



DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS, JACKSONVILLE DISTRICT  
P. O. BOX 4970  
JACKSONVILLE, Florida 32232-0019

March 5, 2018

CESAJ-RD  
SAJ-2003-06106 (SP-BJC)

## ***PUBLIC NOTICE***

Permit Application No. SAJ-2003-06106 (SP-BJC)

TO WHOM IT MAY CONCERN: The Jacksonville District of the U.S. Army Corps of Engineers (Corps) has received an application for a Department of the Army permit pursuant to Section 404 of the Clean Water Act (33 U.S.C. §1344) and Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. §403) as described below:

APPLICANT: Indian River County, Public Works  
Attn: Mr. Richard Szpyrka  
1801 27<sup>th</sup> Street, Building A  
Vero Beach, Florida 32960

WATERWAY AND LOCATION: The project would affect waters of the United States associated with the Atlantic Ocean. The project site is located along the shoreline of the Atlantic Ocean beginning south of Florida Department of Environmental Protection (FDEP) Range Monument (R) R-97, at Wyn Cove Drive, and extending south to R-108 at Mangrove Drive. The project limits are referred to as Sector 7 (See Sheet 2 of Attachments). The project is located in Sections 16, 21, and 22, Township 33 South, Range 40 East, Indian River County, Florida.

Directions to the site are as follows: From I-95 Southbound, take State Road 60 (20<sup>th</sup> Street) east approximately 13 miles, to Indian River Boulevard. Turn right and travel south on Indian River Boulevard for 0.4 miles, to 17<sup>th</sup> Street. Turn left onto 17<sup>th</sup> Street and cross the bridge to SR A1A. Turn right on SR A1A and travel 0.8 miles to Wyn Cove Drive. Turn left on Wyn Cove Drive and the northern limit of the project is at the beach at the end of Wyn Cove Drive. To reach the southern limit continue south on SR A1A approximately 1.95 miles to Mangrove Drive. Turn left on Mangrove Drive and the beach at the end of the road is the southern terminus of the project.

APPROXIMATE CENTRAL COORDINATES: Latitude 27.600981°  
Longitude -80.332920°

### **PROJECT PURPOSE:**

Basic: To restore and maintain the Atlantic Ocean shoreline.

Overall: To restore and maintain the area of critical erosion along the Sector 7 project area shoreline in Indian River County through the placement of sand onto the beach.

**EXISTING CONDITIONS:** The shoreline of the Project Area is characterized by single-family homes and privately owned vacant parcels - zoned for single family homes. Indian River County (IRC) has about 22.4 miles of barrier island beaches that extend south from Sebastian Inlet to Round Island Park. Of IRC's 22.4 miles of beaches, 15.7 miles have been classified by the FDEP as "critically eroded shoreline" or "a segment of the shoreline where natural processes or human activity have caused or contributed to erosion and recession of the beach or dune system to such a degree that upland development, recreational interests, wildlife habitat, or important cultural resources are threatened or lost" (FDEP, 2017). The critically eroded shorelines in IRC are subdivided into three sections: 9.5 miles south of Sebastian Inlet from R-1 to R-51.3, the northern 3.1 miles of Vero Beach from R-70 to R-86, and a 3.1 mile segment in southern IRC from R-99 to R-115.7 (FDEP, 2018).

In 2015, the County updated its Beach Preservation Plan (BPP) and performed a storm vulnerability analysis where, "vulnerability was defined as the exposure of upland property to impacts from storm events" (CB&I, 2015a). For Sector 7, the BPP indicates the County would reduce annual storm damages by about \$750,000 per year, on average, if the beach is restored. The BPP recommends re-nourishment of beaches within Sector 7 every 6 years with an estimated 234,000 cubic yards of sand (CB&I, 2015a).

**PROPOSED WORK:** The applicant seeks authorization for a 15 year permit to restore approximately 10,300 feet of shorefront in an unincorporated portion of southern Indian River County from FDEP reference monument R-97.5 south to R-108. Fill volume placed during the 2007 construction was approximately 362,200 cubic yards (inclusive of dune enhancement); the fill volume for this Project is expected to be 440,660± cubic yards to restore the 2007 fill template and replace additional losses since the 2007 construction.

The Project is proposed to be constructed with sand fill obtained from either (a) the southern portion of the County's offshore borrow area previously approved and used for the 2007 project, or (b) an upland sand source pre-approved by the County.

For use of the offshore sand source:

- a) Dredging of the offshore borrow area shall be performed either by (a) a hydraulic pipeline dredge pumping directly to shore or via scows/barges, or (b) a hopper dredge. A mechanical (clamshell) dredge will not be allowed.
- b) The beach material will be pumped onto the beach through pipelines on the Atlantic Ocean bottom via the corridors shown in the permit sketches.
- c) A shore-parallel sand dike will be constructed and maintained along the beach as the discharge point moves to maintain at least 30.5 meters (100 feet) of dike ahead of the discharge pipe.

- d) The offshore limit of the mixing zone is requested to be 120 meters from the point of discharge into the Ocean. The shore-parallel mixing zone is requested to be 1,000 meters from the point of discharge.

For use of the upland sand source:

- a) The Contractor shall: excavate, process, and provide suitable beach-compatible sand fill material from the proposed upland sources; transport and deliver the sand fill to the "Construction Access/Staging Areas" for stockpiling.
- b) It is expected that the Contractor will transport sand fill from the "Construction Access/Staging Area," along the existing dry beach via off-road trucks and place fill, to a point approximately midway to the adjacent "Construction Access/Staging Area".
- c) The offshore limit of the mixing zone is requested to be 120 meters from the point of discharge into the Ocean. The shore-parallel mixing zone is requested to be 1,000 meters from the point of discharge.

Based on 2018 monitoring surveys placement of 440,660± cubic yards of sand fill is estimated to be required for the initial nourishment event under the proposed permits. No structures are proposed. As determined for the 2007 initial project construction, no impacts are expected and no mitigation is proposed.

**AVOIDANCE AND MINIMIZATION INFORMATION** – The applicant has provided the following information in support of efforts to avoid and/or minimize impacts to the aquatic environment:

Impacts to the aquatic ecosystem have been minimized by the following appropriate and practicable steps and provisions:

- The Project Design was formulated to avoid impacts to nearshore hardbottom that exists within the proposed fill area. Although it is desirable to place a larger quantity of fill material south of R-102 to maintain a larger beach width between R-102 and R-108, such fill placement has not been proposed to avoid impacts to the more extensive nearshore hardbottom resources in this area.
- Only beach quality sand suitable for sea turtle nesting shall be used for beach fill. The sand will be of similar grain size as the native, sandy beach.
- The borrow area, dredge cut depths, and associated fill grain size have been evaluated and selected to minimize silt/clay content to minimize compaction and re-suspension of fines (turbidity) in the nearshore area.
- The proposed beach will create a wider beach which will support increased marine turtle nesting.
- Beach nourishment activities shall not occur from May 1 through October 31, the period of peak marine turtle nesting activity. Construction is intended to be performed between November 1, 2019 and April 30, 2020 to avoid the marine turtle nesting season. In the event it becomes necessary for construction to extend beyond May 1, monitoring of the beach shall be performed to identify and

relocate turtle nests from the proposed fill area - as may be allowed by the USACE and FDEP permits.

- Sea turtle nesting activities will be monitored for the initial construction nesting season and for a minimum of two additional nesting seasons.
- Immediately after completing the beach nourishment project and prior to the next three nesting seasons, beach compaction shall be monitored and tilling shall be conducted by February 15, if required, to reduce potential impacts upon sea turtle nesting and hatchlings.
- The Contractor undertaking the beach nourishment will undertake marine turtle and manatee protection measures. A meeting will be arranged between representative of the Contractor, the USFWS, FFWCC, FDEP, USACE, and the permitted person responsible for turtle egg relocation (from March 1 to May 1) at least 30 days prior to the commencement of work on this Project. At least 10 days advance notice shall be provided prior to this meeting.
- From March 1 through April 30 and November 1 through November 30, staging areas for construction equipment shall be located off the beach to the maximum extent practicable. All construction pipes that are placed on the beach shall be located as far landward as possible without compromising the integrity of the existing or reconstructed dune system.
- From March 1 through April 30 and November 1 through November 30:
  - All beach lighting associated with the Project shall be limited to the immediate area of active construction only and shall be the minimal lighting necessary to comply the US Coast Guard and/or OSHA requirements. Such lighting shall be minimized to through reduction, shielding, lowering, and appropriate placement of lights to minimize illumination of the nesting beach and water. Shields must be affixed to the light housing and be large enough to block light from all lamps from being transmitted outside the construction area.
  - Lighting associated with the Project shall be minimized to reduce the possibility of disrupting and disorienting nesting sea turtles and/or hatchlings.
- The County will (a) reassess potential point source lighting that may become visible on the constructed beach berm, and (b) actively enforce compliance with the County's existing code of ordinance regarding beachfront lighting, as stated in Title IX Chapter 932 Section 09.
- No anchoring will be allowed within 200 feet of existing archeological resources adjacent to the proposed borrow areas per the Permit Sketches.

COMPENSATORY MITIGATION – The applicant has provided the following explanation why compensatory mitigation should not be required:

Mitigation was not required for the 2007 beach and dune restoration project - based on the USACE and FDEP permits. Based upon conferences with regulatory agencies (see Appendix A), it is expected as the extent of the proposed Project is limited in the 2007

project template, mitigation will not be necessary. As the preferred “No Impact” alternative will not have direct, indirect or cumulative effects on the nearshore hardbottom habitat, the beach and associated biological communities, no mitigation is proposed or required. Three years of post-construction monitoring of the nearshore hardbottom are proposed, as was required for the 2007 nourishment project, and as reflected in the proposed Biological Monitoring Plan.

#### CULTURAL RESOURCES:

The Corps has determined the permit area has been extensively modified by previous work and there is little likelihood a historic property may be affected. Therefore, the proposed project would have “No Potential to Cause Effect”.

#### ENDANGERED SPECIES:

The Corps has determined the proposed project “may affect, and is likely to adversely affect” the loggerhead sea turtle, leatherback sea turtle, green sea turtle, hawksbill sea turtle, Kemp’s ridley sea turtle, West Indian manatee, southeastern beach mouse, roseate turn, red knot, piping plover, North Atlantic right whale, humpback whale, giant manta ray, smalltooth sawfish, and the shortnose sturgeon or its designated critical habitat. The Corps will request U.S. Fish and Wildlife and National Marine Fisheries Service concurrence with these determination pursuant to Section 7 of the Endangered Species Act.

**ESSENTIAL FISH HABITAT (EFH):** This notice initiates consultation with the National Marine Fisheries Service on EFH as required by the Magnuson-Stevens Fishery Conservation and Management Act 1996. The proposal would impact approximately 197 acres of marine and water column habitat utilized by various life stages of managed species. The Corps is aware of live/hardbottoms and worm rock reefs immediately adjacent to the discharge site. Live/hardbottom and worm rock are EFH for juvenile and adult gag and yellowedge grouper, gray and mutton snapper, and spiny lobster. In addition, the South Atlantic Fishery Marine Council also designates live/hardbottom and worm rock as Habitat Areas of Particular Concern (HAPC) for the snapper/grouper complex or highly migratory pelagic species. Our initial determination is that the proposed action would not have a substantial adverse impact on EFH or federally managed fisheries in the Atlantic Ocean because no nearshore hardbottom or worm rock HAPC’s will be directly filled by the proposed sand placement. Our final determination relative to project impacts and the need for mitigation measures is subject to review by and coordination with the National Marine Fisheries Service.

**NOTE:** This public notice is being issued based on information furnished by the applicant. This information has not been verified or evaluated to ensure compliance with laws and regulation governing the regulatory program. The jurisdictional line has not been verified by Corps personnel.

**AUTHORIZATION FROM OTHER AGENCIES:** Water Quality Certification may be required from the Florida Department of Environmental Protection and/or one of the state Water Management Districts.

**COMMENTS** regarding the potential authorization of the work proposed should be submitted in writing to the attention of the District Engineer through the Cocoa Permits Section, 400 High Point Drive, Suite 600, Cocoa, Florida 32926 within 30 days from the date of this notice.

The decision whether to issue or deny this permit application will be based on the information received from this public notice and the evaluation of the probable impact to the associated wetlands. This is based on an analysis of the applicant's avoidance and minimization efforts for the project, as well as the compensatory mitigation proposed.

**QUESTIONS** concerning this application should be directed to the project manager, Brandon J. Conroy, in writing at the Cocoa Permits Section, 400 High Point Drive, Suite 600, Cocoa, Florida 32926; by electronic mail at [brandon.j.conroy@usace.army.mil](mailto:brandon.j.conroy@usace.army.mil); by facsimile transmission at (321) 504-3803; or, by telephone at (321) 504-3771 x 11.

**IMPACT ON NATURAL RESOURCES:** Coordination with U.S. Fish and Wildlife Service, Environmental Protection Agency (EPA), the National Marine Fisheries Services, and other Federal, State, and local agencies, environmental groups, and concerned citizens generally yields pertinent environmental information that is instrumental in determining the impact the proposed action will have on the natural resources of the area.

**EVALUATION:** The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including cumulative impacts thereof; among these are conservation, economics, esthetics, general environmental concerns, wetlands, historical properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food, and fiber production, mineral needs, considerations of property ownership, and in general, the needs and welfare of the people. Evaluation of the impact of the activity on the public interest will also include application of the guidelines promulgated by the Administrator, EPA, under authority of Section 404(b) of the Clean Water Act or the criteria established under authority of Section 102(a) of the Marine Protection Research and Sanctuaries Act of 1972. A permit will be granted unless its issuance is found to be contrary to the public interest.

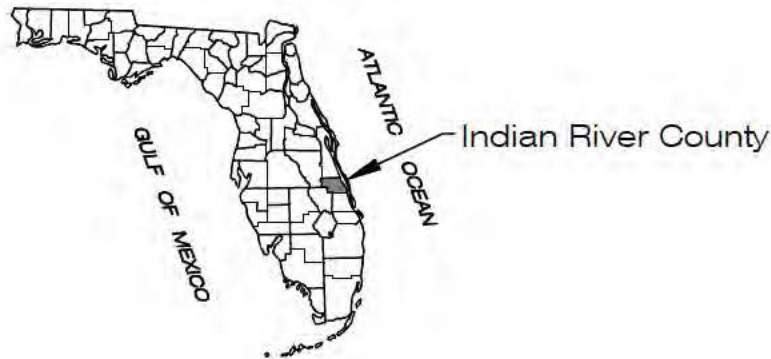
The US Army Corps of Engineers (Corps) is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other Interested

parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this determination, comments are used to assess impacts to endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

**COASTAL ZONE MANAGEMENT CONSISTENCY:** In Florida, the State approval constitutes compliance with the approved Coastal Zone Management Plan. In Puerto Rico, a Coastal Zone Management Consistency Concurrence is required from the Puerto Rico Planning Board. In the Virgin Islands, the Department of Planning and Natural Resources permit constitutes compliance with the Coastal Zone Management Plan.

**REQUEST FOR PUBLIC HEARING:** Any person may request a public hearing. The request must be submitted in writing to the District Engineer within the designated comment period of the notice and must state the specific reasons for requesting the public hearing.

# Sector 7 (Porpoise Point) Beach and Dune Restoration Project Indian River County



## INDEX OF SHEETS

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8-22	Profiles
23	Dune Planting Details
24	Dune Planting Details
25	Notes



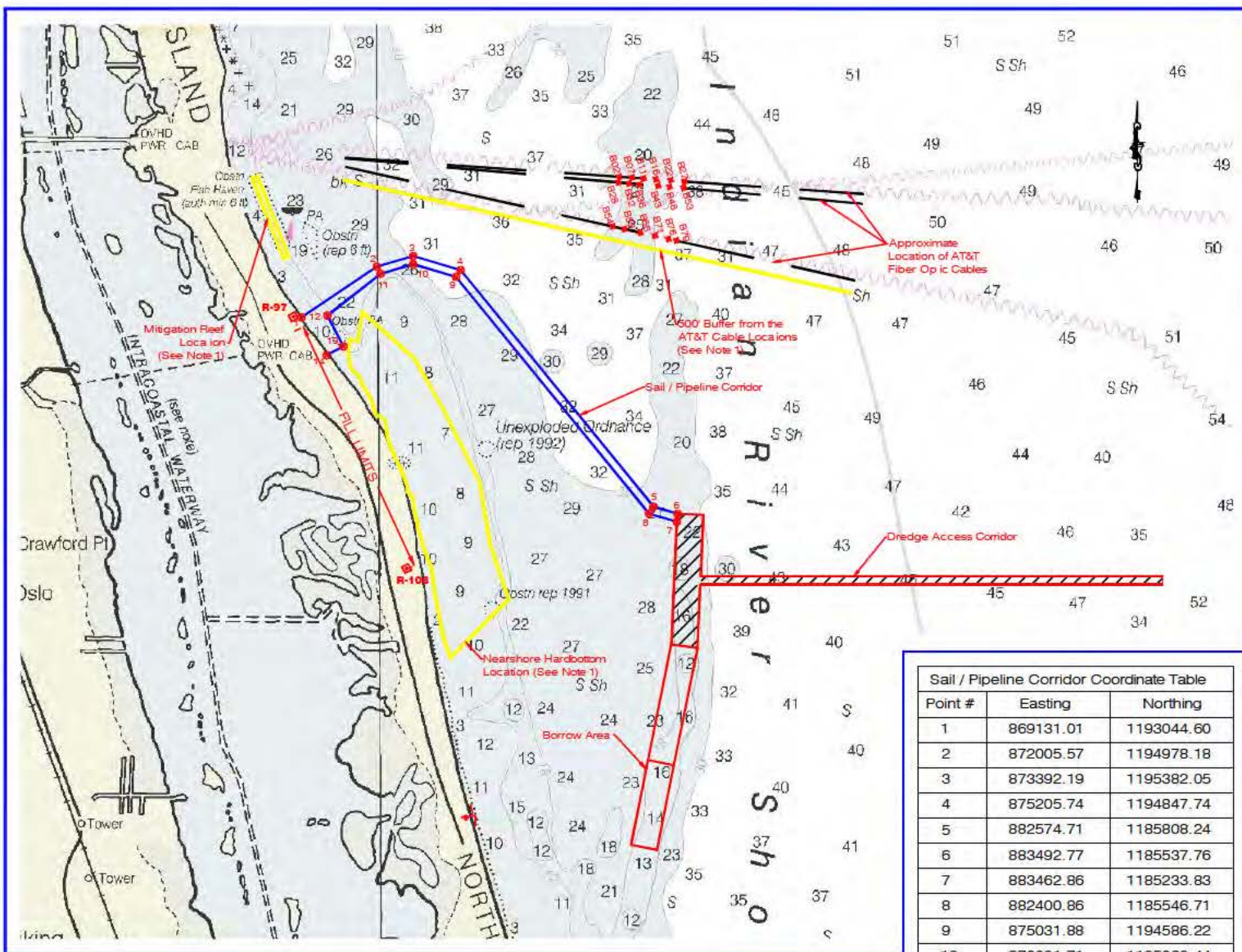
CHARLES T. FONTAINE III, P.E.      DATE  
FLORIDA P.E. LICENSE NUMBER 73042



Certificate of Authorization Number: 00004195  
3625 20th Street, Vero Beach, Florida 32960 Ph. (772)-562-8390

Cover Sheet	ENGR CTF	DRAWN AQN	SHEET 1
Sector 7 Beach and Dune Restoration Project Indian River County, Florida	LAST REVISION	DATE 01/24/2019	OF 25 SHEETS JOB NO. 2018C.007





### Notes:

1. Contractor's vessel or equipment should not enter this Restricted Zone.
2. Horizontal Datum is NAD '83, State Plane Coordinates, Florida East Zone.
3. Map from NOAA Chart #11474 Florida - East Coast Bethel Shoal to Jupiter Inlet.
4. Mitigation Reef, Nearshore Hardbottom, and Corridors location are from Drawings by Applied Technology & Management, Inc. titled "Sector 7 - Beach Restoration Project Construction Set" dated January 04, 2007.
5. The Contractor is to use the Dredge Access Corridor to access the Borrow Area from deep water.
6. The Contractor is to use the Sail / Pipeline Corridor for offloading of material onto the beach.

### LEGEND

- 16 Sail / Pipeline Corridor Point
- 12 Depth MLLW
- B-5 Magnetometer Hit (Morgan & Eklund May, 2000)
- Dredge Access Corridor
- Sail / Pipeline Corridor
- Restricted Zones
- R-108 Reference Monument

Sail / Pipeline Corridor Coordinate Table		
Point #	Easting	Northing
1	869131.01	1193044.60
2	872005.57	1194978.18
3	873392.19	1195382.05
4	875205.74	1194847.74
5	882574.71	1185808.24
6	883492.77	1185537.76
7	883462.86	1185233.83
8	882400.86	1185546.71
9	875031.88	1194586.22
10	873391.71	1195069.44
11	872145.47	1194706.46
12	870120.23	1193110.11
13	870734.61	1191934.10
14	870092.44	1191598.61



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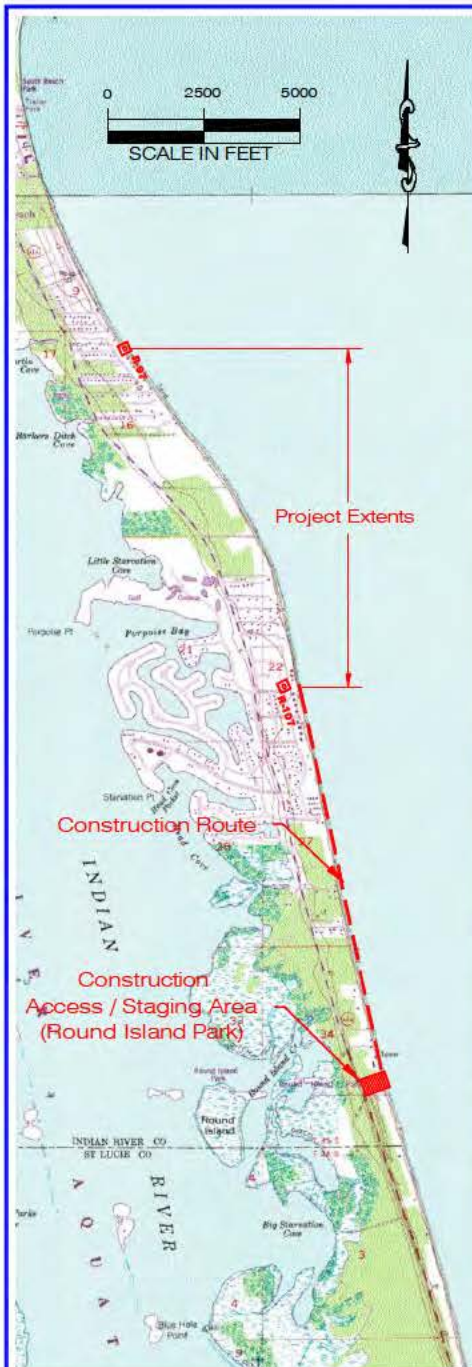
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### Location Map / Pipeline Corridor

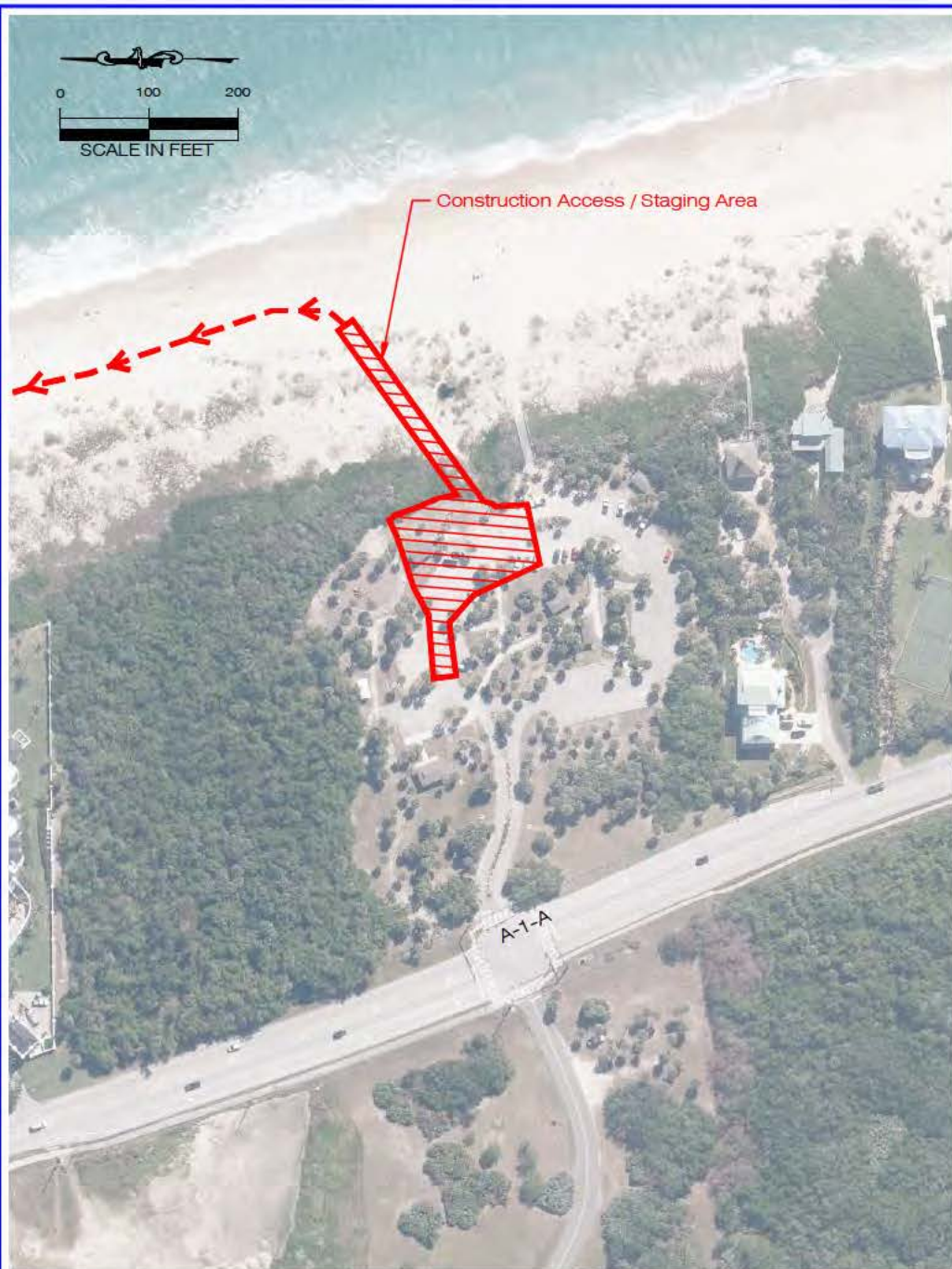
Sector 7 Beach and Dune Restoration Project  
Indian River County, Florida

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**Access / Staging Area Location Map**



**Round Island Park Plan View**

## NOTES:

1. Aerial image obtained from Indian River County and by Aerial Cartographic's of America dated 07/28/2017.
2. USGS Quad image obtained from Labins.
3. Location of Access and Staging Area is approximate; actual location to be verified at the Pre-Construction Meeting; see Technical Specifications.

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Construction Access / Staging Area Location Map

Sector 7 Beach and Dune Restoration Project  
Indian River County, Florida

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#### NOTES:

1. Aerial image from GPI Geospatial, Inc. dated 03/22/2018.
2. Landward edge of hard bottom obtained from Indian River County and by CB&I Coastal Planning & Engineering, Inc. dated 11/11/2015.
3. Nearshore Hardbottom by Dial Cordy & Associates Inc. dated 2001.
4. Erosion Control Line (ECL) obtained from Morgan & Eklund survey date 09/02/2005.

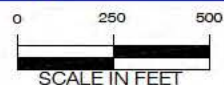
#### Proposed

- Construction Fill Template
- Seaward Edge of Top of Berm
- Equilibrated Toe of Fill
- Mean High Water

#### LEGEND

#### Existing

- FDEP reference monument
- Landward Edge of Hardbottom 11/2015
- Nearshore Hardbottom 2001
- Erosion Control Line (ECL)
- Mean High Water



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#### Plan View Project Area

Sector 7 Beach and Dune Restoration Project  
Indian River County, Florida

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## NOTES:

1. Aerial image from GPI Geospatial, Inc. dated 03/22/2018.
2. Landward edge of hard bottom obtained from Indian River County and by CB&I Coastal Planning & Engineering, Inc. dated 11/11/2015.
3. Nearshore Hardbottom by Dial Cordy & Associates Inc. dated 2001.
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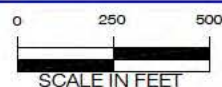
## Proposed

- Construction Fill Template
- Seaward Edge of Top of Berm
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- Mean High Water

## LEGEND

## Existing

- FDEP reference monument
- Landward Edge of Hardbottom 11/2015
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## Plan View Project Area

Sector 7 Beach and Dune Restoration Project  
Indian River County, Florida

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2018C.007



## NOTES:

1. All elevations indicated are in feet, referenced to NAVD88 (North American Vertical Datum of 88).
2. Contours are from a survey by Applied Technology Management dated August 2008.
3. All horizontal values are referenced to NORTH AMERICAN DATUM of 1983, FLORIDA STATE PLANE, EAST ZONE.
4. Magnetometer survey conducted by Morgan & Eklund dated May 10-12, 2000 & by Great Lakes Dredge & Dock dated January 2008.
5. Descriptive classification of borrow material modified from unified soils classification.

## LEGEND:



Vibracore Location 1999



Magnetic Anomalies



Borrow Area Limits



Magnetic Anomaly Dredge Buffer



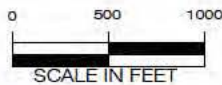
Sub Area 2 (8-2008 Survey) Borrow Area



Sub Area 3 (8-2008 Survey) Borrow Area

Coordinates of Borrow Area Corners

Corners	Northing	Easting
A	1180547	883214
B	1180426	884248
C	1176135	882367
D	1175939	883350
E	1172896	881715
F	1172702	882697



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### Plan View Borrow Area

Sector 7 Beach and Dune Restoration Project  
Indian River County, Florida

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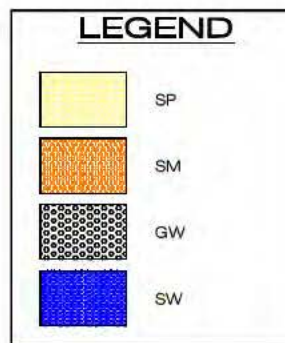
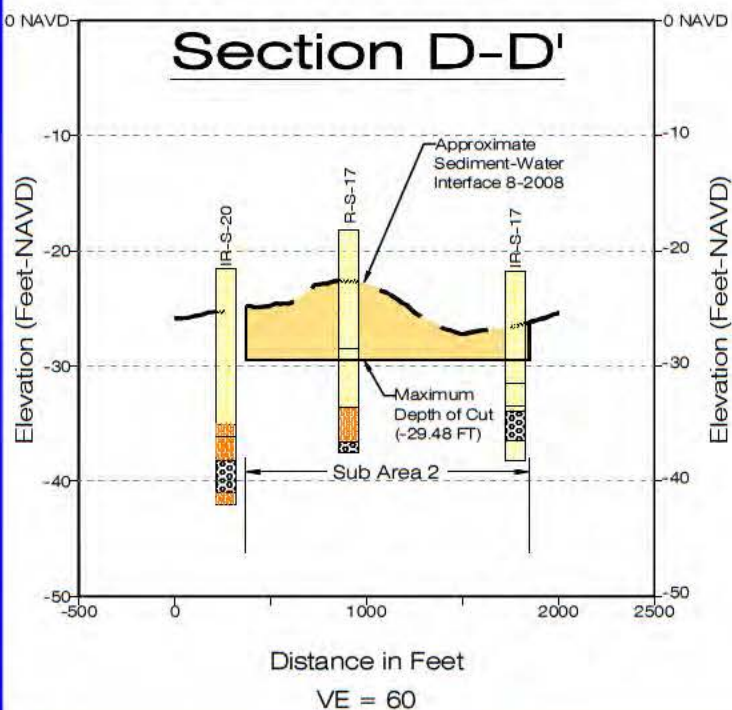
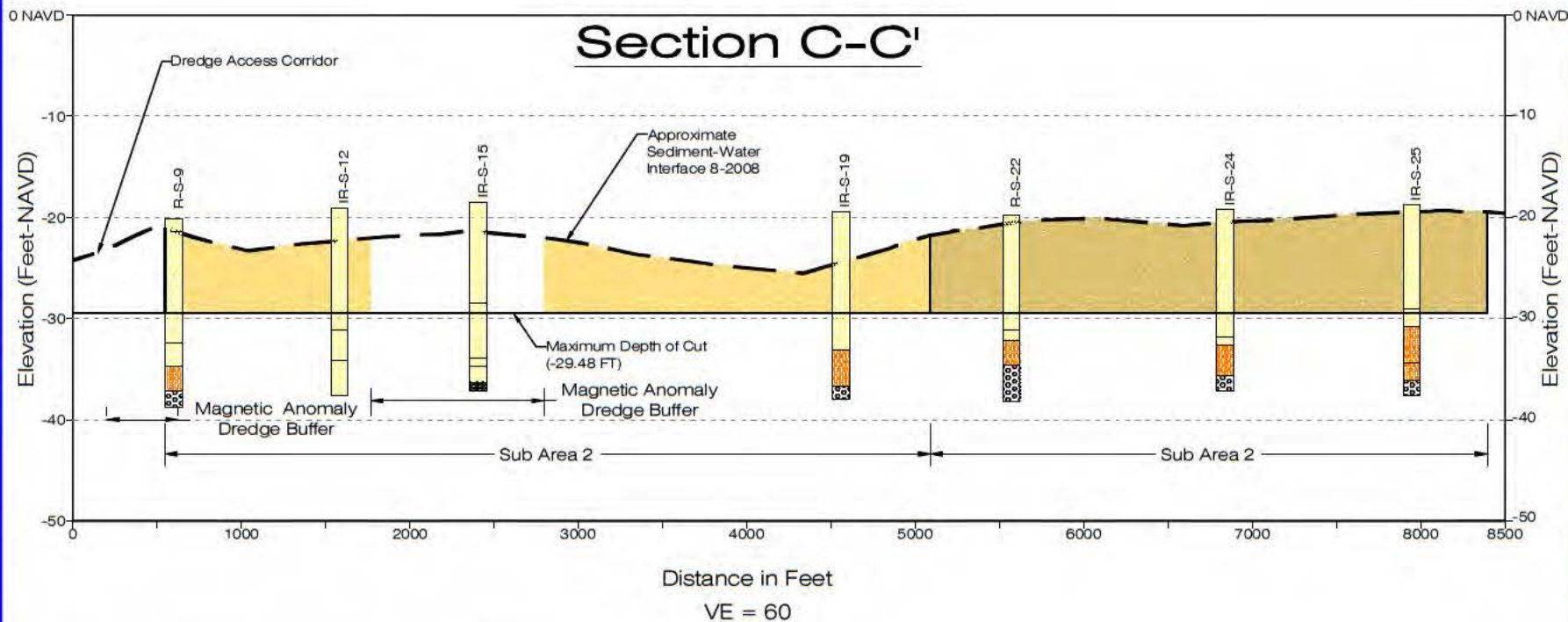
01/24/2019

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Geological Cross-Sections Developed from data in report titled: Indian River County Beach Restoration Projects, Engineering Design Report by: ATM, Inc. Dated February 2000. Drawing also incorporates 2003 survey data by: Land & Sea Surveying and 2008 survey data by: Great Lakes Dredge and Dock.

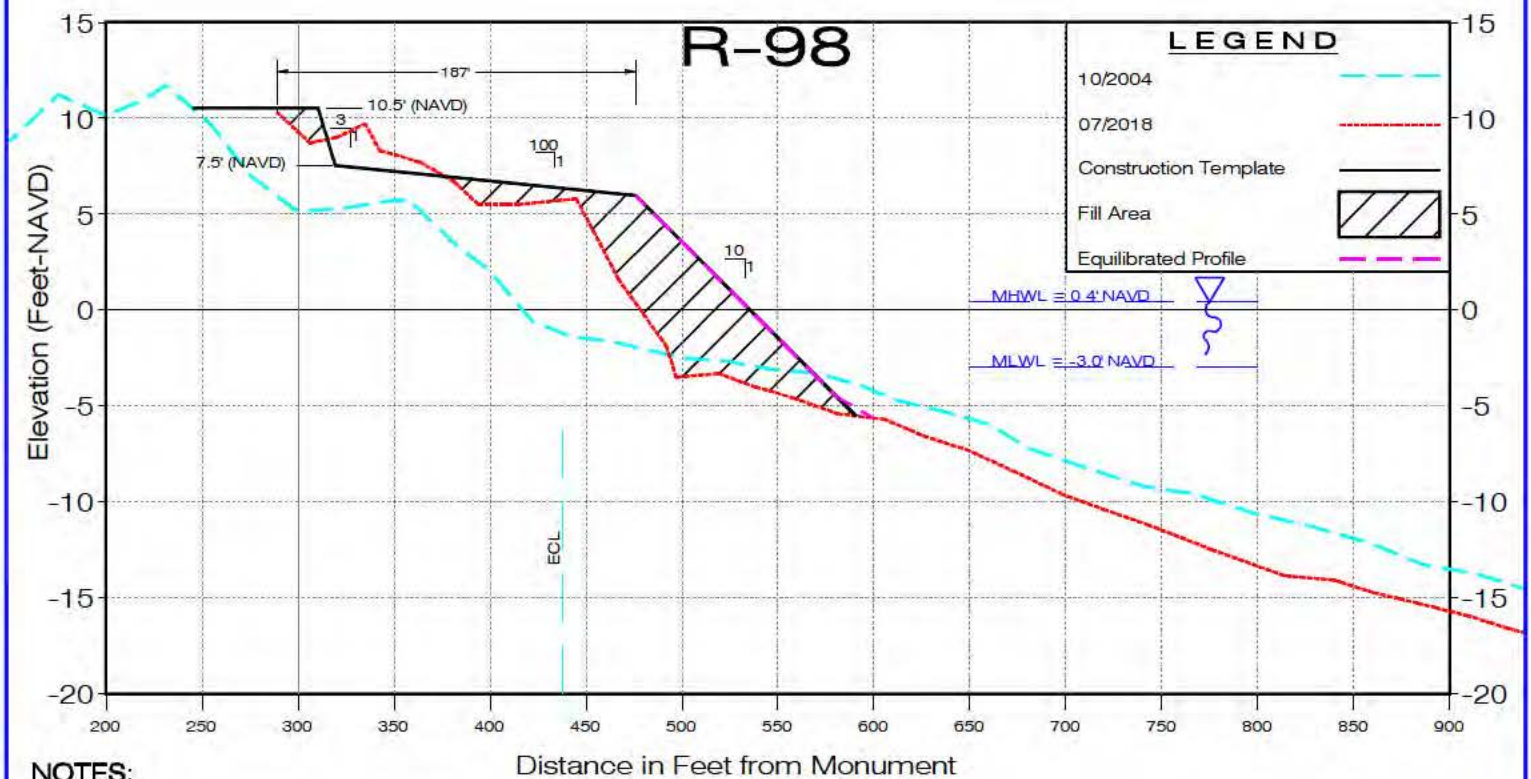
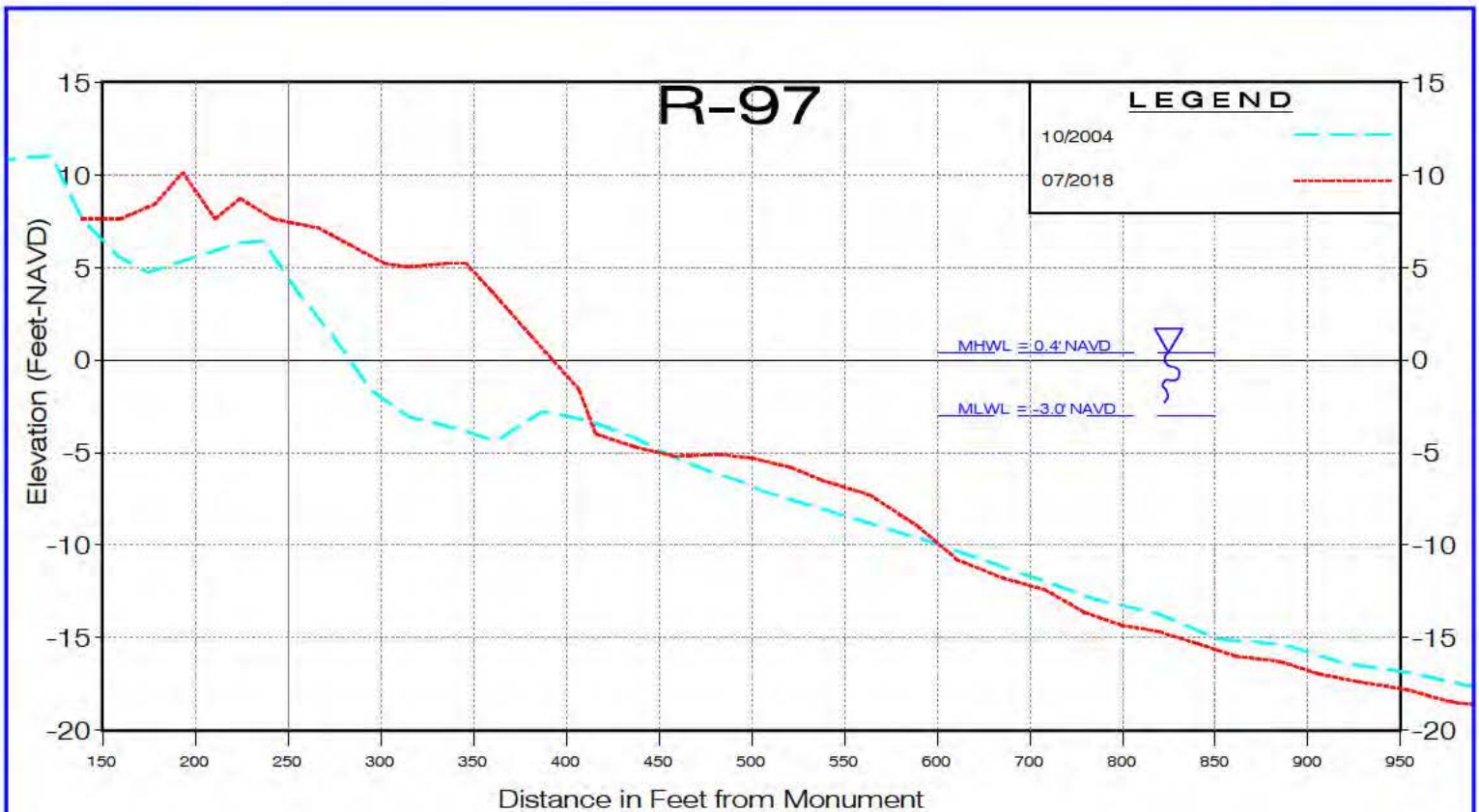
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<b>CROSS-SECTION C-C' &amp; D-D' BORROW AREA</b> Sector 7 Beach and Dune Restoration Project Indian River County, Florida	ENGR	CTF	LAST REVISION	DATE	01/24/2019	JOB NO.	2018C.007
	DRAWN	AQN					
	SHEET	7	OF 28 SHEETS				



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## NOTES:

- Construction Template and October 2004 profile data from a construction drawing by Applied Technology Management, Inc. titled Sector 7 - Beach Restoration Project Construction Set and dated 01/04/2007.
- Erosion Control Line (ECL) & July 2018 profile data from Morgan & Eklund, Inc.

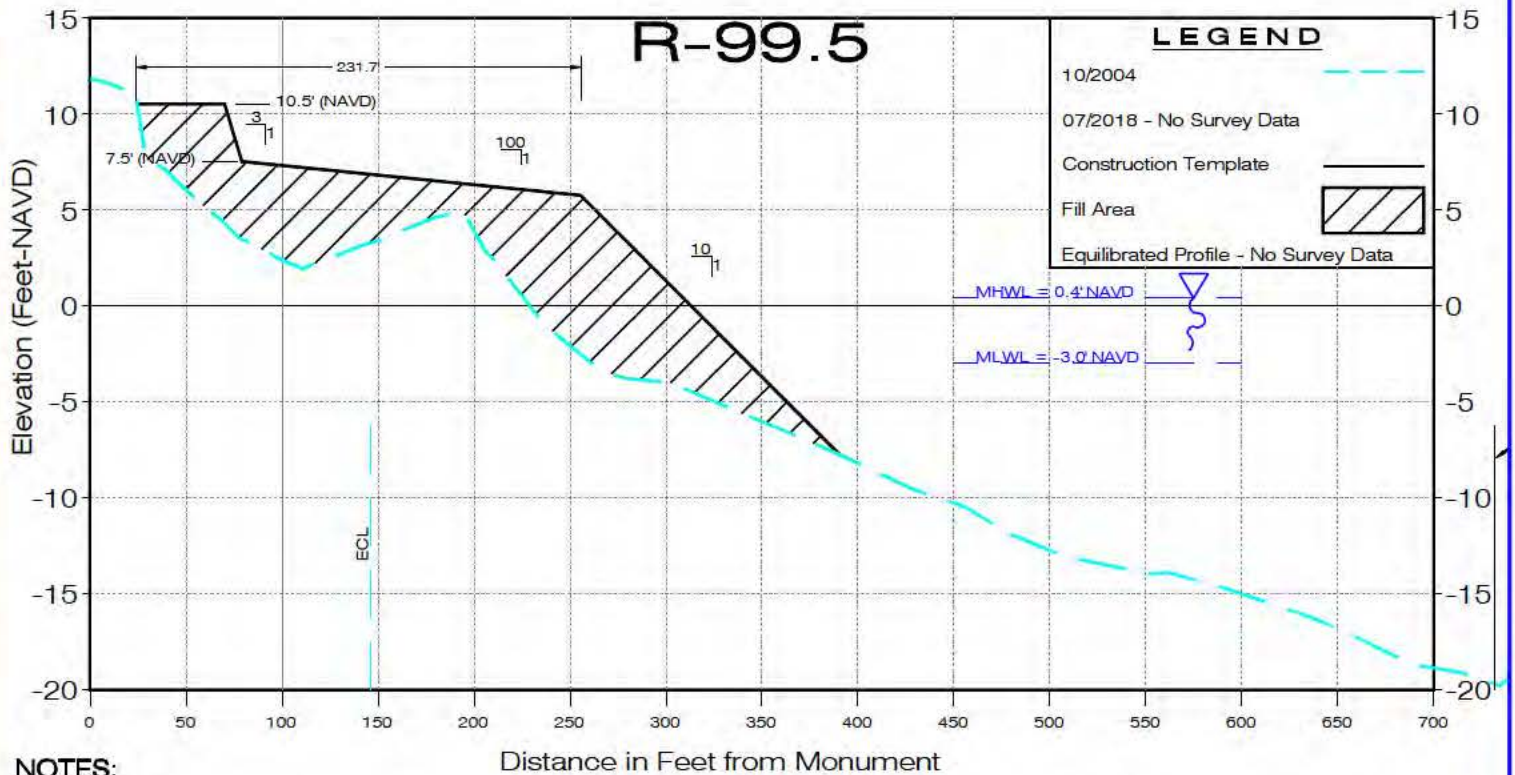
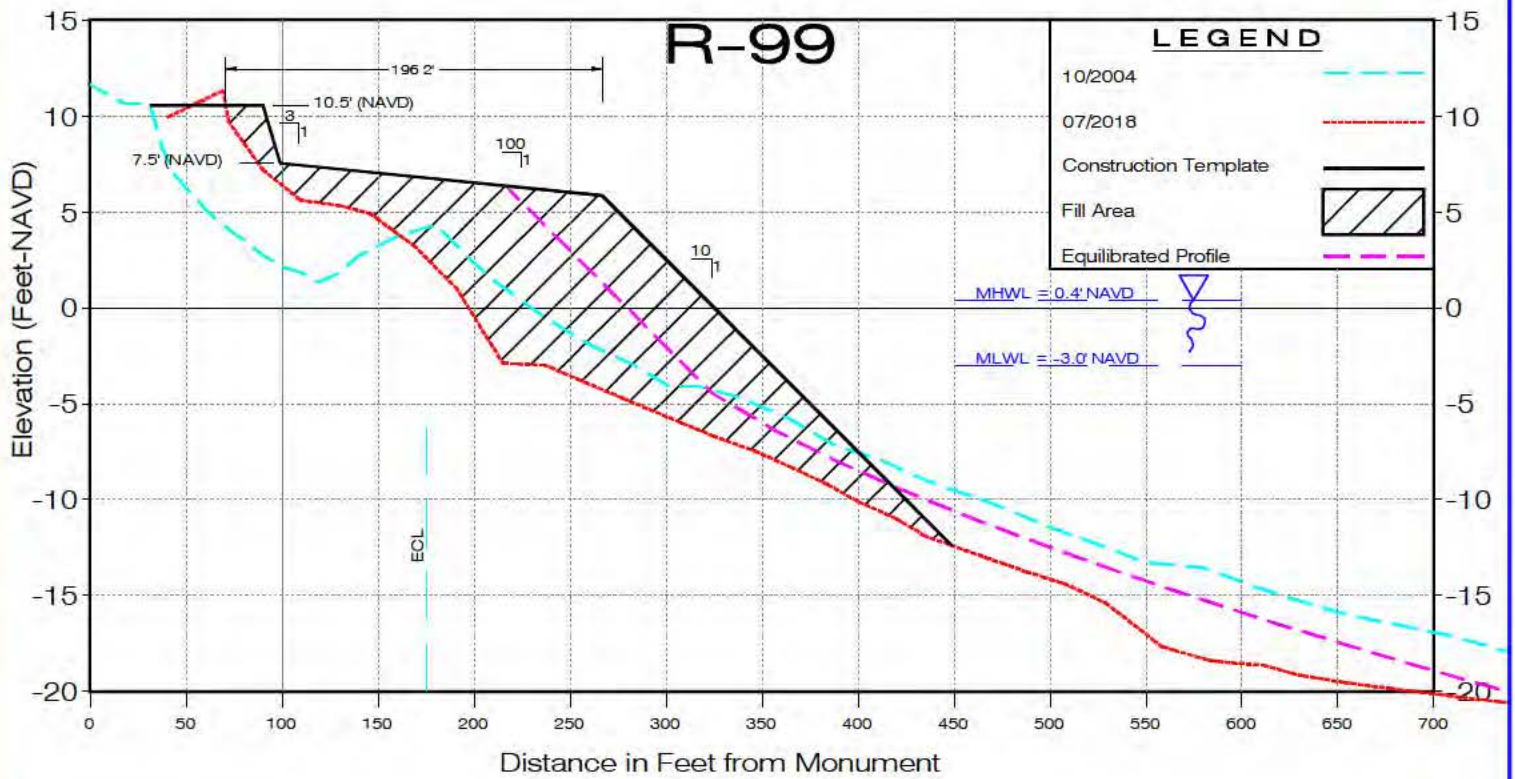
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Profiles  
Sector 7 Beach and Dune Restoration Project  
Indian River County, Florida

ENGR CTF	DRAWN AQN	SHEET 8
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#### Profiles

Sector 7 Beach and Dune Restoration Project  
Indian River County, Florida

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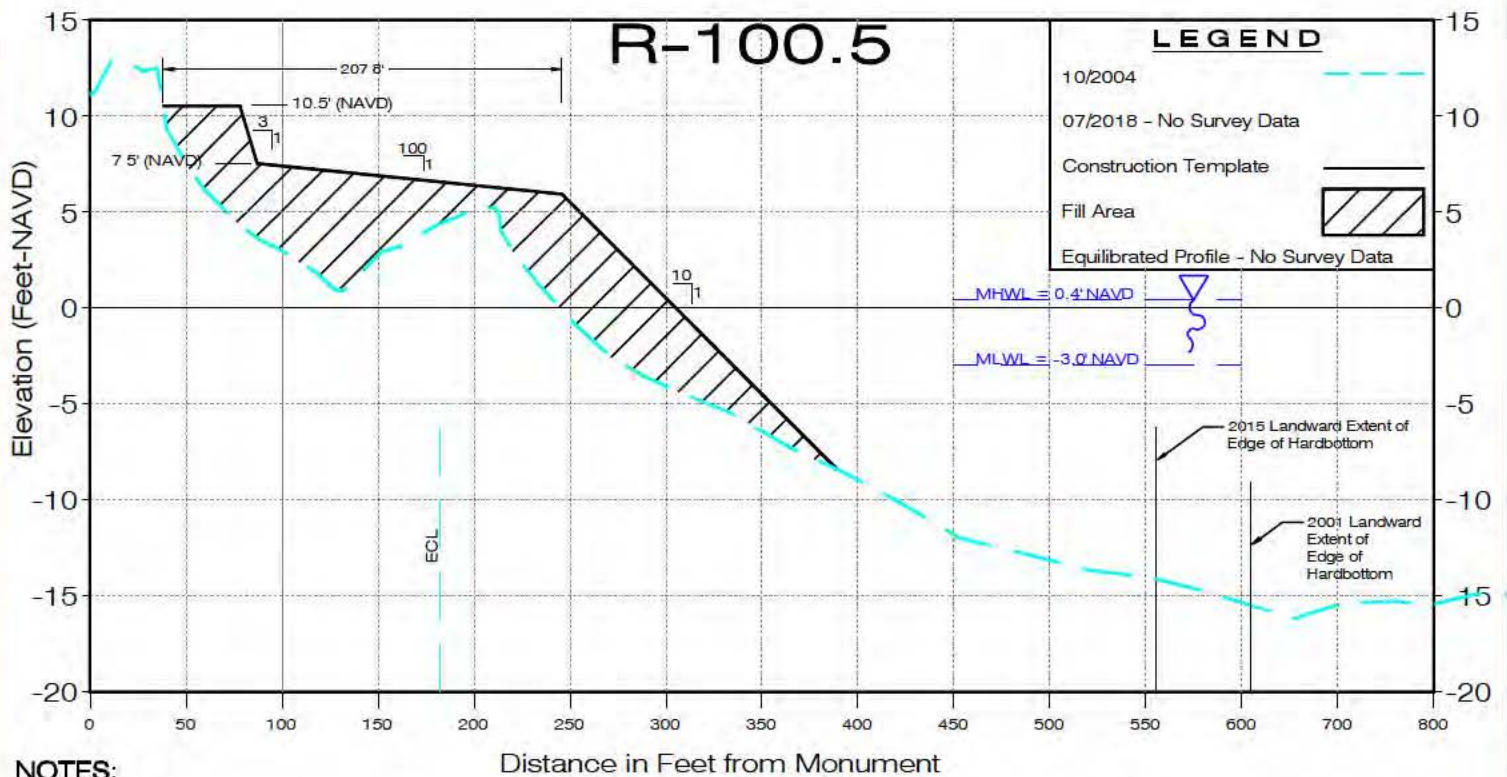
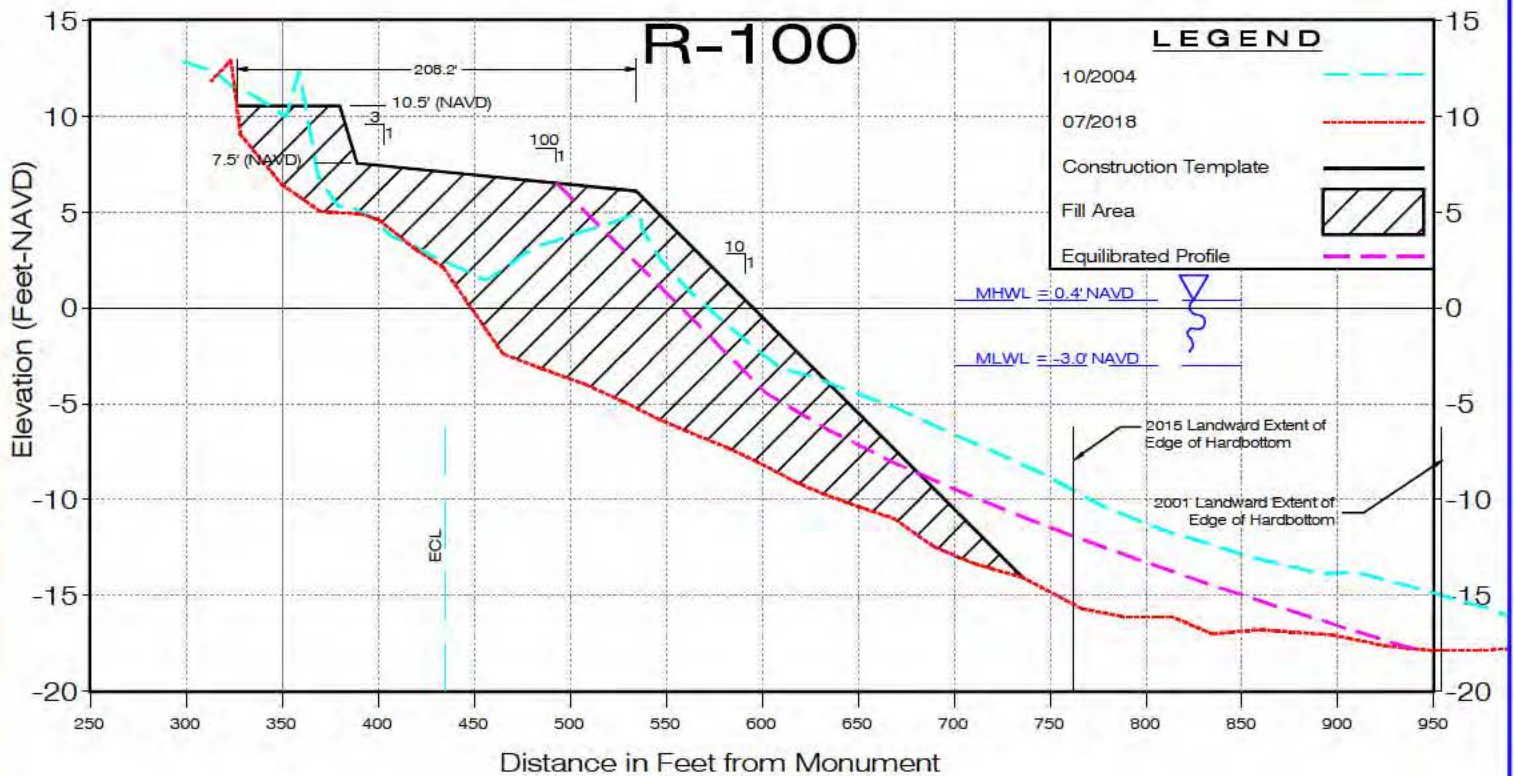
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**NOTES:**

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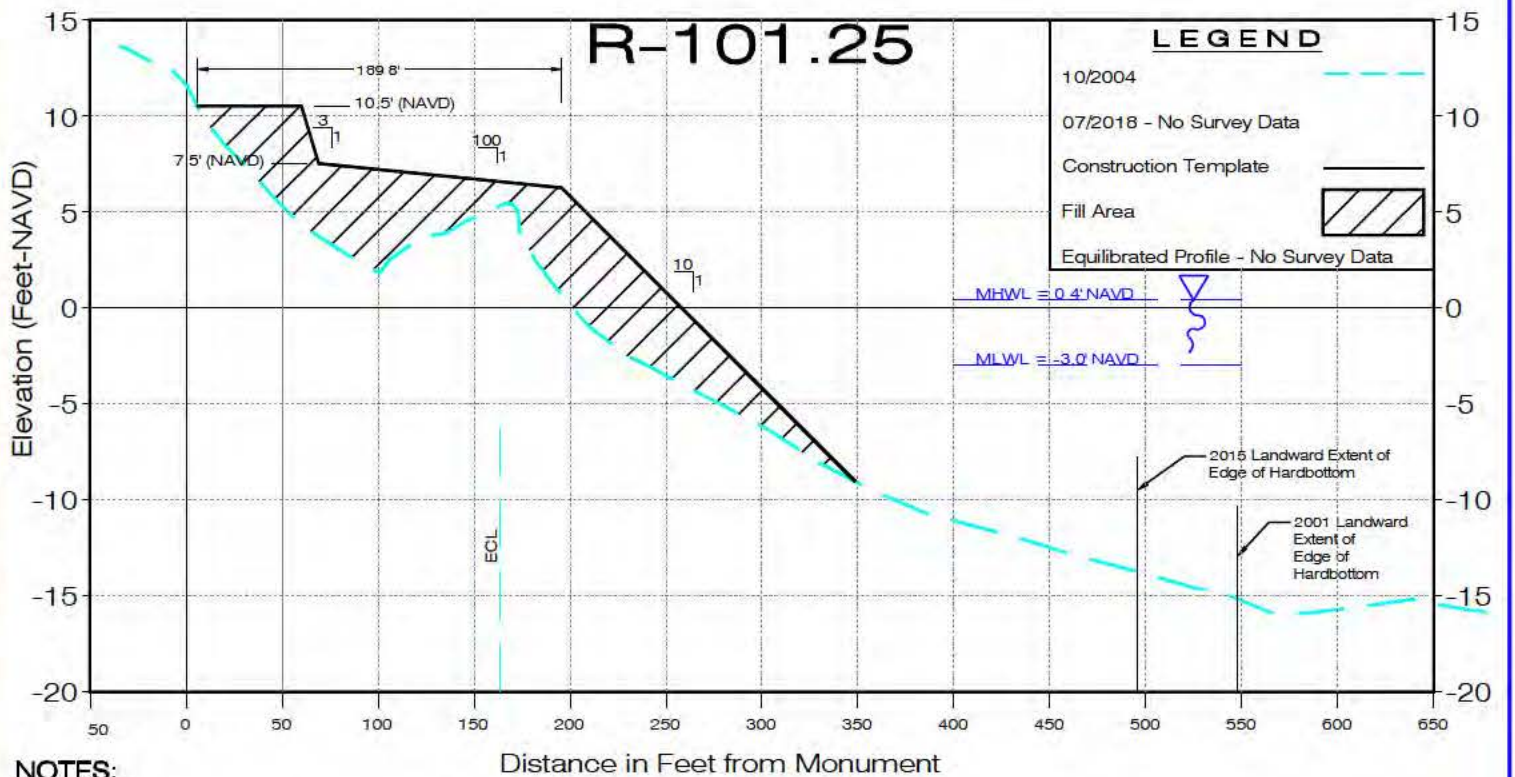
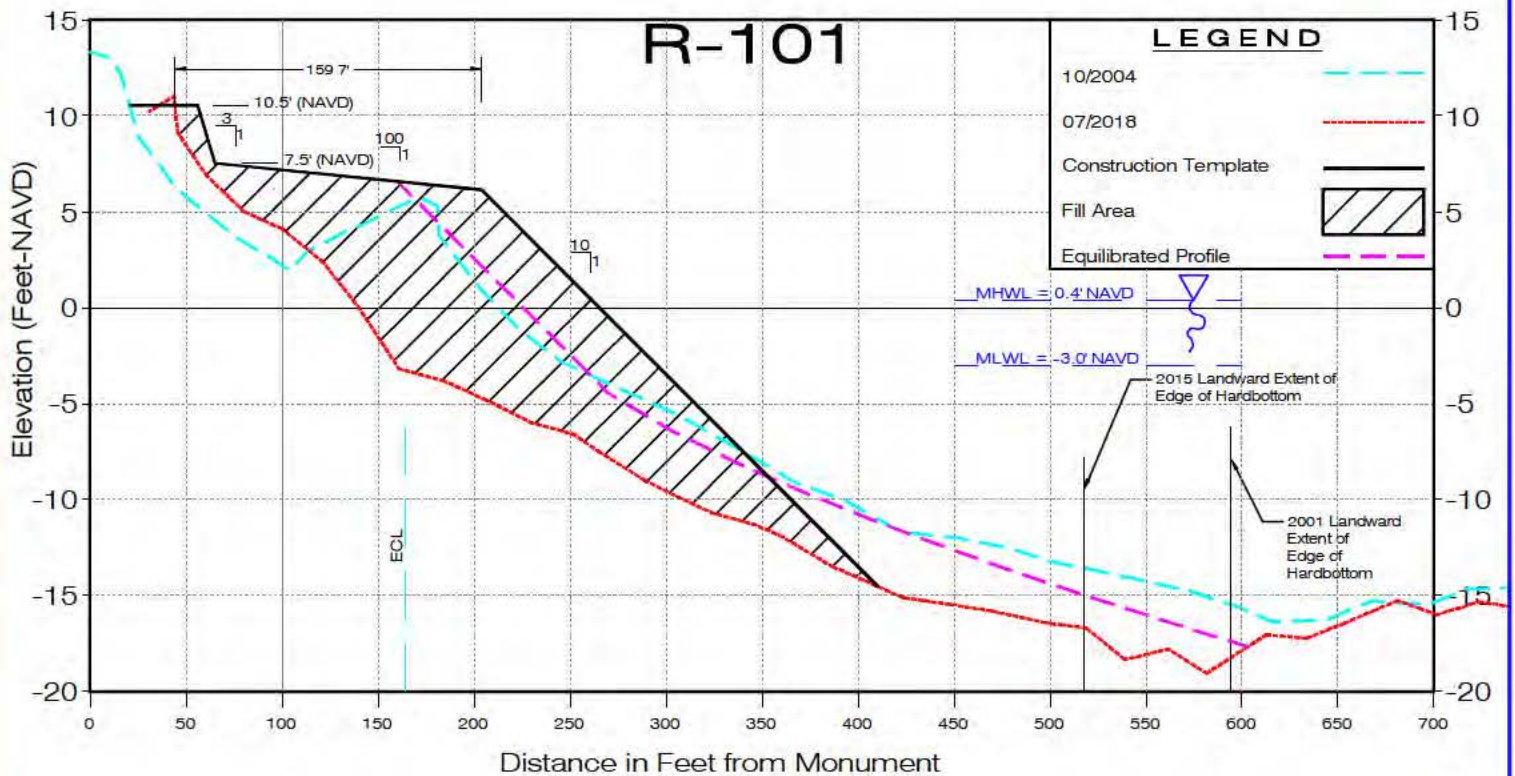


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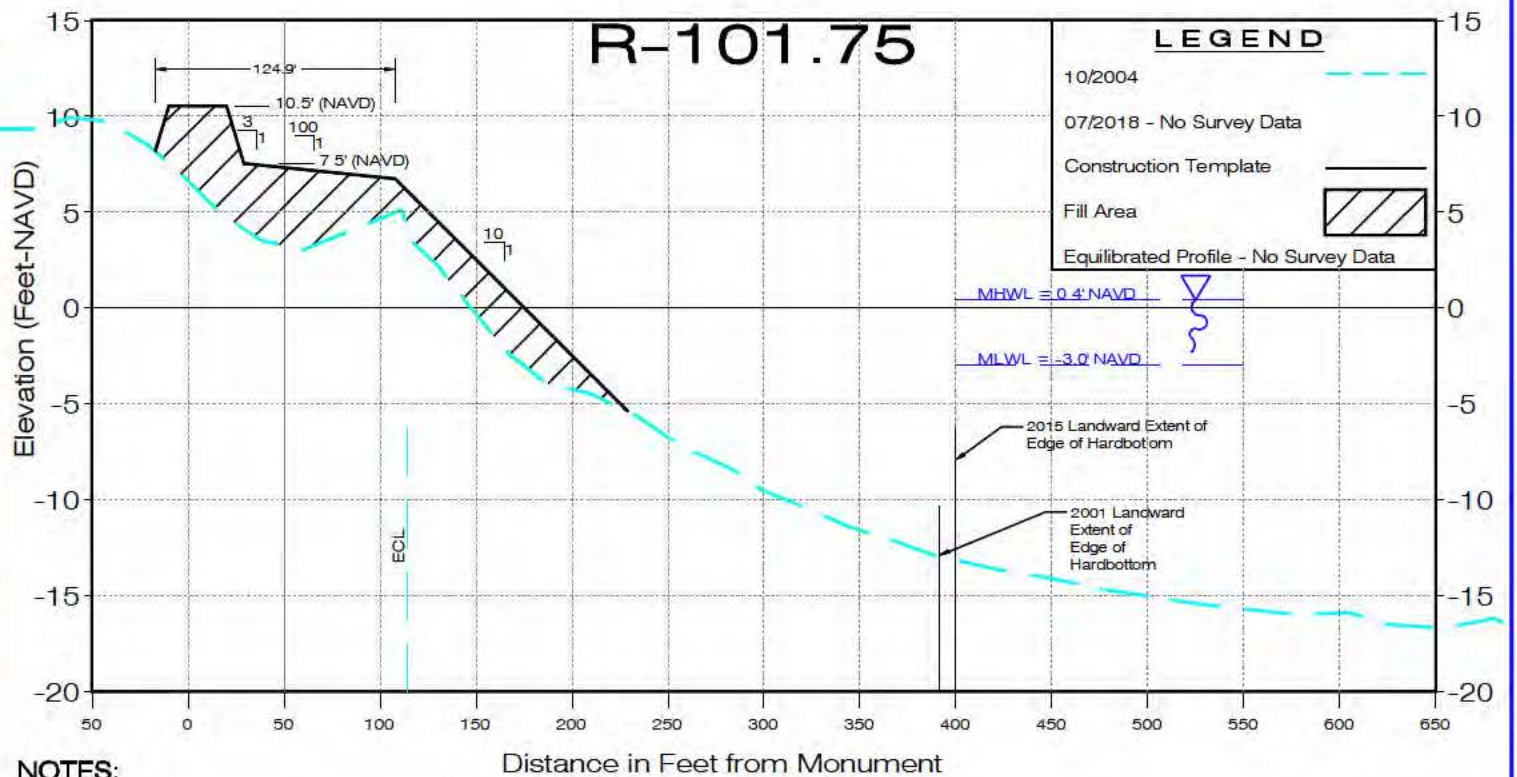
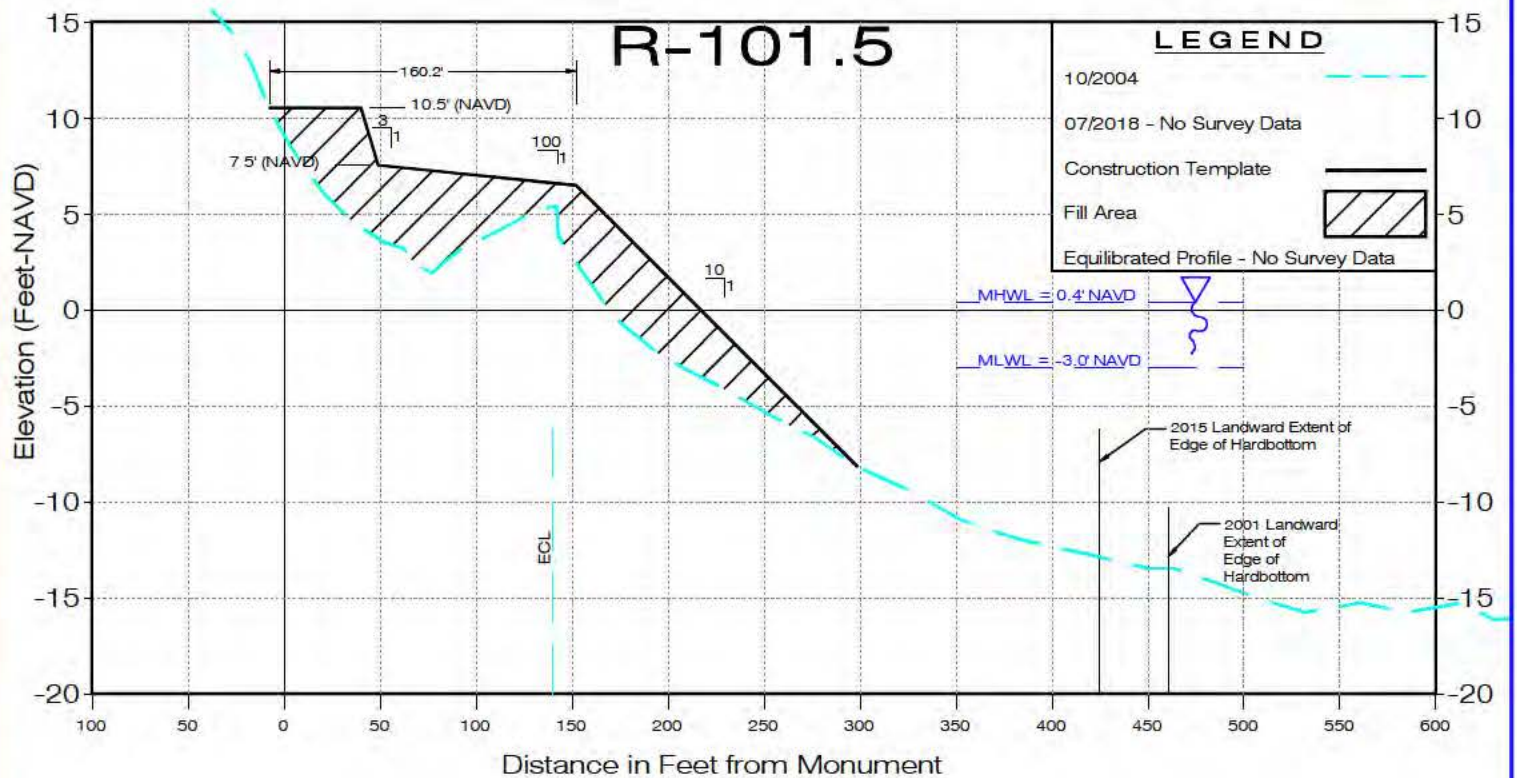
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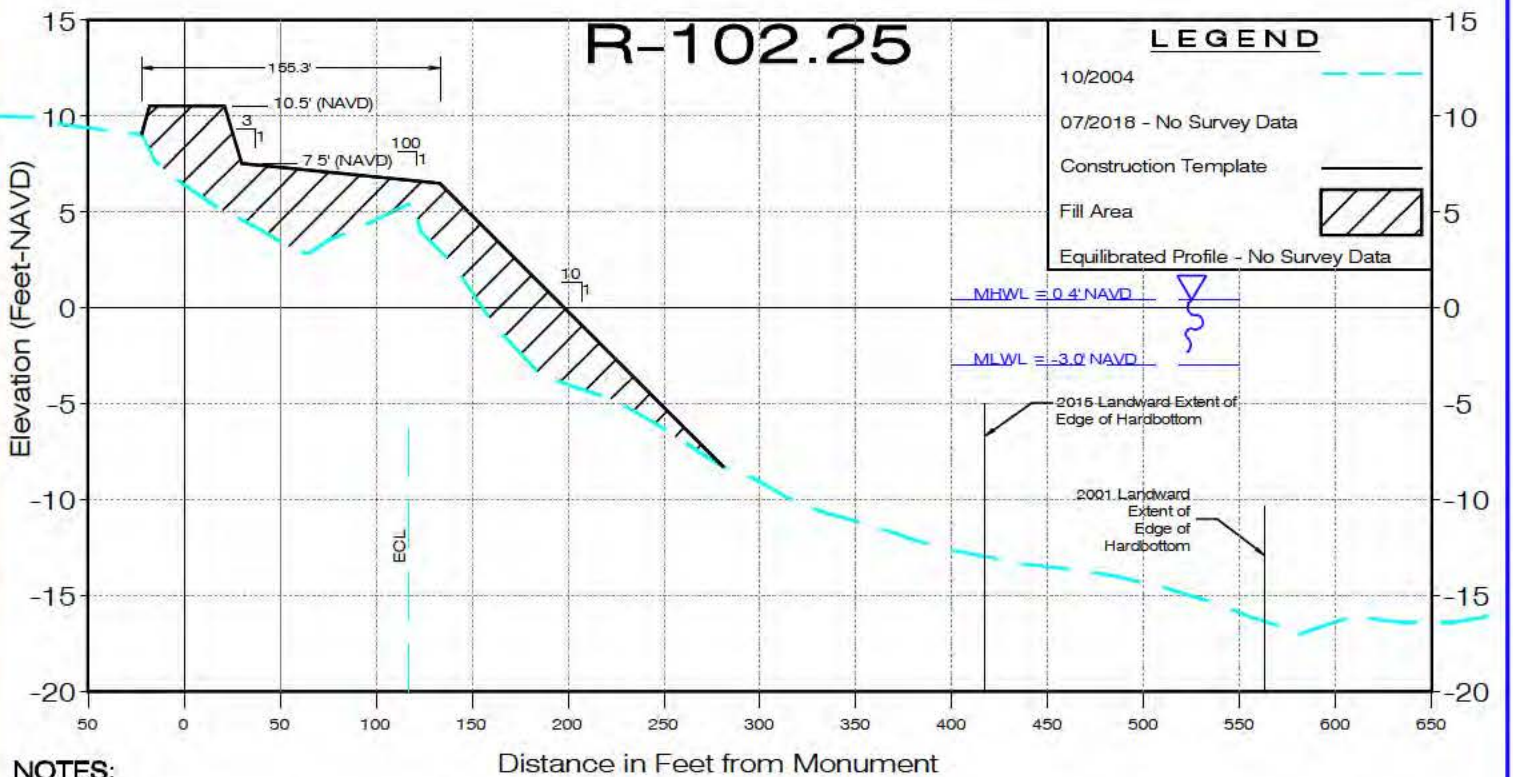
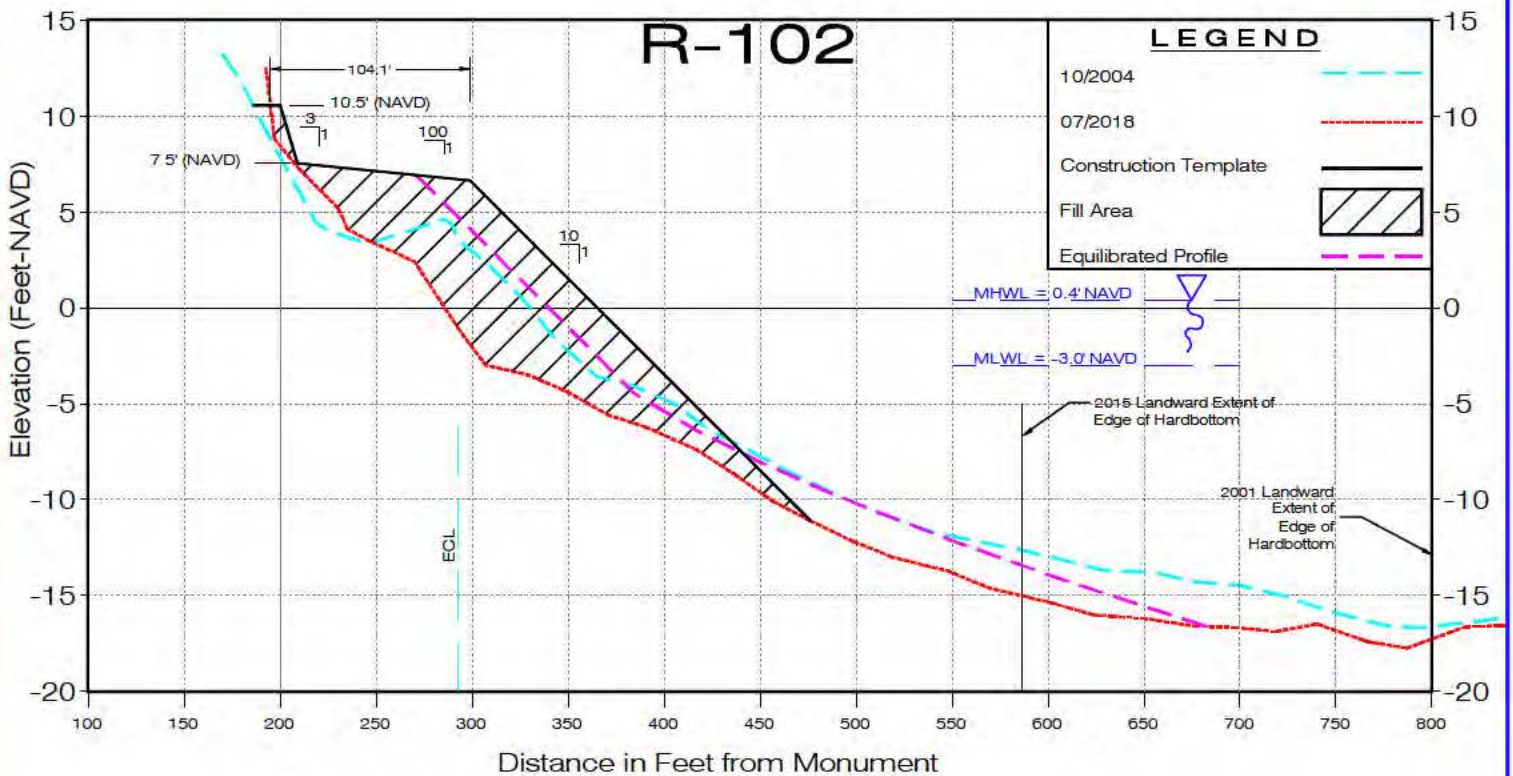
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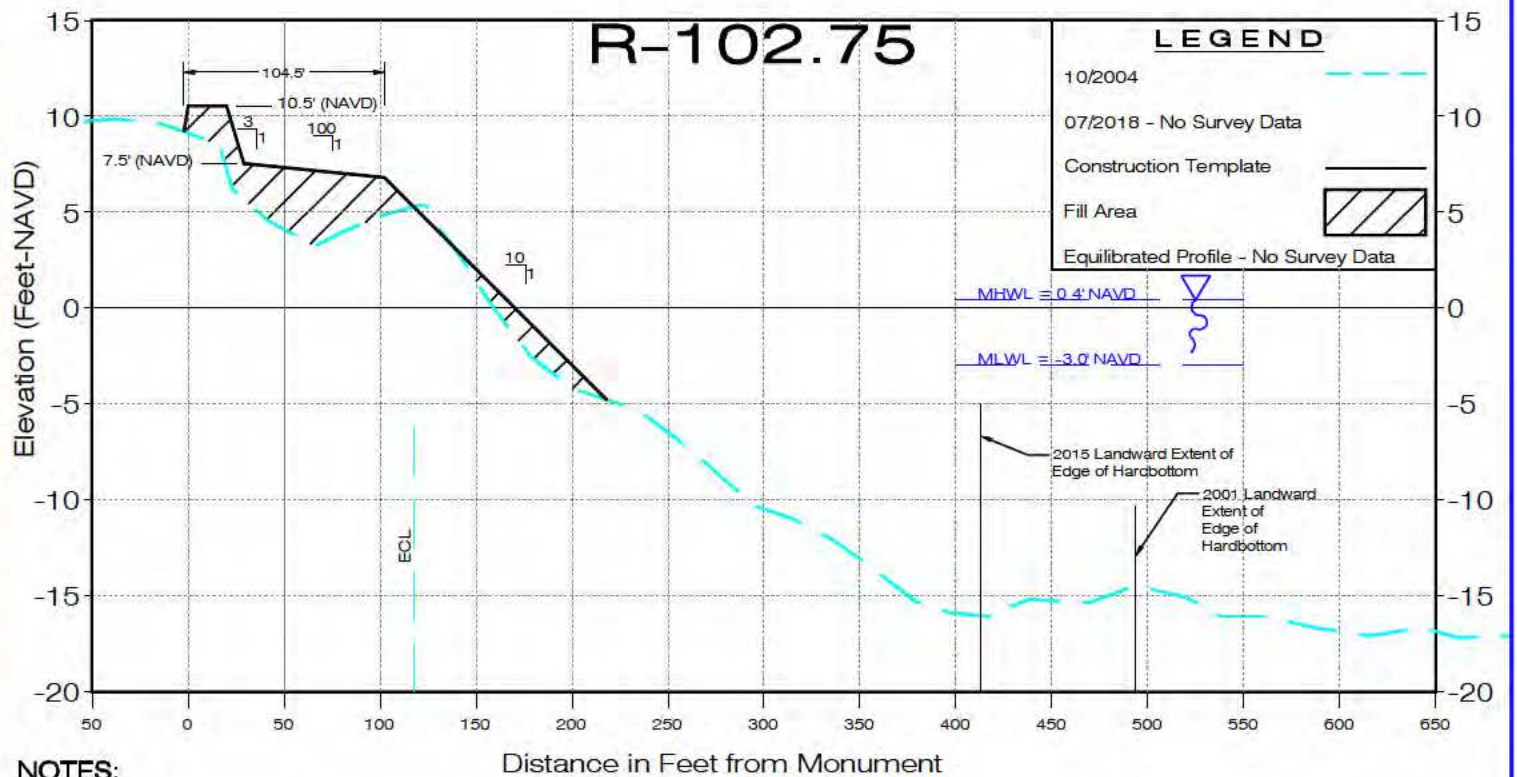
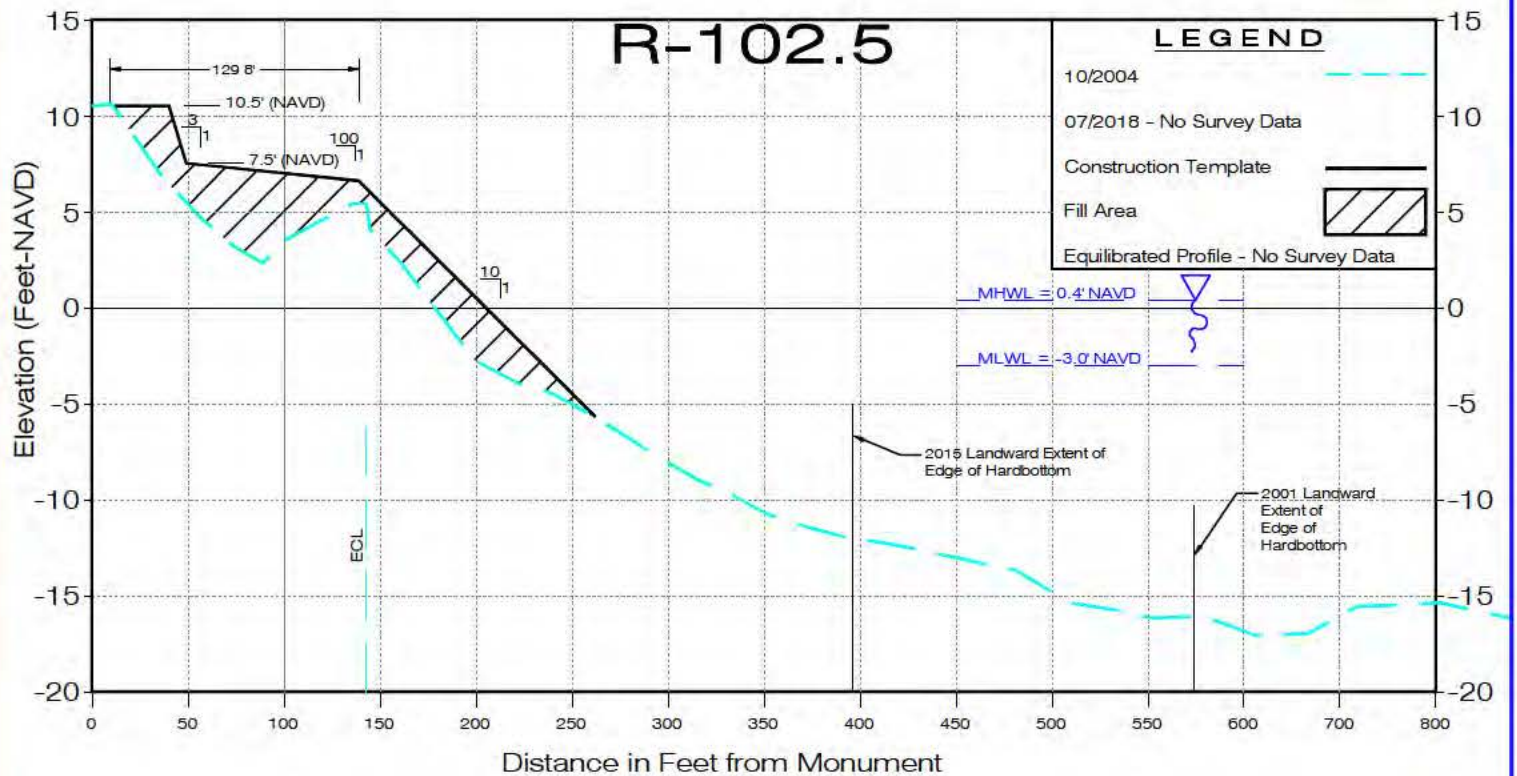


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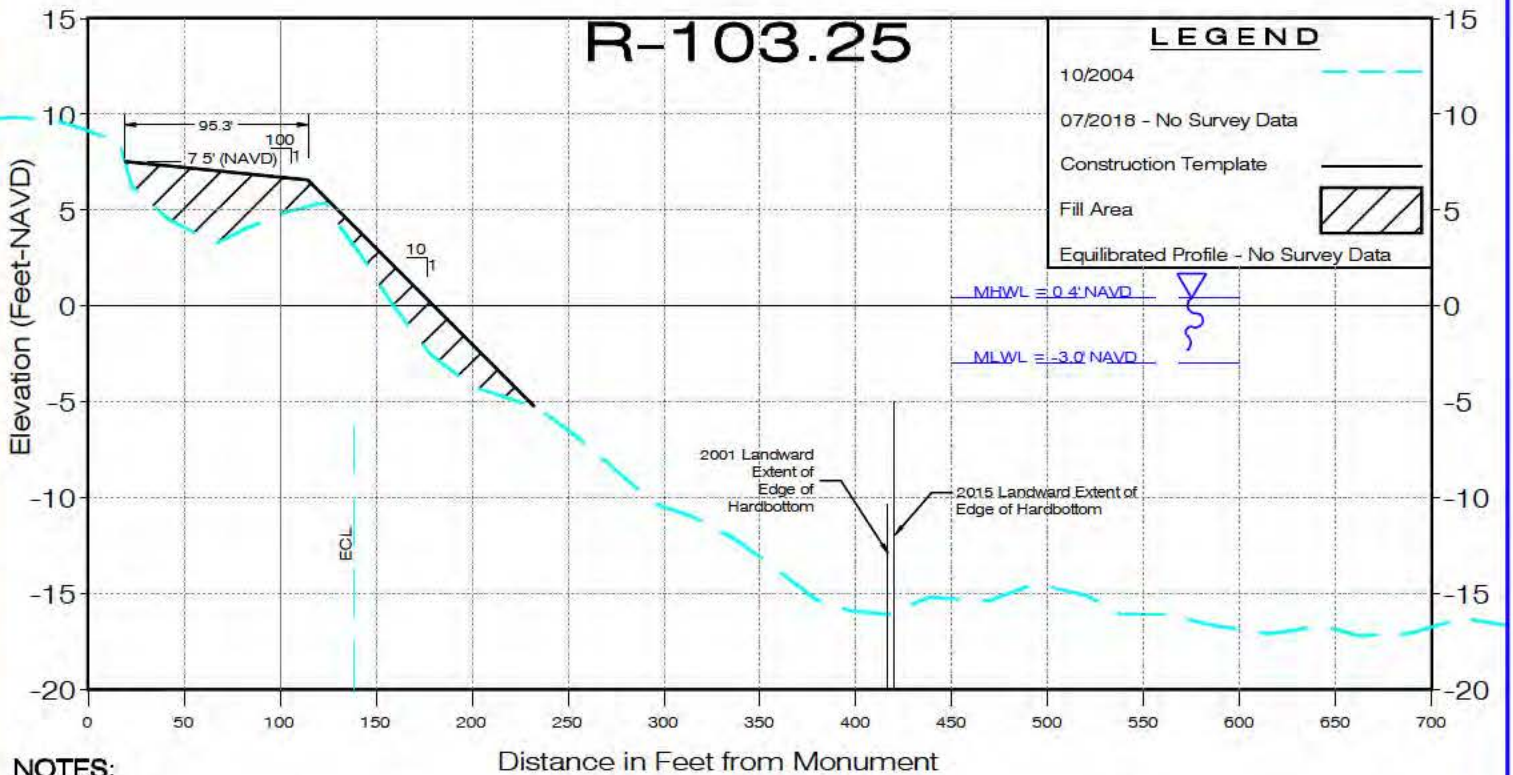
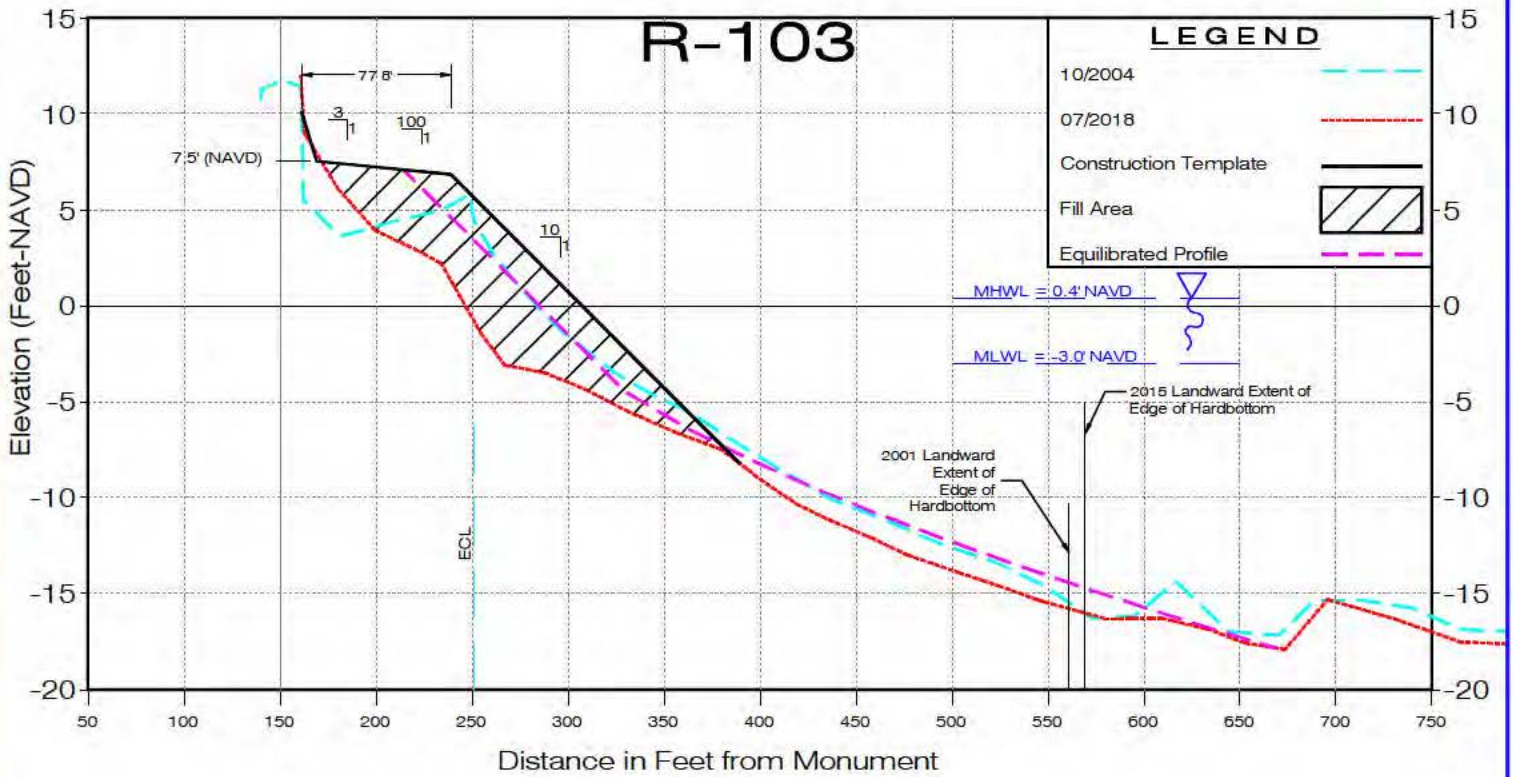


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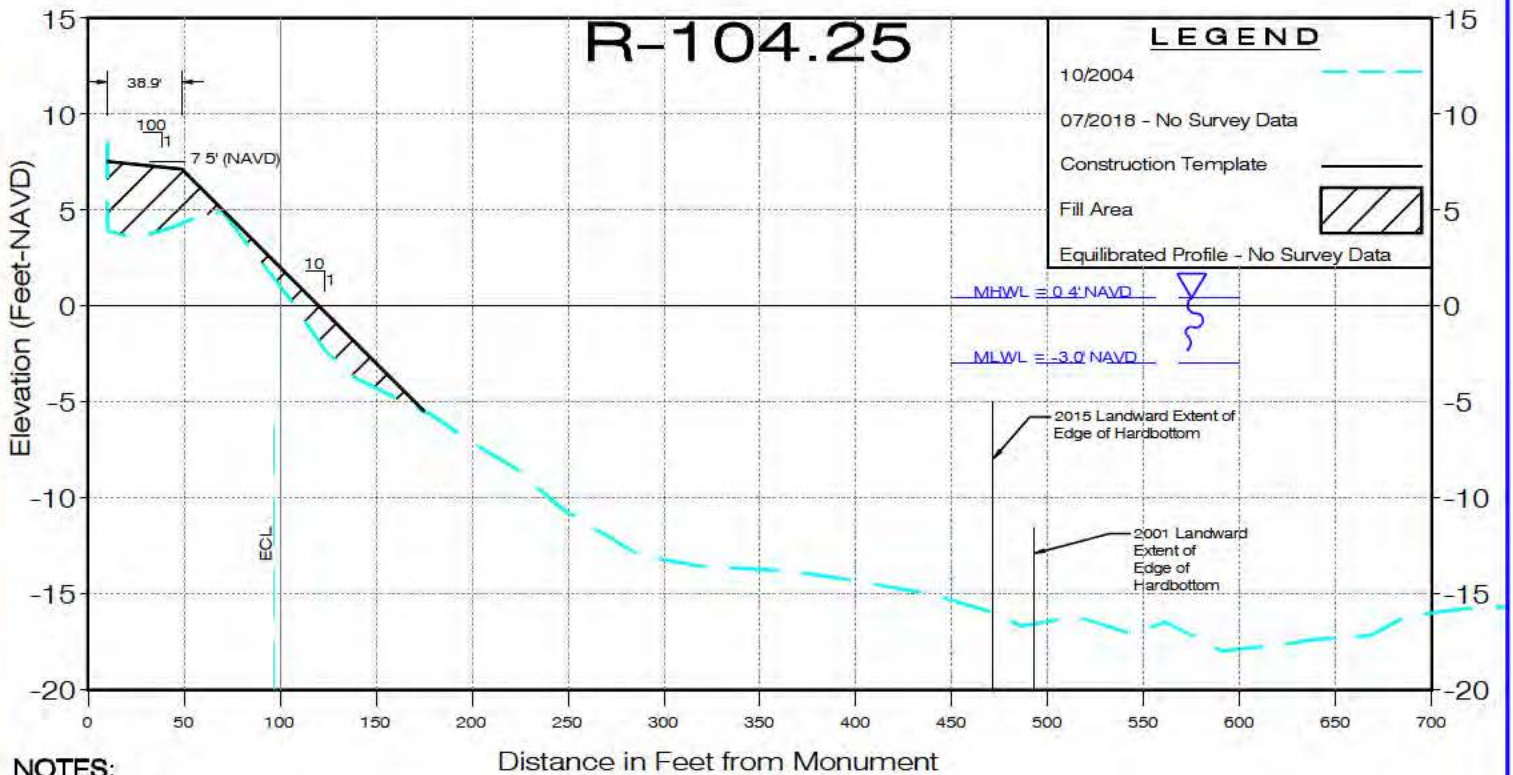
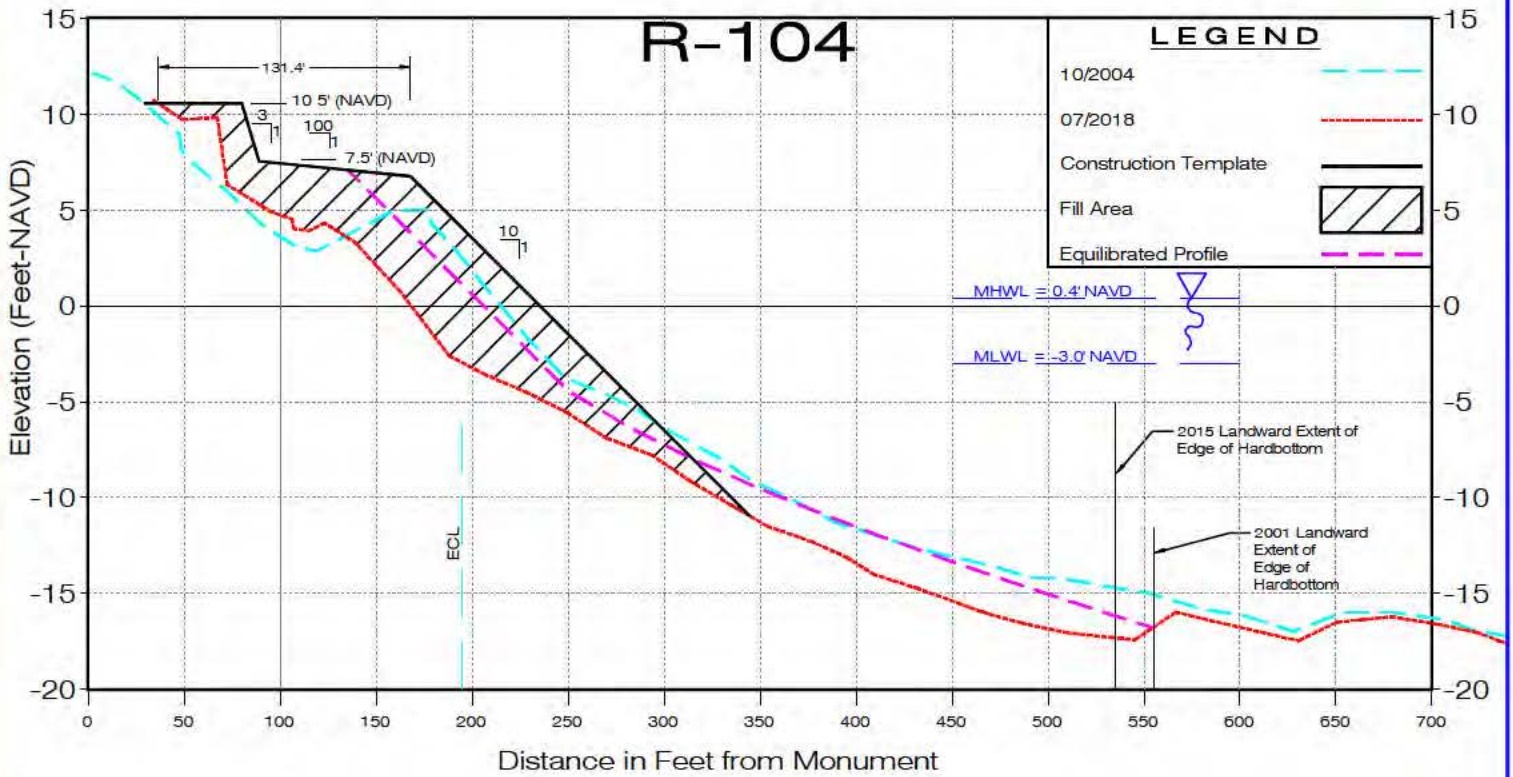
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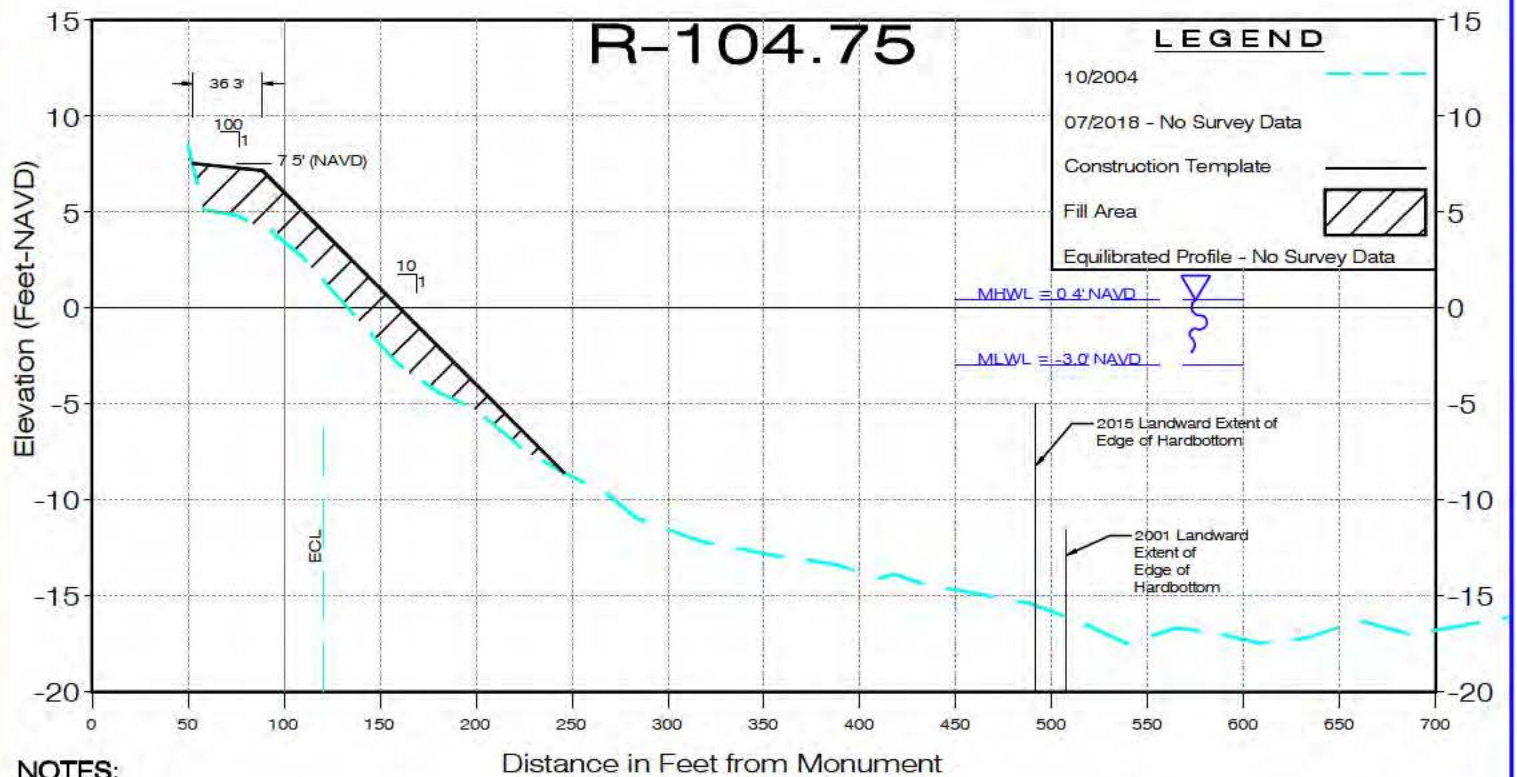
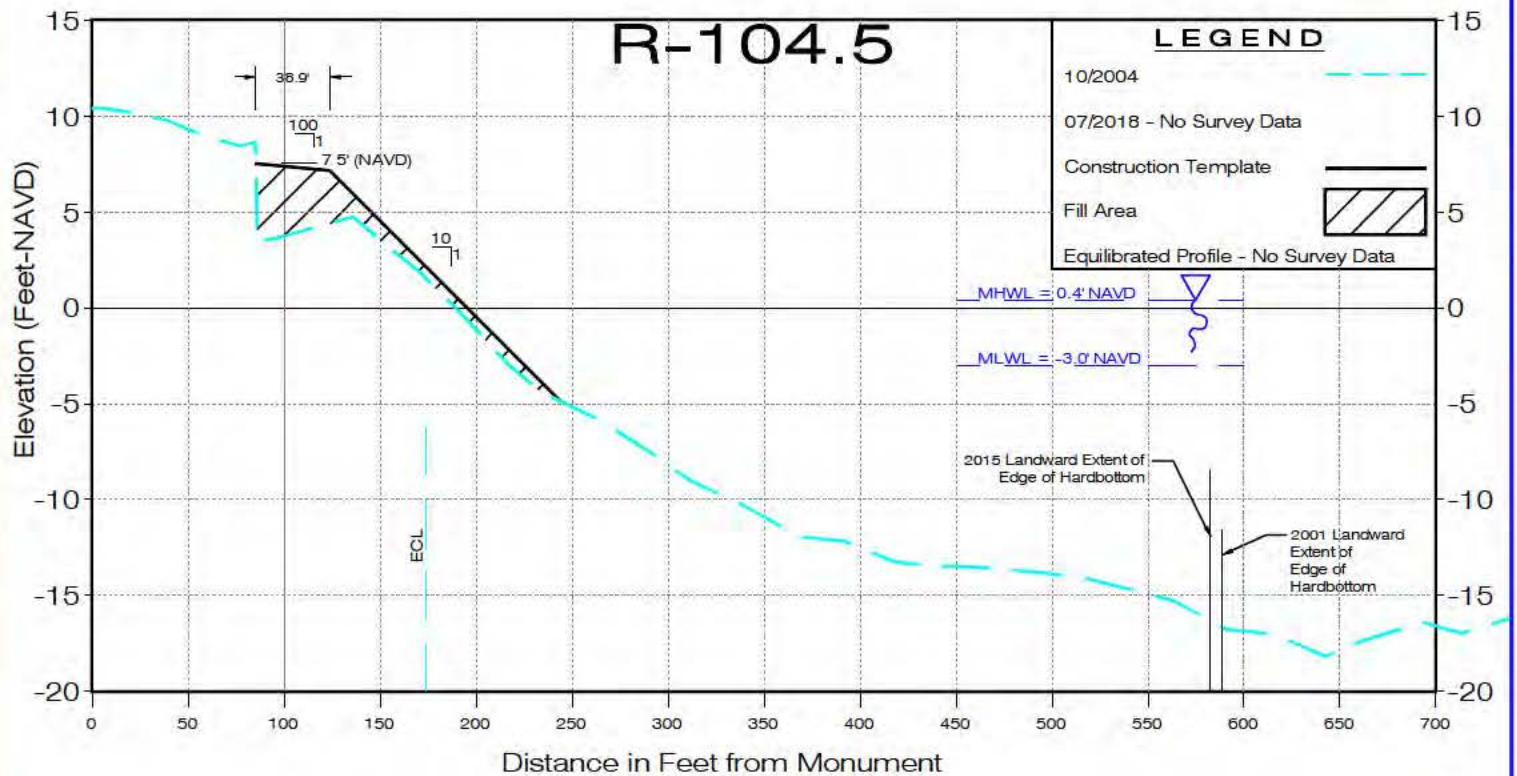


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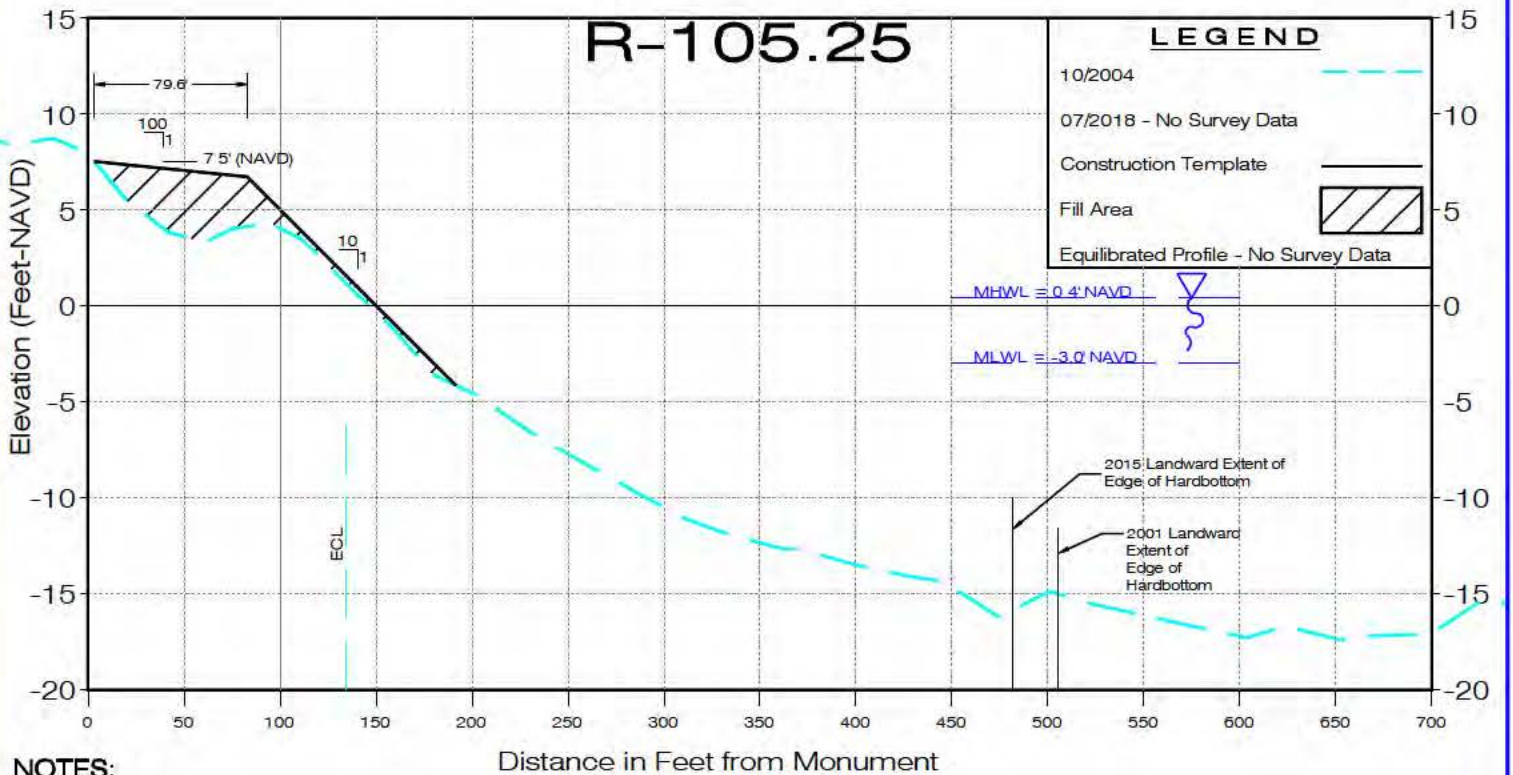
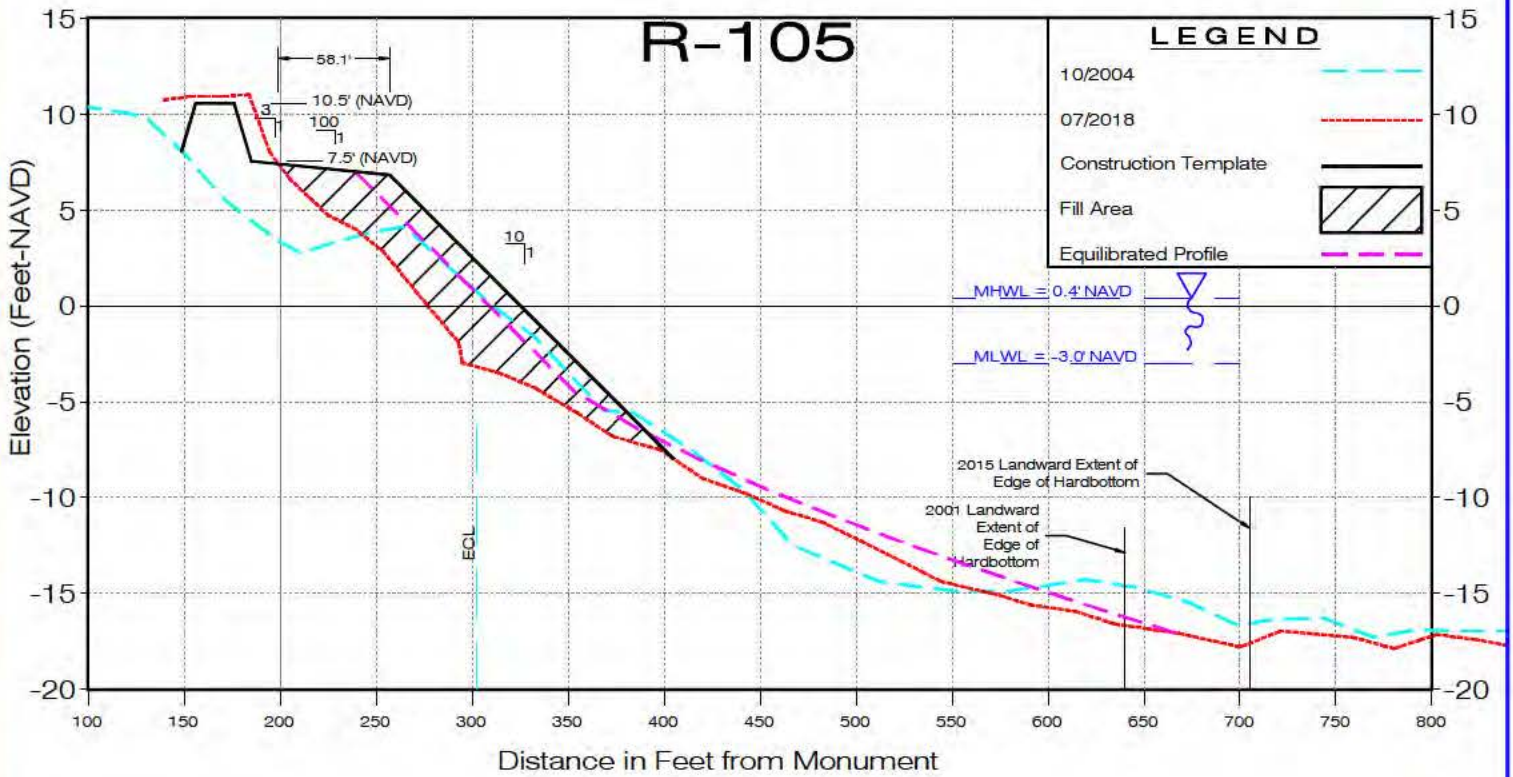


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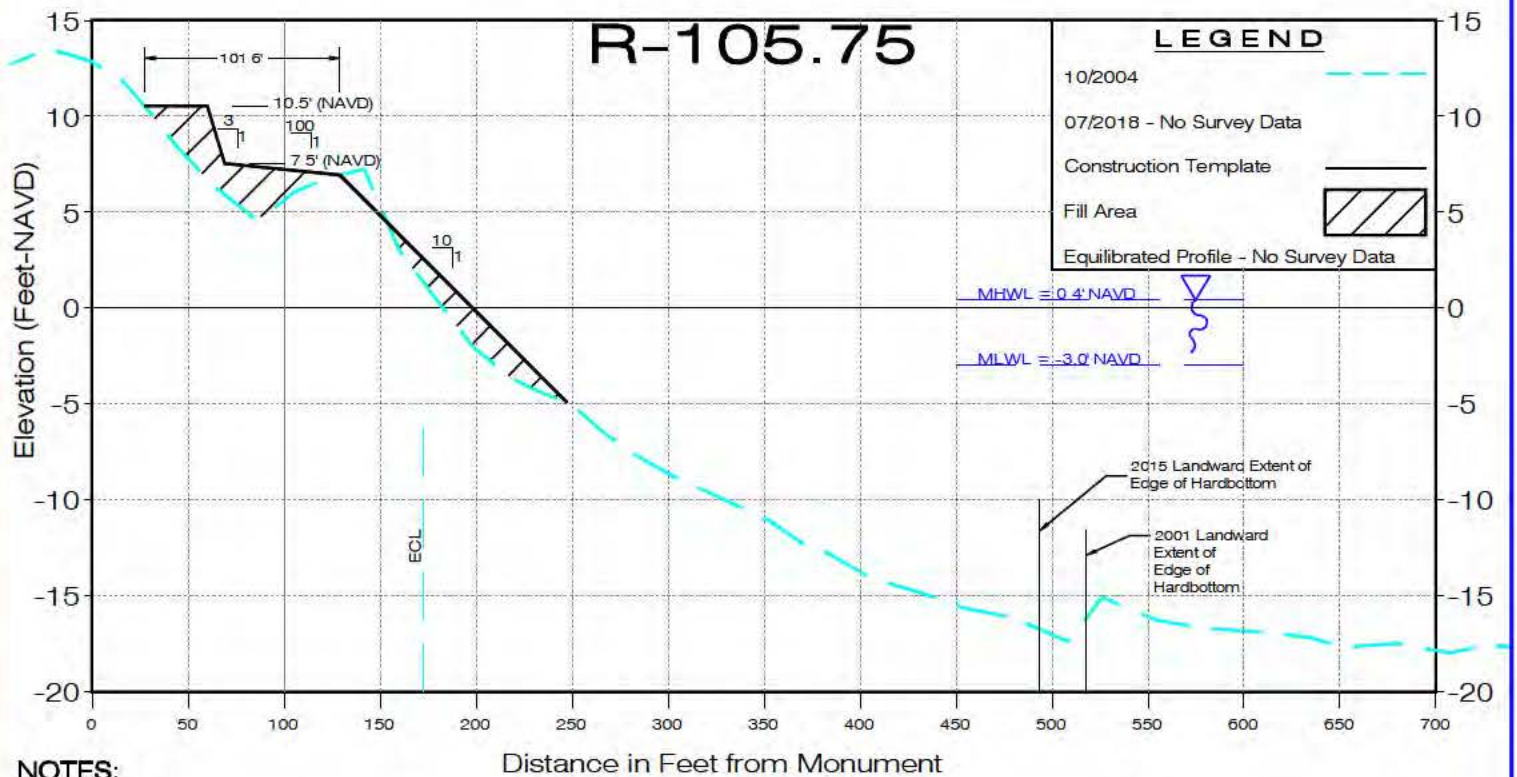
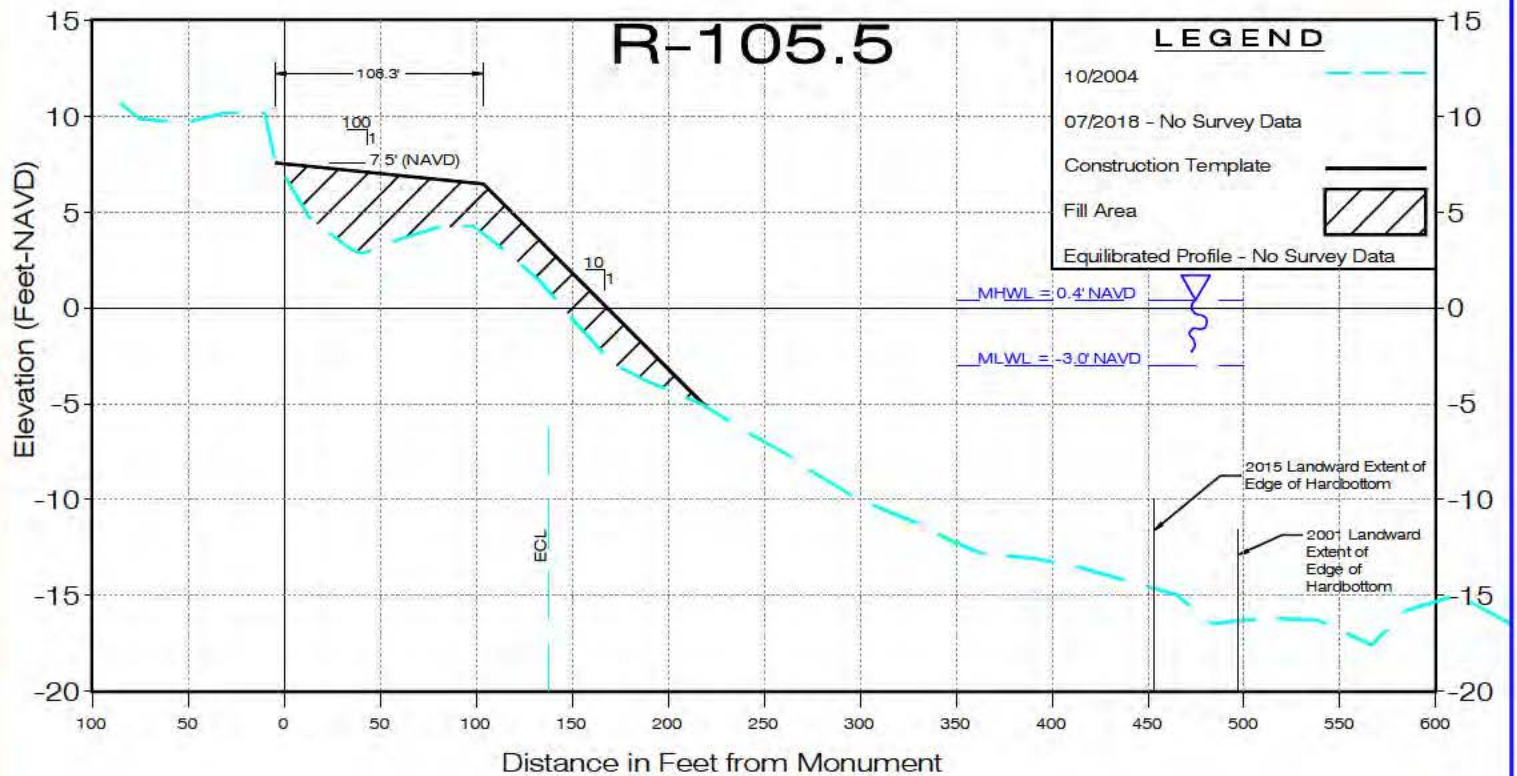
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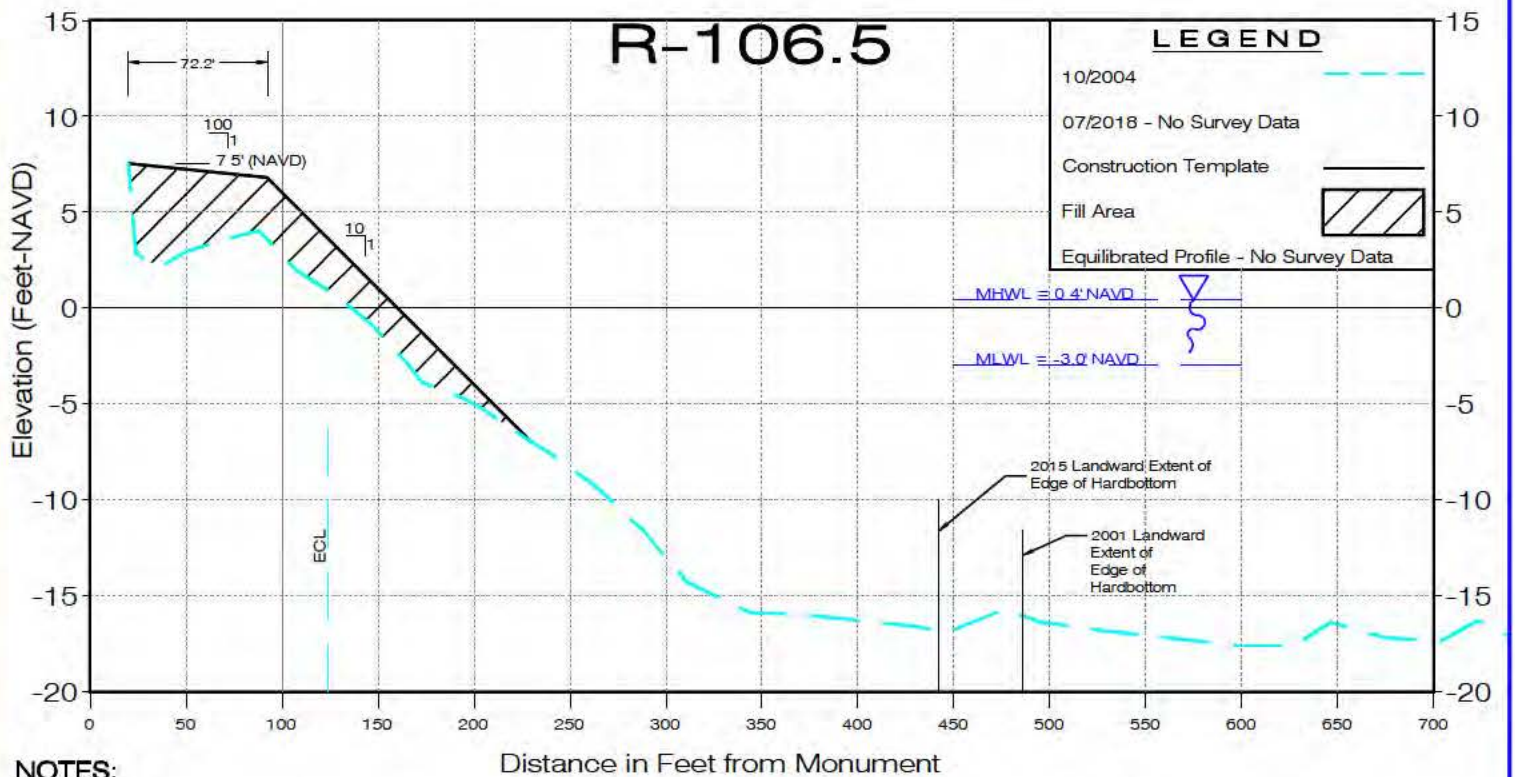
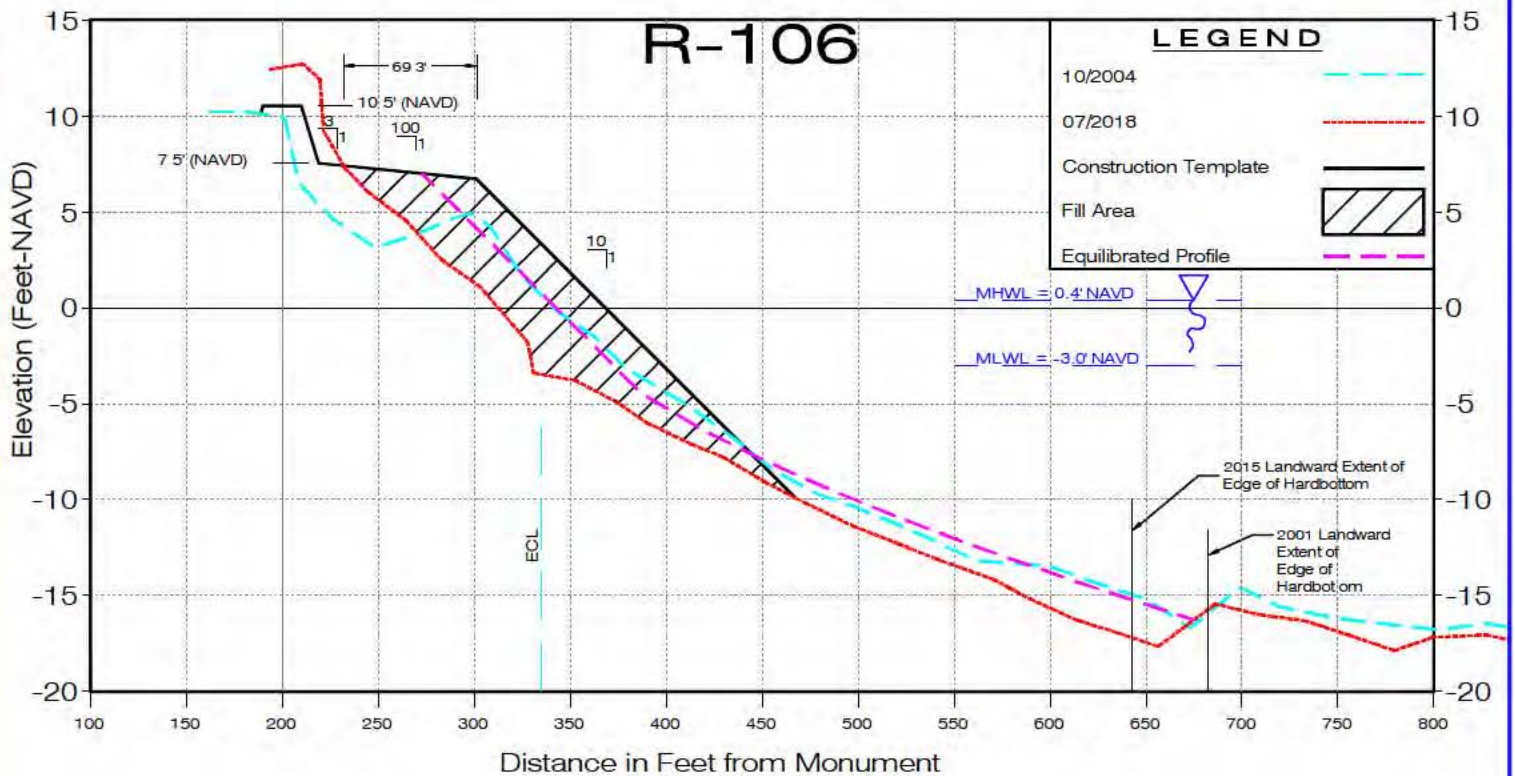


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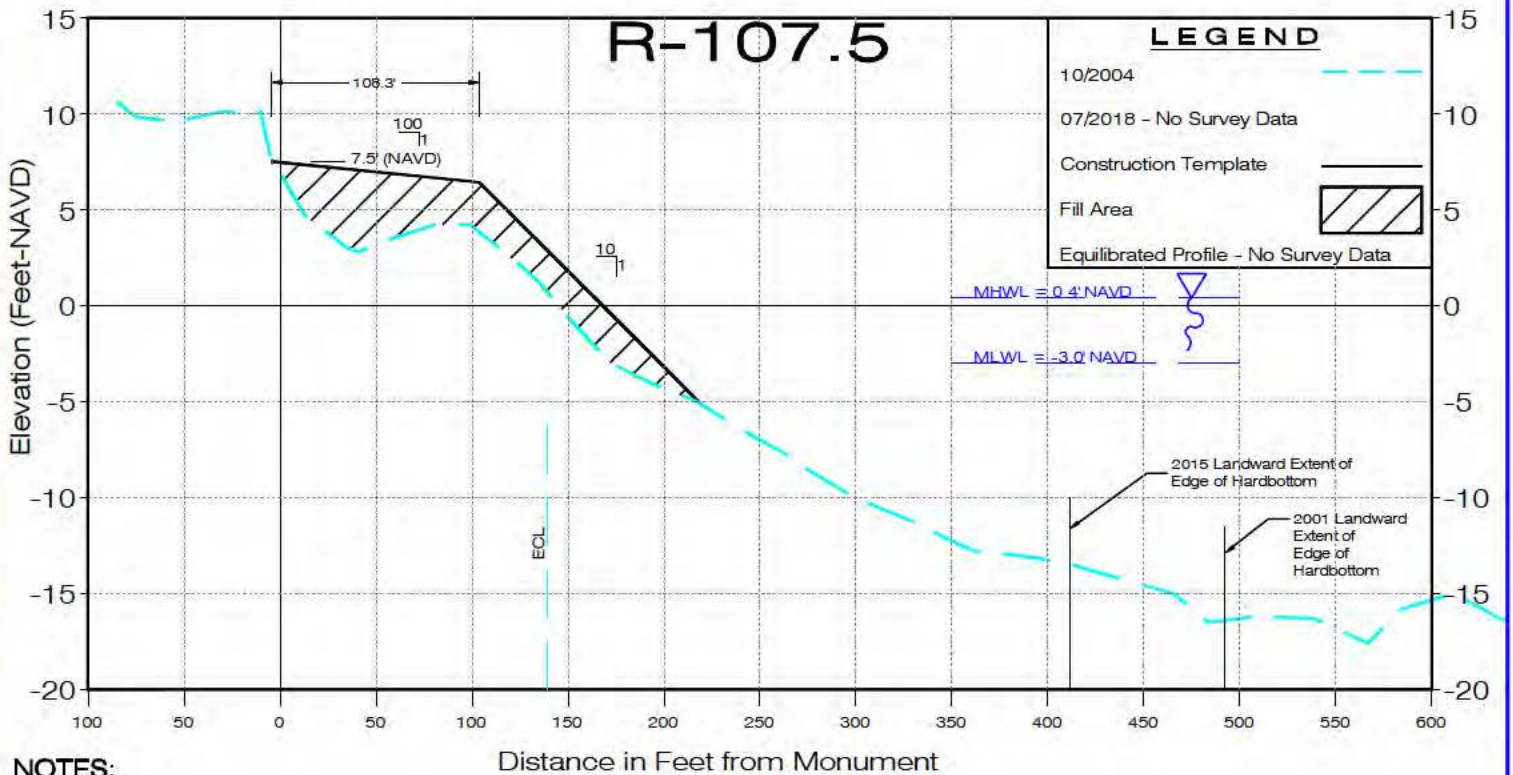
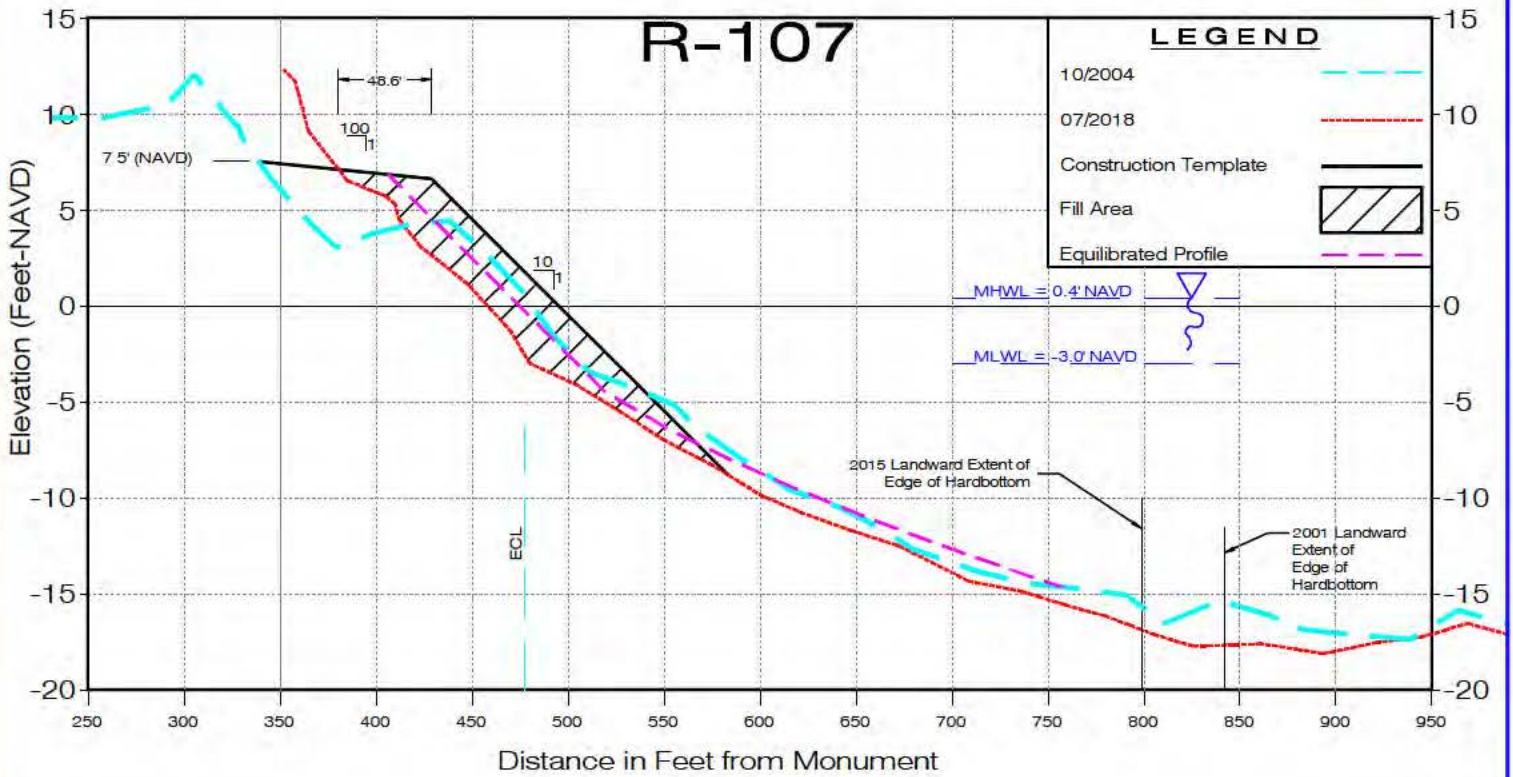
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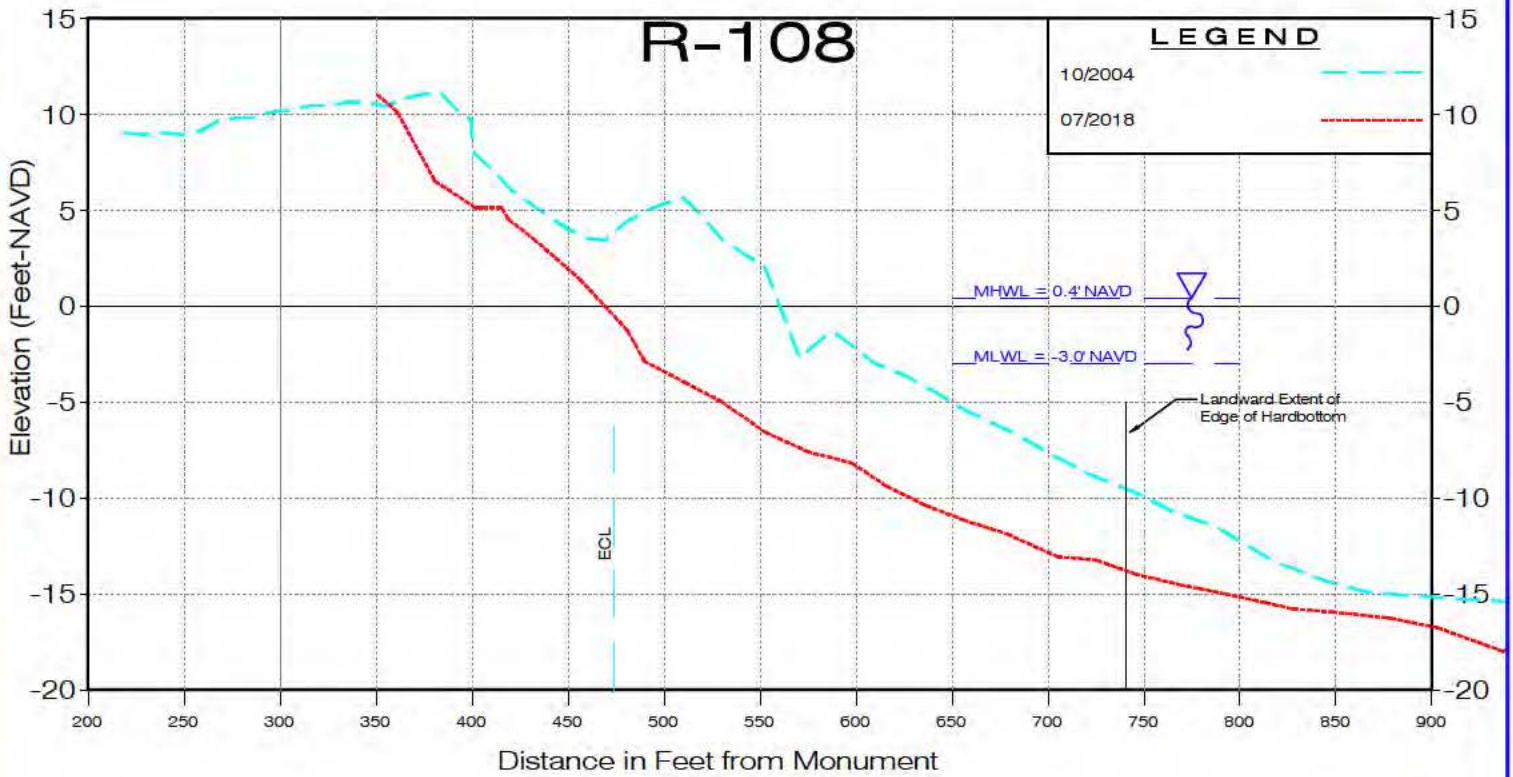


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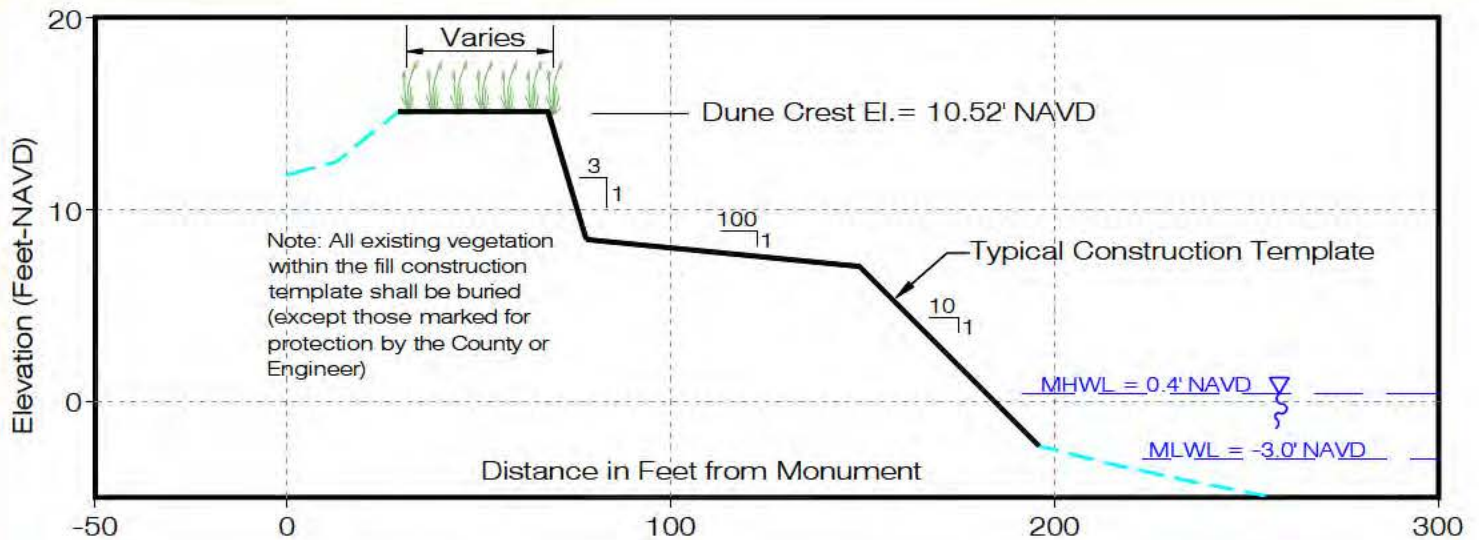


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## Profiles

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### Plant Schedule

Plant Type	Scientific Name	Percent Distribution	Quantity	Size	Spacing
Seaoats	Uniola paniculata	80%	54,509	Liner	18" O.C.
Dune Panic Grass	Panicum amarum	13%	8,858	Liner	18" O.C.
Railroad Vine	Ipomoea pes-caprae	4%	2,725	Liner	18" O.C.
Dune Sunflower	Helianthus debilis	3%	2,044	Liner	18" O.C.
TOTAL			68,136		

### Dune Planting Notes

1. Planting is proposed on the proposed dune crest; see the profiles for the proposed dune crest widths.
2. Dune vegetation shall be planted 18 inches on center.
3. Planting units shall contain at least 2 viable emergent stems per liner.
4. Planting units shall be no less than 8" tall, and no more than 16" tall, (or length in the case of Railroad Vine), as measured from the top of the root ball to the apical meristem (top of stem).
5. All planting units shall be installed at a minimum depth of 6" below the surrounding grade, as measured from the top of the root ball to the sand surface.

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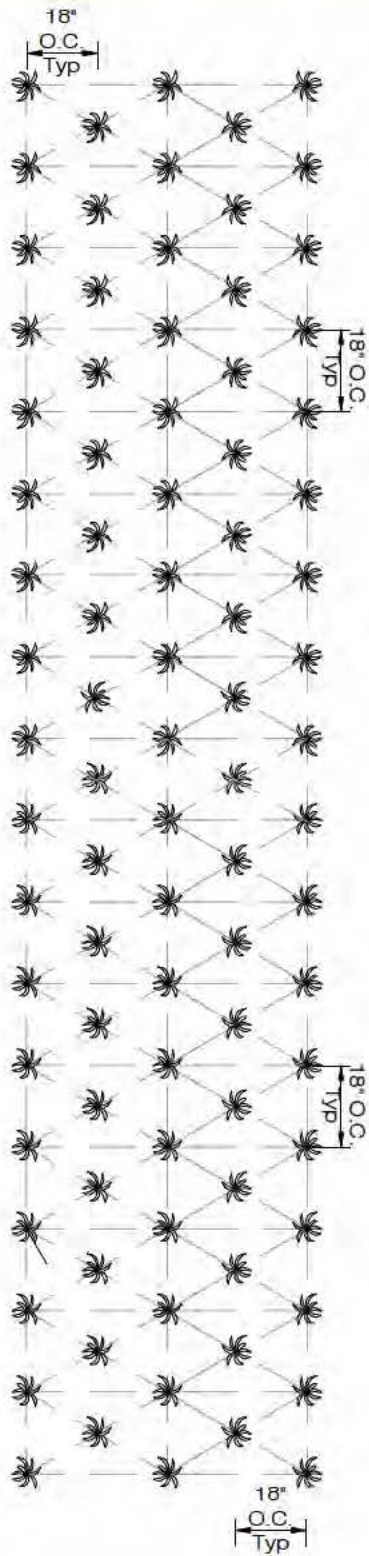
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#### Dune Planting Details

Sector 7 Beach and Dune Restoration Project  
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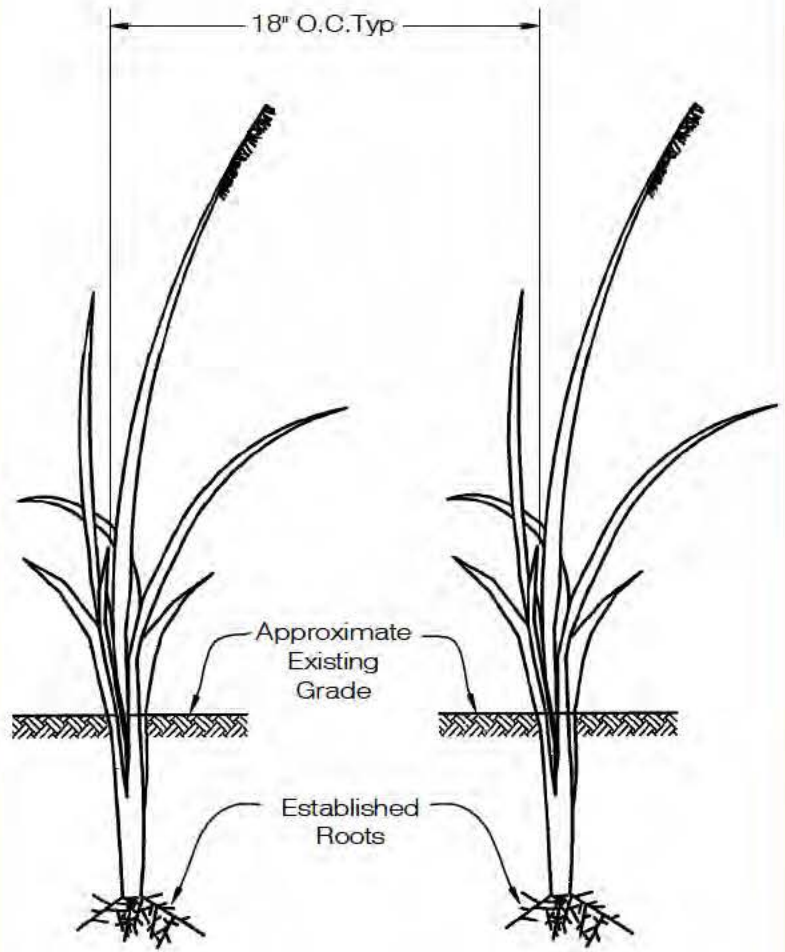
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## Typical Dune Planting Layout

Not to Scale



## Typical Plant Detail

Not to Scale

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### Dune Planting Details

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# GENERAL NOTES

1. The Indian River County Sector 7 Beach & Dune Restoration Project (Project) is to proposed to restore 2.0 miles of shoreline from Florida Department of Environmental Protection (FDEP) reference monuments R-97.5 to R-108 via placement of 440,662± cubic yards of sand fill - based on 2018 monitoring surveys. Upland property is dominated by single-family homes without public access or direct construction access to the beach.
2. The Work consists of providing all plant, labor, equipment, supplies, and materials to perform all operations in connection with excavating, transporting, placing and grading(with tilling) of sand fill on Indian River County beaches as depicted in these Drawings and entailing beach and dune restoration to the 2007 construction template with sand fill obtained from either:
  - a.) the COUNTY's offshore borrow area, or
  - b.) a COUNTY pre-approved upland sand source.The proposed offshore borrow area entails the southern portion of the borrow area previously approved and used for the 2007 project. Upland sand sources have been pre-qualified by the COUNTY - in collaboration with FDEP - via COUNTY RFP #2018-73.

These drawings are "Permit Sketches" intended to facilitate evaluation of the proposed Sector 7 Indian River County Beach & Dune Restoration Project. THESE DRAWINGS ARE NOT FOR CONSTRUCTION.
3. In addition to conforming to these Drawings, the Contractor shall ensure that all work also complies with the provisions of the Technical Specifications and with the requirements of approved permits from the Florida Department of Environmental Protection and US Army Corps of Engineers. A pre-construction meeting by Contractor with regulatory agency representatives, Indian River County staff and the Engineer is required prior to the Contractor's mobilization.
4. For use of the offshore sand source:
  - a.) Dredging of the offshore borrow area shall be performed either by (a) a hydraulic pipeline dredge pumping directly to shore or via scows/barges, or (b) a hopper dredge. A mechanical (clamshell) dredge will not be allowed.
  - b.) The beach material will be pumped onto the beach through pipelines on the Atlantic Ocean bottom via the corridors shown in these Drawings.
  - c.) A shore-parallel sand dike will be constructed and maintained along the beach as the discharge point moves to maintain at least 100 meters (328 feet) of dike ahead of the discharge pipe.
  - d.) The offshore limit of the mixing zone is requested to be 120 meters from the point of discharge into the Ocean. The shore-parallel mixing zone is requested to be 1,000 meters from the point of discharge.
5. For use of the upland sand source:
  - a.) The Contractor shall: excavate, process, and provide suitable beach-compatible sand fill material from the proposed upland sources; transport and deliver the sand fill to the "Construction Access/Staging Areas" for stockpiling.
  - b.) It is expected that the Contractor will transport sand fill from the "Construction Access/Staging Area", along the existing dry beach via offroad trucks and place fill, to a point approximately midway to the adjacent "Construction Access/Staging Area".
  - c.) The offshore limit of the mixing zone is requested to be 120 meters from the point of discharge into the Ocean. The shore-parallel mixing zone is requested to be 1,000 meters from the point of discharge.
6. The Contractor is allowed to operate 24 hours per day, 7 days a week unless otherwise restricted by the Contract Documents. Actual hours of operation are at the discretion of the Contractor.
7. All Contractor equipment (front end loaders, bulldozers, or other similar earth moving equipment plus constriction trailer/office) shall be stored only in designated upland staging areas. Construction access to the Project area beach is available via the corridors and/or via the construction access - as shown on these Drawings.
8. Elevations in these Drawings refer to North American Vertical Datum (NAVD 88). Coordinates refer to State Plane Florida North Zone North American Datum (NAD83).

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