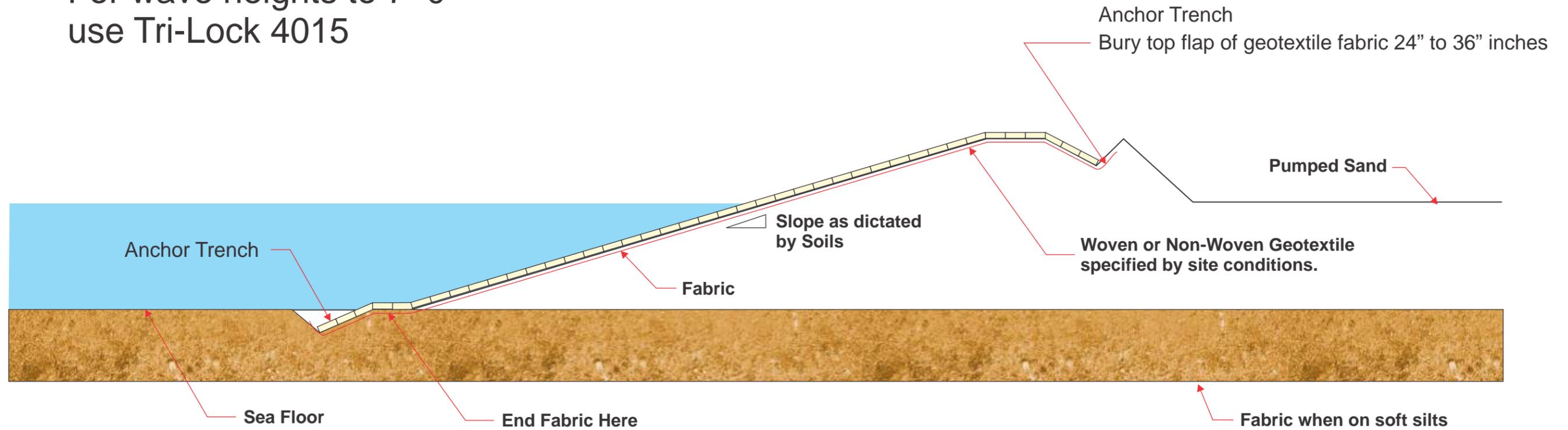


Appendix C – Tri-Lock Specifications and Recommendations

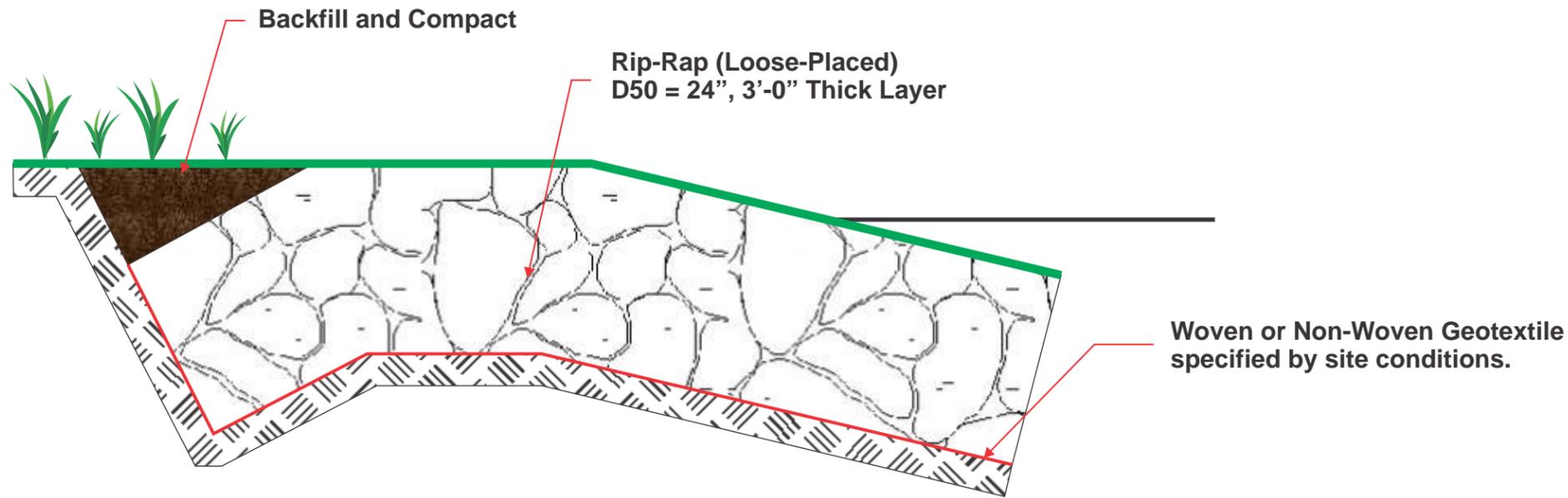
For wave heights to 7'-0"
use Tri-Lock 4015



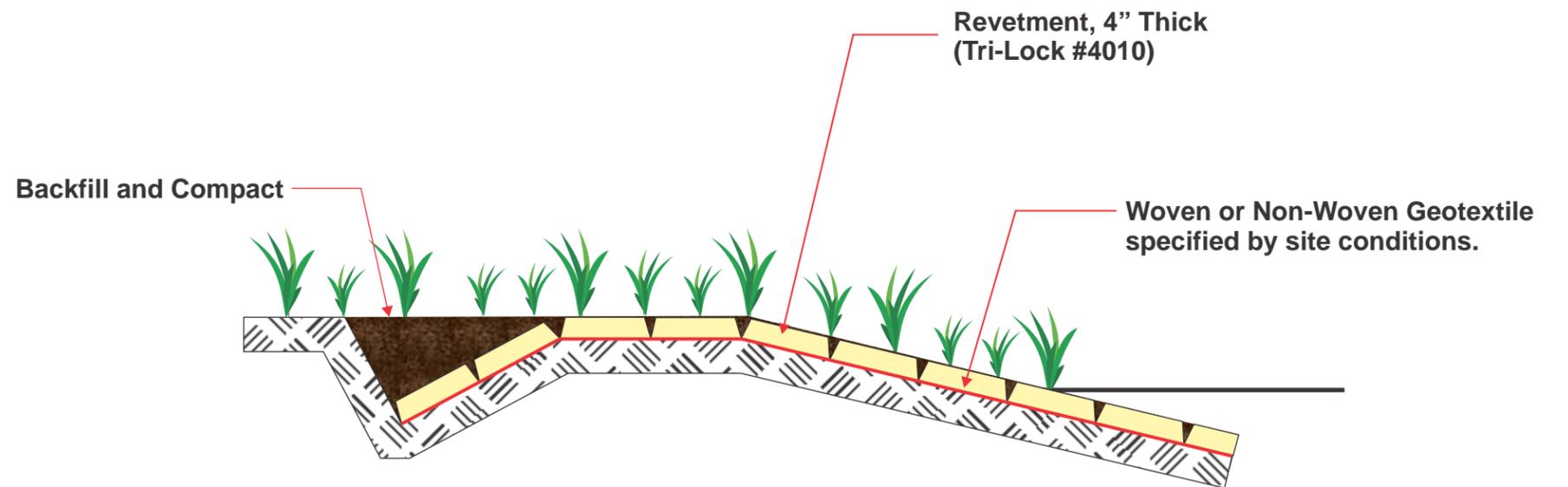
Client	Scale: N.T.S.	Drawing Updates	Designer	Date	Contact Information			
	-	-	-	Midwest Construction Products 17370 Alico Center Rd. Ft. Myers, FL 33967 Tel: (800) 532-2381	 www.midwestconstruct.com			
						-	-	-
						-	-	-
						-	-	-

Typical Tri-Lock Application

Land and Shore Erosion Control LLC.



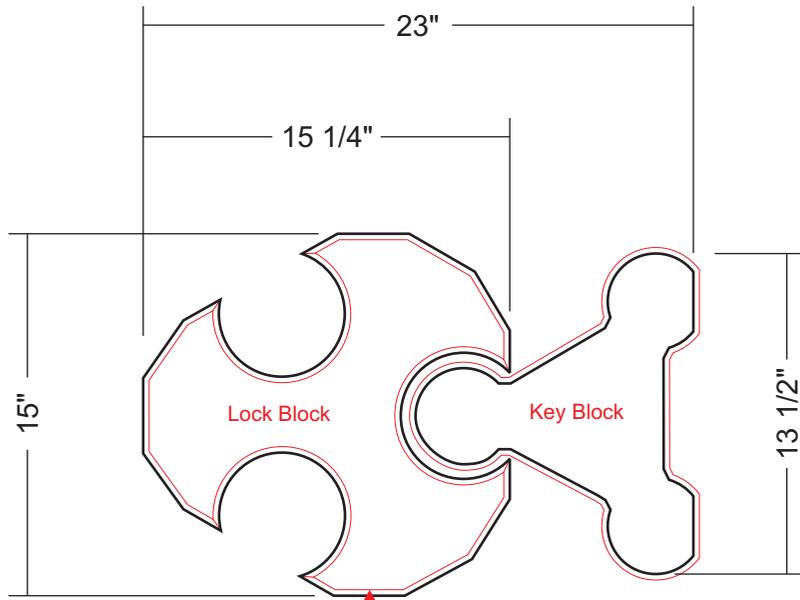
Rip-Rap Cross-Section Typical



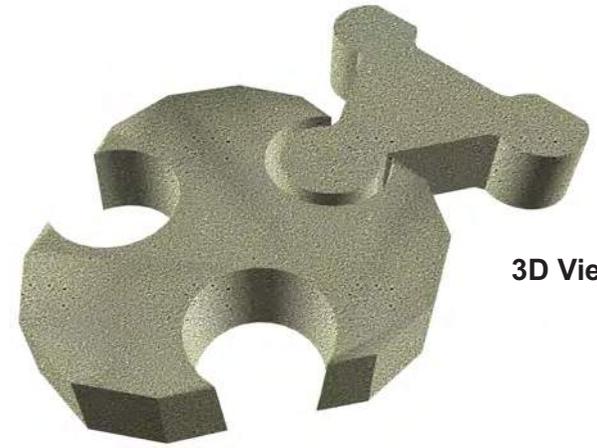
Tri-Lock Revetment Cross-Section, Typical

Client	Scale: N.T.S.	Drawing Updates	Designer	Date	Contact Information	
		-	-	-	Midwest Construction Products 17370 Alico Center Rd. Ft. Myers, FL 33967 Tel: (800) 532-2381	
						 www.midwestconstruct.com

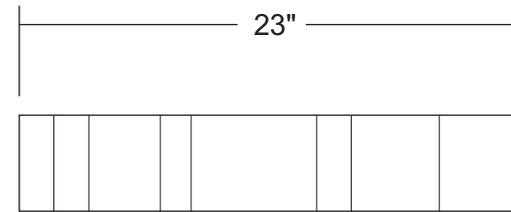
Tri-Lock Block Product Data Sheet



Line represents the top to bottom taper.
Friction fit is at Interference points between lock & key blocks
Bottom to top taper provides hydrostatic pressure relief.



3D View



Side Detail

Class	Height Inches	Approx. Weight lb/sf	Compress Strength Psi	Area Covered sf	Approx Weight Blk. 16 Pair	Open Area	Sq. Ft. Per Pallet
4010	4"	32 lb/sf.	Min. 4,000	1.54	50	20%	73.92
4015	6"	45 lb/sf.	Min. 4,000	1.54	70	20%	55.44
4110	4"	35 lb/sf.	Min. 4,000	2.00	70	20%	80.00

Client

Comments:

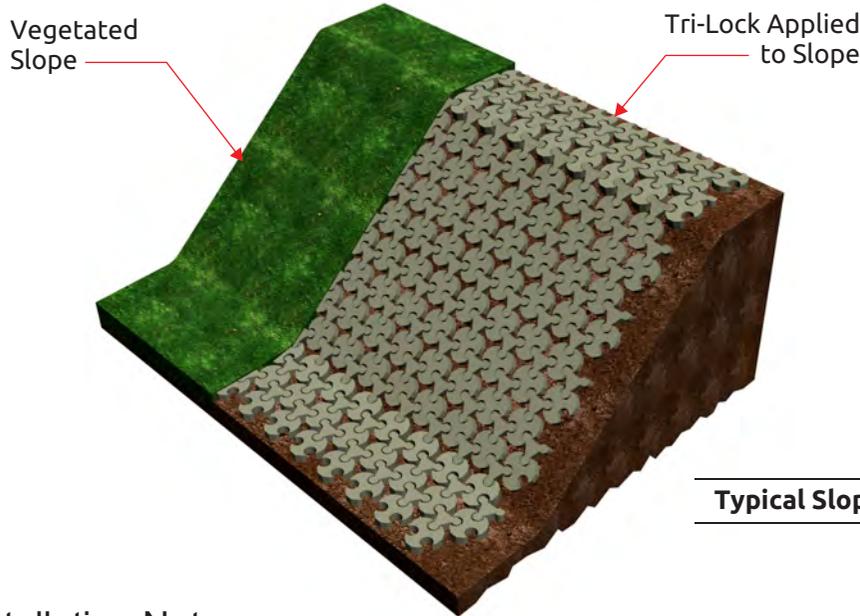


Find more information @ www.trilockblock.com

Midwest Construction Products
17370 Alico Center Rd.
Ft. Myers, FL 33967
Tel: (800) 532-2381



Tri-Lock Block System Specifications



Installation Notes:

The Slope must be stable independent of the erosion control system and filled slope shall be compacted to not less than 90% density.

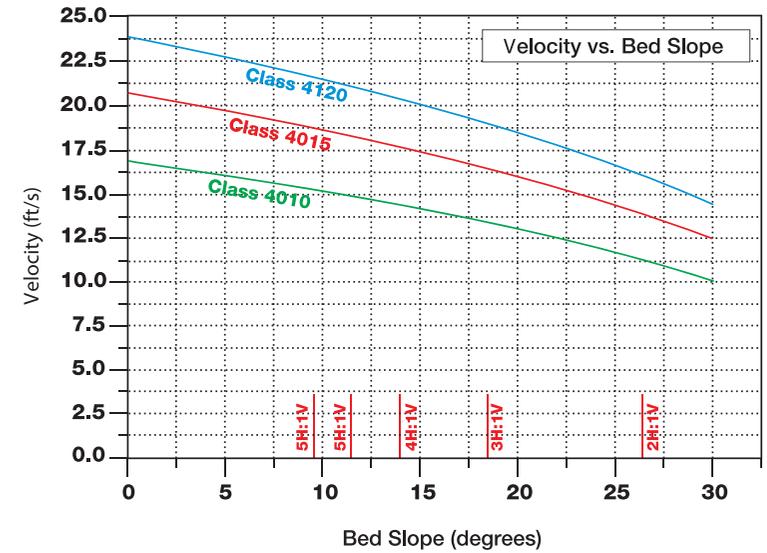
Before placing either the concrete block system or the underlying filter fabric, the slope shall be inspected to insure that it is free from obstructions, such as tree roots projecting stones or other foreign matter. Voids or soft areas should be filled with suitable material and well compacted. Although some variation in contour will be permitted, no sudden changes in level can be accepted. The maximum difference in level between any cuts will be 1.5" hand dress where necessary.

The entire perimeter of the cellular concrete block erosion control system shall be turned into, and buried beneath the adjacent ground level to a depth of not less than three (3) feet, or as shown on the drawings. Any junction with other structures shall be made as noted on drawings, but shall always provide a permanent soil tight joint to prevent the migration of soil between the structures. Grouting if necessary.

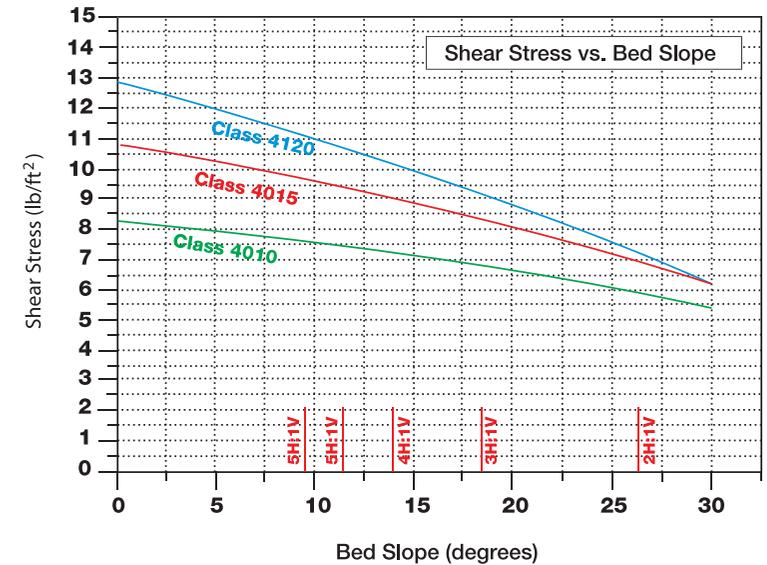
Penetrations through the erosion control system may be made by omitting sufficient blocks to provide space for the penetration. It will be necessary to provide extra filter fabric in the form of a tightly fitting flange around the pipe or device so that it may be overlaid with the erosion control system filter fabric. (Minimum overlap 18".) Any voids around the penetration should be filled with grout and floated smooth.

Dress the entire revetment with topsoil. Apply fertilizer and seed with native grass as approved by the engineer. If the drawings do not indicate that revegetation is required, then dress with ~ crushed rock as approved by the engineer.

TRI-LOCK REVETMENT Hydraulic Stability Curves



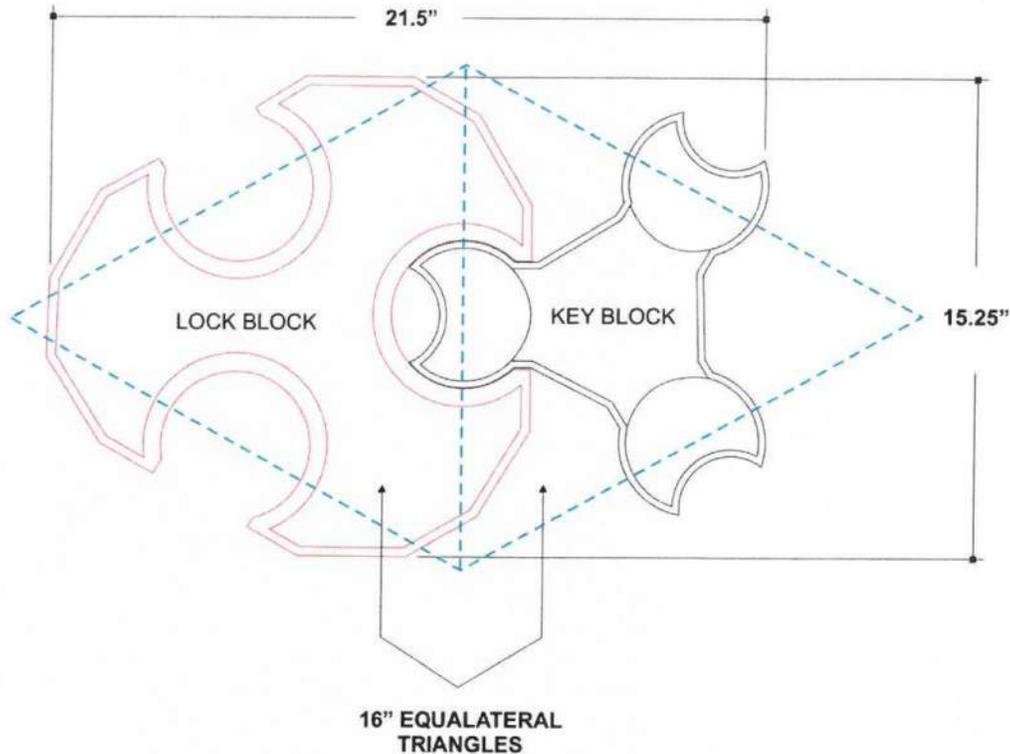
TRI-LOCK REVETMENT Hydraulic Stability Curves



Client	Comments:
	Find more information @ www.trilockblock.com

Midwest Construction Products
 17370 Alico Center Rd.
 Ft. Myers, FL 33967
 Tel: (800) 532-2381





TRI-LOCK BLOCK SYSTEM SPECIFICATIONS

Class	Height	Approx. Weight lbs. / sq.ft.	Compress Strength lbs. / cu. ft.	Area Covered	Approx Weight Blk. Pair	Open Area	Sq. Ft. Pallet
4010	4"	32 lbs.	Min. 4,000	1.54	50	20%	73.92
4110	4"	35 lbs.	Min. 4,000	2.00	70	20%	80.00
4015	6"	45 lbs.	Min. 4,000	1.54	70	20%	55.44

Installation Notes:

The Slope must be stable independent of the erosion control system and filled slope shall be compacted to not less than 900/0 density.

Before placing either the concrete block system or the underlying filter fabric, the slope shall be inspected to insure that it is free from obstructions, such as tree roots projecting stones or other foreign matter. Voids or soft areas should be filled with suitable material and well compacted. Although some variation in contour will be permitted, no sudden changes in level can be accepted. The maximum difference in level between any cuts will be 1.511' Hand dress where necessary.

The entire perimeter of the cellular concrete block erosion control system shall be turned into, and buried beneath the adjacent ground level to a depth of not less than three (3) feet, or as shown on the drawings. Any junction with other structures shall be made as noted on drawings, but shall always provide a permanent soiltight joint to prevent the migration of soil between the structures. Grouting if necessary.

Penetrations through the erosion control system may be made by omitting sufficient blocks to provide space for the penetration. It will be necessary to provide extra filter fabric in the form of a tightly fitting flange around the pipe or device so that it may be overlaid with the erosion control system filter fabric. (Minimum overlap 18".) Any voids around the penetration should be filled with grout and floated smooth.

Dress the entire revetment with topsoil. Apply fertilizer and seed with native grass as approved by the engineer. If the drawings do not indicate that revegetation is required, then dress with ~" crushed rock as approved by the engineer.

Call for more information: (800) 532-2381
midwestconstruct.com | trilockblock.com





Midwest Construction Products GFM404 is a woven monofilament geotextile made of 100% polypropylene. Midwest Construction Products' GeoForce line of Geotextiles are designed for superior performance and cost effective filtration, separation, drainage, reinforcement and erosion control. GeoForce M404 resists ultraviolet deterioration, rotting, biological degradation, naturally encountered basics and acids. Polypropylene is stable within a pH range of 2 to 13. GFM404 conforms to the physical values listed below:

Property	Test Procedure	Metric		English	
		MARV		MARV	
Grab Tensile Strength (W/F)	ASTM D-4632	1780 / 1402	N	400 / 315	lbs
Wide Width Tensile (W/F)	ASTM D-4595	43.8 / 40.3	kN/m	250 / 230	lbs/in
Grab Elongation	ASTM D-4632	15 / 15	%	15 / 15	%
Trapezoid Tear	ASTM D-4533	668 / 704	N	150 / 165	lbs
CBR Puncture	ASTM D-6241	5118	N	1150	lbs
UV Stability (500 hrs).	ASTM D-4355	90	%	90	%
Permittivity	ASTM D-4491	0.900	sec ⁻¹	0.900	sec ⁻¹
Water Flow Rate	ASTM D-4491	2852	lpm/m ²	70	gpm/ft ²
A.O.S.	ASTM D-4751	0.425	mm	40	U.S. Sieve
Percent Open Area	CW02215	1	%	1	%

Property	Test Procedure	Metric		English	
		Typical		Typical	
Weight	ASTM D-5261	271	g/m ²	8.0	oz/yd ²
Thickness	ASTM D-5199	0.889	mm	35	mils

Packaging	Metric			English		
	Area	Width	Length	Area	Width	Length
Roll Sizes	418 m ²	4.57m	91.4m	500 yd ²	15'	300'

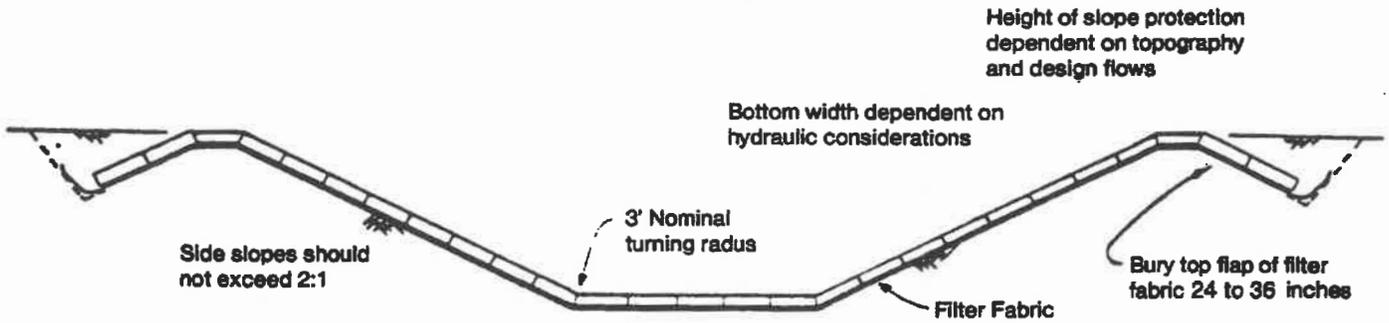
NOTES:

- Mullen Burst ASTM D3786 removed. Not recognized by ASTM D35 on Geosynthetics.
- Puncture ASTM D4833 is not recognized by AASHTO M288 and has been replaced with CBR Puncture ASTM D6241.

This information is provided for reference purposes only and is not intended as a warranty or guarantee. Midwest Construction Products assumes no liability in connection with the use of this information.

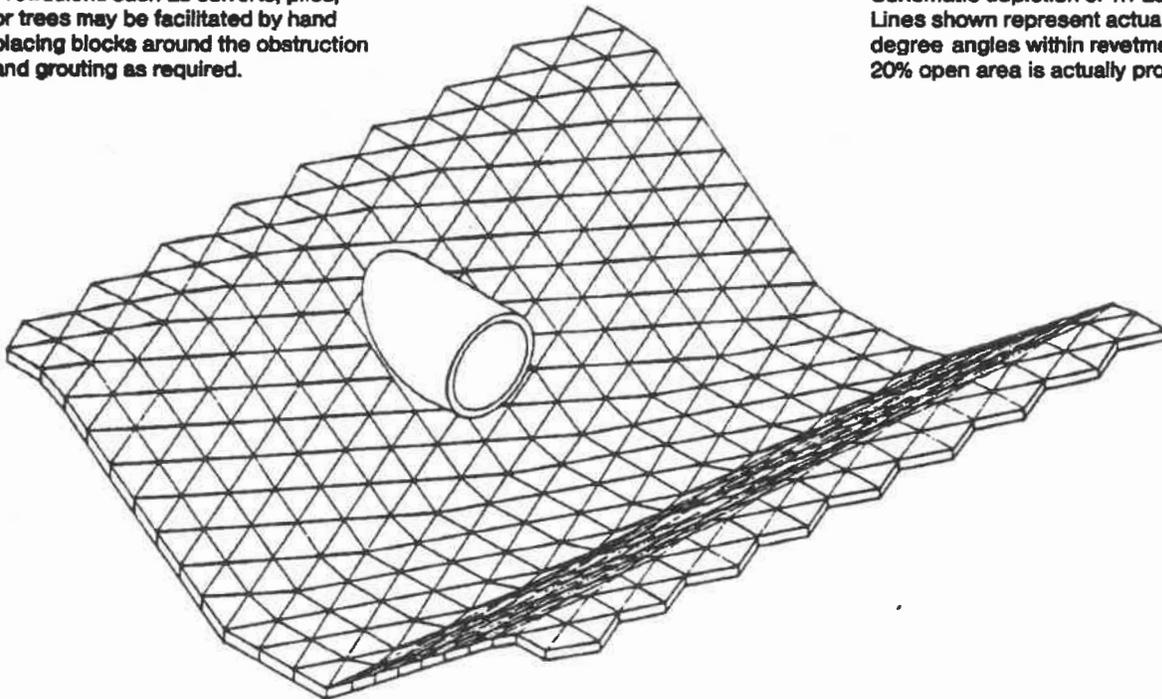


3.9 CHANNEL LINING CROSS SECTION



TYPICAL CHANNEL LINING CROSS SECTION
N.T.S.

Protrusions such as culverts, piles, or trees may be facilitated by hand placing blocks around the obstruction and grouting as required.



Schematic depiction of Tri-Lock blocks. Lines shown represent actual lines at 60 degree angles within revetment surface. 20% open area is actually provided.

SCHEMATIC VIEW OF CHANNEL LINING REVETMENT
N.T.S.

REVISED			TRI-LOCK			
NO.	DATE	BY	CHANNEL LINING CROSS-SECTION			
			DESIGNED BY	CHECKED BY	DATE	SCALE
			JW		9-10-83	
						TL-T82



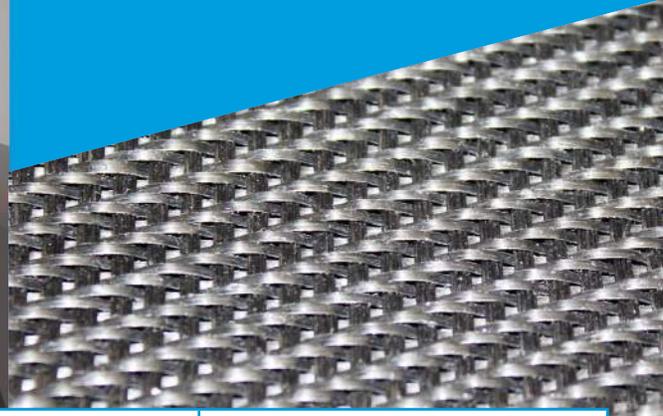
REINFORCING
SUCCESS

PRODUCT DATA SHEET WINFAB 2404



WINFAB 2404 is manufactured using high tenacity polypropylene yarns that are woven to form a dimensionally stable network, which allows the yarns to maintain their relative position.

WINFAB 2404 resists ultraviolet deterioration, rotting, and biological degradation and is inert to commonly encountered soil chemicals.



PROPERTY	TEST METHOD	MARV ENGLISH	MARV METRIC
Tensile Strength (Grab)	ASTM D4632	400 x 315 lbs	1,780 x 1,402 N
Elongation (Grab)	ASTM D4632	15% x 15%	15% x 15%
Trapezoidal Tear Strength	ASTM D4533	150 x 165 lbs	668 x 734 N
CBR Puncture	ASTM D6241	1,150 lbs	5,118 N
Wide Width Tensile	ASTM D4595	3,000 x 2,760 lbs/ft	43.8 x 40.3 kN/m
UV Resistance (500 hrs)	ASTM D4355	90%	90%
Apparent Opening Size*	ASTM D4751	40 US Std. Sieve	0.425 mm
Percent Open Area (POA)	COE-02215	1%	1%
Permittivity	ASTM D4491	.96 sec ⁻¹	.96 sec ⁻¹
Permeability	ASTM D4491	.07 cm/sec	.07 cm/sec
Water Flow Rate	ASTM D4491	70 gpm/ft ²	2,852 lpm/m ²

*Maximum Average Roll Valve

PROPERTY	TEST METHOD	TYPICAL ENGLISH	TYPICAL METRIC
Roll Dimensions	Measured	15 ft x 300 ft	4.6 m x 91.5 m
Roll Area	Measured	500 yd ²	418 m ²

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Appendix D – Wave Analysis

To: Don Bieger, PE,
 Juan Gonzalez, PE,
 David Wilkison, PE, DRMP

From: Matthew Starr, PG,
 Corbitt Kerr, PhD, PE,
 Rebecca Aikin, EIT, Stantec

941 Lake Baldwin Drive
 Orlando, Florida 32814

777 S. Harbor Island Blvd, Suite 600
 Tampa, FL 33602

File: City of Daytona Beach WWTP -
 Coastal Wave Analysis Memo
 08.10.2018.docx

Date: August 10, 2018

**Reference: City of Daytona Beach Repair Shoreline Erosion Design – Peer Review Services
 Task 3 - Coastal Wave Analysis (Stantec PIN # 177310985)
 City of Daytona Beach Waste Water Treatment Plant - Coastal Wave Analysis Memo**

Fetch Analysis for Daytona Beach Waste Water Treatment Plant

An updated FEMA Flood Insurance Study (FIS) for Volusia County was published September 29, 2017, showing the City of Daytona Beach Waste Water Treatment Plant in Daytona Beach, FL is subject to flood hazards. The facility is presently outside the 1-percent-annual-chance floodplain, but an AE6 zone exists on the eastern edge of the property along the Intracoastal Waterway and an AE4 zone extends along the southern and western edges of the property (Figure 1). Much of the facility, however, is located in the 0.2-percent-annual-chance floodplain. A preliminary fetch analysis is conducted with the Automated Coastal Engineering System (ACES) program to assess the wave heights and wave periods at the site associated with the 25-, 50-, 100-, and 500-year storm conditions.



Figure 1: Effective floodplain near the site with the 1-percent-annual-chance floodplain illustrated in AE (orange) and A (yellow) zones and the 0.2-percent-annual-chance floodplain (hatched green).

**Reference: City of Daytona Beach Repair Shoreline Erosion Design – Peer Review Services
Task 3 - Coastal Wave Analysis (Stantec PIN # 177310985)
City of Daytona Beach Waste Water Treatment Plant - Coastal Wave Analysis Memo**

Assumptions

The following assumptions are applied for the fetch analyses:

- Analysis of wave behavior along a single representative fetch for the site is an adequate level of detail.
- Fetch analysis is based on an average depth along the reach of the fetch following typical engineering practices.
- Storm durations near the site are continuous for 24 hours.
- Sustained wind measurements last for 1-minute following the criteria applied for the Saffir-Simpson hurricane scale classification.
- Wind propagates in the direction of the applied fetch segment.

Data Inputs

Stillwater Elevations (SWEL):

The 1- and 0.2-percent-annual-chance water levels near the site were gathered from FEMA's effective Flood Insurance Study (FIS) for Volusia County. The site is located near Transect 28, and the associated stillwater levels were applied from this location. Because the analyzed transect extends from the Atlantic Ocean to inland of the site, a range of stillwater elevations are observed along the transect. The lowest stillwater value from the FIS report is applied for fetch analysis to account for the sheltering provided by the barrier island (please reference Figure 8 and Table 17 in the Volusia County, FL FIS report for SWEL variation details). Information on the 25- and 50-year stillwater elevations are not provided in the FIS report. Analyses pertaining to the 25- and 50-year recurrence intervals will apply water levels from the 100-year event with wind speeds from the appropriate recurrence interval.

Table 1: Stillwater elevations at Transect 28 from the Volusia County FIS report. The 25- and 50-year recurrence intervals were not reported in the FIS.

Recurrence Interval (Years)	SWEL (ft, NAVD88)
25	-
50	-
100	3.1 to 7.0
500	5.2 to 9.4

Water Depths:

Water depths are estimated by averaging sounding measurements near the site from NOAA Chart 11485. Specifically, sounding depths are measured along the fetch length and within the vicinity of the site. The mean water depth, 8.9ft NAVD88, was added to the surge values listed in Table 1 to obtain total water depths of 12ft and 14.1ft, respectively, for the fetch analyses.

**Reference: City of Daytona Beach Repair Shoreline Erosion Design – Peer Review Services
Task 3 - Coastal Wave Analysis (Stantec PIN # 177310985)
City of Daytona Beach Waste Water Treatment Plant - Coastal Wave Analysis Memo**

Wind Speeds:

Table 2 presents the American Society of Civil Engineers' statistical wind speeds for the 25-, 50-, and 100-year storms. Statistical wind speeds for the 500-year event are not provided at the site through ASCE. This analysis assumes the minimum Saffir-Simpson scale wind speed for a Category 5 hurricane is equivalent to the 500-year event.

Table 2: Wind speeds applied for fetch analyses.

Recurrence Interval (Year)	Wind Speed (mph)
25	92
50	103
100	112
500	157

Fetch Length:

A representative fetch length was applied for analysis of wave hazards the site may experience. Figure 2 illustrates a series of fetch lengths in 5° increments surrounding the water treatment plant. Due to the sheltered location of the site, it is determined fetch analyses along the longest fetch extents are misrepresentative of the flooding behavior the site will likely experience, due to bridges and other obstructions that will disrupt the wave energy prior to reaching the shoreline at the WWTP. The selected fetch of interest is highlighted in orange and is approximately 3.55 miles long from the Southeast.

**Reference: City of Daytona Beach Repair Shoreline Erosion Design – Peer Review Services
Task 3 - Coastal Wave Analysis (Stantec PIN # 177310985)
City of Daytona Beach Waste Water Treatment Plant - Coastal Wave Analysis Memo**



Figure 2: Radial fetch lengths (blue) investigated for analysis with the analyzed fetch length (orange).

ACES

The ACES analysis applied open shallow water conditions for the preliminary investigation of wave heights and periods along the site. The anticipated wave conditions are presented in Table 3. The 100-year wave height result from the fetch analysis corresponds well to the 1-percent-annual-chance wave height in Volusia County's effective FIS. Generally, it is noted flood hazards increase with the recurrence interval of the various storms.

Table 3: Wave heights and period at the site for the 25-, 50-, 100-, and 500-year return periods.

Recurrence Interval (Year)	Hmo (ft)	Tp (sec)
25	3.42	3.27
50	3.84	3.43
100	4.17	3.56
500	6.22	4.18

Appendix E – Geotechnical Evaluation



Report of Geotechnical Engineering Investigation

HALIFAX RIVER BERM RESTORATION

Daytona Beach, Florida

GEC Project No. 4220G





Geotechnical
and
Environmental
Consultants, Inc.

At the very foundation of our community

July 20, 2018

DRMP, Inc.
941 Lake Baldwin Lane
Orlando, Florida 32814

Attention: Mr. Don Bieger, P.E.

Subject: Report of Geotechnical Engineering Investigation
HALIFAX RIVER BERM RESTORATION
Daytona Beach, Florida
GEC Project No. 4220G

Dear Mr. Bieger:

Geotechnical and Environmental Consultants, Inc. (GEC) is pleased to present this Report of Geotechnical Engineering Investigation for the above-referenced project. This study was performed in general accordance with our Proposal No. 9366G dated April 9, 2018. The purpose of this study was to explore soil and groundwater conditions at the subject site and use the information obtained to develop geotechnical engineering recommendations to guide design and construction of the improvements. This report describes our field investigation, documents the results and presents our recommendations.

GEC appreciates the opportunity to be of service to you on this project and trusts that the information contained herein is sufficient for your needs. Should you have any questions concerning the contents of this report, or if we may be of further assistance, please do not hesitate to contact us.

Very truly yours,

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC.
Certificate of Authorization No. 5882



Vincent R. Stippler, E.I.
Engineer Intern



Christopher P. Meyer, P.E.
Geotechnical Services Manager
Florida License No. 49328

This Report has been digitally signed and sealed by Christopher P. Meyer, P.E. on the time and date stamp shown using digital signature. Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copies.

The official record of this report is the electronic file signed and sealed under Rule 61G 15-23.004, F.A.C.

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1.0 SITE AND PROJECT DESCRIPTION

The project site is located on the east side of the Bethune Point wastewater treatment plant located at 1 Shady Place in Daytona Beach, Florida. The site is located on the bank of the Halifax River. The site consists of the existing flooding protection berm running north to south along the shore. The berm is covered with slope armoring on the eastern side facing the river. Based on project information provided to GEC, we understand that the soil beneath the existing slope

Project plans propose repairing the existing slope ...and ...slope armoring.

armoring has been washing out and causing the armoring to fail. Project plans propose repairing the existing slope with suitable fill material and repairing the slope armoring.

The approximate site vicinity is shown on an excerpt of the United States Geological Survey (USGS) Daytona Beach, Florida Quadrangle map on **Figure 1** in the **Appendix**. Based on our review of the USGS Quadrangle map, the ground surface elevation at the site is approximately +5 feet NGVD.

The following report sections detail the results of GEC’s geotechnical investigation and provide geotechnical recommendations to guide design and construction of the proposed improvements.

2.0 NRCS SOIL SURVEY

The Natural Resources Conservation Service (NRCS) Soil Survey of Volusia County, Florida was reviewed to obtain surficial soil and groundwater information in the vicinity of the subject site. An excerpt of the NRCS Soil Survey map showing the approximate site area is presented on **Figure 1** in the **Appendix**. The NRCS soils near the project site are summarized in the following **Table 1**:

Table 1
NRCS Soil Survey Classification

Unit No.	Soil Name	Depth (inches)	Soil Description	Unified Classification Symbol	Seasonal High Groundwater Depth Range (feet)
68	Turnbull variant sand	0 – 42 42 – 48 48 – 52 52 – 57 57 – 80	Sand Mucky clay Sand Muck Stratified clay to loamy sand	SP-SM CH SP-SM PT MH, CH	1.0 – 3.0

The soil depicted on the NRCS Soil Survey map in the project vicinity is Turnbull variant sand (Soil Unit No. 68) which consists of mucky highly organic soils overlain by sand. Highly organic soils are not fit for use as fill or foundation bearing material and should be removed, if present.

Information contained in the NRCS Soil Survey is very general and may be outdated. It may not therefore be reflective of actual soil and groundwater conditions, particularly if recent development in the site vicinity has modified soil conditions or surface/subsurface drainage. The information obtained from the soil borings provides a better characterization of actual site conditions.

3.0 SUBSURFACE EXPLORATION

As requested, GEC's scope consisted of performing 4 hand auger borings to depths of about 5 to 8 feet below the top of the berm (depending on how deep below the groundwater table the hand auger borings could penetrate). Based on the encountered site conditions, GEC explored subsurface conditions at the subject site by performing nine hand auger borings (HA-1 to HA-4E) to depths ranging from 0.6 to 6 feet along the top of the berm. Some borings were terminated at shallow depths due to impenetrable rock underlying the majority of the southern portion of the site. The remaining borings were terminated at depths of 6 feet due to limitations with advancing hand auger borings more than 2 to 3 feet below the groundwater table.

The approximate locations of the borings performed for this study are shown on **Figure 2** in the **Appendix**. These locations were not surveyed, but were located in the field by taping distances from existing site feature. Although these locations are given only approximately, the methods used to locate them are, in GEC's opinion, sufficient to meet the intent of our study. If greater accuracy is desired, a registered Professional Land Surveyor should be retained to survey these locations.

3.1 Manual Auger Borings

Our engineering technician performed standard barrel manual auger borings in general accordance with ASTM D-4700, by manually turning a 3-inch diameter, 6-inch long sampler into the soil until it was full. He then retrieved the sampler and visually examined and classified the soil. This procedure was repeated until the desired termination depth was achieved. A field manual auger boring log was completed by the technician that described the soils penetrated, recorded depth to groundwater, if encountered, and described other details of the boring, methods used, and selected other site conditions at the time of drilling. Our technician collected representative samples for further visual examination and classification in our laboratory.

3.2 Groundwater Measurement

A GEC engineering technician measured the depth to groundwater in the boreholes at the time of drilling and again after approximately 24 hours. Once the 24-hour groundwater measurement was recorded, the boreholes were then backfilled with soil cuttings to prevailing ground surface.

4.0 LABORATORY TESTING

Selected soil samples retrieved from the boring were tested in accordance with Florida Standard Testing Methods (FM). Florida Standard Testing Methods are adaptations of recognized standard methods, e.g., ASTM and AASHTO, which have been modified to accommodate Florida’s geological conditions. The GEC laboratory is reviewed annually by the Construction Materials Engineering Council, Inc. (CMEC) to verify compliance with FM. Our laboratory testing program is summarized on the following table:

Table 2
Summary of Laboratory Testing Program

Type of Test	Number of Tests
Percent Fines (FM 1 - T88)	2
Natural Moisture Content (FM - T265)	1
Atterberg Limits (FM 1-T 89/90)	1

The results of our laboratory tests are shown adjacent to the soil profiles on **Figure 3** in the **Appendix**.

5.0 DESCRIPTION OF SUBSURFACE CONDITIONS

Detailed records of subsurface conditions encountered in our hand auger borings are shown on **Figure 3** in the **Appendix**. The boring logs describe the soil layers using the Unified Soil Classification System (USCS) symbol (e.g. SP-SM) and ASTM soil descriptions (e.g. sand with silt). We based our soil classifications and descriptions on visual examination and the laboratory test results presented in this report.

The boring logs and related information included in this report are indicators of subsurface conditions only at the specific boring locations at the time of our field exploration. Subsurface conditions, including groundwater levels, at other locations of the site may differ from conditions we encountered at the boring locations. Moreover, conditions at the boring locations can change over time. Groundwater levels fluctuate seasonally, and soil conditions can be altered by earthmoving operations.

The depths and thicknesses of the subsurface strata indicated on the boring logs were interpolated between samples obtained at different depths in the borings. The actual transition between soil layers may be different than indicated. *These stratification lines were used for our analytical purposes. Earthwork quantity estimates based on the boring results will differ from the actual quantities measured in the field.*

5.1 Boring Results

In general, two separate generalized subsurface profiles were encountered across the berm. Borings performed in the northern and central parts of the berm (HA-1, HA-2, HA-3, HA-4E) generally encountered fine sand to fine sand with silt (SP, SP-SM) with abundant shell content to the boring termination depths of 6 feet below existing grade.

Notable exceptions to the general subsurface profile include:

- A layer of clayey fine sand (SC) was encountered at boring location HA-1 from 4 to 6 feet below the existing ground surface.

Borings performed in the far southern portion ...encountered fine sand ...underlain by rocks...

Borings performed in the far southern portion of the berm (HA-4 to HA-4D) encountered fine sand with silt (SP-SM) underlain by rocks at the boring termination depths of 0.6 to 3.5 feet below existing grade. The hand auger borings were unable to penetrate the encountered rocks. Based on our boring results, rocks appears to underlie the entirety of the small peninsula located at the southeastern corner of the site.

For specific boring results, please refer to **Figure 3** in the **Appendix**.

5.2 Groundwater Levels

Groundwater was encountered in the hand auger borings at depths ranging from 2.3 to 5.3 feet...

Encountered groundwater levels were measured at the boring locations 24 hours after the soil borings were performed. Groundwater was encountered in the hand auger borings at depths ranging from 2.3 to 5.3 feet below the existing ground surface.

Groundwater levels can vary seasonally and with changes in subsurface conditions between boring locations. Alterations in surface and/or subsurface drainage brought about by site development can also affect groundwater levels. *Therefore, groundwater depths measured at different times or at different locations on the site can be expected to vary from those measured by GEC during this investigation.*

For purposes of this report, estimated seasonal high groundwater levels are defined as groundwater levels that are anticipated at the end of the wet season during a “normal rainfall” year under pre-development site conditions. We define a “normal rainfall” year as a year in which rainfall quantity and distribution were at or near historical averages.

Groundwater levels across the project site will be controlled by the water level of the adjacent Halifax River.

The seasonal high groundwater depth at the boring locations is estimated to range from 1.0 to 3.3 feet below existing ground surface. Groundwater levels across the project site will be controlled by the water level of the adjacent Halifax River. Flooding of the river could cause water tables to rise above the estimated seasonal high water level. The encountered and estimated seasonal high groundwater levels are presented on the Auger Boring Results sheet (**Figure 3**) in the **Appendix**.

6.0 CONSTRUCTION ISSUES

The following sections of this report include comments on issues related to the geotechnical aspects of the proposed construction. *These recommendations are not intended to dictate construction methods or sequences.* Instead, they are furnished as an aid to design professionals and to identify important construction issues related to foundation and earthwork plans and specifications. These recommendations may also be useful to personnel who observe construction activity.

Prospective contractors for this project should evaluate potential construction problems on the basis of their review of the contract documents, their own knowledge and experience in the local area, and on the basis of similar projects in other localities, taking into account their own proposed methods and procedures.

6.1 Temporary Dewatering

Dewatering, if required for construction, will be relatively difficult...

Temporary dewatering may be required to facilitate stable compaction of the berm embankment soils. The contractor should be required to provide a dewatering system which maintains groundwater levels at least 2 feet below compaction surfaces, including the bottom of excavations. A system of ditches and sumps may be sufficient in some instances to achieve adequate dewatering, but the contractor should be prepared to install wellpoint dewatering systems as necessary to maintain groundwater levels 2 feet beneath the bottom of any excavations or compaction surfaces. Dewatering, if required for construction, will be relatively difficult due to the adjacent river and the free draining fine sand soils present.

Additionally, the contractor must provide positive site drainage during the site preparation and fill placement. Surface runoff should not be allowed to accumulate or flow into the adjacent river. Temporary rim ditches may be required to facilitate site preparation.

6.2 General Site Preparation

Our recommendations regarding routine site preparation of the improvement areas can be summarized as follows:

- ◆ Remove all concrete, asphalt, vegetation and organic topsoil, major root systems, buried utilities, and other deleterious materials from beneath and to a minimum of 2 feet beyond the proposed embankment limits.
- ◆ Standard clearing, grubbing, and topsoil stripping procedures should be appropriate for this site.
- ◆ Provisions should be made to remove all buried debris and any other buried obstruction from beneath and up to 2 feet beyond all embankment construction areas.
- ◆ Perform temporary dewatering as required to achieve proper site preparation, fill placement and compaction.
- ◆ Allow a Geotechnical Engineer to inspect the site after it has been stripped to verify adequate topsoil and vegetation removal and also to observe subsequent proofrolling.
- ◆ In areas where fill is required, proofroll the stripped ground surface using a large vibratory roller (Dynapac CA-25 or equivalent). Proofroll cut areas after excavation to proposed grade to allow adequate compaction of the exposed subsoil.
- ◆ **Exercise extreme caution when operating vibratory equipment near existing structures.** Operate roller in the static mode if excessive vibrations are experienced by any near-by structures or if the soil subgrade becomes unstable. Nearby structures may be adversely affected by vibratory rolling operations.
- ◆ Proofroll the embankment areas with a minimum of 5 overlapping passes along the berm alignment. Allow a Geotechnical Engineer, or his representative, to observe proofrolling operations. The purposes of the proofrolling will be to detect unstable soils that yield when subjected to compaction and to densify any near-surface loose sands.
- ◆ Remove material that yields excessively during proofrolling and replace with fill selected and compacted as described in the next section of this report. The Geotechnical Engineer, based on his observations, should recommend the nature and extent of any remedial work. If the soil subgrade is saturated, or if the fill is at a moisture content over “optimum”, then instability may occur and the contractor will be required to implement remedial measures to successfully place and compact the fill.
- ◆ Clayey sand (SC) may be exposed at the compaction surface during site preparation. These soils can be unstable during proofrolling if they contain excess moisture. The contractor should

be prepared to manipulate the moisture content of unstable subgrade soils as necessary to achieve stability and compaction requirements.

- ◆ Continue proofrolling until the soil at a depth of 12 inches below the compaction surface has attained a minimum of 95% of the soil's modified Proctor maximum dry density as determined by ASTM Standard D-1557.
- ◆ Allow an Engineering Technician, working under the direction of a Geotechnical Engineer registered in the State of Florida, to perform in-place density tests to verify that the required degree of compaction has been achieved.

6.3 Fill Selection, Placement and Compaction

The majority of the soils encountered in the borings appear suitable for use as fill in the berm embankment. Many of the hand auger borings were terminated early due to impenetrable rock(s). This material may not be suitable for the chosen berm restoration alternative. To better determine the size and characterization of the rock material and the suitability of the rock as fill material, GEC would have to perform test pits in the berm.

We recommend that all fill be selected, placed and compacted as follows:

Use fill material comprised of non-plastic sands with less than about 12% fines content.

- ◆ Use fill material comprised of non-plastic sands with less than about 12% fines content. The fill should not contain any significant amount of organic substances (less than 3% by weight) and should be substantially free from roots or other organic or deleterious materials.
- ◆ Our borings encountered clayey sands (SC) in one of the borings (HA-1) which appear suitable for use as fill, if needed. However, clayey fine sands are more difficult to compact properly.
- ◆ Sands excavated from below the water table may have to be dried to attain the moisture content needed to achieve the required degree of compaction.
- ◆ Place fill in level lifts no thicker than 12 inches. Thinner lifts may be needed to achieve compaction in the silty sands.

Compact fill to a minimum of 95% of the soil's modified Proctor maximum dry density...

- ◆ Compact fill to a minimum of 95% of the soil's modified Proctor maximum dry density as determined by ASTM Specification D-1557 for each lift of fill placed.

- ◆ Allow an Engineering Technician, working under the direction of a registered Geotechnical Engineer, to perform in-place density tests to verify that the recommended degree of compaction has been achieved.
- ◆ All excavations should comply with the recommendations included in the **Temporary Excavations** section of this report.

6.4 Temporary Excavations

The owner and the contractor should be familiar with local, state and federal safety regulations, including current Occupational Safety and Health Association (OSHA) excavation and trench safety standards. Construction site safety is the responsibility of the contractor. The contractor should also be responsible for the means, methods, techniques, sequences, and operations of the construction.

The contractor should be aware that slope height, slope inclination, and excavation depths (including utility trench excavations) should not exceed those specified in local, state, or federal safety regulations; e.g., OSHA Health and Safety Standards for Excavations, 29 CFR Part 1926. *OSHA regulations are strictly enforced and, if not followed, the owner, contractor, earthwork subcontractor or utility subcontractor could be liable for substantial penalties.*

The soil encountered in the borings performed by GEC at this site is primarily sand with varying amounts of silt. We anticipate that OSHA will classify these materials as Type C. OSHA recommends a maximum temporary slope inclination of 1.5 horizontal to 1 vertical for this soil type. Soils encountered in the construction excavations may vary significantly across the site. Our soil classifications are based on the materials encountered in widely-spaced borings. The contractor should verify that similar conditions exist throughout the proposed excavation area. If different subsurface conditions are encountered at the time of construction, GEC should be contacted immediately to evaluate the conditions encountered.

7.0 USE OF THIS REPORT

GEC has prepared this report for the exclusive use of our client, DRMP Inc., for specific application to our client's project. GEC will not be held responsible for any third party's interpretation or use of this report's subsurface data or engineering analysis without our written authorization.

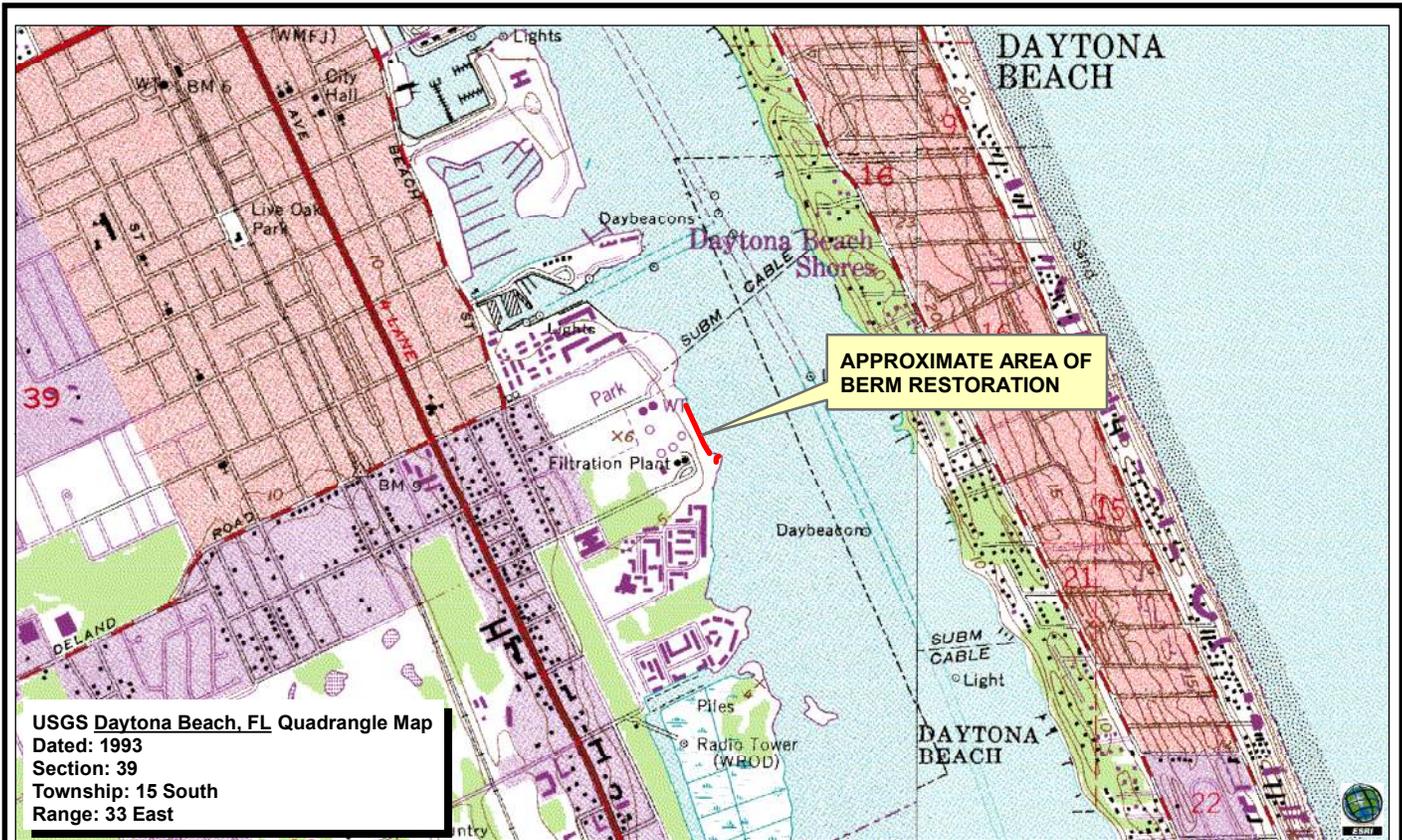
The sole purpose of the borings made by GEC at this site was to obtain indications of subsurface conditions as part of a geotechnical exploration program. GEC has not evaluated the site for the potential presence of contaminated soil or groundwater, nor have we subjected any soil samples to analysis for contaminants.

GEC has strived to provide the services described in this report in a manner consistent with that level of care and skill ordinarily exercised by members of our profession currently practicing in Central Florida. No other representation is made or implied in this document.

The conclusions or recommendations of this report should be disregarded if the nature, design, or location of the facilities is changed. If such changes are contemplated, GEC should be retained to review the new plans to assess the applicability of this report in light of proposed changes.

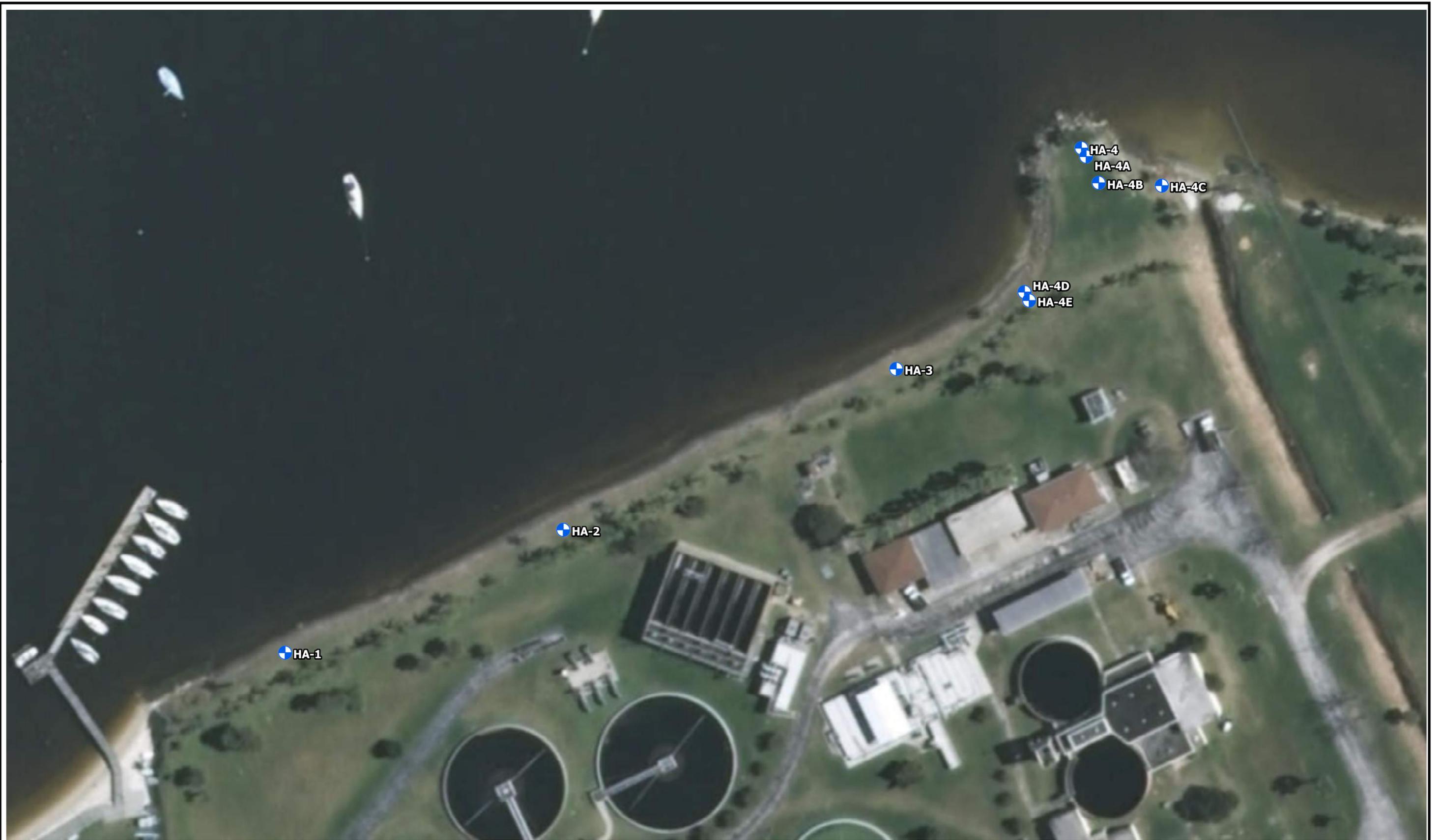
APPENDIX

**USGS QUADRANGLE AND
NRCS SOIL SURVEY MAPS**

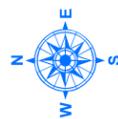
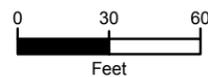


Geotechnical and Environmental Consultants, Inc. 919 Lake Baldwin Lane Orlando, FL 32814 PH (407) 898-1818 FAX (407) 898-1837 Certificate of Authorization No. 00005882 CHRISTOPHER P. MEYER P.E. NO. 49328		PROJECT NO. 4220G		USGS QUADRANGLE AND NRCS SOIL SURVEY MAPS		FIGURE NO. 1
		DATE 7/20/2018		HALIFAX RIVER BERM RESTORATION		

BORING LOCATION PLAN



 APPROXIMATE AUGER BORING LOCATION



Geotechnical and Environmental Consultants, Inc.
 919 Lake Baldwin Lane
 Orlando, FL 32814
 PH (407) 898-1818 FAX (407) 898-1837
 Certificate of Authorization No. 00005882
CHRISTOPHER P. MEYER P.E. NO. 49328

GEC

PROJECT NO.
4220G
 DATE
7/20/2018
 DRAWN BY
SKR
 CHECKED BY
VRS
 CHECKED BY
CPM

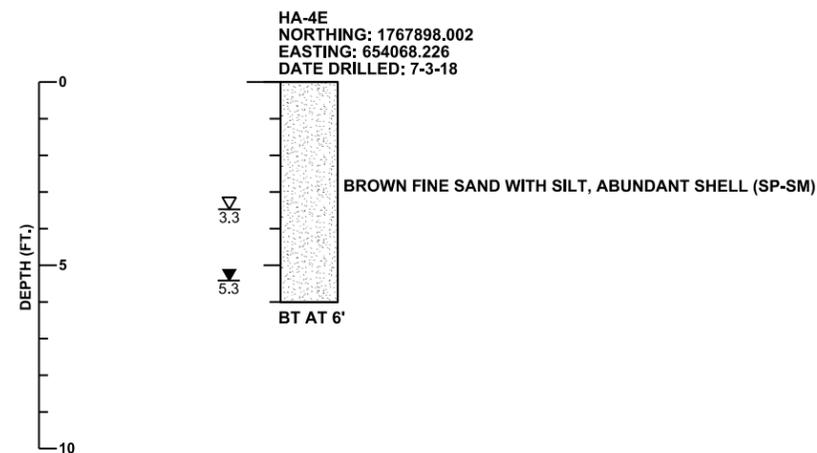
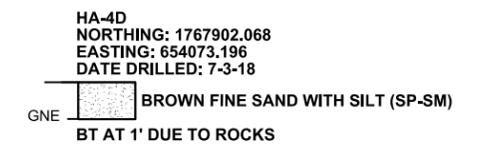
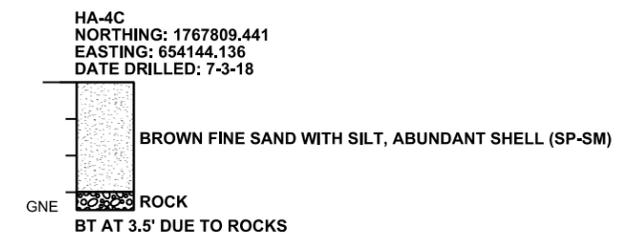
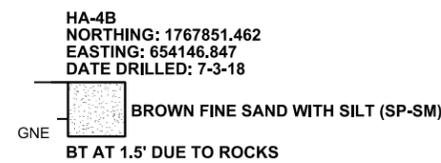
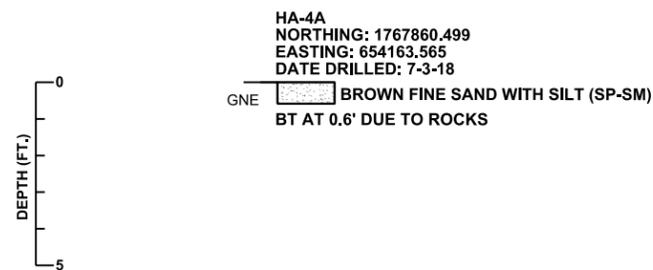
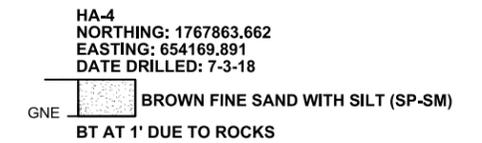
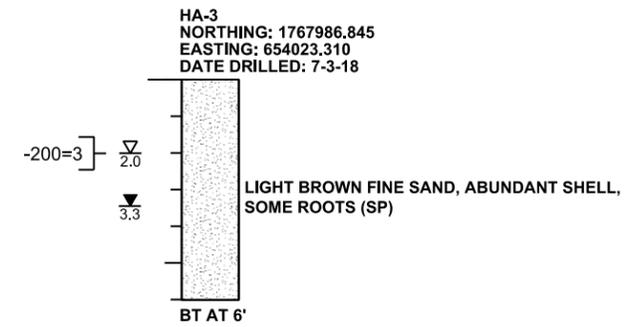
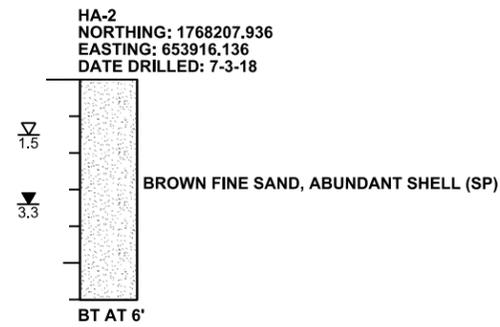
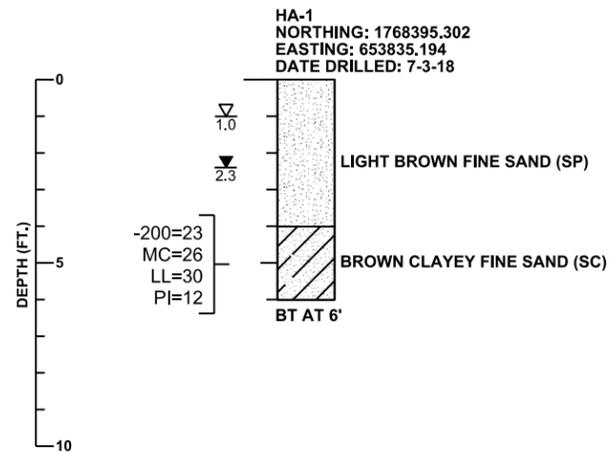


BORING LOCATION PLAN
HALIFAX RIVER
BERM RESTORATION

FIGURE NO.

2

AUGER BORING RESULTS



LEGEND

- ▽ 2.0 ESTIMATED SEASONAL HIGH GROUNDWATER DEPTH (FT.)
- ▼ 3.3 ENCOUNTERED GROUNDWATER DEPTH (FT.)
- GNE GROUNDWATER NOT ENCOUNTERED
- BT BORING TERMINATED AT DEPTH INDICATED
- 200= PERCENT PASSING NO. 200 U.S. STANDARD SIEVE
- MC= PERCENT NATURAL MOISTURE CONTENT
- LL= LIQUID LIMIT
- PI= PLASTICITY INDEX
- [Pattern] SAND
- [Pattern] SAND AND CLAY
- [Pattern] ROCK

GENERAL NOTES

SUBSURFACE CONDITIONS SHOWN ON THE BORINGS REPRESENT THE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. ACTUAL CONDITIONS BETWEEN THE BORINGS MAY VARY FROM THOSE SHOWN. UNIFIED SOIL CLASSIFICATIONS SHOWN ON THE BORINGS ARE BASED ON VISUAL EXAMINATION AND THE LABORATORY TESTING SHOWN.

BORING LOCATIONS WERE NOT SURVEYED. BORING LOCATIONS WERE ESTABLISHED IN THE FIELD BY MEASURING DISTANCES FROM EXISTING SITE FEATURES.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS, INC. 919 Lake Baldwin Lane Orlando, FL 32814 T 407-898-1818 F 407-898-1837 Certificate of Authorization No. 5882 CHRISTOPHER P. MEYER PE NO. 49328	PROJECT NO. 4220G		AUGER BORING RESULTS HALIFAX RIVER BERM RESTORATION	FIGURE NO. 3
	DATE 7/20/2018 DRAWN BY SKR CHECKED BY VRS CHECKED BY CPM			

Appendix F - Permits



FLORIDA DEPARTMENT OF Environmental Protection

CENTRAL DISTRICT OFFICE
3319 MAGUIRE BLVD, SUITE 232
ORLANDO FLORIDA 32803

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Noah Valenstein
Secretary

Permittee:

City of Daytona Beach
Attn: James Nelson
950 Bellevue Ave.
Daytona Beach, FL 32114
NelsonJames@CODB.us

**City of Daytona Beach – Bethune Point WWF replacement of shoreline
stabilization along the shoreline of the Halifax River**

Authorized Agent:

Maria Bazemore
DRMP
955 Croton Rd.
Melbourne, FL
mbazemore@drmp.com

**Consolidated Environmental Resource Permit and Sovereignty Submerged
Lands Authorization**

State-owned Submerged Lands Authorization – Granted

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

Permit No.: ERP 0373239-002-EI

Permit Issuance Date: October 16, 2019
Permit Construction Phase Expiration Date: October 16, 2024



FLORIDA DEPARTMENT OF Environmental Protection

CENTRAL DISTRICT OFFICE
3319 MAGUIRE BLVD, SUITE 232
ORLANDO FLORIDA 32803

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Noah Valensteln
Secretary

Consolidated Environmental Resource Permit and Sovereignty Submerged Lands Authorization

Permittee: City of Daytona Beach

Permit No: ERP 0373239-002-EI

PROJECT LOCATION

The activities authorized by this permit and sovereignty submerged lands authorization are located at the Bethune Point Wastewater Facility, at 1 Shady Place, Daytona Beach, FL 32114, in Section 39, Township 15 South, Range 33 East, in Volusia County.

PROJECT DESCRIPTION

The permittee is authorized to remove and replace approximately 670 linear feet of existing Tri-Lock material damaged during Hurricane Irma with new Tri-Lock material in the existing footprint along the shoreline of the Halifax River, a Class III Florida Waterbody. The new Tri-lock material will not extend further than 10 feet waterward of the Mean High Water Line. Authorized activities are depicted on the attached exhibits.

AUTHORIZATIONS

City of Daytona Beach – Bethune Point WWF replacement of shoreline stabilization along the shoreline of the Halifax River

Environmental Resource Permit

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

Sovereignty Submerged Lands Authorization

The activity is located on sovereignty submerged lands owned by the State of Florida. It therefore also requires authorization from the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), pursuant to Article X, Section 11 of the Florida Constitution, and Section 253.77, F.S. As staff to the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees) under Sections 253.002, F.S., the Department has determined that the activity qualifies for and requires a Letter of Consent, as long as the work performed is located within the boundaries as described and is consistent with the terms and conditions herein.

During the term of this Letter of Consent you shall maintain satisfactory evidence of sufficient upland interest as required by paragraph 18-21.004(3)(b), Florida Administrative Code. If such interest is terminated or the Board of Trustees determines that such interest did not exist on the date of issuance of this Letter of Consent, this Letter of Consent may be terminated by the Board of Trustees at its sole option. If the Board of Trustees terminates this Letter of Consent, you agree not to assert a claim or defense against the Board of Trustees arising out of this Letter of Consent.

Federal Authorization

Your proposed activity as outlined on your application and attached drawings **does not qualify** for Federal authorization pursuant to the State Programmatic General Permit and a **SEPARATE permit** or authorization **shall be required** from the U. S. Army Corps of Engineers. You must apply separately to the Corps using the federal application form (ENG 4345). More information about Corps permitting may be found online in the Jacksonville District Regulatory Division Sourcebook. **Failure to obtain Corps authorization prior to construction could subject you to federal enforcement action by that agency.**

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

Coastal Zone Management

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

Water Quality Certification

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

Other Authorizations

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

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

PERMIT/ SOVEREIGNTY SUBMERGED LANDS CONDITIONS

The activities described herein must be conducted in accordance with:

- **The Specific Conditions**
- **The General Conditions**
- **The Special Consent Conditions**

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

You are advised to read and understand these conditions and drawings prior to beginning the authorized activities, and to ensure the work is conducted in conformance with all the terms, conditions, and drawings herein. If you are using a contractor, the contractor also should read and understand these conditions and drawings prior to beginning any activity. Failure to comply with these conditions, including any mitigation requirements, shall be grounds for the Department to revoke the permit and authorization and to take appropriate enforcement action. Operation of the facility is not authorized except when determined to be in conformance with all applicable rules and this permit and sovereignty submerged lands authorization, as described.

SPECIFIC CONDITIONS - PRIOR TO ANY CONSTRUCTION

1. Best management practices (primarily turbidity screens and floating turbidity barriers) for erosion and turbidity control shall be implemented and maintained at all times during construction and operation of the permitted activity to prevent siltation and turbid discharges in excess of State water standards pursuant to Chapter 62-302, F.A.C. The permittee shall be responsible for ensuring that erosion and turbidity control devices and procedures are inspected and maintained daily during all phases of construction authorized by this permit until all areas that were disturbed during construction are sufficiently stabilized to prevent erosion, siltation, and turbid discharges.
2. A floating turbidity apron/curtain and/or silt screen, whichever is appropriate, shall be installed around the entire project site prior to construction and shall remain in place until construction is completed and turbidity within the work area has returned to background levels. The turbidity barrier shall be inspected at least on a daily basis to ensure that it is functioning properly.
3. The limits of construction shall be delineated by silt fencing or a floating turbidity barrier. The permittee shall bear the responsibility of notifying all construction workers that silt fencing or turbidity barrier represents the limits of all construction activities. The permittee shall bear the responsibility of keeping all construction workers and equipment out of the adjacent wetlands and surface waters where work has not been permitted for impact.

SPECIFIC CONDITIONS – CONSTRUCTION ACTIVITIES

4. The project shall comply with applicable state water quality standards, including:
 - a) Rule 62-302.500, F.A.C. - Surface Waters: Minimum Criteria, General Criteria, and;
 - b) Rule 62-302.400, F.A.C. - Classification of Surface Waters, Usage, Reclassification, Classified Waters for Class III Waters – Recreation - Propagation and maintenance of a healthy, well-balanced population of fish and wildlife.
5. Turbidity must be controlled to prevent violations of water quality pursuant to Rule 62-302.530, Florida Administrative Code. Turbidity shall not exceed 29 Nephelometric Turbidity Units above natural background conditions. The permittee shall be responsible for following the Turbidity Monitoring Plan as described on Page 3 of the authorized drawings, and

for ensuring that erosion and turbidity control devices and procedures are inspected and maintained daily during all phases of construction authorized by this permit until all areas that were disturbed during construction are sufficiently stabilized to prevent erosion, siltation, and turbid discharges.

6. Turbidity levels outside the construction area shall not exceed 29 NTU's above background levels. The following measures shall be taken immediately by the permittee whenever turbidity levels within waters of the State surrounding the project site exceed 29 NTUs above background:
 - a. Notify the Department at 407-897-4100 at the time the violation is first detected.
 - b. Immediately cease all work contributing to the water quality violation.
 - c. Stabilize all exposed soils contributing to the violation. Modify the work procedures that were responsible for the violation, install more turbidity containment devices, and repair any non-functional turbidity containment devices.
 - d. As required, perform turbidity monitoring per Specific Conditions No. 7.
 - e. Resume construction activities once turbidity levels outside turbidity curtains fall below 29 NTUs.
7. Water turbidity levels shall be monitored if a turbidity plume is observed outside the limits of the required turbidity control devices. Samples shall be taken every four hours, one foot above the bottom, and from the surface at the monitoring stations located as follows:
 - a) Approximately 100 feet up-current of the work sites and clearly outside the influence of construction activities. (This shall serve as the natural background sample against which other turbidity readings shall be compared.);
 - b) Directly outside the turbidity curtains surrounding the work sites and within the densest portion of any visible turbidity plume. (This sample shall serve as the compliance sample.)
8. There shall be no stockpiling of tools, materials, or construction equipment (i.e., lumber, pilings, Tri-lock, and debris) within wetlands, along the shoreline within the littoral zone, or elsewhere within wetlands/waters of the State unless specifically approved in this permit.
9. There shall not be any excess lumber, scrap wood, trash, garbage, etc. within the wetlands and waters of the State.
10. Construction equipment shall not be repaired or refueled in wetlands or elsewhere within waters of the State.
11. The permittee shall report any damage to the Department within 24 hours that occurs to the wetlands/littoral zone area as a result of construction. If any damage occurs to wetlands or surface waters as a result of any construction activities, the permittee shall be required to restore the wetland area by regrading the damaged areas back to the natural reconstruction elevations and planting vegetation of the size, densities and species that exist in the adjacent areas pursuant to a consent order. The restoration shall be completed within 30 days of completion of the construction and shall be done to the satisfaction of the Department.
12. Any disturbed areas of the shoreline shall be stabilized immediately (within 48 hours) following completion the project.

13. All excavated Tri-lock material must be stored and disposed of in an upland site and in a manner that will prevent introduction of the material into wetlands or waters of the State.
14. Any fill material used behind the Tri-Lock or to regrade damaged areas of the shoreline shall be clean fill and free of vegetative matter, trash, garbage, toxic or hazardous waste or any other materials the Department considers unsuitable.
15. There shall be a filter cloth/erosion control liner installed between the Tri-lock and the existing ground.
16. The Tri-Lock revetment shall be installed with a minimum of a 2:1 slope (2 Horizontal: 1 Vertical).
17. The Tri-Lock will be placed no further than 10 feet waterward of the mean high water line.
18. Impacts to mangroves and submerged aquatic vegetation are prohibited under this authorization.
19. This permit does not authorize the construction of any additional structures/fill not illustrated on the permit drawings.

SPECIFIC CONDITIONS - MANATEE

20. The Standard Manatee Construction Conditions for In-water Work (2011) must be followed for all in-water activity.

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

- a. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.
- b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- c. Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.

d. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shut down if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.

e. Any collision with or injury to a manatee shall be reported immediately to the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or Vero Beach (1-772-562-3909) for south Florida, and to FWC at ImperiledSpecies@myFWC.com

SPECIFIC CONDITIONS - OTHER LISTED SPECIES

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

GENERAL CONDITIONS FOR INDIVIDUAL PERMITS

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

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized may subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.
2. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the Agency staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.
3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the *State of Florida Erosion and Sediment*

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

4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the Agency a fully executed Form 62-330.350(1), "Construction Commencement Notice," [October 1, 2013], which is incorporated by reference in paragraph 62-330.350(1)(d), F.A.C., indicating the expected start and completion dates. A copy of this form may be obtained from the Agency, as described in subsection 62-330.010(5), F.A.C. If available, an Agency website that fulfills this notification requirement may be used in lieu of the form.
5. Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.
6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:
 - a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex – "Construction Completion and Inspection Certification for Activities Associated With a Private Single-Family Dwelling Unit" [Form 62-330.310(3)]; or
 - b. For all other activities – "As-Built Certification and Request for Conversion to Operational Phase" [Form 62-330.310(1)].
 - c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.
7. If the final operation and maintenance entity is a third party:
 - a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as- built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.3 of Volume I) as filed with the Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.
 - b. Within 30 days of submittal of the as- built certification, the permittee shall submit "Request for Transfer of Environmental Resource Permit to the Perpetual Operation Entity" [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.
8. The permittee shall notify the Agency in writing of changes required by any other regulatory agency that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.
9. This permit does not:

- a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;
 - b. Convey to the permittee or create in the permittee any interest in real property;
 - c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or
 - d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.
10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.
 11. The permittee shall hold and save the Agency harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.
 12. The permittee shall notify the Agency in writing:
 - a. Immediately if any previously submitted information is discovered to be inaccurate; and
 - b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.
 13. Upon reasonable notice to the permittee, Agency staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.
 14. If any prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, work involving subsurface disturbance in the immediate vicinity of such discoveries shall cease. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section, at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Such subsurface work shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and notification shall be provided in accordance with Section 872.05, F.S.
 15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.
 16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be

disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.

17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the Agency will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.
18. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with subsection 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.

SPECIAL CONSENT CONDITIONS

1. The applicant agrees to indemnify, defend and hold harmless the Board of Trustees and the State of Florida from all claims, actions, lawsuits and demands in any form arising out of the authorization to use sovereignty submerged lands or the applicant's use and construction of structures on sovereignty submerged lands. This duty to indemnify and hold harmless will include any and all liabilities that are associated with the structure or activity including special assessments or taxes that are now or in the future assessed against the structure or activity during the period of the authorization.
2. Failure by the Board of Trustees to enforce any violation of a provision of the authorization or waiver by the Board of Trustees of any provision of the authorization will not invalidate the provision not enforced or waived, nor will the failure to enforce or a waiver prevent the Board of Trustees from enforcing the unenforced or waived provision in the event of a violation of that provision.
3. Applicant binds itself and its successors and assigns to abide by the provisions and conditions set forth in the authorization. If the applicant or its successors or assigns fails or refuses to comply with the provisions and conditions of the authorization, the authorization may be terminated by the Board of Trustees after written notice to the applicant or its successors or assigns. Upon receipt of such notice, the applicant or its successors or assigns will have thirty (30) days in which to correct the violations. Failure to correct the violations within this period will result in the automatic revocation of this authorization.
4. All costs incurred by the Board of Trustees in enforcing the terms and conditions of the authorization will be paid by the applicant. Any notice required by law will be made by certified mail at the address shown on page one of the authorization. The applicant will notify the Board of Trustees in writing of any change of address at least ten days before the change becomes effective.
5. This authorization does not allow any activity prohibited in a conservation easement or restrictive covenant that prohibits the activity.

GENERAL CONDITIONS FOR SOVEREIGNTY SUBMERGED LANDS AUTHORIZATION

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

1. Sovereignty submerged lands may be used only for the specified activity or use. Any unauthorized deviation from the specified activity or use and the conditions for undertaking that activity or use will constitute a violation. Violation of the authorization will result in suspension or revocation of the applicant's use of the sovereignty submerged lands unless cured to the satisfaction of the Board of Trustees.
2. Authorization under Rule 18-21.005, F.A.C., conveys no title to sovereignty submerged lands or water column, nor does it constitute recognition or acknowledgment of any other person's title to such land or water.
3. Authorizations under Rule 18-21.005, F.A.C., may be modified, suspended or revoked in accordance with its terms or the remedies provided in Sections 253.04, F.S. and Chapter 18-14, F.A.C.
4. Structures or activities will be constructed and used to avoid or minimize adverse impacts to resources.
5. Construction, use, or operation of the structure or activity will not adversely affect any species which is endangered, threatened or of special concern, as listed in Rules 68A-27.003, 68A-27.004, and 68A-27.005, F.A.C.
6. Structures or activities will not unreasonably interfere with riparian rights. When a court of competent jurisdiction determines that riparian rights have been unlawfully affected, the structure or activity will be modified in accordance with the court's decision.
7. Structures or activities will not create a navigational hazard.
8. Structures will be maintained in a functional condition and will be repaired or removed if they become dilapidated to such an extent that they are no longer functional.
9. Structures or activities will be constructed, operated, and maintained solely for water dependent purposes.
10. The applicant agrees to indemnify, defend and hold harmless the Board of Trustees and the State of Florida from all claims, actions, lawsuits and demands in any form arising out of the authorization to use sovereignty submerged lands or the applicant's use and construction of structures on sovereignty submerged lands. This duty to indemnify and hold harmless will include any and all liabilities that are associated with the structure or activity including special assessments or taxes that are now or in the future assessed against the structure or activity during the period of the authorization.

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

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

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

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

NOTICE OF RIGHTS

This action is final and effective on the date filed with the Clerk of the Department unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the hearing process may result in a modification of the agency action or even denial of the application.

Petition for Administrative Hearing

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

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

(f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and

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

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

Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant must be filed within 14 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S. must be filed within 14 days of publication of the notice or within 14 days of receipt of the written notice, whichever occurs first. Under Section 120.60(3), F.S., however, any person who has asked the Department for notice of agency action may file a petition within 14 days of receipt of such notice, regardless of the date of publication. The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

Extension of Time

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

Mediation

Mediation is not available in this proceeding.

FLAWAC Review

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

Judicial Review

Any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth

Boulevard, M.S. 35, Tallahassee, Florida 32399-3000; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this action is filed with the Clerk of the Department.

EXECUTION AND CLERKING:

Executed in Orlando, Florida.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION



Nathan Hess
Program Administrator
Permitting and Waste Cleanup Program

Attachments:

- Project Drawings, 7 pages
- Construction Commencement Notice/Form 62-330.350(1)
- As-built Certification and Request for Conversion to Operational Phase/ Form 62-330.310(1)
- Request for Transfer to the Perpetual Operation Entity/Form 62-330.310(2)

CERTIFICATE OF SERVICE

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

- Maria Bazemore, Agent, MBazemore@drmp.com
- Amanda Johannes, FDEP
- Christine Daniel, FDEP

FILING AND ACKNOWLEDGMENT

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



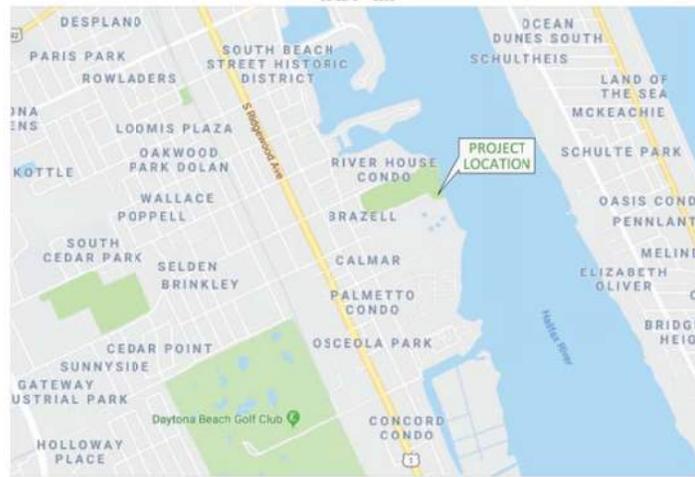
Clerk

October 16, 2019
Date

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CONSTRUCTION PLANS for BETHUNE POINT SHORELINE RESTORATION CITY of DAYTONA BEACH, FLORIDA

VICINITY MAP
SCALE: 1" = 1000'



PROJECT SHEET INDEX

SHEET NO.	SHEET TITLE	REVISION NO.
C1.0	COVER SHEET	
C1.1	GENERAL NOTES	
C1.2	GENERAL NOTES	
C2.0	EXISTING CONDITIONS	
C3.0	SITE PLAN	
C3.1	SECTIONS AND DETAILS	
C4.0	DETAIL SHEET	

CONSULTANT CONTACTS:

SURVEY
DRMP, INC.
941 LAKE BALDWIN LANE
ORLANDO, FL 32814
JOE BISHOP 407-896-0594

CIVIL ENGINEERING
DRMP, INC.
941 LAKE BALDWIN LANE
ORLANDO, FL 32814
JUAN I. GONZALEZ, P.E. 407-896-0594



941 LAKE BALDWIN LANE, ORLANDO, FL 32814

AUGUST, 2019

DRMP PROJECT NO. 18-0269.000



THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY

Juan I. Gonzalez
2019.09.20 14:12:20-0400'

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED. THE SIGNATURE MUST BE VERIFIED ON THE ELECTRONIC DOCUMENTS.

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

DESIGNED BY: DRAWN BY: CHECKED BY: APPROVED BY:	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4">REVISIONS</th> </tr> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	REVISIONS				NO.	DATE	DESCRIPTION	BY																	<p style="font-size: 8px; text-align: center;">Certificate of Authorization No. 25688 941 Lake Baldwin Lane - Orlando, Florida 32814 Phone 407.896.0594 Fax 407.896.4836 www.drmp.com</p>	CONSTRUCTION PLANS FOR BETHUNE POINT CITY OF DAYTONA BEACH, FLORIDA	COVER SHEET AND INDEX OF DRAWINGS	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>PROJECT NO. 18-0269.000</td> </tr> <tr> <td>SCALE: AS SHOWN</td> </tr> <tr> <td>DATE: AUGUST, 2019</td> </tr> <tr> <td>DRAWING: C1.0</td> </tr> </table>	PROJECT NO. 18-0269.000	SCALE: AS SHOWN	DATE: AUGUST, 2019	DRAWING: C1.0
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DO NOT SCALE THIS DRAWING - DIMENSIONS AND NOTES TAKE PREFERENCE

Juan I. Gonzalez, P.E.
State of Florida # 84538

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GENERAL NOTES

- 1. UNLESS OTHERWISE SPECIFIED, ALL WORK SHALL BE PERFORMED CONSISTENT WITH THE FOLLOWING SPECIFICATIONS:
 - CITY OF DAYTONA BEACH
 - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
 - ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT
- 2. THIS DESIGN HAS BEEN BASED UPON GROUND-RUN TOPOGRAPHIC SURVEYS BY DRMP INC. GEOTECHNICAL EVALUATION HAS BEEN PERFORMED BY GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS INC. MAKES NO ASSURANCES REGARDING THE ACCURACY OF EITHER SUCH EVALUATION.
- 3. CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SITE, INCLUDING ALL SURFACE AND SUBSURFACE CONDITIONS, THE WORK REQUIRED AND ALL OTHER CONDITIONS THAT MAY AFFECT THE SUCCESSFUL COMPLETION OF THE JOB PRIOR TO COMMENCEMENT OF WORK.
- 4. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND PERMIT CONDITIONS BEARING ON THE CONDUCT OF THE WORK, AS DRAWN AND SPECIFIED. IF THE CONTRACTOR OBSERVES THAT THE DRAWINGS AND SPECIFICATIONS ARE AT VARIANCE THEREWITH, HE SHALL PROMPTLY NOTIFY THE ENGINEER, IN WRITING, AND ANY NECESSARY CHANGES SHALL BE ADJUSTED, AS PROVIDED IN THE AGREEMENT FOR CHANGES IN THE WORK.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE TO THE OWNER AND THE ENGINEER FOR THE ACTS AND OMISSIONS OF CONTRACTOR'S EMPLOYEES AND ALL HIS SUBCONTRACTORS AND THEIR AGENTS AND EMPLOYEES AND OTHER PERSONS PERFORMING ANY OF THE WORK UNDER A CONTRACT WITH THE CONTRACTOR.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL NECESSARY ARRANGEMENTS WITH GOVERNMENTAL DEPARTMENTS, PUBLIC UTILITIES, PUBLIC CARRIERS, SERVICE COMPANIES, AND CORPORATIONS OWNING OR CONTROLLING ROADWAYS, RAILWAYS, WATER, SEWER, GAS, ELECTRICAL, TELEPHONE, AND TELEGRAPH FACILITIES SUCH AS PAVEMENTS, TRACKS, PIPING, WIRES, CABLES, CONDUITS, POLES, GUYS, OR OTHER SIMILAR FACILITIES, INCLUDING INCIDENTAL STRUCTURES CONNECTED THEREWITH THAT ARE ENCOUNTERED IN THE WORK IN ORDER THAT SUCH ITEMS MAY BE PROPERLY SUPPORTED, PROTECTED OR LOCATED.
- 7. UNLESS OTHERWISE SPECIFIED IN THE GENERAL CONDITIONS, ALL CONSTRUCTION IS TO BE GOVERNED BY THE PLANS, APPLICABLE PERMITS, AND SPECIFICATIONS HEREIN, AND ALL APPLICABLE FEDERAL, STATE AND LOCAL BUILDING AND SAFETY CODES, LAWS AND ORDINANCES.
- 8. PRIOR TO PERFORMING ANY WORK WITHIN ANY PUBLIC OR UTILITY RIGHT-OF-WAY, CONTRACTOR SHALL OBTAIN AUTHORIZATION AND PERMIT FROM JURISDICTION RESPONSIBLE FOR SUCH RIGHT-OF-WAY. IN ADDITION, CONTRACTOR SHALL OBTAIN GAS I.D. NUMBER FROM LOCAL GAS COMPANY AND NOTIFY UNDERGROUND UTILITIES, NOTIFICATION CENTER AT 1-800-432-4770 AT LEAST 72 HOURS PRIOR TO START OF WORK.
- 9. PRIOR TO PERFORMING ANY WORK WITHIN ANY PUBLIC RIGHT-OF-WAY, CONTRACTOR SHALL DEVELOP AND IMPLEMENT A TRAFFIC CONTROL PLAN CONSISTENT WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, AND SUBMIT TO THE ENGINEER FOR APPROVAL.
- 10. IN THE EVENT THE CONTRACTOR DISCOVERS ANY ERRORS OR OMISSIONS IN THE PLANS HE SHALL IMMEDIATELY NOTIFY THE OWNER OR OWNER'S AGENT.
- 11. CONTRACTOR SHALL PRESERVE AND PROTECT ALL PERMANENT REFERENCE MONUMENTS, PERMANENT CONTROL POINTS, PERMANENT BENCH MARKS AND PROPERTY CORNERS. IN THE EVENT THE MONUMENTS, POINTS OR MARKERS ARE DISTURBED THE CONTRACTOR SHALL EMPLOY A FLORIDA REGISTERED LAND SURVEYOR TO RESET OR REPLACE THEM.
- 12. THE OWNER, OWNER'S AGENT AND INSPECTORS OF APPLICABLE GOVERNMENT JURISDICTIONS, SHALL AT ALL TIMES HAVE ACCESS TO THE WORK WHEREVER AND WHENEVER IT IS IN PREPARATION OR PROGRESS; AND THE CONTRACTOR SHALL PROVIDE PROPER FACILITIES FOR SUCH ACCESS AND FOR THE INSPECTION.
- 13. IT IS THE CONTRACTOR'S RESPONSIBILITY TO TAKE ALL REASONABLE AND PRUDENT PRECAUTIONS TO INSURE THAT ALL COMPLETED WORK AND EQUIPMENT STORED ON SITE ARE SAFE AND SECURED FROM UNAUTHORIZED ACCESS OR USE. SUCH PRECAUTIONS MAY INCLUDE INSTALLATION OF SIGNS, FENCES, OR POSTING OF SECURITY GUARDS.
- 14. CONTRACTOR SHALL, AT ALL TIMES, UTILIZE ALL NORMALLY ACCEPTED AND REASONABLY EXPECTED SAFETY PRACTICES AND COMPLY WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND GUIDELINES PERTAINING TO SAFE UTILIZATION OF EQUIPMENT OR MATERIALS AS PUBLISHED BY MANUFACTURER.
- 15. PRIOR TO INITIATING ANY EXCAVATION (INCLUDING BUT NOT LIMITED TO TUNNELS, DITCHES, STORM WATER PONDS, CANALS, ARTIFICIAL LAKES) CONTRACTOR SHALL INSTALL FENCES AND TAKE ALL OTHER REASONABLE AND PRUDENT STEPS TO INSURE THAT ACCESS TO EXCAVATION BY UNAUTHORIZED PERSONNEL IS PREVENTED.
- 16. CONTRACTOR SHALL COMPLY IN EVERY RESPECT WITH THE PROVISIONS OF THE FLORIDA STATE TRENCH SAFETY ACT.
- 17.1 THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS FOR THE SAFETY OF, AND SHALL PROVIDE ALL REASONABLE PROTECTION TO PREVENT DAMAGE TO:
 - A. ALL EMPLOYEES ON THE WORK AND ALL OTHER PERSONS WHO MAY BE AFFECTED THEREBY;
 - B. ALL THE WORK AND ALL MATERIALS AND EQUIPMENT TO BE INCORPORATED THEREIN, WHETHER IN STORAGE ON OR OFF THE SITE, UNDER THE CARE, CUSTODY OR CONTROL OF THE CONTRACTOR OR ANY OF ITS SUBCONTRACTORS;
 - C. OTHER PROPERTY AT THE SITE OR ADJACENT THERETO, INCLUDING TREES, SHRUBS, LAWNS, WALKS, PAVEMENTS, ROADWAY, STRUCTURES AND UTILITIES NOT DESIGNATED FOR DEMOLITION IN THE COURSE OF CONSTRUCTION.
- 17.2 THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY CODES AND WITH ALL APPLICABLE LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC, QUASI PUBLIC OR OTHER AUTHORITY HAVING JURISDICTION FOR THE SAFETY OF PERSONS OR PROPERTY OR FOR THEIR PROTECTION AGAINST DAMAGE, INJURY OR LOSS, OR DESIGNED TO PROTECT THE ENVIRONMENT. THE CONTRACTOR SHALL ERECT AND MAINTAIN, AS REQUIRED BY EXISTING CONDITIONS AND PROGRESS OF THE WORK, ALL REASONABLE SAFETY SIGNS AND PROTECTION, INCLUDING POSTING DANGER SIGNS AND OTHER WARNINGS AGAINST HAZARDS, PROMULGATING SAFETY REGULATIONS AND NOTIFYING OWNERS AND USERS OF ADJACENT UTILITIES OF THE EXISTENCE OF HAZARDS AND OF THE SAFETY REGULATIONS.
- 17.3 ALL DAMAGE OR LOSS TO ANY PROPERTY REFERRED TO IN CLAUSES 17.1(B) AND 17.1(C) CAUSED IN WHOLE OR IN PART BY THE CONTRACTOR, A SUBCONTRACTOR, OR BY ANYONE FOR WHOSE ACTS ANY OF THEM MAY BE LIABLE, SHALL BE REMEDIED BY THE CONTRACTOR, EXCEPT DAMAGE OR LOSS PROPERLY ATTRIBUTABLE SOLELY TO THE ACTS OR OMISSIONS OF THE OWNER, OR THE ENGINEER OR ANYONE EMPLOYED BY THEM, OR FOR WHOSE ACTS ANY OF THEM MAY BE LIABLE, AND NOT PROPERLY ATTRIBUTABLE IN WHOLE OR IN PART, TO THE FAULT OR NEGLIGENCE OF THE CONTRACTOR.
- 17.4 UNTIL FINAL ACCEPTANCE OF THE WORK BY OWNER, THE CONTRACTOR SHALL HAVE THE CHARGE AND CARE OF AND SHALL BEAR THE RISK OF INJURY OR DAMAGE, LOSS OR EXPENSE TO ANY PART THEREOF, OR TO ANY MATERIALS STORED ON SITE, BY THE ACTION OF THE ELEMENTS OR FROM ANY OTHER CAUSE WHETHER ARISING FROM THE EXECUTION OR NON-EXECUTION OF THE WORK. THE CONTRACTOR SHALL REBUILD, REPAIR, RESTORE AND MAKE GOOD ALL INJURIES OR DAMAGES TO ANY PORTION OF THE WORK OCCASIONED BY ANY OF THE ABOVE CAUSES BEFORE FINAL ACCEPTANCE AND SHALL BEAR THE EXPENSES THEREOF.
- 17.5 THE CONTRACTOR SHALL NOT LOAD OR PERMIT ANY PART OF THE WORK TO BE LOADED SO AS TO ENDANGER ITS SAFETY. NO LOAD SHALL BE PLACED ON A ROOF WITHOUT THE APPROVAL OF THE OWNER OR ENGINEER.
- 17.6 THOSE PARTS OF WORK IN PLACE WHICH ARE SUBJECT TO DAMAGE BECAUSE OF OPERATIONS BEING CARRIED ON ADJACENT THERETO SHALL BE COVERED, BOARDED UP OR SUBSTANTIALLY ENCLOSED WITH ADEQUATE PROTECTION BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE.
- 17.7 PERMANENT OPENINGS USED AS THROUGHFARES FOR THE INTRODUCTION OF WORK AND MATERIALS TO

- THE STRUCTURE SHALL HAVE HEADS, JAMBS AND SILLS WELL BLOCKED AND BOARDED BY THE CONTRACTOR. OWNER RETAINS THE AUTHORITY, BUT ASSUMES NO DUTY, TO ESTABLISH STANDARDS OF PROTECTION, AND TO REVIEW THE EFFICIENCY OF PROTECTIVE MEASURES TAKEN BY THE CONTRACTOR.
- 17.8 ADEQUATE TRAFFIC CONTROL, BARRICADES AND FLAGMAN SERVICES SHALL BE FURNISHED AND MAINTAINED BY THE CONTRACTOR AT ALL POINTS WHERE CONVEYING EQUIPMENT ENGAGED ON THE WORK REGULARLY ENTERS INTO OR CROSSES TRAFFIC-CARRYING ROADS.
- 18.1 THE CONTRACTOR SHALL COMPLY IN EVERY RESPECT WITH THE FEDERAL OCCUPATIONAL HEALTH AND SAFETY ACT OF 1970 AND ALL RULES AND REGULATIONS NOW OR HEREAFTER IN EFFECT UNDER SAID ACT, AND THE CONTRACTOR FURTHER AGREES TO COMPLY WITH ANY AND ALL APPLICABLE STATE LAWS AND REGULATIONS PERTAINING TO JOB SAFETY AND HEALTH.
- 18.2 THE CONTRACTOR SHALL PROTECT AND KEEP OWNER (INCLUDING THEIR AGENTS AND EMPLOYEES) FREE AND HARMLESS FROM ANY AND ALL LIABILITY, PUBLIC OR PRIVATE, PENALTIES, CONTRACTUAL OR OTHERWISE, LOSSES, DAMAGES, COSTS, ATTORNEY'S FEES, EXPENSES, CAUSES OF ACTION, CLAIMS OR JUDGMENTS RESULTING FROM THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AS AMENDED OR ANY RULE OR REGULATION PROMULGATED THEREUNDER OR OF ANY STATE LAWS OR REGULATIONS PERTAINING TO JOB SAFETY AND HEALTH ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE PERFORMANCE OF WORK OR WORK TO BE PERFORMED UNDER THIS CONTRACT, AND CONTRACTOR SHALL INDEMNIFY OWNER FROM ANY SUCH CLAIMS, PENALTIES, SUITS OR ACTIONS, PUBLIC OR PRIVATE, ADMINISTRATIVE OR JUDICIAL, INCLUDING ATTORNEY'S FEES PAID OR INCURRED BY OR ON BEHALF OF OWNER, JOINTLY OR SEVERALLY, AND/OR THEIR AGENTS AND EMPLOYEES. THE CONTRACTOR FURTHER AGREES, IN THE EVENT OF A CLAIMED VIOLATION OF ANY FEDERAL OR STATE SAFETY AND HEALTH LAW OR REGULATION ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE PERFORMANCE OF WORK OR WORK TO BE PERFORMED UNDER THIS CONTRACT, OWNER MAY IMMEDIATELY TAKE WHATEVER ACTION IS DEEMED NECESSARY BY OWNER TO REMEDY THE CLAIMED VIOLATION. ANY AND ALL COSTS OR EXPENSES PAID OR INCURRED BY OWNER IN TAKING SUCH ACTION SHALL BE BORNE BY CONTRACTOR, AND CONTRACTOR AGREES TO PROTECT, HOLD HARMLESS AND INDEMNIFY OWNER AGAINST ANY AND ALL SUCH COSTS OR EXPENSES.
- 19. ALL WORK PERFORMED UNDER THE CONTRACT, AND ALL EQUIPMENT, APPLIANCES, TOOLS AND LIKE ITEMS USED IN THE WORK SHALL CONFORM TO APPLICABLE SAFETY CODES AND REGULATIONS OF ANY PUBLIC OR OTHER AUTHORITY HAVING JURISDICTION, IN THE EVENT OF CONFLICTING REQUIREMENTS, THE MORE STRINGENT INTERPRETATION OR REGULATION SHALL GOVERN.
- 20. THE CONTRACTOR SHALL DEVELOP AND IMPLEMENT AN EROSION CONTROL PLAN TO MINIMIZE EROSION AND ENSURE FUNCTIONING OF STORMWATER MANAGEMENT SYSTEM UPON COMPLETION OF CONSTRUCTION.
- 21.1 CONTRACTOR AND ITS SUBCONTRACTORS SHALL USE, HANDLE, TRANSPORT, AND DISPOSE OF ALL HAZARDOUS MATERIALS (AS DEFINED PARAGRAPH 20.8) IN COMPLIANCE WITH ALL PRESENT FEDERAL, STATE AND LOCAL ENVIRONMENTAL, HEALTH OR SAFETY LAW, INCLUDING, BUT NOT LIMITED TO, ALL SUCH STATUTES, REGULATIONS, RULES, ORDINANCES, CODES, AND RULES OF COMMON LAW.
- 21.2 CONTRACTOR FURTHER AGREES THAT CONTRACTOR AND ITS SUBCONTRACTORS SHALL NOT CAUSE THE DISCHARGE, RELEASE OR DISPOSAL OF ANY HAZARDOUS MATERIAL CREATED BY ITS WORK ON OR ABOUT THE JOB SITE. IN THE EVENT OF ANY SPILL, RELEASE OR ANY OTHER REPORTABLE OCCURRENCE, CONTRACTOR SHALL NOTIFY THE APPROPRIATE GOVERNMENTAL AGENCY AND SHALL TAKE SUCH ACTION AS MAY BE NECESSARY TO MINIMIZE THE DELETERIOUS EFFECT OF SUCH SPILL ON PERSONS OR PROPERTY.
- 21.3 CONTRACTOR AND ITS SUBCONTRACTORS SHALL, UPON COMPLETION OF PERFORMANCE OF ALL DUTIES UNDER THIS CONTRACT, REMOVE ALL SUPPLIES, MATERIALS, AND WASTE CONTAINING AND HAZARDOUS MATERIAL FROM THE JOB SITE. CONTRACTOR SHALL BEAR FULL FINANCIAL RESPONSIBILITY, AS BETWEEN THE PARTIES OF THIS CONTRACT, FOR THE COMPLIANCE OF CONTRACTOR AND ITS SUBCONTRACTORS WITH THE PROVISIONS OF PARAGRAPH 21.7.
- 21.4 CONTRACTOR AGREES TO INDEMNIFY, DEFEND, PROTECT AND HOLD THE OWNER HARMLESS FROM AND AGAINST ANY CLAIMS INCLUDING, WITHOUT LIMITATION, ACTUAL ATTORNEY'S FEES AND ANY COSTS OF INVESTIGATION, SOILS TESTING, GOVERNMENTAL APPROVALS, REMEDIATION AND CLEANUP ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE FAILURE OF CONTRACTOR OR ITS SUBCONTRACTORS, OR THEIR AGENTS, EMPLOYEES, OFFICERS, OR REPRESENTATIVES, TO COMPLY WITH THE TERMS OF THIS ARTICLE 21.
- 21.5 SHOULD CONTRACTOR OR ITS SUBCONTRACTORS DISCHARGE, RELEASE OR DISPOSE OF ANY HAZARDOUS MATERIAL ON OR ABOUT THE JOB SITE IN VIOLATION OF THIS PARAGRAPH, CONTRACTOR SHALL IMMEDIATELY SO INFORM OWNER IN WRITING. IN THE EVENT OF ANY SPILL, RELEASE OR ANY OTHER REPORTABLE OCCURRENCE, CONTRACTOR SHALL NOTIFY THE APPROPRIATE GOVERNMENTAL AGENCY AND SHALL TAKE SUCH ACTION AS MAY BE NECESSARY TO MINIMIZE THE DELETERIOUS EFFECT OF SUCH SPILL ON PERSONS OR PROPERTY.
- 21.6 IN THE EVENT CONTRACTOR OR ITS SUBCONTRACTORS ENCOUNTER ON THE PREMISES ANY PIPELINE, UNDERGROUND STORAGE TANK OR OTHER CONTAINER, OF ANY KIND, THAT MAY CONTAIN A HAZARDOUS MATERIAL, OR ENCOUNTER MATERIAL REASONABLY BELIEVED TO BE A HAZARDOUS MATERIAL, CONTRACTOR SHALL IMMEDIATELY STOP WORK IN THE AREA AFFECTED AND REPORT THE CONDITION TO OWNER IN WRITING.
- 21.7 IF CONTRACTOR OR ITS SUBCONTRACTORS DO NOT COMPLY WITH THE REQUIREMENTS OF THIS PARAGRAPH, OWNER MAY, BUT IS NOT OBLIGATED TO, GIVE WRITTEN NOTICE OF VIOLATION TO CONTRACTOR. SHOULD CONTRACTOR OR ITS SUBCONTRACTORS FAIL TO COMPLY WITH THE REQUIREMENTS OF THE PARAGRAPH WITHIN TWENTY-FOUR (24) HOURS FROM THE TIME OWNER ISSUES SUCH WRITTEN NOTICE OF NONCOMPLIANCE OR WITHIN THE TIME OF AN ABATEMENT PERIOD SPECIFIED BY ANY GOVERNMENTAL AGENCY, WHICHEVER PERIOD IS SHORTER, CONTRACTOR SHALL BE IN MATERIAL DEFAULT OF THIS CONTRACT.
- 21.8 "HAZARDOUS MATERIAL" MEANS ANY SUBSTANCE: (A) THE PRESENCE OF WHICH REQUIRES INVESTIGATION OR REMEDIATION UNDER ANY PRESENT FEDERAL, STATE OR LOCAL STATUTE, REGULATION, ORDINANCE, RULE, CODE, ORDER, ACTION, POLICY OR COMMON LAW, OR (B) WHICH IS OR BECOMES DEFINED AS A "HAZARDOUS WASTE," "HAZARDOUS SUBSTANCE," "POLLUTANT" OR "CONTAMINANT" UNDER ANY PRESENT FEDERAL, STATE OR LOCAL STATUTE, REGULATION, RULE OR ORDINANCE OR AMENDMENTS THERETO INCLUDING, WITHOUT LIMITATION, THE COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (42 U.S.C. SECTIONS 9601 ET SEQ.) AND/OR THE RESOURCE CONSERVATION AND RECOVERY ACT (42 U.S.C. SECTIONS 6901 ET SEQ.) OR (C) WHICH IS TOXIC, EXPLOSIVE, CORROSIVE, FLAMMABLE, INFECTIOUS, RADIOACTIVE, CARCINOGENIC, MUTAGENIC, OR OTHERWISE HAZARDOUS AND IS REGULATED BY ANY GOVERNMENTAL AUTHORITY, AGENCY, DEPARTMENT, COMMISSION, BOARD, AGENCY OR INSTRUMENTALITY OF THE UNITED STATES, THE STATE IN WHICH THE PREMISES ARE LOCATED OR ANY POLITICAL SUBDIVISION THEREOF, OR (D) THE PRESENCE OF WHICH ON THE PREMISES CAUSES OR THREATENS TO CAUSE A NUISANCE UPON THE PREMISES OR TO ADJACENT PROPERTIES OR POSSES OR THREATENS TO POSE A HAZARD TO THE HEALTH OR SAFETY OF PERSONS ON OR ABOUT THE PREMISES, OR (E) WHICH CONTAINS GASOLINE, DIESEL FUEL OR OTHER PETROLEUM HYDROCARBONS, OR (F) WHICH CONTAINS POLYCHLORINATED BIPHENYLS (PCBS), ASBESTOS, LEAD OR UREA FORMALDEHYDE FOAM INSULATION.
- 22. THE EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UTILITIES AS TO SIZE, LOCATION, AND ELEVATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY AND ALL CONFLICTS PRIOR TO BEGINNING CONSTRUCTION.

23. MEASUREMENTS AND QUANTITIES SHOWN ON DRAWINGS ARE ENGINEER'S ESTIMATES ONLY AND ARE NOT INTENDED TO BE USED AS BID QUANTITIES.



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DESIGNED BY	R E V I S I O N S				 DRMP ENGINEERS • SURVEYORS • PLANNERS • SCIENTISTS Certificate of Authorization No. 2848 941 Lake Baldwin Lane • Orlando, Florida 32814 Phone: 407.896.0094 Fax: 407.896.4636 www.drmp.com	CONSTRUCTION PLANS FOR BETHUNE POINT CITY OF DAYTONA BEACH, FLORIDA DO NOT SCALE THIS DRAWING - DIMENSIONS AND NOTES TAKE PREFERENCE	PROJECT No.: 18-0269.000 SCALE: AS SHOWN DATE: AUGUST, 2019 DRAWING: C1.1
	NO.	DATE	DESCRIPTION	BY			
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CHECKED BY							
APPROVED BY						Juan J. Gonzalez, P.E. State of Florida # 84538	

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TURBIDITY MONITORING PLAN:

THE CONSTRUCTION OF THIS PROJECT WILL REQUIRE IN-WATER SOIL DISTURBING ACTIVITIES, WHICH MUST MEET THE STATE'S WATER QUALITY ANTI-DEGRADATION CRITERIA. THE HALIFAX RIVER IS DESIGNATED AS AN OUTSTANDING FLORIDA WATER (OFW). THE CONTRACTOR SHALL MEET THE FOLLOWING CONDITIONS:

EXISTING AMBIENT WATER QUALITY WITHIN THE CONSTRUCTION ZONE MAY BE DEGRADED TO ALLOW FOR IN-WATER CONSTRUCTION ACTIVITIES WITHIN THE OFW. TURBIDITY BARRIER PROTECTION MUST BE PROVIDED AND REMAIN IN PLACE UNTIL STABILIZATION AND RETURN OF THE NEPHELOMETRIC TURBIDITY UNITS (NTU) INSIDE THE COMPLETED CONSTRUCTION ZONE NO LONGER EXCEED THE NATURAL BACKGROUND CONDITIONS WITHIN THE OFW. NO INCREASE IN TURBIDITY LEVELS ABOVE BACKGROUND IS ALLOWED OUTSIDE THE CONSTRUCTION ZONE.

1. WATER RELEASED FROM THE CONSTRUCTION AREA SHALL NOT HAVE TURBIDITY LEVELS THAT EXCEED ABOVE AMBIENT LEVELS OF THE SURROUNDING HALIFAX RIVER.
2. ALL CONSTRUCTION ACTIVITIES THAT HAVE A POTENTIAL TO CREATE TURBIDITY, SUCH AS IN-WATER SOIL DISTURBANCE, DREDGING, PILE DRIVING, AND FILLING SHALL REQUIRE MONITORING. SAMPLING SHALL COMMENCE FIVE DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES, AND CONTINUE TWICE DAILY, WITH A MAXIMUM OF FOUR-HOUR INTERVALS, DURING ONGOING POTENTIAL TURBIDITY CREATING CONSTRUCTION ACTIVITIES. SIX SAMPLE LOCATIONS SHALL BE DETERMINED AROUND THE CONSTRUCTION SITE - THREE OUTSIDE THE FLOATING TURBIDITY BARRIER AND THREE WITHIN THE CONSTRUCTION AREA. THE SAMPLING WITHIN THE MONITORING AREA IS TO BEGIN UPON COMPLETION OF CONSTRUCTION, PRIOR TO REMOVAL OF EROSION CONTROL MEASURES. SAMPLING WITHIN THE MONITORING AREA IS TO CONTINUE UNTIL ALL SEDIMENT HAS SETTLED OUT OF THE WATER COLUMNS TO WITHIN ACCEPTABLE LIMITS.
3. SAMPLES WILL BE COLLECTED FROM SURFACE AND ONE FOOT ABOVE BOTTOM.
4. ALL SAMPLES WILL BE COLLECTED WITH A KEMMERER, VAN DORN OR SIMILAR GRAB SAMPLER WHICH IS DESIGNATED TO COLLECT IN SITU WATER SAMPLES. SAMPLES MUST BE ANALYZED FOR TURBIDITY AS THEY ARE COLLECTED. THE FOLLOWING INFORMATION MUST BE RECORDED FOR EACH SAMPLE TAKEN AND SUBMITTED IN A MONITORING REPORT:
 - a. SITE NUMBER;
 - b. COLLECTOR'S NAME AND AFFILIATION
 - c. DATE AND TIME OF DAY WHEN SAMPLE WAS COLLECTED;
 - d. SAMPLE COLLECTION DEPTH AND TOTAL DEPTH;
 - e. ANTECEDENT WEATHER CONDITIONS, INCLUDING WIND DIRECTION AND VELOCITY;
 - f. TIDAL STAGE AND/OR FLOW DIRECTION, IF APPLICABLE; AND
 - g. SAMPLING RESULTS, THE NET DIFFERENCE BETWEEN COMPLIANCE AND BACKGROUND RESULTS, AND WHETHER THE TURBIDITY LEVEL IS IN COMPLIANCE.
5. IN ADDITION TO THE ABOVE MENTIONED, EACH MONITORING REPORT MUST INCLUDE THE FOLLOWING:
 - a. A STATEMENT OF METHODOLOGY INCLUDING TYPES OF SAMPLING EQUIPMENT AND
 - b. ANALYTICAL INSTRUMENTATION, PRESERVATION, AND HANDLING;
 - c. PERMIT NUMBER; AND
 - d. A MAP INDICATING NUMBERED LOCATIONS OF ALL SAMPLING SITES;
7. ALL TURBIDITY MONITORING REPORTS SHALL BE SUBMITTED TO THE CONTRACTING OFFICE WITHIN FOURTEEN (14) DAYS OF SAMPLE COLLECTION. THE CONTRACTING OFFICE WILL FORWARD THE TURBIDITY MONITORING REPORTS TO THE CITY OF DAYTONA.
8. THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING QA/QC REQUIREMENTS FOR EACH SAMPLE COLLECTED:
 - a. ALL TURBIDITY ANALYSIS SHALL BE PERFORMED ON INSTRUMENTS THAT CAN PERFORM NEPHELOMETRIC MEASUREMENTS;
 - b. THE INSTRUMENT MUST BE CALIBRATED EACH MORNING AND EACH TIME THE INSTRUMENT IS TURNED ON, AND RECALIBRATED EVERY FOUR HOURS THEREAFTER;
 - c. CALIBRATIONS MUST BE PERFORMED AGAINST A BLANK, AND AT LEAST ONE FORMALIN OR GEL-TYPE STANDARD. THE STANDARD VALUE SHOULD BE IN THE SAME RANGE AS THE SAMPLE READINGS.
 - d. ALL CALIBRATION PROCEDURES MUST BE RECORDED IN A PERMANENT LOG BOOK, AND COPIES MUST BE SUBMITTED WITH THE DATA; AND,
 - e. DATE AND TIME OF COLLECTION, DATE AND TIME OF ANALYSES, WARM-UP TIME, AND THE NAME OF THE ANALYST MUST BE INCLUDED IN THE LOG.
9. ALL IN-WATER SOIL DISTURBING CONSTRUCTION ACTIVITIES SHALL CEASE IMMEDIATELY WHENEVER WATER QUALITY SAMPLES EXCEED THRESHOLDS SPECIFIED IN ITEM #1 OUTSIDE OF THE CONSTRUCTION PROJECTS FLOATING TURBIDITY BARRIERS. THE VIOLATION SHALL BE REPORTED TO CONTRACTING OFFICER WITHIN 4 HOURS OF THE VIOLATION. THE VIOLATION REPORT SHALL INCLUDE THE DESCRIPTION OF THE CORRECTIVE ACTIONS BEING TAKEN OR PROPOSED TO BE TAKEN.
10. WHEN A TURBIDITY VIOLATION IS FOUND, IN-WATER SOIL DISTURBING CONSTRUCTION OPERATIONS MAY NOT RESUME UNTIL A COMPLIANCE INSPECTION BY CONTRACTING OFFICER HAS BEEN CONDUCTED AND A SET OF SAMPLES HAS BEEN TAKEN WHICH DEMONSTRATE THAT THE WATER QUALITY STANDARDS DESIGNATED ABOVE ARE BEING ACHIEVED. THE CONTRACTOR SHALL MODIFY THE WORK PROCEDURES THAT WERE RESPONSIBLE FOR THE VIOLATION SUCH AS REDUCING THE IN-WATER CONSTRUCTION ACTIVITY AND/OR INSTALLING ADDITIONAL BMPs OR REPAIRING ANY NON-FUNCTIONING TURBIDITY CONTAINMENT DEVICES.
11. INTERIM SAMPLES TAKEN FOLLOWING THE VIOLATION SHALL BE TAKEN IN THE SAME MANNER AS THE ROUTINE MONITORING AND AT THE SAME LOCATIONS. IF SAMPLES DEMONSTRATE THE WATER QUALITY STANDARDS SPECIFIED FOR TURBIDITY SPECIFIED ABOVE ARE STILL BEING VIOLATED, SAMPLING SHALL CONTINUE UNTIL TWO (2) MONITORING EVENTS CONDUCTED AT LEAST ONE HOUR APART THAT INTERIM SAMPLE TURBIDITY READINGS DEMONSTRATE THAT WATER QUALITY STANDARDS ARE BEING ACHIEVED.
12. ALL TURBIDITY AND EROSION CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED AT THE BEGINNING AND END OF EACH WORK DAY.
13. BEFORE REMOVAL OF THE TURBIDITY CONTROL MEASURES, THE TURBIDITY LEVELS WITHIN THE AREA SURROUNDED BY THE TURBIDITY CONTROL MEASURES MUST BE SAMPLED TO ENSURE NO RELEASE OF TURBID WATER ONCE THE TURBIDITY CONTROL MEASURES ARE REMOVED. THIS SAMPLE DATA MUST BE INCLUDED WITHIN THE WEEKLY TURBIDITY DATA REPORT.

SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS:

THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING PROTECTED SPECIES CONSTRUCTION CONDITIONS:

- A. THE CONTRACTOR SHALL INSTRUCT ALL PERSONNEL ASSOCIATED WITH THE PROJECT OF THE POTENTIAL PRESENCE OF THESE SPECIES AND THE NEED TO AVOID COLLISIONS WITH SEA TURTLES AND SMALLTOOTH SAWFISH. ALL CONSTRUCTION PERSONNEL ARE RESPONSIBLE FOR OBSERVING WATER-RELATED ACTIVITIES FOR THE PRESENCE OF THESE SPECIES.
- B. THE CONTRACTOR SHALL ADVISE ALL CONSTRUCTION PERSONNEL THAT THERE ARE CIVIL AND CRIMINAL PENALTIES FOR HARMING, HARASSING, OR KILLING SEA TURTLES OR SMALLTOOTH SAWFISH, WHICH ARE PROTECTED UNDER THE ENDANGERED SPECIES ACT OF 1973.
- C. SILTATION BARRIERS SHALL BE MADE OF MATERIAL IN WHICH A SEA TURTLE OR SMALLTOOTH SAWFISH CANNOT BECOME ENTANGLED, BE PROPERLY SECURED, AND BE REGULARLY MONITORED TO AVOID PROTECTED SPECIES ENTRAPMENT. BARRIERS MAY NOT BLOCK SEA TURTLE OR SMALLTOOTH SAWFISH ENTRY TO OR EXIT FROM DESIGNATED CRITICAL HABITAT WITHOUT PRIOR AGREEMENT FROM THE NATIONAL MARINE FISHERIES SERVICE'S PROTECTED RESOURCES DIVISION, ST. PETERSBURG, FLORIDA.
- D. ALL VESSELS ASSOCIATED WITH THE CONSTRUCTION PROJECT SHALL OPERATE AT "NO WAKE/DIE" SPEEDS AT ALL TIMES WHILE IN THE CONSTRUCTION AREA AND WHILE IN WATER DEPTHS WHERE THE DRAFT OF THE VESSEL PROVIDES LESS THAN A FOUR-FOOT CLEARANCE FROM THE BOTTOM. ALL VESSELS WILL PREFERENTIALLY FOLLOW DEEP-WATER ROUTES (E.G., MARKED CHANNELS) WHENEVER POSSIBLE.
- E. IF A SEA TURTLE OR SMALLTOOTH SAWFISH IS SEEN WITHIN 100 YARDS OF THE ACTIVE DAILY CONSTRUCTION/DREDGING OPERATION OR VESSEL MOVEMENT, ALL APPROPRIATE PRECAUTIONS SHALL BE IMPLEMENTED TO ENSURE ITS PROTECTION. THESE PRECAUTIONS SHALL INCLUDE CESSATION OF OPERATION OF ANY MOVING EQUIPMENT CLOSER THAN 50 FEET OF A SEA TURTLE OR SMALLTOOTH SAWFISH. OPERATION OF ANY MECHANICAL CONSTRUCTION EQUIPMENT SHALL CEASE IMMEDIATELY IF A SEA TURTLE OR SMALLTOOTH SAWFISH IS SEEN WITHIN A 50-FT RADIUS OF THE EQUIPMENT. ACTIVITIES MAY NOT RESUME UNTIL THE PROTECTED SPECIES HAS DEPARTED THE PROJECT AREA OF ITS OWN VOLITION.
- F. ANY COLLISION WITH AND/OR INJURY TO A SEA TURTLE OR SMALLTOOTH SAWFISH SHALL BE REPORTED IMMEDIATELY TO THE NATIONAL MARINE FISHERIES SERVICE'S PROTECTED RESOURCES DIVISION (727-824-5312) AND THE LOCAL AUTHORIZED SEA TURTLE STRANDING/RESCUE ORGANIZATION.

STANDARD MANATEE CONDITIONS FOR IN-WATER WORK:

THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING CONDITIONS INTENDED TO PROTECT MANATEES FROM DIRECT PROJECT EFFECTS:

- A. ALL PERSONNEL ASSOCIATED WITH THE PROJECT SHALL BE INSTRUCTED ABOUT THE PRESENCE OF MANATEES AND MANATEE SPEED ZONES, AND THE NEED TO AVOID COLLISIONS WITH AND INJURY TO MANATEES. THE CONTRACTOR SHALL ADVISE ALL CONSTRUCTION PERSONNEL THAT THERE ARE CIVIL AND CRIMINAL PENALTIES FOR HARMING, HARASSING, OR KILLING MANATEES WHICH ARE PROTECTED UNDER THE MARINE MAMMAL PROTECTION ACT, THE ENDANGERED SPECIES ACT, AND THE FLORIDA MANATEE SANCTUARY ACT.
- B. ALL VESSELS ASSOCIATED WITH THE CONSTRUCTION PROJECT SHALL OPERATE AT "IDLE SPEED/NO WAKE" AT ALL TIMES WHILE IN THE IMMEDIATE AREA AND WHILE IN WATER WHERE THE DRAFT OF THE VESSEL PROVIDES LESS THAN A FOUR-FOOT CLEARANCE FROM THE BOTTOM. ALL VESSELS WILL FOLLOW ROUTES OF DEEP WATER WHENEVER POSSIBLE.
- C. SILTATION OR TURBIDITY BARRIERS SHALL BE MADE OF MATERIAL IN WHICH MANATEES CANNOT BECOME ENTANGLED, SHALL BE PROPERLY SECURED, AND SHALL BE REGULARLY MONITORED TO AVOID MANATEE ENTANGLEMENT OR ENTRAPMENT. BARRIERS MUST NOT IMPEDE MANATEE MOVEMENT.
- D. ALL ON-SITE PROJECT PERSONNEL ARE RESPONSIBLE FOR OBSERVING WATER-RELATED ACTIVITIES FOR THE PRESENCE OF MANATEES. ALL IN-WATER OPERATIONS, INCLUDING VESSELS, MUST BE SHUTDOWN IF A MANATEE COMES WITHIN 50 FEET OF THE OPERATION. ACTIVITIES WILL NOT RESUME UNTIL THE MANATEE HAS MOVED BEYOND THE 50-FOOT RADIUS OF THE PROJECT OPERATION, OR UNTIL 30 MINUTES ELAPSES IF THE MANATEE HAS NOT REAPPEARED WITHIN 50 FEET OF THE OPERATION. ANIMALS MUST NOT BE HERDED AWAY OR HARASSED INTO LEAVING.
- E. ANY COLLISION WITH OR INJURY TO A MANATEE SHALL BE REPORTED IMMEDIATELY TO THE FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION (FWC) HOTLINE AT 1-888-404-3922. COLLISION AND/OR INJURY SHOULD ALSO BE REPORTED TO THE U.S. FISH AND WILDLIFE SERVICE IN JACKSONVILLE (1-904-731-3336) FOR NORTH FLORIDA OR IN VERO BEACH (1-772-562-3909) FOR SOUTH FLORIDA, AND EMAILED TO FWC AT: IMPERILEDSPESIES@MYFWC.COM.
- F. TEMPORARY SIGNS CONCERNING MANATEES SHALL BE POSTED PRIOR TO AND DURING ALL IN-WATER PROJECT ACTIVITIES. ALL SIGNS ARE TO BE REMOVED BY THE CONTRACTOR UPON COMPLETION OF THE PROJECT. TEMPORARY SIGNS THAT HAVE ALREADY BEEN APPROVED FOR THIS USE BY THE FWC MUST BE USED. ONE SIGN WHICH READS CAUTION: BOATERS MUST BE POSTED. A SECOND SIGN MEASURING AT LEAST 81 2" BY 11" EXPLAINING THE REQUIREMENTS FOR "IDLE SPEED/NO WAKE" AND THE SHUT DOWN OF IN-WATER OPERATIONS MUST BE POSTED IN A LOCATION PROMINENTLY VISIBLE TO ALL PERSONNEL ENGAGED IN WATER-RELATED ACTIVITIES. THESE SIGNS CAN BE VIEWED AT:

[HTTP://WWW.MYFWC.COM/WILDLIFEHABITATS/MANATEE_SIGN_VENDORS.HTM](http://www.myfwc.com/wildlifehabitats/manatee_sign_vendors.htm). QUESTIONS CONCERNING THESE SIGNS CAN BE FORWARDED TO THE EMAIL ADDRESS LISTED ABOVE.



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 Phone: 407.896.0994 Fax: 407.896.4838 www.drmp.com

CONSTRUCTION PLANS FOR

BETHUNE POINT

GENERAL NOTES

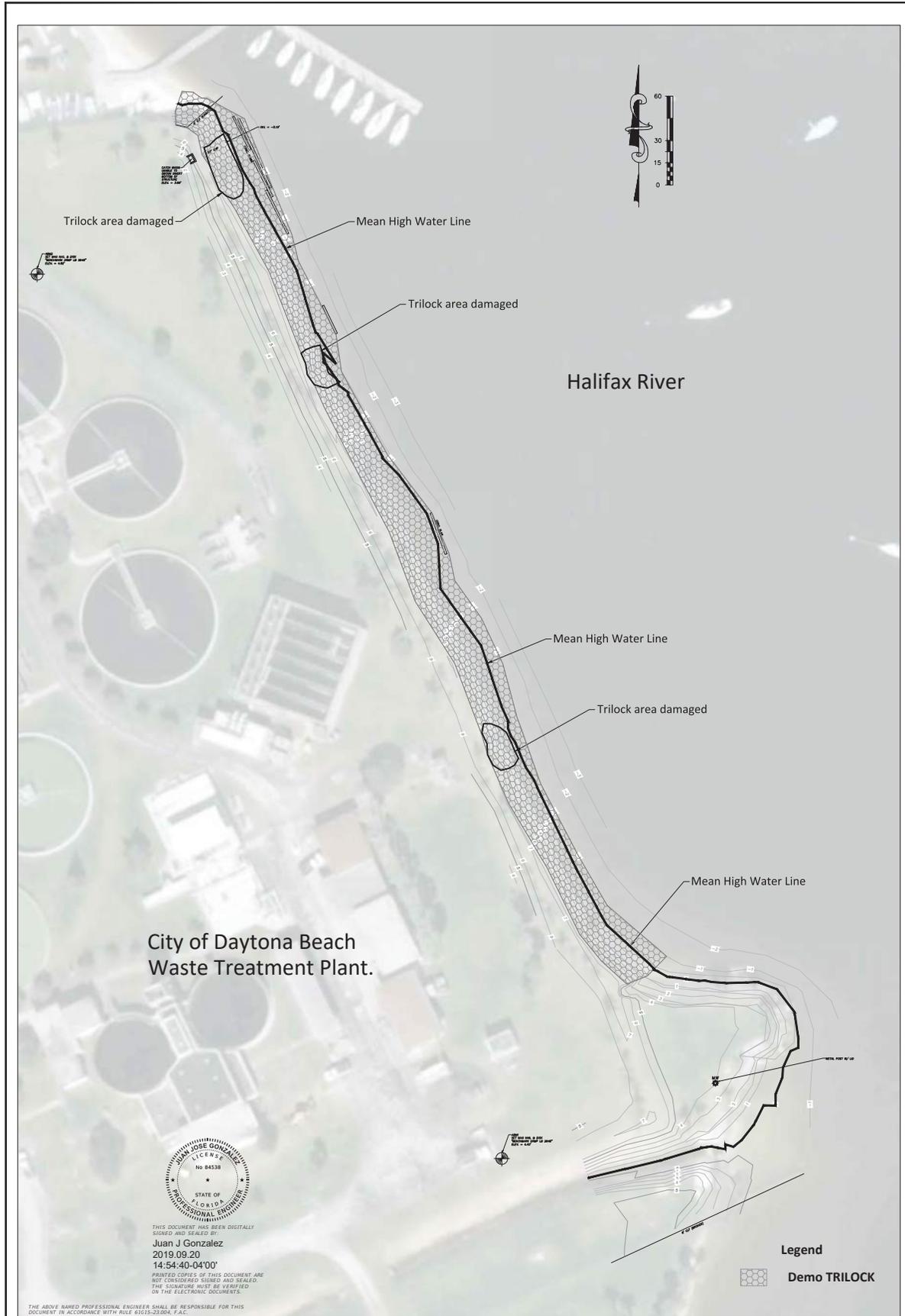
CITY OF DAYTONA BEACH, FLORIDA

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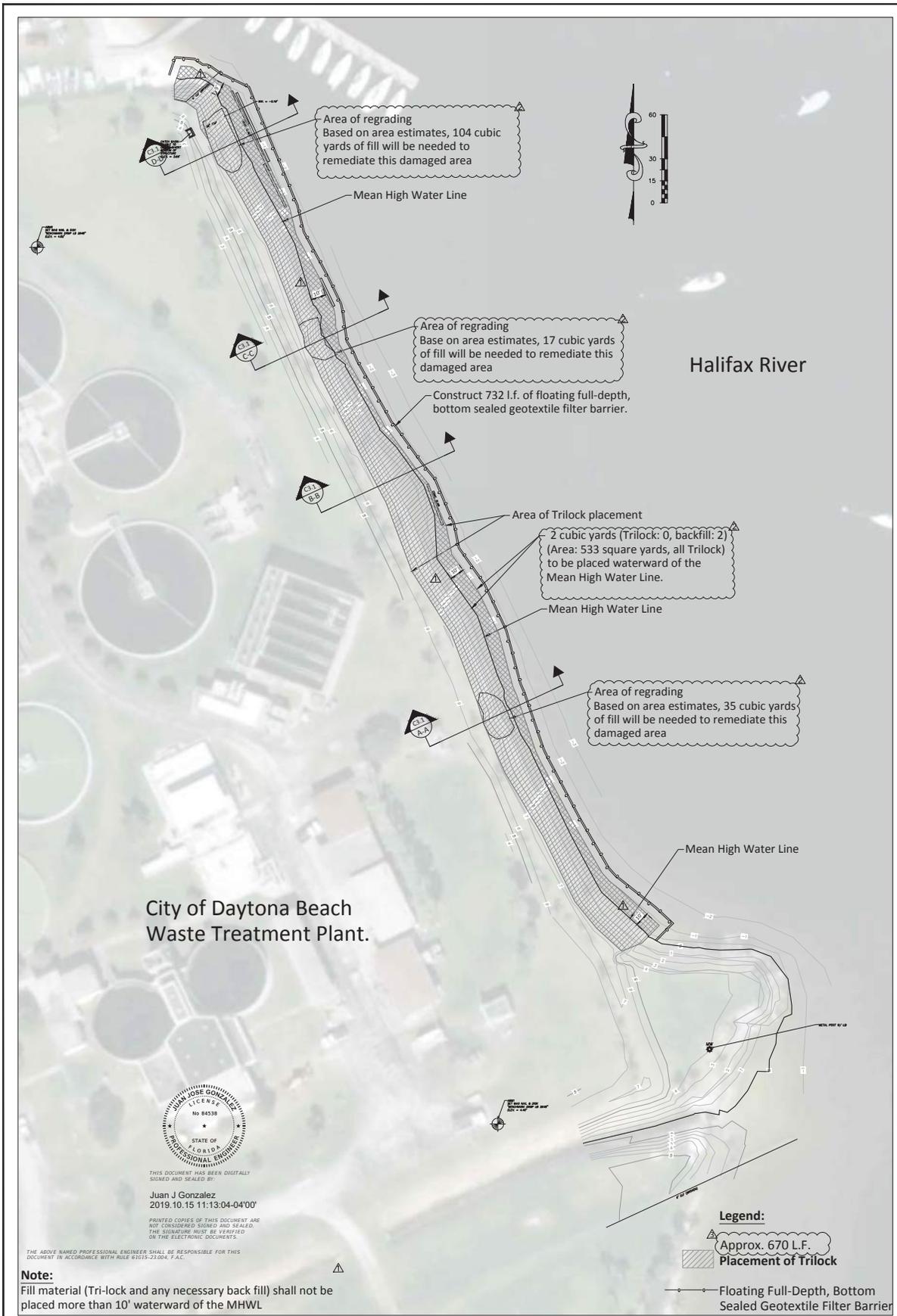
Juan J. Gonzalez, P.E.
 State of Florida # 84538

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City of Daytona Beach
Waste Treatment Plant.



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2019.10.15 11:13:04-04'00"

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THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THIS DOCUMENT IN ACCORDANCE WITH RULE 61E13-21.004, F.A.C.

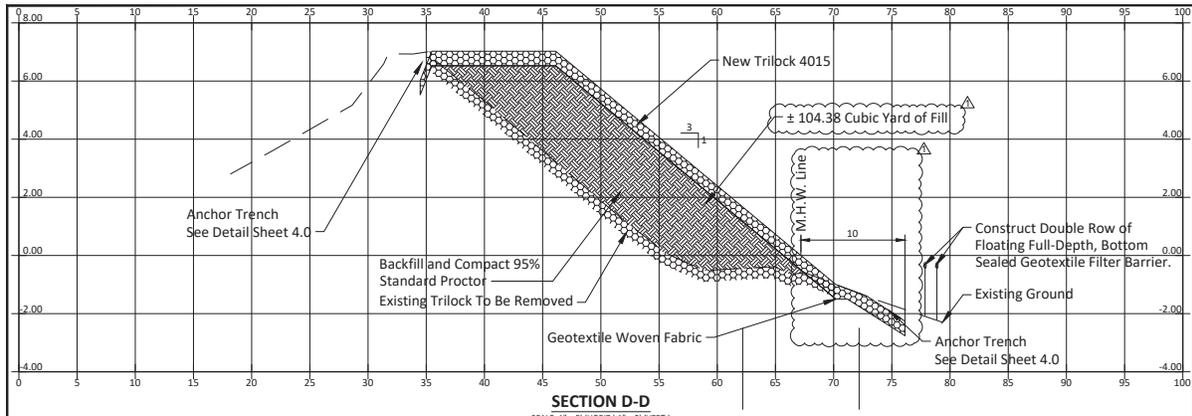
Note:
Fill material (Tri-lock and any necessary back fill) shall not be placed more than 10' waterward of the MHWL

Legend:

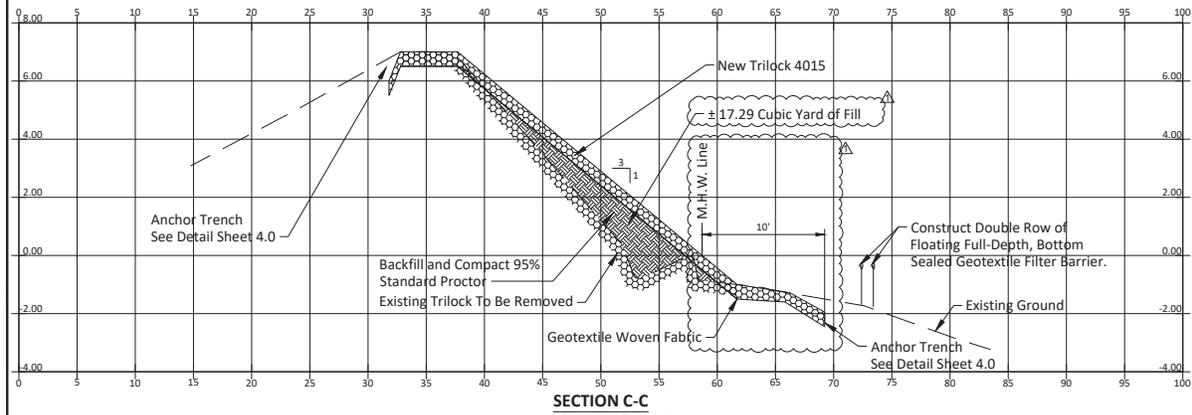
- Approx. 670 L.F. Placement of Trilock
- Floating Full-Depth, Bottom Sealed Geotextile Filter Barrier

DESIGNED BY		REVISIONS			<p>DRMP ENGINEERS • SURVEYORS • PLANNERS • SCIENTISTS</p> <p>Certificate of Authorization No. 2648 941 Lake Baldwin Lane - Orlando, Florida 32814 Phone-407.896.0594 Fax-407.896.4836 WWW.DRMP.COM</p>	CONSTRUCTION PLANS FOR BETHUNE POINT CITY OF DAYTONA BEACH, FLORIDA DO NOT SCALE THIS DRAWING - DIMENSIONS AND NOTES TAKE PREFFERENCE	SITE PLAN	PROJECT NO.:	18-0269.000	
DRAWN BY		NO.	DATE	DESCRIPTION				BY	SCALE:	1" = 30'
CHECKED BY		1	08-09-19	DEP COMMENTS				OG	DATE:	AUGUST, 2019
APPROVED BY		2	05-17-19	DEP COMMENTS				OG	DRAWING:	
		3	10-15-19	DEP COMMENTS				DRP		C3.0

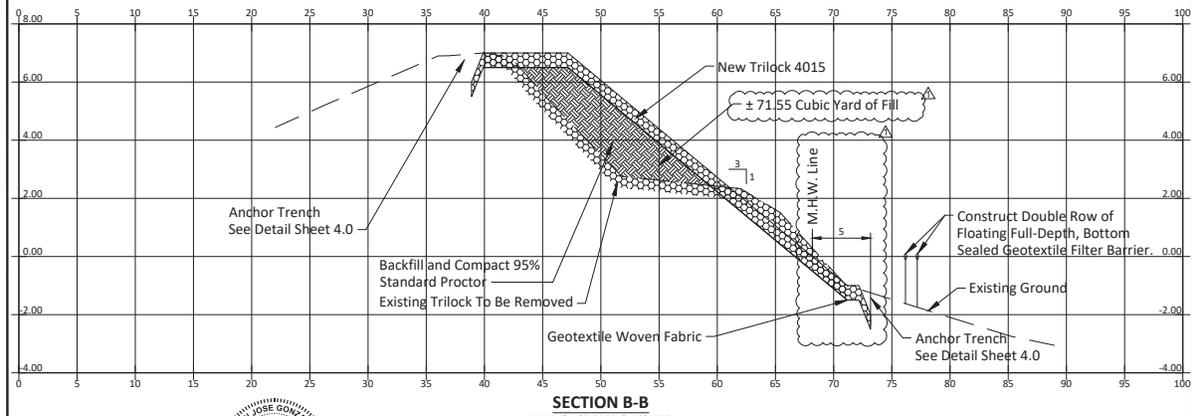
P:\Projects\18-0269.000_City_of_Daytona_Beach_Waste_Water_Treatm\general-civil\Design\Plans\C3.1_Site.dwg Plotted: Sep 20, 2019 - 9:54am by sgeddes



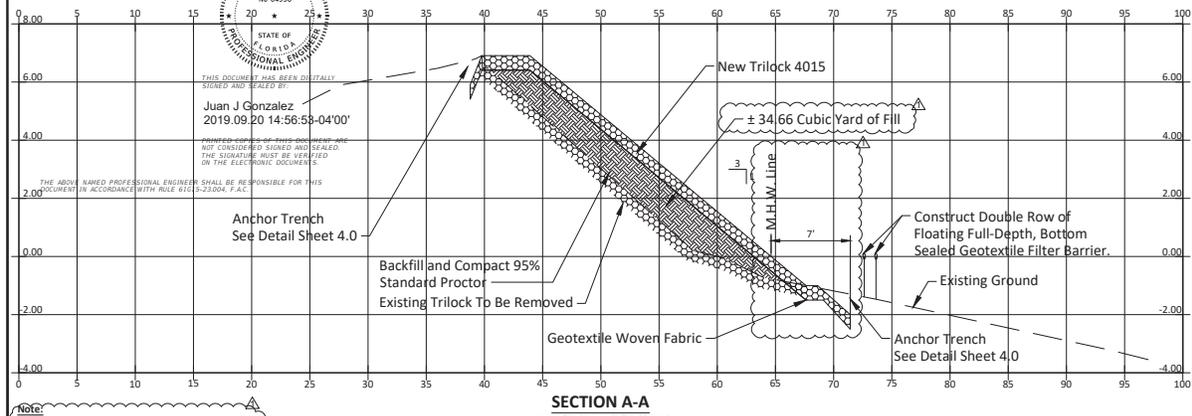
SECTION D-D
SCALE: 1" = 5' (HORIZ.) 1" = 2' (VERT.)



SECTION C-C
SCALE: 1" = 5' (HORIZ.) 1" = 2' (VERT.)



SECTION B-B
SCALE: 1" = 5' (HORIZ.) 1" = 2' (VERT.)



SECTION A-A
SCALE: 1" = 5' (HORIZ.) 1" = 2' (VERT.)

Note: Fill material (Tri-lock and any necessary back fill) shall not be placed more than 10' waterward of the MHWL.



THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY:
 Juan J. Gonzalez
 2019.09.20 14:56:53-04'00"
 POWER-TO-PASS DOCUMENTS ARE NOT CONSIDERED SIGNED AND SEALED. THE SIGNATURE MUST BE VERIFIED ON THE ELECTRONIC DOCUMENT.
 THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THIS DOCUMENT IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

DESIGNED BY	R E V I S I O N S			
NO.	DATE	DESCRIPTION	BY	DATE
1	08-09-19	DEP COMMENTS	GIG	
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APPROVED BY				

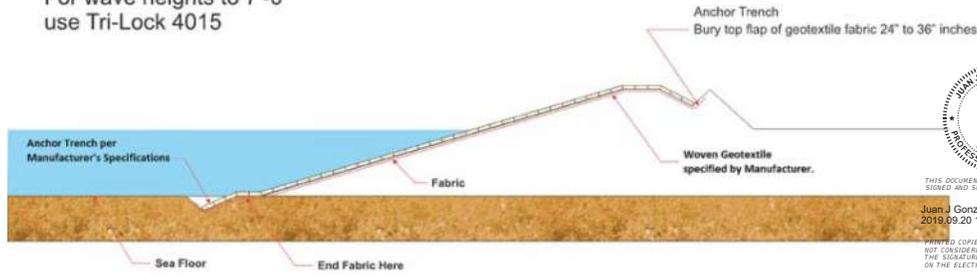
DRMP Inc.
 ENGINEERS • SURVEYORS • PLANNERS • SCIENTISTS
 Certificate of Authorization No. 2648
 941 Lake Baldwin Lane - Orlando, Florida 32814
 Phone: 407.896.0914 Fax: 407.896.4836 www.drmp.com

CONSTRUCTION PLANS FOR
BETHUNE POINT
 CITY OF DAYTONA BEACH, FLORIDA
 DO NOT SCALE THIS DRAWING - DIMENSIONS AND NOTES TAKE PREFERENCE

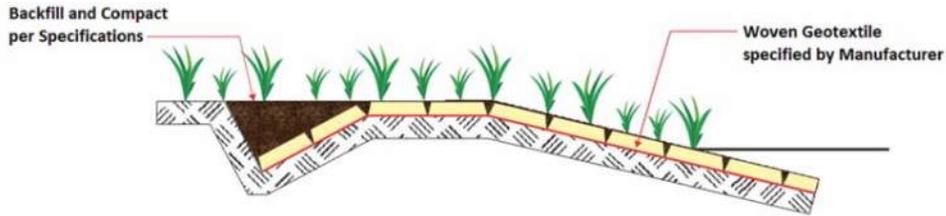
SECTIONS AND DETAILS
 PROJECT NO.: 18-0269.000
 SCALE: AS SHOWN
 DATE: AUGUST, 2019
 DRAWING: **C3.1**
 Juan J. Gonzalez, P.E.
 State of Florida # 84538

P:\Projects\18-0269.000_City_of_Daytona_Beach_Waste_Water_Treatm\general-civil\Design\Plans\C4.0 Detail.dwg Plotted: Sep 20, 2019 - 9:54am by apeddes

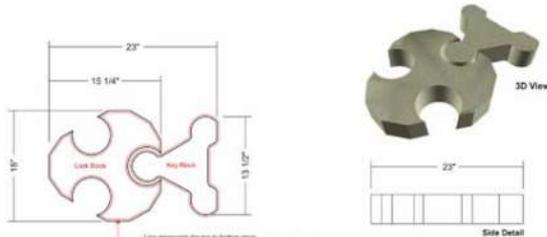
For wave heights to 7'-0"
use Tri-Lock 4015



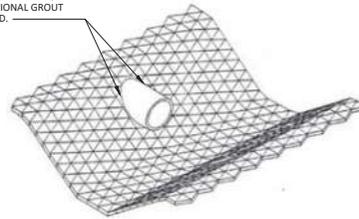
THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY:
Juan J. Gonzalez
 2019.09.20 14:57:44-04'00"
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Tri-Lock Revetment Cross-Section, Typical

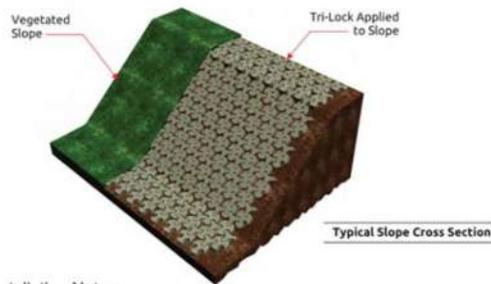


BLOCKS TO BE HAND PLACED AROUND PENETRATION, WITH ADDITIONAL GROUT AS REQUIRED.



Class	Height Inches	Approx. Weight lb/ft ²	Compress Strength Psi	Area Covered sf	Approx Weight Bk. 15 Pair	Open Area	Sq. Ft. Per Pallet
4015	6"	45 lb/ft ²	Min. 4,500	1.54	79	20%	55.44

TYPICAL PIPE PENETRATION THROUGH TRI-LOCK



Installation Notes:

The Slope must be stable independent of the erosion control system and filled slope shall be compacted to not less than 90% density.

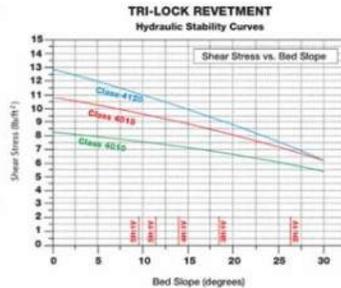
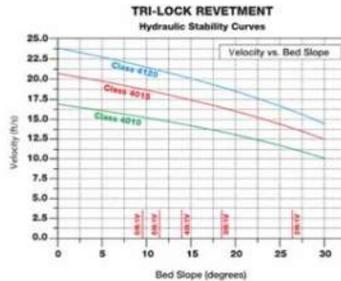
Before placing either the concrete block system or the underlying filter fabric, the slope shall be inspected to insure that it is free from obstructions, such as tree roots projecting stones or other foreign matter. Voids or soft areas should be filled with suitable material and well compacted. Although some variation in contour will be permitted, no sudden changes in level can be accepted. The maximum difference in level between any cuts will be 1.5" hand dress where necessary.

The entire perimeter of the cellular concrete block erosion control system shall be turned into, and buried beneath the adjacent ground level to a depth of not less than three (3) feet, or as shown on the drawings. Any junction with other structures shall be made as noted on drawings, but shall always provide a permanent soil tight joint to prevent the migration of soil between the structures. Grouting if necessary.

Penetrations through the erosion control system may be made by omitting sufficient blocks to provide space for the penetration. It will be necessary to provide extra filter fabric in the form of a tightly fitting flange around the pipe or device so that it may be overlaid with the erosion control system filter fabric. (Minimum overlap 18"). Any voids around the penetration should be filled with grout and floated smooth.

Dress the entire revetment with topsoil. Apply fertilizer and seed with native grass as approved by the engineer. If the drawings do not indicate that revegetation is required, then dress with - crushed rock as approved by the engineer.

NOTE:
 CONTRACTOR SHALL ALSO FOLLOW ANY AND ALL INSTALLATIONS PROCEDURES PROVIDED BY THE MANUFACTURER OF THE REVETMENT MATERIAL.



DESIGNED BY	R E V I S I O N S				<p>DRMP ENGINEERS • SURVEYORS • PLANNERS • SCIENTISTS Certificate of Authorization No. 2648 941 Lake Baldwin Lane - Orlando, Florida 32814 Phone: 407.896.0594 Fax: 407.896.4838 www.drmp.com</p>	CONSTRUCTION PLANS FOR	BETHUNE POINT		PROJECT NO.: 18-0269.000 SCALE: AS SHOWN DATE: AUGUST, 2019 DRAWING: C4.0
DRAWN BY	NO.	DATE	DESCRIPTION	BY		CITY OF DAYTONA BEACH, FLORIDA	DETAIL SHEET TRI LOCK		
CHECKED BY						DO NOT SCALE THIS DRAWING - DIMENSIONS AND NOTES TAKE PREFERENCE	Juan J. Gonzalez, P.E. State of Florida # 84538		
APPROVED BY									

As-Built Certification And Request for Conversion to Operation Phase

Instructions: Complete and submit this page within 30 days of completion of the entire project, or any independent portion of the project, as required by the permit conditions. The operation phase of the permit is effective when the construction certification for the entire permit/application is approved by the Agency. If the final operation and maintenance entity is not the permittee, the permittee shall operate the project, system, works, or other activities temporarily until such time as the transfer to the operation entity is finalized (use Form 62-330.310(2)).

Permit No: _____ Application No: _____ Permittee: _____
 Project Name: _____ Phase or Independent Portion (if applicable): _____

I HEREBY CERTIFY THAT (please check only one box):

- To the best of my knowledge, information, and belief, construction of the project has been completed in substantial conformance with the plans specifications and conditions permitted by the Agency. Any minor deviations will not prevent the project from functioning in compliance with the requirements of Chapter 62-330, F.A.C. Attached are documents to demonstrate satisfaction of the outstanding permit conditions, other than long term monitoring and inspection requirements.
- Construction of the project was NOT completed in substantial conformance with the plans and specifications permitted by the Agency. Any deviations or independent phasing will not prevent the project from functioning in compliance with the requirements of Chapter 62-330, F.A.C. (Contact the permitting agency to determine whether a modification of the permit will be required in accordance with Rule 62-330.315, F.A.C.) Attached is a description of substantial deviations, a set of as-built drawings, and documents to demonstrate satisfaction of the outstanding permit conditions, other than long term monitoring and inspection requirements.
- Construction of the project was NOT completed in substantial conformance with the plans and specifications permitted by the Agency. There are substantial deviations that prevent the project from functioning in compliance with the requirements of Chapter 62-330, F.A.C. I acknowledge that corrections to the project and/or a modification of the permit will likely be required, and that conversion to the operation phase cannot be approved at this time. As-built or record drawings reflecting the substantial deviations are attached.

For activities that require certification by a registered professional:

By: _____ (Print Name) (Fla. Lic. or Reg. No.)
 Signature
 (Company Name) (Company Address)
 (Telephone Number) (Email Address)

AFFIX SEAL

(Date)

For activities that do not require certification by a registered professional:

By: _____ (Print Name)
 Signature
 (Company Name) (Company Address)



(Telephone Number)

(Email Address)

(Date)



Drawings and Information Checklist

Following is a list of information that is to be verified and/or submitted by the Registered Professional or Permittee:

1. All surveyed dimensions and elevations shall be certified by a registered Surveyor or Mapper under Chapter 472, F.S.
2. The registered professional's certification shall be based upon on-site observation of construction (scheduled and conducted by the registered professional of record or by a project representative under direct supervision) and review of as-built drawings, with field measurements and verification as needed, for the purpose of determining if the work was completed in accordance with original permitted construction plans, specifications, and conditions.
3. If submitted, the as-built drawings are to be based on the permitted construction drawings revised to reflect any substantial deviations made during construction. Both the original design and constructed condition must be clearly shown. The plans need to be clearly labeled as "as-built" or "record" drawings that clearly highlight (such as through "red lines" or "clouds") any substantial deviations made during construction. As required by law, all surveyed dimensions and elevations required shall be verified and signed, dated, and sealed by an appropriate registered professional. The following information, at a minimum, shall be verified on the as-built drawings and supplemental documents if needed:
 - a. Discharge structures - Locations, dimensions and elevations of all, including weirs, orifices, gates, pumps, pipes, and oil and grease skimmers;
 - b. Detention/Retention Area(s) – Identification number, size in acres, side slopes (h:v), dimensions, elevations, contours, or cross-sections of all, sufficient to determine stage-storage relationships of the storage area and the permanent pool depth and volume below the control elevation for normally wet systems,
 - c. Side bank and underdrain filters, or exfiltration trenches - locations, dimensions, and elevations of all, including clean-outs, pipes, connections to control structures, and points of discharge to receiving waters;
 - d. System grading - dimensions, elevations, contours, final grades, or cross-sections to determine contributing drainage areas, flow directions, and conveyance of runoff to the system discharge point(s);
 - e. Conveyance - dimensions, elevations, contours, final grades, or cross-sections of systems utilized to divert off-site runoff around or through the new system;
 - f. Benchmark(s) - location and description (minimum of one per major water control structure);
 - g. Datum- All elevations should be referenced to a vertical datum clearly identified on the plans, preferably the same datum used in the permit plans.
4. Wetland mitigation or restoration areas - Show the plan view of all areas, depicting a spatial distribution of plantings conducted by zone (if plantings are required by permit), with a list showing all species planted in each zone, numbers of each species, sizes, date(s) planted, and identification of source of material; also provide the dimensions, elevations, contours, and representative cross-sections depicting the construction.
5. A map depicting the phase or independent portion of the project being certified, if all components of the project authorized in the permit are not being certified at this time.
6. Any additional information or outstanding submittals required by permit conditions or to document permit compliance, other than long-term monitoring or inspection requirements.

Request for Transfer of Environmental Resource Permit to the Perpetual Operation and Maintenance Entity

Instructions: Complete this form to transfer to the permit to the operation and maintenance entity. This form can be completed concurrently with, or within 30 days of approval of, the As-Built Certification and Request for Conversion to Operation Phase (Form 62-330.310(1)). Please include all documentation required under Section 12.2.1(b) of Applicant's Handbook Volume I (see checklist below). **Failure to submit the appropriate final documents will result in the permittee remaining liable for operation and maintenance of the permitted activities.**

Permit No.: _____ Application No(s): _____
 Project Name: _____ Phase (if applicable): _____

A. **Request to Transfer:** The permittee requests that the permit be transferred to the legal entity responsible for operation and maintenance (O&M).

By: _____
 Signature of Permittee _____ Name and Title _____

 Company Name _____ Company Address _____

 Phone/email address _____ City, State, Zip _____

B. **Agreement for System Operation and Maintenance Responsibility:** The below-named legal entity agrees to operate and maintain the works or activities in compliance with all permit conditions and provisions of Chapter 62-330, Florida Administrative Code (F.A.C.) and Applicant's Handbook Volumes I and II.

The operation and maintenance entity does not need to sign this form if it is the same entity that was approved for operation and maintenance in the issued permit.

Authorization for any proposed modification to the permitted activities shall be applied for and obtained prior to conducting such modification.

By: _____
 Signature of Representative of O&M Entity _____ Name of Entity for O&M _____

 Name and Title _____ Address _____

 Email Address _____ City, State, Zip _____

 Phone _____ Date _____

Enclosed are the following documents, as applicable:

- Copy of recorded transfer of title to the operating entity for the common areas on which the stormwater management system is located (unless dedicated by plat)
- Copy of all recorded plats
- Copy of recorded declaration of covenants and restrictions, amendments, and associated exhibits
- Copy of filed articles of incorporation (if filed before 1995)
- A Completed documentation that the operating entity meets the requirements of Section 12.3 of Environmental Resource Permit Applicant's Handbook Volume I. (Note: this is optional, but aids in processing of this request)





REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
COCOA PERMIT SECTION
400 HIGH POINT DR., SUITE 600
COCOA, FLORIDA 32926

August 20, 2019

CESAJ-RD
SAJ-2019-02149 (NW-BAB)

City of Daytona Beach
ATTN: Mr. Jim Nelson
950 Bellevue Ave.
Daytona Beach, FL 32114

Dear Mr. Nelson:

The U.S. Army Corps of Engineers (Corps) assigned your application for a Department of the Army permit, which the Corps received on June 18, 2019, the file number SAJ-2019-0214. A review of the information and drawings provided indicates that the proposed work is to repair and replace a shoreline stabilization system (670 linear feet). The project is located in Bethune Point, City of Daytona Beach, Volusia County, Florida.

Latitude 29.19779, Longitude -81.00698.

Your project, as depicted on the enclosed drawings, is authorized by Nationwide Permit (NWP) Number 3. In addition, project specific conditions have been enclosed. This verification is valid until **March 18, 2022**. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant nationwide permit is modified or revoked, you will have 12 months from the date of the modification or revocation of the NWP to complete the activity under the present terms and conditions of this nationwide permit. Please access the U.S. Army Corps of Engineers' (Corps) Jacksonville District's Regulatory Internet page to access Internet links to view the Final Nationwide Permits, Federal Register Vol. 82, dated January 6, 2017, specifically pages 1983 to 2008, and the table of Regional Conditions. The Internet page address is:

<http://www.saj.usace.army.mil/Missions/Regulatory.aspx>

Please be aware this Internet address is case sensitive and should be entered as it appears above. Once there you will need to click on "Source Book"; and, then click on "Nationwide Permits." These files contain the description of the Nationwide Permit authorization, the Nationwide Permit general conditions, and the regional conditions, which apply specifically to this verification for NWP 3. Enclosed is a list of the General Conditions, which apply to all Department of the Army authorizations. You must comply with all of the special and general conditions and any project specific condition of this

authorization or you may be subject to enforcement action. In the event you have not completed construction of your project within the specified time limit, a separate application or re-verification may be required.

The following special conditions are included with this verification:

1. Reporting Address: All reports, documentation and correspondence required by the conditions of this permit shall be submitted to the following address: SAJ-RD-ENFORCEMENT@USACE.ARMY.MIL or U.S. Army Corps of Engineers, Regulatory Division, Enforcement Section, P. O. Box 4970, Jacksonville, FL 32232. The Permittee shall reference this permit number SAJ-2019-02149, (NW-BAB) on all submittals.

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

3. Completion Notification: Within 60 days of completion of the work authorized, the attached "Self-Certification Statement of Compliance" must be completed and submitted to the U.S. Army Corps of Engineers.

4. Project Design Criteria (PDCs) For In-Water Activities: The Permittee shall comply with National Marine Fisheries Service's "PDCs for In-Water Activities" dated November 20, 2017 (Attached).

5. Daylight Hours: All activities must be completed during daylight hours

6. Manatee Conditions: The Permittee shall comply with the "Standard Manatee Conditions for In-Water Work – 2011" provided in attachments.

7. Sea Turtle and Smalltooth Sawfish Conditions: The Permittee shall comply with National Marine Fisheries Service's "Sea Turtle and Smalltooth Sawfish Construction Conditions" dated March 23, 2006, and provided in attachments.

8. Turbidity controls:

- a. Shall be used throughout construction to control erosion and siltation if necessary and ensure that turbidity levels within the project area do not exceed background conditions.
- b. Shall be made of material in which listed species cannot become entangled (i.e., reinforced impermeable polycarbonate vinyl fabric [PVC]), and shall be monitored to ensure listed species are not entangled or trapped in the project area.

- c. Shall be removed promptly when the work is complete and the water quality in the project area has returned to background conditions.

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

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

11. Cultural Resources/Historic Properties:

- a. No structure or work shall adversely affect impact or disturb properties listed in the National Register of Historic Places (NRHP) or those eligible for inclusion in the NRHP.

- b. If during the ground disturbing activities and construction work within the permit area, there are archaeological/cultural materials encountered which were not the subject of a previous cultural resources assessment survey (and which shall include, but not be limited to: pottery, modified shell, flora, fauna, human remains, ceramics, stone tools or metal implements, dugout canoes, evidence of structures or any other physical remains that could be associated with Native American cultures or early colonial or American settlement), the Permittee shall immediately stop all work and ground-disturbing activities within a 100-meter diameter of the discovery and notify the Corps within the same business day (8 hours). The Corps shall then notify the Florida State Historic Preservation Officer (SHPO) and the appropriate Tribal Historic Preservation Officer(s) (THPO(s)) to assess the significance of the discovery and devise appropriate actions.

- c. Additional cultural resources assessments may be required of the permit area in the case of unanticipated discoveries as referenced in accordance with the above Special Condition ; and if deemed necessary by the SHPO, THPO(s), or Corps, in accordance with 36 CFR 800 or 33 CFR 325, Appendix C (5). Based, on the

circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend or revoke the permit in accordance with 33 CFR Part 325.7. Such activity shall not resume on non-federal lands without written authorization from the SHPO for finds under his or her jurisdiction, and from the Corps.

d. In the unlikely event that unmarked human remains are identified on non-federal lands, they will be treated in accordance with Section 872.05 Florida Statutes. All work and ground disturbing activities within a 100-meter diameter of the unmarked human remains shall immediately cease and the Permittee shall immediately notify the medical examiner, Corps, and State Archeologist within the same business day (8- hours). The Corps shall then notify the appropriate SHPO and THPO(s). Based, on the circumstances of the discovery, equity to all parties, and considerations of the public interest, the Corps may modify, suspend or revoke the permit in accordance with 33 CFR Part 325.7. Such activity shall not resume without written authorization from the State Archeologist and from the Corps.

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

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

If you are unable to access the internet or require a hardcopy of any of the conditions, limitations, or expiration date for the above referenced Regional General Permit, please contact me at the letterhead address, by telephone at 321-504-3771 ext. 26, or by email at beverly.a.barta@usace.army.mil. Thank you for your cooperation with our permit program. The Corps Jacksonville District Regulatory Division is committed to improving service to our customers.

Sincerely,

Beverly Barta
Project Manager

Enclosures

Cc: Applicant, nelsonjamescodb.us
Agent, mbazemore@drmp.com
bcc:CESAJ-RD-PE

GENERAL CONDITIONS
33 CFR PART 320-330

1. The time limit for completing the work authorized ends on **March 18, 2022**.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow a representative from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

DEPARTMENT OF THE ARMY PERMIT TRANSFER REQUEST

PERMIT NUMBER: SAJ-2019-02149 (NW BAB)

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

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

(TRANSFEREE-SIGNATURE)

(SUBDIVISION)

(DATE)

(LOT) _____
(BLOCK)

(NAME-PRINTED)

(STREET ADDRESS)

(MAILING ADDRESS)

(CITY, STATE, ZIP CODE)

SELF-CERTIFICATION STATEMENT OF COMPLIANCE

Permit Number: SAJ-2019-02149

Complete, sign and send to: SAJ-RD-Enforcement@usace.army.mil

Permittee's Name & Address (please print or type):

Telephone Number: _____

Location of the Work: _____

Date Work Started: _____ Date Work Completed: _____

PROPERTY IS INACCESSIBLE WITHOUT PRIOR NOTIFICATION: YES _____ NO _____

TO SCHEDULE AN INSPECTION PLEASE CONTACT _____

Description of the Work (e.g. bank stabilization, residential or commercial filling, docks, dredging, etc.):

Acreage or Square Feet of Impacts to Waters of the United States: _____

Describe Mitigation completed (if applicable): _____

Describe any Deviations from Permit (attach drawing(s) depicting the deviations):

I certify that all work, and mitigation (if applicable) was done in accordance with the limitations and conditions as described in the permit. Any deviations as described above are depicted on the attached drawing(s).

Signature of Permittee

Date

CONSTRUCTION PLANS

for

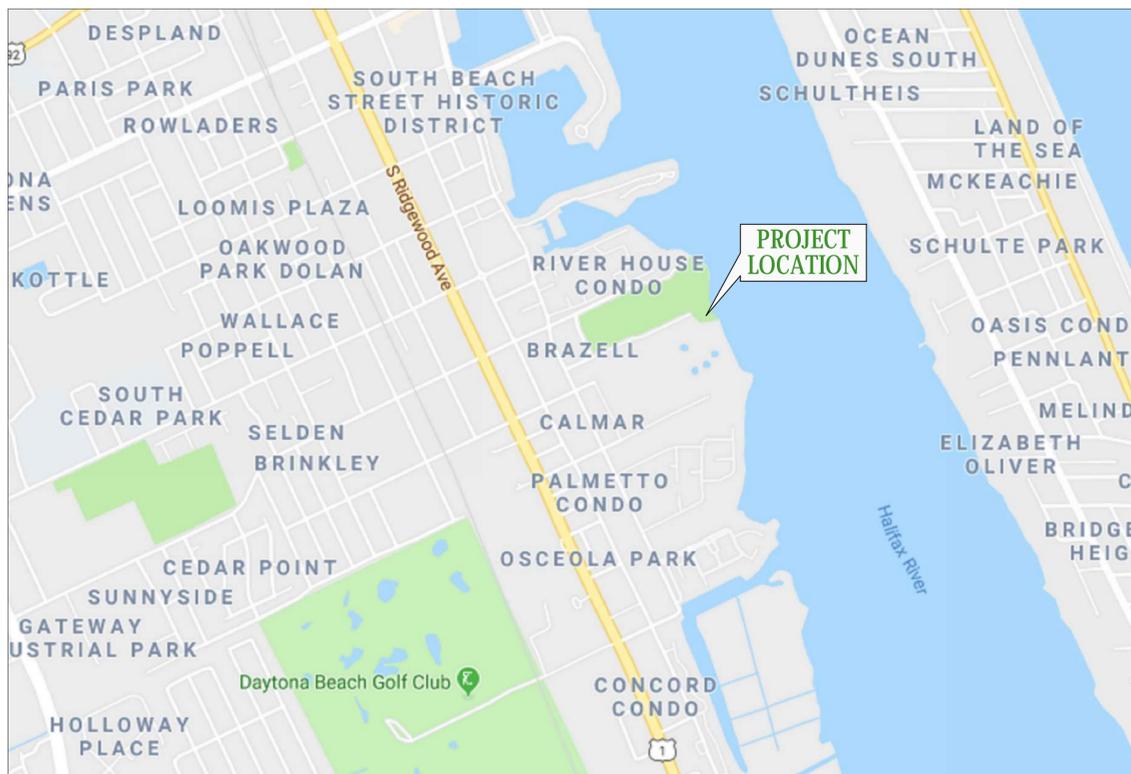
BETHUNE POINT

SHORELINE RESTORATION

CITY of DAYTONA BEACH, FLORIDA

VICINITY MAP

SCALE: 1" = 1000'



PROJECT SHEET INDEX

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C4.0	DETAIL SHEET	

CONSULTANT CONTACTS:

SURVEY
 DRMP, INC.
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 JOE BISHOP 407-896-0594

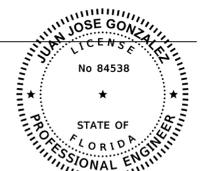
CIVIL ENGINEERING
 DRMP, INC.
 941 LAKE BALDWIN LANE
 ORLANDO, FL 32814
 JUAN J. GONZALEZ, P.E. 407-896-0594



941 LAKE BALDWIN LANE, ORLANDO, FL 32814

MAY, 2019

DRMP PROJECT NO. 18-0269.000



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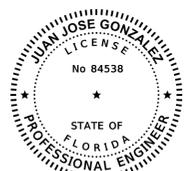
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DESIGNED BY		R E V I S I O N S			 ENGINEERS • SURVEYORS • PLANNERS • SCIENTISTS Certificate of Authorization No. 2648 941 Lake Baldwin Lane - Orlando, Florida 32814 Phone: 407.896.0594 Fax: 407.896.4836 www.DRMP.COM	CONSTRUCTION PLANS FOR BETHUNE POINT CITY OF DAYTONA BEACH, FLORIDA	COVER SHEET AND INDEX OF DRAWINGS	PROJECT NO.: 18-0269.000 SCALE: AS SHOWN DATE: JUNE, 2018 DRAWING: C1.0
DRAWN BY		NO.	DATE	DESCRIPTION	BY	DO NOT SCALE THIS DRAWING - DIMENSIONS AND NOTES TAKE PREFERENCE	Juan J. Gonzalez, P.E. State of Florida # 84538	
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APPROVED BY								

GENERAL NOTES

1. UNLESS OTHERWISE SPECIFIED, ALL WORK SHALL BE PERFORMED CONSISTENT WITH THE FOLLOWING SPECIFICATIONS:
 - CITY OF DAYTONA BEACH
 - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
 - ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
2. THIS DESIGN HAS BEEN BASED UPON GROUND-RUN TOPOGRAPHIC SURVEYS BY DRMP INC. GEOTECHNICAL EVALUATION HAS BEEN PERFORMED BY GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS INC. MAKES NO ASSURANCES REGARDING THE ACCURACY OF EITHER SUCH EVALUATION.
3. CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE SITE, INCLUDING ALL SURFACE AND SUBSURFACE CONDITIONS, THE WORK REQUIRED AND ALL OTHER CONDITIONS THAT MAY AFFECT THE SUCCESSFUL COMPLETION OF THE JOB PRIOR TO COMMENCEMENT OF WORK.
4. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND PERMIT CONDITIONS BEARING ON THE CONDUCT OF THE WORK, AS DRAWN AND SPECIFIED. IF THE CONTRACTOR OBSERVES THAT THE DRAWINGS AND SPECIFICATIONS ARE AT VARIANCE THEREWITH, HE SHALL PROMPTLY NOTIFY THE ENGINEER, IN WRITING, AND ANY NECESSARY CHANGES SHALL BE ADJUSTED, AS PROVIDED IN THE AGREEMENT FOR CHANGES IN THE WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE TO THE OWNER AND THE ENGINEER FOR THE ACTS AND OMISSIONS OF CONTRACTOR'S EMPLOYEES AND ALL HIS SUBCONTRACTORS AND THEIR AGENTS AND EMPLOYEES AND OTHER PERSONS PERFORMING ANY OF THE WORK UNDER A CONTRACT WITH THE CONTRACTOR.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL NECESSARY ARRANGEMENTS WITH GOVERNMENTAL DEPARTMENTS, PUBLIC UTILITIES, PUBLIC CARRIERS, SERVICE COMPANIES, AND CORPORATIONS OWNING OR CONTROLLING ROADWAYS, RAILWAYS, WATER, SEWER, GAS, ELECTRICAL, TELEPHONE, AND TELEGRAPH FACILITIES SUCH AS PAVEMENTS, TRACKS, PIPING, WIRES, CABLES, CONDUITS, POLES, GUYS, OR OTHER SIMILAR FACILITIES, INCLUDING INCIDENTAL STRUCTURES CONNECTED THEREWITH THAT ARE ENCOUNTERED IN THE WORK IN ORDER THAT SUCH ITEMS MAY BE PROPERLY SUPPORTED, PROTECTED OR LOCATED.
7. UNLESS OTHERWISE SPECIFIED IN THE GENERAL CONDITIONS, ALL CONSTRUCTION IS TO BE GOVERNED BY THE PLANS, APPLICABLE PERMITS, AND SPECIFICATIONS HEREIN, AND ALL APPLICABLE FEDERAL, STATE AND LOCAL BUILDING AND SAFETY CODES, LAWS AND ORDINANCES.
8. PRIOR TO PERFORMING ANY WORK WITHIN ANY PUBLIC OR UTILITY RIGHT-OF-WAY, CONTRACTOR SHALL OBTAIN AUTHORIZATION AND PERMIT FROM JURISDICTION RESPONSIBLE FOR SUCH RIGHT-OF-WAY. IN ADDITION, CONTRACTOR SHALL OBTAIN GAS I.D. NUMBER FROM LOCAL GAS COMPANY AND NOTIFY UNDERGROUND UTILITIES, NOTIFICATION CENTER AT 1-800-432-4770 AT LEAST 72 HOURS PRIOR TO START OF WORK.
9. PRIOR TO PERFORMING ANY WORK WITHIN ANY PUBLIC RIGHT-OF-WAY, CONTRACTOR SHALL DEVELOP AND IMPLEMENT A TRAFFIC CONTROL PLAN CONSISTENT WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION, AND SUBMIT TO THE ENGINEER FOR APPROVAL.
10. IN THE EVENT THE CONTRACTOR DISCOVERS ANY ERRORS OR OMISSIONS IN THE PLANS HE SHALL IMMEDIATELY NOTIFY THE OWNER OR OWNER'S AGENT.
11. CONTRACTOR SHALL PRESERVE AND PROTECT ALL PERMANENT REFERENCE MONUMENTS, PERMANENT CONTROL POINTS, PERMANENT BENCH MARKS AND PROPERTY CORNERS. IN THE EVENT THE MONUMENTS, POINTS OR MARKERS ARE DISTURBED THE CONTRACTOR SHALL EMPLOY A FLORIDA REGISTERED LAND SURVEYOR TO RESET OR REPLACE THEM.
12. THE OWNER, OWNER'S AGENT AND INSPECTORS OF APPLICABLE GOVERNMENT JURISDICTIONS, SHALL AT ALL TIMES HAVE ACCESS TO THE WORK WHEREVER AND WHENEVER IT IS IN PREPARATION OR PROGRESS; AND THE CONTRACTOR SHALL PROVIDE PROPER FACILITIES FOR SUCH ACCESS AND FOR THE INSPECTION.
13. IT IS THE CONTRACTOR'S RESPONSIBILITY TO TAKE ALL REASONABLE AND PRUDENT PRECAUTIONS TO INSURE THAT ALL COMPLETED WORK, MATERIALS AND EQUIPMENT STORED ON SITE ARE SAFE AND SECURED FROM UNAUTHORIZED ACCESS OR USE. SUCH PRECAUTIONS MAY INCLUDE INSTALLATION OF SIGNS, FENCES, OR POSTING OF SECURITY GUARDS.
14. CONTRACTOR SHALL, AT ALL TIMES, UTILIZE ALL NORMALLY ACCEPTED AND REASONABLY EXPECTED SAFETY PRACTICES AND COMPLY WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND GUIDELINES PERTAINING TO SAFE UTILIZATION OF EQUIPMENT OR MATERIALS AS PUBLISHED BY MANUFACTURER.
15. PRIOR TO INITIATING ANY EXCAVATION (INCLUDING BUT NOT LIMITED TO TUNNELS, DITCHES, STORM WATER PONDS, CANALS, ARTIFICIAL LAKES) CONTRACTOR SHALL INSTALL FENCES AND TAKE ALL OTHER REASONABLE AND PRUDENT STEPS TO INSURE THAT ACCESS TO EXCAVATION BY UNAUTHORIZED PERSONNEL IS PREVENTED.
16. CONTRACTOR SHALL COMPLY IN EVERY RESPECT WITH THE PROVISIONS OF THE FLORIDA STATE TRENCH SAFETY ACT.
- 17.1 THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS FOR THE SAFETY OF, AND SHALL PROVIDE ALL REASONABLE PROTECTION TO PREVENT DAMAGE, INJURY OR LOSS TO:
 - A. ALL EMPLOYEES ON THE WORK AND ALL OTHER PERSONS WHO MAY BE AFFECTED THEREBY;
 - B. ALL THE WORK AND ALL MATERIALS AND EQUIPMENT TO BE INCORPORATED THEREIN, WHETHER IN STORAGE ON OR OFF THE SITE, UNDER THE CARE, CUSTODY OR CONTROL OF THE CONTRACTOR OR ANY OF ITS SUBCONTRACTORS;
 - C. OTHER PROPERTY AT THE SITE OR ADJACENT THERETO, INCLUDING TREES, SHRUBS, LAWNS, WALKS, PAVEMENTS, ROADWAY, STRUCTURES AND UTILITIES NOT DESIGNATED FOR DEMOLITION IN THE COURSE OF CONSTRUCTION.
- 17.2 THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY CODES AND WITH ALL APPLICABLE LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC, QUASI PUBLIC OR OTHER AUTHORITY HAVING JURISDICTION FOR THE SAFETY OF PERSONS OR PROPERTY OR FOR THEIR PROTECTION AGAINST DAMAGE, INJURY OR LOSS, OR DESIGNED TO PROTECT THE ENVIRONMENT. THE CONTRACTOR SHALL ERECT AND MAINTAIN, AS REQUIRED BY EXISTING CONDITIONS AND PROGRESS OF THE WORK, ALL REASONABLE SAFEGUARDS FOR SAFETY AND PROTECTION, INCLUDING POSTING DANGER SIGNS AND OTHER WARNINGS AGAINST HAZARDS, PROMULGATING SAFETY REGULATIONS AND NOTIFYING OWNERS AND USERS OF ADJACENT UTILITIES OF THE EXISTENCE OF HAZARDS AND OF THE SAFETY REGULATIONS.
- 17.3 ALL DAMAGE OR LOSS TO ANY PROPERTY REFERRED TO IN CLAUSES 17.1(B) AND 17.1(C) CAUSED IN WHOLE OR IN PART BY THE CONTRACTOR, A SUBCONTRACTOR, OR BY ANYONE FOR WHOSE ACTS ANY OF THEM MAY BE LIABLE, SHALL BE REMEDIED BY THE CONTRACTOR, EXCEPT DAMAGE OR LOSS PROPERLY ATTRIBUTABLE SOLELY TO THE ACTS OR OMISSIONS OF THE OWNER, OR THE ENGINEER OR ANYONE EMPLOYED BY THEM, OR FOR WHOSE ACTS ANY OF THEM MAY BE LIABLE, AND NOT PROPERLY ATTRIBUTABLE IN WHOLE OR IN PART, TO THE FAULT OR NEGLIGENCE OF THE CONTRACTOR.
- 17.4 UNTIL FINAL ACCEPTANCE OF THE WORK BY OWNER, THE CONTRACTOR SHALL HAVE THE CHARGE AND CARE OF AND SHALL BEAR THE RISK OF INJURY OR DAMAGE, LOSS OR EXPENSE TO ANY PART THEREOF, OR TO ANY MATERIALS STORED ON SITE, BY THE ACTION OF THE ELEMENTS OR FROM ANY OTHER CAUSE WHETHER ARISING FROM THE EXECUTION OR NON-EXECUTION OF THE WORK, THE CONTRACTOR SHALL REBUILD, REPAIR, RESTORE AND MAKE GOOD ALL INJURIES OR DAMAGES TO ANY PORTION OF THE WORK OCCASIONED BY ANY OF THE ABOVE CAUSES BEFORE FINAL ACCEPTANCE AND SHALL BEAR THE EXPENSES THEREOF.
- 17.5 THE CONTRACTOR SHALL NOT LOAD OR PERMIT ANY PART OF THE WORK TO BE LOADED SO AS TO ENDANGER ITS SAFETY. NO LOAD SHALL BE PLACED ON A ROOF WITHOUT THE APPROVAL OF THE OWNER OR ENGINEER.
- 17.6 THOSE PARTS OF WORK IN PLACE WHICH ARE SUBJECT TO DAMAGE BECAUSE OF OPERATIONS BEING CARRIED ON ADJACENT THERETO SHALL BE COVERED, BOARDED UP OR SUBSTANTIALLY ENCLOSED WITH ADEQUATE PROTECTION BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE.
- 17.7 PERMANENT OPENINGS USED AS THOROUGHFARES FOR THE INTRODUCTION OF WORK AND MATERIALS TO

- THE STRUCTURE SHALL HAVE HEADS, JAMBS AND SILLS WELL BLOCKED AND BOARDED BY THE CONTRACTOR. OWNER RETAINS THE AUTHORITY, BUT ASSUMES NO DUTY, TO ESTABLISH STANDARDS OF PROTECTION, AND TO REVIEW THE EFFICIENCY OF PROTECTIVE MEASURES TAKEN BY THE CONTRACTOR.
- 17.8 ADEQUATE TRAFFIC CONTROL, BARRICADES AND FLAGMAN SERVICES SHALL BE FURNISHED AND MAINTAINED BY THE CONTRACTOR AT ALL POINTS WHERE CONVEYING EQUIPMENT ENGAGED ON THE WORK REGULARLY ENTERS INTO OR CROSSES TRAFFIC-CARRYING ROADS.
 - 18.1 THE CONTRACTOR SHALL COMPLY IN EVERY RESPECT WITH THE FEDERAL OCCUPATIONAL HEALTH AND SAFETY ACT OF 1970 AND ALL RULES AND REGULATIONS NOW OR HEREAFTER IN EFFECT UNDER SAID ACT, AND THE CONTRACTOR FURTHER AGREES TO COMPLY WITH ANY AND ALL APPLICABLE STATE LAWS AND REGULATIONS PERTAINING TO JOB SAFETY AND HEALTH.
 - 18.2 THE CONTRACTOR SHALL PROTECT AND KEEP OWNER (INCLUDING THEIR AGENTS AND EMPLOYEES) FREE AND HARMLESS FROM ANY AND ALL LIABILITY, PUBLIC OR PRIVATE, PENALTIES, CONTRACTUAL OR OTHERWISE, LOSSES, DAMAGES, COSTS, ATTORNEY'S FEES, EXPENSES, CAUSES OF ACTION, CLAIMS OR JUDGMENTS RESULTING FROM THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AS AMENDED OR ANY RULE OR REGULATION PROMULGATED THEREUNDER OR OF ANY STATE LAWS OR REGULATIONS PERTAINING TO JOB SAFETY AND HEALTH ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE PERFORMANCE OF WORK OR WORK TO BE PERFORMED UNDER THIS CONTRACT, AND CONTRACTOR SHALL INDEMNIFY OWNER FROM ANY SUCH CLAIMS, PENALTIES, SUITS OR ACTIONS, PUBLIC OR PRIVATE, ADMINISTRATIVE OR JUDICIAL, INCLUDING ATTORNEY'S FEES PAID OR INCURRED BY OR ON BEHALF OF OWNER, JOINTLY OR SEVERALLY, AND/OR THEIR AGENTS AND EMPLOYEES. THE CONTRACTOR FURTHER AGREES, IN THE EVENT OF A CLAIMED VIOLATION OF ANY FEDERAL OR STATE SAFETY AND HEALTH LAW OR REGULATION ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE PERFORMANCE OF WORK OR WORK TO BE PERFORMED UNDER THIS CONTRACT, OWNER MAY IMMEDIATELY TAKE WHATEVER ACTION IS DEEMED NECESSARY BY OWNER TO REMEDY THE CLAIMED VIOLATION, ANY AND ALL COSTS OR EXPENSES PAID OR INCURRED BY OWNER IN TAKING SUCH ACTION SHALL BE BORNE BY CONTRACTOR, AND CONTRACTOR AGREES TO PROTECT, HOLD HARMLESS AND INDEMNIFY OWNER AGAINST ANY AND ALL SUCH COSTS OR EXPENSES.
 19. ALL WORK PERFORMED UNDER THE CONTRACT, AND ALL EQUIPMENT, APPLIANCES, TOOLS AND LIKE ITEMS USED IN THE WORK SHALL CONFORM TO APPLICABLE SAFETY CODES AND REGULATIONS OF ANY PUBLIC OR OTHER AUTHORITY HAVING JURISDICTION. IN THE EVENT OF CONFLICTING REQUIREMENTS, THE MORE STRINGENT INTERPRETATION OR REGULATION SHALL GOVERN.
 20. THE CONTRACTOR SHALL DEVELOP AND IMPLEMENT AN EROSION CONTROL PLAN TO MINIMIZE EROSION AND ENSURE FUNCTIONING OF STORMWATER MANAGEMENT SYSTEM UPON COMPLETION OF CONSTRUCTION.
 - 21.1 CONTRACTOR AND ITS SUBCONTRACTORS SHALL USE, HANDLE, TRANSPORT, AND DISPOSE OF ALL HAZARDOUS MATERIALS (AS DEFINED PARAGRAPH 20.8) IN COMPLIANCE WITH ALL PRESENT FEDERAL, STATE AND LOCAL ENVIRONMENTAL, HEALTH OR SAFETY LAW, INCLUDING, BUT NOT LIMITED TO, ALL SUCH STATUTES, REGULATIONS, RULES, ORDINANCES, CODES, AND RULES OF COMMON LAW.
 - 21.2 CONTRACTOR FURTHER AGREES THAT CONTRACTOR AND ITS SUBCONTRACTORS SHALL NOT CAUSE THE DISCHARGE, RELEASE OR DISPOSAL OF ANY HAZARDOUS MATERIAL CREATED BY ITS WORK ON OR ABOUT THE JOB SITE. IN THE EVENT OF ANY SPILL, RELEASE OR ANY OTHER REPORTABLE OCCURRENCE, CONTRACTOR SHALL NOTIFY THE APPROPRIATE GOVERNMENTAL AGENCY AND SHALL TAKE SUCH ACTION AS MAY BE NECESSARY TO MINIMIZE THE DELETERIOUS EFFECT OF SUCH SPILL ON PERSONS OR PROPERTY.
 - 21.3 CONTRACTOR AND ITS SUBCONTRACTORS SHALL, UPON COMPLETION OF PERFORMANCE OF ALL DUTIES UNDER THIS CONTRACT, REMOVE ALL SUPPLIES, MATERIALS, AND WASTE CONTAINING AND HAZARDOUS MATERIAL FROM THE JOB SITE. CONTRACTOR SHALL BEAR FULL FINANCIAL RESPONSIBILITY, AS BETWEEN THE PARTIES OF THIS CONTRACT, FOR THE COMPLIANCE OF CONTRACTOR AND ITS SUBCONTRACTORS WITH THE PROVISIONS OF PARAGRAPH 21.7.
 - 21.4 CONTRACTOR AGREES TO INDEMNIFY, DEFEND, PROTECT AND HOLD THE OWNER HARMLESS FROM AND AGAINST ANY CLAIMS INCLUDING, WITHOUT LIMITATION, ACTUAL ATTORNEY'S FEES AND ANY COSTS OF INVESTIGATION, SOILS TESTING, GOVERNMENTAL APPROVALS, REMEDIATION AND CLEANUP ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE FAILURE OF CONTRACTOR OR ITS SUBCONTRACTORS, OR THEIR AGENTS, EMPLOYEES, OFFICERS, OR REPRESENTATIVES, TO COMPLY WITH THE TERMS OF THIS ARTICLE 21.
 - 21.5 SHOULD CONTRACTOR OR ITS SUBCONTRACTORS DISCHARGE, RELEASE OR DISPOSE OF ANY HAZARDOUS MATERIAL ON OR ABOUT THE JOB SITE IN VIOLATION OF THIS PARAGRAPH, CONTRACTOR SHALL IMMEDIATELY SO INFORM OWNER IN WRITING. IN THE EVENT OF ANY SPILL, RELEASE OR ANY OTHER REPORTABLE OCCURRENCE, CONTRACTOR SHALL NOTIFY THE APPROPRIATE GOVERNMENTAL AGENCY AND SHALL TAKE SUCH ACTION AS MAY BE NECESSARY TO MINIMIZE THE DELETERIOUS EFFECT OF SUCH SPILL ON PERSONS OR PROPERTY.
 - 21.6 IN THE EVENT CONTRACTOR OR ITS SUBCONTRACTORS ENCOUNTER ON THE PREMISES ANY PIPELINE, UNDERGROUND STORAGE TANK OR OTHER CONTAINER, OF ANY KIND, THAT MAY CONTAIN A HAZARDOUS MATERIAL, OR ENCOUNTER MATERIAL REASONABLY BELIEVED TO BE A HAZARDOUS MATERIAL, CONTRACTOR SHALL IMMEDIATELY STOP WORK IN THE AREA AFFECTED AND REPORT THE CONDITION TO OWNER IN WRITING.
 - 21.7 IF CONTRACTOR OR ITS SUBCONTRACTORS DO NOT COMPLY WITH THE REQUIREMENTS OF THIS PARAGRAPH, OWNER MAY, BUT IS NOT OBLIGATED TO, GIVE WRITTEN NOTICE OF VIOLATION TO CONTRACTOR. SHOULD CONTRACTOR OR ITS SUBCONTRACTORS FAIL TO COMPLY WITH THE REQUIREMENTS OF THE PARAGRAPH WITHIN TWENTY-FOUR (24) HOURS FROM THE TIME OWNER ISSUES SUCH WRITTEN NOTICE OF NONCOMPLIANCE OR WITHIN THE TIME OF AN ABATEMENT PERIOD SPECIFIED BY ANY GOVERNMENTAL AGENCY, WHICHEVER PERIOD IS SHORTER, CONTRACTOR SHALL BE IN MATERIAL DEFAULT OF THIS CONTRACT.
 - 21.8 "HAZARDOUS MATERIAL" MEANS ANY SUBSTANCE: (A) THE PRESENCE OF WHICH REQUIRES INVESTIGATION OR REMEDIATION UNDER ANY PRESENT FEDERAL, STATE OR LOCAL STATUTE, REGULATION, ORDINANCE, RULE, CODE, ORDER, ACTION, POLICY OR COMMON LAW, OR (B) WHICH IS OR BECOMES DEFINED AS A "HAZARDOUS WASTE," "HAZARDOUS SUBSTANCE," "POLLUTANT OR CONTAMINANT UNDER ANY PRESENT FEDERAL, STATE OR LOCAL STATUTE, REGULATION, RULE OR ORDINANCE OR AMENDMENTS THERETO INCLUDING, WITHOUT LIMITATION, THE COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (42 U.S.C. SECTIONS 9601 ET SEQ.) AND/OR THE RESOURCE CONSERVATION AND RECOVERY ACT (42 U.S.C. SECTIONS 6901 ET SEQ.), OR (C) WHICH IS TOXIC, EXPLOSIVE, CORROSIVE, FLAMMABLE, INFECTIOUS, RADIOACTIVE, CARCINOGENIC, MUTAGENIC, OR OTHERWISE HAZARDOUS AND IS REGULATED BY ANY GOVERNMENTAL AUTHORITY, AGENCY, DEPARTMENT, COMMISSION, BOARD, AGENCY OR INSTRUMENTALITY OF THE UNITED STATES, THE STATE IN WHICH THE PREMISES ARE LOCATED OR ANY POLITICAL SUBDIVISION THEREOF, OR (D) THE PRESENCE OF WHICH ON THE PREMISES CAUSES OR THREATENS TO CAUSE A NUISANCE UPON THE PREMISES OR TO ADJACENT PROPERTIES OR POSES OR THREATENS TO POSE A HAZARD TO THE HEALTH OR SAFETY OF PERSONS ON OR ABOUT THE PREMISES, OR (E) WHICH CONTAINS GASOLINE, DIESEL FUEL OR OTHER PETROLEUM HYDROCARBONS, OR (F) WHICH CONTAINS POLYCHLORINATED BIPHENYLS (PCBS), ASBESTOS, LEAD OR UREA FORMALDEHYDE FOAM INSULATION.
 22. THE EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UTILITIES AS TO SIZE, LOCATION, AND ELEVATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY AND ALL CONFLICTS PRIOR TO BEGINNING CONSTRUCTION.

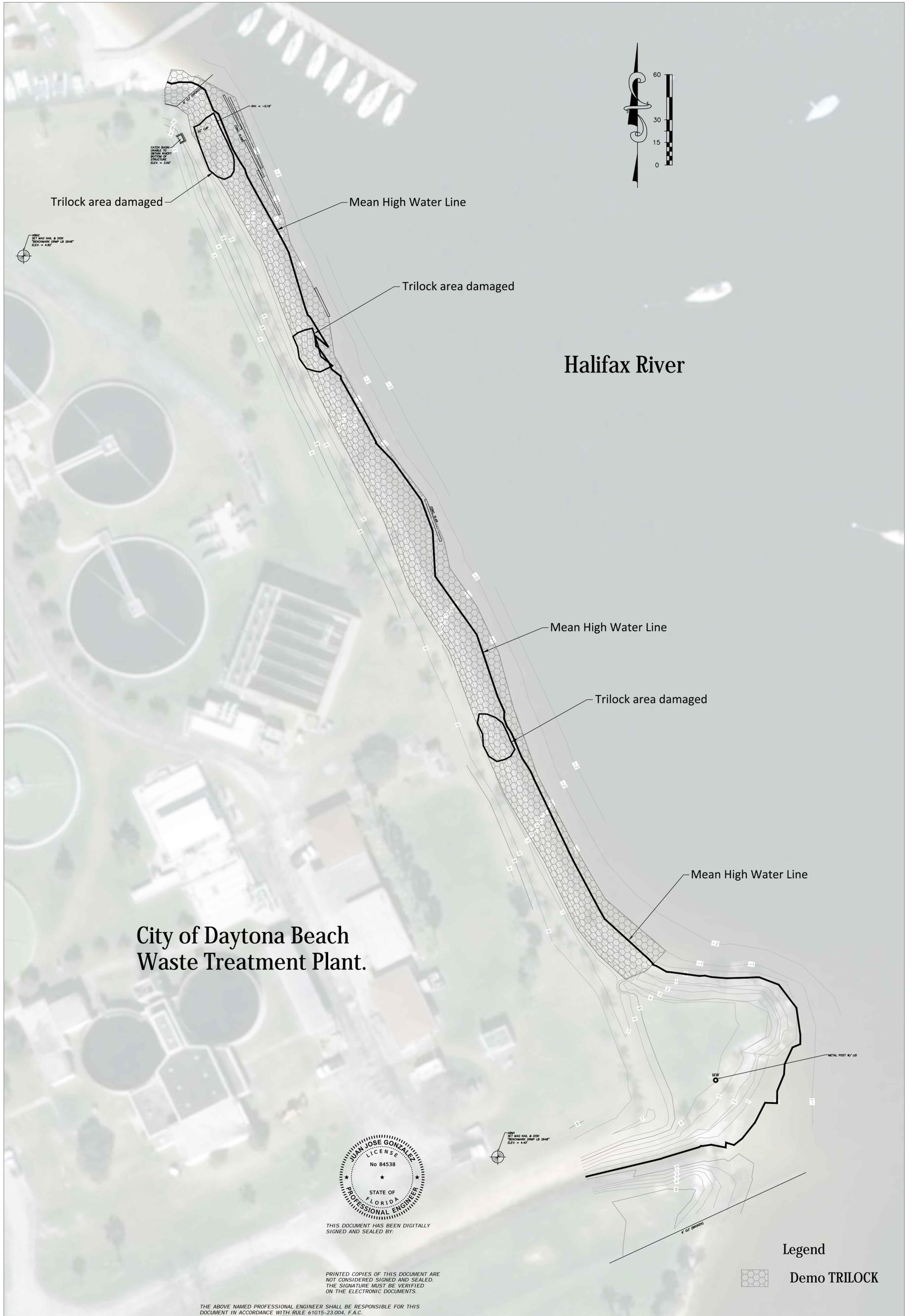


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DESIGNED BY	R E V I S I O N S				DRMP, Inc.	 <p>ENGINEERS • SURVEYORS • PLANNERS • SCIENTISTS</p>	CONSTRUCTION PLANS FOR	BETHUNE POINT	GENERAL NOTES	PROJECT NO.:
	NO.	DATE	DESCRIPTION	BY						18-0269.000
DRAWN BY									SCALE:	
CHECKED BY									DATE:	
APPROVED BY									DRAWING:	
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**City of Daytona Beach
Waste Treatment Plant.**

Halifax River

Legend

Demo TRILOCK

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NO.	DATE	DESCRIPTION	BY

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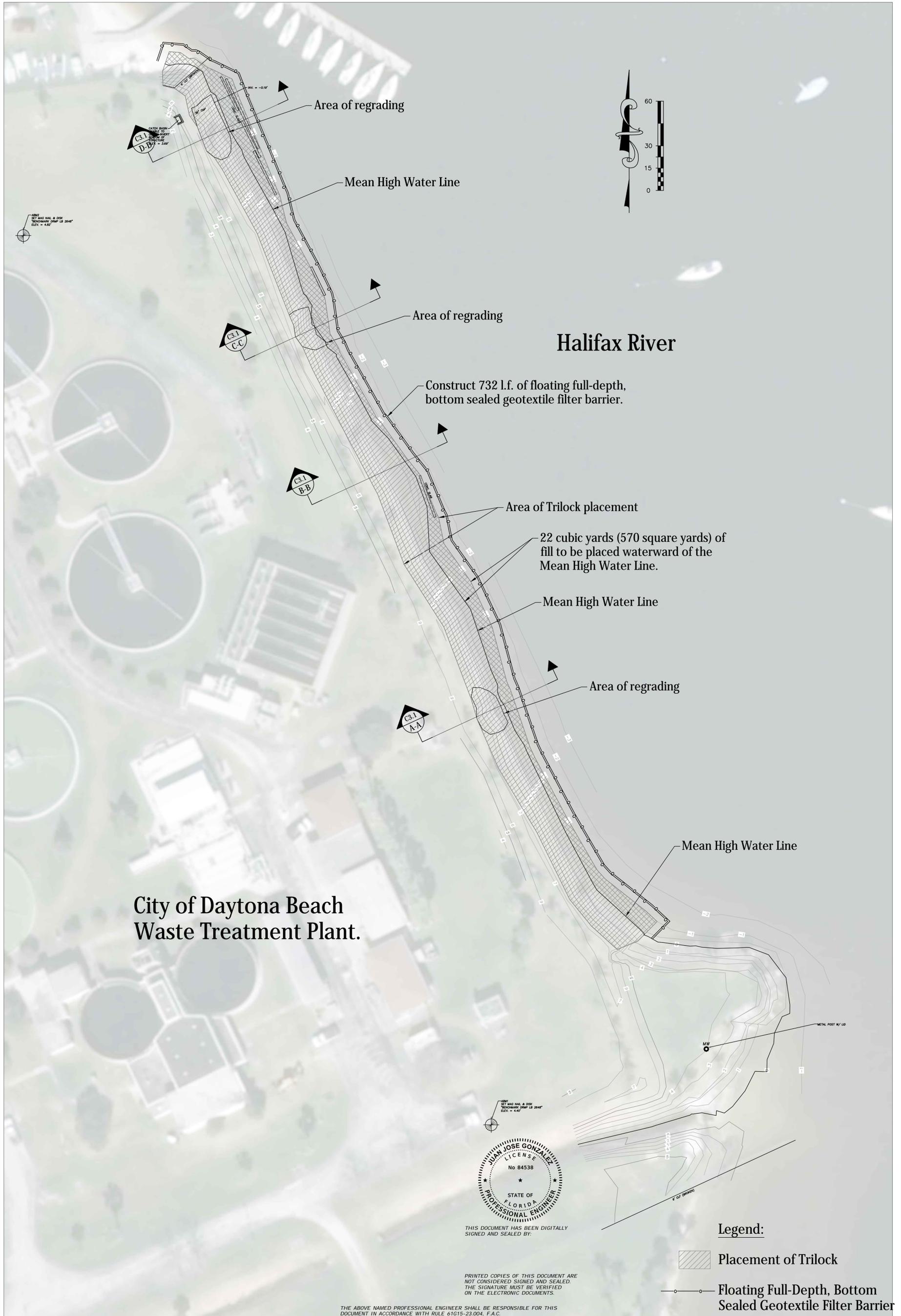
CONSTRUCTION PLANS FOR
BETHUNE POINT
 CITY OF DAYTONA BEACH, FLORIDA

EXISTING CONDITIONS

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 State of Florida # 84538

PROJECT NO.:	18-0269.000
SCALE:	1" = 30'
DATE:	JUNE, 2018
DRAWING:	C2.0



City of Daytona Beach
Waste Treatment Plant.

Halifax River



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Legend:

- Placement of Trilock
- Floating Full-Depth, Bottom Sealed Geotextile Filter Barrier

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	NO.	DATE	DESCRIPTION	BY
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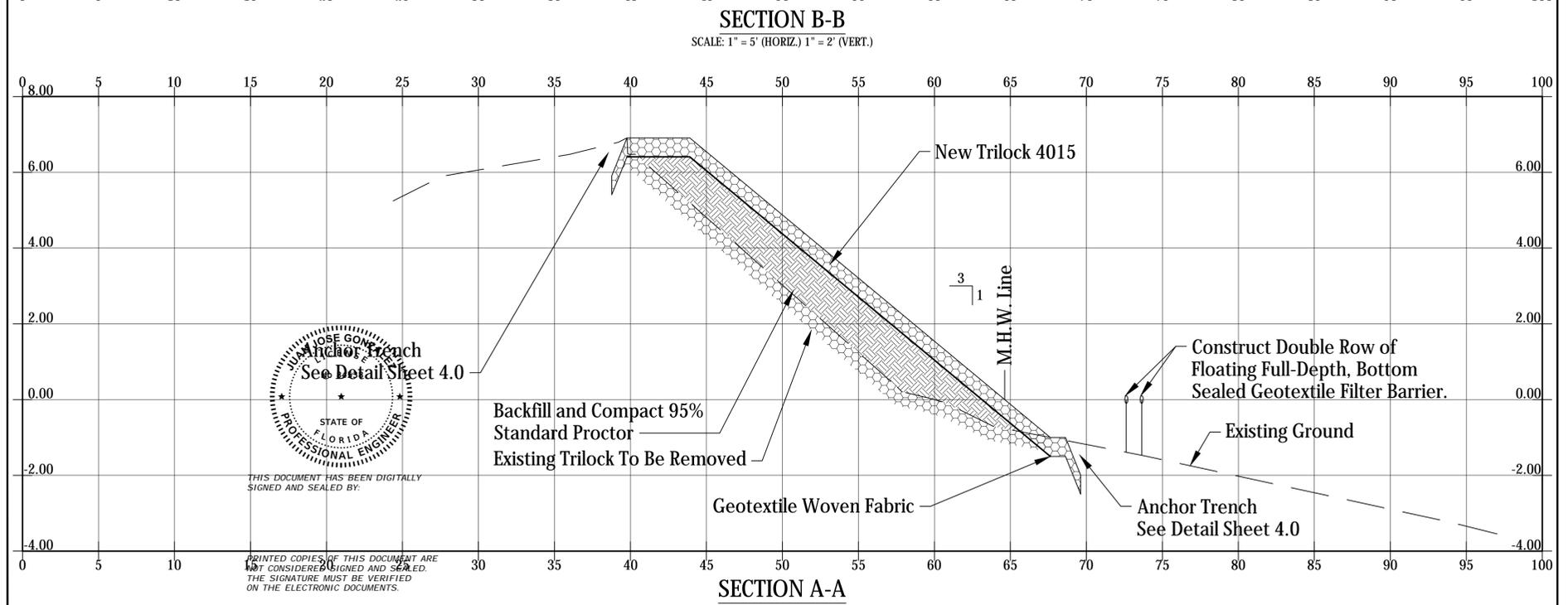
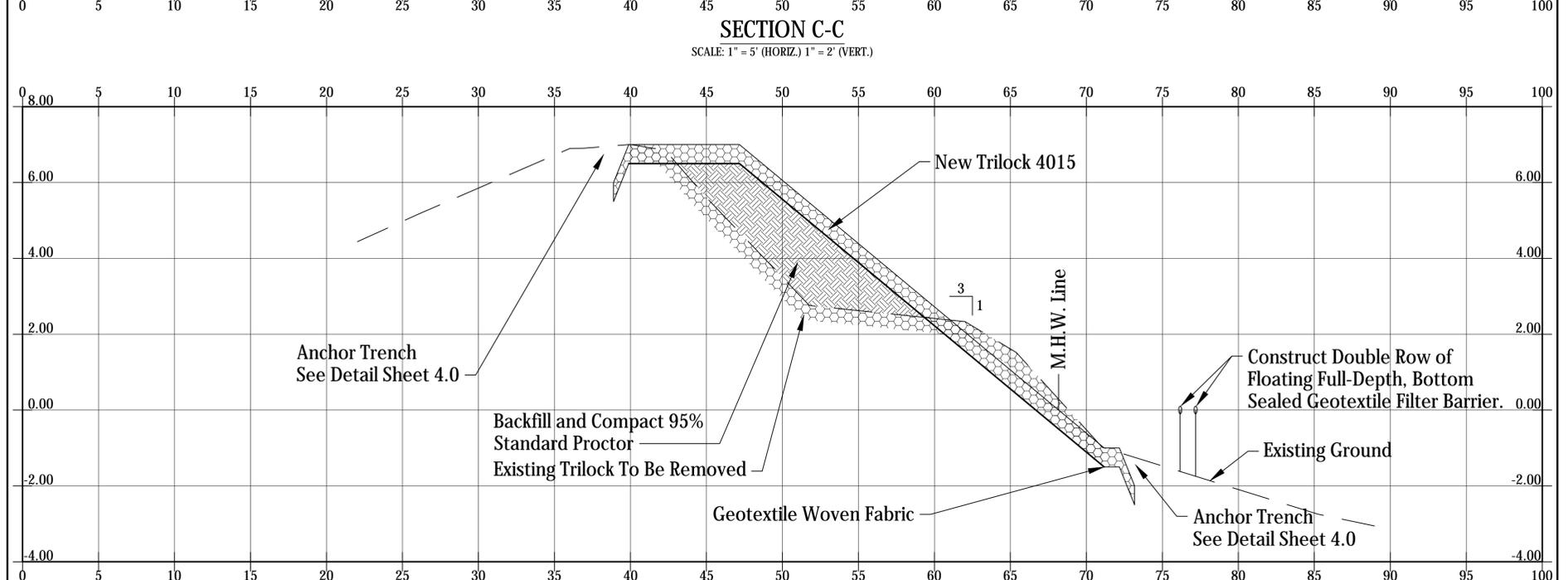
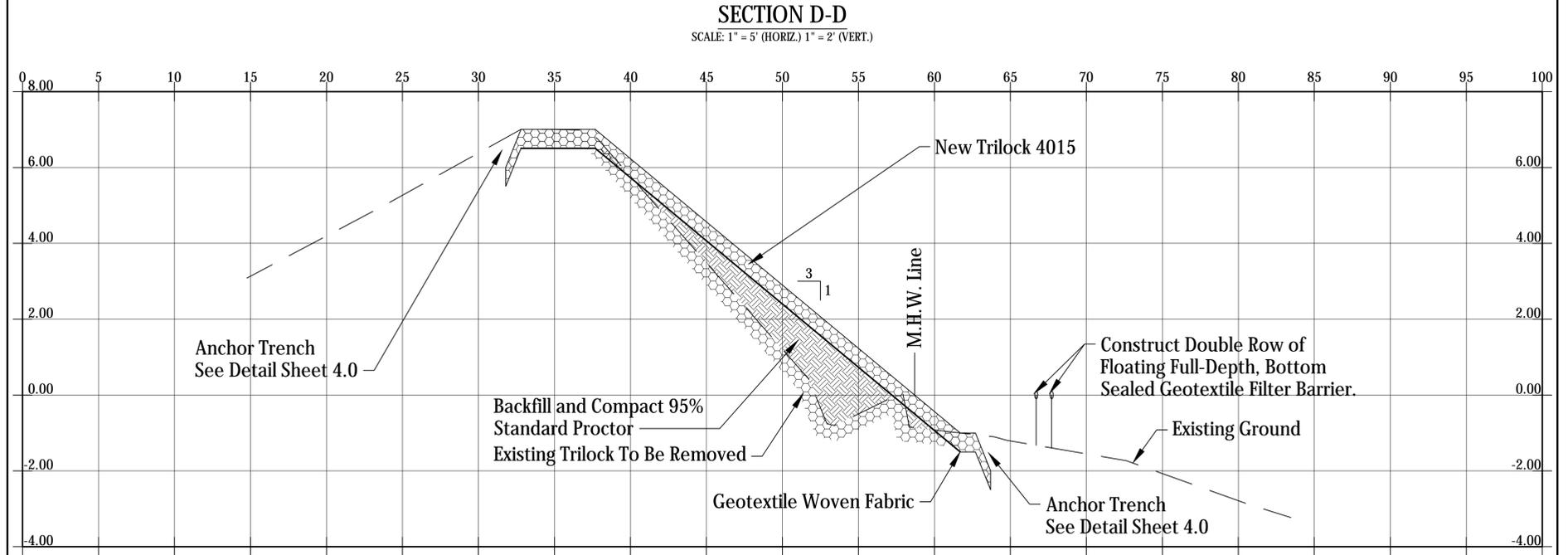
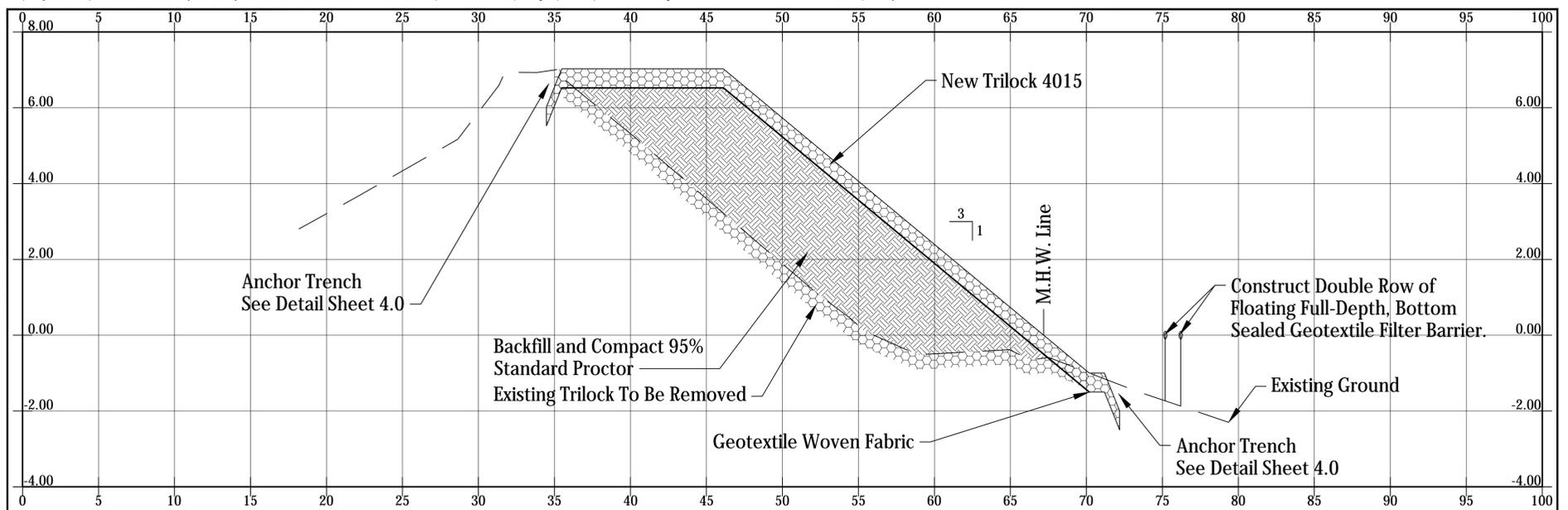
CONSTRUCTION PLANS FOR
BETHUNE POINT
 CITY OF DAYTONA BEACH, FLORIDA

SITE PLAN

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 State of Florida # 84538

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SCALE:	1" = 30'
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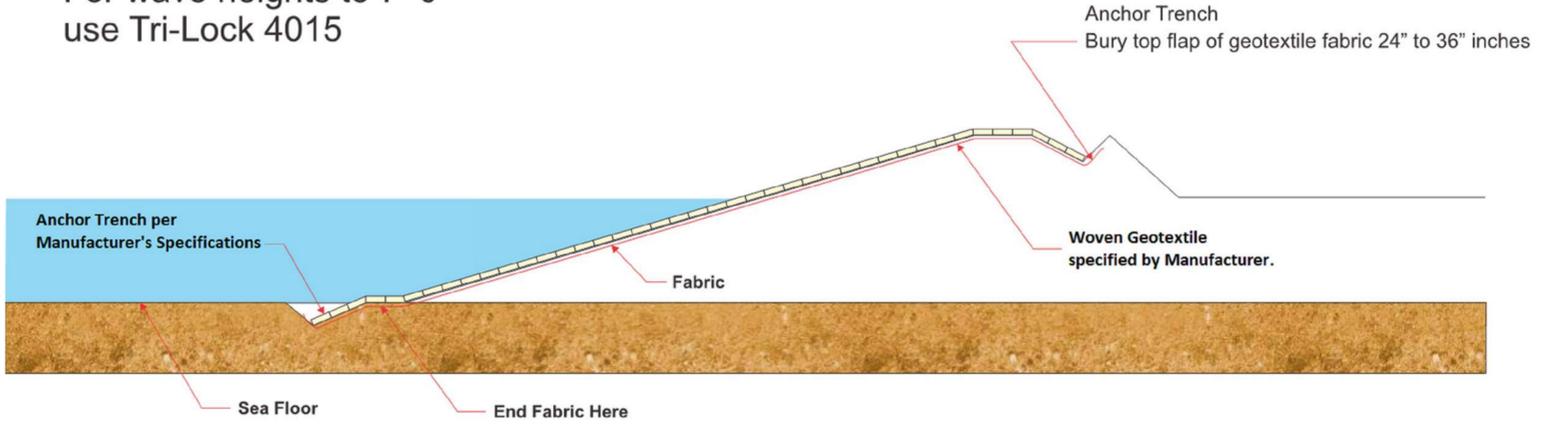
JOSE GONZALEZ
STATE OF FLORIDA
PROFESSIONAL ENGINEER
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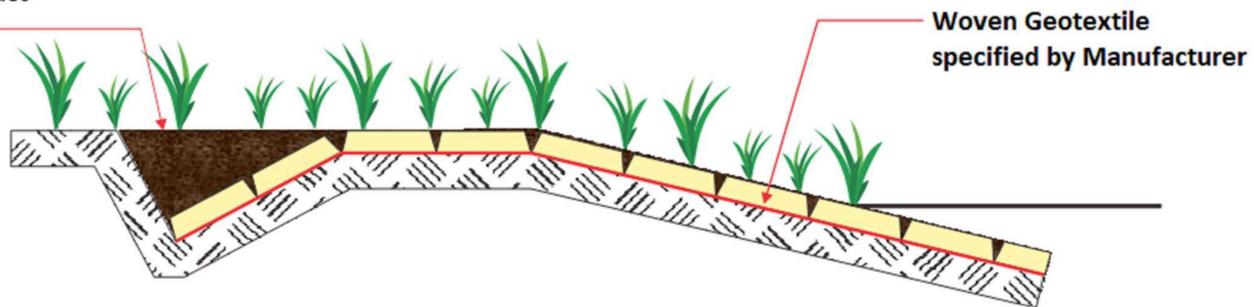
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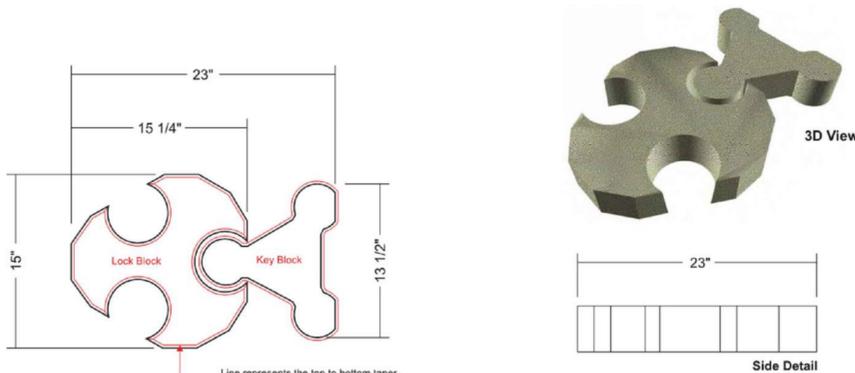
For wave heights to 7'-0"
use Tri-Lock 4015



Backfill and Compact
per Specifications

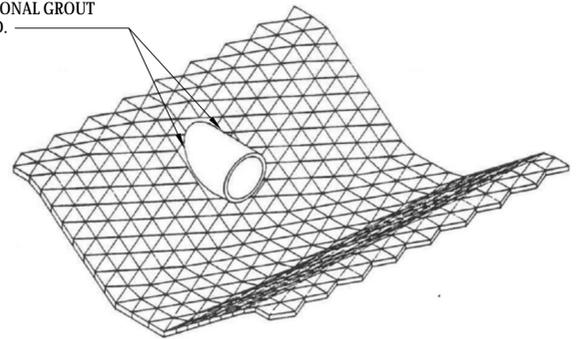


Tri-Lock Revetment Cross-Section, Typical

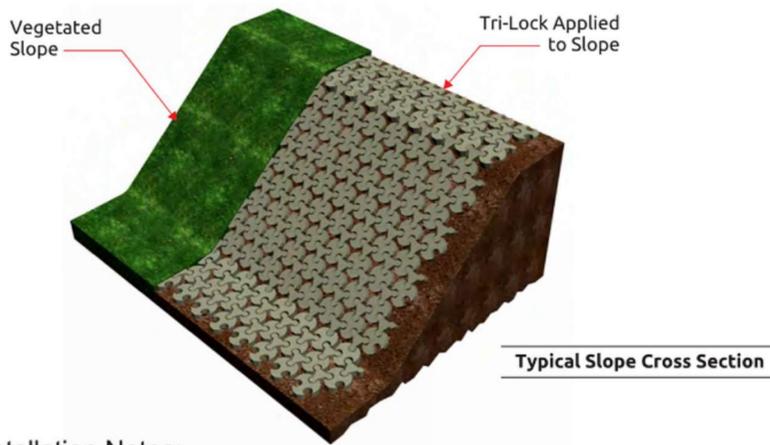


Class	Height Inches	Approx. Weight lb/sf	Compress Strength Psi	Area Covered sf	Approx Weight Blk. 16 Pair	Open Area	Sq. Ft. Per Pallet
4015	6"	45 lb/sf.	Min. 4,000	1.54	70	20%	55.44

BLOCKS TO BE HAND PLACED AROUND PENETRATION, WITH ADDITIONAL GROUT AS REQUIRED.



TYPICAL PIPE PENETRATION THROUGH TRI-LOCK



Installation Notes:

The Slope must be stable independent of the erosion control system and filled slope shall be compacted to not less than 90% density.

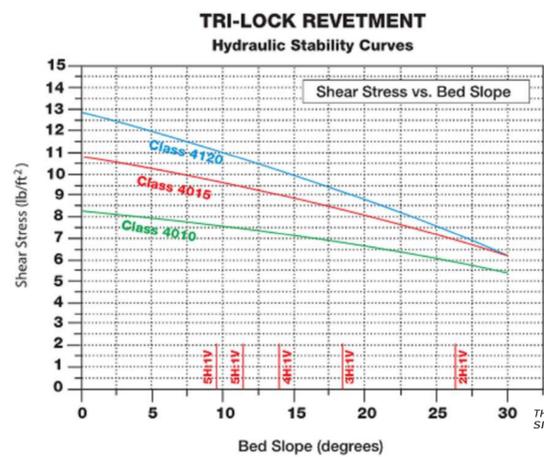
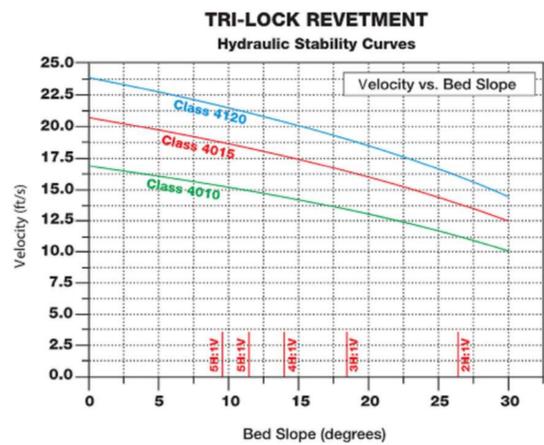
Before placing either the concrete block system or the underlying filter fabric, the slope shall be inspected to insure that it is free from obstructions, such as tree roots projecting stones or other foreign matter. Voids or soft areas should be filled with suitable material and well compacted. Although some variation in contour will be permitted, no sudden changes in level can be accepted. The maximum difference in level between any cuts will be 1.5" hand dress where necessary.

The entire perimeter of the cellular concrete block erosion control system shall be turned into, and buried beneath the adjacent ground level to a depth of not less than three (3) feet, or as shown on the drawings. Any junction with other structures shall be made as noted on drawings, but shall always provide a permanent soil tight joint to prevent the migration of soil between the structures. Grouting if necessary.

Penetrations through the erosion control system may be made by omitting sufficient blocks to provide space for the penetration. It will be necessary to provide extra filter fabric in the form of a tightly fitting flange around the pipe or device so that it may be overlaid with the erosion control system filter fabric. (Minimum overlap 18".) Any voids around the penetration should be filled with grout and floated smooth.

Dress the entire revetment with topsoil. Apply fertilizer and seed with native grass as approved by the engineer. If the drawings do not indicate that revegetation is required, then dress with ~ crushed rock as approved by the engineer.

NOTE:
CONTRACTOR SHALL ALSO FOLLOW ANY AND ALL INSTALLATIONS PROCEDURES PROVIDED BY THE MANUFACTURER OF THE REVETMENT MATERIAL.



THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY:

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED. THE SIGNATURE MUST BE VERIFIED ON THE ELECTRONIC DOCUMENTS.

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

DESIGNED BY	R E V I S I O N S				<p>DRMP ENGINEERS • SURVEYORS • PLANNERS • SCIENTISTS</p> <p>Certificate of Authorization No. 2648 941 Lake Baldwin Lane - Orlando, Florida 32814 Phone:407.896.0594 Fax:407.896.4836 WWW.DRMP.COM</p>	<p>CONSTRUCTION PLANS FOR BETHUNE POINT CITY OF DAYTONA BEACH, FLORIDA</p> <p>DO NOT SCALE THIS DRAWING - DIMENSIONS AND NOTES TAKE PREFFERENCE</p>	<p>DETAIL SHEET TRI LOCK</p>	PROJECT NO.: 18-0269.000
DRAWN BY	NO.	DATE	DESCRIPTION	BY				SCALE: AS SHOWN
CHECKED BY								DATE: JUNE, 2018
APPROVED BY								DRAWING: C4.0

U.S. Army Corps of Engineers Jacksonville District's Programmatic Biological Opinion (JaxBO) Project Design Criteria (PDCs) for In-Water Activities

November 20, 2017

- 1) **(AP.7.) Education and Observation:** The permittee must ensure that all personnel associated with the project are instructed about the potential presence of species protected under the ESA and the Marine Mammal Protection Act (MMPA). All on-site project personnel are responsible for observing water-related activities for the presence of protected species. All personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing ESA-listed species or marine mammals. To determine which species may be found in the project area, please review the relevant Protected Species List at:
http://sero.nmfs.noaa.gov/protected_resources/section_7/threatened_endangered/index.html
- 2) **(AP.8.) Reporting** of interactions with protected species:
 - a) Any collision(s) with and/or injury to any sea turtle, sawfish, whale, or sturgeon occurring during the construction of a project, shall be reported immediately to NMFS's Protected Resources Division (PRD) at (1-727-824-5312) or by email to takereport.nmfsser@noaa.gov and SAJ-RD-Enforcement@usace.army.mil.
 - b) Smalltooth sawfish: Report sightings to 1-844-SAWFISH or email Sawfish@MyFWC.com
 - c) Sturgeon: Report dead sturgeon to 1-844-STURG 911 (1-844-788-7491) or email nmfs.ser.sturgeonnetwork@noaa.gov
 - d) Sea turtles and marine mammals: Report stranded, injured, or dead animals to 1-877-WHALE HELP (1-877-942-5343).
 - e) North Atlantic right whale: Report injured, dead, or entangled right whales to the USCG via VHF Channel 16.
- 3) **(AP.9.) Vessel Traffic and Construction Equipment:** All vessel operators must watch for and avoid collision with species protected under the ESA and MMPA. Vessel operators must avoid potential interactions with protected species and operate in accordance with the following protective measures:
 - a) *Construction Equipment:*
 - i) All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while operating in water depths where the draft of the vessel provides less than a 4-foot (ft) clearance from the bottom, and in all depths after a protected species has been observed in and has departed the area.
 - ii) All vessels will follow marked channels and/or routes using the maximum water depth whenever possible.
 - iii) Operation of any mechanical construction equipment, including vessels, shall cease immediately if a listed species is observed within a 50-ft radius of

construction equipment and shall not resume until the species has departed the area of its own volition.

- iv) If the detection of species is not possible during certain weather conditions (e.g., fog, rain, wind), then in-water operations will cease until weather conditions improve and detection is again feasible.

b) *All Vessels:*

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

- 4) **(AP.10.) Turbidity Control Measures during Construction:** Turbidity must be monitored and controlled. Prior to initiating any of the work covered under this Opinion, the Permittee shall install turbidity curtains as described below. In some instances, the use of turbidity curtains may be waived by the USACE project manager if the project is deemed too minimal to generate turbidity (e.g., certain ATON installation, scientific survey device placement, marine debris removal) or if the current is too strong for the curtains to stay in place. Turbidity curtains specifications:

- a) Install floating turbidity barriers with weighted skirts that extend to within 1 ft of the bottom around all work areas that are in, or adjacent to, surface waters.
- b) Use these turbidity barriers throughout construction to control erosion and siltation and ensure that turbidity levels within the project area do not exceed background conditions.
- c) Position turbidity barriers in a way that does not block species' entry to or exit from designated critical habitat.
- d) Monitor and maintain turbidity barriers in place until the authorized work has been completed and the water quality in the project area has returned to background conditions.
- e) In the range of ESA-listed corals (St. Lucie Inlet, Martin County south to the Dry Tortugas and the U.S. Caribbean) and Johnson's seagrass (Turkey Creek/Palm

Bay south to central Biscayne Bay in the lagoon systems on the east coast of Florida):

- i) Projects that include upland earth moving (e.g., grading to install a building or parking lot associated with a dock and seawall project), must install sediment control barriers to prevent any upland sediments from reaching estuarine or marine waters.
 - ii) The turbidity curtain requirement cannot be waived for any project that moves or removes sediment (e.g., dredging, auger to create a pile, trenching to install a cableline). If turbidity curtains are not feasible in an area based on site conditions such as water current, high wave action, or stormy conditions, the project must undergo individual Section 7 consultation and is not covered under this Programmatic Opinion.
- 5) **(AP.11.) Entanglement:** All turbidity curtains and other in-water equipment must be properly secured with materials that reduce the risk of entanglement of marine species (described below). Turbidity curtains likewise must be made of materials that reduce the risk of entanglement of marine species.
- a) In-water lines (rope, chain, and cable, including the lines to secure turbidity curtains) must be stiff, taut, and non-looping. Examples of such lines are heavy metal chains or heavy cables that do not readily loop and tangle. Flexible in-water lines, such as nylon rope or any lines that could loop or tangle, must be enclosed in a plastic or rubber sleeve/tube to add rigidity and prevent the line from looping and tangling. In all instances, no excess line is allowed in the water.
 - b) Turbidity curtains and other in-water equipment must be placed in a manner that does not entrap species within the construction area or block access for them to navigate around the construction area.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701

SEA TURTLE AND SMALLTOOTH SAWFISH CONSTRUCTION CONDITIONS

The permittee shall comply with the following protected species construction conditions:

- a. The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.
- b. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.
- c. Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.
- d. All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.
- e. If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.
- f. Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824-5312) and the local authorized sea turtle stranding/rescue organization.
- g. Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.

Revised: March 23, 2006

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STANDARD MANATEE CONDITIONS FOR IN-WATER WORK

2011

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

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

CAUTION: MANATEE HABITAT

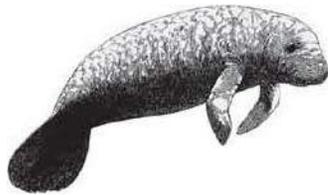
All project vessels

IDLE SPEED / NO WAKE

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

SHUT DOWN

Report any collision with or injury to a manatee:



Wildlife Alert:

1888-404-FWCC (3922)

cell * FWC or #FWC

North Atlantic Right Whale Information Form

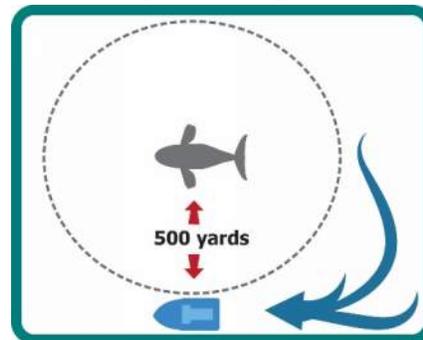
Federal Regulations Governing the Approach to North Atlantic Right Whales



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

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

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



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