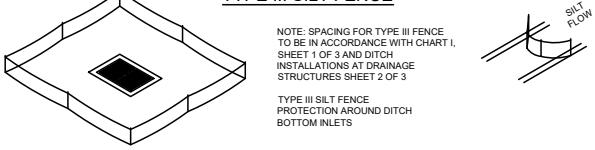
GAH-LAP-25-97

REVISIONS		Erosion and Sedimentation Control Plan for Walnut Creek Community Development District Creek		LANDSHORE® ENTERPRISES	118 Shamrock Blvd., Venice, FL 34293 Office: 941-303-5238 Fax: 941-218-6113 E-mail: info@landshore.com	THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY PIETER M. LOMBARD ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.	MANUFACTURER'S SPECIFICATIONS		PROJECT NO. 2024-064	SHEET 16	OF 17
DATE	BY	DESCRIPTION							DRAWN BY: NV	DATE: 03/07/2025	SCALE: NA



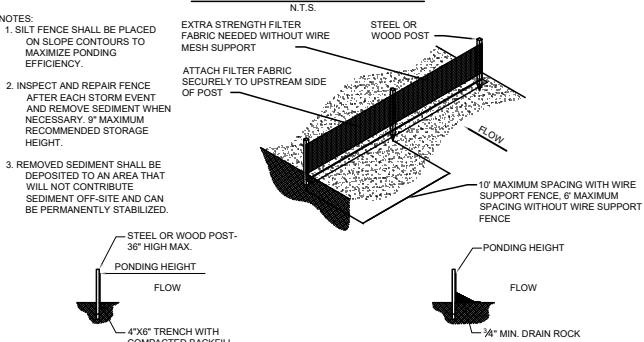
NOTES: SILT FENCE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED SILT FENCE (L.F.)

TYPE III SILT FENCE

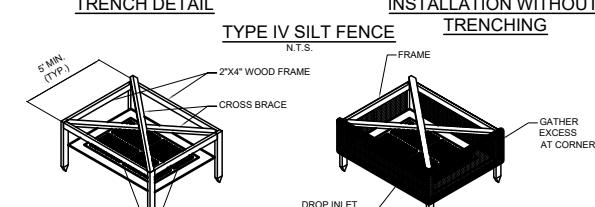


DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.

1. SILT FENCE APPLICATIONS



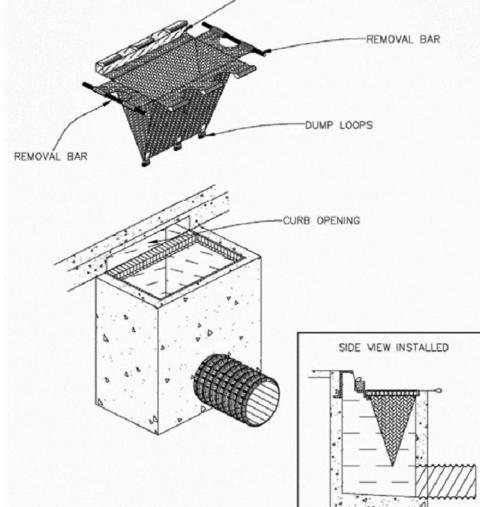
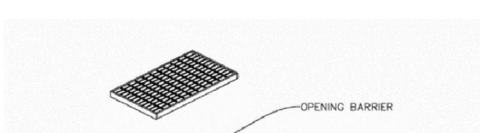
TRENCH DETAIL



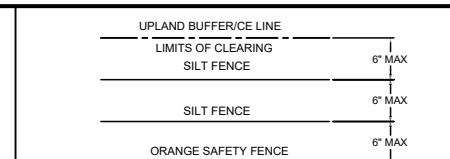
VIEW OF FRAME WITHOUT SILT FENCE



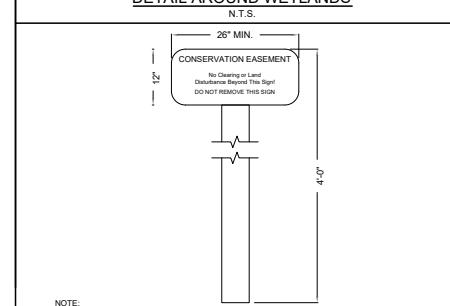
2. SILT FENCE INLET PROTECTION



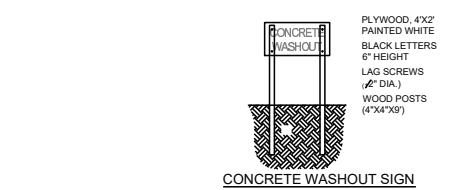
4. INLET INSERT SEDIMENT CONTAINMENT SYSTEM



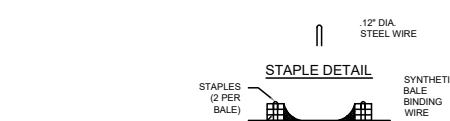
3. SILT FENCE/ORANGE FENCE PLACEMENT DETAIL AROUND WETLANDS



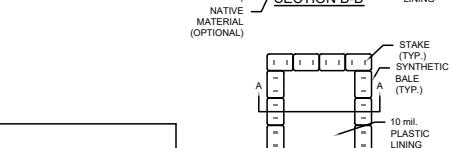
CONSERVATION EASEMENT SIGN



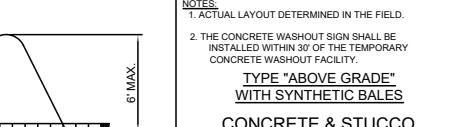
CONCRETE WASHOUT SIGN DETAIL (OR EQUIVALENT)



SECTION B-B



PLAN

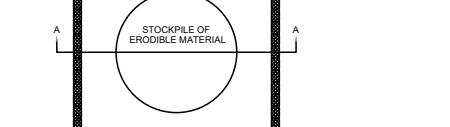


SECTION A-A



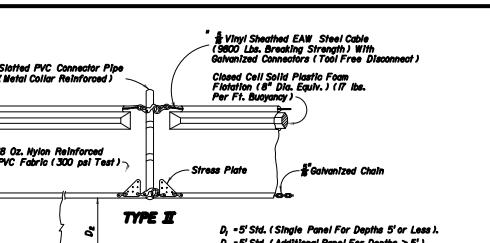
CONCRETE & STUCCO WASTE MANAGEMENT

N.T.S.



SEDIMENT CONTROL DETAIL FOR STOCKPILING OF ERODIBLE MATERIAL

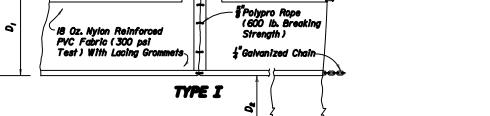
N.T.S.



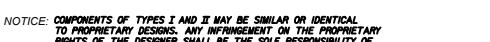
TYPE II



TYPE I



TYPE II



TYPE I



TYPE II



TYPE I



TYPE II



TYPE I



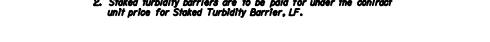
TYPE II



TYPE I



TYPE II



TYPE I



TYPE II



TYPE I



TYPE II



TYPE I



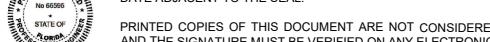
TYPE II



TYPE I



TYPE II



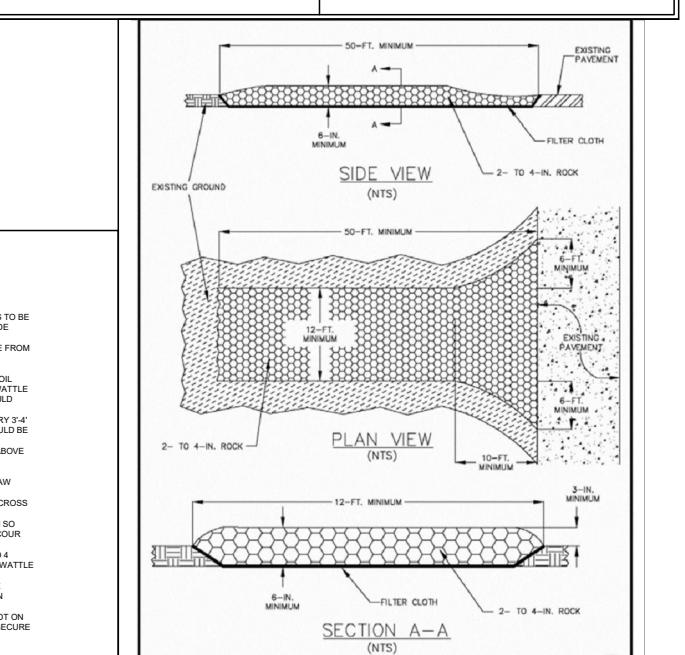
TYPE I

EROSION AND SEDIMENTATION CONTROL NOTES

CONSTRUCTION ACTIVITIES CAN RESULT IN THE GENERATION OF SIGNIFICANT AMOUNTS OF POLLUTANTS WHICH MAY REACH SURFACE OR GROUND WATERS. ONE OF THE PRIMARY POLLUTANTS OF SURFACE WATERS IS SEDIMENT DUE TO EROSION. EXCESSIVE QUANTITIES OF SEDIMENT WHICH REACH WATER BODIES OF FLOOD PLAINS HAVE BEEN SHOWN TO ADVERSELY AFFECT THEIR PHYSICAL, BIOLOGICAL AND CHEMICAL PROPERTIES. TRANSPORTED SEDIMENT CAN OBSTRUCT STREAM CHANNELS, REDUCE HYDRAULIC CAPACITY OF WATER BODIES OF FLOOD PLAINS, REDUCE THE DESIGN CAPACITY OF CULVERTS AND OTHER WORKS, AND ELIMINATE BENTHIC INVERTEBRATES AND FISH SPAWNING SUBSTRATES BY SILTATION. EXCESSIVE SUSPENDED SEDIMENTS REDUCE LIGHT PENETRATION AND THEREFORE, REDUCE PRIMARY PRODUCTIVITY.

MINIMUM STANDARDS

1. SEDIMENT BASIN AND TRAPS, PERIMETER Dikes, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE EROSION TAKES PLACE.
2. ALL SEDIMENT CONTROL MEASURES ARE TO BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND BE CONSTRUCTED PRIOR TO ANY LAND-DISTURBING ACTIVITY. PERIMETER SEDIMENT BARRIERS SHALL BE CONSTRUCTED TO PREVENT SEDIMENT OR TRASH FROM FLOWING OR FLOATING ON TO ADJACENT PROPERTIES.
3. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. PERMANENT SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN UNDISTURBED FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT UNDISTURBED FOR MORE THAN ONE YEAR.
4. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED. TEMPORARY STOCKPILES SHALL BE STABILIZED OR PROTECTED BY THE APPLICANT FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
5. A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT, IN THE OPINION OF THE REVIEWER, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.
6. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS Dikes and diversions IMMEDIATELY AFTER INSTALLATION.
7. SLOPE BLUFFS FROM DISTURBED AREAS THAT ARE COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE SEDIMENT BASIN SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE THE ANTICIPATED SEDIMENT LOADS FROM THE DISTURBED AREA. THE CUT-FILL DEVICE OR SYSTEM DESIGN SHALL TAKE INTO ACCOUNT THE TOTAL DRAINAGE AREA FLOWING THROUGH THE DISTURBED AREA TO BE SERVED BY THE BASIN.
8. AFTER ANY SIGNIFICANT RAINFALL, SEDIMENT CONTROL STRUCTURES WILL BE INSPECTED FOR INTEGRITY. ANY DAMAGED DEVICES SHALL BE CORRECTED IMMEDIATELY.
9. CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUMA OR SLOPE DRAIN STRUCTURE.
10. WHENEVER WATER SEEPs FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.
11. SEDIMENT WILL BE PREVENTED FROM ENTERING ANY STORM DRAIN SYSTEM, DITCH OR CHANNEL. ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
12. BEFORE TEMPORARY OR NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS ARE MADE OPERABLE, AN ADEQUATE OUTLET PROTECTION AND/OR TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.
13. WHEN CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY TRACKING ON THE PAVED SURFACE. THE PAVED SURFACE SHALL NOT BE USED AS A DIRT SURFACE WITH CURBS AND GUTTERS. THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING. THE DIRT AREA, STREET WASH, SHALL BE CROWNED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL SUBDIVISION LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES.
14. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER A TEMPORARY MEASURE IS NO LONGER NEEDED. THE CROWN OF THE REVIEWER DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
15. PROPERTIES AND WATERWAYS DOWNSTREAM FROM CONSTRUCTION SITE SHALL BE PROTECTED FROM SEDIMENT DISPOSITION OR EROSION.
16. PROPERTIES AND WATERWAYS DOWNSTREAM FROM CONSTRUCTION SITE SHALL BE PROTECTED FROM SEDIMENT DISPOSITION OR EROSION.
17. PHASED PROJECTS SHOULD BE CLEARED IN CONJUNCTION WITH CONSTRUCTION OF EACH PHASE.
18. EROSION CONTROL DESIGN AND CONSTRUCTION SHALL FOLLOW THE REQUIREMENTS OF THE FLORIDA STORMWATER EROSION AND SEDIMENTATION CONTROL MANUAL (JULY 2018).
19. THE REVIEWER MAY APPROVE MODIFICATIONS OR ALTER PLANS TO THESE EROSION CONTROL CRITERIA DUE TO SITE SPECIFIC CONDITIONS.



7. SOIL TRACKING PREVENTION DEVICE DETAIL

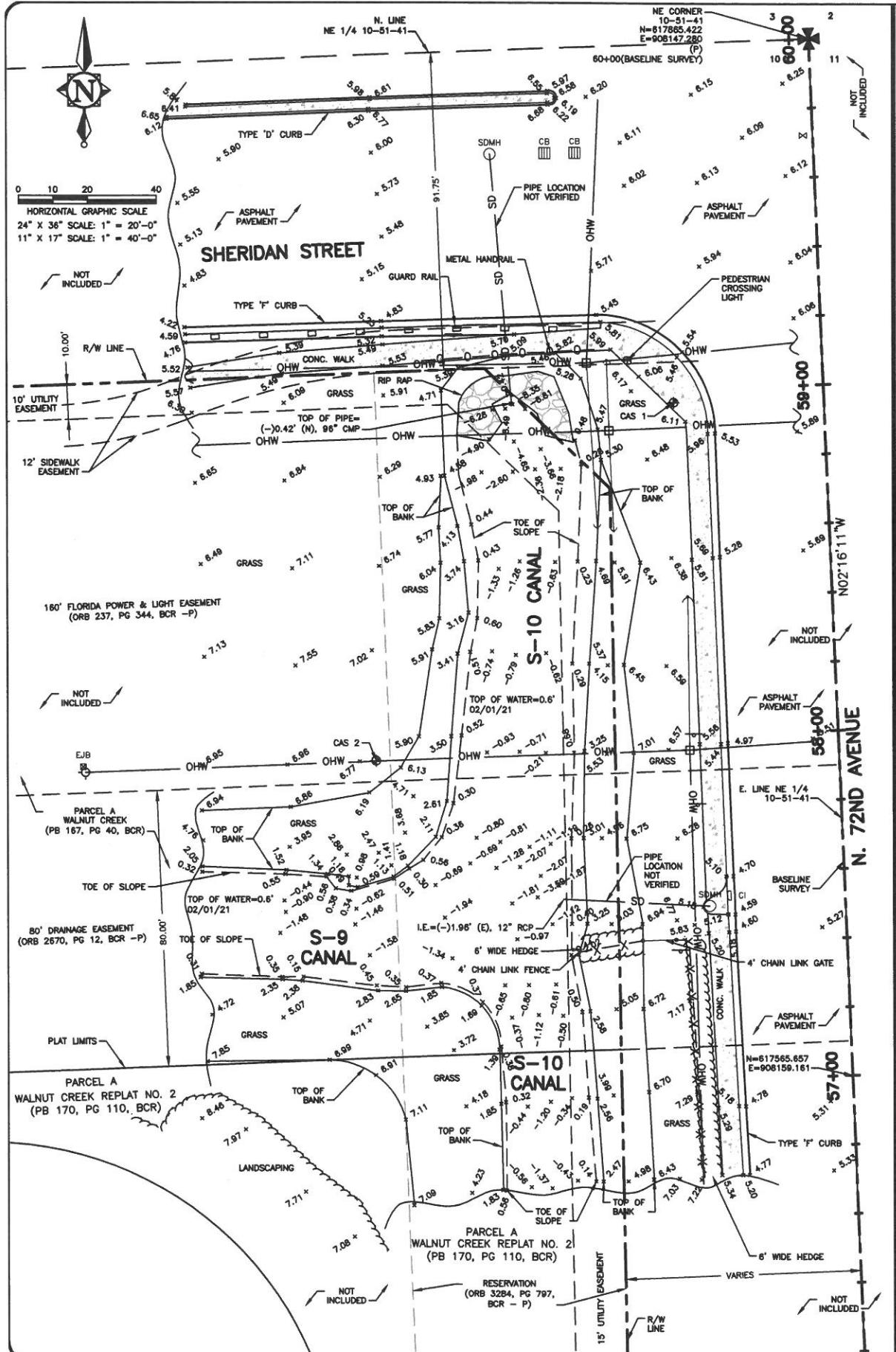
N.T.S.

SECTION A-A (N.T.S.)

PLAN VIEW (N.T.S.)

SIDE VIEW (N.T.S.)

SECTION A-A (N.T.S.)



SURVEYOR'S NOTES:

REPRODUCTIONS OF THIS SURVEY ARE NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

2. NO SEARCH OF THE PUBLIC RECORDS WAS PERFORMED BY THIS FIRM IN THE MAKING OF THIS SURVEY. THERE MAY BE EASEMENTS, RESERVATIONS, RESTRICTIONS, RIGHTS OF WAY, UNRECORDED AGREEMENTS ETC., NOT SHOWN HEREON.

3. UNDERGROUND IMPROVEMENTS I.E. FOOTINGS, DRAINAGE, UTILITIES, ETC. HAVE NOT BEEN INVESTIGATED BY THE SURVEYOR.

4. HORIZONTAL COORDINATE INFORMATION FOR CRAIG A. SMITH & ASSOCIATES STATIC CONTROL POINTS (CAS SP 1 AND 2) SHOWN IN THE TABLE BELOW IS RELATIVE TO THE FLORIDA STATE PLANE COORDINATE GRID SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD '83) WITH THE 2011 ADJUSTMENT. A FURTHER ADJUSTMENT WAS MADE BY THE FLORIDA DEPARTMENT OF TRANSPORTATION GNSS PROCESSING CENTER BASED ON 'REAL TIME' OBSERVATIONS PERFORMED AT THE SITE. VERTICAL DATA SHOWN HEREON IS RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88) AND IS BASED ON BROWARD COUNTY BENCHMARK 3593, HAVING A PUBLISHED ELEVATION OF 6.25' (NATIONAL GEODETIC VERTICAL DATUM OF 1929). AN ELEVATION OF 4.652' WAS DETERMINED RELATIVE TO NORTH AMERICAN VERTICAL DATUM OF 1988 BASED ON A CONVERSION FACTOR OF (-) 1.598'.

PRIMARY CONTROL POINTS

CP	NORTHING	EASTING	ELEVATION	DESCRIPTION
CAS 1 (SP)	617760.29	908108.05	6.08'	MND LB 271
CAS 2 (SP)	617656.36	908021.386	6.56'	IRC LB 3110
BC 3593	N/A	N/A	4.652'	NAIL AND DISC

5. BEARINGS SHOWN HEREON ARE RELATIVE TO THE EAST LINE OF THE NORTHEAST QUARTER OF SECTION 10, TOWNSHIP 51 SOUTH, RANGE 41 EAST, AS SHOWN ON THE PLAT OF WALNUT CREEK, RECORDED IN PLAT BOOK 167, PAGE 40, OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA. (SHOWN TO BEAR NORTH 02° 16' 11" WEST).

6. ALL SYMBOLS SHOWN ARE FOR REPRESENTATION PURPOSES ONLY AND ARE NOT TO SCALE.

7. THE ACCURACY OF THIS SURVEY IS PREMISED ON THE EXPECTED USE OF THE SURVEY. THE EXPECTED USE/PREMISE OF THIS SURVEY IS THE DESIGN OF IMPROVEMENTS FOR THE S-10 CANAL MAINTENANCE REPAIRS. A TRIMBLE R8 GNSS INSTRUMENT WITH TRIMBLE TSC-3 DATA COLLECTION WAS UTILIZED TO ESTABLISH HORIZONTAL CONTROL AND MISC. FEATURES HORIZONTALLY. A TOPCON ES-102 INSTRUMENT WITH RANGER (TDS) DATA COLLECTION WAS UTILIZED TO COLLECT DATA IN BOTH THE HORIZONTAL AND VERTICAL PLANES. A CLOSED LEVEL LOOP WAS PERFORMED USING A TOPCON GTS 2 LEVEL TO TRANSFER ELEVATIONS FROM THE KNOWN BENCHMARK AND THROUGHOUT THE PROJECT.

8. THE DIGITAL DATA PROVIDED IS INTENDED TO BE VIEWED AT A SCALE OF 1" = 20' ON A STANDARD 24" X 36" SHEET.

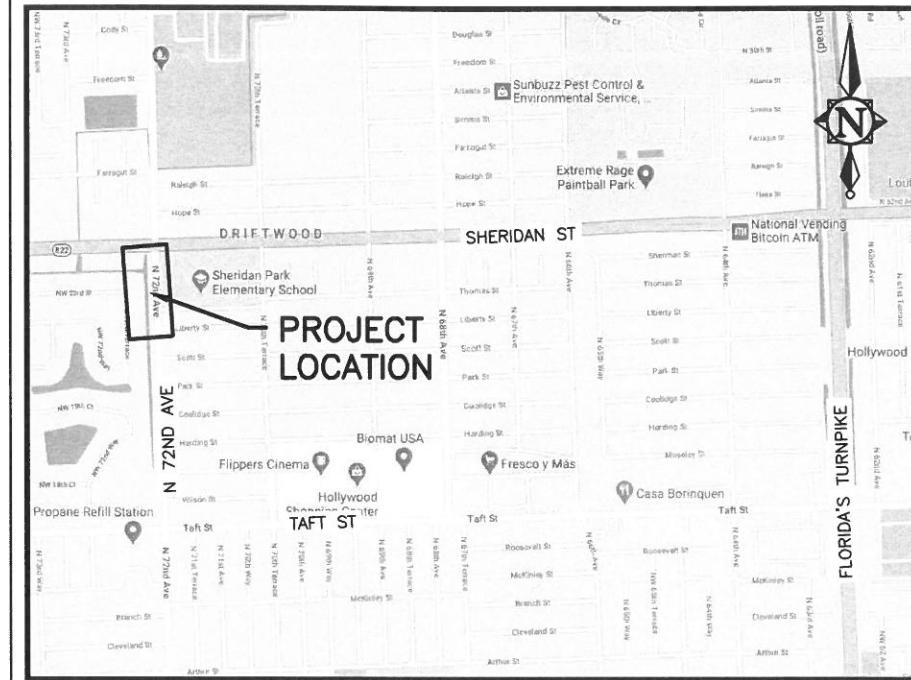
9. ALL DISTANCES AND ELEVATIONS SHOWN HEREON ARE IN ACCORD WITH THE UNITED STATES STANDARD USING FEET AND DECIMALS THEREOF.

GENERAL ABBREVIATIONS

ABRV	DESCRIPTION
BCR	BROWARD COUNTY RECORDS
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
NTS	NOT TO SCALE
ORB	OFFICIAL RECORDS BOOK
PB	PLAT BOOK
PG	PAGE
RCP	REINFORCED CONCRETE PIPE
(P)	PLATTED
R/W	RIGHT OF WAY
10-51-41	SECTION-TOWNSHIP-RANGE

LOCATION MAP

SCALE: N.T.S.



GENERAL SYMBOL

LEGEND

SYM **DESCRIPTION**

SYMBOL		DESCRIPTION
		BENCH MARK
		GUY WIRE
		LIGHT POLE
		CONCRETE POWER POLE
		WOOD UTILITY POLE
	CB	CATCH BASIN
	SDMH	STORM DRAIN MANHOLE
		CURB INLET
		WATER VALVE
		SIGN
		GATE POST

STANDARD LINETYPES

SYMBOL	DESCRIPTION
--------	-------------

	BOUNDARY LINE
	EASEMENT LINE
	LOT LINE
	RIGHT OF WAY LINE
	SECTION LINE
	LANDSCAPE LINE
	CURB & GUTTER
	FENCE LINE
	GUARD RAIL
	OHW
	OVERHEAD WIRE

STANDARD HATCH PATTERNS

SYM	DESCRIPTION
	CONCRETE
	RIP RAP

SURVEYORS CERTIFICATE:

I HEREBY CERTIFY THAT THIS SURVEY IS
ACCURATE TO THE BEST OF MY KNOWLEDGE
AND BELIEF AND MEETS APPLICABLE SECTIONS
OF THE STANDARDS OF PRACTICE AS SET FORTH
BY THE FLORIDA BOARD OF PROFESSIONAL
SURVEYORS AND MAPPERS IN CHAPTER 5J-17,
FLORIDA ADMINISTRATIVE CODE, PURSUANT TO
SECTION 472.027, FLORIDA STATUTES, SUBJECT
TO QUALIFICATIONS NOTED HEREON.

FOR THE FIRM BY: ROBERT D. KEENER
PROFESSIONAL SUPERVISOR & MAPPER

03/01/21

SIGNATURE DATE: