

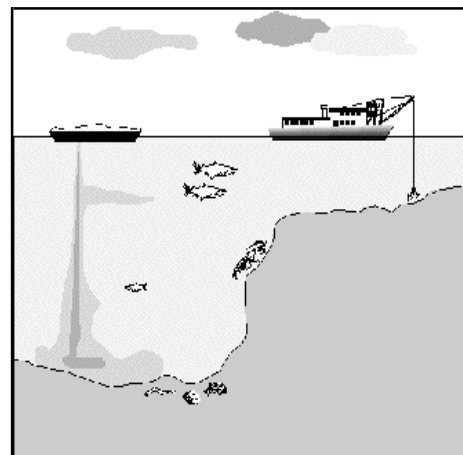
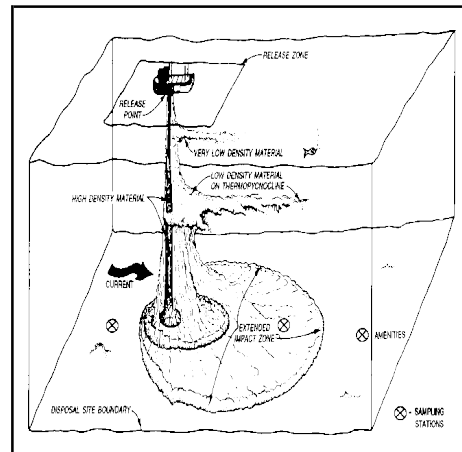
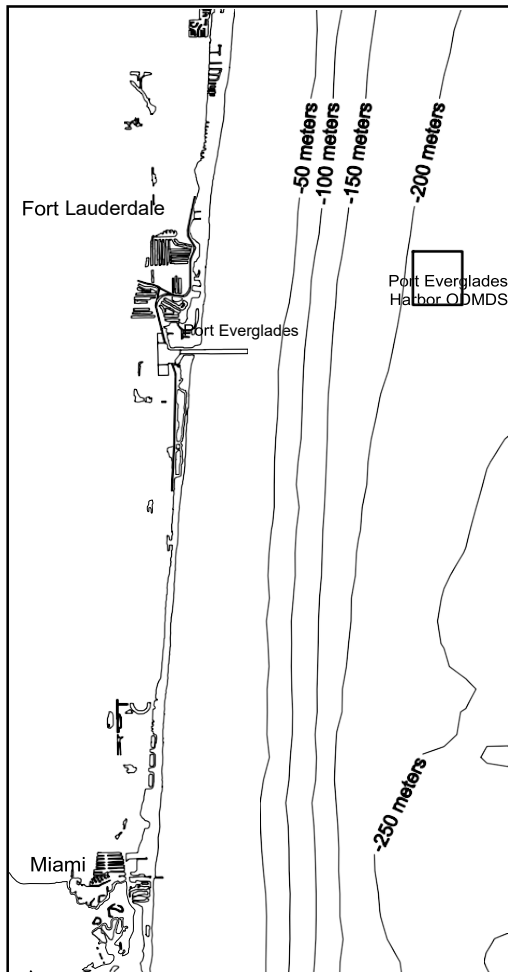


PORT EVERGLADES HARBOR OCEAN DREDGED MATERIAL DISPOSAL SITE

U.S. Army Corps
of Engineers
Jacksonville District

SITE MANAGEMENT AND MONITORING PLAN

June 2021



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The following Site Management and Monitoring Plan (SMMP) for the Port Everglades Harbor Ocean Dredged Material Disposal Site (ODMDS) developed in order to comply with Section 102(c)(3) of the Marine Protection, Research, and Sanctuaries Act (MPRSA) of 1972 (33 U.S.C. Section 1401, et seq.) as amended by Section 506 of the Water Resources Development Act (WRDA) Amendments of 1992 (Public Law 102-580) and has been approved by the following officials of the U.S. Environmental Protection Agency (EPA) Region 4 and the U.S. Army Corps of Engineers (USACE), Jacksonville District. This supersedes all prior Port Everglades Harbor SMMPs.

_____	_____	_____	_____
Colonel Andrew D. Kelly District Commander Jacksonville District U.S. Army Corps of Engineers Jacksonville, Florida	Date	John Blevins Acting Regional Administrator U.S. Environmental Protection Agency Region 4 Atlanta, Georgia	Date

This plan is effective from the date of signature for a period not to exceed 10 years. The plan shall be reviewed and revised more frequently if site use and conditions at site indicate a need for revision.

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**PORT EVERGLADES HARBOR
OCEAN DREDGED MATERIAL DISPOSAL SITE
SITE MANAGEMENT AND MONITORING PLAN**

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1.0 INTRODUCTION

The Marine Protection, Research, and Sanctuaries Act (MPRSA), sometimes referred to as the Ocean Dumping Act, regulates the transportation and dumping of any material into ocean waters. Under the MPRSA, no permit may be issued for ocean dumping where such dumping will unreasonably degrade or endanger human health or the marine environment. Most material dumped in the ocean today is dredged material (i.e., sediments) removed from the bottom of water bodies to maintain navigation channels and berthing areas.

In the case of dredged material, the U.S. Army Corps of Engineers (USACE) is responsible for issuing ocean dumping permits and authorizing or conducting Federal projects involving ocean dumping of dredged material (MPRSA Section 103). The USACE applies the U.S. Environmental Protection Agency (EPA) ocean dumping criteria when evaluating permit requests for (and implementing Federal projects involving) the transportation of dredged material for the purpose of dumping into ocean waters. MPRSA permits and Federal projects involving the ocean dumping of dredged material are subject to EPA review and written concurrence. EPA may concur with or without conditions or decline to concur (i.e., non-concur) on the permit or Federal project. If EPA concurs with conditions, the final permit or the terms of the Federal project must include those conditions. If EPA declines to concur on an ocean dumping permit or Federal project, the USACE cannot issue the permit or conduct the transportation to and disposal of dredged material in the ocean associated with the Federal project. According to the USACE regulations at 33 CFR 325.6, MPRSA permits issued for the transport of dredged material for the purpose of disposing of it in ocean waters will specify a completion date for the disposal not to exceed three years from the date of permit issuance.

Under MPRSA Section 102, EPA is responsible for the designation of all ocean disposal sites and the management of such designated sites. The EPA's ocean dumping regulations at 40 CFR Part 228 establish procedures for the designation and management of ocean disposal sites. EPA bases the designation of an ocean disposal site on environmental studies of a proposed site, environmental studies of regions adjacent to the site, and historical knowledge of the impact of disposal on areas with similar physical, chemical, and biological characteristics to the site. All studies for the evaluation and potential selection of dredged material disposal sites are conducted in accordance with the criteria published in 40 CFR 228.5 and 228.6. EPA-designated ocean dumping sites are published at 40 CFR 228.15. Unless otherwise specifically noted, site management authority for each site set forth in 40 CFR 228.15 is delegated to the EPA Regional office under which the site entry is listed. Management of a site consists of regulating times, rates, and methods of disposal; regulating quantities and types of materials disposed; developing and maintaining effective ambient monitoring programs for the site; conducting disposal site evaluation studies; and recommending modifications in site use and/or designation (40 CFR 228.3(a)).

EPA shares the responsibilities of conducting management and monitoring activities at EPA-

designated ODMDSs with the USACE. Under MPRSA Section 102, EPA, in conjunction with the USACE, is responsible for developing a site management and monitoring plan (SMMP) for each designated ODMDS. The objective of each SMMP is to ensure that dredged material ocean disposal activities will not unreasonably degrade the marine environment or endanger human health or economic potentialities or other uses of the ocean. The SMMP provisions are an integral part of managing all disposal activities at an ocean disposal site.

This SMMP provides a framework for site monitoring and management as required by the MPRSA. Preparation of this SMMP has been informed by the Guidance Document for Development of Site Management Plans for Ocean Dredged Material Disposal Sites (EPA and USACE, 1996).

This SMMP may be modified during its term if EPA in conjunction with USACE determines that such changes are warranted, including as a result of information obtained from monitoring or due to other factors. This SMMP will be reviewed and revised as needed, or no later than 10 years of issuance, whichever is sooner. The MPRSA provides that the SMMP shall include, but not be limited to:

- A baseline assessment of conditions at the site;
- A program for monitoring the site;
- Special management conditions or practices to be implemented at each site that are necessary for the protection of the environment;
- Consideration of the quantity of the material to be disposed of at the site and the presence, nature, and bioavailability of the contaminants in the material;
- Consideration of the anticipated long-term use of the site including the anticipated closure of the site, if applicable, and any need for continued management after closure of the site; and
- A schedule for review and revision of the plan (which shall be reviewed and revised at least every 10 years).

The provisions in this SMMP apply for all dredged material disposal activities at the Port Everglades Harbor ODMDS including monitoring and management activities by the federal agencies. This SMMP also includes template provisions for the USACE to include in future permits issued for disposal at this site (Appendix B) and USACE template contract conditions (Appendix C). References in this document to matters that “should be required” refer to implementation in a subsequent proceeding to authorize disposal of dredged material, whether in a permit, in contract or other Federal project specification for the transportation and disposal of dredged material, or by the USACE directly.

Matters that “should be required” are for implementation through application of the template

language included in Appendices B and C, or the language may vary from the terms of the Appendices. EPA can ensure implementation of the template provisions in Appendix B and C as necessary through the EPA's concurrence actions.

A SMMP was originally developed as part of the designation process and was published in November 2004 as part of Final EIS for Designation of the Palm Beach Harbor Ocean Dredged Material Disposal Site and the Port Everglades Harbor Ocean Dredged Material Disposal Site, (EPA, 2004), with SMMP revisions in May 2009. The current revision to the Port Everglades Harbor ODMDS SMMP incorporates the expanded boundaries of the ODMDS. This current revision to the Port Everglades Harbor ODMDS SMMP supersedes all prior SMMPs. Upon issuance of this revised SMMP, the SMMP provisions provide the framework for future site monitoring and management as required by MPRSA. All Section 103 (MPRSA) ocean disposal permits, or contract specifications will be conditioned as necessary to assure consistency with the SMMP.

For the purposes of this document the following definitions apply:

“Authorization document” means any permit issued pursuant to MPRSA and/or authorizations from the Corps for the transportation and/or ocean disposal of dredged material including but not limited to transportation-related or disposal-related conditions in contract documents and/or specifications.

“Site user” as used here means a person utilizing a permit issued by the Corps of Engineers under section 103 of the Act (see 33 C.F.R. 209.120) and any person operating any Federal dredging and ocean disposal projects reviewed under section 103(e) of the Act (see 33 C.F.R. 209.145) or under a Dredged Material Permit as defined as defined in 40 C.F.R. 220.2(h).

“Disposal vessel” is any barge, scow, or self-propelled vessel (such as a hopper dredge) that carries dredged material during transit and from which the dredged material is discharged, typically by opening doors in the bottom of the hull or by splitting the hull.

“Transit” or *“transport”* to the disposal site begins as soon as dredged material loading into the disposal vessel is completed and a towing vessel begins moving the disposal vessel to the disposal site.

“Disposal Release Zone” is the area identified within the ODMDS in which dumping of dredged material must occur in order for it to stay within the boundaries of the site, within which the disposal vessel must discharge all of the dredged material.

“Towing vessel” is any self-propelled tug or other marine vessel used to transport (tow or push) the “disposal vessel” for any portion of the transit to the ODMDS.

1.1 Site Management and Monitoring Plan Team

In 2004, an interagency SMMP team was established to assist EPA and USACE in developing and revising the Port Everglades Harbor ODMDS SMMP. The team consisted of the following agencies:

- Jacksonville District U.S. Army Corps of Engineers
- EPA Region 4
- Port of Port Everglades
- State of Florida (Coastal Zone Management Office)
- National Oceanographic and Atmospheric Administration (NOAA)
- U.S. Coast Guard, Station Fort Lauderdale

EPA and USACE will continue to consult with these Florida and Federal agencies as appropriate to assess the need for future revisions to the Port Everglades Harbor ODMDS SMMP. The other agencies have, in the past, assisted EPA and USACE on deciding on appropriate disposal practices, appropriate monitoring techniques, the level of monitoring, the significance of results and potential management options.

Specific responsibilities of EPA and the Jacksonville District Corps of Engineers are:

EPA is responsible for designating/modifying/de-designating ODMDSs under MPRSA Section 102, regulating site use, developing and implementing disposal monitoring programs, evaluating environmental effects of disposal of dredged material at these sites, and for reviewing and concurring on dredged material suitability determinations.

Under Section 1411 and 1415 of MPRSA, EPA has broad authority to assess civil penalties and seek injunctive remedies for unauthorized transporting of material for the purpose of dumping it into ocean waters, including deviations from transportation-related and disposal-related conditions required by a regulation designating the ODMDS or (for Federal projects) deviations from disposal-related conditions required by a Dredged Material Permit (as defined in 40 C.F.R. 220.2(h)) or construction contract.

The USACE is responsible for evaluating and documenting the suitability of dredged material proposed for disposal at the ODMDS, issuing MPRSA Section 103 permits, and cooperating with EPA in regulating site use and developing and implementing disposal monitoring programs. USACE contracts for transportation and disposal of dredged material at the ODMDS incorporate performance requirements, including quality assurance/quality control system requirements.

The SMMP provisions apply to all dredged material transportation to and disposal at the site, including monitoring and management activities by the federal agencies. In addition

to the SMMP provisions, the SMMP also includes template provisions for USACE to include in subsequently issued permits (see Appendix B) or in the transportation and disposal requirements for a Federal project (see Appendix C). EPA can ensure implementation of the template provisions as necessary through their inclusion as conditions in EPA's Section 103 concurrence actions. The agencies may adjust the template provisions to individual projects as necessary. All MPRSA Section 103 ocean disposal permits or contract specifications shall ensure compliance with the conditions of the SMMP.

2.0 SITE MANAGEMENT

Section 228.3 of the Ocean Dumping Regulations (40 Code of Federal Regulation (CFR) 220-229) states: "Management of a site consists of regulating times, rates, and methods of disposal and quantities and types of materials disposed of; developing and maintaining effective ambient monitoring programs for the site; conducting disposal site evaluation and designation studies; and recommending modifications in site use and/or designation (e.g., termination of use of the site for general use or for disposal of specific wastes)." The SMMP may be modified if it is determined that such changes are warranted as a result of information obtained during the monitoring process. MPRSA, as amended by WRDA 92, provides that the SMMP shall include but not be limited to:

- A baseline assessment of conditions at the site;
- A program for monitoring the site;
- Special management conditions or practices to be implemented at each site that are necessary for the protection of the environment;
- Consideration of the quantity and biological/physical/chemical characteristics of dredged materials to be disposed of at the site;
- Consideration of the anticipated use of the site over the long-term; and
- A schedule for review and revision of the plan.

2.1 Disposal Site Characteristics

The regulatory designation language for the expanded Port Everglades Harbor ODMDS can be found in 40 CFR 228.15(h)(22). The western edge of the expanded Port Everglades Harbor ODMDS (figure 1) is located 3.3 nautical miles (nmi) offshore and is 2.25 nmi by 1.43 nmi in size (3.21 nmi²). As of 2013, it had a depth range of -195 to -215 meters (-640 to -705 feet), with an average depth of 207 meters (-678 feet). The site is centered at approximately 26°07.625'N latitude and -80°01.784'W longitude (NAD 83) or state plane coordinates 653,067 ft N and 974,517 ft E (NAD83). The site coordinates are as follows:

Table 1. Port Everglades ODMDS Corner Coordinates

Vertices	Geographic NAD 83		State Plane (Florida East 0901 U.S. Ft) NAD 83	
	Latitude (North)	Longitude (West)	Easting	Northing
NE	26°08.750'N	-80°01.000'W	978,753 E	659,915 N
NW	26°08.750'N	-80°02.578'W	970,124 E	659,851 N
SW	26°06.500'N	-80°02.578'W	970,225 E	646,220 N
SE	26°06.500'N	-80°01.000'W	978,856 E	646,283 N

Physical and biological conditions at the existing and expanded ODMDS are described in, *Final Environmental Impact Statement for Designation of the Palm Beach Harbor Ocean Dredged Material Disposal Site and the Port Everglades Harbor Ocean Dredged Material Disposal Site*, (EPA 2004) and the *Environmental Assessment on Expansion of the Port Everglades Harbor Ocean Dredged Material Disposal Sites (ODMDS) Broward County, Florida* (EPA 2021).

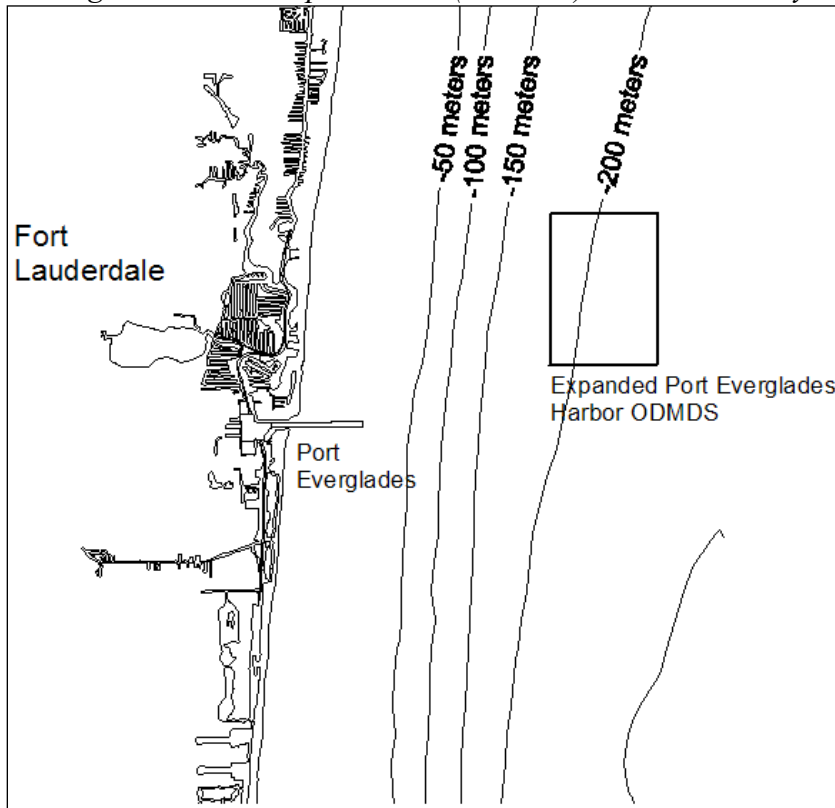


Figure 1. Expanded Port Everglades Harbor ODMDS Location Map.

2.2 Management Objectives

Appropriate management of an ODMDS is aimed at assuring that disposal activities do not unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities (MPRSA section 103(a)). The primary objectives for management of an ODMDS include but are not limited to:

- Protecting the marine environment, such that:
 - No unacceptable physical, chemical, or biological impacts occur inside or outside the disposal site; and
 - Adequate site monitoring is conducted to detect environmental impacts.
- Ensuring that disposed material (1) meets the suitability requirements of the ocean dumping regulations (40 CFR Parts 227 & 228) and (2) is consistent with national and regional guidance for the evaluation of dredged material proposed for ocean dumping.
 - Under MRPSA section 103, evaluation of any proposed dumping of dredged material into ocean waters must apply the EPA ocean dumping criteria. To apply the criteria, the Ocean Testing Manual, sometimes referred to as the Green Book, (EPA/USACE, 1991) and the Southeast Regional Implementation Manual (2008) provide guidance for sampling, testing, and analysis of water, sediment, and tissue to evaluate the environmental acceptability of dredged material proposed for ocean disposal. The criteria prohibit the ocean dumping of uncharacterized materials (40 CFR 227.5(c)).
- Identifying management conditions to be implemented by EPA and the USACE and those to be required in permits, contracts, and documents establishing the terms of a Federal project applicable to transportation and dumping in ocean waters. For Federal projects, EPA will condition its Section 103 concurrence letters on the Corps including the site management and monitoring conditions in any contract documents.
- Documenting disposal activities and ensuring compliance with transportation-related and disposal-related conditions in the SMMP, the permit, and/or contract conditions.
- Maintaining a long-term disposal alternative for dredged material, while encouraging beneficial use of dredged material where practicable.
- Identifying a schedule or condition triggering a review or renewal of this SMMP.

SMMP sections 2.0, 3.0, and 4.0 summarize the disposal operation conditions that EPA and USACE will consider for management of Port Everglades Harbor ODMDS as described in 40 CFR 228.15(h)(22).

The template special conditions provided by USACE in Appendix B are applicable to dredging projects authorized under a MPRSA Section 103 permit. Appendix C provides example language for the USACE to use in development of contract specifications for use of the site in Federal projects, and EPA's concurrence should be conditioned on use of these specifications. If EPA

concurs with conditions, the USACE must incorporate the conditions in the Section 103 permit or contract documents. 33 U.S.C. 1413(c)(3), (5). The conditions specified or confirmed by the EPA in its ocean disposal concurrence letters for individual projects are in addition to any other conditions that the USACE may include in its MPRSA Section 103 permits or in contract documents.

EPA may determine not to include one or more of the conditions identified in from this SMMP or to require additional, more specific, or different conditions on a project-specific basis. Violations of the MPRSA may be subject to compliance action, including recommendations for suspension of disposal operations or other injunctive remedies or possible assessment of administrative, civil, or criminal penalties, as appropriate.

2.3 Disposal History and Dredged Material Volumes

The expanded Port Everglades Harbor ODMDS is intended to be used for the disposal of dredged material from both maintenance and new work projects from the greater Broward County, Florida vicinity. The primary user of the Port Everglades Harbor ODMDS is the USACE for the Port Everglades Federal Navigation Project, including material from the Entrance Channel, Main, North, and South Turning Basins, South Access Channel, and the Turning Notch. A secondary user is the Port Everglades Port Authority, including material from the South Turning Basin beyond Civil Works authorized depths, Port Slips, and Port Berthing Areas. Broward County has also proposed using the ODMDS for disposal material from the Port Everglades Sand Bypass Project (permit application number SAJ-2008-2034). The U.S. Navy and U.S. Coast Guard also have facilities in the area that may require use of the ODMDS although no need has currently been identified.

Historically, an ocean site approved for ocean dumping on an interim basis (interim MPRSA disposal site) located approximately 1.6 nautical miles from shore was used for ocean disposal of dredged material from Port Everglades Harbor; use of this site was discontinued in the 1980s. This former site has been documented to contain various amounts of man-made debris including concrete pilings, steel and concrete frameworks, and tires (Messing, 2003).

Due to the lack of an ODMDS in the vicinity of Port Everglades after the interim site was discontinued, the Port Everglades Harbor ODMDS was designated in 2005 approximately 4.3 nmi offshore. The ODMDS, 1 nmi² in size, was designated to accommodate dredged material from periodic maintenance events from the Port Everglades Harbor. The Jacksonville District Corps of Engineers estimated an annual average disposal rate of approximately 30,000 cubic yards of material. In 2005, 46,686 cubic yards of dredged material from Port Everglades Harbor was disposed in this site. In 2013, 413,932 (*in situ*) cubic yards of dredged material was disposed at the site (USACE, 2013). Potential navigation improvements may generate up to 6.63 million cubic yards of material requiring disposal at the ODMDS. MDFATE and STFATE modeling show the expanded 3.21 nmi² site is sufficient to contain all of the estimated material from this construction project and continuing maintenance events. Maintenance volumes from the Port Everglades Federal Navigation Project are not expected to significantly increase and are

expected to average approximately 300,000 cy over a ten-year period. No other maintenance events have taken place except those listed below since 2005.

Table 2. Dredged Material Disposal Projects placed into the ODMDS (2005-2013)

Year	Volume (cy) <i>in situ</i>	Dredge Area ¹	Dredge Method	Disposal Location	Sponsor
2005	46,686	NTB	Hopper	ODMDS	Civil Works
2013	353,243	MTB, NTB, SAC, TN (federal)	Clam Shell	ODMDS	Civil Works
2013	60,689	STB, Berth 19, 30 (port)	Clam Shell	ODMDS	Port Everglades
2020	135,208	OEC, IEC, MTB, SAC, TN, Berths 1-5, 7 – 10, 12 – 15, 26 & 27, 30	Hopper/Clam Shell	ODMDS	Civil Works/Port Everglades

¹ MTB (Main Turning Basin); NTB (North Turning Basin); STB (South Turning Basin); SAC (South Access Channel); TN (Turning Notch).

2.4 Dredged Material Characteristics

2.4.1 Previously Disposed Materials

Materials disposed in the Port Everglades Harbor ODMDS have historically consisted of sand, silt, clay, and a small amount of gravel from Port Everglades Harbor and entrance channel. Material from the Harbor that was found to be suitable for beach nourishment was placed on nearby beaches in accordance with State of Florida standards and not evaluated under MPRSA as disposal material.

2.4.2. Anticipated Materials

Two basic sources of material are expected to be disposed at the site; new work dredged material and maintenance material from Port Everglades harbor and entrance channel. These materials will consist of mixtures of silt, sand, gravel, cobble, and boulder sized components in varying percentages. Maintenance material is expected to be silty sands with some small rock and shell. New work material is expected to be more variable. The geotechnical boring analysis conducted as part of the disposal modeling conducted by Taylor Engineering (Taylor, 2010) for the Port Everglades Deepening Project estimates approximately 34% of the 6.63 million cubic yards of material to be dredged is either hard rock (requiring blasting for pre-treatment), medium rock or soft rock (can be excavated without pre-treatment). Depending on dredging method the size of the rock disposed could be as large as 30 inches in diameter for cutterhead dredges (Herbich, 1992) and 3 to 10 feet in diameter for mechanical dredges (USACE, 2003). The remaining material is expected to be sand (56%) and silt (12%).

2.4.3 Associated Beach Quality Materials

The disposition of any beach compatible sand from future projects will be determined during state and local permitting activities for any such projects. Disposal of coarser material, such as rubble, should be coordinated during the same permitting activities. USACE and EPA will work to promote possible beneficial uses of the material, to the maximum extent practicable.

2.4.4 Dredge Material Quality Verification

Prior to authorizing transportation and disposal, the USACE verifies the suitability of dredged material for ocean disposal and EPA must concur in writing (with or without conditions). Pursuant to the terms of 33 CFR 325.6(c), EPA concurs on sediment disposal at the ODMDS for a period up to three years on a project specific basis.

Sediment quality verification process:

- 1) Case-specific evaluation against the exclusion criteria (40 CFR 227.13(b))
- 2) Determination of testing requirements for non-excluded material based on the potential of sediment contamination since last verification.
- 3) When applicable, conduct testing and confirm the suitability of non-excluded material for ocean disposal.

The site user, project sponsor, or USACE completes documentation for suitability prior to use of the ODMDS in the form of a MPRSA Section 103 Evaluation. Potential testing and the evaluation follow the procedures outlined in the 1991 EPA/USACE Dredged Material Testing Manual and 2008 Southeast Regional Implementation Manual (SERIM), or the appropriate updated version. Necessary testing and evaluation include descriptions of how dredging projects will be subdivided into project segments for sampling and analysis. Appendix C of the SERIM outlines the form used for the MPRSA Section 103 Evaluation. Water Quality Compliance determinations will be made using the STFATE (ADDAMS) model. Only material determined to be suitable and in compliance with the Ocean Dumping Criteria (40 CFR Part 227) through the verification process by the USACE and EPA Region 4 is appropriate for transportation and disposal in the ODMDS.

2.5 Time of Disposal

No restrictions have been determined to be necessary for disposal related to seasonal variations in ocean current or biotic activity. Based on monitoring results (see section 3.4), restrictions on disposal during certain ocean currents are no longer required. As additional monitoring results are compiled, should any such restrictions appear necessary, disposal activities will be scheduled so as to avoid adverse impacts. Additionally, if new information indicates that endangered or threatened species are being adversely impacted, restrictions may be imposed.

2.6 Disposal Technique

No specific disposal technique is required for this site. Standard surveillance and evasive measures to protect sea turtles and marine mammals, however, shall be employed during all disposal operations at the ODMDS.

2.7 Disposal Route

While in route to the ODMDS, the disposal vessel must remain within the navigation channel while west of the buoy G”3”.

2.8 Disposal Location

Disposal release zone will be specified by the EPA and the USACE at the time of site use to maintain compliance with the Ocean Dumping Criteria set forth in 40 CFR Part 227 and will be inside the below listed coordinates (Table 3). Disposal shall be initiated within the applicable disposal release zone and completed (i.e. doors closed) prior to leaving the ODMDS. The disposal authorization documents or contract specifications should specify methods to prevent mounding of dredged materials. 40 CFR §227.28 requires that disposal occur no less than 330 feet (100 meters) inside the designated site boundaries. Release zones have been established to satisfy this criterion as well as manage dredged material disposal and contain impacts to within the ODMDS boundaries. Two release zones have been developed based on computer modeling and field monitoring. One is for new work projects that contain significant rock, which is subdivided into Zones 1-5, and the other for maintenance projects. The release zones will be specified as part of the dredged material quality verification process and included in the EPA’s MPRSA Section 103 concurrence letter. The release zones are described below in Tables 3 and 4 and shown in Figure 2. Utilization of the ODMDS for projects greater than 50,000 cy requires a plan for disposal distribution to be approved by USACE Jacksonville and US EPA Region 4 prior to commencement.

New Work material is to be disposed of in the New Work Zones 1-5 (table 4 and figure 2.) Specifically, any load containing a majority of rock larger than 12” diameter should be placed into zones 4 and 5.

Table 3. Port Everglades Harbor ODMDS Disposal Maintenance Material Release Zone

Vertices	Geographic NAD 83		State Plane (Florida East 0901 U.S. Ft) NAD 83	
	Latitude (North)	Longitude (West)	Easting	Northing
NW	26° 06.9280’N	-80° 01.8150’W	974,362	648,843
NE	26° 06.9280’N	-80° 01.2720’W	977,348	648,866
SW	26° 06.7660’N	-80° 01.8150’W	974,386	647,862
SE	26° 06.7660’N	-80° 01.2720’W	977,356	647,884

Table 4. New Work Release Zones 1-5

Vertices	Geographic NAD 83		State Plane (Florida East 0901 U.S. Ft) NAD 83	
	Latitude (North)	Longitude (West)	Northing	Easting
Zone 1 NE	26° 07.8942'N	-80° 02.0004'W	654689.246	937321.117
Zone 1 NW	26° 07.8942'N	-80° 01.8342'W	654696.010	974229.988
Zone 1 SE	26° 07.9000'N	-80° 02.0004'W	653929.544	973326.762
Zone 1 SW	26° 07.7688'N	-80° 01.8342'W	653936.307	974235.650
Zone 2 NE	26° 07.9000'N	-80° 02.0004'W	653929.544	973326.762
Zone 2 NW	26° 07.7688'N	-80° 01.8342'W	653936.307	974235.650
Zone 2 SE	26° 07.6434'N	-80° 02.0004'W	653169.841	973332.407
Zone 2 SW	26° 07.6434'N	-80° 01.8342'W	653176.605	974241.311
Zone 3 NE	26° 07.6434'N	-80° 02.0004'W	653169.841	973332.407
Zone 3 NW	26° 07.6434'N	-80° 01.8342'W	653176.605	974241.311
Zone 3 SE	26° 07.518'N	-80° 02.0004'W	652410.139	973338.052
Zone 3 SW	26° 07.518'N	-80° 01.8342'W	652416.902	974246.972
Zone 4 NE	26° 07.518'N	-80° 02.0004'W	652410.139	973338.052
Zone 4 NW	26° 07.518'N	-80° 01.8342'W	652416.902	974246.972
Zone 4 SE	26° 07.3926'N	-80° 02.0004'W	651650.438	973343.696
Zone 4 SW	26° 07.3926'N	-80° 01.8342'W	651657.200	974252.632
Zone 5 NE	26° 07.3926'N	-80° 02.0004'W	651650.438	973343.696
Zone 5 NW	26° 07.3926'N	-80° 01.8342'W	651657.200	974252.632
Zone 5 SE	26° 07.2672'N	-80° 02.0004'W	650890.736	973349.340
Zone 5 SW	26° 07.2672'N	-80° 01.8342'W	650897.498	974258.292

2.9 Permit and Contract Conditions

The disposal monitoring and post-disposal monitoring requirements described under Site Monitoring (section 3.0) will be included with the management requirements described in this section as permit conditions on all MPRSA Section 103 permits and will be incorporated in the contract language for all federal projects. A summary of the management and monitoring requirements to be included is listed in Table 5. Template language to be used is included in appendices (see Appendices B and C).

Table 5. Summary of Permit and Contract Conditions

Condition	Reference
Dredged Material Suitability and Term of Verification	Port Everglades Harbor ODMDS SMMP (2.4.4) Southeast Regional Implementation Manual
Disposal Release Zone	Port Everglades Harbor ODMDS SMMP (4.1.4)
Pre- and Post-Bathymetric Surveys	Port Everglades Harbor ODMDS SMMP (3.1 & 3.3)
Disposal Monitoring	Port Everglades Harbor ODMDS SMMP (3.2)
Reporting Requirements	Port Everglades Harbor ODMDS SMMP (4.4)

2.9.1 Permit Process

All transportation to and disposal of dredged material in the ocean, with the exception of Federal Civil Works projects, requires an ocean dumping permit issued by the USACE pursuant to Section 103 of the MPRSA. A summary of the permitting process can be found at:

<https://www.epa.gov/ocean-dumping/ocean-disposal-dredged-material>

2.9.2 Information Management of Dredged Material Placement Activities

As discussed in the following sections, a substantial amount of diverse data regarding use of the Port Everglades Harbor ODMDS and effects of disposal is required from many sources. If this information is readily available and in a useable format it can be used to answer many questions typically asked about a disposal site:

- What is being dredged?
- How much is being dredged?
- Where did the dredged material come from?
- Where was the dredged material placed?
- Was dredged material dredged correctly? Disposed correctly?
- What will happen to the environment at the disposal site?

In an attempt to streamline data sharing, EPA Region 4 and USACE South Atlantic Division

have agreed on an eXtensible Markup Language (XML) standard for sharing of disposal monitoring data (see also Section 4.4). Additional standards will continue to be investigated for sharing of other disposal site related information (e.g. environmental monitoring data, testing data, etc.).

3.0 SITE MONITORING

Under the SMMP, site monitoring is conducted to ensure the environmental integrity of a disposal site and the areas surrounding the site, as well as to verify compliance with the site designation criteria, any special management conditions, and permit requirements. Monitoring programs should be flexible, cost effective, and based on scientifically sound procedures and methods to meet site-specific monitoring needs. Tiered approaches to monitoring should be used where specific management actions or additional monitoring activities may be triggered when unacceptable environmental conditions are recorded. The intent of the program is to provide the following:

- 1) Information indicating whether the disposal activities are occurring in compliance with the permit (or Federal project authorization documents) and site use restrictions;
- 2) Information indicating the short-term and long-term fate of materials disposed of in the marine environment.
- 3) Information concerning the short-term and long-term environmental impacts of disposal activities.

The main purpose of a disposal site monitoring program is to determine whether dredged material site management practices, including disposal operations, at the site need to be altered to avoid adverse impacts.

3.1 Routine Monitoring

Site characterization surveys of the ODMDS have been conducted by EPA and the USACE as part of the designation process. These are summarized in Table 6.

Bathymetric surveys will be used to monitor the disposal location to assist in verification of material placement, to monitor bathymetry changes and trends and to ensure that the site capacity is not exceeded (i.e., does not exceed the site boundaries). The need for pre-disposal bathymetric surveys will depend on project volumes. Pre-disposal surveys of the ODMDS will be required within three (3) months prior to disposal for projects greater than 100,000 cubic yards. Surveys will conform to the minimum performance standards for Corps of Engineers Hydrographic Surveys for “Other General Surveys & Studies” as

described in the USACE Engineering Manual, EM 1110-2-1003, *Hydrographic Surveying* dated 30 November 2013

[https://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM_1110-2-1003.pdf?ver=2014-01-06-155809-307]. The number and length of transects required will be sufficient to encompass the ODMDS and a 500-foot-wide margin around the site. The surveys will be taken along lines spaced at 500-foot intervals or less.

The minimum performance standards in *Hydrographic Surveying* (table 3-1 of that document) will guide monitoring at the site. Horizontal location of the survey lines and depth sounding points will be determined by an automated positioning system utilizing a differential global positioning system. The vertical datum will be referenced to prescribed NOAA Mean Lower Low Water (MLLW) datum. The horizontal datum should be referenced to the local State Plane Coordinate System (SPCS) for that area or in Geographical Coordinates (latitude-longitude). The horizontal reference datum should be the North American Datum of 1983 (NAD 83). This SMMP does not anticipate any other additional pre-disposal monitoring at this site.

Table 6. Surveys and Studies Conducted at the Port Everglades Harbor ODMDS

Survey/Study Title	Conducted By:	Date	Purpose	Results
<i>Benthic Macroinfaunal Analysis of the Port Everglades and Palm Beach, Florida ODMDS Surveys</i>	Battelle for U.S. EPA Region 4	1984	Characterization Survey (sediment analysis, benthic biota)	Characterization of benthos for February & November 1984.
<i>Field Studies in Nearshore Areas at Port Everglades, Palm Beach County, and Brevard County, Florida</i>	Continental Shelf Associates for U.S. EPA Region 4	1986	Benthic characterization of one square mile candidate site (4-mile candidate site) through sidescan and bathymetry.	No high relief ledges, rock outcrops or steep slopes detected. Occasional rubble or cobbles and some low relief rock outcrop.
<i>Video, Still Camera, and Side Scan Sonar Survey of the Seafloor Within and Downcurrent of a Tentative Alternative ODMDS off Port Everglades, Florida</i>	Continental Shelf Associates for U.S. EPA Region 4	1986	Look for presence of natural resources (critical habitat) and presence of manmade obstruction on the bottom and down current of site.	Data showed a predominately fine-to-course sediment covered bottom with scattered rocks, areas of rock rubble and sand ripples.
<i>Sediment & Water Quality of Candidate Ocean Dredged Material Disposal Sites for Port Everglades and Palm Beach, Florida</i>	U.S. EPA Region 4	1999	Characterization Survey (water column profiles, water quality, sediment characteristics, benthic biota)	Conditions at the site are relatively pristine. Water column is clear with low suspended sediment concentrations (2-20mg/l). Sediments consists of mostly fine sand (70%) and have low level of contaminants.
<i>Sidescan Survey of Candidate Ocean Dredged Material Disposal Sites for Port Everglades and Palm Beach, Florida</i>	U.S. EPA Region 4	1999	Look for presence of natural resources (critical habitats) and presence of manmade obstructions on the bottom.	The side-scan sonar data indicated a fine sandy bottom with scattered rubble zones throughout the site and areas 2 miles to the north and 2 miles south of the site. No areas of rock outcrops or potential wrecks were identified through the side-scan record within the site or north or south of the site.

Table 6. Surveys and Studies Conducted at the Port Everglades Harbor ODMDS

Survey/Study Title	Conducted By:	Date	Purpose	Results
<i>Pre-Disposal Bathymetry</i>	USACE	July 2005	Pre-disposal survey	Established baseline condition for post-disposal bathymetry
<i>Post-Disposal Bathymetry</i>	USACE	December 2005	Post-disposal survey	No changes were observable from the pre-disposal survey.
<i>Rapid Seafloor Reconnaissance and Assessment of Southeast Florida Ocean Dredged Material Disposal Sites Utilizing Sediment Profile Imaging – Post Disposal SPI Mapping at the Port Everglades ODMDS</i>	Germano & Associates for U.S. EPA Region 4	May 2006	Map the spatial distribution of disposed dredged material on the seafloor, characterize physical changes in the seafloor resulting from disposal, and evaluate the extent of benthic infaunal recolonization through the mapping of infaunal successional stages.	Dredged material formed an elliptical deposit on the seafloor with the upper half of the elliptical deposit occurring to the north of the disposal site. The main physical change resulting from disposal appeared to be a subtle shift in sediment texture. Overall, at the majority of stations within the dredged material footprint and in surrounding areas, it did not appear that there had been any adverse changes in oxygen demand, redox state, or other geochemical properties as a result of disposal. Local benthic communities are rapidly recolonizing the sandy dredged material that had been deposited at the Port Everglades Harbor ODMDS and are at an intermediate stage of recolonization. The release zone was moved in 2009 to keep future disposal deposits within the ODMDS boundaries.
<i>Site Expansion Preliminary Characterization Study</i>	EPA Region 4 / Water & Air Research / ANAMAR	October 2007	Characterize the grain size, chemistry, and biology of the benthos and the physiochemical properties of the water column for future potential site expansion.	Water column is well mixed over the upper 70 meters. Photic zone extends to 55 meters. DO is low (<5mg/l) below 140 meters. No chemicals were found above federal water quality criteria. Sediments ranged from sandy silt to silty sand. Organic tins, metals and PAHs were detected at low levels in the sediments.

Table 6. Surveys and Studies Conducted at the Port Everglades Harbor ODMDS

Survey/Study Title	Conducted By:	Date	Purpose	Results
<i>Site Designation Study for the Port Everglades Harbor Ocean Dredged Material Disposal Site Expansion</i>	ANAMAR Environmental Consulting for USACE	May 2011	Characterization survey (water column profiles, water quality, sediment characteristics, benthic biota)	Water column is well mixed over the upper 20 meters. Photic zone extends to 65 meters. DO is low (<5mg/l) below 100 meters. Total suspended solids ranged from 6 to 13 mg/l. Sediments were silt/clay & med/fine sand. Sediments in the expansion area had lower levels of metals, organic tins, PAHs, pesticides, and PAHs than the within the ODMDS.
<i>Pre-Disposal Photographic Mapping for the Port Everglades Harbor Ocean Dredged Material Disposal Site Expansion</i>	EPA Region 4 and Newfields	May 2011	Baseline SPI data for future SPI surveys and to photograph areas identified as having potential for hard bottom habitats.	Sediments consisted of compact fine to very fine sand throughout the site. Stage III organisms present throughout the site in low densities. Exposed limestone rocky outcrops present in some locations. Carbonate rocks also present. The rocky outcrops provide habitat for fish, crab, sea anemones, and other epibenthic organisms. The area of rocky outcrops was estimated from point data using thiessen polygons at 28.6 acres, and rocks at 39.7 acres.
<i>Pre-Disposal Bathymetry</i>	USACE	Feb 2012	Pre-disposal survey	The shallowest portion of the site is the northwest corner (~180meters); the deepest the southeast corner (~230meters)
<i>Post-Disposal Bathymetry</i>	USACE	May 2013	Post-disposal survey	No discernable change in bathymetry. (see figure 2)
<i>Benthic Mapping Survey of the Port Everglades Harbor ODMDS</i>	EPA Region 4 and Battelle	September 2014	Map footprint of 2013 maintenance event and document changes to the benthic habitat	The revised release zone was effective at containing almost all of the dredged material disposal impact within the ODMDS boundaries. Only one station (50 meters south of the ODMDS) had any measurable amount of dredged material in excess of 5 cm. The sea star <i>Coronaster briareus</i> , a species managed by the SAFMC, was the only species to show a benthic habitat preference being almost twice as abundance on

Table 6. Surveys and Studies Conducted at the Port Everglades Harbor ODMDS

Survey/Study Title	Conducted By:	Date	Purpose	Results
				unconsolidated soft sediment dredged material relative to native soft sediment and dredged material hard carbonate bottoms. Given the estimated successional stage, OSI, and high level of bioturbation, it appeared that infaunal communities have successfully recolonized the dredged material within 17 months of completion of the 2013 disposal event.

3.2 Disposal Monitoring

For all disposal activities, permits and projects must use an electronic tracking system (ETS), such as the Dredge Quality Management (DQM) system. Appendices B and C provide template language that should be used. An ETS provides surveillance of the transportation and disposal of dredged material. An ETS is maintained and operated to continuously track the horizontal location and draft condition (accuracy \pm 0.1 foot) of the disposal vessel (i.e. hopper dredge or disposal scow) from the point of dredging to the disposal site and return to the point of dredging. Data shall be collected at least every 0.25 nautical mile or every 4 minutes during travel to and from the ODMDS and every twelve seconds or every 30 feet of travel within the ODMDS and while hull status is open. In addition to the continuous tracking data, the following trip information shall be electronically recorded for each disposal cycle:

- a. Load Number
- b. Disposal Vessel Name and Type (e.g. scow)
- c. Estimated volume of Load
- d. Description of Material Disposed
- e. Source of Dredged Material
- f. Date, Time and Location at Initiation and Completion of Disposal Event

The SMMP expects that disposal monitoring will be conducted utilizing the DQM system [see <http://dqm.usace.army.mil/Specifications/Index.aspx>], or equivalent acceptable system. Disposal monitoring and ETS data will be reported to EPA Region 4 on a weekly basis (within one week of disposal) utilizing the eXtensible Markup Language (XML) specification and protocol per Section 4.4. EPA Region 4 and the USACE District require notification by email within 24 hours if disposal occurs outside of the specified disposal release zone, if excessive leakage occurs, if hull open status occurs outside the ODMDS, or other violation of the conditions in this SMMP occur. Excessive leakage is defined as more than 1.5 feet of draft loss between sea buoy (G'3) and the ODMDS averaged between forward and aft sensors, or more than de minimis loss west of the sea buoy (G'3) near protected resources during transit (section 4.1.2). Correspondence will be required to explain how the issue was addressed, pertinent dates, and corrective actions to be implemented to prevent repetition in the future.

3.3 Post Disposal Monitoring

The USACE, or other site user, will be required to conduct a bathymetric survey consistent with the pre-disposal survey requirements within 30 days after disposal project completion, unless a deviation is coordinated with EPA. Surveys will not be required for projects less than 100,000 cys. The number and length of transects required will be sufficient to encompass the release zone and a 500-foot wide area around it. Bathymetric surveys will be utilized to monitor the disposal release zone to ensure a navigation hazard is not produced, to assist in verification of material disposal location, to monitor bathymetry changes and trends, and to ensure that the site capacity

is not exceeded, i.e., the dredged sediment does not exceed the site boundaries on disposal.

3.4 Summary of Results of Past Monitoring Surveys

Surveys conducted at the Port Everglades Harbor ODMDS are listed in Table 6. Two disposal events have occurred since site designation. After the first event, no measurable change in bathymetry was detectable. A post disposal benthic assessment using Sediment Profile Imaging (SPI) showed that dredged material disposal formed an elliptical deposit on the seafloor within the northern portion and extending north of the original ODMDS. This resulted in a shift to a slightly sandier substrate at the ODMDS. There was no indication of any adverse changes in oxygen demand, redox state, or other geochemical properties as a result of disposal. Results suggested that while benthic communities over the dredged material deposit were rapidly approaching those on the ambient seafloor relatively soon after disposal, this process was still ongoing at the time of the survey and not yet complete. Limited sampling conducted as part of the site expansion survey in 2011 indicated that concentrations of metals, organic tins, PAHs, PCBs and pesticides within the original ODMDS are above background levels. However, they remain below levels found in the dredged material tested and accepted for ocean disposal and therefore no adverse effects are expected.

As a result of the post-disposal SPI survey above, the release zone was modified. The 2013 maintenance dredging project utilized the new release zone. In 2014, a SPI and trend assessment study was conducted. The SPI results demonstrated that the revised release zone was effective at containing almost all of the material within the ODMDS boundaries. Only one station about 50 meters south of the ODMDS boundary was impacted by more than 5 cm of dredged material (6 cm). The main physical change in benthic habitats from dredged material disposal were a subtle shift in sediment texture and redox state of surface sediments with grain size slightly coarse, establishment of hard bottom within the ODMDS boundary, a higher proportion of fine shell hash, and apparent shallowing of the aRPD layer depth relative to native sediments. Most of the difference between dredged material and native sediment was likely due to elevated percentages of silt clay in the dredged material. High levels of biogenic activity were found at the majority of unconsolidated soft sediment stations, whether dredged material or native sediments. Except for there being fewer feeding mounds at dredged material stations, there were no other patterns in density and spatial distribution of biogenic features across the area. The sea star *Coronaster briareus* was the only species to show a benthic habitat preference being almost twice as abundant on unconsolidated soft sediment dredged material relative to native soft sediment and dredged material hard carbonate bottoms. It appears that infaunal communities have successfully recolonized the dredged material within 17 months of completion of the 2013 disposal event.

Macroinfauna sampling as part of the 2014 trend assessment study showed that annelids, primarily polychaetes, comprised the majority of the taxa assemblages, both inside (62.5%) and outside (67.4%) of the Port Everglades ODMDS. The mean number of individual organisms and taxa density was over 50% greater outside the ODMDS versus inside the ODMDS. The mean number of taxa was also greater outside the ODMDS versus inside. However, due the large

variability between stations, there was statistically no difference inside versus outside the Port Everglades ODMDS in regard to benthic assemblages.

3.5 Future Monitoring Surveys

Based on the type and volume of material disposed and impacts of concern, various monitoring surveys can be used to examine if and the direction the disposed dredged material is moving, and what environmental effect the material is having on the site and adjacent areas.

It is expected that changes in sediment composition within the ODMDS due to disposed dredged material will likely alter the benthic community structure. However, based on previous benthic studies, it is unlikely that permanent or long-term adverse impacts will result due to changes in sediment composition (see section 3.4).

Additionally, a Sediment Profile Imaging study will be conducted following the next major new work project to evaluate the effectiveness of the new work release zone on maintaining material within the ODMDS.

Table 7. Port Everglades Harbor ODMDS Monitoring Strategies and Thresholds for Action

Goal	Technique	Responsible Party	Rationale	Trigger/ Frequency	Threshold for Action	Management Options	
						Threshold Not Exceeded	Threshold Exceeded
Characterize Existing Hard bottom (quantity and quality)	ROV, Sediment Profile Imaging	Site User or USACE/EPA	Determine baseline for impact assessment	Prior to use of expansion area	N/A	N/A	N/A
Quantify the amount of natural hard-bottom habitats buried and the quantity and quality of hard-bottom habitat created	Same as above	USACE and EPA	Determine the net effect of ODMDS use on EFH	Within 2 years of project completion and 10 years thereafter	Functional assessment shows net decrease in function	Monitor once more at a future time further removed from site usage.	-Modify disposal practices -Continue Monitoring -Alter site utilization
Trend Assessment (40CFR228.9)	Water and Sediment Quality, Benthic Community Analysis (40CFR228.13)	EPA	Periodically evaluate the impact of disposal on the marine environment (40CFR 228.9)	Approximately every 10 years or as warranted due to heavy use.	-Absence from the site of pollution sensitive biota -Progressive non-seasonal changes in water or sediment quality	Continue Monitoring Regularly	-Conduct Environmental Effects Monitoring or Advanced Environmental Effects Monitoring -Review dredged material evaluation procedures

Goal	Technique	Responsible Party	Rationale	Trigger/ Frequency	Threshold for Action	Management Options	
						Threshold Not Exceeded	Threshold Exceeded
Environmental Effects Monitoring	Chemical Monitoring	EPA	Determine if chemical contaminants are significantly elevated ¹ within and outside of site boundaries	If disposal footprint extends beyond the site boundaries or if results of monitoring or other information warrant.	Contaminants are found to be elevated	Discontinue monitoring	<ul style="list-style-type: none"> - Implement case specific management options (i.e., Remediation, limits on quantities or types of material). -Perform biological testing of site material -Consider isolating dredged material (capping) - Institute Advanced Environmental Effects Monitoring
	Benthic Monitoring	EPA	Determine whether there are adverse changes in the benthic populations outside of the site and evaluate recovery rates		Adverse changes observed outside of the site that may endanger the marine environment		
Advanced Environmental Effects Monitoring	Tissue Chemical Analysis	EPA/ USACE	Determine if the site is a source of adverse bioaccumulation which may endanger the marine environment	Implement if Environmental Effects Monitoring (chemistry) warrants.	Benthic body burdens and/or risk assessment models indicate potential for food chain impacts.	Discontinue monitoring	<ul style="list-style-type: none"> -Discontinue site use - Implement case specific management options (i.e. Remediation, limits on quantities or types of material).
	Benthic Monitoring		Determine if the site is a source of adverse sub-lethal ² changes in benthic organisms which may endanger the marine environment		Sub-lethal effects are unacceptable.		

Goal	Technique	Responsible Party	Rationale	Trigger/ Frequency	Threshold for Action	Management Options	
						Threshold Not Exceeded	Threshold Exceeded
Monitor Bathymetric Trends	Bathymetry	User/ USACE	Determine the extent of the disposal mound and major bathymetric changes	Pre and post disposal for significant projects (>50,000cy)	Disposal mound occurs outside ODMDS boundaries	Continue Monitoring for each utilization	-Modify disposal method/placement -Restrict disposal volumes -Enlarge site
Short and Long-term Fate of Disposed Dredged Material	Sediment Profile Imaging	User/ EPA	Confirm aerial extent of disposal mound and benthic impact.	Following change in release zone and major new work projects	Measurable deposition (>5cm) outside of site boundaries	-Continue site use without restrictions	-Increase buffer as needed. -Restrict disposal volumes. -Create berms to retard dredged material transport.
Compliance	Disposal Site Use Records in EPA Region 4's XML format	Site User	-Ensure management requirements are being met -To assist in site monitoring	Weekly during the project	Disposal records required by SMMP are not submitted or are incomplete	Continue Monitoring	-Restrict site use until requirements are met

¹ Significantly elevated: Concentrations above the range of contaminant levels in dredged sediments that the Regional Administrator and the District Engineer found to be suitable for disposal at the ODMDS.

² Examples of sub-lethal effects include without limitation the development of lesions, tumors, development abnormality, and/or decreased fecundity.

4.0 CONDITIONS FOR USE OF THE PORT EVERGLADES HARBOR ODMDS

4.1 Standard Conditions for use of the Port Everglades Harbor ODMDS

4.1.1 Prohibition on Trash and Debris

Only dredged material determined in advance by EPA and USACE to be suitable for ocean disposal may be discharged at *Port Everglades Harbor ODMDS*. Disposal shall be limited to suitable dredged material per the 40 CFR 228 (h)(22). Uncharacterized dredged material, vessels, trash, and other debris are prohibited from being dumped at the site.

4.1.2 Prohibition on Leaking or Spilling During Transport

No more than de minimis amounts of dredged material may leak or spill from disposal vessels during transit to the ODMDS while west of the sea buoy (G'3) (the area of highly sensitive protected resources including corals), and any leakage or spillage west of this buoy that is more than ½ foot (6 inches) must immediately be reported by the Contractor to USACE and forwarded to EPA. Problematic scows shall be taken out of service until the following actions (a. through e.) have been completed. A problematic scow is any scow having reporting requirements triggered in multiple trips for the same event type. Further definition of problematic may be included in the USACE dredging specifications.

- a. The Contractor has notified the USACE who will forward to EPA a report of the event.
- b. An assessment and explanation of the event has been provided to USACE and forwarded to EPA.
- c. The scow has been inspected and the results of that inspection have been provided to USACE and a copy forwarded to EPA.
- d. Necessary repairs or other corrective actions completed, and the results provided to the USACE and forwarded to EPA.
- e. A draft stabilization (scow leak prevention) protocol has been instituted. The purpose of the protocol is to document that excessive leakage is not occurring prior to departing the dredging area for the ODMDS.

For problematic scows, a draft stabilization protocol shall be instituted prior to the next transit utilizing the scow and implementation of the protocol will be required for all future transits for that scow. The protocol will need to ensure that measurement of the draft of the scow over a sufficient period to document that leakage is not occurring. During this time, draft measurements shall be provided in the Daily Quality Control Report. No disposal vessel trips may transit to the site with a problematic scow until the protocol's draft change thresholds have been instituted by the Contractor and documented in the Daily Quality Control Report.

Excessive leakage/spillage or other loss of material, east of the sea buoy, means an apparent loss of dredged material greater than limits established in the most current Section 103 Concurrence, Section 103 permit, and/or described within the USACE contract specifications (in any event loss of dredged material east of the sea buoy (in open water) is not to exceed 1.5 feet. Transportation of dredged material to the ODMDS may not begin or continue when weather and sea state conditions interfere with safe transportation and create risk of spillage, leaks, or other loss of dredged material during transit. Disposal vessels will not be authorized to load beyond a level at which dredged material would be expected to be spilled in transit under anticipated sea state conditions. Due to the presence of sensitive coral reefs adjacent to the channel, these loading and transportation restrictions are critical for preventing impact from dredged materials lost during transit.

4.1.3 Quality Control Inspector, and Scow Certification Checklist

Before any disposal vessel departs for the *Port Everglades Harbor ODMDS*, a dedicated quality control inspector, identified and appointed by the dredging contractor, shall certify in writing that the disposal vessel is not overloaded, and otherwise meets the conditions and requirements of a Scow Certification Checklist that contains all of the substantive elements found in the example provided in this SMMP. If alternate versions of the Scow Certification Checklist (Appendix D) is utilized, EPA and USACE must approve the proposed Checklist prior to the commencement of ocean disposal operations. As indicated in USACE dredging specifications, no ocean disposal trip may be initiated until both the towing vessel captain and the quality control inspector have signed all relevant entries on the Scow Certification Checklist. The inspector shall provide a summary of any discrepancies or inaccuracies on the Checklist in the site user's report to EPA and USACE.

4.1.4 Disposal Release Zone

When dredged material is discharged within the ODMDS, no portion of the vessel from which the materials are released (e.g. hopper dredge or towed barge or scow) may be outside of the disposal release zone (see Table 3 and 4).

4.1.5 Closed Door Hull Status

Doors shall be in the closed state on any disposal vessel and discharges complete before exiting the boundaries of the ODMDS (Table 1). "Closed state" means having both fully and physically closed doors and a properly functioning hull status sensor indicating that the doors are fully closed. In the event that doors are not closing sufficiently, the vessel operator will need to implement a procedure to verify dredged material has been disposed of in the authorized release zone. One such practice is to circle within the ODMDS three times before exiting. Visual verification via remote camera is another option. All such incidents shall be reported to USACE and EPA within 24 hours and the vessel in which the malfunction occurred shall be repaired and verified as functional before returning to service.

4.1.6 Twenty-Four (24) Hour Notification Requirement for Potential Leaks or Mis-Dumps

The site user shall report (refer to section 4.1.2) any anticipated, potential, or actual variances from compliance with these ocean dumping conditions, and any additional project-specific special conditions, to the USACE and EPA within 24 hours of discovering such a situation. A message from an operational “e-mail alert” system, will be considered as fulfilling this 24-hour notification requirement when it includes the following information: description of the cause(s) of the problems, any steps taken to rectify the problems, and whether the problems occurred on subsequent disposal trips.

4.2 Additional Project-Specific Conditions

Additional project-specific conditions or modifications to the standard conditions specified above may be required in the Dredged Material Permit if USACE or EPA determine additional or more specific conditions are necessary to facilitate safe use or accurate monitoring of the disposal site, or to prevent potential harm to the environment, including conditions specifying the timing of operations or methods of transportation and disposal.

4.3 Alternative Permit/Project Conditions

Project-specific alternatives or modifications to the Standard and/or Project-Specific conditions specified above may be authorized in advance by EPA and USACE at their discretion, at the request of the site user. In such cases the site user must demonstrate to the satisfaction of EPA and USACE that:

- the alternative conditions are sufficient to accomplish the specific intended purpose of the original permit condition;
- disposal will not increase the risk of harm to the environment or the health or safety of persons; and
- the site user will not impede monitoring of compliance with the MPRSA, regulations promulgated under the MPRSA, or the permit or authorization issued under the MPRSA.

4.4 Reporting and Data Formatting

4.4.1 Project Initiation and Violation Reporting

The USACE or other site user should notify EPA 15 days prior to the beginning of a dredging cycle or project disposal. The user is also required to notify the USACE and the EPA within 24 hours if a specified violation of the authorization documents and/or Dredged Material Permit occurs during transportation and disposal operations, including details and proposed corrective actions.

4.4.2 Disposal Monitoring Data

Disposal monitoring data shall be provided to EPA Region 4 electronically on a daily basis. Data shall be provided to the EPA Region 4 in XML format and delivered as an attachment to an email to DisposalData.R4@epa.gov. The XML format is available from EPA Region 4.

4.4.3 Post Disposal Summary Reports

The USACE shall provide a Post Disposal Summary Report to EPA within 90 days after project completion. Necessary reports include: dredging project title; permit number and expiration date (if applicable); contract number; name of contractor(s) conducting the work, name and type of vessel(s) disposing material in the ODMDS; disposal time from each vessel; volume disposed at the ODMDS (as paid *in situ* volume, total paid and un paid *in situ* volume, and gross volume reported by dredging contractor), number of loads to ODMDS, type of material disposed at the ODMDS; identification by load number of any misplaced material; dates of pre and post disposal bathymetric surveys of the ODMDS and a narrative discussing any violation(s) of the 103 concurrency and/or permit (if applicable). The narrative should include a description of the violation, indicate the time it occurred and when it was reported to the EPA and USACE, discuss the circumstances surrounding the violation, and identify specific measures taken to prevent reoccurrence. The Post Disposal Summary Report must be accompanied by the bathymetry survey results (plot and X,Y,Z ASCII data file, optionally a GIS shapefile), a summary scatter plot of all disposal start locations, and a summary table of the trip information required by Section 3.2 with the exception of the disposal completion data. If all data is provided in the required XML format, scatter plots and summary tables will not be necessary.

4.4.4 Environmental Monitoring Data Availability

Material tracking, disposal effects monitoring, and other data collected by EPA will be coordinated with and provided to SMMP team members and federal and state agencies as appropriate by EPA and/or USACE. EPA acquired data will be provided to other interested parties requesting such data to the extent possible. Data will be provided for all surveys in a report generated by the action agency. The report should indicate how the survey relates to the SMMP and previous surveys at the Port Everglades Harbor ODMDS and should provide data interpretations, conclusions, and recommendations, and should project the next phase of the SMMP. Monitoring results will be summarized in subsequent modifications to the SMMP posted to EPA's website (<https://www.epa.gov/ocean-dumping>.)

5.0 MODIFICATION OF THE PORT EVERGLADES HARBOR ODMDS SMMP

Should the results of the monitoring surveys or reports from other sources indicate that continued use of the ODMDS would lead to unacceptable effects, EPA, in conjunction with USACE, will modify the ODMDS SMMP to mitigate the adverse impacts. EPA will review the SMMP every

ten years and revise as necessary, for example, if site use changes significantly. The SMMP also may be revised if the quantity or type of dredged material placed at the site changes significantly or if conditions at the site indicate a need for revision.

6.0 IMPLEMENTATION OF THE PORT EVERGLADES HARBOR ODMDS SMMP

This plan is effective from the date of signature. EPA, in conjunction with the USACE, will review and revise more frequently if site use and conditions at the site indicate a need for revision. EPA and USACE share responsibility for implementation of the SMMP. Site users may be required to undertake monitoring activities as a condition of their permit. The USACE and any USACE contractor remain responsible for implementation of the SMMP for Federal new work and maintenance projects.

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- U.S. Environmental Protection Agency, Region 4 and U.S. Army Corps of Engineers, South Atlantic Division, 2008. *Southeast Regional Implementation Manual (SERIM) Requirements and Procedures for Evaluation of the Ocean Disposal of Dredged Material in Southeastern Atlantic and Gulf Coastal Waters*, August 2008.

APPENDIX A

WATER COLUMN EVALUATIONS NUMERICAL MODEL (STFATE) INPUT PARAMETERS

Port Everglades Harbor ODMDS

Site Description

Parameter	Value	Units
Number of Grid Points (left to right)	40	
Number of Grid Points (top to bottom)	60	
Spacing Between Grid Points (left to right)	400	ft
Spacing Between Grid Points (top to bottom)	400	ft
Constant Water Depth	645	ft
Roughness Height at Bottom of Disposal Site	.005 ¹	ft
Slope of Bottom in X-Direction	0	Deg.
Slope of Bottom in Z-Direction	1.0	Deg.
Number of Points in Ambient Density Profile Point ²	5	
Ambient Density at Depth = 0 ft	1.0237	g/cc
Ambient Density at Depth = 65 ft	1.0238	g/cc
Ambient Density at Depth = 164 ft	1.0246	g/cc
Ambient Density at Depth = 328 ft	1.0272	g/cc
Ambient Density at Depth = 645 ft	1.0282	g/cc

AMBIENT VELOCITY DATA³

Parameter	Value	Units
Profile	2-Point at constant depth	
X-Direction Velocity = 33 feet	-2.7	ft/sec
Z-Direction Velocity = 33 feet	1.1	ft/sec
X-Direction Velocity = 197 feet	-2.2	ft/sec
Z-Direction Velocity = 197 feet	0.9	ft/sec

Disposal Operation Data

Parameter (New Work Zone)	Value	Units
Location of Disposal Point from Top of Grid	13,307	ft

Parameter (New Work Zone)	Value	Units
Location of Disposal Point from Left Edge of Grid	7,078	ft
Dumping Over Depression	0	

Parameter (Maintenance Zone)	Value	Units
Location of Disposal Point from Top of Grid	18,173	ft
Location of Disposal Point from Left Edge of Grid	9,157	ft
Dumping Over Depression	0	

Input, Execution and Output

Parameter	Value	Units
Location of the Upper Left Corner of the Disposal Site - Distance from Top Edge	6636	ft
Location of the Upper Left Corner of the Disposal Site - Distance from Left Edge	3461	ft
Location of the Lower Right Corner of the Disposal Site - Distance from Top Edge	20282	ft
Location of the Lower Right Corner of the Disposal Site - Distance from Left Edge	12139	ft
Duration of Simulation	14,400	sec
Long Term Time Step	600	sec

Coefficients

Parameter	Keyword	Value
Settling Coefficient	BETA	0.000 ¹
Apparent Mass Coefficient	CM	1.000 ¹
Drag Coefficient	CD	0.500 ¹
Form Drag for Collapsing Cloud	CDRAG	1.000 ¹
Skin Friction for Collapsing Cloud	CFRIC	0.010 ¹
Drag for an Ellipsoidal Wedge	CD3	0.100 ¹
Drag for a Plate	CD4	1.000 ¹
Friction Between Cloud and Bottom	FRICTN	0.010 ¹

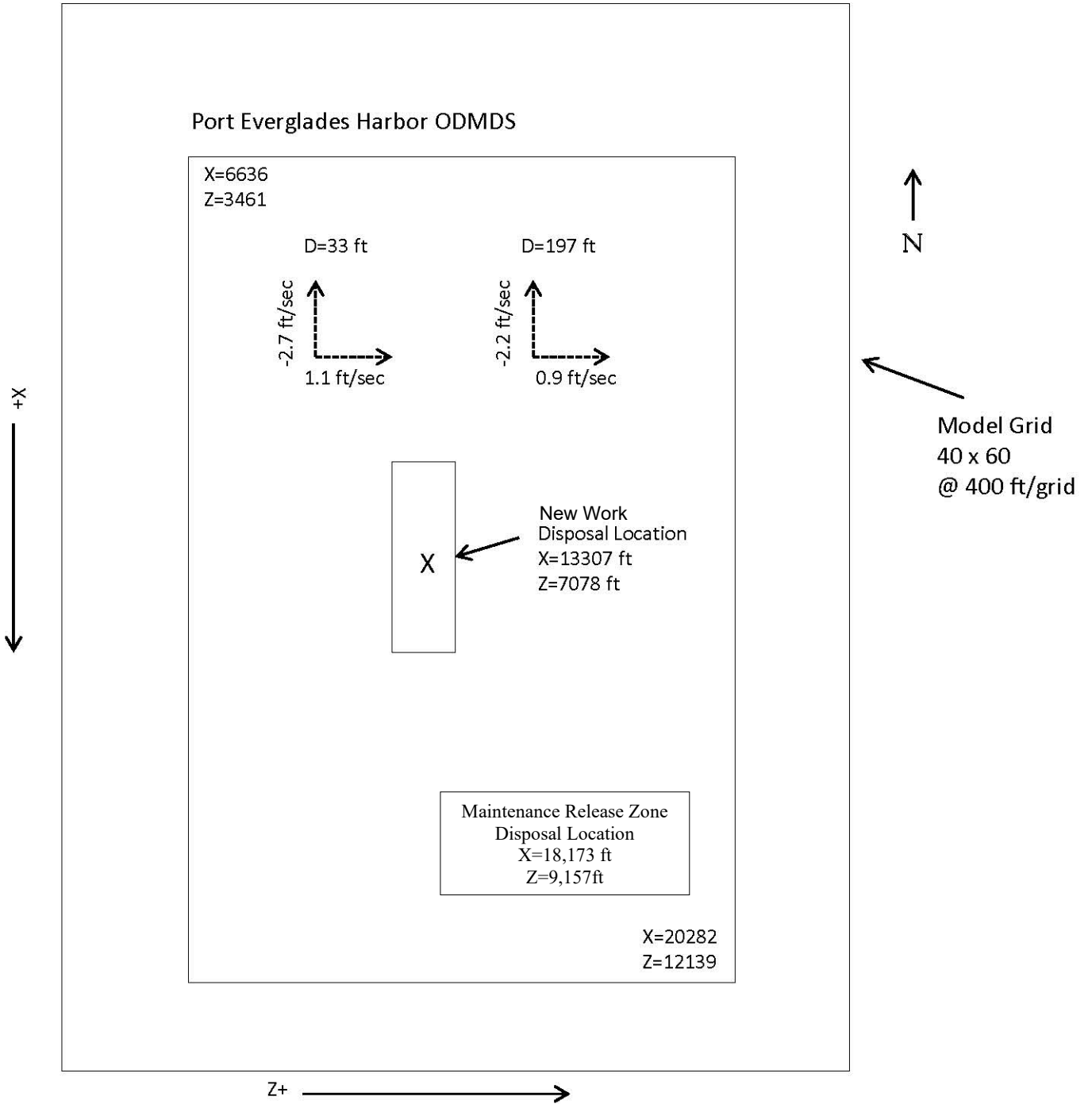
Parameter	Keyword	Value
4/3 Law Horizontal Diffusion Dissipation Factor	ALAMDA	0.001 ¹
Unstratified Water Vertical Diffusion Coefficient	AKYO	Pritchard Expression
Cloud/Ambient Density Gradient Ratio	GAMA	0.250 ¹
Turbulent Thermal Entrainment	ALPHAO	0.39 ⁴
Entrainment in Collapse	ALPHAC	0.100 ¹
Stripping Factor	CSTRIP	0.003 ¹

¹ Model Default Value

² Profile from EPA 2011 measurements (ANAMAR 2012)

³ Velocity data represents average conditions. Determined from WES 1998 analysis of ADCP data offshore Ft. Lauderdale, FL.

⁴ Calculated from NOAA Field Work at Miami (1991)



Port Everglades ODMDS Background Water Concentration.	
Compounds	Background Concentration Levels (µg/l)
Arsenic	1.54 ¹
Cadmium	0.021 ¹
Chromium (VI)	0.15 ¹
Copper	0.16 ¹
Lead	0.012 ¹
Mercury	0.1 ^{1,2}
Nickel	0.25 ¹
Selenium	0.5 ^{1,2}
Silver	0.01 ^{1,2}
Zinc	0.88 ¹
Cyanide	1.0 ^{1,2}
Tributyltin (TBT)	0.025 ^{1,2}
Aldrin	0.0043 ^{1,2}
Chlordane	0.1 ^{1,2}
DDT	0.0017 ¹
Dieldrin	0.0043 ^{1,2}
alpha - Endosulfan	0.0043 ^{1,2}
beta - Endosulfan	0.0043 ^{1,2}
Endrin	0.0043 ^{1,2}
gamma-BHC (Lindane)	0.0043 ^{1,2}
Heptachlor	0.0043 ^{1,2}
Heptachlor Epoxide	0.0043 ^{1,2}
Toxaphene	.24 ^{1,2}
Pentachlorophenol	0.47 ^{1,2}

¹ Samples collected by EPA, Region 4, October 2007 at the Port Everglades ODMDS (USACE 2010) - Values taken from near bottom samples.

² Analyte not detected. Value based on one half the reporting limit.

APPENDIX B

GENERIC SPECIAL CONDITIONS FOR MPRSA SECTION 103 PERMITS

1. DISPOSAL OPERATIONS

- A. For this permit, the term disposal operations shall mean: navigation of any vessel used in disposal of operations, transportation of dredged material from the dredging site to the Port Everglades Harbor ODMDS, proper disposal of dredged material at the disposal area within the Port Everglades Harbor ODMDS, and transportation of the hopper dredge or disposal barge or scow back to the dredging site.

- B. The western edge of the expanded Port Everglades Harbor ODMDS (figure 1) is located 3.3 nautical miles (nmi) offshore and is 2.25 nmi by 1.43 nmi in size (3.21 nmi²). As of 2013, it had a depth range of -179 to -232 meters (-587 to -761 feet), with an average depth of 207 meters (-678 feet). The site is centered at approximately 26°07.625'N latitude and -80°01.784'W longitude (NAD 83) or state plane coordinates 653,067 ft N and 974,517 ft E (NAD83). The site coordinates are as follows:

Vertic es	Geographic NAD 83		State Plane (Florida East 0901 U.S. Ft) NAD 83	
	Latitude (North)	Longitude (West)	Easting	Northing
NE	26°08.750'N	-80°01.000'W	978,753 E	659,915 N
NW	26°08.750'N	-80°02.578'W	970,124 E	659,851 N
SW	26°06.500'N	-80°02.578'W	970,225 E	646,220 N
SE	26°06.500'N	-80°01.000'W	978,856 E	646,283 N

- C. No more than [NUMBER] cubic yards of dredged material excavated at the location defined in [REFERENCE LOCATION IN PERMIT] are authorized for disposal at the Port Everglades Harbor ODMDS.

- D. The permittee shall use an electronic positioning system to navigate to and from the Port Everglades Harbor ODMDS. For this section of the permit, the electronic positioning

system is defined as: a differential global positioning system or a microwave line of site system. Use of LORAN-C alone is not an acceptable electronic positioning system for disposal operations at the Port Everglades Harbor ODMDS. If the electronic positioning system fails or navigation problems are detected, all disposal operations shall cease until the failure or navigation problems are corrected.

- E. The permittee shall certify the accuracy of the electronic positioning system proposed for use during disposal operations at the Port Everglades Harbor ODMDS. The certification shall be accomplished by direct comparison of the electronic positioning system's accuracy with a known fixed point.

The permittee shall allow no more than de minimis amounts of dredged material to leak or spill from disposal vessels during transit to the ODMDS while west of the sea buoy (G'3) (the area of highly sensitive protected resources including corals), and any leakage or spillage west of this buoy that is more than ½ foot (6 inches) must immediately be reported by the Contractor to USACE and forwarded to EPA. If alternate versions of the Scow Certification Checklist (Appendix D) is utilized, EPA and USACE must approve the proposed Checklist prior to the commencement of ocean disposal operations. Problematic scows shall be taken out of service until the following actions (a. through e.) have been completed. A problematic scow is any scow having reporting requirements triggered in multiple trips for the same event type. Further definition of problematic may be included in the USACE dredging specifications.

- a. The Contractor has notified the USACE who will forward to EPA a report of the event.
- b. An assessment and explanation of the event has been provided to USACE and forwarded to EPA.
- c. The scow has been inspected and the results of that inspection have been provided to USACE and a copy forwarded to EPA.
- d. Necessary repairs or other corrective actions

completed, and the results provided to the USACE and forwarded to EPA.

- e. A draft stabilization (scow leak prevention) protocol has been instituted. The purpose of the protocol is to document that excessive leakage is not occurring prior to departing the dredging area for the ODMDS.

For problematic scows, a draft stabilization protocol shall be instituted prior to the next transit utilizing the scow and implementation of the protocol will be required for all future transits for that scow. The protocol will need to ensure that measurement of the draft of the scow over a sufficient period to document that leakage is not occurring. During this time, draft measurements shall be provided in the Daily Quality Control Report. No disposal vessel trips may transit to the site with a problematic scow until the protocol's draft change thresholds have been instituted by the Contractor and documented in the Daily Quality Control Report.

Excessive leakage/spillage or other loss of material, east of the sea buoy, means an apparent loss of dredged material greater than limits established in the most current Section 103 Concurrence, Section 103 permit, and/or described within the USACE contract specifications (in any event loss of dredged material east of the sea buoy (in open water) is not to exceed 1.5 feet. Transportation of dredged material to the ODMDS may not begin or continue when weather and sea state conditions interfere with safe transportation and create risk of spillage, leaks, or other loss of dredged material during transit. Disposal vessels cannot be loaded beyond a level at which dredged material would be expected to be spilled in transit under anticipated sea state conditions. Due to the presence of sensitive coral reefs adjacent to the channel, these loading and transportation restrictions are critical for preventing impact from dredged materials lost during transit.

- F. A disposal operations inspector and/or captain of any tugboat, hopper dredge or other vessel used to transport dredged material to the Port Everglades Harbor ODMDS shall ensure compliance with disposal operation conditions defined

in this permit.

1. If the disposal operations inspector or the captain detects a violation, he shall report the violation to the permittee immediately.
2. The permittee shall contact the U.S. Army Corps of Engineers, Jacksonville District's Regulatory Branch [TELEPHONE NUMBER] and EPA Region 4 via email and at (404) 562-xxxx to report the violation within twenty-four (24) hours after the violation occurs. A complete written explanation of any permit violation shall be included in the disposal summary report.

G. When dredged material is disposed, no portion of the hopper dredge or disposal barge or scow shall be outside of the boundaries of the Port Everglades Harbor ODMDS as defined in Special Condition B. Additionally, disposal shall be initiated within the designated disposal release zone defined below:

Port Everglades Harbor ODMDS Disposal Maintenance Material Release Zone

Vertices	Geographic NAD 83		State Plane (Florida East 0901 U.S. Ft) NAD 83	
	Latitude (North)	Longitude (West)	Easting	Northing
NW	26° 06.9280'N	-80° 01.8150'W	974,362	648,843
NE	26° 06.9280'N	-80° 01.2720'W	977,348	648,866
SW	26° 06.7660'N	-80° 01.8150'W	974,386	647,862
SE	26° 06.7660'N	-80° 01.2720'W	977,356	647,884

New Work Release Zones 1-5

Vertices	Geographic NAD 83		State Plane (Florida East 0901 U.S. Ft) NAD 83	
	Latitude (North)	Longitude (West)	Northing	Easting
Zone 1 NE	26° 07.8942' N	-80° 02.0004' W	654689.246	937321.117
Zone 1 NW	26° 07.8942' N	-80° 01.8342' W	654696.010	974229.988
Zone 1 SE	26° 07.9000' N	-80° 02.0004' W	653929.544	973326.762
Zone 1 SW	26° 07.7688' N	-80° 01.8342' W	653936.307	974235.650
Zone 2 NE	26° 07.9000' N	-80° 02.0004' W	653929.544	973326.762
Zone 2 NW	26° 07.7688' N	-80° 01.8342' W	653936.307	974235.650
Zone 2 SE	26° 07.6434' N	-80° 02.0004' W	653169.841	973332.407
Zone 2 SW	26° 07.6434' N	-80° 01.8342' W	653176.605	974241.311
Zone 3 NE	26° 07.6434' N	-80° 02.0004' W	653169.841	973332.407
Zone 3 NW	26° 07.6434' N	-80° 01.8342' W	653176.605	974241.311
Zone 3 SE	26° 07.518' N	-80° 02.0004' W	652410.139	973338.052
Zone 3 SW	26° 07.518' N	-80° 01.8342' W	652416.902	974246.972
Zone 4 NE	26° 07.518' N	-80° 02.0004' W	652410.139	973338.052
Zone 4 NW	26° 07.518' N	-80° 01.8342' W	652416.902	974246.972
Zone 4 SE	26° 07.3926' N	-80° 02.0004' W	651650.438	973343.696
Zone 4 SW	26° 07.3926' N	-80° 01.8342' W	651657.200	974252.632
Zone 5 NE	26° 07.3926' N	-80° 02.0004' W	651650.438	973343.696
Zone 5 NW	26° 07.3926' N	-80° 01.8342' W	651657.200	974252.632
Zone 5 SE	26° 07.2672' N	-80° 02.0004' W	650890.736	973349.340

Zone 5 SW	26° 07.2672' N	-80° 01.8342' W	650897.498	974258.292
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- H. During transit to and from the Port Everglades Harbor ODMDS, the hopper dredge or disposal barge or scow shall remain within the navigation channel until east of the buoy G"3".
- I. The permittee shall use an electronic tracking system (ETS) that will continuously track the horizontal location and draft condition of the disposal vessel (hopper dredge or disposal barge or scow) to and from the Port Everglades ODMDS. Data shall be collected at least every 500 feet during travel to and from the ODMDS and every minute or every 200 feet of travel, whichever is smaller, while approaching within 1,000 feet and within the ODMDS. The permittee shall use Florida State Plane or latitude and longitude coordinates (North American Datum 1983). State Plane coordinates shall be reported to the nearest foot and latitude and longitude coordinates shall be reported as decimal degrees out to 6 decimals. Westerly longitudes are to be reported as negative. Draft readings shall be recorded in feet out to 2 decimals.

The permittee shall record electronically, for each load, the following information:

- a. Load Number
 - b. Disposal Vessel/Scow Name
 - c. Tow-Vessel Name (if used)
 - d. Captain of Vessel
 - e. Estimated Volume of Load
 - f. Description of Material Disposed
 - g. Source of Dredged Material
 - h. Date, Time, and Location at State of Initiation of Disposal and Completion of Disposal Event
 - i. The ETS data required by Special Condition I
- J. The permittee shall conduct a bathymetric survey of the Port Everglades ODMDS within 3 months prior to project disposal and within 60 days following project completion.

The number and length of the survey transects shall be sufficient to encompass the Port Everglades ODMDS and a 500-foot-wide border around the site. The transects shall be spaced at 500-foot intervals or less.

Vertical accuracy of the survey shall be ± 0.5 feet. Horizontal location of the survey lines and depth sounding points will be determined by an automated positioning system utilizing either microwave line of site system or differential global positioning system. The vertical datum shall be mean lower low water (m.l.l.w) and the horizontal datum shall use Florida State Plane or latitude and longitude coordinates (North American Datum 1983). State Plane coordinates shall be reported to the nearest 0.10 foot and latitude and longitude coordinates shall be reported as decimal degrees to 6 decimal points.

- K. The permittee shall abide by the applicable National Marine Fisheries Service (NMFS) Biological Opinion (BO), either the South Atlantic Regional Biological Opinion (SARBO 2020) for Operations and Maintenance activities, or the project specific BO for deepening and new construction projects. The BO covers 25 listed species including swimming sea turtles, whales, corals, and sturgeon. The RBO contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with "incidental take" that is also specified in the RBO. Your authorization under the Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with the incidental take of the attached RBO, which terms and conditions are incorporated by reference in the permit. Failure to comply with the terms and conditions associated with the incidental take of the RBO, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. However, depending on the affected species NMFS is the appropriate authority to determine compliance with the terms and conditions of its RBO and with the Endangered Species Act (ESA). For further clarification on this point, you should contact the appropriate agency. Should they determine that the conditions of the RBO have been violated; normally they will enforce the violation of the ESA, or refer the matter to the Department of Justice.

2. REPORTING REQUIREMENTS

- A. All reports, documentation and correspondence

required by the conditions of this permit shall be submitted to the following addresses: U.S. Army Corps of Engineers (Corps), Regulatory Division, Enforcement Section, P.O. Box 4970, Jacksonville, Florida 32232-0019 and U. S. Environmental Protection Agency (EPA) Region 4's Wetlands, Coastal and Oceans Branch, 61 Forsyth Street, Atlanta, GA 30303. The Permittee shall reference this permit number, [INSERT PERMIT NUMBER], on all submittals.

- B. At least 15 days before initiating any dredging operations authorized by this permit, the Permittee shall provide to the Corps and EPA a written notification of the date of commencement of work authorized by this permit.
- C. Electronic data required by Special Conditions I.J and I.K shall be provided to EPA Region 4 on a daily basis. Data shall be submitted as an eXtensible Markup Language (XML) document via Internet e-mail to DisposalData.R4@epa.gov. XML data file format specifications are available from EPA Region 4.
- D. The permittee shall send one (1) copy of the disposal summary report to the Jacksonville District's Regulatory Branch and one (1) copy of the disposal summary report to EPA Region 4 documenting compliance with all general and special conditions defined in this permit. The disposal summary report shall be sent within 90 days after completion of the disposal operations authorized by this permit. The disposal summary report shall include the following information:
- a. The report shall indicate whether all general and special permit conditions were met. Any violations of the permit shall be explained in detail.
 - b. The disposal summary report shall include the

following information: dredging project title; dates of disposal; permit number and expiration date; name of contractor(s) conducting the work, name and type of vessel(s) disposing material in the ODMDS; disposal timeframes for each vessel; volume disposed at the ODMDS (as paid *in situ* volume, total paid and un paid *in situ* volume, and gross volume reported by dredging contractor), number of loads to ODMDS, type of material disposed at the ODMDS; identification of any misplaced material (outside disposal release zone or the ODMDS boundaries); dates of pre and post disposal bathymetric surveys of the ODMDS and a narrative discussing any violation(s) of the 103 permit. The disposal summary report should be accompanied by the bathymetry survey results (plot and X, Y, Z ASCII data file).

APPENDIX C

TYPICAL CONTRACT LANGUAGE FOR IMPEMENTING SMMP REQUIREMENTS

DISPOSAL OF DREDGED MATERIAL

A. General

All material dredged shall be transported to and deposited in the disposal area(s) designated on the drawings. The approximate maximum and average distance to which the material will have to be transported are as follows:

Disposal Area Distance	Maximum Distance Statute Miles	Average Statute Miles
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Port Everglades Harbor ODMDS

[INSERT DISPOSAL ZONES AREA 2]	[XX miles]	[XX miles]
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[IF MATERIAL FROM DIFFERENT PROJECT AREAS GO TO DIFFERENT DISPOSAL AREAS, IT SHOULD BE SPECIFIED HERE]

B. Ocean Disposal Notification

a. The Corps or the contractor shall notify EPA Region 4 's Oceans, Wetlands, and Stream Protection Branch (61 Forsyth Street, Atlanta, GA 30303) at least 15 calendar days and the local Coast Guard Captain of the Port at least 5 calendar days prior to the first ocean disposal. The notification will be by certified mail with a copy to the Contracting Officer. The following information shall be included in the notification:

1. Project designation; Corps of Engineers' Contracting Officer's name and contract number; and, the Contractor's name, address, and telephone number.

2. Port of departure.
3. Location of ocean disposal area (and disposal zone(s)).
4. Schedule for ocean disposal, giving date and time proposed for first ocean disposal.

C. Ocean Dredged Material Disposal Sites (ODMDS)

The material excavated shall be transported to and deposited in the Port Everglades Harbor ODMDS as shown on the drawings. When dredged material is disposed, no portion of the hopper dredge or disposal barge or scow shall be outside of the boundaries of the Port Everglades Harbor ODMDS. Additionally, disposal shall be initiated within the disposal release zone(s) defined by the following coordinates:

Port Everglades Harbor ODMDS Disposal Maintenance Material Release Zone

Vertices	Geographic NAD 83		State Plane (Florida East 0901 U.S. Ft) NAD 83	
	Latitude (North)	Longitude (West)	Easting	Northing
NW	26°08.750'N	- 80°01.000'W	978,753 E	659,915 N
NE	26°08.750'N	- 80°02.578'W	970,124 E	659,851 N
SW	26°06.500'N	- 80°02.578'W	970,225 E	646,220 N
SE	26°06.500'N	- 80°01.000'W	978,856 E	646,283 N

New Work Release Zones 1-5

Vertices	Geographic NAD 83		State Plane (Florida East 0901 U.S. Ft) NAD 83	
	Latitude (North)	Longitude (West)	Northing	Easting
Zone 1	26°	-80°	654689.246	937321.117

NE	07.8942'N	02.0004'W		
Zone 1 NW	26° 07.8942'N	-80° 01.8342'W	654696.010	974229.988
Zone 1 SE	26° 07.9000'N	-80° 02.0004'W	653929.544	973326.762
Zone 1 SW	26° 07.7688'N	-80° 01.8342'W	653936.307	974235.650
Zone 2 NE	26° 07.9000'N	-80° 02.0004'W	653929.544	973326.762
Zone 2 NW	26° 07.7688'N	-80° 01.8342'W	653936.307	974235.650
Zone 2 SE	26° 07.6434'N	-80° 02.0004'W	653169.841	973332.407
Zone 2 SW	26° 07.6434'N	-80° 01.8342'W	653176.605	974241.311
Zone 3 NE	26° 07.6434'N	-80° 02.0004'W	653169.841	973332.407
Zone 3 NW	26° 07.6434'N	-80° 01.8342'W	653176.605	974241.311
Zone 3 SE	26° 07.518'N	-80° 02.0004'W	652410.139	973338.052
Zone 3 SW	26° 07.518'N	-80° 01.8342'W	652416.902	974246.972
Zone 4 NE	26° 07.518'N	-80° 02.0004'W	652410.139	973338.052
Zone 4 NW	26° 07.518'N	-80° 01.8342'W	652416.902	974246.972
Zone 4 SE	26° 07.3926'N	-80° 02.0004'W	651650.438	973343.696
Zone 4 SW	26° 07.3926'N	-80° 01.8342'W	651657.200	974252.632
Zone 5 NE	26° 07.3926'N	-80° 02.0004'W	651650.438	973343.696
Zone 5 NW	26° 07.3926'N	-80° 01.8342'W	651657.200	974252.632
Zone 5 SE	26° 07.2672'N	-80° 02.0004'W	650890.736	973349.340
Zone 5 SW	26° 07.2672'N	-80° 01.8342'W	650897.498	974258.292

During transit to and from the Port Everglades Harbor ODMDS, the disposal vessel shall remain within the navigation channel until east of the buoy G"3".

D. Logs

The Contractor shall keep a log for each load placed in the Port Everglades Harbor ODMDS. The log entry for each load shall include:

- a. Load Number
- b. Disposal Vessel or Scow Name
- c. Tow-Vessel Name (if used)
- d. Captain of Vessel
- e. Estimated Volume of Load
- f. Description of Material Disposed
- g. Source of Dredged Material
- h. Date, Time, and Location at State of Initiation of Disposal and Completion of Disposal Event
- i. The ETS data required by Special Condition I

At the completion of dredging and at any time upon request, the log(s) shall be submitted in paper and electronic formats to the Contracting Officer for forwarding to the appropriate agencies.

E. Overflow, Spills and Leaks

No more than de minimis amounts of dredged material may leak or spill from disposal vessels during transit to the ODMDS while west of the sea buoy (G'3) (the area of highly sensitive protected resources including corals), and any leakage or spillage west of this buoy that is more than ½ foot (6 inches) must immediately be reported by the Contractor to USACE and forwarded to EPA. Water and dredged material overflow during loading of scows must conform to applicable Biological Opinion and any violation during loading must be reported by the contractor to USACE and forwarded to EPA. If alternate versions of the Scow Certification Checklist (Appendix D) is utilized, EPA and USACE must approve the proposed Checklist prior to the commencement of ocean disposal operations. Problematic scows shall be taken out of service until the following actions (a. through e.) have been completed. A problematic scow is any scow having reporting requirements triggered in multiple trips for the same event type. Further definition of problematic may be included in the USACE dredging specifications.

- a. The Contractor has notified the USACE who will forward to EPA a report of the event.
- b. An assessment and explanation of the event has been provided to USACE and forwarded to EPA.
- c. The scow has been inspected and the results of that inspection have been provided to USACE and a copy forwarded to EPA.
- d. Necessary repairs or other corrective actions completed, and the results provided to the USACE and forwarded to EPA.
- e. A draft stabilization (scow leak prevention) protocol has been instituted. The purpose of the protocol is to document that excessive leakage is not occurring prior to departing the dredging area for the ODMDS.

F. Electronic Tracking System (ETS) for Ocean Disposal Vessels

The Contractor shall furnish an ETS for surveillance of the movement and disposition of dredged material during dredging and ocean disposal. This ETS shall be established, operated and maintained by the Contractor to continuously track in real-time the horizontal location and draft condition of the disposal vessel (hopper dredge or disposal barge or scow) for the entire dredging cycle, including dredging area and disposal area. The ETS shall be capable of displaying and recording, in real-time, the disposal vessel's draft, speed, and location.

-----[USE LANGUAGE BELOW FOR NON DQM PROJECTS]

G. ETS Standards

The Contractor shall provide automated (computer) system and components to perform in accordance with COE EM 1110-1-2909. A copy of the EM can be downloaded from the following web site: <http://www.usace.army.mil/inet/usace-docs/eng-manuals/em.htm>. Horizontal location shall have an accuracy equal to or better than a standard DGPS system, equal to or better than plus/minus 10 feet (horizontal repeatability). Vertical (draft) data shall have an accuracy of

plus/minus 0.5 foot. Horizontal location and vertical data shall be collected in sets and each data set shall be referenced in real-time to date and local time (to nearest minute), and shall be referenced to the same state plane coordinate system used for the survey(s) shown in the contract plans. The ETS shall be calibrated, as required, in the presence of the Contracting Officer at the work location before disposal operations have started, and at 30-day intervals while work is in progress. The Contracting Officer shall have access to the ETS in order to observe its operation. Disposal operations will not commence until the ETS to be used by the Contractor is certified by the Contracting Officer to be operational and within acceptable accuracy. It is the Contractor's responsibility to select a system that will operate properly at the work location. The complete system shall be subject to the Contracting Officer's approval.

ETS Data Requirements and Submissions

- a. The ETS for each disposal vessel shall be in operation for all dredging and disposal activities and shall record the full round trip for each loading and disposal cycle. (NOTE: A dredging and disposal cycle constitutes the time from commencement of dredging to complete discharge of the material.) The Contracting Officer shall be notified immediately in the event of ETS failure and all dredging operations for the vessel shall cease until the ETS is fully operational. Any delays resulting from ETS failure shall be at the Contractor's expense.
- b. Data shall be collected, during the dredging and disposal cycle, every 500 feet (at least) during travel to the disposal area, and every minute or every 200 feet, whichever is smaller, while approaching within 1,000 feet and within the disposal area.
- c. Plot Reporting (2 types):
 1. Tracking Plot - For each disposal event, data collected while the disposal vessel is in the vicinity of the disposal area shall be plotted in chart form, in 200-foot intervals, to show the track and draft of

the disposal vessel approaching and traversing the disposal area. The plot shall identify the exact position at which the dump commenced.

- 2. Scatter Plot - Following completion of all disposal events, a single and separate plot will be prepared to show the exact disposal locations of all dumps. Every plotted location shall coincide with the beginning of the respective dump. Each dump shall be labeled with the corresponding Trip Number and shall be at a small but readable scale.
- 3. Summary Table - A spreadsheet which contains all of the information in the log(s) above shall be prepared and shall correspond to the exact dump locations represented on the Scatter Plot.

d. ETS data and log data required by Section 3.2 shall be provided to EPA Region 4 on a weekly or more frequent basis. Data shall be submitted to EPA Region 4 as an eXtensible Markup Language (XML) document via Internet e-mail to DisposalData.R4@epa.gov. XML data file format specifications are available from EPA Region 4. All digital ETS data shall be furnished to the Contracting Officer within 24 hours of collection. The digital plot files should be in an easily readable format such as Adobe Acrobat PDF file, Microstation DGN file, JPEG, BMP, TIFF, or similar. The hard copy of the ETS data and tracking plots shall be both maintained onboard the vessel and submitted to the Contracting Officer on a weekly basis.

-----[FOR DQM
PROJECTS]

See: <http://dqm.usace.army.mil/Specifications/Index.aspx>

For scows, the monitoring profile, TDS profile or Ullage profile shall be used.

H. Misplaced Materials

For civil works projects, materials deposited outside of the disposal release zone specified in 3.3.3 will be classified as misplaced material and will result in a suspension of dredging operations. Redredging of such materials will be required, where applicable, as a prerequisite to the resumption of dredging unless the Contracting Officer, at his discretion, determines that redredging of such material is not practical. If redredging of such material is not required, then the quantity of such misplaced material may be deducted from the Contractor's pay quantity. If the quantity for each misplaced load to be deducted cannot initially be agreed to by both the Contractor and Contracting Officer, then an average hopper/scow load quantity for the entire contract will be used in the determination. Both regulatory and civil works projects misplaced loads may be subject to penalty under the Marine, Protection, Research and Sanctuaries Act. Materials deposited above the maximum indicated elevation or outside of the disposal area template shown will require the redredging, relocation, or removal of such materials. In addition, the Contractor must notify the USACE Contracting Officer and the Environmental Protection Agency Region 4 within 24 hours of a misplaced dump or any other violation of the Site Management and Monitoring Plan for the Port Everglades ODMDS. Corrective actions must be implemented prior to the next dump and the Contracting Officer must be informed of actions taken.

APPENDIX D

Scow Certification Template

SCOW CERTIFICATION CHECKLIST		USACE PERMIT or CONTRACT #		4/17/2015	
[PROJECT NAME]		DATE:			
CHECKLIST ITEM	RECORD DATA <small>TO BE FILLED OUT AND SIGNED WITHIN 1 HOUR PRIOR TO DEPARTURE TIME IN NO. 3.</small>	INITIALS			
		CONTRACTOR	Permittee or Authorized Representative		
1. OCEAN DISPOSAL TRIP NUMBER					
2. DEPARTURE DATE TO ODMDS					
3. DEPARTURE TIME TO ODMDS					
4. DEPARTURE LOCATION (dredge, berth, etc.)					
5. SCOW NAME					
6. SCOW CAPACITY (CY)					
7. TUG NAME					
8. TUG CAPTAIN'S NAME					
9. DREDGED MATERIAL SOURCE (area, reach, berth, etc.)					
10. CUBIC YARDS HAULED					
11. SCOW FORE DRAFT / AFT DRAFT / AVG AND TIME					
12. SCOW FORE DRAFT / AFT DRAFT / AVG AND TIME (must be at least one hour prior to time in No. 11)					
13. DRAFT CHANGE (No 12 - No. 11)					
14. FREEBOARD OF MATERIAL AND/OR WATER SURFACE					
15. NWS COASTAL MARINE FORECAST (out to 20 nm)	DATE / TIME OF REPORT				
[area]	WAVE HT (FT)				
WRITE-IN APPROPRIATE FORECAST PERIODS (ie, TODAY, TONIGHT, TOMORROW)	WIND SPEED (KTS)				
	PERIOD (SEC)				
	COMMENTS:				
16. SCOW TRACKING SYSTEM FUNCTIONING?	<input type="checkbox"/> YES <input type="checkbox"/> NO				
17. HELMSMAN DISPLAY FUNCTIONING ON TUG?	<input type="checkbox"/> YES <input type="checkbox"/> NO				
18. GPS FUNCTIONING ON TUG?	<input type="checkbox"/> YES <input type="checkbox"/> NO				
19. COMMENTS					
20. CONTRACTOR'S SIGNATURE	PRINT NAME:			TIME / DATE:	
21. PERMITTEE/REPRESENTATIVE'S SIGNATURE	PRINT NAME:			TIME / DATE:	
22. THE DECISION TO PROCEED TO THE OCEAN DISPOSAL SITE, BASED UPON ALL AVAILABLE DATA INCLUDING THE RECORDING AND CALCULATIONS ON THIS FORM, IS ALSO SUBJECT TO THE PROFESSIONAL JUDGEMENT OF THE TUG CAPTAIN AS TO THE SAFETY OF THE CREW AND VESSEL.					
TUG CAPTAIN'S SIGNATURE:	PRINT NAME:			TIME / DATE:	
DATE/TIME OF DUMP: _____					
BARGE X OR LONGITUDE: _____					
BARGE Y OR LATITUDE: _____					
TUG X OR LONGITUDE: _____					
TUG Y OR LATITUDE: _____					
DATE/TIME OF DISPOSAL VESSEL CLOSURE: _____					
BARGE X OR LONGITUDE: _____					
BARGE Y OR LATITUDE: _____					
TUG X OR LONGITUDE: _____					
TUG Y OR LATITUDE: _____					
ADDITIONAL COMMENTS, PROBLEM DESCRIPTIONS, ETC.					