SITE MANAGEMENT PLAN
CALCASIEU RIVER AND PASS, LA
OCEAN DREDGED MATERIAL DISPOSAL SITES

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 Corps of Engineers or, in the case of federal projects, authorized for disposal under MPRSA Section 103(e), applying environmental criteria established by the Environmental Protection Agency 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 Environmental Protection Agency (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 Corps of Engineers (COE) use dredged material sites designated by EPA to the maximum extent feasible. Where use of an EPA-designated site is not feasible, the COE 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.

4. 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 COE under Section 103(b) of the MPRSA.

This site management plan for the Calcasieu River and Pass Ocean Dredged Material Disposal Sites was developed jointly by the U.S. Environmental Protection Agency, Region 6 (EPA, Region 6) and the U.S. Army Corps of Engineers, New Orleans District (USACE, NOD). Because the three Ocean Dredged Material Disposal Sites are in similar environments a single site management plan has been developed for all 3 sites. 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 Calcasieu River and Pass Ocean Dredged Material Disposal Sites (ODMDSs) 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;

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

d. avoidance of movement of dredged material onto beach/shoreline at Holly Beach.

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 Calcasieu River and Pass, LA, navigation project extends south from the port of Lake Charles, LA, through Calcasieu Lake and Calcasieu Pass to the 42-foot contour in the Gulf of Mexico. The bar channel of the waterway extends from Mile 0 at land's end to the sea buoy at Mile -32.0. Dredged material from maintenance of the bar channel is placed into three ODMDSs (Figure 1) as follows:

a. Site 1

1. Location: On the left-descending bank of the Calcasieu bar channel approximately 0.5 nautical miles (nmi) from shore and extending gulfward approximately 3 nmi.

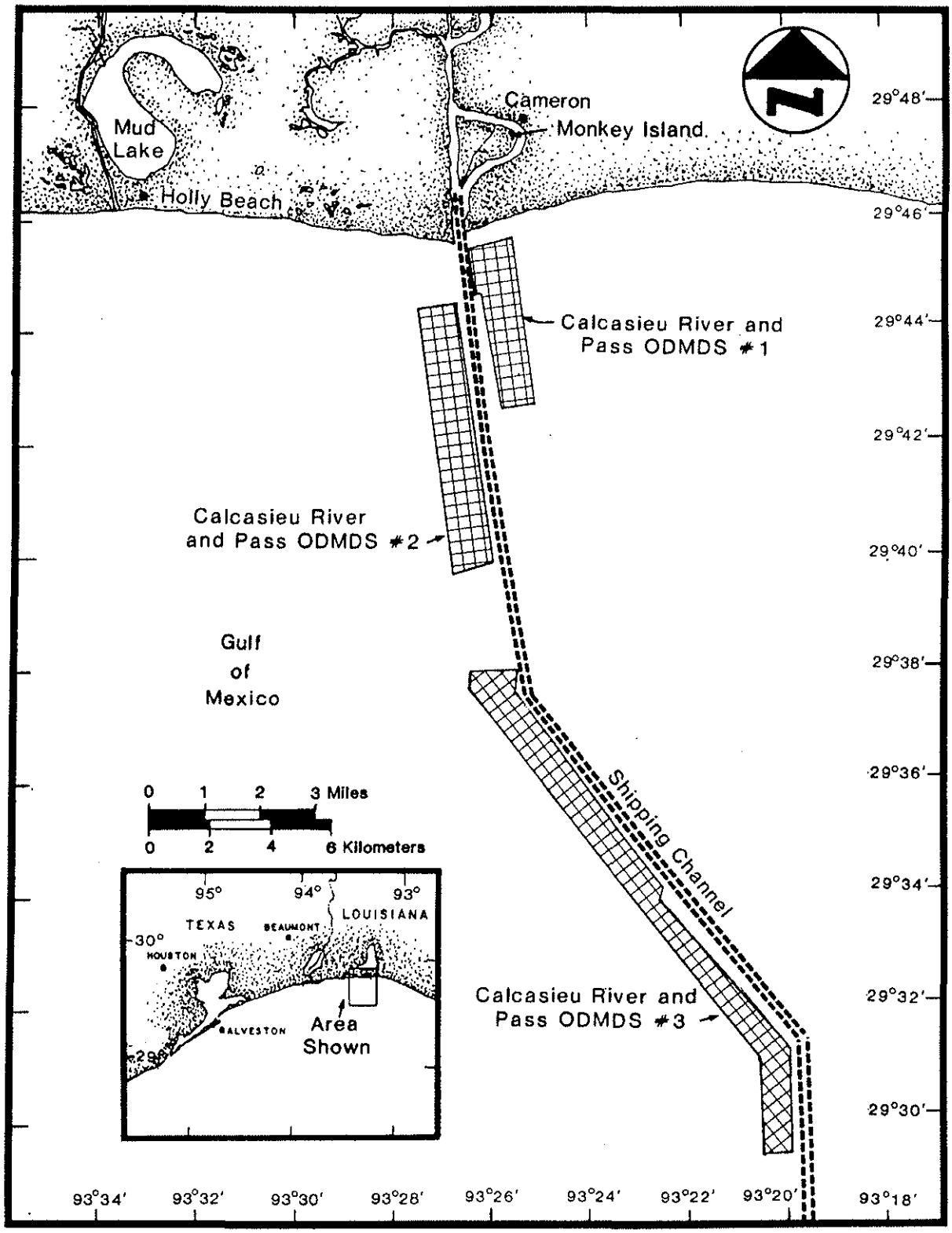
2. Depth range from 2 to 8 meters (6.6 to 26.0 feet)

3. Boundary coordinates:
29°45'39" N, 93°19'36" W
29°42'42" N, 93°19'06" W
29°42'36" N, 93°19'48" W
29°44'42" N, 93°20'12" W
29°44'42" N, 93°20'24" W
29°45'27" N, 93°20'33" W

b. Site 2

1. Location: On the right-descending bank of the Calcasieu bar channel approximately 0.5 nmi from shore and extending gulfward approximately 6 nmi.

2. Depth range from 2 to 11 meters (6.6 to 36 feet)


Mud Lake
Holly Beach
Cameron
Monkey Island
29°48'
29°46'
Calcasieu River and Pass ODMDS #1
29°44'
29°42'
Calcasieu River and Pass ODMDS #2
29°40'
Gulf of Mexico
29°38'
29°36'
Shipping Channel
0 1 2 3 Miles
0 2 4 6 Kilometers
95°
94°
93°
TEXAS
LOUISIANA
BEAUMONT
30°
HOUSTON
GALVESTON
29°
Area Shown
Calcasieu River and Pass ODMDS #3
29°34'
29°32'
29°30'
93°34'
93°32'
93°30'
93°28'
93°26'
93°24'
93°22'
93°20'
93°18'

3. Boundary coordinates: 29°44'31" N, 93°20'43" W
29°39'45" N, 93°19'56" W
29°39'34" N, 93°20'46" W
29°44'25" N, 93°21'33" W

c. Site 3

1. Location: On the right-descending bank of the Calcasieu bar channel approximately 8 nmi from shore and extending gulfward approximately 17.5 nmi.

2. Depth range from 11 to 14 meters (36 to 46 feet)

3. Boundary coordinates: 29°37'50" N, 93°19'37" W
29°37'25" N, 93°19'33" W
29°33'55" N, 93°16'23" W
29°33'49" N, 93°16'25" W
29°30'59" N, 93°13'51" W
29°29'10" N, 93°13'49" W
29°29'05" N, 93°14'23" W
29°30'49" N, 93°14'25" W
29°37'26" N, 93°20'24" W
29°37'44" N, 93°20'27" W

Current patterns in the vicinity of the ODMDSs are influenced primarily by wind, particularly in late autumn through early spring. The water column is well-mixed in the winter, with stratification in late spring and summer. Surface currents average 0.8 to 1.0 knots (kn) (41 to 51 cm/sec) and flow primarily to the west. Bottom currents are generally less than 0.8 kn (41 cm/sec) and also flow predominantly to the west.

Baseline conditions at the three Calcasieu River and Pass ODMDSs 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, Calcasieu River and Pass Ocean Dredged Material Disposal Site Designation" (EPA, 1987).

2.2 Disposal Site History

The Rivers and Harbor Act of July 24, 1946 and prior Rivers and Harbors Acts authorized the USACE, NOD to construct and maintain the Calcasieu River and Pass, LA, project which provided a navigation channel 35- by 250-feet from the wharves of Lake Charles Harbor and Terminal District to the Gulf of Mexico; a channel 35 to 37- by 250 feet between the jetties; and an approach channel 37- by 400-feet seaward to the -37-foot contour of the Gulf of Mexico. Construction of the channel was completed in 1953.

The Rivers and Harbors Act of July 14, 1960 authorized an increase channel depth and width to 40- by 400-feet from the Lake Charles Harbor and Terminal District to the Gulf of Mexico; a channel 40 to 42- by 400 feet between the jetties; and an approach channel 42- by 800-feet seaward to the 42-foot contour in the Gulf of Mexico. Construction of this enlarged channel was completed in 1968.

The Calcasieu River and Pass ODMDSs 1, 2, and 3 received final designation on March 14, 1988 (53 FR 49). The present configurations of the sites were established during the site designation process. Seven sites received interim designation for disposal of dredged material from the Calcasieu bar channel in 1977(42 FR 7). Because some of the seven sites either shared a common boundary or overlapped another site, they were combined to form three sites of similar total area.

Dredging records indicate that the Calcasieu River and Pass ODMDSs have been used for placement of dredged material from maintenance of the Calcasieu bar channel since 1960. Records prior to 1992 do not indicate which of the sites was used during a given maintenance event; however, because hopper dredges have been used exclusively in the bar channel, it is likely that dredged material was placed in the sites on the right-descending bank of the channel. Table 1 provides a summary of the dredged quantities since 1960.

Maintenance dredging of the Calcasieu bar channel (Mile -1.7 to -32.0) is required on an annual basis and only dredged material from the navigation channel is placed in the ODMDSs. Material is removed using a deep draft hopper dredge. Two

Table 1. Summary of Dredged Quantities for Calcasieu Bar Channel.

Dredging Interval	Quantity of Dredged Material (cubic yards)
FY60 29 Mar - 11 Apr 60	1,102,161
FY61 22 Sep - 11 Sep 60 01 Mar - 14 Mar 61	1,972,892
FY62 22 Sep - 08 Oct 61 20 Oct - 03 Nov 61	1,943,203
FY63 25 Dec 62 - 12 Feb 63 19 Sep 63 - 29 Oct 63	5,705,536
FY64 18 Jul - 04 Oct 63 11 Dec - 31 Jan 64	9,006,388
FY65 02 Dec 64 - 18 Jan 65	4,692,332
FY66 08 Sep 65 - 05 Nov 65 29 Dec 65 - 24 Jun 66 30 Dec 65 - 22 Feb 66	12,534,441
FY67 18 Aug 66 - 28 Oct 66 15 Dec 66 - 31 Jan 66	6,024,734
FY68 16 Aug 67 - 07 Nov 67 09 Jan 68 - 31 Jan 68	9,333,787
FY69 18 Aug 68 - 14 Aug 68 25 Sep 68 - 11 Oct 68 26 Jan 69 - 07 Feb 69	4,594,258

FY70 06 Nov 69 - 27 Nov 69 05 Feb 70 - 09 Apr 70	10,520,574
FY71 01 Oct 70 - 20 Oct 70 03 Nov 70 - 03 Dec 70 10 Jun 71 - 30 Jun 71	8,374,001
FY72 01 Jul 71 - 16 Aug 71 12 Aug 71 - 26 Nov 71 10 Jan 72 - 10 Feb 72 08 Jun 72 - 30 Jun 72	20,822,109
FY73 01 Jul 72 - 01 Dec 72	15,107,591
FY74 30 Jan 74 - 05 Feb 74	1,751,422
FY75 26 Aug 74 - 16 Jan 75	15,784,174
FY76 06 Oct 75 - 27 Dec 75	9,325,692
FY77 28 Nov 76 - 30 Mar 77	12,525,510
FY79 16 Jun 80 - 05 Nov 80	10,843,628
FY81 03 Jan 81 - 12 Feb 81 12 Mar 81 - 30 Apr 81 01 may 81 - 10 Jun 81	8,829,272
FY82 01 Oct 82 - 29 Oct 82	769,400
FY83 23 Mar 83 - 24 May 83	5,561,149
FY84 14 Apr 84 - 07 Jul 84 05 Aug 84 - 30 Sep 84	12,685,376

FY85 02 Mar 85 - 28 Mar 85 11 Jul 85 - 18 Aug 85	6,088,679
FY86 04 Dec 85 - 25 Jan 86 06 may 86 - 19 Jun 86	10,307,630
FY87 02 Sep 87 - 02 Dec 87	4,000,000
FY88 02 Jun 88 - 23 Jun 88 29 Sep 88 - 17 Nov 88	12,822,967
FY89 27 Jul 89 - 07 Sep 89	4,000,000
FY90 08 Oct 89 - 14 Oct 89 10 Aug 90 - 16 Oct 90	5,282,957
FY91 11 Aug 91 - 13 Nov 91	8,233,523
FY92 22 Oct 91 - 15 Nov 91 06 Aug 92 - 08 Nov 92	7,733,869
FY93 20 Aug 93 - 08 Dec 93	7,398,555
FY94 21 Jul 94 - 27 Sep 94	7,288,260
FY95 27 Apr 95 - 04 May 95 04 May 95 - 26 May 95 12 May 95 - 08 Jul 95	6,687,985
FY96 07 Jan 96 - 27 Feb 96	4,959,761

methods of dredging and disposal are used when working in the Calcasieu bar channel: agitation dredging and dredge and haul. Agitation dredging consists of filling a hopper dredge to capacity and allowing it to continuously overflow. The very fine suspended sediments are released and swept away by littoral currents which generally flow westward. Dredged material that accumulates in the hopper and is not re-suspended during agitation is hauled and deposited into the ODMDSs.

Tangent 1 (Mile -1.7 to -9.9) and Tangent 2 (Mile -9.9 to -19.2)Dredged material are maintained annually; Tangent 3 (Mile -19.2 to -32.0) rarely requires maintenance . Dredged material from Tangents 1 and 2 is removed by both agitation and dredge and haul. Dredged material from Tangent 3 (Mile -19.2 to -32.0) is removed by dredge and haul. It is likely that some of the dredged material agitated from Tangents 1 and 2 settles into ODMDSs 2 and 3. Material hauled from Tangent 1 is deposited into ODMDS 2 and material hauled from Tangents 2 and 3 is deposited into ODMDS 3.

Maintenance dredging of the Calcasieu bar channel takes place from December 1 through March 31. When a hopper dredge is working in the bar channel, dredging and disposal operations will occur 24 hours a day, 7 days a week until authorized channel dimensions are restored.

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 Calcasieu River and Pass ODMDSs are located adjacent to and along the bar channel reach of the Calcasieu River and Pass, LA, navigation channel. The location and configuration of the ODMDSs probably originated from ease of disposal from the Calcasieu bar channel. The proximity led to the establishment of long narrow sites paralleling the navigation channel. The location of the ODMDSs minimizes interference with other activities such as fishing and navigation in the vicinity during dredging and disposal operations. The sites also are easily accessible for surveillance of dredged material disposal operations and monitoring activities.

The Calcasieu River and Pass ODMDSs are dispersive sites.

The dredged material discharged into any one of the sites is expected to erode because of the high-percentage of very fine-grained components and because of the location of the sites in a high energy inshore environment where waves, currents, wind and tides constantly resuspend, mix, and redistribute the sediments and thus, the dredged material, over a wide area.

Since 1960, the Calcasieu bar channel has been dredged annually and dredged material has been placed in the ODMDSs. Historically, approximately 7,000,000 cubic yards of dredged material are removed from the bar channel during each maintenance event. The dredged material generally can be characterized as sandy-clayey-silts (24.9% sand, 21.8% clay, 53.3% silt). Dredged material from Tangent 1 (Mile -1.7 to -9.9) is comprised of clayey-sandy-silts (34.4% clay, 15.4% sand, 50.2% silt) and dredged material from Tangent 2 is comprised of sandy-clayey-silts (35.8% sand, 7.4% clay, 56.8% silt). It is anticipated that annual maintenance of the Calcasieu bar channel and disposal of dredged material into the ODMDSs will continue in the future. During each maintenance event, from to 200,000 to 1,000,000 cubic yards of dredged material would be discharged into the ODMDSs.

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 the Corps of Engineers and the Environmental Protection Agency. 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 the "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 Corps 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 overdepth; 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 discharge 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 Calcasieu bar channel was sampled and analyzed in accordance with the "1991 Green Book" in 1991 and in 1994. A Tier III evaluation consisting of physical analyses, bulk sediment analyses, water chemistry and elutriate analyses, and toxicity bioassays was conducted. 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.

Although dredged material from the Calcasieu bar channel has been placed in the ODMDS annually since 1994, no additional sampling or analyses have been performed. 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 Calcasieu bar channel is required on an annual basis and only dredged material from the navigation channel will be disposed into the ODMDSs.

Dredged material will be removed using a deep draft hopper dredge and will be discharged via agitation or dredge and haul into the ODMDS. The dredged material generally is comprised of sandy-clayey-silts (24.9% sand, 21.8% clay, and 53.3% silt).

Dredging in the bar channel normally begins in December and continues through February. 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 annual maintenance of the Calcasieu bar channel and disposal of dredged material into the ODMDS will continue in the future. During each maintenance event, from 200,000 to 1,000,000 cubic yards of dredged material will be discharged into the ODMDSs.

5.0 SPECIAL MANAGEMENT CONDITIONS OR PRACTICES

Special management conditions or practices applicable to the Calcasieu River and Pass ODMDSs include the following:

a. Numerous options for beneficial use of dredged material taken from the Calcasieu bar channel were considered during development of the Calcasieu River Long-Term Disposal Plan (LTDP). The LTDP concluded that little environmental benefit would result from the additional costs because most of the dredged material
removed is from Tangent 1 and is not suitable for stacking to create or restore wetlands. Furthermore, a deep draft hopper dredge is used to maintain the bar channel. A hydraulic cutterhead pipeline dredge with trailing pipe, traditionally used for beneficial use projects, is not used in the bar channel because of rough sea conditions and ship traffic. Nearshore

placement for shoreline/beach nourishment is not practical not only because a deep draft hopper dredge cannot maneuver in the shallow nearshore environment but also because of adverse impact to recreational beaches at Holly Beach. Residents of Holly Beach complain that "mud" on the beach interferes with recreational activities.

To date, beneficial use of dredged material from the Calcasieu bar channel has not been implemented; however, annually prior to each maintenance event beneficial use alternatives are investigated. Should technology and or funding become available that would make beneficial use of the dredged material possible, the USACE, NOD will incorporate beneficial use into the disposal plan for bar channel reach of the Calcasieu River and Pass, LA, project.

b. Only dredged material determined by USAGE, 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 ODMDSs. Additional evaluation of management options will be required for any dredged material which does not meet the criteria.

c. Dredging and disposal operations will take place between 30 November and 31 March in an attempt to avoid adverse impacts to threatened and endangered sea turtles which may be present in the Calcasieu bar channel during spring and summer months.

d. Disposal operations will take place during the winter and as far from the shoreline as practical to prevent the movement of dredged material to recreational beaches at Holly Beach.

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 Final Environmental Impact Statement (EPA, 1987) will serve as the main body of baseline data for the monitoring of impacts associated with the use of the Calcasieu River and Pass ODMDSs.

The Calcasieu River and Pass ODMDSs have been used historically without significant environmental impacts. The sites are dispersive in nature. Resources or amenities of concern that could be impacted by dredged material disposal at the ODMDSs have been identified and management practices have been implemented to prevent adverse impacts to the same. Monitoring of the beaches at Holly Beach during and immediately after disposal operations is not necessary. Local residents notify the USAGE, NOD immediately when dredged material drifts onshore.

To ensure that persistent mounding is not occurring, hydrographic monitoring will be performed at and adjacent to the site pre- and post-disposal. If the post-disposal survey indicates either mounding greater than 2.0 feet above pre-disposal elevation has occurred within the site or mounding greater than 12 inches above pre-disposal elevation has occurred off the site, a subsequent hydrographic survey will be conducted prior to the next disposal event to ensure that dispersion of the previously deposited sediments has occurred. If this hydrographic survey indicates that the sediments have dispersed, no further action is necessary. However, should the survey indicate that mounding persists, USACE, NOD and EPA, Region 6 will determine management actions appropriate to the site to alleviate sediment mounding in subsequent disposal events.

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 Calcasieu River and Pass ODMDSs 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

12/5/96

William B. Hathaway
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Date

Albert J. Guillot

12/17/96

Albert J. Guillot, P.E.
Chief, Operations Division
New Orleans District
U.S. Army Corps of Engineers

Date

REFERENCES CITED

EPA. 1987. Final Environmental Impact Statement, Calcasieu River and Pass Ocean Disposal Site (ODMDS) Designation. Region 6, Dallas, Texas.