COMMISSION AGENDA ITEM
DOCUMENT ROUTING FORM

IL

Today's Date: 11/6/24

DOCUMENT TITLE: Change Order No. 4 for Prospect Lake Clean Water Center. Prospect Lake Water L.P.

COMM. MTG. DATE: 10/1/24 **CAM #:** 24-0856 **ITEM #:** _____ **CAM attached:** ☒ YES ☐ NO

Routing Origin: ____ **Router Name/Ext:** Glynis B/x5091 **Action Summary attached:** ☐ YES ☒ NO

CIP FUNDED: ☒ YES ☐ NO

Capital Investment / Community Improvement Projects defined as having a life of at least 10 years and a cost of at least $50,000 and shall mean improvements to real property (land, buildings, or fixtures) that add value and/or extend useful life, including major repairs such as roof replacement, etc. Term "Real Property" include: land, real estate, realty, or real.

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1) Dept:____ **Router Name/Ext:** _____ **# of originals routed:** __ **Date to CAO:** _____

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2) City Attorney's Office: Documents to be signed/routed? ☒ YES ☐ NO **# of originals attached:** 1

Is attached Granicus document Final? ☒ YES ☐ NO Approved as to Form: ☒ YES ☐ NO

Date to CCO: 11/6/24 Rhonda Montoya Hasan (Attorney's Name) RMH (Initials)

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3) City Clerk's Office: # of originals: 1 **Routed to:** Donna V./Amber C./CMO **Date:** 11/7/24 (cm)

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4) City Manager's Office: CMO LOG #: NOV 14 Document received from: CCO 11/8/24

Assigned to: SUSAN GRANT ☐ (Acting City Manager) ANTHONY FAJARDO ☐ (Assistant City Manager)
LAURA REECE ☐ (Acting Assistant City Manager) BEN ROGERS ☐ (Acting Assistant City Manager)
CHRIS COOPER ☐ (Acting Assistant City Manager)

SUSAN GRANT as Acting CRA Executive Director ☐

☐ APPROVED FOR S. GRANT'S SIGNATURE ☐ N/A FOR S. GRANT TO SIGN

PER ACM: Anthony Fajardo _____ (Initial/Date)
PER AACM: Laura Reece _____ (Initial/Date) Ben Rogers _____ (Initial/Date)
Chris Cooper _____ (Initial/Date)

☐ **PENDING APPROVAL** *(See comments below)*
Comments/Questions:_____

Forward ✓ originals to ☐ Mayor ☑ CCO **Date:** 11/8/24

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5) Mayor/CRA Chairman: Please sign as indicated.
Forward ___ originals to CCO for attestation/City seal (as applicable) **Date:** _____

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6) City Clerk: Scan original and forwards 1 originals to: Daniel Fisher TM#24-0562

Attach ____ certified Reso # ☐ YES ☐ NO

CITY OF FORT LAUDERDALE
City Commission Agenda Memo **#24-0856**
REGULAR MEETING

TO: Honorable Mayor & Members of the Fort Lauderdale City Commission

FROM: Susan Grant, Acting City Manager

DATE: October 1, 2024

TITLE: Motion Approving Change Order No. 4 for the Prospect Lake Clean Water Center– Prospect Lake Water L.P. – $3,275,339 – **(Commission Districts 1, 2, 3 and 4)**

Recommendation

Staff recommends the City Commission approve Change Order No. 4 for the Prospect Lake Clean Water Center (PLCWC) with Prospect Lake Water L.P. (Project Company) for construction of a 54-inch feedstock watermain to supply raw water to the PLCWC in the amount of $3,275,339.

Background

On February 7, 2023, the City Commission approved a Comprehensive Agreement (CA) with the Project Company for the design, construction, and operation of the PLCWC to replace the Charles W. Fiveash Water Treatment Plant (CAM 23-0196). Section 4.01(b) of the CA Identifies City Infrastructure Obligation which references Annex B-1 and includes construction of a 54-inch feedstock watermain to supply raw water to the PLCWC. On October 1, 2024, the City Commission approved the First Amendment to the CA (CAM 24-0956) to remove this project from the City Infrastructure Obligations and require Project Company construct as part of the City Enabling Works identified in Section 4.01(b) and Annex B-2.

Change Order No. 4 includes construction of approximately 700 feet of 54-inch ductile iron raw watermain to connect the Prospect Wellfield to the PLCWC. Also included are two (2) bid alternatives to install line stops if the existing raw watermains cannot be isolated. The City has completed design of the feedstock watermain and the cost of the work contained within Change Order No. 4 is within the engineers' cost estimate range as defined by the Association for the Advancement of Cost Engineering (AACE) and is acceptable to Staff.

Two (2) Purchase Orders (PO) have been issued for this project, PO 6189 and PO 6191. PO 6189 is for the Enabling Works and City Obligations projects, and PO 6191 is for the construction of the water plant. Change Order No. 4 will add $3,275,339 to the project under PO 6189.

Summary of Change Orders to Date by Purchase Order:

Purchase Order 6189

Change Order No. 1 added $371,644 to the project for raw water testing at the Prospect Lake Wellfield for PFAS and to develop options for meeting the PFAS standard.

Change Order No. 2 added $445,504 to the project for the construction of temporary power infrastructure to supply power to the project site during construction.

Change Order No. 3 added $1,336,774 for additional and larger equipment to meet the water quality standards as recommended in the Optimal Corrosion Control Treatment (OCCT) Study, which was required as part of the Florida Department of Environmental Protection permit for constructing the PLCWC.

Purchase Order 6191

Change Order No. 1 added $4,167,756 to the project to increase the size of the administration building and to utilize concrete in lieu of steel for the construction of the administration and nanofiltration buildings. (CAM #23-1147)

Change Order No. 2 deducted ($736,631) from the project after Project Company discovered a discrepancy in previously executed Change Order No. 1, necessitating a deductive change order.

Resource Impact

There will be a fiscal impact to the City in the amount of $3,275,339 for Change Order No. 4. Funds for this change order are available in the FY2025 Community Investment Plan in the accounts listed below.

Funds available as of September 11, 2024					
ACCOUNT NUMBER	**COST CENTER NAME (Program)**	**CHARACTER/ ACCOUNT NAME**	**AMENDED BUDGET (Character)**	**AVAILABLE BALANCE (Character)**	**AMOUNT**
10-494-7999-536-60-6599-P12765	Prospect Lake Water Treatment Plant Enabling Works	Capital Outlay/ Construction	$177,000,001	$70,258,533	$3,275,339
				TOTAL AMOUNT ▶	$3,275,339

Strategic Connections
This item is a FY *2024 Commission Priority*, advancing the Infrastructure and Resilience initiative.

This item supports the *Press Play Fort Lauderdale 2029* Strategic Plan, specifically advancing:

- The Infrastructure Focus Area, Goal 1: Be a sustainable and resilient community.

This item advances the *Fast Forward Fort Lauderdale 2035* Vision Plan*:* We Are Ready

This item supports the Advance Fort Lauderdale 2040 Comprehensive Plan specifically advancing:

- The Infrastructure Focus Area
- The Sanitary Sewer, Water & Stormwater Element
- Goal 3: Develop and maintain an adequate water supply, treatment and distribution system, which meets existing and projected needs of the service area in an efficient, economical, and environmentally sensitive manner.

Related CAMs
CAM #24-0857
CAM #24-0858
CAM #24-0956

Attachment
Exhibit 1 – Change Order No.4

Prepared by: Daniel Fisher, Senior Project Manager, Public Works

Department Director: Alan Dodd, Public Works

This change Order provides for all costs and schedule adjustments associated with completing the work, including materials, labor, equipment, bond, insurance, overhead, profit, impacts, and any and all related items or associated costs incurred or resulting from the items listed above, and is provided in accordance with Article VIII – Changes in the Work of the Contract.

IN WITNESS OF THE FOREGOING, the parties have set their hands and seals the day and year first written below.

(Vendor)

Approved: Signed by: Michael Albrecht 557401F88DBD470...

10/18/2024

Print Name and Title

Michael Albrecht Managing Partner

C: Scott Teschky , Division Manager – Engineering
Daniel Fisher, Senior Project Manager
Financial Administrator
Project File

IN WITNESS OF THE FOREGOING, the Parties have set their hands and seals the day and year first written above.

CITY

CITY OF FORT LAUDERDALE, a Florida municipal

By: _____
SUSAN GRANT
Acting City Manager

Date: November 8, 2024

ATTEST:

By: _____
DAVID R. SOLOMAN
City Clerk

Approved as to Legal Form and Correctness:
THOMAS J. ANSBRO, City Attorney

By: _____
RHONDA MONTOYA HASAN
Senior Assistant City Attorney

CHANGE ORDER SUMMARY SHEET

ORIGINAL CONTRACT AMOUNT (PO 6189 + 6191)		$411,567,380
COST OF CHANGE ORDERS ON PO 6189 TO DATE		$2,153,922
COST OF THIS CHANGE ORDER		$3,275,339
COST OF CHANGE ORDERS ON PO 6191 TO DATE		$3,431,125
COST OF THIS CHANGE ORDER		$0
	TOTAL:	**$420,427,776**
ORIGINAL CONTRACT TIME		1,278 calendar days
TIME ADDED TO DATE		0 calendar days
TIME ADDED TO THIS CHANGE ORDER		0 calendar days
	TOTAL:	**1,278** calendar days

SCHEDULE OF CHANGE ORDERS TO DATE ON PO 6189

C.O.#	DATE	DESCRIPTION	AMOUNT OF COST OR CREDIT
1	8/23/2023	PFAS	$371,644
2	10/23/2023	Temporary Power for Construction	$445,504
3	12/3/2023	OCCT Construction Updates	$1,336,774

SCHEDULE OF CHANGE ORDERS TO DATE ON PO 6191

C.O.#	DATE	DESCRIPTION	AMOUNT OF COST OR CREDIT
1	12/19/2023	Administration and Nano Building	$4,167,756
2	4/9/2024	Administration Building Deduction	$(736,631)

PUBLIC WORKS DEPARTMENT
101 NE 3RD AVENUE, 2100, FORT LAUDERDALE, FLORIDA 33301
TELEPHONE (954) 828-5772, FAX (954) 828- 5074
WWW.FORTLAUDERDALE.GOV

Dated as of May 22, 2024

City of Fort Lauderdale, Florida
100 N Andrews Avenue Fort Lauderdale, FL 33301-1016
Attn: City Manager and Public Works Director
Phone: 954-828-5000

With a copy to:

City of Fort Lauderdale, Florida
100 N Andrews Avenue Fort Lauderdale, FL 33301-1016
Attn: City Attorney
Phone: 954-828-5000

VIA ELECTRONIC MAIL

RE: Prospect Lake Clean Water Center Project – City-Initiated Changes

CHANGE PROPOSAL

Reference is hereby made to that certain Comprehensive Agreement, dated as of February 14, 2023 (as amended or otherwise modified from time to time, the "Comprehensive Agreement") between, *inter alia*, Prospect Lake Water, L.P. (the "Project Company" or "we") and the City of Fort Lauderdale, Florida (the "City" or "you"). Except as otherwise expressly provided herein, capitalized terms used and not defined herein shall have the meanings ascribed to such terms in the Comprehensive Agreement, and, if not defined therein, the DB Contract.

We acknowledge that we are in receipt of your Request for Change Proposal – City Obligations: 54-inch feedstock watermain dated April 1, 2024 (the "Request for Change Proposal") and, further to our subsequent discussions with you and your consultants, we understand that at this time the City has requested the Project Company to implement the City Changes described in Section 1 (*Description of City Changes*) below. This is a Change Proposal under Section 8.04(a) of the Comprehensive Agreement, which relates to such City Changes. Upon the City's execution and delivery of this Change Proposal (such date, the "Effective Date"), this Change Proposal shall (a) constitute the agreement of the City and the Project Company required by Section 8.02(c) (*City-Initiated Changes*) of the Comprehensive Agreement in respect of such City Changes, (b) amend the Comprehensive Agreement and become a valid and binding part of the Comprehensive Agreement, and all other terms and conditions of the Comprehensive Agreement shall remain in full force and effect, as amended by this Change Proposal, and (c) supersede all prior agreements and arrangements between the Parties, whether oral or in writing, regarding the subject matter of this Change Proposal, including that certain Change Order No. 4 for Project No. 12765, dated June 3, 2024.

1. Description of City Changes

In the Request for Change Proposal, you instruct us to prepare a proposal to install the 54-inch Feedstock Water main set out in Annex B-1 (*City Infrastructure Obligations*) to the Comprehensive Agreement as a City Infrastructure Obligation (the "Feedstock Water Main").

Attached to this Change Proposal as Annex I is the DB Contractor's proposal to undertake and complete the Feedstock Water Main in accordance with the scope, timeline and assumptions set out therein (the "FWM SOW").

By executing and delivering this Change Proposal, you acknowledge and agree, consistent with Attachment 1A to the FWM SOW, that:

(a) your representation on April 25, 2024 that there are valves at each end of the interconnecting pipe that can be closed to remove the pipe in between and allow the Feedstock Water Main to be installed is true and correct;

(b) no permits from FDEP are required for the performance of the FMW SOW that have not already been obtained by the City, all of which permits are in full force and effect. Any such FDEP permit shall constitute a permit that the City is responsible for obtaining and maintaining and be deemed specified in Section 4.01(c) to the Comprehensive Agreement;

(c) (i) the City has commissioned the FWM Design (as defined in Attachment 1A to the FWM SOW) from a service provider selected by the City in the City's discretion; (ii) Project Company shall have no liability or responsibility for any defect, flaw, inoperability, inadequacy, errors, omissions or other adverse condition or aspect of the FWM Design; (iii) Project Company shall retain all of the Project Company's rights under the Comprehensive Agreement in connection with a Relief Event set out in clause (xviii) of the definition of Relief Event, except to the extent arising from the Project Company's failure to comply with the FWM SOW; and (iv) from and after the Effective Date, the definition of Work in the Comprehensive Agreement shall include the FWM Work (as defined in Attachment 1A to the FWM SOW) but shall continue to exclude all other City Infrastructure Obligations;

(d) the Project Company shall provide written notice to the City when the Project Company believes it has completed the FWM Work in accordance with this Change Proposal ("**FWM Completion Notice**"). Within five Business Days following delivery of the FWM Completion Notice, the City will inspect the FWM Work and (i) deliver to the Project Company the City's written acknowledgment that the FWM Work has been completed, or (ii) notify the Project Company in writing that the FWM Work has not been completed, stating in detail the reasons therefor. In the case of (ii), the Project Company may withdraw the FWM Completion Notice and resubmit such notice at a later date; *provided, that* if the Project Company does not agree with such written notice provided by the City, the Project Company may refer the disagreement for resolution in accordance with the Dispute Resolution Procedure; and

(e) this Change Proposal amends Annex B-1 (*City Infrastructure Obligations*) to the Comprehensive Agreement to reduce the scope thereof and transfer such reduced scope to Annex B-2 (*City Enabling Work*) to the Comprehensive Agreement providing for the enabling works to be performed by the Project Company at the request of the City. Therefore, on and after the Effective Date, Annex B-1 (*City Infrastructure Obligations*) to the Comprehensive Agreement shall be in effect in the form attached here to as Annex II and Annex B-2 (*City Enabling Work*) to the Comprehensive Agreement shall be in effect in the form attached here to as Annex III.

2. Description of the Impact on the Project of the Requested City Changes

a. Extra Work Costs

The Extra Work Costs associated with the Project Company's performance of the FWM SOW shall consist of:

- The DB Contractor's cost in the amounts set out in Annex I, a breakdown of which is set out in Annex I, as follows:
    - The "Base Bid" for the FWM SOW: **$3,071,452**; *plus*
        - Should the City select "Bid Alternate No. 1": **$108,298**; and/or
        - Should the City select "Bid Alternate No. 2": **$50,589** (it being understood that DB Contractor's cost shall include only any such "Bid Alternate" selected by the City.
- the Project Company's administrative costs in the amount of **$45,000.**

The Project Company will invoice the City for the FWM SOW Extra Work Costs in accordance with Section 10.04(a)(iv) (*Availability Payment Impacts; Monetary Compensation*) of the Comprehensive Agreement.

b. Completion Deadlines

No changes to the Scheduled Commercial Operation Date or the Commercial Operation Longstop Date are proposed in connection with Project Company's performance of the FWM SOW.

[*Signature Page Follows*]

Very truly yours,

PROSPECT LAKE WATER, L.P.

By: 

Name: Michael Albrecht
Title: President
Date: May 31, 2024

The City hereby confirms its election of [Bid Alternate(s) No. [___]] [none of the Bid Alternates] identified in Annex I to this Change Proposal.

Accepted and agreed:

CITY OF FORT LAUDERDALE

By: _____

Name:
Title:
Date:

Annex I
DB Contractor's Proposal for the Feedstock Water Main

[*Attached.*]

Kiewit

August 30th, 2024 LTR No. LTR0057B – Kiewit to Project Co.

Prospect Lake Water, L.P.
c/o Ridgewood Infrastructure
14 Philips Parkway
Montvale, NJ 07645
Attn: Legal Department

With copy to the addressees listed in Schedule 1

Via Email

Subject: Prospect Lake Clean Water Center Design Build Contract
Response to Scope Change Order Proposal Request – City Obligations: 54 –Inch Feedstock Watermain

Dear Maria,

Reference is hereby made to that certain Design-Build Contract, dated as of February 14, 2023 (as amended or otherwise modified from time to time, the "DB Contract") between Prospect Lake Water, L.P. ("Project Company") and Kiewit Water Facilities Florida Co. ("Kiewit"). Except as otherwise expressly provided herein, capitalized terms used and not defined herein shall have the meanings ascribed to such terms in the DB Contract and, if not defined therein, in the Comprehensive Agreement.

This letter ("Scope Change Order Proposal Response") is in response to Project Company's Scope Change Order Proposal Request for the 54-inch Feedstock Water Delivery and Feedstock Water Connection at Project boundary TP-01 per Annex B-1(City Infrastructure Obligations) in the Comprehensive Agreement, sent to Kiewit on April 15th, 2024.

Section 10.03(b) (*Procedure for Scope Changes*) of the Design Build Agreement states that *"Design-Build Contractor shall promptly review the Scope Change Order Proposal Request and notify Project Company in writing of the options for implementing the proposed Scope Change (including, if possible, any option that does not involve an extension of time) and the effect, if any, each such option would have on the DB Contract Price, the Guaranteed Substantial Completion Date, the Project Progress Milestone Dates, the Payment Schedule, the Project Schedule, and the Performance Criteria"*.

Kiewit hereby agrees to perform the Scope Change identified in Attachment 1 to this Scope Change Order Proposal Response in accordance with the terms and conditions set out herein, including the other attachments hereto.

Kiewit

Change to the DB Contract Price

Attachment 1 to this letter defines the detailed scope of work associated with this Scope Change including the pricing summary and supporting information. In accordance with Sections 2.09(e) and (f) (*Comprehensive Agreement; Equivalent Project Relief*) and Section 10.06 (*Price Change*) of the DB Contract, (a) DB Contractor will not be entitled to receive any increase in the DB Contract Price in respect of this Scope Change until Project Company has received such amount from the City and (b) Project Company shall pay such amount to DB Contractor promptly, and in any event no later than five (5) Business Days, after receipt of the corresponding payment from the City.

Base Bid (Inclusive of Material Escalation)	$ 3,071,452
Bid Alternate No. 1	$ 108,298
Bid Alternate No. 2	$ 50,859

Change to Guaranteed Substantial Completion Date

- There is no change to the Guaranteed Substantial Completion Date associated with this Scope Change

Change to the Project Progress Milestone Dates

- There is no change to the Project Progress Milestone Dates associated with this Scope Change.

Change to the Payment Schedule

- The revised Payment Schedule will be provided once the referenced change order is fully executed.

Change to the Project Schedule

- There is no change to the Project Schedule associated with this Scope Change.

Change to the Performance Criteria

- There is no change to the Performance Criteria associated with this Scope Change.

Other Information Pursuant to Section 8.04 (*Procedures for Implementing Changes to the Work*) of the Comprehensive Agreement

This cost of materials included in this Scope Change Order Proposal Request is valid through December 31st, 2024, but in order to maintain the current project schedule we must receive approval no later than November 1st, 2024.

If you have questions or comments about this information, please contact me at Matthew.Allen@Kiewit.com.

KIEWIT WATER FACILITIES FLORIDA CO.
5757 Blue Lagoon Dr., Suite 200, Miami, Florida, 33126

Kiewit

Sincerely,

Matthew Allen
Project Manager
Kiewit Water Facilities Florida Co.

Accepted and Agreed:

Prospect Lake Water, L.P.
Name:
Title:
Date:

Schedule 1 – Additional Addressees
Attachments:

1. Scope of Work & Pricing Summary
2. Updated Project Progress Milestone Dates – NOT USED
3. Updated Payment Schedule – NOT USED
4. Updated Project Schedule – NOT USED
5. Updated Performance Criteria – NOT USED

Kiewit

Schedule 1 – Additional Addressees

Prospect Lake Holdings, L.P.
c/o Ridgewood Infrastructure
14 Philips Parkway
Montvale, NJ 07645-1811
Attn: Legal Department
Phone: 201-447-9000
Email: mhaggerty@ridgewood.com

White & Case LLP
1221 Avenue of the Americas
New York, NY 10020
Attn: Dolly Mirchandani
Email: dolly.mirchandani@whitecase.com

IDE PLCWC, Inc.
c/o IDE Americas Inc.
5050 Avenida Encinas, Suite 250
Carlsbad, CA 92008
Attn: Lihy Teuerstein
Phone: 6194870760
Email: Lihyt@ide-tech.com

IDE Americas Inc.
5050 Avenida Encinas, Suite 250
Carlsbad, CA 92008
Attn: Lihy Teuerstein
Phone: 6194870760
Email: Lihyt@ide-tech.com

Kiewit

Attachment 1 – Scope of Work and Pricing Summary

[*Attached*]

KIEWIT WATER FACILITIES FLORIDA CO.
5757 Blue Lagoon Dr., Suite 200, Miami, Florida, 33126

Kiewit

Attachment 2 – Updated Project Progress Milestone Dates

[*Not Used*]

Kiewit

Attachment 3 – Updated Payment Schedule

[Not Used]

Kiewit

Attachment 4 – Updated Project Schedule

[*Not Used*]

Kiewit

Attachment 5 – Updated Performance Criteria

[*Not Used*]

Kiewit Water Facilities Florida Co.
5757 Blue Lagoon Dr. Suite 200
Miami, FL 33126

SCOPE CHANGE ORDER PROPOSAL

Prospect Lake Clean Water Center - Design-Build Contract

Kiewit PCO NO. 16
Wednesday, August 28, 2024

Scope Change Order Proposal
City Obligations: 54 –Inch Feedstock Watermain

BASE BID	
BASE BID	**$ 3,071,452**
BID ALTERNATE NO. 1	
BID ALT NO 1.	**$ 108,298**
BID ALTERNATE NO. 2	
BID ALT NO 2.	**$ 50,859**

SCOPE OF WORK	
INCLUDED SCOPE	**EXCLUDED SCOPE**
BASE BID BASED OFF OF CITY OF FORT LAUDERDALE **PROJECT #12765 FEEDSTOCK WATER MAIN TO PROSPECT WATER TREATMENT PLANT 100% SUBMITAL PACKAGE** DATED 2/16/2024.	FDEP PERMITS TO CONSTRUCT RAW WATER MAIN TO BE OBTAINED BY OTHERS.
BID ALTERNATE NO. 1 CONTRACTOR SHALL COORDINATE WITH THE CITY OF FORT LAUDERDALE TO SHUT DOWN RAW WATER WELLS TO INSTALL 30" X 30" DI TEE. IF CITY IS UNABLE TO SHUT DOWN RAW WATER WELLS CONTRACTOR SHALL ELIMINATE 30"X30" TEE AND INSTALL A 30" TAPPING SLEEVE AND TAPPING VALVE.	
BID ALTERNATE NO. 2 CONTRACTOR SHALL COORDINATE WITH THE CITY OF FORT LAUDERDALE TO SHUT DOWN RAW WATER WELLS TO INSTALL 24" X 24" LINE STOP IN ORDER TO INSTALL THE 24" X 24" DI TEE.	

* SEE ATTACHMENT 1A FOR CLARIFICATIONS TO THE BID DOCUMENTS PROVIDED BY CHEN MOORE AND THE CITY OF FORT LAUDERDALE DATED 4/25/24.

Attachment 1A

Additional Clarifications on Scope of Work for Installation of the 54-inch Feedstock Water Main (the "FWM Work")

1. **Feedstock Water Main Design (the "FWM Design"):** Attachment 1B hereto contains the drawings for the FWM Design. In the case of any conflicts between the FWM Design and this Attachment 1A, this Attachment 1A shall prevail. Kiewit and the Project Company acknowledge and agree that:
    a. the City has commissioned the FWM Design from a service provider selected by the City in the City's discretion as part of the City Infrastructure Obligations under the Comprehensive Agreement;
    b. Kiewit assumes no liability or responsibility for any defect, flaw, inoperability, inadequacy, errors, omissions or other adverse condition or aspect of the FWM Design; and
    c. From and after the effective date of the Scope Change Order associated with the FWM Work, the definition of Work in the DB Contract shall include the FWM Work but shall continue to exclude all other City Infrastructure Obligations.

2. **Engineering Standard:** In the performance of the FWM Work, Kiewit shall comply with the City Engineering Standard Details as applicable, which are available on the date hereof at: https://www.fortlauderdale.gov/government/departments-a-h/development-services/building-services/engineering-permits/city-engineering-standard-details.

    The Parties acknowledge and agree that the City Engineering Standard Details shall constitute Applicable Law and Project Requirements solely with respect to the FWM Work and shall not apply to the Project.

    No other standards are included in the refence to "City of Fort Lauderdale Design Standards and Specifications (Latest Version)" in General Note no. 38 in the FWM Design.

3. **Sequence of Work:** Notwithstanding anything to the contrary in the FWM Design, Kiewit shall determine the sequence of work in accordance with the Project Requirements and shall be allowed to remove or leave in place the existing interconnecting pipe at its sole discretion; *provided that* Kiewit shall be entitled to rely on the City's response on April 25, 2024 that there are valves at each end of the interconnecting pipe that can be closed and that closure of the valves is adequate to sufficiently stop the flow to allow for removal of the pipe in between and allow the Feedstock Water Main to be installed.

4. **SWPPP:** The site-specific stormwater pollution prevention plan (SWPPP) for the FWM Work will be an extension of the SWPPP for the Project and covered under the notice of intent (NOI) for the Project.

5. **Silt Fence:** No silt fence shall be required as part of the FWM Work to the extent silt fence is installed by Kiewit as part of the Project in the area where the 54-inch ductile iron pipe (DIP) is to be installed in accordance with the FWM Design.

6. **Corrosion Protection Measures:** Note on Water Separation no. 10 in the FWM Design does not require cathodic protection or any additional corrosion protection measures unless explicitly called out in the design.

7. **Bacteriological Sampling Points:** The FWM includes three bacteriological sampling points, one at each connection point to existing pipe and one at the north end of the pipe.

8. **Cast Iron Products:** No H-20 loading is required as the FWM Work is not being undertaken on a roadway.

9. **Metallic Warning Tape Specification 2320:** Kiewit shall use the 7900 EMS Warning Tape in accordance with the specifications attached hereto as Attachment 1C.

10. **Geotechnical Investigation Report:** The FWM Work is based on the information contained in the Geotechnical Investigation. If conditions differ materially from the conditions identified in the Geotechnical Investigation, Kiewit shall be entitled to claim a Relief Event in accordance with the terms of the Comprehensive Agreement. The Report of Geotechnical Exploration dated February 18, 2024, which is referenced in Earthwork Note No. 20 of the FWM Design, is attached hereto as Attachment 1D.

11. **Non-Public Access Areas: Kiewit shall undertake the FWM Work in non-public access areas and, therefore:**

    a. Notwithstanding anything to the contrary in the FWM Design, Kiewit shall not be required to provide a plan for staging or storage of materials or a plan demonstrating path of construction equipment travel;

    b. General Notes no. 33, 34 and 36 in the FWM Design shall not apply;

    c. The references to the manual on uniform traffic control devices (latest version), the Florida Department of Transportation design standards and specifications (latest edition) and the Broward County Traffic Engineering Division in General Note no. 38 in the FWM Design shall not apply.

    d. Notwithstanding anything to the contrary in the FWM Design, Kiewit shall not be required to submit a maintenance of traffic (MOT) plan and shall have no responsibility in respect of maintenance of access for such non-public access areas.

12. **Pavement Restoration:** Kiewit shall not be required to undertake pavement restoration and restoration of pavement markings if the FWM Work is performed prior to the installation of the road that is part of the Project.

13. **Grass Areas Restoration:** Notwithstanding anything to the contrary in the FWM Design, the FWM Work does not comprise any grass area restoration.

14. **Pavement Preparation:** Notwithstanding anything to the contrary in the FWM Design, the lift thickness and compaction requirements set out therein shall not apply to the extent Kiewit performs pavement preparation at the time Kiewit installs pavement for the Project.

15. **Access to City's Facilities:** Notwithstanding anything to the contrary in the FWM Design, Kiewit is required to maintain access only to the City's facilities on the site where the Feedstock Water main is to be located in accordance with the FWM Design.

16. **As-Built Drawings:** Any as-built drawings required to be submitted by Kiewit pursuant to the FWM Design shall consist of a redline mark-up of the drawings included in the FWM Design, which redline shall be certified by a state of Florida-registered surveyor and mapper. Signed and Sealed Hard Copies of Complete As-Built Drawings shall be the responsibility of the Engineer.

17. **Utilities:** If Kiewit encounters any utilities that are not specified in the FWM Design, or if the required depths and separation to existing utilities for the pipe routing are not as specified in the FWM Design, Kiewit shall be entitled to claim a Relief Event in accordance with the terms of the Comprehensive Agreement.

18. **Drawing D-3:** Drawing no. D-3 in the FWM Design Plan does not apply as there shall be no meter.

19. **Hazardous Materials:** General Note no. 44 in the FWM Design shall not apply. For the avoidance of doubt, Kiewit's rights and obligations with respect to hazardous materials will be as set out in the Comprehensive Agreement and the DB Contract.

20. **Shop Drawings:** The shop drawings required by General Note no. 24 in the FWM Design shall be limited to shop drawings for valves, piping, fittings, backfill and tracer wire.

21. **FDEP Permits:** Kiewit shall not be required to procure any FDEP permit required for the performance of the FWM Work.

22. **Excavated Material:** Notwithstanding anything to the contrary in the FWM Design, Kiewit may use excavated materials elsewhere in the performance of the DB Work for the Project or distribute excavated materials on the Site in the manner specified in the Comprehensive Agreement.

23. **Completion Timeline:** The completion of this feedstock water main scope of work is required no later than July of 2025 per our current CPM schedule. This Raw Water line provides the flushing water for some of the initial commissioning activities. The current quoted procurement durations for ductile iron pipe, valves, and fittings are up to 6 months from date of purchase order. To meet this July commissioning schedule, a fully approved and executed change order must be received no later than November 1st, 2024. The FWM Work, including procurement of materials is scheduled to be completed within 270 calendar days from execution of this Change Order, subject to the rights and remedies of the parties under the DB Contract to Changes, Relief Events, and extension of time, as may be applicable during performance. Kiewit shall provide written notice to the Project Company when Kiewit believes it has completed the FWM Work in accordance with this Scope Change Order ("**FWM Completion Notice**"). Within five Business Days following delivery of the FWM Completion Notice, the Project Company will inspect the FWM Work and (i) deliver to Kiewit the Project Company's written acknowledgment that the FWM Work has been completed, or (ii) notify Kiewit in writing that the FWM Work has not been completed, stating in detail the reasons therefor. In the case of (ii), Kiewit may withdraw the FWM Completion Notice and resubmit such notice at a later date; *provided, that* if Kiewit does not agree with such written notice provided by the Project Company, Kiewit may refer the disagreement for resolution in accordance with Article XIX (*Dispute Resolution*) of the DB Contract.

Attachment 1B

FWM Design

[*Attached*]

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

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.

CHEN MOORE & ASSOCIATES
500 WEST CYPRESS CREEK ROAD, SUITE 630
FT. LAUDERDALE, FL 33309

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

DRAWING INDEX

CITY OF FORT LAUDERDALE

PROJECT # 12765
FEEDSTOCK WATER MAIN TO PROSPECT WATER TREATMENT PLANT
FORT LAUDERDALE, FLORIDA

cma
chen moore and associates
500 West Cypress Creek Road, Suite 630
Ft. Lauderdale, FL 33309
954.739.6783
www.chenmoore.com

LOCATION SKETCH

PROJECT # 12765
FEEDSTOCK WATER MAIN TO PROSPECT WATER TREATMENT PLANT

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

FORT LAUDERDALE CITY COMMISSION

DEAN J. TRANTALIS	MAYOR
JOHN C. HERBST	COMMISSIONER - DISTRICT I
STEVE GLASSMAN	COMMISSIONER - DISTRICT II
PAMELA BEASLEY-PITTMAN	VICE MAYOR / COMMISSIONER - DISTRICT III
WARREN STURMAN	COMMISSIONER - DISTRICT IV

PROJECT MANAGER	JOB TITLE	PHONE NO.

DATE: 02/16/2024
CAD FILE: 12765-000-01ACOVR
DRAWING FILE No.:

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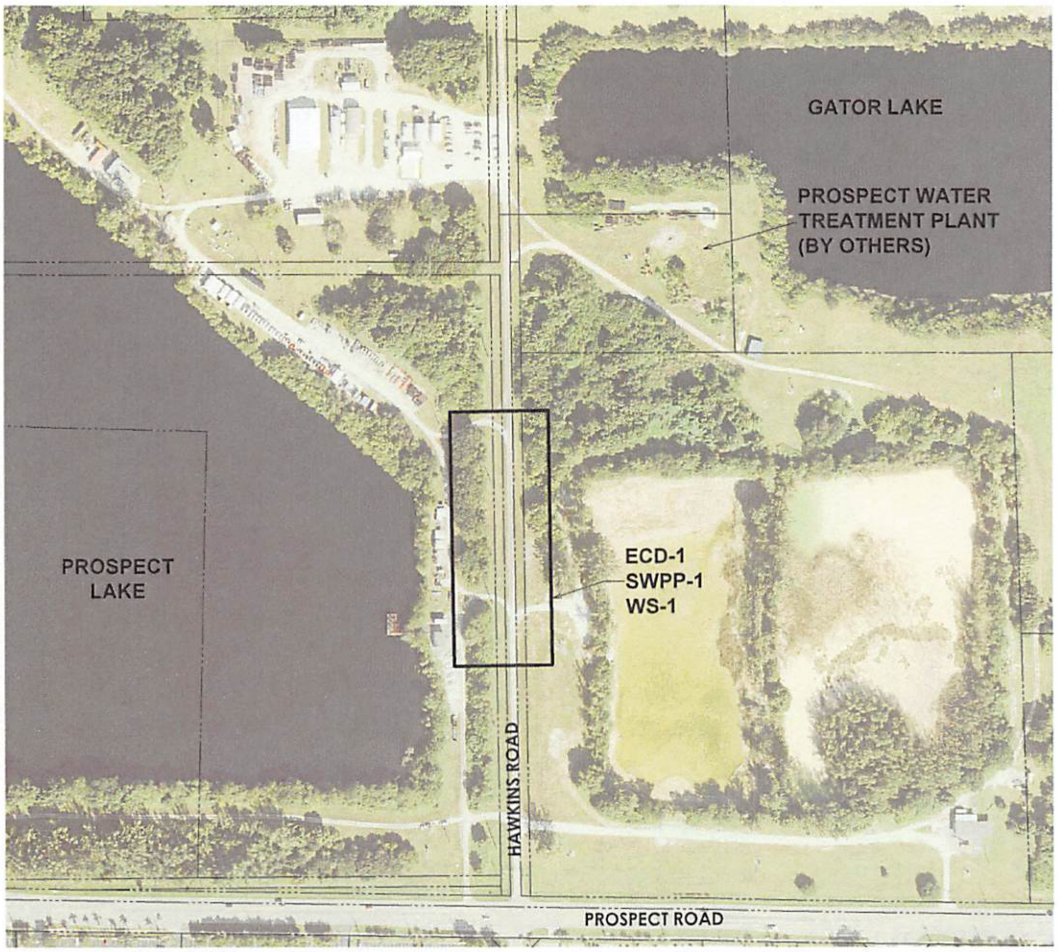

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Sunshine 811
Call 811 or www.sunshine811.com two full business days before digging to have utilities located and marked.

cma
chen moore and associates
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Ft. Lauderdale, FL 33309
954.730.0707
www.chenmoore.com

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DRAWN BY: JLS | DATE: 02/16/2024
DESIGNED BY: DB | SCALE:
CHECKED BY: DB
FIELD BOOK:

NO.	DATE	BY	CHK'D	DESCRIPTION
REVISIONS				

CITY PROJECT # 12765
FEEDSTOCK WATER MAIN TO PROSPECT WATER TREATMENT PLANT

KEY MAP

DRAWING #: KEY-1 | SHT #: 001
TOTAL: 12
CAD FILE: 12765-001-KMAP
DRAWING FILE NO. 4-141-91

GENERAL NOTES

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cma

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CITY PROJECT # 12765	DRAWING # GN-1
FEEDSTOCK WATER MAIN TO PROSPECT WATER TREATMENT PLANT	SHT # 002
GENERAL NOTES AND ABBREVIATION	TOTAL 12
	CAD FILE 12765-MULTI-NOTE
	DRAWING FILE NO.

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

CITY of FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DRAWN BY: JLS	DATE: 02/16/2024
DESIGNED BY: DB	SCALE: #
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FIELD BOOK #	

ABBREVIATIONS

ABN - ABANDONED
ACP - ASBESTOS CEMENT PIPE
ACCE - ACCESS EASEMENT
AE - ANCHOR EASEMENT
AERE - AERIAL EASMENT
ALUM - ALUMINUM
ASPH - ASPHALT
A & UE - ACCESS & UTILITY EASEMENT
AVE - AVENUE
BCR - BROWARD COUNTY RECORDS
BCHCED - BROWARD COUNTY HIGHWAY CONSTRUCTION ENGINEERING DIVISION
BCTED - BROWARD COUNTY TRAFFIC ENGINEERING DEPT
BCWWS - BROWARD COUNTY WATER & WASTEWATER SERVICES
BE - BURIED ELECTRIC
BFO - BURIED FIBER OPTICS
BLDG - BUILDING
BT - BURIED TELEPHONE
CATV - CABLE TELEVISION
CAE - CANAL ACCESS EASEMENT
CB - CATCH BASIN
CCTV - CLOSED CIRCUIT TELEVISION
CIP - CAST IRON PIPE
℄ - CENTER LINE
CLF - CHAIN LINK FENCE
CME - CANAL MAINTENANCE EASEMENT
CMP - CORRUGATED METAL PIPE
CO - CLEAN OUT
COMM - COMMUNICATIONS
CONC - CONCRETE
CORP - CORPORATION
CS - CONTROL STRUCTURE
DCR - DADE COUNTY RECORDS
DE - DRAINAGE EASEMENT
DIAM - DIAMETER
DIP - DUCTILE IRON PIPE
DWG - DRAWING
DWY - DRIVEWAY
E - EAST
EL - ELEVATION
ELEC - ELECTRIC
EOP - EDGE OF PAVEMENT
EX - EXISTING
FF - FINISHED FLOOR
FFE - FINISHED FLOOR ELEVATION
FH - FIRE HYDRANT
FM - FORCE MAIN
FPL & CE - FLORIDA POWER & LIGHT COMPANY EASEMENT
G - GAS
GV - GATE VALVE
HDPE - HIGH DENSITY POLYETHYLENE
IE - INVERT ELEVATION
IE & UE - INGRESS EGRESS & UTILITY EASEMENT
IEE - INGRESS & EGRESS EASEMENT
INSTR - INSTRUMENT
INV - INVERT
IRR - IRRIGATION
LB - LICENSED BUSINESS
LF - LINEAR FOOT
LGTH - LENGTH
MAS - MAINTENANCE ACCESS STRUCTURE
MAX - MAXIMUM
MB - MAIL BOX
ME - MAINTENANCE EASEMENT
MF - METAL FENCE
MH - MANHOLE
MIN - MINIMUM
MTR - METER
N - NORTH
NAVD 88 - NORTH AMERICAN VERTICAL DATUM OF 1988
NGVD - NATIONAL GEODETIC VERTICAL DATUM
NO - NUMBER
NTS - NOT TO SCALE
O/H - OVERHEAD ELECTRIC
PB - PLAT BOOK
PE - POLYETHYLENE
PF - PLASTIC PICKET FENCE
PG - PAGE
POB - POINT OF BEGINNING
POC - POINT OF COMMENCEMENT
PROP - PROPOSED
PSI - POUNDS PER SQUARE INCH
PVC - POLYVINYL CHLORIDE
PVMT - PAVEMENT
R - RADIUS
RCP - REINFORCED CONCRETE PIPE
RE - RIM ELEVATION
RPM - REFLECTIVE PAVEMENT MARKER
RT - RIGHT
R/W - RIGHT-OF-WAY
S - SOUTH
SAN - SANITARY SEWER
SD - STORM DRAIN
SE - SEWER EASEMENT
SFWMD - SOUTH FLORIDA WATER MANAGEMENT DEPT
SHT - SHEET
SQ FT - SQUARE FEET
ST - STREET
STA - STATION
SWK - SIDEWALK
TEL - TELEPHONE
TH - TEST HOLE
TOC - TOP OF CURB
TOP - TOP OF PIPE
TYP - TYPICAL
UE - UTILITY EASEMENT
UNK - UNKNOWN
VCP - VITRIFIED CLAY PIPE
W - WEST
WF - WOOD FENCE
W/R - WHITE & RED
WM - WATER MAIN
WME - WATER MAIN EASEMENT
WTR - WATER
WWED - WASTEWATER ENGINEERING DEPARTMENT
WWS - WATER & WASTEWATER SERVICES

EXISTING STORM DRAINAGE

EXISTING STORM DRAIN PIPE
EXISTING CATCH BASIN OR INLET GRATE
EXISTING GUTTER INLET
EXISTING ROUND CATCH BASIN
EXISTING STORM MANHOLE
EXISTING ENDWALL OR HEADWALL

DEMOLITION

EXISTING ASPHALT TO BE REMOVED
EXISTING ASPHALT TO BE MILLED
EXISTING CONCRETE TO BE REMOVED
EXISTING CONCRETE DRIVEWAY TO BE REMOVED
EXISTING SPECIALTY DRIVEWAY TO BE REMOVED
ITEM TO BE ABANDONED
ITEM TO BE REMOVED

EXISTING WATER

EX WM — EXISTING WATER MAIN
ABANDONED WATER MAIN
FUTURE WATER MAIN
EX RWM — EXISTING RECLAIMED WATER MAIN
ABANDONED RECLAIMED WATER MAIN
FUTURE RECLAIMED WATER MAIN
EX RAW WM — EXISTING RAW WATER MAIN
ABANDONED RAW WATER MAIN
EXISTING PIPE (20"ø AND LARGER)
EXISTING WATER METER AND SERVICE LATERAL
EXISTING PLUG
EXISTING CAP
EXISTING FITTINGS
EXISTING FIRE HYDRANT
EXISTING SIAMESE OR FIRE DEPARTMENT CONNECTION
EXISTING REDUCER
EXISTING GATE VALVE
EXISTING BUTTERFLY VALVE
EXISTING AIR RELEASE VALVE
EXISTING DETECTOR DOUBLE CHECK VALVE
EXISTING BACKFLOW PREVENTER

LINE TYPES

CENTER LINE
RIGHT-OF-WAY LINE
PROPERTY LINE
EASEMENT LINE
PROJECT BOUNDARY
EX OE — OVERHEAD ELECTRIC LINES
EX BE — BURIED ELECTRIC LINES
EX CATV — CABLE TELEVISION
EX BFO — BURIED FIBER OPTICS
EX BT — BURIED TELEPHONE
EX BCTEDC — BROWARD COUNTY TRAFFIC ENGINEERING DEPARTMENT COMMUNICATIONS
WOOD FENCE
CHAIN LINK FENCE
METAL FENCE

TOPOGRAPHIC SURVEY

ANCHOR
BOLLARD / GUARD POST
CABLE TV RISER
CABLE TV VAULT
CLEANOUT
COMMUNICATIONS VAULT
CONCRETE LIGHT POLE
CONCRETE POST
CONCRETE POWER POLE
ELECTRIC CABINET
ELECTRIC MANHOLE
ELECTRIC METER
ELECTRIC OUTLET
ELECTRIC VAULT
ELECTRIC WIRE PULL BOX
FIRE HYDRANT
GAS METER
GAS VALVE
IRRIGATION BOX
IRRIGATION PUMP
IRRIGATION WELL
LIFT STATION ANTENNA
MAIL BOX
METAL LIGHT POLE
MULTI SUPPORT SIGN
PLASTIC POST
SANITARY SEWER MANHOLE
SANITARY SEWER VALVE
SIGN ON POST
SPOT ELEVATION
STREET LIGHT POLE
TELEPHONE CABINET
TELEPHONE RISER
TELEPHONE VAULT
TEST HOLE
UTILITY MARKER
VENT PIPE
WATER METER
WATER VALVE
WOOD LIGHT POLE
WOOD POWER POLE
HORIZONTAL & VERTICAL CONTROL PT

GEOTECHNICAL

BORING LOCATION
TEST HOLE LOCATION

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GN-2	003
TOTAL:	12
CAD FILE: 12765-MULTI-NOTE	
DRAWING FILE NO.	

CITY PROJECT # 12765
FEEDSTOCK WATER MAIN TO PROSPECT WATER TREATMENT PLANT

GENERAL NOTES AND ABBREVIATION

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

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DESIGNED BY: DB	SCALE: #
CHECKED BY: DB	
FIELD BOOK: #	

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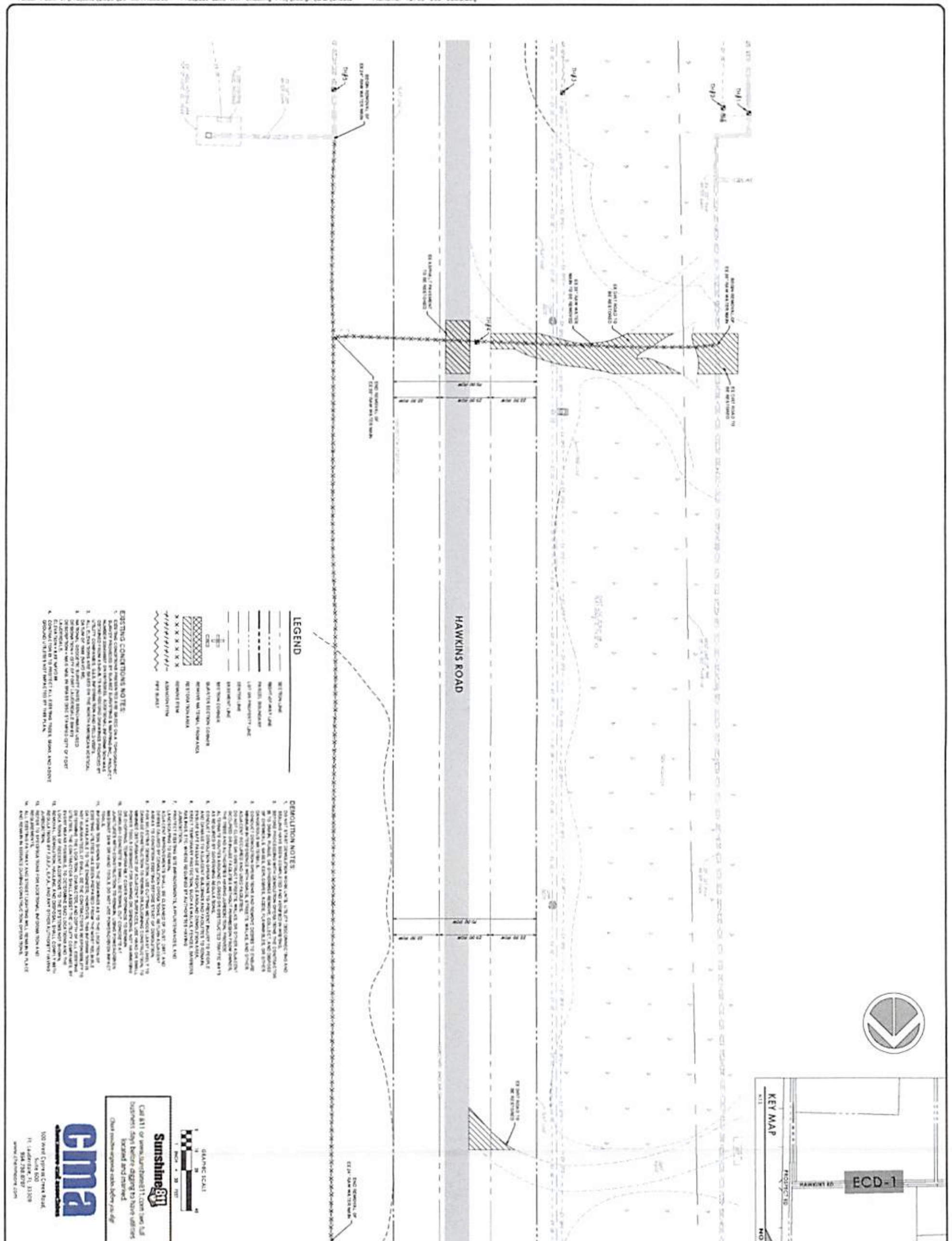

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DRAWING #	SHEET #
ECD-1	004
TOTAL	12
CAD FILE	12765-005-DEMO
DRAWING FILE NO.	

CITY PROJECT # 12765
FEEDSTOCK WATER MAIN TO PROSPECT WATER TREATMENT PLANT

EXISTING CONDITION AND DEMOLITION PLAN

REVISIONS				
NO.	DATE	BY	CHK'D	DESCRIPTION

CITY OF FORT LAUDERDALE
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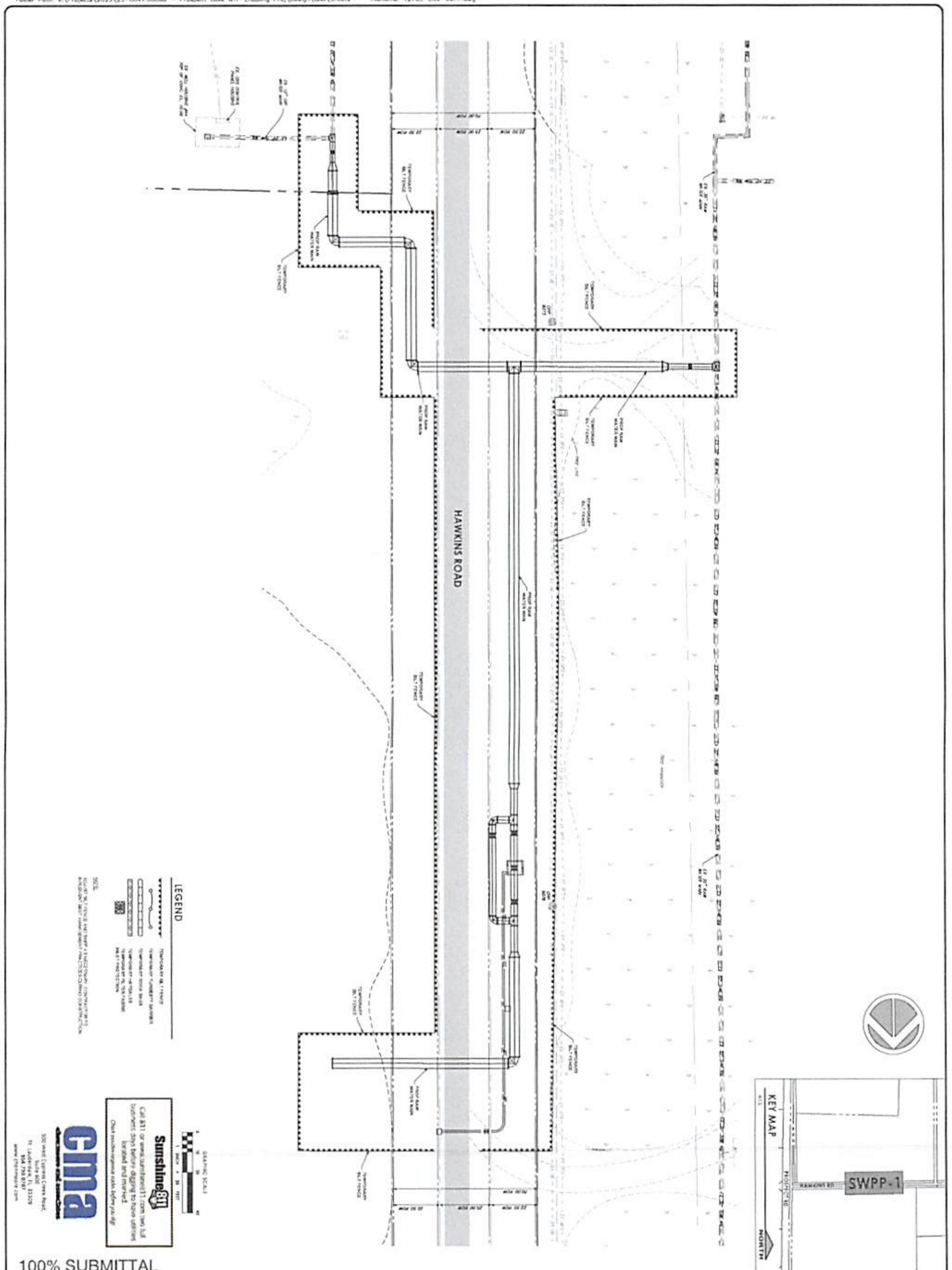

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DRAWING # SWPP-1	SHT # 005	TOTAL 12
CAD FILE 12765-006-SWPP		

CITY PROJECT # 12765
FEEDSTOCK WATER MAIN TO PROSPECT WATER TREATMENT PLANT

STORMWATER POLLUTION PREVENTION PLAN

REVISIONS

NO	DATE	BY	CHK'D	DESCRIPTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
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FIELD BOOK: #	

STORMWATER POLLUTION PREVENTION GENERAL NOTES

GENERAL EROSION SITES

1. THE STORMWATER POLLUTION PREVENTION PLAN IS COMPOSED OF THIS DRAWING (SITE MAP), THE STANDARD DETAILS AND THE PLAN NARRATIVE INCLUDED IN SPECIFICATIONS PLUS THE PERMIT AND ALL SUBSEQUENT REPORTS AND RELATED DOCUMENTS.
2. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH THE STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND BECOME FAMILIAR WITH THEIR CONTENTS.
3. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS INDICATED BY CONDITIONS AT NO ADDITIONAL COST TO OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
4. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
5. THE CONTRACTOR SHALL PROTECT INLETS AND OTHER SITE APPURTENANCES FROM SEDIMENTATION USING PROTECTION AS DETAILED IN THESE SHEET AND IN FDOT INDEX NO. 104.
6. CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT.
7. GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES.
8. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
9. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
10. DUST ON THE SITE SHALL BE CONTROLLED BY WATERING. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
11. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
12. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS PLAN AND IN THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE INITIATED AS SOON AS PRACTICABLE.
13. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS STOPPED FOR AT LEAST 30 DAYS, SHALL BE TEMPORARILY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS.
14. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANDSCAPE PLAN.
15. THE CONTRACTOR SHALL PROVIDE STABILIZED CONSTRUCTION ENTRANCES AT POINTS OF INGRESS AND EGRESS ONTO ANY ROADWAY OPEN TO PUBLIC USE WITHIN THE PROJECT AREA. THESE LOCATIONS AND THE METHOD OF STABILIZATION SHALL BE INCLUDED IN THE EROSION CONTROL PLAN. THE CONTRACTOR SHALL PROVIDE #57 ROCK AT CONSTRUCTION ENTRANCE TWELVE FEET WIDE AND FIFTY FEET LONG MINIMUM. THE CONTRACTOR SHALL ROUTINELY REMOVE EXCESS SEDIMENT FROM THE ROADWAY AND OTHER REQUIRED AREAS PROMPTLY.
16. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.
17. ALL MATERIAL SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
18. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE. ON-SITE AND OFF-SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE TO WITH GENERAL PERMIT REQUIREMENTS.
19. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
20. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, STRAW BALES, ETC.) TO PREVENT EROSION.
21. ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY. THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.
22. CONTRACTOR SHALL PROVIDE TREE PROTECTION MEASURES AS NEEDED.
23. DEWATERING IS NOT ANTICIPATED FOR THE INSTALLATION OF UTILITIES.
24. ALL WORK SHALL BE IN COMPLIANCE WITH NPDES.

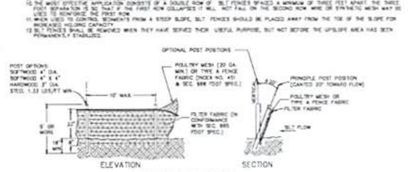
MAINTENANCE

1. ALL MEASURES STATED ON THIS EROSION AND SEDIMENT CONTROL PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A 0.5" RAINFALL EVENT, AND CLEANED AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:
2. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION.
3. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEEDED AS NEEDED.
4. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.
5. THE CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION ENTRANCES AS CONDITIONS DEMAND.
6. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING ON THE TEMPORARY PARKING AS CONDITIONS DEMAND.
7. OUTLET STRUCTURES IN THE SEDIMENTATION BASINS SHALL BE MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES. SEDIMENT SHALL BE REMOVED FROM SEDIMENT BASINS OR TRAPS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
8. IF CONTAMINATED SOIL OR GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR IS TO CEASE OPERATIONS IN THAT AREA. THE CONTRACTOR SHALL CONTACT THE ENGINEER WHO WILL NOTIFY THE BROWARD COUNTY ENVIRONMENTAL PROTECTION AND GROWTH MANAGEMENT DEPARTMENT.

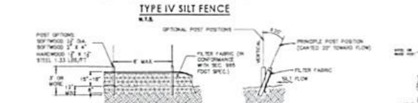
SHEET FLOW APPLICATION: SILT FENCE

THIS SEDIMENT BARRIER USES STANDARD STRENGTH OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS. IT IS DESIGNED FOR SITUATIONS IN WHICH ONLY SHEET OR OVERLAND FLOWS ARE EXPECTED.

1. THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES (90 cm). HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.
2. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED AS DESCRIBED IN ITEM NO. 8 BELOW.
3. POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET (3 m) APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 12 INCHES (30 cm). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT FENCE, POST SPACING SHALL NOT EXCEED 6 FEET (1.8 m).
4. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES (10cm) WIDE AND 4 INCHES (10 cm) DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
5. WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH (25 mm) LONG, TIE WIRES, OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES (5 cm) AND SHALL NOT EXTEND MORE THAN 36 INCHES (90 cm) ABOVE THE ORIGINAL GROUND SURFACE.
6. THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 8 INCHES (20 cm) OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES (90 cm) ABOVE THE ORIGINAL GROUND SURFACE.
7. WHEN EXTRA STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF ITEM NO. 6 APPLYING.
8. WHEN ATTACHING TWO SILT FENCES TOGETHER, PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FILTER FABRIC. DRIVE BOTH POSTS INTO THE GROUND AND BURY THE FLAP.
9. THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER FABRIC.
10. THE MOST EFFECTIVE APPLICATION CONSISTS OF A DOUBLE ROW OF SILT FENCES SPACED A MINIMUM OF THREE FEET APART. THE THREE FOOT SEPARATION IS SO THAT IF THE FIRST ROW COLLAPSES IT WILL NOT FALL ON THE SECOND ROW. WIRE OR SYNTHETIC MESH MAY BE USED TO REINFORCE THE FIRST ROW.
11. WHEN USED TO CONTROL SEDIMENTS FROM A STEEP SLOPE, SILT FENCES SHOULD BE PLACED AWAY FROM THE TOE OF THE SLOPE FOR INCREASED HOLDING CAPACITY.
12. SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.



TYPE IV SILT FENCE
N.T.S.



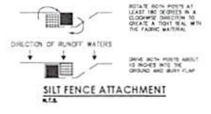
TYPE III SILT FENCE
N.T.S.

GENERAL NOTES

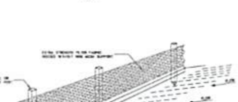
1. TYPE III SILT FENCE TO BE USED AT MOST LOCATIONS. WHERE USED IN DITCHES
2. TYPE IV SILT FENCE TO BE USED WHERE LARGE SEDIMENT LOADS ARE ANTICIPATED. SUGGESTED USE IS WHERE FILL SLOPE IS 1:2 OR STEEPER AND LENGTH OF SLOPE EXCEEDS 25 FEET. AVOID USE WHERE THE DRAINED WATER MAY BACK INTO TRAVEL LANES OR OFF THE RIGHT-OF-WAY.
3. DO NOT CONSTRUCT SILT FENCES ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.
4. WHERE USED AS SLOPE PROTECTION, SILT FENCE IS TO BE CONSTRUCTED ON OR LONGITUDINAL GRADE TO AVOID CHANNELIZING RUNOFF ALONG THE LENGTH OF THE FENCE.

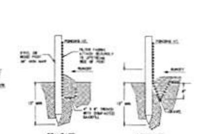
EROSION AND SEDIMENT CONTROL NOTES:

1. CONTRACTOR TO EMPLOY BEST MANAGEMENT PRACTICES THROUGHOUT CONSTRUCTION IN ORDER TO ENSURE POLLUTION PREVENTION. CONTRACTOR TO COMPLY WITH ALL LOCAL STATE AND OTHER GOVERNMENTAL ENVIRONMENTAL REGULATIONS THROUGHOUT CONSTRUCTION.
2. DURING CONSTRUCTION ALL CATCH BASIN INLETS WITHIN THE AFFECTED AREA SHALL BE PROTECTED TO PREVENT SEDIMENT AND DEBRIS FROM ENTERING THE CATCH BASIN.
3. SILT FENCES SHALL BE INSTALLED AS NECESSARY TO CONTROL OR PREVENT DISCHARGE OF SEDIMENT ONTO ADJACENT UNDISTURBED AREAS, OR OFF-SITE AREAS.
4. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE STABILIZED WITHIN A REASONABLE PERIOD OF TIME TO ASSURE MINIMUM EROSION OF SOILS.
5. NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
6. MAINTAIN EROSION CONTROL MEASURES AFTER EACH RAIN AND AT LEAST ONCE A WEEK.
7. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SOIL SEDIMENT FROM LEAVING THE SITE.
8. CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
9. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY CITY, COUNTY, AND STATE OF FLORIDA ON SITE INSPECTION. AT NO ADDITIONAL COST TO THE OWNER.
10. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES.
11. IF INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OR NIGHTFALL, THE PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
12. BURNING OF DEBRIS WILL NOT BE ALLOWED.
13. CONTRACTOR SHALL BE RESPONSIBLE TO TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
14. CONTRACTOR IS TO PROVIDE EROSION CONTROL/SEDIMENTATION BARRIER (HAY BALES OR SILTATION CURTAIN) TO PREVENT SILTATION OF ADJACENT PROPERTY, STREETS, STORM SEWERS AND WATER WAYS. IN ADDITION CONTRACTOR SHALL PLACE STRAW, MULCH OR OTHER SUITABLE MATERIAL ON GROUND IN AREAS WHERE CONSTRUCTION RELATED TRAFFIC IS TO ENTER AND EXIT SITE. IF IN THE OPINION OF THE ENGINEER AND/OR LOCAL AUTHORITIES IF EXCESSIVE QUANTITIES OF EARTH ARE TRANSPORTED OFF-SITE EITHER BY NATURAL DRAINAGE OR BY VEHICULAR TRAFFIC, THE CONTRACTOR IS TO REMOVE AND CLEAN SAID EARTH TO THE SATISFACTION OF THE ENGINEER AND/OR AUTHORITIES. EROSION CONTROL BARRIER SHALL BE ESTABLISHED AS THE FIRST ITEM OF WORK.
15. THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STORMWATER PERMITTING PROGRAM APPLIES TO ALL CONSTRUCTION ACTIVITY THAT: 1) CONTRIBUTE STORMWATER DISCHARGES TO SURFACE WATER OF THE STATE OR INTO A MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4); 2) DISTURBS ONE OR MORE ACRES OF LAND; OR 3) LESS THAN ONE ACRE IS INCLUDED IF THE ACTIVITY IS PART OF A LARGER COMMON PLAN OF DEVELOPMENT THAT WILL MEET OR EXCEED THE ONCE ACRE THRESHOLD. DISTURB INCLUDES CLEARING, GRADING AND EXCAVATING.
16. FOR CONSTRUCTION ACTIVITY THAT IS SUBJECT TO THE NPDES FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STORMWATER PERMITTING PROGRAM, THE CONTRACTOR SHALL:
    - 16.1. OBTAIN A GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION DOCUMENT 62-621.300(4)(A).
    - 16.2. COMPLY WITH ALL REQUIREMENTS OF THE GENERIC PERMIT.
    - 16.3. DEVELOP AND IMPLEMENT A STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
    - 16.4. COMPLETE A NOTICE OF INTENT (NOI) FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION FORM 62-621.300(4)(B) IN ITS ENTIRETY USING THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S WEBSITE.
17. SUBMIT COPIES OF THE SWPPP AND THE NOI TO THE ENGINEER AS INFORMATIONAL RECORDS. THESE SUBMITTALS WILL NOT BE REVIEWED BY THE ENGINEER.
18. CONTRACTOR TO CLEAN AND REPAIR ALL EXISTING STORMWATER INFRASTRUCTURE THAT IS IMPACTED BY CONSTRUCTION ACTIVITIES, BEFORE LEAVING THE JOBSITE.
19. CONTRACTOR TO REMOVE ALL FILTER FABRIC AND POLLUTION PREVENTION ITEMS BEFORE THE FINAL WALK-THROUGH.
20. DUST ABATEMENT: CONTRACTOR SHALL LIMIT THE NUMBER OF TRIPS ONLY FOR THE NECESSARY OPERATIONS TO PERFORM THE WORK. OPERATIONAL SPEED OF VEHICLES SHALL BE REDUCED WHENEVER NECESSARY TO CONTROL AND PREVENT DUST WITHIN THE SITE. CONTROLLED WATERING AND MOISTURE OF THE SURFACES AND DIRT ROADS SHALL BE APPLIED TO AVOID UNNECESSARY DUST WHEN APPLICABLE.
21. CONTRACTOR TO USE SYNTHETIC BALE BARRIERS ONLY. HAY / STRAW BALES ARE NOT ALLOWED.
22. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH FDOT INDICES 102, 103 AND 106, THE FDEP NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) GENERAL PERMIT (IF APPLICABLE), AND THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP). FILTER FABRIC, HAY BALES, OR ROCK BAGS SHALL BE INSTALLED IN EACH INLET THROUGHOUT THE CONSTRUCTION PERIOD. A SOIL TRACKING PREVENTION DEVICE (STPD) SHALL BE CONSTRUCTED AT ALL UNSTABILIZED CONSTRUCTION ACCESS POINTS, PER FDOT INDEX NO. 106.
23. THE INTENT OF EROSION CONTROL MEASURES IS TO PROVIDE A BARRIER TO CONTAIN SILT AND SEDIMENT ON THE PROJECT SITE. THIS REPRESENTATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE TEST OF EROSION CONTROL EFFECTIVENESS IS TO BE DETERMINED BY MEETING THE REGULATIONS SET FORTH BY THE AUTHORITY HAVING JURISDICTION OVER WATER QUALITY CONTROL AND OTHER SEDIMENTATION RESTRICTION REQUIREMENTS.
24. APPROVED EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY CLEARING, GRADING, EXCAVATION, FILLING, OR OTHER LAND DISTURBANCE ACTIVITIES, EXCEPT THOSE OPERATIONS NEEDED TO INSTALL SUCH MEASURES.
25. INSPECTION OF ALL EROSION CONTROL MEASURES SHALL BE CONDUCTED WEEKLY, OR AFTER EACH RAINFALL EVENT. REPAIR, AND/OR REPLACEMENT OF SUCH MEASURES SHALL BE MADE PROMPTLY, AS NEEDED.
26. KEEP DUST WITHIN TOLERABLE LIMITS BY SPRINKLING OR OTHER ACCEPTABLE MEANS.
27. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED IF DEEMED NECESSARY BY ONSITE INSPECTION.
28. FAILURE TO PROPERLY INSTALL AND MAINTAIN EROSION CONTROL PRACTICES SHALL RESULT IN CONSTRUCTION BEING HALTED.
29. DRAINAGE INLETS SHALL BE PROTECTED BY FILTER OR OTHER APPROVED MATERIALS.
30. ANY ACCESS ROUTES TO SITE SHALL BE BASED WITH CRUSHED STONE, WHERE PRACTICAL.
31. EROSION CONTROL MEASURES ARE TO BE MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
32. PRIOR TO CONSTRUCTION AND DURING ALL OPERATIONS THAT MAY DEGRADE WATER QUALITY, THE CONTRACTOR SHALL PRACTICE TURBIDITY CONTROLS TO PREVENT VIOLATION OF THE WATER QUALITY STANDARDS AS OUTLINED IN CHAPTER 62-302, F.A.C.



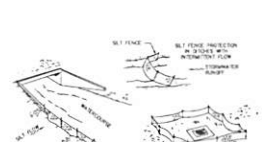
SILT FENCE ATTACHMENT
N.T.S.


SILT FENCE INSTALLATION
N.T.S.

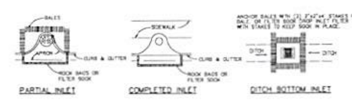


NOTES

1. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
2. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.



SILT FENCE APPLICATIONS
N.T.S.

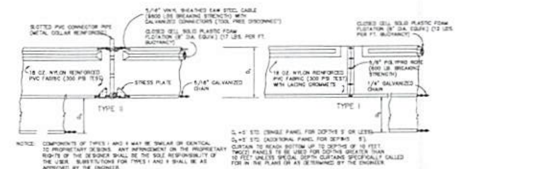


FOR ADDITIONAL INFORMATION REFERENCE FDOT INDEX 104

INLET PROTECTION
N.T.S.

NOTES:

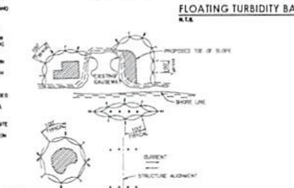
1. DURING CONSTRUCTION ALL CATCH BASIN INLETS SHALL BE PROTECTED TO PREVENT SEDIMENT AND DEBRIS FROM ENTERING THE CATCH BASIN.
2. INSTALL FILTER SOCK AT INLETS TO KEEP SILT, SEDIMENT AND CONSTRUCTION DEBRIS OUT OF THE STORM SYSTEM.
3. INSTALL FILTER SOCK AROUND THE ENTIRE CIRCUMFERENCE OF THE DROP INLET AND ALLOW FOR AT LEAST 1 FOOT OF OVERLAP ON EITHER SIDE OF THE OPENING BEING PROTECTED, OR INSTALL FILTER SOCK AROUND INLET AND ENSURE THAT THE CURB SIDE CREATES A SEAL WITH THE FILTER.
4. UNDER LOW-FLOW CONDITIONS, A 9" OR 12" SOCK DIAMETER SHOULD SUFFICE.
5. SEDIMENT COLLECTED AROUND THE OUTSIDE OF FILTER SOCK TO BE REMOVED WHEN SEDIMENT REACHES ONE-HALF OF THE SOCK HEIGHT.



NOTE: COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.

D_1=5' STD. (SINGLE PANEL FOR DEPTHS 5' OR LESS)
D_2=5' STD. (ADDITIONAL PANEL FOR DEPTHS > 5')
CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET. TWO(2) PANELS TO BE USED FOR DEPTHS GREATER THAN 10 FEET UNLESS SPECIAL DEPTH CURTAINS SPECIFICALLY CALLED FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.

FLOATING TURBIDITY BARRIERS
N.T.S.



NOTES:

1. TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH.
2. TURBIDITY BARRIERS SHALL BE OF SUFFICIENT LENGTH & DEPTH & SUFFICIENTLY STABILIZED IN ORDER TO MINIMIZE TURBIDITY.
3. NUMBER AND SPACING OF ANCHORS DEPENDENT ON CURRENT VELOCITIES.
4. DEPLOYMENT OF BARRIER AROUND PILE LOCATIONS MAY VARY TO ACCOMMODATE CONSTRUCTION OPERATIONS.
5. NAVIGATION MAY REQUIRE SEGMENTING BARRIER DURING CONSTRUCTION OPERATIONS.
6. FOR ADDITIONAL INFORMATION SEE SECTION 104 OF THE STANDARD SPECIFICATIONS.

TURBIDITY BARRIER APPLICATIONS

GENERAL NOTES

1. FLOATING TURBIDITY BARRIERS ARE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR FLOATING TURBIDITY BARRIER, LF.
2. STAKED TURBIDITY BARRIERS ARE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED TURBIDITY BARRIER, LF.

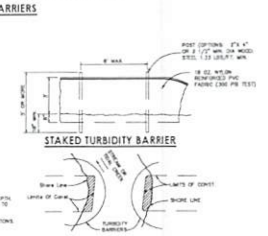
WATER QUALITY

1. PRIOR TO CONSTRUCTION AND DURING ALL OPERATIONS THAT MAY DEGRADE WATER QUALITY, THE CONTRACTOR SHALL PRACTISE TURBIDITY CONTROLS TO PREVENT VIOLATIONS TO THE WATER QUALITY STANDARDS AS OUTLINED IN CHAPTER 62-302, F.A.C.

LEGEND

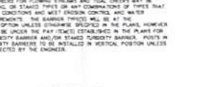
- PILE LOCATIONS
- DREDGE OR FILL AREA
- MOORING BUOY W/ANCHOR
- ANCHOR
- BARRIER MOVEMENT DUE TO CURRENT ACTION

TURBIDITY BARRIER
N.T.S.



STAKED TURBIDITY BARRIER

NOTE:
TURBIDITY BARRIERS FOR FLOWING STREAMS AND TIDAL CREEKS MAY BE EITHER FLOATING, OR STAKED TYPES OR ANY COMBINATIONS OF TYPES THAT WILL SUIT SITE CONDITIONS AND MEET EROSION CONTROL AND WATER QUALITY REQUIREMENTS. THE BARRIER TYPE(S) WILL BE AT THE CONTRACTORS OPTION UNLESS OTHERWISE SPECIFIED IN THE PLANS, HOWEVER PAYMENT WILL BE UNDER THE PAY ITEM(S) ESTABLISHED IN THE PLANS FOR FLOATING TURBIDITY BARRIER AND/OR STAKED TURBIDITY BARRIER. POSTS IN STAKED TURBIDITY BARRIERS TO BE INSTALLED IN VERTICAL POSITION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.



BARRIER FOR PAVED DITCH
N.T.S.

Sunshine 811
Call 811 or www.sunshine811.com two full business days before digging to have utilities located and marked.
Check positive response codes before you dig.

cma
chenmoore and associates
500 West Cypress Creek Road, Suite 600
Ft. Lauderdale, FL 33309
954.730.0707
www.chenmoore.com

100% SUBMITTAL

DRAWN BY	DATE
J.S.	02/16/2024
DESIGNED BY	SCALE
DB	#
CHECKED BY	
DB	
FIELD BOOK	#

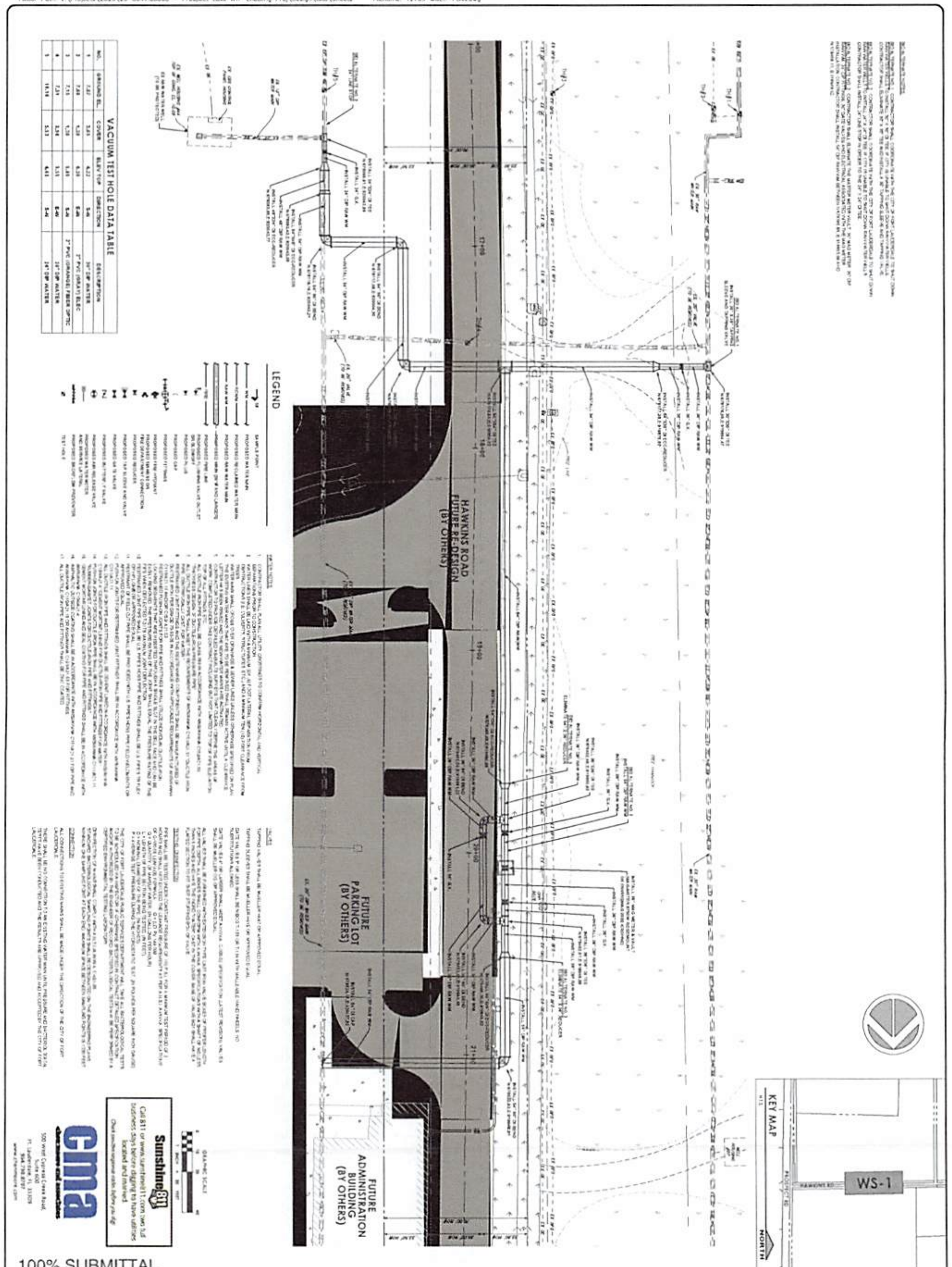
CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS				
NO.	DATE	BY	CHK'D	DESCRIPTION

CITY PROJECT # 12765
FEEDSTOCK WATER MAIN TO PROSPECT WATER TREATMENT PLANT
STORMWATER POLLUTION PREVENTION DETAILS

DRAWING # SWPP-2
SHEET # 006
TOTAL: 12
CAD FILE: 12765-MULTI-DETL
DRAWING FILE NO.

Plot Date: 3/29/2024 5:06:52 PM Username: japicer Layout Name: WS-1
Folder Path: V:\Projects\2023\23-0047.00068 - Prospect Lake WTP Enabling Proj\Design\CAD\Sheets Filename: 12765-MULTI-PLAN.dwg



100% SUBMITTAL

DRAWING #	WS-1
SHT #	007
TOTAL	12
CAD FILE	12765-MULTI-PLAN
DRAWING FILE NO	4-141-81

CITY PROJECT # 12765
FEEDSTOCK WATER MAIN TO PROSPECT WATER TREATMENT PLANT

WATER MAIN PLAN

REVISIONS

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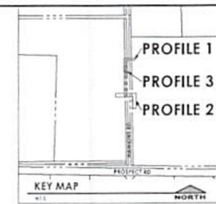
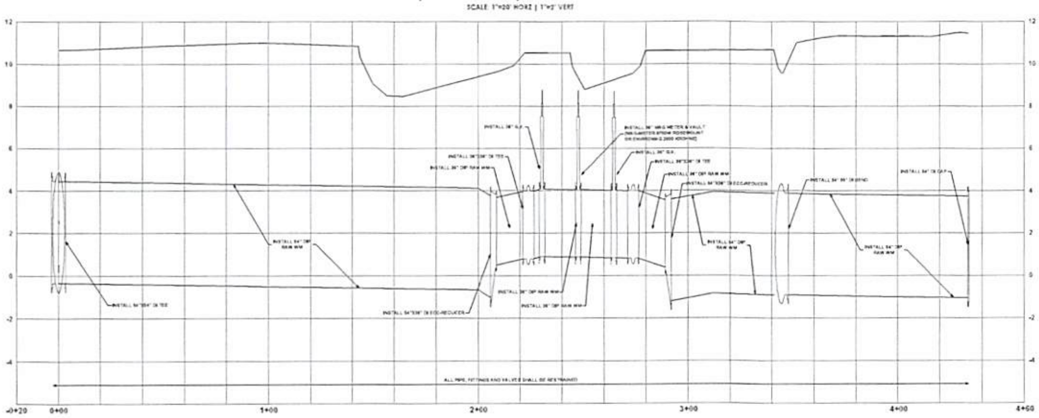
CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DRAWN BY: AS	DATE: 02/14/2024
DESIGNED BY: DB	SCALE: #
CHECKED BY: DB	
FIELD BOOK: #	



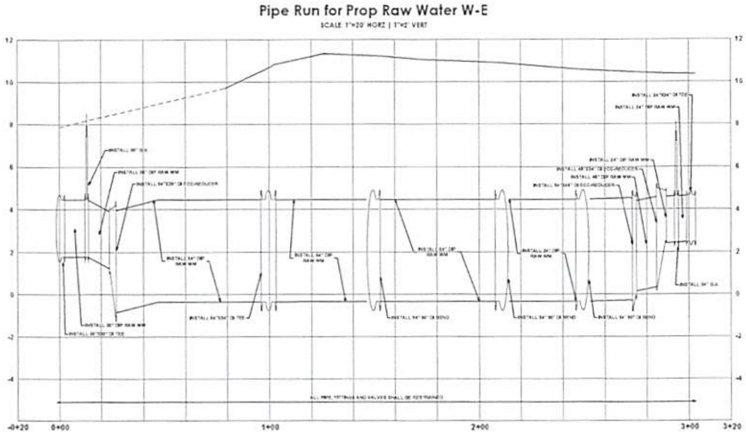
Pipe Run for Prop Raw Water S-N

SCALE: 1"=20' HORZ | 1"=2' VERT



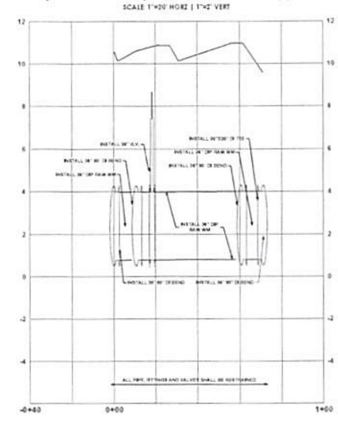
Pipe Run for Prop Raw Water W-E

SCALE: 1"=20' HORZ | 1"=2' VERT



Pipe Run for Prop Raw Water 36in Bypass

SCALE: 1"=20' HORZ | 1"=2' VERT



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Check positive response codes before you dig!

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DRAWN BY	DATE
AS	02/14/2024
DESIGNED BY	SCALE
DB	#
CHECKED BY	
DB	
FIELD BOOK	#

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ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

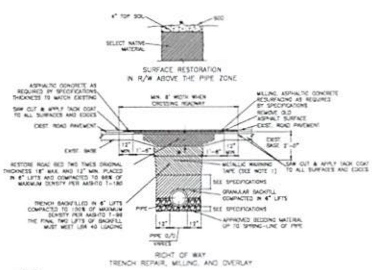
REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

CITY PROJECT # 12765
FEEDSTOCK WATER MAIN TO PROSPECT WATER TREATMENT PLANT

WATER MAIN PROFILES

DRAWING #	SHT #
WS-2	008
TOTAL:	12
CAD FILE: 12765-MULTI-PLAN	
DRAWING FILE NO. 4-141-91	



NOTES

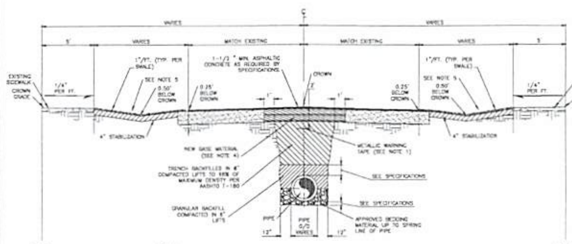
1. METALLIC WARNING TAPES SHALL BE INSTALLED 24" BELOW FINISH GRADE ABOVE MAIN. (SEE SPECIFICATION 3300 SECTION 3.8 FOR WARNING TYPE)
2. UNLESS OTHERWISE SPECIFIED SELECTED MATERIAL SHALL BE FREE OF STONES LARGER THAN 3/8" DIA. REPLACE ALL LANE MARKINGS AND REFLECTIVE MARKERS.

T=6" PARKING
T=8" RESIDENTIAL STREETS
T=10" MAJOR STREETS (4 LANE)
T=12" MAJOR STREETS (6 LANE)

2T=18" MAX. 12" MIN.

(100) TYPICAL TRENCH AND PAVEMENT RESTORATION FOR TRANSVERSE CROSSING

Scale: 1" = 3'

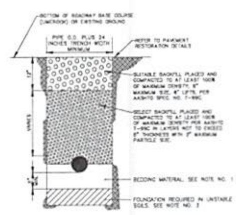


NOTES

1. 3" WIDE METALLIC WARNING TAPES SHALL BE INSTALLED 24" BELOW FINISH GRADE. DOES NOT APPLY TO STORM DRAINAGE PIPE INSTALLATION.
2. UNLESS OTHERWISE SPECIFIED SELECTED MATERIAL SHALL BE FREE OF STONES LARGER THAN 3/8" DIA.
3. REPLACE ALL LANE MARKINGS AND REFLECTIVE MARKERS.
4. 12" MIN. LIMEROCK BASE PLACED IN 6" LAYERS AND COMPACTED TO 98% OF MAXIMUM DENSITY PER AASHTO T-180
5. BAHIA SOD -OR- ST. AUGUSTINE "FLORITAM" SOD IN PREVIOUSLY SODDED AREAS -OR- REPLACE EXISTING IMPROVED SURFACE (e.g., ROCK OR ASPHALT PAVING TO MATCH EXISTING -IF ASPHALT, MINIMUM 1" ASPHALT OVER MINIMUM 6" COMPACTED LIMEROCK)

(100B) TYPICAL ROAD SECTION, TYPICAL TRENCH, PAVEMENT AND SWALE RESTORATION FOR PARALLEL PIPE TRENCH

Scale: 1" = 4'

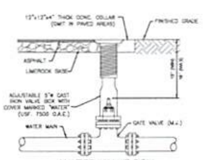


TYPICAL TRENCH BACKFILL

N.T.S.

NOTES

1. UNLESS OTHERWISE SPECIFIED, BEDDING MATERIAL SHALL CONSIST OF SELECT BACKFILL MATERIAL 2" MAXIMUM PARTICLE SIZE, COMPACTED TO AT LEAST 100% OF MAX. DENSITY, 6" LIFTS, PER AASHTO SPEC. NO. T-99C.
2. WHERE REQUIRED, SHEETING AND SHORING SHALL BE IN ACCORDANCE WITH OSHA REQUIREMENTS.
3. WHERE UNSTABLE SOILS ARE ENCOUNTERED, INCLUDING PEAT, MUCK OR OTHER ORGANIC SOILS, ELASTIC SILT AND CLAYS, A FOUNDATION IS REQUIRED AS DETERMINED BY THE ENGINEER OF RECORD.



WATER VALVE BOX

N.T.S.

POTABLE WATER AND SANITARY OR REUSE WATER SEPARATION NOTES

N.T.S.

1. VERTICAL CROSSINGS
SANITARY SEWER SYSTEMS AND/OR REUSE WATER MAINS SHALL CROSS UNDER POTABLE WATER MAINS WHENEVER PHYSICALLY POSSIBLE. SANITARY SEWERS SYSTEMS AND/OR REUSE WATER MAINS CROSSING BELOW POTABLE WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL SEPARATION DISTANCE OF 18 INCHES BETWEEN THE INVERT OF THE POTABLE WATER MAIN AND THE CROWN OF THE LOWER PIPE.
2. HORIZONTAL SEPARATIONS
WHEREVER IT IS PHYSICALLY POSSIBLE, SANITARY SEWER SYSTEMS REQUIRE A MINIMUM OF A 10-FOOT HORIZONTAL SEPARATION DISTANCE BETWEEN ANY POTABLE WATER MAIN PARALLEL INSTALLATIONS. REUSE WATER MAINS REQUIRE A MINIMUM OF A 5 FOOT CENTER TO CENTER (ABSOLUTE MINIMUM OF 3 FOOT OUTSIDE OF PIPE) HORIZONTAL SEPARATION DISTANCE BETWEEN ANY POTABLE WATER MAIN AND/OR A SANITARY SEWER SYSTEM PARALLEL INSTALLATIONS. WHEREVER EITHER ARE NOT PHYSICALLY POSSIBLE, THEN THE POTABLE WATER MAIN SHALL BE LAID AT THE MAXIMUM PHYSICAL HORIZONTAL SEPARATION DISTANCE POSSIBLE, AND EITHER LAID:
A) IN A SEPARATE TRENCH
B) ON AN UNDISTURBED EARTH SHELF
WITH A MINIMUM VERTICAL SEPARATION DISTANCE OF 18 INCHES PROVIDED BETWEEN THE INVERT OF THE POTABLE WATER MAIN AND THE CROWN OF THE LOWER PIPE, THUS CONFORMING TO THE MINIMUM VERTICAL CROSSINGS IN PARAGRAPH 1).
3. CONFLICTS
WHEREVER IT IS NOT POSSIBLE TO MAINTAIN THE MINIMUM STANDARDS IN 1) AND 2), THEN ALL PIPING MATERIAL SHALL BE BE DUCTILE IRON PIPE (DIP). ALL DIP SHALL BE CLASS 50 OR HIGHER. ADEQUATE PROTECTIVE MEASURES AGAINST CORROSION SHALL BE USED AS DETERMINED BY THE DESIGN AND SITE CONDITIONS. ADDITIONALLY, ALL JOINTS ON THE POTABLE WATER MAIN, WITHIN 20 FEET OF THE THE CONFLICT, SHALL BE MECHANICALLY RESTRAINED. AN ABSOLUTE MINIMUM VERTICAL SEPARATION DISTANCE OF 6 INCHES SHALL BE PROVIDED BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE.

Sunshine 811

Call 811 or www.sunshine811.com two full business days before digging to have utilities located and marked.

Check positive response codes before you dig!

cma

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100% SUBMITTAL

CITY PROJECT # 12765
FEEDSTOCK WATER MAIN TO PROSPECT WATER TREATMENT PLANT

CIVIL DETAILS

DRAWING #	SHT #
D-1	009

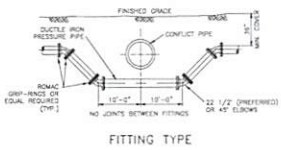
TOTAL 12
CAD FILE 12765-MULTI-DETL
DRAWING FILE NO.

NO.	DATE	BY	CHK'D	DESCRIPTION

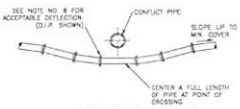
REVISIONS

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DRAWN BY A.S. DATE 02/16/2024
DESIGNED BY DB SCALE #
CHECKED BY DB
FIELD BOOK #



FITTING TYPE



DEFLECTION TYPE

400 PRESSURE PIPE CONFLICT DETAIL

Scale: 1" = 10'

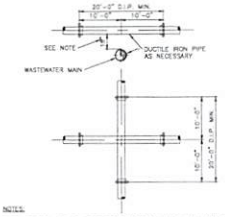
NOTES:

1. STORM SEWER, GRAVITY WASTEWATER AND RECLAIMED WATER MAIN CROSSING UNDER POTABLE WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE STORM/WASTEWATER/RECLAIMED WATER PIPE JOINTS AND POTABLE WATER MAIN JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN TEN (10) FEET BETWEEN ANY TWO JOINTS. BOTH PIPES SHALL BE D.I.P., AND THE MINIMUM VERTICAL SEPARATION SHALL BE 6 INCHES. WHERE THERE IS NO ALTERNATIVE TO STORM/WASTEWATER/RECLAIMED WATER PIPES CROSSING OVER A POTABLE WATER MAIN, THE CRITERIA FOR MINIMUM 18" VERTICAL SEPARATION BETWEEN LINES AND JOINT ARRANGEMENT, AS STATED ABOVE, SHALL BE REQUIRED, AND BOTH PIPES SHALL BE D.I.P. IRRESPECTIVE OF SEPARATION. D.I.P. IS NOT REQUIRED FOR STORM SEWERS.
2. MAINTAIN MIN. TEN (10) FEET HORIZONTAL DISTANCE BETWEEN POTABLE WATER MAIN AND STORM SEWER, WASTEWATER MAIN, OR FORCE MAIN. MAINTAIN MIN. THREE (3) FEET HORIZONTAL DISTANCE (WALL TO WALL) BETWEEN RECLAIMED WATER MAIN AND POTABLE WATER MAIN, STORM SEWER, WASTEWATER GRAVITY MAIN OR FORCE MAIN.
3. FORCE MAIN CROSSING POTABLE WATER MAIN OR RECLAIMED WATER MAIN SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE OUTSIDE OF THE FORCE MAIN AND OUTSIDE OF THE POTABLE WATER MAIN OR RECLAIMED WATER MAIN WITH THE POTABLE WATER MAIN OR RECLAIMED WATER MAIN CROSSING OVER THE FORCE MAIN.
4. FITTINGS SHALL BE RESTRAINED.
5. THE DEFLECTION TYPE CROSSING IS PREFERRED.
6. DO NOT EXCEED 75% OF MANUFACTURER'S RECOMMENDED MAXIMUM JOINT DEFLECTION FOR DUCTILE IRON PIPE. NO DEFLECTION AT THE JOINT IS ALLOWED FOR P.V.C. PIPE. BENDING OF P.V.C. PIPE SHALL NOT EXCEED THE FOLLOWING PARAMETERS:

PVC PIPE SIZE (INCH)	MIN. ALLOWED RADIUS (FT.)	MAX. DEFLECTION (INCH) PER 20' LENGTH
6"	335	6"
8"	400	5"
10"	600	4"
12"	600	4"

401 PRESSURE PIPE CONFLICT NOTES

Scale: N.A.



NOTES:

1. STORM SEWER, GRAVITY WASTEWATER AND RECLAIMED WATER MAIN CROSSING UNDER POTABLE WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE STORM/WASTEWATER/RECLAIMED WATER PIPE JOINTS AND POTABLE WATER MAIN JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN TEN (10) FEET BETWEEN ANY TWO JOINTS. BOTH PIPES SHALL BE D.I.P., AND THE MINIMUM VERTICAL SEPARATION SHALL BE 6 INCHES. WHERE THERE IS NO ALTERNATIVE TO STORM/WASTEWATER/RECLAIMED WATER PIPES CROSSING OVER A POTABLE WATER MAIN, THE CRITERIA FOR MINIMUM 18" VERTICAL SEPARATION BETWEEN LINES AND JOINT ARRANGEMENT, AS STATED ABOVE, SHALL BE REQUIRED, AND BOTH PIPES SHALL BE D.I.P. IRRESPECTIVE OF SEPARATION. D.I.P. IS NOT REQUIRED FOR STORM SEWERS.
2. MAINTAIN MIN. TEN (10) FEET HORIZONTAL DISTANCE BETWEEN POTABLE WATER MAIN AND STORM SEWER, WASTEWATER MAIN, OR FORCE MAIN. MAINTAIN MIN. THREE (3) FEET HORIZONTAL DISTANCE (WALL TO WALL) BETWEEN RECLAIMED WATER MAIN AND POTABLE WATER MAIN, STORM SEWER, WASTEWATER GRAVITY MAIN OR FORCE MAIN.
3. FORCE MAIN CROSSING POTABLE WATER MAIN OR RECLAIMED WATER MAIN SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE OUTSIDE OF THE FORCE MAIN AND OUTSIDE OF THE POTABLE WATER MAIN OR RECLAIMED WATER MAIN WITH THE POTABLE WATER MAIN OR RECLAIMED WATER MAIN CROSSING OVER THE FORCE MAIN.

402 STANDARD WATER AND SEWER SEPARATION DETAIL

Scale: 1" = 10'

I. FORCE MAIN AND WATER MAIN OUTSIDE OF WELLFIELD PROTECTION ZONE

MAXIMUM QUANTITY OF WATER (GALLONS PER HOUR) THAT MAY BE SUPPLIED TO MAINTAIN PRESSURE NEVER < P.S.I. OF THE SPECIFIED TEST PRESSURE

(MECHANICAL OR PUSH-ON JOINT, 18 FT. NOMINAL LENGTHS, PER 1000 FT. OF PIPE)

AVG. TEST PRESSURE	PIPE DIAMETER (INCHES)											
PSI	2	3	4	6	8	10	12	14	16	18	20	24	30
150	0.10	0.14	0.18	0.27	0.37	0.46	0.55	0.64	0.73	0.83	0.92	1.10	1.38

NOTES:

1. TO OBTAIN THE MAXIMUM QUANTITY OF WATER FOR PIPE WITH 20 FT. NOMINAL LENGTHS, MULTIPLY THE QUANTITY CALCULATED FROM THE TABLE BY 0.9.<<
2. THE MAXIMUM QUANTITY OF ADDED WATER FOR A PIPELINE IS CALCULATED BY MULTIPLYING THE QUANTITY PER HOUR AS OBTAINED FROM THE ABOVE TABLE, BY THE DURATION OF THE TEST IN HOURS, AND BY THE TOTAL LENGTH OF THE LINE BEING TESTED (DIVIDED BY 1,000, IF THE LINE UNDER TEST CONTAINS SECTIONS OF VARIOUS DIAMETERS, THE MAXIMUM QUANTITY ADDED WILL BE THE SUM OF THE COMPUTED QUANTITIES FOR EACH SIZE.<<
3. MAXIMUM TEST LENGTH = 2,500 FEET PER SECTION.<<
4. THIS STANDARD SHALL REFLECT ANY REVISION OF A.W.W.A. C-600-05.
5. STANDARD TEST PRESSURE = 150 P.S.I.
6. FORMULA BASIS: $L = \frac{(SD)(D)(P)^{1/2}}{148,000}$ △

L = MAXIMUM QUANTITY OF WATER TO BE ADDED (GALLONS PER HOUR)
S = LENGTH OF PIPE TESTED (FEET)
D = DIAMETER OF PIPE (INCHES)
P = TEST PRESSURE (P.S.I.)

7. PRESSURE TEST DURATION TO BE MIN. 2 HOURS.
8. DISINFECTION OF MAINS SHALL COMPLY WITH A.N.S.I./A.W.W.A. C-651-05 STANDARD.
9. DUCTILE IRON WATER MAIN PIPE SHALL CONFORM TO THE REQUIREMENTS OF A.N.S.I./A.W.W.A. C-151-02.

II. FORCE MAIN AND WATER MAIN WITHIN WELLFIELD PROTECTION ZONE.

NOTES:

1. PRESSURE TEST PROCEDURE TO FOLLOW THE CURRENT AWWA C-600-05 STANDARD (150psi, (2) HOUR DURATION). THERE SHALL BE NO PRESSURE DROP IN THE PIPE DURING THE TEST ("ZERO" FILL-UP TOLERANCE).

403 PRESSURE TEST CRITERIA

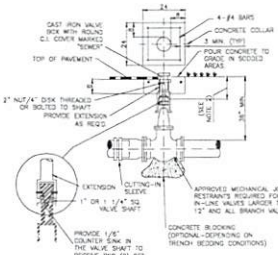
Scale: N.A.

NOTES:

1. UPON COMPLETION OF THE PIPE INSTALLATION FOR ANY SECTION, THE MAINS SHALL BE SWABBED AND FLUSHED TO REMOVE DIRT AND ANY OTHER FOREIGN MATTER BY ACHIEVING A MINIMUM VELOCITY OF 2.5 FEET PER SECOND IN THE PIPE. TEMPORARY FITTINGS, PIPE, ETC. MAY BE NEEDED TO FACILITATE FLUSHING.
2. INSTALL A 45° BEND AND ASSOCIATED PIPING AS SHOWN TO DIRECT THE FLUSHING WATER AWAY FROM THE IMMEDIATE WORK AREA AND EXERCISE DUE CARE SO AS TO ENSURE THAT THE WATER USED IN FLUSHING DOES NOT CAUSE A NUISANCE OR INFLICT PROPERTY DAMAGE.
3. BENDS AND PIPING SHALL BE THE SAME SIZE AS THE LINE TO BE FLUSHED.
4. PRIOR TO THE ACTUAL LINE FLUSHING OPERATION, THE CONTRACTOR SHALL PROPERLY NOTIFY THE CITY INSPECTOR OF SUCH INTENDED WATER USE.
5. NO EXISTING VALVES SHALL BE TURNED ON OR OFF, EXCEPT BY AUTHORIZED CITY PERSONNEL.
6. FLUSHING SHALL NOT BE ACCOMPLISHED WITHOUT THE ACTUAL PRESENCE OF THE CITY INSPECTOR.
7. AFTER THE LINE UNDER CONSTRUCTION HAS BEEN SUCCESSFULLY FLUSHED THE CONTRACTOR SHALL REMOVE THE TEMPORARY PIPING ARRANGEMENT AND PROCEED WITH THE REMAINING CONSTRUCTION AS SPECIFIED.
8. THERE MAY BE SPECIAL REQUIREMENTS FOR FLUSHING PIPE LARGER THAN 12" DIAMETER.

303 FLUSHING CONNECTION AND BLOW OFF DETAIL

Scale: 1" = 2'

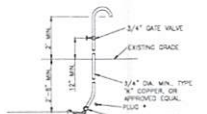


NOTES:

1. CONCRETE COLLAR IS NOT REQUIRED IN PAVED AREAS IF PAVEMENT SURFACE IS FINISHED PRIOR TO CONDITIONAL FINAL INSPECTION.
2. WHEN VALVE NUT IS DEEPER THAN 36" AN EXTENSION WITH UNIVERSAL JOINT SHALL BE REQUIRED TO BRING OPERATING NUT 24"-30" BELOW FINISHED GRADE. EXTENSION BOLTS & NUTS SHALL BE 316 STAINLESS STEEL. A 316 STAINLESS STEEL CENTERING PLATE SHALL ALSO BE REQUIRED.
3. VALVE BOXES SHALL HAVE LOCKING COVERS MARKED "SEWER" OR "WATER".
4. AT DEAD END OR WHERE MAIN LINES CHANGE DIRECTION, VALVES SHALL BE RESTRAINED USING MECHANICAL JOINT RESTRAINT.

406 TYPICAL VALVE DETAIL

Scale: 1" = 2'

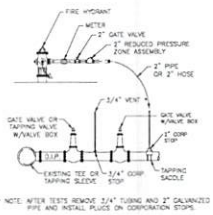


* NOTE: AFTER TESTS REMOVE 3/4" TUBING AND INSTALL PLUG ON CORPORATION STOP.

TYPICAL BACTERIOLOGICAL SAMPLING POINT AT INTERMEDIATE POINTS

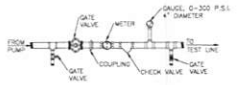
304

Scale: 1" = 2'



* NOTE: AFTER TESTS REMOVE 3/4" TUBING AND 2" GALVANIZED PIPE AND INSTALL PLUGS ON CORPORATION STOPS.

FILLING CONNECTION 305



NOTE:
PRESSURE TEST TO INCLUDE SERVICES TO ANGLE STOP.

PRESSURE TEST DETAIL 306

Sunshine811

Call 811 or www.sunshine811.com two full business days before digging to have utilities located and marked.

Check positive response codes before you dig!

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954.736.8707
www.cherenson.com

100% SUBMITTAL

NO.	DATE	BY	REVISIONS DESCRIPTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

CITY PROJECT # 12765
FEEDSTOCK WATER MAIN TO PROSPECT WATER TREATMENT PLANT

PRESSURE PIPE DETAILS

DRAWING #	SHT #
D-2	010

TOTAL: 12
CAD FILE: 12765-MULTI-DETL
DRAWING FILE NO. 4-141-91

WATER2

Plot Date: 3/29/2024 5:07:03 PM Username: jpicker Layout Name: D-3
Folder Path: X:\Projects\2023\23-0047.00065 – Prospect Lake WTP Enabling Proj\Design\CAD\Sheets Filename: 12765-MULTI-DET.dwg

100% SUBMITTAL

CITY PROJECT #	12765
FEEDSTOCK WATER MAIN TO PROSPECT WATER TREATMENT PLANT	
METER VAULT DETAILS	

REVISIONS				
NO.	DATE	BY	CHK'D	DESCRIPTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DRAWN BY: JLS	DATE: 02/16/2024
DESIGNED BY: DB	SCALE: #
CHECKED BY: DB	
FIELD BOOK: #	

DRAWING NO. D-3
SHEET NO. 011

Attachment 1C

Metallic Warning Tape Specification

[*Attached*]

3M EMS Path Marking Warning Tape – Water, Wastewater, Reclaim

1. Specifications

   a. All underground pressure pipe shall have electronically detectable Path Marking Warning Tape installed above it.
   b. The Path Marking Warning Tape shall be made of polyethylene (or approved equivalent) material, 6-inches wide and a minimum of 11 millimetres thick.
   c. The Path Marking Warning Tape shall have detectable RFID Markers embedded in the tape every eight feet to provide a continuous path to allow for easy detection at any point along the pipe. The signal should be such that it will provide guidance on the direction of the tape.

      1. RFID Frequencies shall be as follows:
         1. Water: 73.5 kHZ
         2. Wastewater: 41.4 kHz
         3. Reclaim Water: 44.9 kHz

   d. The Path Marking Warning Tape shall be able to function and be detected without the need for a direct connection to an external power source (e.g. no access points needed), which will allow for a quicker detection at any point along the path.
   e. Each detectable RFID marker embedded in the Path Marking Warning Tape functions independently so that even if a section of tape is removed, the remaining marked sections will continue to function.
   f. Path Marking Warning Tape must be able to provide a depth measurement using an underground cable/pipe locator.
   g. The Path Marking Warning Tape will not require grounding.
   h. Path Marking Warning Tape shall be Blue, Green or Purple in color and shall be printed on one side in black letters (Typical for all lettering) and shall be as follows: "CAUTION WATER (or Sewer or Reclaim) LINE BURIED BELOW" (or an approved equivalent wording). The wording shall be repetitive along the full length of the tape.
   i. Path Marking Tape shall be detectable at a maximum of 48" below grade regardless of soil composition.
   j. Approved Manufacture: 3M Electronic Marking System (EMS) Path Marking Warning Tape.

2. Installation

   a. Path Marking Warning Tape shall be installed continuously and longitudinally above and along all water, wastewater and reclaim pressure mains and services for new construction and for any repair or retrofit construction using open trench methods, for identification and detection purposes.

   b. For service connections, the Path Marking Warning Tape shall extend from the main line to the meter.

c. The Path Marking Warning Tape shall be installed directly above the center of the pipe and at least 16-inches deep from final grade to a maximum depth of 48-inches below final grade.

d. The contractor shall exercise care to prevent damage to the Path Marking Warning Tape when placing the remaining backfill.

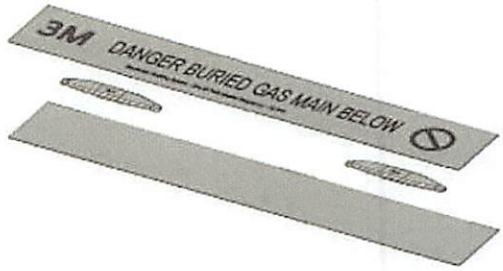
3M™ EMS Warning Tape 7900 Series

Data Sheet

The 7900 Series EMS Warning Tape is engineered to provide visual verification of underground utilities and can include the following additional features:

7900 EMS Warning Tape – Includes an EMS marker laminated between two pieces of film.

The RF technology does not require an electrically continuous path to provide detection in places where the tape has been damaged or detection where it is prohibitive to have an electrical path.

Agency Approvals & Self Certifications	For RoHS information, please visit www.3M.com/ROHS RoHS Compliant
Physical Specifications	
Models	**7900 EMS Warning Tape** 
Length	500ft (152m)
Tensile Strength	6"/360lb (15cm/1.6kN)
Elongation	20% at failure
Weight Mfg. Tested	6" (15cm) width - 18 LBS/500 ft (8.1 kg/150m)
Thickness (ASTM D2103)	11 MIL (.28mm) +Add 2 cm at RF marker
Printability PE Film (ASTM D2578)	34 dynes

Environmental Specifications	
Operating temperature	**-4° F to 122° F (-20° C to 50° C)**

Storage temperature		-4° F to 140° F (-20° C to 60° C)	
Environmental Standard		IP68	
Impact Rating of Marker		IK-9 (Tag)	
Chemical Resistance		Excellent resistance to acids. Good resistance to alkalis.	
Electrical Specifications			
Marker Detection Depth		4' (1.2 m) for 3M Dynatel™ Locators 7420, 7550 and 7573. 3' (.9 m) for 3M Dynatel Locator 1420-iD, 2250MiD,2273M-iD, 2550-iD and 2573-iD (for units with compatible hardware)	
Nominal Distance Between Markers		8ft. (2.4m)	
Minimum Separation from Metallic Facilities		4 in (10 cm)	
Utility		Color	Frequency
Gas		Yellow	53.9 kHz
Telecom		Orange	48.8 kHz
Power		Red	34.9 kHz
Water	Part Number 7903	Blue	73.5 kHz
Wastewater	Part Number 7904	Green	41.4 kHz
Reclaimed Water	Part Number 7908	Purple	44.9 kHz

*APWA Guidelines. Check local reference as some exceptions may apply.

Attachment 1D

Geotechnical Investigation Report

[*Attached*]

PANGEO
CONSULTANTS

REPORT OF
GEOTECHNICAL EXPLORATION

EVENT 50
12765 PROSPECT LAKE WTP ENABLING WORKS
NEW RAW WATER MAIN TO WTP
FORT LAUDERDALE, FL

CHEN MOORE AND ASSOCIATES
500 WEST CYPRESS CREEK ROAD, SUITE 600
FORT LAUDERDALE, FL 33309

PREPARED BY

PAN GEO CONSULTANTS, LLC.
8258 WEST SR 84
DAVIE, FL 33324

FEBRUARY 2024

SOLUTIONS AND SERVICE
Info@PanGeoConsult.com
Phone: (954) 200-4019

PANGEO
CONSULTANTS

February 13, 2024 (revised February 18, 2024)

Mr. Daniel Davila, P.E., Director – Water and Sewer
CHEN MOORE AND ASSOCIATES
500 West Cypress Creek Road, Suite 600
Fort Lauderdale, FL 33309
O: +1 (954) 730-0707
C: +1 (772) 361-9759
Email: ddavila@chenmoore.com

Re: Report of Geotechnical Exploration
Event 50
12765 Prospect Lake WTP Enabling Works
New Raw Water Main to WTP
Fort Lauderdale, FL

Dear Mr. Davila:

Pan Geo Consultants, LLC (PGC) has performed a limited geotechnical exploration for the above proposed construction. The purpose of this exploration was to obtain information concerning the site and subsurface conditions at specific locations in order to provide site preparation and recommendations for support of the proposed construction. This report presents our findings and recommendations.

PROJECT INFORMATION

Based on our conversations with you and review of materials provided, we understand that plans for this project call for the design of a new 54-inch raw water supply line from the existing Prospect Wellfield to the connection point to the new Prospect Lake Clean Water Center (official name of the WTP).

PGC should be notified in writing by the client of any changes in the proposed replacement along with a request to amend our foundation analysis and/or recommendations within this report as appropriate.

GENERAL SUBSURFACE CONDITIONS

Subsurface Soil Exploration

The exploration of subsurface conditions included site observation and three (3) standard penetration test borings (SPT) in general accordance with ASTM D-1586 specifications to depths of fifteen feet. The approximate locations of the soil borings are shown on the attached Test Location plan, presented in the Appendix. The engineer may have adjusted the locations in the field due to site restrictions and/or utilities. As such, locations should be considered approximate.

Test Boring Results

The test borings performed for this project generally revealed a surficial layer of topsoil to a depth of approximately one foot, underlain by loose to medium dense sand and trace limestone fragments to depths of approximately eight to eleven feet. Below this layer, medium hard to very hard limestone was noted to approximately fifteen feet, the maximum depth explored. Additional information is shown on the boring logs, presented in the Appendix of this report.

Special Note: During excavation, zones of hard to very hard limestone may be encountered which may not have been shown in the test borings. If these zones are encountered, we should be notified in order to further evaluate subsurface conditions. Shoring procedures should conform to those presented in the Occupational Safety and Health Administration (OSHA) standards.

Representative samples collected from the SPT borings were visually reviewed in the laboratory by a geotechnical engineer to confirm the field classifications. A detailed description of the soil/rock profile is presented in the test boring records provided in the Appendix. The Standard Penetration Test N-values are used to evaluate the relative density of granular soils.

Groundwater Information

During the performance of the soil borings, the groundwater level was not encountered within the sampling depth.

The immediate depth to groundwater measurements presented in this report may not provide a reliable indication of stabilized or long-term depth to groundwater at this site. Water table elevations can vary dramatically with time through rainfall, droughts, storm events, flood control activities, nearby surface water bodies, tidal activity, pumping and many other factors. For these reasons, this immediate depth to water data **should not** be relied upon alone for project design considerations.

Further information regarding stabilized groundwater elevations at the site could be developed upon specific request. Additional evaluation might include monitoring of piezometers, survey of the project area for evidence of current groundwater elevation influences such as well fields, obvious construction dewatering, tidal activity, flood control canals and other surface water bodies.

ANALYSIS AND RECOMENDATIONS

The test borings performed for this project revealed a soil profile consisting principally of sand and limestone formation. The proposed pipe may be supported on the existing soils utilizing typical construction methods.

In the case peat or silt materials are encountered within the pipe bedding area, the bedding should be over-excavated to at least 6 inches or two pipe diameters below the proposed pipe, whichever is greater. Backfill should be performed in accordance with the recommendations presented herein or as specified by the civil engineer. Sand and/or limestone fragments encountered above the unsuitable material layer may be stockpiled for later use.

The following table may be used for design. We note that the values in the table are based on visual classification and if more exact values are needed, specific laboratory testing should be performed. We note that the sand, limestone fragments, and sand/limestone mixtures should be considered to be cohesionless. Appropriate factors of safety should be applied by the design engineer depending on the application. We are available to assist in the design process if needed.

TABLE OF SOIL PARAMETERS

SOIL DESCRIPTION	SOIL UNIT WEIGHT (PCF)		ANGLE OF INTERNAL FRICTION (DEGREES)	SHEAR MODULUS (KSI)	EARTH PRESSURE COEFFICIENT		
	SATURATED	SUB-MERGED			AT REST (Ko)	ACTIVE (Ka)	PASSIVE (Kp)
SAND	105-110	43-48	28-33	0.25-0.30	0.5	0.33	3.0
LIMESTONE	120-125	58-63	40-45	0.3-1.0	0.36	0.22	4.6

Backfill Recommendations

Fill needed to bring the site back to grade may be placed in lifts not exceeding twelve inches in loose thickness. Each lift should be thoroughly compacted until densities equivalent to at least 98 percent of the modified Proctor maximum dry density (ASTM D-1557/AASHTO T-180) are uniformly obtained. Fill should consist of granular soil, with less than ten percent passing the No. 200 sieve, free of rubble, organics (five percent or less) clay, debris and other unsuitable material. Backfill above the pipe invert elevation should be performed as per the civil engineer.

The fill should have ASTM designation (D-2487) of GP, GW, SP, or SW, with a maximum particle size of no more than three inches or as otherwise approved by the geotechnical engineer.

Pavements

The following would apply within pavement areas which require repair. A stabilized subgrade having a minimum LBR of 40 shall be placed to a depth of at least twelve inches below the base course. The stabilized subgrade should be compacted to an equivalent density of 98 percent of the modified Proctor maximum dry density. The base course should be placed to at least twelve inches below the asphalt and should have a minimum LBR of 100. The base material should be compacted to 98 percent of

the modified Proctor maximum dry density. The pavement material and thickness should be based on design requirements.

GENERAL INFORMATION

Our client for this geotechnical evaluation was:

CHEN MOORE AND ASSOCIATES
500 West Cypress Creek Road, Suite 600
Fort Lauderdale, FL 33309

The contents of this report are for the exclusive use of the client, the client's design & construction team and governmental authorities for this specific project exclusively. Information conveyed in this report shall not be used or relied upon by other parties or for other projects without the expressed written consent of PGC.

This report discusses geotechnical considerations for this site based upon observed conditions and our understanding of proposed construction for foundation support. Environmental issues including (but not limited to), soil and/or groundwater contamination are beyond our scope of service for this project. As such, this report shall not be used or relied upon for evaluation of environmental issues.

Prior to initiating compaction operations, we recommend that representative samples of the structural fill material to be used and acceptable in-place soils be collected and tested to determine their compaction and classification characteristics. The maximum dry density, optimum moisture content, gradation and plasticity characteristics should be determined. These tests are needed for compaction quality control of the structural fill and existing soils, and to determine if the fill material is acceptable.

If conditions are encountered which are not consistent with the findings presented in this report, or if proposed construction is moved from the location investigated, this office shall be notified in writing immediately so that the condition or change can be evaluated and appropriate action taken.

PGC shall bear no liability for the implementation of recommended inspection and testing services as described in this report if implemented by others. PGC has no ability to verify the completeness, accuracy or proper technique of such procedures if performed by others.

Excavations of five feet or more in depth should be sloped or shored in accordance with OSHA and State of Florida requirements.

The Geotechnical Engineer warrants that the findings, recommendations, specifications, or professional advice contained herein, have been presented after being prepared in accordance with general accepted professional practice in the field of foundation engineering, soil mechanics and engineering geology. No other warranties are implied or expressed.

We appreciate the opportunity to provide these services for you and look forward to completing this and other projects with you. If we can be of any further assistance with the design or construction services, or if you need additional information, please feel free to contact us at your convenience.

Sincerely,
PAN GEO CONSULTANTS, LLC

Paul C Catledge

Digitally signed by Paul C Catledge
Date: 2024.02.18 20:41:21 -05'00'

Paul C. Catledge, P.E. #68448
Principal

Attachments: Test Location Plan
Test Boring Logs (B-1 to B-3)

This item has been digitally signed and sealed by Paul C. Catledge, P.E. on the date adjacent to the seal using a digital signature.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

PANGEO CONSULTANTS

EVENT 50 NEW RAW WATER MAIN TO WTP
3501 W PROSPECT RD
FORT LAUDERDALE, FL 33309

APPROXIMATE LOCATIONS
NOT TO SCALE

PANGEO CONSULTANTS
Pan Geo Consultants
8258 W SR 84
Davie, FL 33324
Telephone: +1(954) 200-4019

BORING NUMBER B-1

CLIENT CHEN MOORE
PROJECT NAME EVENT 50 - PROSPECT LAKE WTP NEW RAW WATER MAIN
PROJECT NUMBER CMA122
PROJECT LOCATION FT. LAUDERDALE, FL
DATE STARTED 1/30/24 **COMPLETED** 1/30/24
GROUND ELEVATION ___ **HOLE SIZE** 3 inches
DRILLING CONTRACTOR DANCOR
GROUND WATER LEVELS:
DRILLING METHOD MUD ROTARY DRILLING
AT TIME OF DRILLING ---
LOGGED BY JC **CHECKED BY** PCC
AT END OF DRILLING ---
NOTES AS LOCATED ON SITE PLAN
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)
0.0		Dk. Brown SAND, Tr. Limestone Fragments and Roots		
		Lt. Brown to Dk. Brown SAND, Tr. Limestone Fragments	SS S-1	4-6-8-10 (14)
2.5			SS S-2	8-7-5-3 (12)
		Dk. Brown to Lt. Brown SAND	SS S-3	6-5-4-2 (9)
5.0				
		Lt. Brown SAND, Tr. Limestone Fragments	SS S-4	2-3-3-10 (6)
7.5				
		Lt. Brown LIMESTONE, with some Sand	SS S-5	8-13-20-20 (33)
10.0				
12.5			SS S-6	31-33-4-37 (37)
15.0				

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 15.0 feet.

Pan Geo Consultants
8258 W SR 84
Davie, FL 33324
Telephone: +1(954) 200-4019

BORING NUMBER B-2

CLIENT CHEN MOORE
PROJECT NUMBER CMA122
DATE STARTED 1/30/24 COMPLETED 1/30/24
DRILLING CONTRACTOR DANCOR
DRILLING METHOD MUD ROTARY DRILLING
LOGGED BY JC CHECKED BY PCC
NOTES AS LOCATED ON SITE PLAN

PROJECT NAME EVENT 50 - PROSPECT LAKE WTP NEW RAW WATER MAIN
PROJECT LOCATION FT. LAUDERDALE, FL
GROUND ELEVATION HOLE SIZE 3 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING ---
AT END OF DRILLING ---
AFTER DRILLING ---

DEPTH (ft)	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)
0.0	Dk. Brown SAND, Tr. Roots Lt. Brown SAND, Tr. Limestone Fragments	SS S-1	7-7-10-16 (17)
2.5	Lt. Brown LIMESTONE FRAGMENTS	SS S-2	9-7-8-7 (15)
5.0	Lt. Brown to Dk. Brown SAND, Tr. Limestone Fragments	SS S-3	7-8-10-12 (18)
7.5		SS S-4	9-5-6-3 (11)
10.0	Lt. Brown SAND Brown SAND, Tr. Silt	SS S-5	3-2-1-1 (3)
12.5	Lt. Brown LIMESTONE with Some Sand	SS S-6	22-50/1"
15.0	Bottom of borehole at 15.0 feet.		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

PANGEO CONSULTANTS
Pan Geo Consultants
8258 W SR 84
Davie, FL 33324
Telephone: +1(954) 200-4019

BORING NUMBER B-3

CLIENT CHEN MOORE
PROJECT NAME EVENT 50 - PROSPECT LAKE WTP NEW RAW WATER MAIN
PROJECT NUMBER CMA122
PROJECT LOCATION FT. LAUDERDALE, FL
DATE STARTED 1/30/24 **COMPLETED** 1/30/24
GROUND ELEVATION _____ **HOLE SIZE** 3 inches
DRILLING CONTRACTOR DANCOR
GROUND WATER LEVELS:
DRILLING METHOD MUD ROTARY DRILLING
AT TIME OF DRILLING ---
LOGGED BY JC **CHECKED BY** PCC
AT END OF DRILLING ---
NOTES AS LOCATED ON SITE PLAN
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)
0.0		Dk. Brown SAND, Tr. Roots		
		Lt. Brown to Tan SAND	SS S-1	3-3-5-7 (8)
2.5			SS S-2	5-6-4-4 (10)
		Lt. Brown to Brown SAND, Tr. Limestone Fragments	SS S-3	4-4-4-5 (8)
5.0			SS S-4	5-3-2-3 (5)
7.5			SS S-5	2-2-3-4 (5)
10.0				
12.5		Lt. Brown LIMESTONE with Some Sand	SS S-6	17-50/5"
15.0		Bottom of borehole at 15.0 feet.		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Kiewit

Attachment 2 – Updated Project Progress Milestone Dates

[*Not Used*]

Kiewit

Attachment 3 – Updated Payment Schedule

[Not Used]

Attachment 4 – Updated Project Schedule

[*Not Used*]

Attachment 5 – Updated Performance Criteria

[*Not Used*]

Annex II

New Form of Annex B-1 (*City Infrastructure Obligations*) to the Comprehensive Agreement

[*Attached.*]

Annex B-1 to Comprehensive Agreement

City Infrastructure Obligations

[*Attached*]

Item	Location of Tie-In Point	City's Completion Deadline	Size / Quantity	Capacity	Type/Details
Product Water Transmission to Fiveash Water Treatment Plant	East Site boundary as indicated by TP-05 in Annex E-1 (*Site Description*).	400 days from the Effective Date for the City to furnish 60% design information 912 days from Effective Date for completion of installation	City shall furnish 48 inch connection to the City Feedstock Water pipeline to Fiveash Water Treatment Plant	50 MGD	The City shall complete a 48-inch Product Water transmission main (pipe) from the Tie-In Point provided by the Project Company at the City Wellfield to Fiveash and be available to begin to receive Product Water from the Project in accordance with this Agreement. City is responsible for permitting, pressure testing, disinfection and clearance of its pipeline prior to connection at the Tie-In Point. The City shall make the final connection to the Project Company's pipe. The City shall provide a copy of its design documents to the Project Company so that the Project Company may design and construct a surge protection system if necessary.
Fiveash Improvements	Fiveash Water Treatment Plant	912 days from Effective Date	N/A	50 MGD	The City shall complete any necessary improvements to the infrastructure at the existing Fiveash Water Treatment Plant and communications with other City control centers or with Project controls as necessary to enable the City to take Product Water delivered by the Project Company in accordance with this Agreement, and the City shall be available to begin to receive Product Water from the Project in accordance with this Agreement.
Florida Power & Light Power Feeds	Northwest corner of the Site boundary as indicated by TP-07 in Annex E-1 (*Site Description*).	600 days from Effective Date	13.2 kV	12.5 MVA (mega volt amperes)	The City shall supply electricity to the Project. The City shall cause Florida Power & Light to furnish and install the Florida Power & Light main service entrance equipment (according to Florida Power & Light's standards and requirements) for two power feed connections to the Project. The City shall complete all designing, permitting, bidding and construction of any necessary structures for housing the Florida Power & Light main service entrance equipment. The City shall

Item	Location of Tie-In Point	City's Completion Deadline	Size / Quantity	Capacity	Type/Details
					cause Florida Power & Light to install the main service entrance equipment at the locations identified by the Project Company. The Project Company shall pull the cable from the Project's switchgear to the Florida Power & Light main service entrance equipment. Florida Power & Light shall terminate the Project Company's cables at the Florida Power & Light main service entrance equipment.
Wastewater/ Sewer connection	Northwest corner of the Site boundary as indicated by TP-02 in Annex E-1 (*Site Description*).	912 days from Effective Date	4 inch	50 GPM (gallons per minute)	The City shall supply wastewater and sewage services to the Project Company. The City shall complete a 4-inch sanitary sewer force main with the capacity to receive 50 GPM. The City's sewer force main shall start at TP-02 (as indicated on Annex E-1 (*Site Description*) to this Agreement) and convey the sanitary waste to a discharge connection with Broward County's existing wastewater collection system.
Temporary Potable Water Connection During Construction	Existing City fire hydrant located approximately at: Latitude: 26.199790°N Longitude: 80.196151°W	60 days from Effective Date	6 inch	1,000 GPM at 20 psig (pounds per square inch gauge)	The City shall supply potable water to the Project Company. The City shall make available for use by Project Company an existing fire hydrant within approximately 400 feet of the Site and at the latitude and longitude specified in the column to the left hereof. The City shall provide a temporary water meter to record water usage by the Project Company-Related Entities. The City shall supply potable water at no cost to the Project Company.
Permanent Potable Water Connection	Northwest corner of the Site boundary as indicated	912 days from Effective Date	12 inch	3500 GPM	The City shall complete a 12-inch potable water main connecting to the Project Company's Tie-In Point, and the City shall supply potable water to the Project Company on a permanent basis at such Tie-In Point.

Item	Location of Tie-In Point	City's Completion Deadline	Size / Quantity	Capacity	Type/Details
	by TP-04 in Annex E-1 (*Site Description*).				The City is permitted to provide a potable water main with a smaller size and/or capacity to the extent such smaller values are approved by the Project Company and the City's Fire Prevention Bureau / Fire Marshal in accordance with Article 18.4.3.1 of the Florida Fire Prevention Code based on the needed fire flow (NFF) capacity for the Project.
Communications Connections to Existing City Systems	TP-08 as indicated in Annex E-1 (*Site Description*)	912 days from Effective Date	N/A	N/A	The City shall ensure an adequate supervisory control and data acquisition (SCADA) system is available for the Project Company to draw Feedstock Water from the City Wellfield in accordance with Section 6.03(g) (*Controls and Communications with the City Wellfield*) of this Agreement. The City shall complete the work to connect the City's East Well Field Generator Building to the control equipment in the control room at the Project. City shall run conduit to a pull box at the Project boundary (located at TP-08 as indicated on Annex E-1 (*Site Description*) to this Agreement) and shall pull the fiber optic cable to the pull box leaving the excess cable that the Project Company will need to connect to the Project controls in the control room coiled at the pull box. Project Company shall install raceway to connect to the pull box and pull the City-provided cable to the Project controls in the control room. City shall complete the cable terminations at the City control panel in the East Well Field Generator Building. Project Company shall complete the cable terminations at the Project Company's control equipment.
Laboratory Services	N/A	912 days from Effective Date	N/A	N/A	The City shall make available to the Project Company (at no cost to the Project Company) one or more State-

Item	Location of Tie-In Point	City's Completion Deadline	Size / Quantity	Capacity	Type/Details
					and NELAP-certified laboratories capable of performing all Feedstock Water and Product Water testing required to support the Wet Commissioning (as defined in Annex C-1 (*Commissioning Obligations*) to this Agreement) and Performance Testing of the Project based on the testing parameters set out in Annex F (*O&M Standards*) to this Agreement.

Annex III
New Form of Annex B-2 (*City Enabling Work*) to the Comprehensive Agreement

[*Attached.*]

Annex B-2 to Comprehensive Agreement

City Enabling Work

[*Attached*]

Item	Location of Tie-In Point	Size / Quantity	Capacity	Type/Details
Feedstock Water Main and Feedstock Water Connection at Project boundary	SW Corner of the Site boundary as indicated by TP-01 in Annex E-1 (*Site Description*).	54 inch	Designed for 59MGD (Maximum Load = 65 MGD *plus* requests from Fiveash Water Treatment Plant)	Construction of the Feedstock Water main to enable the City to deliver to the Project Company at least 59 MGD (in the ordinary course) but not more than 65 MGD (in the event replenishment of the City Storage Tanks is required under this Agreement) of Feedstock Water in compliance with the requirements of Annex G (*Feedstock Water Specifications*) to this Agreement and in accordance with the terms of this Agreement.
Pre-Treatment and Booster Pumps Work	Incorporated into the Prospect Lake Clean Water Center	TBD	As required to provide the design capacity of 59 MGD up to a maximum of 65 MGD in accordance with Annex B-1 (*City Infrastructure Obligations*)	Extra Work necessary to design and construct (1) pre-treatment processes to treat the Feedstock Water from the City Wellfield to address the Revised Feedstock Water Specifications and (2) booster pumps within the Site to increase the pressure of the Feedstock Water to the levels specified in Annex G (*Feedstock Water Specifications*) to this Agreement for the Pre-Treatment and Booster Pumps Work Funding Amount (consistent with the Pre-Treatment and Booster Pumps Work Funding Amount Cap), as described in Section 8.01(a) (*Pre-Treatment and Booster Pumps Work*) of this Agreement.
Second Disposal Well	NW Corner of the Site as indicated by the SW TP-06 in Annex E-1 (*Site Description*).	20"	Design Basis of 11.39 MGD	DB Work necessary to design and construct a second Disposal Well as described in Annex M (*Design Requirements and Construction Standards*) to this Agreement, for the Second Disposal Well Funding Amount.
Modified Water Standards Work	Incorporated into the Prospect Lake Clean Water Center	N/A	Designed for 50 MGD Product Water	Work necessary to design and construct the Project in conformity with the values set forth in Annexes G (*Feedstock Water Specifications*) and H-2 (*Product Water Contract Standards*) to this Agreement as compared to the values initially

Item	Location of Tie-In Point	Size / Quantity	Capacity	Type/Details
				agreed between the Parties as set forth on Annex J (*Baseline Water Specifications*) to this Agreement for the Modified Water Standards Funding Amount (consistent with the Modified Water Standards Funding Amount Cap).
OCCT Work	Incorporated into the Prospect Lake Clean Water Center	TBD	Designed for 50 MGD Product Water	Extra Work necessary to design and construct treatment processes to treat the Feedstock Water from the City Wellfield to the optimal specifications recommended by the Project Company OCCT Study as required to obtain the FDEP Construction Permit for the OCCT Work Funding Amount, as described in Section 8.01(b) (*OCCT Work*) of this Agreement.

Annex B-1 to Comprehensive Agreement

City Infrastructure Obligations

[*Attached*]

Part 1

Item	Location of Tie-In Point	City's Completion Deadline	Size / Quantity	Capacity	Type/Details
~~**Feedstock Water Delivery and Feedstock Water Connection at Project boundary**~~	~~SW Corner of the Site boundary as indicated by TP-01 in Annex E-1 (*Site Description*).~~	~~600 days from Effective Date~~	~~54 inch~~	~~Designed for 59MGD (Maximum Load = 65 MGD *plus* requests from Fiveash Water Treatment Plant)~~	~~The City shall complete construction of all Feedstock Water piping and valves and begin to deliver to the Project Company at least 59 MGD (in the ordinary course) but not more than 65 MGD (in the event replenishment of the City Storage Tanks is required under this Agreement) of Feedstock Water in compliance with the requirements of Annex G (*Feedstock Water Specifications*) to this Agreement and in accordance with the terms of this Agreement.~~ ~~The City shall be responsible for making the connection to the Project Company's pipe. City is responsible for permitting, pressure testing, disinfection and clearance of its pipeline prior to connection at the Tie-In Point.~~
Product Water Transmission to Fiveash Water Treatment Plant	East Site boundary as indicated by TP-05 in Annex E-1 (*Site Description*).	400 days from the Effective Date for the City to furnish 60% design information 912 days from Effective Date for completion of installation	City shall furnish 48 inch connection to the City Feedstock Water pipeline to Fiveash Water Treatment Plant	50 MGD	The City shall complete a 48-inch Product Water transmission main (pipe) from the Tie-In Point provided by the Project Company at the City Wellfield to Fiveash and be available to begin to receive Product Water from the Project in accordance with this Agreement. City is responsible for permitting, pressure testing, disinfection and clearance of its pipeline prior to connection at the Tie-In Point. The City shall make the final connection to the Project Company's pipe. The City shall provide a copy of its design documents to the Project Company so that the Project Company may design and construct a surge protection system if necessary.
Fiveash	Fiveash Water	912 days from	N/A	50 MGD	The City shall complete any necessary improvements

Item	Location of Tie-In Point	City's Completion Deadline	Size / Quantity	Capacity	Type/Details
Product Water Transmission to Fiveash Water Treatment Plant	East Site boundary as indicated by TP-05 in Annex E-1 (*Site Description*).	400 days from the Effective Date for the City to furnish 60% design information 912 days from Effective Date for completion of installation	City shall furnish 48 inch connection to the City Feedstock Water pipeline to Fiveash Water Treatment Plant	50 MGD	The City shall complete a 48-inch Product Water transmission main (pipe) from the Tie-In Point provided by the Project Company at the City Wellfield to Fiveash and be available to begin to receive Product Water from the Project in accordance with this Agreement. City is responsible for permitting, pressure testing, disinfection and clearance of its pipeline prior to connection at the Tie-In Point. The City shall make the final connection to the Project Company's pipe. The City shall provide a copy of its design documents to the Project Company so that the Project Company may design and construct a surge protection system if necessary.
Fiveash Improvements	Fiveash Water Treatment Plant	912 days from Effective Date	N/A	50 MGD	The City shall complete any necessary improvements to the infrastructure at the existing Fiveash Water Treatment Plant and communications with other City control centers or with Project controls as necessary to enable the City to take Product Water delivered by the Project Company in accordance with this Agreement, and the City shall be available to begin to receive Product Water from the Project in accordance with this Agreement.
Florida Power & Light Power Feeds	Northwest corner of the Site boundary as indicated by TP-07 in Annex E-1 (*Site Description*).	600 days from Effective Date	13.2 kV	12.5 MVA (mega volt amperes)	The City shall supply electricity to the Project. The City shall cause Florida Power & Light to furnish and install the Florida Power & Light main service entrance equipment (according to Florida Power & Light's standards and requirements) for two power feed connections to the Project. The City shall complete all designing, permitting, bidding and construction of any necessary structures for housing the Florida Power & Light main service entrance equipment. The City shall

Item	Location of Tie-In Point	City's Completion Deadline	Size / Quantity	Capacity	Type/Details
					cause Florida Power & Light to install the main service entrance equipment at the locations identified by the Project Company. The Project Company shall pull the cable from the Project's switchgear to the Florida Power & Light main service entrance equipment. Florida Power & Light shall terminate the Project Company's cables at the Florida Power & Light main service entrance equipment.
Wastewater/ Sewer connection	Northwest corner of the Site boundary as indicated by TP-02 in Annex E-1 (*Site Description*).	912 days from Effective Date	4 inch	50 GPM (gallons per minute)	The City shall supply wastewater and sewage services to the Project Company. The City shall complete a 4-inch sanitary sewer force main with the capacity to receive 50 GPM. The City's sewer force main shall start at TP-02 (as indicated on Annex E-1 (*Site Description*) to this Agreement) and convey the sanitary waste to a discharge connection with Broward County's existing wastewater collection system.
Temporary Potable Water Connection During Construction	Existing City fire hydrant located approximately at: Latitude: 26.199790°N Longitude: 80.196151°W	60 days from Effective Date	6 inch	1,000 GPM at 20 psig (pounds per square inch gauge)	The City shall supply potable water to the Project Company. The City shall make available for use by Project Company an existing fire hydrant within approximately 400 feet of the Site and at the latitude and longitude specified in the column to the left hereof. The City shall provide a temporary water meter to record water usage by the Project Company-Related Entities. The City shall supply potable water at no cost to the Project Company.
Permanent Potable Water Connection	Northwest corner of the Site boundary as indicated	912 days from Effective Date	12 inch	3500 GPM	The City shall complete a 12-inch potable water main connecting to the Project Company's Tie-In Point, and the City shall supply potable water to the Project Company on a permanent basis at such Tie-In Point.

Item	Location of Tie-In Point	City's Completion Deadline	Size / Quantity	Capacity	Type/Details
	by TP-04 in Annex E-1 (*Site Description*).				The City is permitted to provide a potable water main with a smaller size and/or capacity to the extent such smaller values are approved by the Project Company and the City's Fire Prevention Bureau / Fire Marshal in accordance with Article 18.4.3.1 of the Florida Fire Prevention Code based on the needed fire flow (NFF) capacity for the Project.
Communications Connections to Existing City Systems	TP-08 as indicated in Annex E-1 (*Site Description*)	912 days from Effective Date	N/A	N/A	The City shall ensure an adequate supervisory control and data acquisition (SCADA) system is available for the Project Company to draw Feedstock Water from the City Wellfield in accordance with Section 6.03(g) (*Controls and Communications with the City Wellfield*) of this Agreement. The City shall complete the work to connect the City's East Well Field Generator Building to the control equipment in the control room at the Project. City shall run conduit to a pull box at the Project boundary (located at TP-08 as indicated on Annex E-1 (*Site Description*) to this Agreement) and shall pull the fiber optic cable to the pull box leaving the excess cable that the Project Company will need to connect to the Project controls in the control room coiled at the pull box. Project Company shall install raceway to connect to the pull box and pull the City-provided cable to the Project controls in the control room. City shall complete the cable terminations at the City control panel in the East Well Field Generator Building. Project Company shall complete the cable terminations at the Project Company's control equipment.
Laboratory Services	N/A	912 days from Effective Date	N/A	N/A	The City shall make available to the Project Company (at no cost to the Project Company) one or more State-

Item	Location of Tie-In Point	City's Completion Deadline	Size / Quantity	Capacity	Type/Details
					and NELAP-certified laboratories capable of performing all Feedstock Water and Product Water testing required to support the Wet Commissioning (as defined in Annex C-1 (*Commissioning Obligations*) to this Agreement) and Performance Testing of the Project based on the testing parameters set out in Annex F (*O&M Standards*) to this Agreement.

Annex III
New Form of Annex B-2 (*City Enabling Work*) to the Comprehensive Agreement

[*Attached.*]

Annex B-2 to Comprehensive Agreement

City Enabling Work

[*Attached*]

Part 1

Item	Location of Tie-In Point	Size / Quantity	Capacity	Type/Details
Feedstock Water Main and Feedstock Water Connection at Project boundary	SW Corner of the Site boundary as indicated by TP-01 in Annex E-1 (*Site Description*).	54 inch	Designed for 59MGD (Maximum Load = 65 MGD *plus* requests from Fiveash Water Treatment Plant)	Construction of the Feedstock Water main to enable the City to deliver to the Project Company at least 59 MGD (in the ordinary course) but not more than 65 MGD (in the event replenishment of the City Storage Tanks is required under this Agreement) of Feedstock Water in compliance with the requirements of Annex G (*Feedstock Water Specifications*) to this Agreement and in accordance with the terms of this Agreement.
Pre-Treatment and Booster Pumps Work	Incorporated into the Prospect Lake Clean Water Center	TBD	As required to provide the design capacity of 59 MGD up to a maximum of 65 MGD in accordance with Annex B-1 (*City Infrastructure Obligations*)	Extra Work necessary to design and construct (1) pre-treatment processes to treat the Feedstock Water from the City Wellfield to address the Revised Feedstock Water Specifications and (2) booster pumps within the Site to increase the pressure of the Feedstock Water to the levels specified in Annex G (*Feedstock Water Specifications*) to this Agreement for the Pre-Treatment and Booster Pumps Work Funding Amount (consistent with the Pre-Treatment and Booster Pumps Work Funding Amount Cap), as described in Section 8.01(a) (*Pre-Treatment and Booster Pumps Work*) of this Agreement.
Second Disposal Well	NW Corner of the Site as indicated by the SW TP-06 in Annex E-1 (*Site Description*).	20"	Design Basis of 11.39 MGD	DB Work necessary to design and construct a second Disposal Well as described in Annex M (*Design Requirements and Construction Standards*) to this Agreement, for the Second Disposal Well Funding Amount.
Modified Water Standards Work	Incorporated into the Prospect Lake	N/A	Designed for 50 MGD Product Water	Work necessary to design and construct the Project in conformity with the values set forth in Annexes G (*Feedstock Water Specifications*) and H-2

Item	Location of Tie-In Point	Size / Quantity	Capacity	Type/Details
Feedstock Water Main and Feedstock Water Connection at Project boundary	SW Corner of the Site boundary as indicated by TP-01 in Annex E-1 (*Site Description*).	54 inch	Designed for 59MGD (Maximum Load = 65 MGD *plus* requests from Fiveash Water Treatment Plant)	Construction of the Feedstock Water main to enable the City to deliver to the Project Company at least 59 MGD (in the ordinary course) but not more than 65 MGD (in the event replenishment of the City Storage Tanks is required under this Agreement) of Feedstock Water in compliance with the requirements of Annex G (*Feedstock Water Specifications*) to this Agreement and in accordance with the terms of this Agreement.
Pre-Treatment and Booster Pumps Work	Incorporated into the Prospect Lake Clean Water Center	TBD	As required to provide the design capacity of 59 MGD up to a maximum of 65 MGD in accordance with Annex B-1 (*City Infrastructure Obligations*)	Extra Work necessary to design and construct (1) pre-treatment processes to treat the Feedstock Water from the City Wellfield to address the Revised Feedstock Water Specifications and (2) booster pumps within the Site to increase the pressure of the Feedstock Water to the levels specified in Annex G (*Feedstock Water Specifications*) to this Agreement for the Pre-Treatment and Booster Pumps Work Funding Amount (consistent with the Pre-Treatment and Booster Pumps Work Funding Amount Cap), as described in Section 8.01(a) (*Pre-Treatment and Booster Pumps Work*) of this Agreement.
Second Disposal Well	NW Corner of the Site as indicated by the SW TP-06 in Annex E-1 (*Site Description*).	20"	Design Basis of 11.39 MGD	DB Work necessary to design and construct a second Disposal Well as described in Annex M (*Design Requirements and Construction Standards*) to this Agreement, for the Second Disposal Well Funding Amount.
Modified Water Standards Work	Incorporated into the Prospect Lake Clean Water Center	N/A	Designed for 50 MGD Product Water	Work necessary to design and construct the Project in conformity with the values set forth in Annexes G (*Feedstock Water Specifications*) and H-2 (*Product Water Contract Standards*) to this Agreement as compared to the values initially

Item	Location of Tie-In Point	Size / Quantity	Capacity	Type/Details
				agreed between the Parties as set forth on Annex J (*Baseline Water Specifications*) to this Agreement for the Modified Water Standards Funding Amount (consistent with the Modified Water Standards Funding Amount Cap).
OCCT Work	Incorporated into the Prospect Lake Clean Water Center	TBD	Designed for 50 MGD Product Water	Extra Work necessary to design and construct treatment processes to treat the Feedstock Water from the City Wellfield to the optimal specifications recommended by the Project Company OCCT Study as required to obtain the FDEP Construction Permit for the OCCT Work Funding Amount, as described in Section 8.01(b) (*OCCT Work*) of this Agreement.