

**SITE MANAGEMENT PLAN
BARATARIA BAY WATERWAY
OCEAN DREDGED MATERIAL DISPOSAL SITE**

1. GENERAL

The Marine Protection, Research and Sanctuaries Act (MPRSA) of 1972 (33 U.S. C. Section 1401, ff) is the legislative authority regulating the disposal of dredged material into ocean waters, including the territorial sea. The transportation of dredged material for the purpose of disposal into ocean waters is permitted by the U.S. Army Corps of Engineers (USACE) or, in the case of federal projects, authorized for disposal under MPRSA Section 103(e), applying environmental criteria established by the Environmental Protection Agency (EPA) in the Ocean Dumping Regulations (40 CFR Parts 220-229).

Section 102(c) of the MPRSA and 40 CFR Part 228.4(e)(1) authorize the EPA to designate ocean dredged material disposal sites (ODMDS) in accordance with requirements at 40 CFR Parts 228.5 and 228.6. Section 103(b) of MPRSA requires that the USACE use dredged material sites designated by EPA to the maximum extent feasible. Where use of an EPA-designated site is not feasible, the USACE may, with concurrence of EPA, select an alternative site in accordance with MPRSA 103(b).

Part 228.3 of the Ocean Dumping Regulations established disposal site management responsibilities; however, the Water Resources Development Act of 1992 (WRDA 92; Public Law 102-580) included a number of amendments to the MPRSA specific to ODMDS management. Section 102(c) of the MPRSA, as amended by Section 506 of WRDA 92, provides that:

a. Site management plans shall be developed for each ODMDS designated pursuant to Section 102(c) of the MPRSA.

b. After January 1, 1995, no ODMDS shall receive a final designation unless a site management plan has been developed.

c. For ODMDSs that received a final designation prior to January 1, 1995, site management plans shall be developed as expeditiously as practicable, but no later than January 1, 1997, giving priority to sites with the greatest potential impact on the environment.

d. Beginning on January 1, 1997, no permit or authorization for dumping shall be issued for a site unless it has received a final designation pursuant to Section 102(c) of the MPRSA, or it is an alternate site selected by the USACE under Section 103(b) of the MPRSA.

This site management plan for the Barataria Bay Waterway (BBWW), LA., ODMDS was developed jointly by the U.S. Environmental Protection Agency, Region 6 (EPA, Region 6) and the USACE, New Orleans District (NOD). In accordance with Section 102(c) of the MPRSA, as amended by WRDA 92, the plan includes the following:

- a. a baseline assessment of conditions at the site;
- b. a program for monitoring the site;
- c. special management conditions or practices to be implemented at the site that are necessary for protection of the environment;
- d. consideration of the quantity of dredged material to be disposed of at the site, and the presence, nature, and bioavailability of the contaminants in the material;
- e. consideration of the anticipated use of the site over the long term, including the anticipated closure date for the site, if applicable, and any need for management of the site after the closure of the site; and
- f. a schedule for review and revision of the plan.

1.1 SITE MANAGEMENT OBJECTIVES

The purpose of ocean dredged material site management is to ensure that disposal activities do not unreasonably degrade the marine environment or interfere with other beneficial uses (e.g., navigation) of the ocean.

The specific objectives of management of the BBWW ODMDS are as follows:

- a. beneficial use of dredged material;
- b. ocean disposal of only that dredged material that satisfies the criteria set forth in 40 CFR Part 227 Subparts B, C,

D, E, and G and Part 228.4(e) and is suitable for unrestricted placement at the ODMDS; and

c. avoidance of excessive and prolonged mounding either within the site boundaries or in areas adjacent to the site as a direct result of routine disposal operations.

1.2 ROLES AND RESPONSIBILITIES

In accordance with Section 102(c) of the MPRSA and with the Regional Memorandum of Understanding between USACE, NOD and EPA, Region 6, on Management of ODMDSs signed March 15, 1988, EPA is responsible for designation of ODMDSs. Where use of an EPA-designated site is not feasible, the USACE, NOD may, with concurrence of EPA, Region 6, select an alternative site in accordance with Section 103(b) of the MPRSA as amended by Section 506 of WRDA 1992.

Development of site management plans for ODMDSs within the New Orleans District is the joint responsibility of EPA, Region 6 and the USACE, NOD. Both agencies are responsible for assuring that all components of the site management plans are implementable, practical, and applicable to site management decision making.

1.3 FUNDING

Physical, chemical, and biological effects testing of dredged material prior to disposal at the ODMDS will be undertaken and funded by the USACE, NOD. The USACE, NOD also will be responsible for costs associated with disposal-site hydrographic monitoring. Should monitoring indicate that additional studies and/or tests are needed at the ODMDS, the cost for such work would be shared by the USACE, NOD and EPA, Region 6. Physical, chemical, and biological effects testing at the ODMDS or in the site environs after disposal that is not required as a result of monitoring will be funded by EPA, Region 6. Funding of all aspects of this site management plan is subject to Congressional budget constraints.

2.0 BASELINE ASSESSMENT

2.1 Site Characterization

The BBWW ODMDS is located east of and parallel to the BBWW, LA., bar channel and is 4.8 kilometers (3 miles) long (Figure 1). The coordinates of the rectangular site are as follows 29°16'10" N,

89°56'20" W; 29°14'19" N, 89°53'16" W; 29°14'00" N, 89°53'36" W; 29°16'29" N, 89°55'59" W. The northern side of the ODMDS is approximately 2.1 kilometers (1.25 miles) southeast of Grand Terre Island and 3.2 kilometers (2.0 miles) east of Grand Isle.

Baseline conditions at the BBWW ODMDS were assessed during the site designation process. Details of baseline conditions, including descriptions of the marine environment in the vicinity of the sites, and the physical, chemical and biological characteristics of the sediments and the water column at the sites, are contained in the "Final Environmental Impact Statement (FEIS), Barataria Bay Waterway, LA., Ocean Dredged Material Disposal Site Designation" (EPA, 1989). In 1994 and 1995, USACE, NOD collected and characterized sediment and biological samples at the BBWW ODMDS. This information updates the FEIS baseline conditions at the disposal site.

2.2 Disposal Site History

The Rivers and Harbors Acts of 1915 and 1919 authorized the construction of 37-mile-long-channel, 5 feet deep by 50 feet wide from Bayou Villars to Grand Isle, Louisiana. Construction was completed in 1925. The Rivers and Harbors Act of 1958 authorized an enlargement and realignment of the channel. The 1958 Act provided for a 37-mile-long channel, 12 feet deep by 125 feet wide, from the Gulf Intracoastal Waterway to Grand Isle, Louisiana, to the -12-foot depth contour of the Gulf of Mexico. Construction of the enlargement and realignment was completed in 1967. On January 25, 1978, authority was granted under Section 5 of the Rivers and Harbors Act of 1915 to increase the dimensions of the bar channel to 15 feet deep mean low gulf by 250 feet wide from Mile 0.0 to the -15-foot depth contour of the Gulf of Mexico. The bar channel widening was completed in August 1970. The bar channel deepening was completed in January 1973.

The present configuration of the site was established during the site designation process. The existing site received a three year interim designation for disposal of dredged material from the

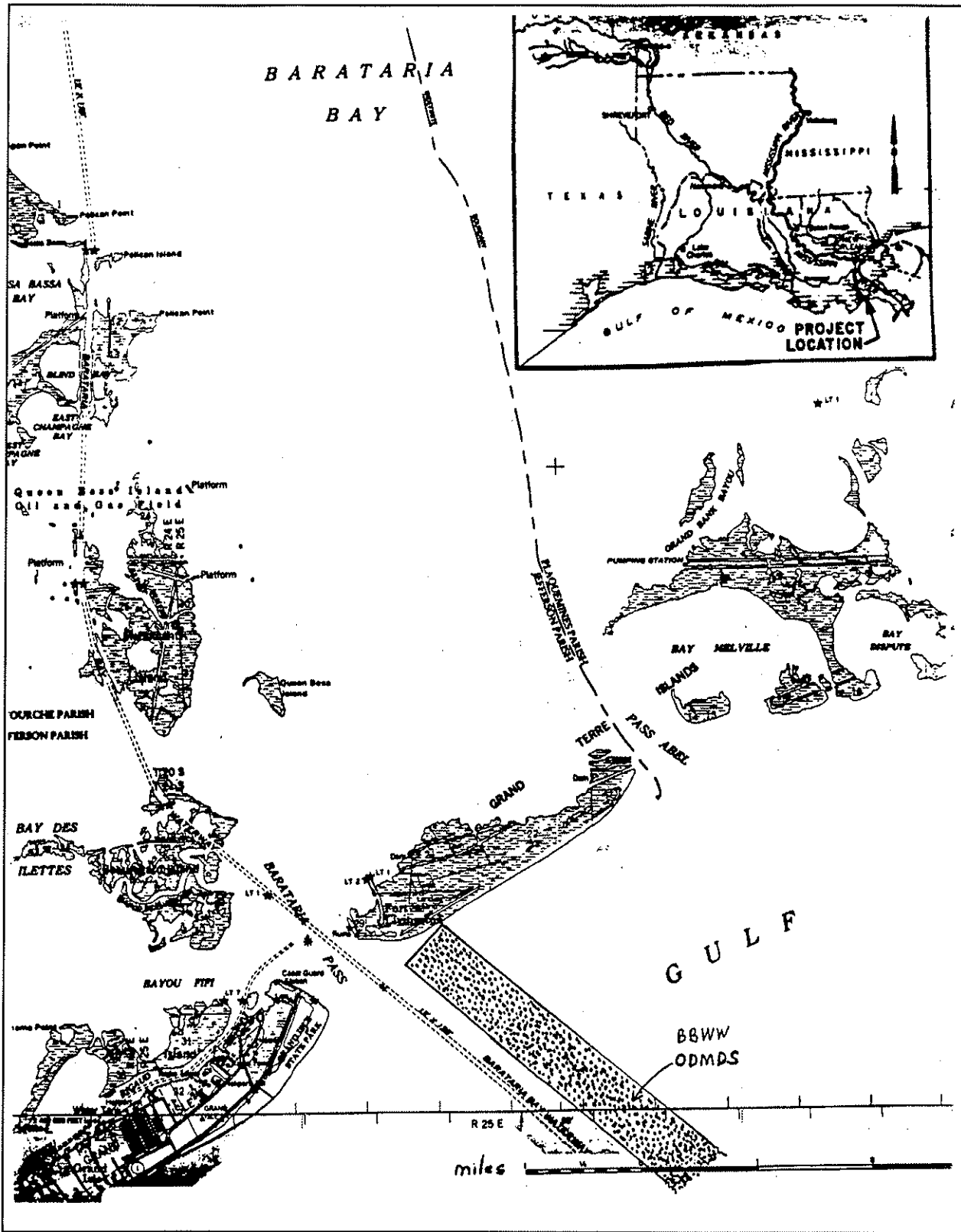


Figure 1. Barataria Bay Waterway ODMDS.

BBWW bar channel in 1977 (42 FR 2461 et seq.). The interim status was extended indefinitely in 1980. Final designation for continuing use of the ODMDS was granted on December 8, 1989 (54 FR 235).

History of dredged material disposal prior to 1976 is incomplete. Dredging records dating back to 1960 indicate discontinuous reaches of the bar channel were maintained with hydraulic cutterhead dredges. The FEIS, indicates historical disposal in the existing ODMDS began in 1960.

Between 1976 and 1995, all of the dredged material removed during routine maintenance of the bar channel (Mile 0 to Mile -3.8) was placed in the ODMDS. Prior to the 1996 maintenance event, a 327 acre disposal area was designated under section 404 of the Clean Water Act for placement of dredged material for restoration of and enlargement of Grand Terre Island (Figure 2). During the 1996 maintenance event, approximately 660,000 cubic yards of shoal material were removed with a hydraulic cutterhead dredge from between Mile 0 and Mile -3.8 of the bar channel and placed on Grand Terre Island. The purpose of depositing the material on Grand Terre Island was to beneficially use the dredged material to restore portions of the island that had been breached in 1992 by Hurricane Andrew. The USACE, NOD and State of Louisiana jointly funded the placement of material on Grand Terre Island. The USACE, NOD received authority and funding through Section 204 of the Water Resources and Development Act of 1992. The State of Louisiana was the local sponsor and provided the local cost-share for the Section 204 project.

Maintenance dredging of the BBWW bar channel has been conducted an average of every 3 years and only material from the navigation channel is placed in the ODMDS. Material is removed using hydraulic cutterhead dredges and is pumped via floating and submerged pipeline into the ODMDS. Historically, the time of year for dredging has varied. When a dredge is working in the bar channel, disposal operations will occur 24 hours a day, seven days a week until the authorized channel dimensions are restored.

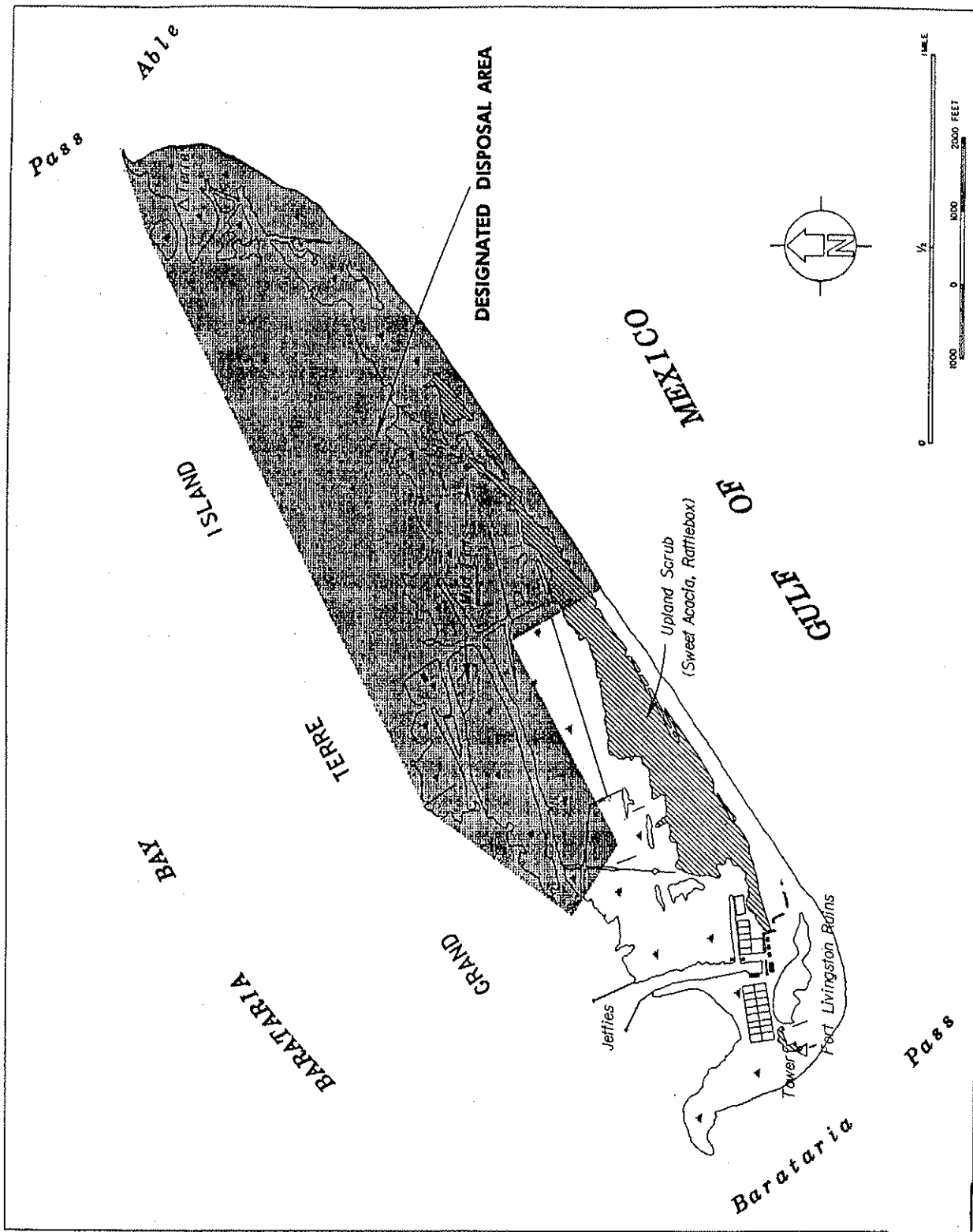


Figure 2. Grand Terre Section 404 Disposal Site.

Table 1 provides a summary of the dredged quantities since 1976.

3.0 Quantity of Material and Presence of Contamination

3.1 Summary of information used to determine size of site, life span, and to protect against storm-induced erosion.

The Barataria ODMDS is a rectangular site parallel to and east of the bar channel reach of the BBWW, LA, navigation channel. When EPA designated it an interim ODMDS in 1977, the site had been used for disposal of dredged material from the bar channel since 1960. The configuration of the site resulted from ease of disposal from the navigation channel. In January 1980, the interim status of the site was extended indefinitely. On December 8, 1989, final designation of the ODMDS was completed. No recommendations for changes in the size of the site were made as a result of the site designation studies.

In 1995, portions of Grand Terre Island and areas adjacent to Grand Terre Island were designated as a Section 404 disposal area for the purpose of beneficially using dredged material. The 404 designation did not reduce the area of the ODMDS, however. The site was designated for continuous use; there are no plans for site closure.

The location and configuration of the ODMDS involves only minimal floating or submerged pile for the cutterhead dredge to convey material from the navigation channel to the ODMDS. This minimizes interference with other activities such as fishing and navigation in the site environs during dredging and disposal operations. The site also is easily accessible for surveillance of dredged material disposal operations and monitoring.

Like most ODMDSs in the Gulf of Mexico, the BBWW ODMDS is a dispersive site. The dredged material discharged into the site is reworked by waves and littoral currents and moved out of the ODMDS. Therefore, the site will be available for long term use and there are no plans for site closure.

Frequency of maintenance dredging of the BBWW has varied. Since 1976, the BBWW bar channel has been dredged 6 times and only material removed from the navigation channel was placed in the ODMDS. Historically, approximately 703,000 cubic yards of dredged

Table 1. Summary of Dredged Quantities for Barataria Bay Waterway Bar Channel.

Dredging Interval (by calender year, CY)	Quantity of Dredged Material (cubic yards)
CY76 01/01 - 01/17/76	738,000
CY77	0
CY78 08/30 - 10/04/78	320,000
CY79	0
CY80	0
CY81	0
CY82	0
CY83 08/04 - 10/11/83	924,500
CY84	0
CY85 05/13 - 05/25/85	798,900
CY86	0
CY87	0
CY88 09/11 - 09/30/88	775,000
CY89	0
CY90	0
CY91	0
CY92	0
CY93	0
CY94	0
CY95	0
CY96	666,300* Grand Terre

material are removed from the bar channel during each maintenance event. The dredged material generally can be characterized as mixtures of sand, silt and clay. Sediment grain size decreases in the offshore direction, with sands predominant in the ODMDS. The average percentages of sands, silts and clays sampled from 6 stations in the bar channel were: sand 48.6 %, silt 42.6 %, and clay 8.2%. It is anticipated that maintenance of the BBWW bar channel and placement of dredged material into the ODMDS will continue in the future. Disposal of dredged material at the Section 404 disposal area will continue if WRDA 1992 Section 204 funds and authority are acquired. Closure of the ODMDS is not anticipated.

3.2 Summary of requirements used to determine suitability of dredged material for disposal at the site.

In accordance with 40 CFR Parts 225 and 227 of the Ocean Dumping Regulations, national implementation guidance for the MPRSA Section 103 Program (Ocean Dumping Program) was developed jointly by USACE and EPA. The guidance was to define technical procedures for testing dredged material to assess its compliance with the applicable physical, chemical, and biological test provisions of Part 227 of the Ocean Dumping Regulations. A national guidance manual was first issued in 1977 and an updated version, "Evaluation of Dredged Material Proposed for Ocean Disposal (Testing Manual)," was issued in February, 1991.

The 1991 manual, commonly referred to as the "1991 Green Book," contains summaries and discussions of the procedures for ecological evaluation of dredged material required by the Ocean Dumping Regulations, tests to implement them, definitions, sample collection and preservation procedures, evaluative procedures, calculations, and interpretive guidance. The manual also provides supporting references required for the evaluation of dredged material discharge applications in accordance with the regulations.

Because the "1991 Green Book" was national in scope, development of more detailed implementation guidance tailoring the procedures of the manual to local needs was encouraged. In October, 1992, the USACE, NOD and EPA, Region 6 signed a "Regional Implementation Agreement (RIA) for Evaluating Dredged Material Proposed for Ocean Disposal Off the Louisiana Coast."

This agreement was jointly developed by USACE, NOD and EPA, Region 6 to adapt the "1991 Green Book" procedures to the region.

The RIA applies to USACE Civil Works projects as well as to MPRSA Section 103 permit applications. It describes in detail the coordination process to be followed for dredged material evaluations to facilitate early coordination and to ensure each agency is aware of when in the process information exchange is required. The RIA contains lists of contaminants of concern of general application to the Louisiana coast. It addresses the implementation of a tiered testing framework specifying preferred test methods; procedures for collecting and storing samples of water and sediment for use in testing; specific benthic and water column test species to be used; required method detection limits; decision values to be used; and procedures for interpreting bioaccumulation results to make Tier III and Tier IV decisions. Locations of established reference sites also are included in the RIA.

In accordance with Part 225 of the Ocean Dumping Regulations, prior to the discharge of dredged material into the ODMDS the USACE, NOD must evaluate the proposed discharge in accordance with the criteria set forth in Part 227. The RIA requires that the information listed below be submitted by USACE, NOD to EPA, Region 6 at least 3 months before the advertisement date for the proposed maintenance event. When government dredges will perform maintenance, the information must be submitted at the beginning of the fiscal year or at least 3 months before anticipated dredging. After receiving the required information, EPA, Region 6 will make an independent evaluation of the proposed discharge in accordance with the criteria within 15 working days. EPA, Region 6 must inform USACE, NOD in writing whether or not the proposed discharge complies with the criteria. If EPA determines that the proposed discharge complies with the criteria, the USACE, NOD may proceed. If EPA determines that the proposed discharge does not comply with the criteria, ocean disposal of the dredged material is prohibited unless procedures for invoking economic impact are followed in accordance with 40 CFR Part 225.3 and EPA, Region 6 grants a waiver pursuant to 40 CFR Part 225.4.

Information provided to EPA, Region 6 prior to the discharge of dredged material into the ODMDS will include the following:

a. The proposed dredging project will be described to include: the volume and area to be dredged; extent of shoaling; interruption or changes in standard operations resulting from shoaling; the anticipated type of dredge and disposal vessel; anticipated start date and duration of the disposal operations; large scale map showing the location of the project; the project plan drawing; design depth and allowable over depth; and disposal quantities and work details.

b. A short description of the last maintenance dredging performed.

c. A dredged material characterization/evaluation to include the following:

1. At a minimum, a Tier I evaluation consisting of a comprehensive analysis of existing and readily available information on the proposed dredged material shall be conducted for every dredging operation that will result in dredged material being discharged into the ODMDS. It is necessary to proceed through the tiered-testing procedures defined in the "1991 Green Book" and the RIA until sufficient information for making a definitive decision about the suitability of the dredged material for ocean disposal has been generated.

2. Copies of the test results conducted according to the site specific sampling design and methods discussed in the RIA. These test results include data for all tests (physical, chemical, and biological), and the name of the laboratory(s) which performed the tests. When previous test results are being used for the evaluation, the date of the original submittal should be referenced.

3. A description of the sampling survey, including dates, sampling devices used, and the location of the sediment sampling stations, for each dredging area and reference site station by latitude and longitude, LORAN-C, or Global Positioning System and also in general terms, i.e., by channel marker, buoy number or other significant landmark.

4. All field sampling, laboratory testing, and quality assurance/quality control (QA/QC) procedures must be described, and analytical methods must be specified. References for

laboratory protocols for physical, chemical, and biological analyses must be described including the following:

a) Method detection limits, detection limits achieved by the laboratory, and EPA method numbers and other approved methods that do not have a specific EPA number.

b) Test species used in each test, the supplier or collection site for each test species, and QA/QC procedures for test species acclimation and holding.

c) Location of control sediment samples and QA/QC procedures and rationale for presuming the control sediment is free of contaminants.

d) Source of seawater used in all biological tests.

e) Bioassay testing procedures and QA/QC information for the bioassays conducted.

f) Statistical analysis procedures.

d. A regulatory compliance evaluation including a review of the following subparts/sections of the Ocean Dumping Regulations:

1. Part 227 Subpart B - Environmental Impact

a) 227.1 Applicability

b) 227.4 Criteria for evaluating environmental impact

c) 227.5 Prohibited materials

d) 227.6 Constituents prohibited as other than trace contaminants

e) 227.9 Limitations on quantities of waste materials

f) 227.10 Hazards to fishing, navigation, shorelines or beaches

g) 227.13 Dredged materials

2. Part 227 Subpart C - Need for Ocean Dumping (all sections)

The USACE, NOD will evaluate alternative disposal options, particularly alternatives involving the beneficial use of dredged materials. The alternatives analysis will reflect not only current technological and cost considerations but also environmental impact information.

3. Part 227 Subpart D - Impact of the Proposed Dumping on Aesthetic, Recreational and Economic Values (all sections)

4. Part 227 Subpart E - Impact of the proposed Dumping on Other Uses of the Ocean (all sections)

5. Part 227 Subpart G - Definitions

6. Part 228.4(e) - Dredged Material Permits

Dredged material from the BBWW bar channel was sampled and analyzed in accordance with the "1991 Green Book" in 1991 and 1994. Tier III evaluations consisting of physical analyses, bulk sediment analyses, water chemistry and elutriate analyses, and toxicity bioassays were conducted in both 1991 and 1994. The results of the analyses indicated that the dredged material proposed for discharge into the ODMDS was in compliance with the Ocean Dumping Criteria and was suitable for ocean disposal.

Prior to each maintenance event, a Tier I evaluation has been conducted. Comprehensive analyses of existing and readily available information on the proposed dredged material, including spill reports from the U.S. Coast Guard, National Response Center, indicated "no reason to believe" that the proposed discharges of dredged material were not suitable for ocean disposal. The USACE, NOD and EPA, Region 6, will use best professional judgement in deciding when new chemical and biological data are needed.

4.0 ANTICIPATED SITE USE

Maintenance dredging of the BBWW bar channel is required periodically and only dredged material from the navigation channel will be disposed into the ODMDS. Dredged material will be removed using a hydraulic cutterhead dredge and will be discharged into

the ODMDS. Alternatively, if supplemental authority and funding become available under Section 204 of WRDA 1992 or other special authorities, dredged material from the BBWW bar channel would be discharged into the Section 404 site for wetlands development or island restoration. The dredged material is comprised of sand, silt and clay (48.6% sand, 42.6% silt, and 8.2% clay).

Historically, the time of year for dredging has varied. When a dredge is working in the bar channel, disposal operations will occur 24 hours a day, 7 days a week until authorized channel dimensions are restored.

It is anticipated that maintenance of the BBWW bar channel and disposal of dredged material into the ODMDS will continue in the future. Future disposal also may occur at the Section 404 site. Closure of the ODMDS site is not anticipated.

5.0 SPECIAL MANAGEMENT CONDITIONS OR PRACTICES

Special management conditions or practices applicable to the BBWW ODMDS include the following:

a. Several options for beneficial use of dredged material taken from the BBWW bar channel were considered during the EIS ODMDS designation process. The FEIS concluded that the significant distance involved in land-based disposal and its associated higher costs would produce little environmental benefit.

With the passage of the WRDA 1992 additional authority and funding have become available to implement beneficial use that is beyond the project's base plan. Beneficial use of material removed from the BBWW bar channel recently was implemented with funds and authority from Section 204 of WRDA 1992. Section 204 provides funding for the incremental costs, costs above the base plan, of beneficial use. Prior to the 1996 maintenance event, a 327-acre disposal area was designated under section 404 of the Clean Water Act for placement of dredged material on Grand Terre Island. During the 1996 maintenance event, approximately 660,000 cubic yards of shoal material were removed with a hydraulic cutterhead dredge from between Mile 0 and Mile -3.8 of the bar channel and placed on Grand Terre Island for island restoration.

Monitoring, including elevation profile and vegetation surveys, will be conducted following placement of the dredged material. If monitoring results indicate that disposal benefits the island, USACE, NOD will seek authority and funding under Section 204 of WRDA 1992 to continue island restoration and wetlands development. USACE, NOD also will continue to investigate other beneficial use alternatives for dredged material from the bar channel prior to each maintenance event in an attempt to decrease the quantity of dredged material placed in the ODMDS.

b. Only dredged material determined by USACE, NOD and EPA, Region 6 to satisfy the criteria set forth in 40 CFR Part 227 Subparts B, C, D, E, and G and part 228.4(e) of the Ocean Dumping Regulations will be considered for unrestricted placement at the ODMDS. Additional evaluation of management options will be required for any dredged material which does not meet the criteria.

6.0 MONITORING PROGRAM

Section 102(c) of the MPRSA, as amended by WRDA 1992, and Part 228 of the Ocean Dumping Regulations establish the requirement for an ODMDS monitoring program. Section 228.9 states that the primary purpose of a monitoring program is to evaluate the impact of disposal on the marine environment by referencing the monitoring results to a set of baseline conditions. The results of a monitoring program are used to determine if site management practices need to be changed to avoid unreasonable degradation of the marine environment.

The results of investigations presented in the site designation FEIS (EPA, 1989) will serve as the main body of baseline data for the monitoring of impacts associated with the use of the BBWW ODMDS. The sediment and biological samples data collected by EPA in 1994 also will be utilized.

The BBWW ODMDS has been used historically without significant environmental impacts. The site is dispersive in nature. Resources or amenities of concern that could be impacted by dredged material disposal at the ODMDS have been identified and management practices have been implemented to prevent adverse impacts to the same.

7.0 SITE MANAGEMENT PLAN REVIEW AND REVISION

Pursuant to Section 102(c) of the MPRSA, as amended WRDA 1992, the site management plan for the Barataria Bay Waterway ODMS will be reviewed and revised, if necessary, not less frequently than 10 years after adoption and every 10 years thereafter. Modifications or updates to the site management plan may be proposed by either the USACE, NOD or EPA, Region 6. The modification may be incorporated into the plan by mutual consent of both agencies.

W.B. Hathaway

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Date

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14 May 98
Date

REFERENCES CITED

EPA. 1989. Final Environmental Impact Statement, Barataria Bay Waterway, LA, Ocean Dredged Material Disposal Site Designation. Region 6, Dallas, Texas.