SITE MANAGEMENT AND MONITORING PLAN

FOR THE GUAM DEEP OCEAN DISPOSAL SITE (G-DODS)

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The following Site Management and Monitoring Plan (SMMP) for the Guam Deep Ocean Disposal Site (G-DODS) has been revised 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 9 and the U.S. Army Corps of Engineers (USACE), Honolulu District.

_____	_____
Name Date	Name Date
Regional Administrator	Chief, Regulatory Division
U.S. Environmental Protection Agency	U.S. Army Corps of Engineers
Region 9	Honolulu District

This plan is effective from the date of the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers signatures for a term not to exceed ten years. Partial midterm modifications do not extend the term. The MPRSA requires review and revision no less frequently than every ten years.

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1 INTRODUCTION

The Marine Protection, Research, and Sanctuaries Act (MPRSA), also referred to as the Ocean Dumping Act, regulates the transportation and dumping of any material into ocean waters. Under the MPRSA, no permit or authorization may be issued for ocean dumping where such dumping will unreasonably degrade or endanger human health or the marine environment.

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). USACE applies the U.S. Environmental Protection Agency (EPA) ocean dumping criteria when evaluating permit or authorization 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 authorization must include those conditions. If EPA declines to concur on an ocean dumping permit or Federal project, USACE cannot issue the permit or authorize or conduct the transportation to and disposal of dredged material in the ocean associated with the Federal project. According to USACE regulations at 33 CFR 325.6, MPRSA permits for and Federal projects involving the transportation of dredged material for the purpose of dumping into ocean waters may not exceed three years.

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. 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 Ocean Dredged Material Disposal Sites (ODMDSs) with USACE. Under MPRSA section 102(c), EPA, in conjunction with 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. 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 at least every 10 years, whichever is sooner. The MPRSA provides that the SMMP shall include, but is not 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 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 G-DODS including monitoring and management activities by the Federal agencies. This SMMP also includes Site Use Conditions to include in future permits or authorizations issued for disposal at these sites (**Appendix B**). References in this SMMP to matters that “should be required” refer to implementation in a subsequent proceeding to authorize disposal of dredged material, whether in a permit, in a contract or other Federal project specification for the transportation and disposal of dredged material, or by USACE directly. Other than the regulatory text copied below, this SMMP does not

itself impose binding requirements or obligations, though terms and conditions from the SMMP (such as the Site Use Conditions provided in **Appendix B**) will be incorporated into other documents (e.g., permits and Federal project documents that authorize transportation and disposal of dredged material at the G-DODS) that will then impose binding rights and obligations on persons responsible for the authorized transportation and disposal.

Matters that "should be required" are implemented through application of the Site Use Conditions language included in **Appendix B**, though the language may vary from the terms of the Appendix as necessary and appropriate. If the translation of terms by USACE warrants further clarification, EPA can ensure implementation of the provisions in **Appendix B** as necessary through the EPA's concurrence actions.

1.1 ROLES AND RESPONSIBILITIES

EPA and USACE work together to implement the site monitoring program for the G-DODS. Specific responsibilities of EPA and USACE are as follows:

EPA: EPA is responsible for designating, modifying, and de-designating/cancelling ODMDSs under MPRSA section 102, managing these sites by regulating site use, developing and implementing site monitoring programs (including compliance monitoring), evaluating environmental effects of disposal of dredged material at the sites, reviewing for concurrence on dredged material suitability determinations, and reviewing for compliance with the MPRSA criteria, conditions, and restrictions for MPRSA section 103 permits or Federal projects authorizing the ocean dumping of dredged material.

Under MPRSA sections 1411 and 1415(a), EPA has broad authority to assess civil penalties and seek injunctive remedies for unauthorized transport of material for the purpose of dumping it into ocean waters, including deviations from transportation-related and disposal-related conditions required by a regulation establishing the ODMDSs or deviations from transportation-related and disposal-related conduct required or authorized by USACE in a permit or (in the case of Federal projects) the terms of the contract documents.

USACE: USACE is responsible for evaluating dredged material suitability and compliance with the MPRSA criteria, conditions, and restrictions, issuing MPRSA section 103 permits and project authorizations, and, in conjunction with EPA, regulating site use and developing and implementing site monitoring programs

(including compliance monitoring) through development and use of the SMMP. USACE also has a contract remedy process to enforce conditions related to ocean disposal with a contractor for a Federal project. USACE contract remedies are separate and distinct from statutory remedies under the MPRSA.

2 SITE DESCRIPTION

The following sections 2.1 through 2.5 are a summary of site-specific information used in the development of this SMMP.

2.1 SITE HISTORY AND DESIGNATION

EPA designated the G-DODS in 2010 (FR Vol. 75, No. 173, 2010). The G-DODS was established for maintaining safe navigation at port and naval facilities in Apra Harbor and other locations around Guam (FR Vol. 75, No. 173, 2010).

Disposal at the G-DODS is coordinated jointly by EPA Region 9 and the USACE Honolulu District. The SMMP for the G-DODS was most recently updated in 2010.

2.1.1 Final Rule Text from 40 CFR 228.15

The official G-DODS designation is published at 40 CFR 228.15(l)(12):

"(12) Guam Deep Ocean Disposal Site (G–DODS)—Region IX.

(i) ***Location:*** Center coordinates of the circle-shaped site are: 13°35.500′ North Latitude by 144°28.733′ East Longitude (North American Datum from 1983), with an overall diameter of 3 nautical miles (5.6 kilometers).

(ii) ***Size:*** 7.1 square nautical miles (24.3 square kilometers).

(iii) ***Depth:*** 8,790 feet (2,680 meters).

(iv) ***Use Restricted to Disposal of:*** Suitable dredged materials.

(v) ***Period of use:*** Continuing use.

(vi) ***Restrictions:*** Disposal shall be limited to a maximum of 1 million cubic yards (764,555 cubic meters) per calendar year of dredged materials that comply with EPA's Ocean Dumping Regulations; disposal operations shall be conducted in accordance with requirements specified in a Site Management and Monitoring Plan developed by EPA and USACE, to be reviewed at least every 10 years."

Please refer to Table 2-1 for site coordinates and surface disposal zone dimensions.

2.2 SITE LOCATION

G-DODS is located approximately 11.1 nautical miles (20.6 km) offshore of Guam, northwest of the entrance to Apra Harbor (Figure 2-1).

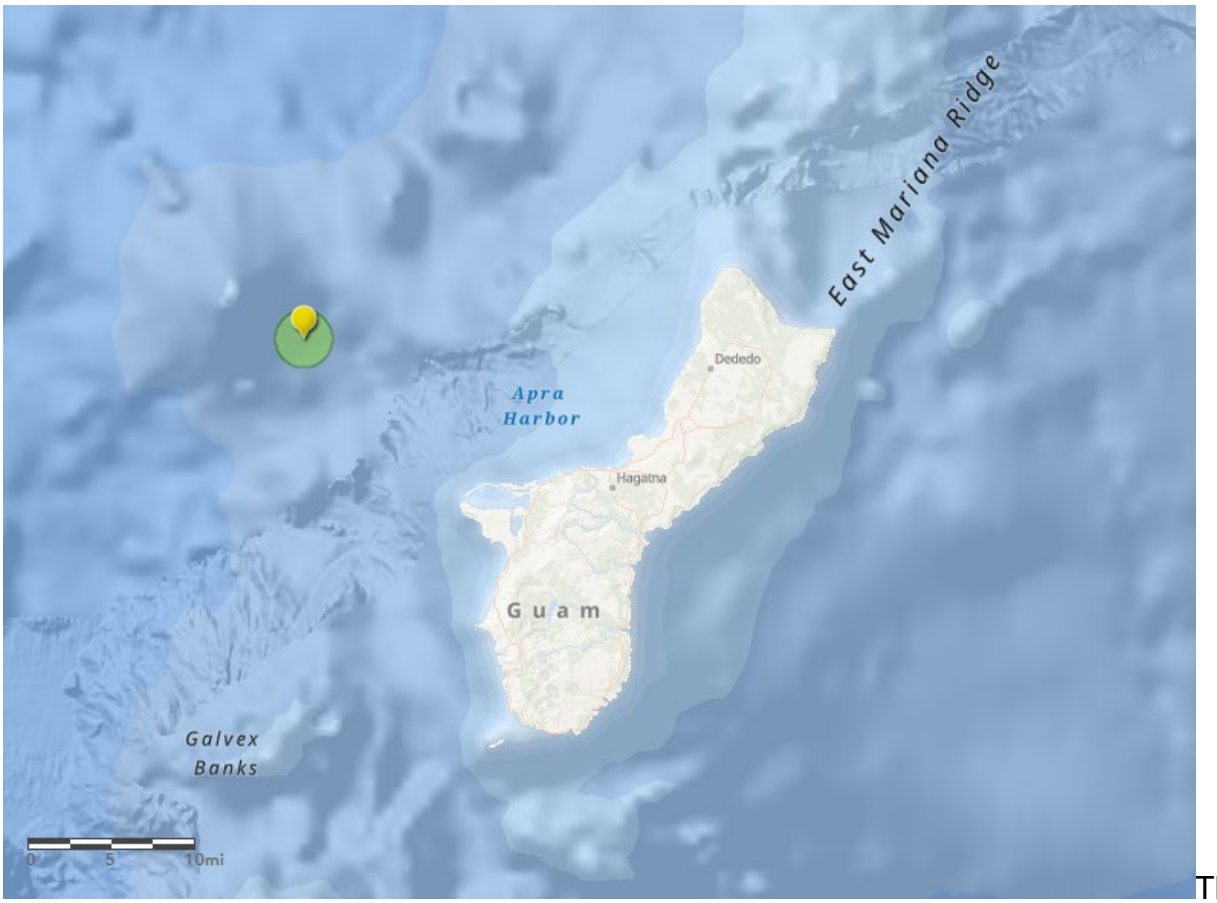

Figure 2-1. Location of the G-DODS (green) and center point (yellow) offshore of Guam.

The circular disposal site boundary (located on the seafloor) is centered at 13°35.500'N and 144°28.733'E (NAD 1983) with a diameter of 3 nautical miles (5.6 km) (FR Vol. 75, No. 173, 2010). The target disposal area (located on the ocean surface; also known as the Surface Disposal Zone, or SDZ) is also centered at 13°35.500'N and 144°28.733'E (NAD 1983) with a diameter of 3,280 ft (1,000 m) (FR Vol. 75, No. 173, 2010).

Table 2-1. Dimensions and center coordinates for the G-DODS and its Surface Disposal Zone (SDZ).

	Dimensions		Center Coordinates from CFR (Decimal Minutes)		Center Coordinates (Decimal Degrees)	
Disposal Site	**Diameter of the SDZ**	**Diameter Overall Site**	**Latitude**	**Longitude**	**Latitude**	**Longitude**
G-DODS	3,280 ft (1,000 m)	3 nmi (5.6 km)	13°35.500' N (NAD 83)	144°28.733' E (NAD 83)	13.591667	144.478883

2.3 SITE USE

The G-DODS was established for maintaining safe navigation at port and naval facilities in Apra Harbor and other locations around Guam (FR Vol. 75, No. 173, 2010). The maximum disposal quantity for G-DODS is 1,000,000 yd^3 (764,555 m^3) of dredged material per calendar year (FR Vol. 75, No. 173, 2010). Since its designation in 2010, there have only been two disposal events at the G-DODS, in 2017 and 2024, totaling just under 141,500 yd^3 (USACE, 2025 and EPA records).

Potential future uses for the G-DODS include expansion of the naval base on Guam, as well as harbor maintenance.

2.4 PAST MONITORING ACTIVITIES

Baseline assessments and monitoring provide an important record of changes or impacts that have occurred during the use of the site. Bathymetric surveys may be conducted before and after each disposal event. Data collected during these surveys are used to inform future monitoring activities and site disposal activity. Monitoring activities completed at the G-DODS are outlined in Table 2-2.

Baseline studies conducted in 2008 compiled data on the physical environment, sediment chemistry, species composition, and species tissue chemistry in and around the G-DODS (Weston Solutions, Inc., 2009). In general, the characteristics observed at the G-DODS were similar to surrounding study areas and consistent with oceanographic trends (Weston Solutions, Inc., 2009).

EPA most recently conducted a survey for the G-DODS in 2022. This survey was the first time that the G-DODS was surveyed since its designation. In this survey, EPA collected sediment profile images (SPI) and plan view images (PV), as well as sediment samples for grain size and chemistry. The results of the survey indicated that the pre-

disposal sediment testing program has protected the G-DODS and its surroundings from any adverse contaminant loading (EPA, 2024). The bulk of the dredged material disposed in the last decades appears to have been deposited properly within the site boundaries. Minor and localized physical impacts from dredged material disposal were detected (i.e., grain size differences within the site), however there have been no apparent long-term adverse impacts resulting from dredged material disposal.

Table 2-2. Monitoring surveys and other studies conducted in the vicinity of the G-DODS.

Date	Survey/ study	Conducted by/ Reference	Purpose	Results
2006	Zone of siting feasibility survey	Weston Solutions, Inc., 2006	To evaluate the feasibility of designating an ODMDS near Apra Harbor, Guam	Identified areas suitable for designating an ODMDS offshore of Guam, considering navigation hazards, jurisdictional boundaries, sensitive environmental resources, and economic feasibility.
2007	Biological survey	SRS Parsons JV, Geo-Marine, Inc., and Bio-waves, Inc., 2007	Collect data on marine mammals and sea turtle densities in the Mariana Islands region	A total of 149 individuals were sighted among 13 different species. The sperm whale had the highest frequency of sightings. Although only one species of sea turtle (the hawksbill) was identified during the survey, five species have distributions that extend into Guam including the green, hawksbill, leatherback, loggerhead and olive ridley. However, the green sea turtle is considered most common near Guam.
2007	Physical survey	Weston Solutions, Inc., 2007	To gather data and develop a model to predict the transport of dredged material through the water column and subsequent deposition on the seafloor	Coarse-grained material predicted to settle to the seafloor within 32 hours of the disposal event, with gravel material settling directly beneath the disposal site and sand material being deposited within 4.1 nm (7.6 km), nearly radially, of the site center. Small percentage of the fine-grained material settled within the time limits of the model, with silt and clay deposits predicted over the entire area.
2008	Physical, biological, chemical surveys	Weston Solutions, Inc., 2009	Collect baseline data for site designation, including information on physical environment, sediment chemistry, species composition, and species tissue chemistry	Information collected on ocean currents; water column profiles; bathymetry; sediment chemistry; species density, abundance, and richness; and species tissue chemistry for baseline surveys and future trend analysis.

Date	Survey/ study	Conducted by/ Reference	Purpose	Results
2022	Physical, biological, chemical surveys	EPA Region 9 (EPA, 2024)	Collect sediment profile images (SPI) and plan view images (PV), as well as sediment samples for grain size and chemistry	The pre-disposal sediment testing program has protected the G-DODS and surrounding areas from any adverse contaminant loading. The bulk of the dredged material disposed in the last decade appears to have been deposited properly within the site boundaries. There are minor and localized physical impacts from dredged material disposal, as expected, but no significant adverse impacts are apparent to the benthic environment outside of site boundaries.

2.5 SITE CHARACTERIZATION

2.5.1 Physical Characterization

The island of Guam is volcanic and not part of a continental land mass and therefore does not have a continental shelf. The depth at the center of the G-DODS is 8,790 ft (2,680 m). The regional bathymetry of the target disposal area, located southeast of a conical seamount, is characterized by a gentle slope descending towards the southeast (Weston Solutions, Inc., 2009).

Surface currents in the vicinity of Guam are dominated by the North Pacific Equatorial Current (NPEC), though coastal eddies may develop in the lee (westward side) of the island because of the NPEC flowing past Guam (EPA, 2010). The NPEC flows westward at an average speed of 0.33 to 0.66 feet per second (ft/s) (0.1 to 0.2 m/s, 0.2 to 0.4 kt) and reaches a maximum speed of approximately 0.98 ft/s (0.3 m/s, 0.6 kt) in response to trade winds typically occurring between 10° North and 15° North. Deep water currents in this region are dominated by the North Pacific Deep Water (NPDW) and the Lower Circumpolar Water (LCPW). The NPDW flows westward from the northeastern Pacific Ocean and the LCPW and branches into two limbs, a northward flow into the Pacific Basin and a westward flow towards the West Marianas Basin.

The 2008 designation survey indicated sediment samples from the G-DODS were primarily sand and silt with some clay (Weston Solutions, Inc., 2009). The major sand fraction had an average of 52.05%, the minor silt fraction averaged 39.48%, and the lesser clay fraction averaged 8.47%. Results indicated that there was no gravel fraction detected in sediments. Sediment samples collected at the reference site had a similar

distribution that consisted of primarily sand (57.2%), followed by silt (33.96%), and clay (8.75%).

The results from the 2022 EPA survey indicated sediment grain size distribution from stations inside the G-DODS was similar to that from stations outside G-DODS and at the reference site, overall (EPA, 2024). However, the sediment at the reference site was composed of a higher percentage of gravel (average of 8%) than the G-DODS and surrounding stations (0.6% inside and 0.1% outside)[1]. Average grain size results for all stations both inside and outside of G-DODS showed the sediments were comprised primarily of silt (approximately 40%) followed by clay (approximately 38%), then sand (predominantly fine sand; 17% within G-DODS and 12% outside of G-DODS). The reference site was similarly composed primarily of silt (39%), followed by clay (32%), and subsequently fine sand (21%). Compared to the 2008 designation survey, higher levels of silt and clay and lower levels of sand were observed in the 2022 survey. While there has been an observed change in grain size distribution within and outside of the G-DODS since its designation, this trend can be seen across the survey area including the reference site. This implies that the change in grain size distribution is not limited to the boundaries of the G-DODS and is likely the result of a factor external to dredging, such as potentially differing grain size classifications.

The 2022 EPA survey also showed that dredged material was observed predominantly within the boundary of the G-DODS and was concentrated around the SDZ projected on the seafloor. In all instances when dredged material was observed, it was found to be a surface layer (i.e., not buried below the sediment water interface), indicating that the material was recently deposited relative to the local rate of natural sediment deposition.

2.5.2 Chemical Characterization

Samples from the 2008 survey had an average total organic carbon (TOC) concentration of 0.28% (Weston Solutions, Inc., 2009). Samples from the 2022 EPA survey had a similar average percentage TOC inside (0.27%) and outside (0.29%) the G-DODS as the 2008 survey, and slightly higher values at the reference site (0.35%) (EPA, 2024).

In 2008, cadmium, zinc, mercury, arsenic, chromium, lead, and silver concentrations were below NOAA's effects range low (ER-L) screening levels (Weston Solutions, Inc.,

[1] Note: It appears that this higher average of gravel was predominantly driven by one station in the reference site, where gravel was found to comprise 38% of the sediment.

2009). Average copper concentrations slightly exceeded the ER-L (34 µg/g) but at concentrations well below NOAA's effects range median (ER-M) screen levels (270 µg/g) (Weston Solutions, Inc., 2009). Average nickel concentrations were more than 2 times the ER-L (20.9 µg/g) and slightly less than the ER-M (51.6 µg/g). However, both nickel and copper tend to occur in native volcanic sediments.

In 2022, samples collected inside and outside of the G-DODS contained similar levels of metals (EPA, 2024). Metals (except nickel and copper) at all stations were below the ER-L values. Copper exceeded the ER-L at all stations within the study area, however levels both within and outside of the G-DODS boundaries were similar. Nickel concentrations were above the ER-L for every station sampled within and outside of the G-DODS, however concentrations only surpassed the ER-M at three stations (located on the northeast portion of the G-DODS). Despite these exceedances of the ER-M within the G-DODS, the average nickel concentrations were very similar between the areas inside the G-DODS, outside the G-DODS, and at the reference site.

Overall, stations within and outside the G-DODS and at the reference site had similar concentrations of metals as those observed during the site designation surveys, with the exception of selenium and silver (EPA, 2024). Selenium concentrations increased by approximately seven-fold from the site designation surveys to the 2022 survey. Despite this increase in selenium concentration, selenium concentrations from the 2022 survey were nearly identical across the stations within the G-DODS, outside the G-DODS, and at the reference site. This indicates that this increase in selenium concentration across the survey area is likely not due to disposal material deposited at the G-DODS, but rather an overall change in the natural environment or external factor such as laboratory evaluations. Furthermore, average concentrations across the 2022 study area were far below the Apparent Effects Threshold (AET) of (1000 mg/kg) for selenium. Silver, on the other hand, appeared to be approximately three times lower across the 2022 survey area, in comparison to the baseline designation studies. Therefore, dredged material disposal has not resulted in adverse metal concentrations inside the G-DODS.

2.5.3 Biological Characterization

The 2008 designation survey results indicated that the invertebrate community found within and near the G-DODS is typical of the deep offshore environment (Weston Solutions, Inc., 2009). For macrofauna, a total of 30 different species were collected. The majority of the benthic populations were comprised of polychaetes, while no mollusks or echinoderms were present at any of the sampling stations. Data from the inshore sampling stations and reference site also showed that polychaetes comprised the majority of all species, with a low abundance of mollusks and an absence of

echinoderms. No meiofaunal nematodes or harpactacoid copepods were present in any of the samples collected.

The 2008 designation survey results also indicated that deep-sea demersal species in the G-DODS and surrounding area were typical of the deep offshore environment in its vicinity (Weston Solutions, Inc., 2009). Between all sampling methods used (i.e., beam trawl surveys, fish trap deployments, and underwater video and digital still camera deployments), one demersal cuskeel (*Bassogigas gillii*), three water column bristlemouths (*Cyclothone pallida*), one small Ophidiiform, two hagfish, and five Ophidiiforms were observed throughout the area in and surrounding the G-DODS. At the inshore sampling stations and reference site, one demersal cuskeel (*Tauredophidium hextii*), two Anguilliforms, and one Ophidiiform were observed.

Given the low volume of material disposed at the site since designation, as well as budgeting restrictions, no benthic community grabs were collected during the 2022 survey, however several benthic community parameters were evaluated through sediment profile images and plan view images. The infaunal and epifaunal communities at the G-DODS study area were documented to be robust and generally characteristic of the environment (EPA, 2024). Epifaunal taxa were infrequently observed throughout the study area and included predominantly burrowing anemones. Gorgonians, brittle stars, crinoids, tunicates, and other epifauna were also observed. The only documented epifauna at the reference site was a small crinoid.

Infaunal successional stage, a measure of the status of the functional biological community inhabiting the seafloor, was variable, with a mix of advanced, intermediate, and early-stage succession (EPA, 2024). Inside the G-DODS, there appeared to be a general pattern where Stage 1 taxa were more prevalent to the south and southeast within the G-DODS boundary, and Stage 3 taxa were predominantly present in the north and northeast. Advanced successional taxa were documented at stations where dredged material was present; it is possible that dredged material placement in G-DODS promoted secondary benthic production at some sampling stations. The reference site was identified as Stage 2 or in a transitory state between Stage 1 and 2.

Sufficient recovery has been observed inside the G-DODS after the 2017 disposal event, although there does not seem to be a consistent recovery pattern within the G-DODS, as there is variability in infaunal successional stages (EPA, 2024). However, the same variability is also present outside of the G-DODS and reference site. This variability in benthic recovery is believed to be due to the natural variability of the native

environment, as the unimpacted areas seem to demonstrate similar variability to the variability found inside the G-DODS.

2.5.4 Discussion of critical amenities

The dumping of materials into the ocean is only permitted at sites selected to minimize the interference of disposal activities with other activities in the marine environment, particularly avoiding areas of existing fisheries or shell fisheries, and regions of heavy commercial or recreational navigation.

Transit routes to the G-DODS do not intersect with cetacean migration corridors. The G-DODS is also sufficiently removed from shore and fishery resources to allow water quality perturbations caused by dispersion of disposal material to be reduced to ambient conditions before reaching environmentally sensitive areas. Although there were concerns over the G-DODS affecting local pelagic troll fishery operations in Guam's offshore waters, the fishery area is not concentrated around the designated disposal site (FR Vol. 75, No. 173, 2010). The largest potential fishing areas, Galvez Bank and Rota Bank, are approximately 20 NM and 28 NM, respectively from the G-DODS. The closest potential seamount, Perez Bank, is approximately 3 NM west of the G-DODS. The designation of the G-DODS does not further prohibit or limit fishing, even in or immediately around the disposal site (FR Vol. 75, No. 173, 2010).

No known shipwrecks or other cultural resources occur in the vicinity of the G-DODS. Overall, the seabed at the G-DODS is non-dispersive, and sediments at the sites are expected to settle and remain offshore, with no impact expected to onshore areas.

The G-DODS is not located within active oil or natural gas leases, and continued disposal operations are not anticipated to adversely impact existing nearby oil and gas development facilities for the foreseeable future. The G-DODS does not currently intersect with offshore wind turbines or areas of ocean wave resource potential.

However, there is potential for future expansion of the naval base on Guam, as well as small-scale harbor maintenance. The EIS evaluated potential impacts based on an annual maximum disposal of 1,000,000 cy^3 of material. Therefore, current management measures should be sufficient if disposal remains below this threshold. If future expansion projects require disposal of material in quantities beyond the capacity determined in the EIS, management measures for the G-DODS may need to be adjusted.

Beginning in November of 2024, EPA conducted informal programmatic consultations with the National Marine Fisheries Service under the Endangered Species Act (ESA) and the Magnuson-Stevens Fishery Conservation and Management Act for the continued use of the G-DODS. These consultations were completed in February of 2025. EPA determined that the continued disposal of approved, suitable dredged material at the G-DODS under an updated SMMP may affect, but is not likely to adversely affect, certain species listed as threatened or endangered under the ESA. EPA similarly determined that continued operations may affect Essential Fish Habitat (EFH), however the effects are expected to be minimal.

3 SITE MANAGEMENT

Appropriate management of the G-DODS assures that disposal activities do not unreasonably degrade or endanger human health, welfare, the marine environment, or economic potentialities (MPRSA section 103(a)). The primary objectives for management of the G-DODS 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 220 through 228) and (2) is consistent with national and regional guidance for the evaluation of dredged material proposed for ocean dumping.
    - Under MPRSA 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) provides guidance for sampling, testing, and analysis of water, sediment, and biological 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 USACE, as well as conditions that should be required in permits, authorizations, and documents establishing the terms of a Federal project applicable to transportation and dumping in ocean waters (see **Appendix B** for expected Site Use Conditions).
    - For Federal projects, EPA should specify in the MPRSA concurrence letters that the EPA concurrence itself is conditioned on incorporation of the EPA concurrence conditions into any USACE Federal contract documents.
- 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 3.1 through 3.10 summarize the disposal operation conditions that will be considered for management of the G-DODS as described in 40 CFR 228.15(l)(12). Enforceable conditions for dredged material disposal operations at the G-DODS are drawn from USACE-issued permits and transportation and dumping authorization

documents for Federal projects. The conditions intended to be enforceable (see **Appendix B** for expected Site Use Conditions) are identified in this SMMP as necessary under MPRSA section 103(a) or 103(e) and should be included as conditions in EPA's concurrence if the permit or authorization documents do not already require such conditions.

The Standard Site Use Conditions in **Appendix B** are intended to be applicable to dredging projects permitted by USACE (Federal and non-federal) as well as to USACE-authorized Federal dredging projects, regardless of whether Government owned and operated dredging equipment or contracted equipment is used. EPA may determine not to include one or more of the conditions identified in **Appendix B**. EPA may also specify or confirm additional project-specific Site Use Conditions in its concurrence.

The Site Use Conditions and reporting requirements become enforceable when and as included in the disposal site designation regulation, in MPRSA section 103 permits, and in transportation and disposal-related authorizations for Federal projects, including USACE Federal contract documents or other Federal project specification documents.

Violations of the MPRSA by a permittee or dredging contractor—including conditions established in an MPRSA permit or Federal project authorization—are subject to compliance action including suspension of disposal operations or possible assessment of substantial administrative, civil, or criminal penalties, or other injunctive remedies, as appropriate.

3.1 Ocean Dumping Criteria Compliance Process

USACE uses the ocean dumping criteria when evaluating permit requests for (and implementing Federal projects involving) the transportation of dredged material for the purpose of dumping it into ocean waters. All disposal of dredged material in the ocean must comply with the ocean dumping criteria, and EPA reviews the demonstrations of compliance when reviewing permits and project authorizations for written concurrence, which may include conditions that must be incorporated into the permit or project authorization documents.

In the case of Federal navigation projects, USACE implements substantive MPRSA requirements directly in USACE projects involving transportation and ocean disposal of dredged materials, including through USACE contractors. Federal projects, though not required to have a permit, must adhere to the same criteria, factors to be evaluated, procedures, and requirements that apply to permits, including the process for evaluation

of the project. Federal projects must receive EPA's concurrence prior to authorization of transportation and disposal of dredged materials, and authorizing documents must contain any conditions included in EPA's concurrence (see **Appendix B** for expected Site Use Conditions). EPA and USACE will coordinate early in the contracting process so the USACE can incorporate any EPA concurrence conditions into project authorization documents.

Dredging projects that are not Federal projects involving ocean disposal of dredged material require an ocean dumping permit issued by USACE pursuant to MPRSA section 103. A summary of the permitting process can be found at: https://www.epa.gov/ocean-dumping/ocean-disposal-dredged-material.

3.2 DREDGED MATERIAL CHARACTERIZATION

Prior to any disposal of dredged material at the G-DODS, EPA and USACE must evaluate the project applying the ocean dumping criteria (40 CFR Part 227) and USACE must specifically authorize the disposal under MPRSA section 103. It is important that EPA and USACE agree on the sampling and analysis plan for each project *prior* to any sampling of proposed dredged material.

Guidance for a process to determine the suitability of dredged material proposed for disposal at the G-DODS is described in the Ocean Testing Manual, sometimes referred to as the Green Book (EPA/USACE, 1991).

Steps include:

1) Case-specific evaluation of proposed material against the exclusion criteria (40 CFR 227.13(b));
2) Determination of the need to test non-excluded material, taking into consideration the time since previous testing and the potential of sediment contamination since last verification;
3) Conducting required testing to determine the suitability of the material for ocean disposal; and
4) Review and evaluation of testing data results by USACE and EPA to determine suitability.

Additional reviews by stakeholders including the public, States, and other Federal Agencies would also be conducted through the USACE permitting or authorization processes.

Only material which USACE and EPA have determined to be suitable and in compliance with the Ocean Dumping Criteria (40 CFR Part 227) may be considered for transportation and disposal at the G-DODS. No disposal activities may occur at the G-DODS until EPA reviews the testing data results and transmits its written concurrence that the material is acceptable for disposal at the G-DODS.

Additional information describing the types of material disposed at the G-DODS (source location, sediment type, etc.) are discussed in Section 2.3 of this document.

3.3 Ensuring the Origin of Material During Dredging

Pre-Construction/Pre-Dredging Meeting: If requested by EPA or USACE, the permittee should organize a pre-construction meeting (which may be virtual) to include EPA, personnel from the permittee's organization, and personnel from the prime dredging Contractor and from any subcontractor involved in transporting the disposal vessels to the G-DODS. The purpose of the meeting is to ensure that Contractor(s) have received and understand EPA's ocean disposal Site Use Conditions attached to the project concurrence or authorization (see **Appendix B** for expected language).

***Dredging Operations Plan*:** A dredging operations plan (DOP) is a plan that outlines the methods and schedule for conducting dredging activities. The DOP should be sent to EPA for review and approval following EPA concurrence but prior to commencement of dredging. After EPA approval of the DOP, any deviations from the original DOP should be sent to EPA for approval. The elements and timelines that are expected in the DOP are outlined in the complete set of Site Use Conditions in **Appendix B** and include SOPs and BMPs for ensuring only authorized material is dredged.

Preventing Disposal of Uncharacterized Material, Unsuitable Material, Trash, and Debris; Use of Grizzly: In order to exclude large trash and debris from being disposed at the G-DODS, all excavated dredged material loads should be placed into scows through a steel mesh or chain "grizzly" with openings of no more than 12 inches by 12 inches. Material retained on the grizzly should be removed and disposed of separately at an appropriate location and should not be disposed of at the G-DODS.

Dredging Footprint Documentation: To ensure that only authorized material is disposed at the G-DODS, the project is expected to have a system that documents the specific location from which dredged material transported for ocean disposal was removed. The permittee should compile and submit the records to EPA on a monthly basis.

3.4 DREDGED MATERIAL TRANSPORTATION

Scow Certification Form: The permittee should submit a Scow Certification form to EPA and USACE for review and approval prior to the commencement of any ocean disposal operations to document items including estimated bin volume of material loaded, location from which the material was dredged, the marine weather forecast, and the details of the disposal location and timing. For each disposal trip, both the permittee and an independent quality control inspector should certify in writing that the vessel is not over-loaded, and otherwise meets the requirements of the Scow Certification form. The permittee should compile and submit these records to EPA and USACE on a monthly basis. The permittee (or prime dredging contractor) should also have an appropriate communications hierarchy and protocols in place to provide the quality control inspector with the authority to ensure that the Site Use Conditions pertinent to the scow are met and to prevent the scow from departing for a disposal trip if they are not fulfilled.

Preventing Leaking or Spilling: The permittee should ensure that dredged material is not leaked or spilled from disposal vessels while stationary or during transit to the G-DODS. Transportation of dredged material to the G-DODS should only be allowed when weather and sea state conditions will not interfere with safe transportation and will not create risk of spillage, leaking, or other loss of dredged material during transit. Disposal vessels should not be loaded beyond a level at which dredged material would be expected to be spilled in transit under anticipated sea state conditions (e.g., should be filled to less than 80%; more restrictive load limits may be implemented for a specific project). No disposal vessel trips should be initiated when the National Weather Service has issued a gale warning for local waters during the time period necessary to complete dumping operations.

3.5 DISPOSAL LOCATIONS AND TIMES

The regulation at 40 CFR 227.28 requires that the release of dredged material into the G-DODS occur at least 330 feet (100 meters) inside its boundaries.

Implementation of the buffer zone requirements ensures that the dredged material is deposited within the site boundaries and increases the likelihood that no material will leave the site as it falls to the seabed. EPA and USACE may establish release zones within the site to maintain compliance with the ocean dumping criteria in 40 CFR 227.28. Disposal authorization documents (e.g., a permit or Federal project contract

term) should require that disposal be initiated within the applicable release zone boundary and completed (i.e., doors closed) prior to leaving the G-DODS.

When discharging dredged material within the G-DODS, no portion of the disposal vessel from which the materials are to be released should be further than 500 m (1,640 ft) from the center of the G-DODS unless specified by a project-specific Site Use Condition. The center coordinates of the G-DODS (Table 2-1) are also the center coordinates of the SDZ. No more than one disposal vessel should be present within the SDZ at any time.

There are no restrictions on disposal times, however such restrictions may be implemented on a project-specific basis.

3.6 DISPOSAL VESSEL TRACKING

Disposal Vessel Instrumentation and Tracking: The primary tracking system for recording ocean disposal operations and ensuring that no material is released outside of the G-DODS SDZ should be disposal vessel-based. Each disposal vessel should have a primary navigation/tracking system functioning during the time of loading of dredged material onto the disposal vessel through the return transportation of the vessel from each disposal trip to the dredging site. No material should be loaded into the disposal vessel, and no trip should be initiated, without a functioning primary navigation/tracking system. This system should record information including vessel positioning, speed, heading, draft, and the location and timing of the disposal event. The permittee should compile and submit these records to EPA on a monthly basis.

Back-Up Navigation System: If the primary disposal vessel tracking system fails during transit, the navigation system on the pushing or towing vessel, meeting the minimum accuracy requirements listed above, may be used to complete that disposal trip by maneuvering the pushing or towing vessel so that, given the compass heading and any tow cable length to the scow, the estimated scow position would be within the SDZ. In such cases the pushing or towing vessel's position, any tow cable length, and the compass heading to the disposal vessel should be recorded and reported on the Scow Certification form.

If the draft sensor for the primary disposal vessel tracking system fails while the disposal vessel is stationary, loading of the disposal vessel should cease until capabilities are restored. If only the GPS tracking fails, then EPA and USACE should

be informed of the coordinates at which the disposal vessel is stationed, and the draft should continue to be recorded and posted in accordance with the vessel disposal tracking data posting (described below). However, transit should not occur until full primary tracking capabilities are restored.

3.7 DISPOSAL REPORTING

Posting Disposal Vessel Tracking Data on the Internet: Within 24 hours of the completion of each disposal trip, data recorded from the primary disposal tracking system should be posted by a third-party contractor to an internet site accessible by EPA and USACE and any other entity specified by EPA or USACE in project-specific permits or authorizations. The records should include the disposal vessel transit routes, locations of disposal, estimated bin volume, and vessel speed and draft from the time of loading until completion of transit from the G-DODS.

Record-Keeping, and Monthly Reporting: In addition to posting disposal vessel tracking data on the internet, the permittee should collect and maintain daily records, including the approved and fully completed Scow Certification forms and dredging footprint documentation. All daily records should be compiled at a minimum for each month during which ocean disposal operations occur, and provided in reports, certified accurate by the dredging contractor and the permittee, to EPA and USACE by the 15th day of the following month. The monthly reports should also include a cover letter summarizing the specific dredging units dredged during the month, the total estimated volume of material dredged during the month, any problems complying with the Site Use Conditions, any significant deviations from the anticipated project-specific Site Use Conditions, the cause(s) of the problems, any steps taken to rectify the problems, and whether the problems occurred again during dredging of suitable units or on subsequent disposal trips.

Project Completion Report: Within 60 days following the completion of ocean disposal operations, the permittee should submit to EPA and USACE a project completion report. The project completion report should contain a cover letter summarizing the number of disposal trips and the overall disposal volumes (bin volumes as well as in-situ), any issues with complying with the Site Use Conditions, and comparison of the pre- and post-dredging bathymetry of the dredging footprint and surrounding areas to show the depths achieved within the project, and how they correspond to the project depth.

3.8 COMPLIANCE ISSUE REPORTING

E-Mail Alerts: Any degree of apparent dumping outside the SDZ of the G-DODS, or any apparent substantial leakage/spillage or other loss of material while stationary or during transport to the G-DODS should be tracked by the third-party tracking system and automatically reported via email to EPA and USACE within 24 hours.

24-Hour Notification for Potential Leaks, Mis-Dumps, and Dredging of Unsuitable or Uncharacterized Material: Any anticipated, potential, or actual variances from compliance with the Site Use Conditions should be reported to EPA and USACE within 24 hours of discovering such a situation. EPA and USACE should also be notified within 24 hours if any conditions arise that indicate that dredged material previously deemed suitable for ocean disposal by EPA may have unanticipated levels of constituents.

3.9 ADDITIONAL PROJECT-SPECIFIC CONDITIONS

Additional project-specific Site Use Conditions or modifications to the Standard Site Use Conditions specified in Sections 3.3 – 3.8 may be required by EPA and USACE if they determine these conditions are necessary to facilitate safe use or accurate monitoring of the disposal site, or to prevent potential harm to the environment. These can include any conditions that EPA or USACE determine to be necessary or appropriate to facilitate compliance with the requirements of the MPRSA, such as timing of operations or methods of transportation and disposal.

3.10 ALTERNATIVE SITE USE/PROJECT CONDITIONS

Alternatives to these Standard Site Use Conditions described in Sections 3.3 – 3.8 may be authorized in advance if the permittee demonstrates to the satisfaction of EPA and USACE that the alternative Conditions are: sufficient to accomplish the specific intended purpose of the original Site Use Condition; will not increase the risk of harm to the environment or the health or safety of persons; and will not impede monitoring of compliance with the MPRSA, the ocean disposal regulations, or the project's permit or authorization.

4 SITE MONITORING

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, contract, or Federal project authorization document 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.

Specific goals of the monitoring program are 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 restrictions;
2) Information on the short-term and long-term fate of materials disposed of in the marine environment; and,
3) Information concerning the short-term and long-term environmental impacts of disposal activities.

The site monitoring program describes the monitoring actions that should be taken if issues are found during routine trend assessment monitoring or any other means. A tiered strategy for a monitoring program is used to ensure that more advanced monitoring activities are used only when necessary. With a tiered approach, an unacceptable environmental condition may trigger further and often more complex monitoring and/or changes to the management of the site. Data collected during site monitoring should be used to adjust site management and/or revise the SMMP.

A monitoring program should be structured to address specific questions (i.e., hypotheses) and measure key indicators and endpoints, particularly those defined during site designation or specific project-related issues that arise. Multi-year trend analyses are outlined in the Ocean Dumping Regulations at 40 CFR 228.13; these analyses should be used to determine whether there are consistent changes from previous site conditions or baseline conditions. At a minimum, a Trend Assessment Study should be conducted at least once every ten years and should be used to revise the SMMP. Results from these surveys should be used to assess the need for additional targeted or more complex studies.

The monitoring program for the G-DODS is designed to address the following questions:

What are the short- and long-term fates of the material disposed at the site?

This would include considerations such as:

- Does disposed dredged material remain within the site boundaries or leave the site?
- If any disposed material leaves the site, where does it go? Does it move toward sensitive areas such as marine sanctuaries or productive fisheries?
- Does disposed material create mounds within the site or result in a dispersed layer on the sea bottom?
- Was any material dumped outside of the site boundaries?

What are the short- and long-term environmental impacts of the disposal of material at the site?

This would include considerations such as:

- Has the benthic community structure changed due to disposal activities?
- Is there an absence of pollution-sensitive biota at the site?
- Are there progressive, non-seasonal changes in sediment composition, habitat quality, benthic community, or other environmental parameters at or near the ODMDS?
- Has there been an increase in contaminant levels in the sediments or biota at or near the site?
- Are there any other impacts detected inside or outside the site boundaries?

Sections 4.1 and 4.2 below describe the monitoring strategy at the G-DODS to address these and other questions and summarize the management actions that should be considered by EPA, in coordination with USACE, if thresholds are exceeded.

4.1 Compliance Monitoring During a Project: the Origin, Transportation, and Disposal of Dredged Materials

Monitoring the origin of material is necessary to confirm that only material that has been tested in accordance with the Ocean Testing Manual, and approved for ocean disposal by EPA and USACE, may be disposed at the G-DODS. Monitoring the origin, transportation, and disposal of dredged materials is necessary to confirm that the

activities comply with all permit or authorization conditions and site restrictions. Monitoring the location and movement of disposed material at the site should be used to ensure that disposed material remains within the designated site boundaries and to confirm that future site use will not exceed site capacity. Given the depth of the G-DODS, creation of navigational hazards due to mounding is not a concern[2]. Typical survey areas for the G-DODS are included in Appendix A (Figure 7-1).The typical monitoring activities used to achieve each of these management goals are summarized in Sections 4.1.1 – 4.1.3 and Table 4-1 below.

4.1.1 Monitoring the Origin of Dredged Material

As described in Sections 3.1-3.10, once a dredging project is approved and permitted (or authorized in the case of federal projects) for ocean disposal at the G-DODS, a variety of compliance monitoring measures are included in the Section 103 Permit (or Federal authorization). Please refer to **Appendix B** for the expected set of Site Use Conditions. Example requirements that are in place to monitor the origin of dredged material disposed at the G-DODS would include, but not be limited to, submission by the permittee of:

- A DOP that outlines project specifications, including the sequence of dredging, equipment used, SOPs material to prevent over-dredging, etc.;
- Dredge footprint tracking reports, demonstrating only characterized and suitable material is dredged and disposed;
- Notifications within 24 hours for compliance issues (including for issues with material origin); and
- Reports, including monthly reports and a project completion report.

4.1.2 Monitoring Dredged Material Transportation and Disposal

As described in Sections 3.1-3.10, once a dredging project is approved and permitted (or authorized in the case of Federal projects) for ocean disposal at the G-DODS, a variety of compliance monitoring measures are included in the Section 103 Permit (or Federal authorization). Please refer to **Appendix B** for the complete set of Site Use

[2] For example, the maximum height of mounding at the EPA Humboldt Open Ocean Disposal Site offshore of Eureka, California is set to 130 feet mllw so that mounding does not affect navigation.

Conditions. Example requirements in place to monitor transportation and disposal at the G-DODS would include, but not be limited to:

- Forms certifying that the scow is not overloaded, the sea-state is acceptable for transport, and tracking systems are functional;
- Satellite tracking of all disposal vessels to ensure that disposal activities occur only where and as authorized;
- Sensors on all disposal vessels to ensure no significant leakage or spilling of dredged material occurs during loading or transit to the G-DODS, especially during transit through the nearshore zone where corals, seagrasses, and sensitive animals are most likely to be present;
- Tracking and sensor information reported online within 24 hours for each disposal trip (see Figure 7-2 for a visual example of tracking reported)
- Notifications within 24 hours for compliance issues (including of leaks or mis-dumps); and
- Reports, including monthly reports and a project completion report.

4.1.3 Monitoring Site Capacity

The G-DODS is in deep water where the accumulation of dredged material is never anticipated to become a navigational hazard. No unacceptable adverse impacts from previous disposal have been identified through site monitoring conducted to date, and significant adverse effects are not expected in the future based on current sediment quality acceptability and compliance monitoring. Therefore, it is anticipated that use of the G-DODS can continue indefinitely, according to the annual maximum disposal limit of 1,000,000 yd^3 (764,555 m^3) of dredged material per calendar year (FR Vol. 75, No. 173, 2010).

It is possible that future dredging projects may generate material volumes exceeding the annual capacities for any of the G-DODS. For example, deep draft dredging projects may generate millions of cubic yards of dredged material. In such cases, EPA may deem it necessary to employ further management measures to reduce potential impacts to the G-DODS and may require further monitoring to ensure that any short-term impacts do not extend beyond the G-DODS.

Table 4-1. Summary of activities to monitor the origin, transportation, and disposal of disposed material and thresholds for action at the G-DODS.

Management Goal	Monitoring Activity	Responsible Entity	Purpose	Frequency	Threshold for Action	If Threshold Not Exceeded	If Threshold Exceeded
Only authorized material is dredged and disposed of at the G-DODS.	DOP, dredge footprint report, monthly reports, project completion report, e-mail alerts and 24-hour notification for any leaks, misdumps, issues with material origin.	Site User	Ensure there are no adverse impacts to the marine environment from disposal of unauthorized material at the G-DODS.	DOP provided prior to project initiation; monthly reports and dredge footprint tracking provided monthly; project completion report provided 60 days following the project completion date to EPA and USACE.	Records required by the 103 concurrence conditions are not submitted or are incomplete.	Continue compliance monitoring.	Site use may be restricted until requirements outlined in the 103 concurrence conditions are met.
					Review of records indicates dredging of unsuitable or uncharacterized material.	Continue compliance monitoring.	Permittee should: • Give 24-hour notice to EPA and USACE; • Investigate why non-compliance occurred; and • Rectify the issue before a subsequent disposal trip. EPA & USACE to enact corrective actions or take appropriate enforcement action.
No material is leaked or mis-dumped outside of the SDZ of the G-DODS.	Scow certification forms; satellite tracking of disposal vessel location, speed, and draft; monthly reports; project completion report; e-mail alerts and 24-hour notification for any leaks, misdumps, issues with material origin.	Site User	Ensure that there are no adverse impacts to the marine environment from disposal of material outside of the SDZ of the G-DODS.	Satellite tracking reports uploaded online daily; monthly reports and scow certification forms provided monthly; project completion report provided 60 days following the project completion date to EPA and USACE.	Records required by the 103 concurrence conditions are not submitted or are incomplete.	Continue compliance monitoring.	Site use may be restricted until requirements outlined in the 103 concurrence conditions are met.
					Review of records indicates disposal outside the G-DODS boundary, excessive leakage on route to disposal, or other mis-dumping.	Continue compliance monitoring.	Permittee should: • Give 24-hour notice to EPA and USACE; • Investigate why non-compliance occurred; and • Rectify the issue before a subsequent disposal trip. EPA & USACE to enact corrective actions or take appropriate enforcement action.

4.2 MONITORING ENVIRONMENTAL EFFECTS AND FATE OF DISPOSED MATERIAL

Monitoring of impacts to the physical, chemical, and biological environment is necessary to ensure that the transport and disposal of dredged material does not result in unreasonable degradation to the marine environment or endanger human health, welfare, or economic potentialities.

The environmental effects monitoring plan for the G-DODS summarized in Table 4-3 below is structured as a tiered monitoring approach; unacceptable conditions discovered during a lower tier assessment should trigger additional testing or other management action.

USACE and EPA periodically assess environmental conditions of the entire site and surrounding area and consider other environmental data that may have been collected by other entities in the area; this information is then used to assess overall site conditions and to conduct trend assessments. It is important that no external activities (e.g., spills, disposal under a different permit or authorization, etc.) affect the areas surrounding the G-DODS, as these areas are used to assess the impact of dredged material on the G-DODS and surrounding environment. Typical survey areas for the G-DODS are included in **Appendix A** (Figure 7-1).

Enhanced environmental effects monitoring should be triggered if disposed material is found to have unexpectedly left the G-DODS or is observed in unexpected locations during the transportation, disposal, and monitoring activities described in Section 4.1 or the fate monitoring activities described in this section. Any monitoring at the G-DODS that identifies an issue of potential concern should trigger additional monitoring or management actions.

4.2.1 Dredged Material Footprint (Tier 1)

Monitoring the fate of disposed materials during periodic site monitoring involves mapping the physical footprint of dredged material deposition within and surrounding the G-DODS boundaries. The “footprint map” has several valuable purposes, including:

- ***Confirming that deposition of dredged material is occurring as predicted*:** Material disposed properly within the SDZ is expected to deposit primarily within the G-DODS boundary. Significant deposits outside the G-DODS boundary may indicate mis-dumping, or that oceanographic conditions at the G-DODS are different than expected. Mis-dumping would predominantly be identified by disposal vessel tracking and addressed as a project-specific enforcement matter. However, if oceanographic conditions are causing dredged material to deposit in an unexpected area, site

management action may be needed.

- ***Identifying locations for potential subsequent chemical and biological sampling*:** Tier II monitoring involves comparing the chemical and biological characteristics of sediment samples collected within the dredged material footprint to those collected outside the footprint. Therefore, footprint mapping is conducted prior to Tier II sample collection, in order to inform appropriate sample locations.
- ***Long-term physical trend assessment**:* Footprint maps compiled over multiple site monitoring surveys can be compared to help assess the G-DODS performance over time. Such maps can help identify the need for potential long-term management actions well before unacceptable impacts may occur. Examples of management actions may include expanding the G-DODS boundaries or moving the location of the SDZ.

Different tools and approaches may be used to conduct successful footprint mapping surveys. For the relatively deep water in which the G-DODS is located, some tools are more useful for identifying dredged material deposits, while other tools are more useful for identifying other kinds of features on the seafloor such as reef outcroppings, etc. The choice of appropriate method(s) will be based on the focus of the individual survey and the degree of information already available from previous mapping surveys, if any. Footprint mapping surveys may include one or more of the following:

Sediment Profile Imaging (SPI) surveys. This method is the most commonly used to map the thickness of dredged material across the G-DODS. It combines both plan view and cross-sectional photographs of the surface sediments. Unlike the footprint mapping survey tools described below, the high-resolution cross-sectional SPI photographs can distinguish dredged material layers as thin as a few millimeters, and up to about 20 centimeters. It can also often distinguish recently deposited material from previous years' deposits. Therefore, it is an appropriate tool for identifying the extent of the dredged material footprint. In addition to mapping dredged material presence and absence at a sampling station, SPI images can also provide a preliminary assessment of benthic community and benthic habitat quality, by identifying parameters such as the depth of the biologically mixed zone and the relative stage of benthic organism recolonization of the sediment.

Multibeam bathymetric surveys. In recent years multibeam surveys have been employed successfully at several ODMDSs in Region 9. High-resolution multibeam bathymetric surveys are useful for mapping bottom features such as reef outcrops and for identifying dredged material deposits based on backscatter.

Multibeam surveys also provide detailed depth information about the seafloor and are generally more accurate regarding the geographic location of identified features than side-scan surveys, because the instruments are mounted directly to the survey vessel's hull and the collected data is synchronized with the ship's GPS system. However, at the depth range of the G-DODS, multibeam-collected depth information, while accurate to a meter or less, would not be as useful for detecting thinner dredged material deposits at the edges of the dredged material footprint.

4.2.2 Environmental Effects Monitoring (Tier II)

Evaluating environmental effects is the next priority after establishing the dredged material footprint. This monitoring objective generally involves retrieving sediment samples from numerous locations in and around the G-DODS and analyzing the samples in the laboratory for physical and chemical parameters, as well as for benthic community analysis. The intervals, numbers of locations, and types of monitoring to be conducted will be determined on a case-by-case basis, based on considerations such as how often dumping events occur and results from pre-disposal testing. Using information from the footprint mapping survey, representative samples are collected of both dredged material that has deposited at the G-DODS ("onsite" or "footprint" samples), and native sediment unaffected by dredged material ("offsite" samples) for comparison.

Sediment samples for both dredged material evaluation and site monitoring are typically analyzed for physical parameters such as grain size, conventional chemical parameters such as organic carbon content, and a suite of potential pollutants including heavy metals, organotins, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), pesticides, and dioxin-like compounds (Table 7-1). The analysis may also capture additional emerging contaminants of concern.

The results of physical and chemical analyses of onsite and offsite sediments, including any reference site sediments, are evaluated to determine whether:

- ***The G-DODS sediment chemistry levels are more elevated than expected in comparison to the pre-disposal testing chemistry profile of sediments approved for ocean disposal:*** The chemistry results from the G-DODS or "footprint" samples helps confirm whether the pre- disposal testing program is adequately regulating the quality of material permitted to be disposed at the G-DODS. If results indicate that the chemistry appears to be significantly higher than expected, then adjustments to dredged material evaluation procedures may potentially be considered, including higher resolution sampling and analysis. Additionally, directed, specific contaminant

monitoring or further testing through Tier III may be necessary to define the extent of management action required.

- ***"Offsite," nearby sediments are significantly more contaminated than baseline conditions or previously monitored conditions:*** The chemistry results from "offsite" samples indicates whether contaminants in dredged material disposed at the G-DODS are having potential impacts outside the site boundary. In such a case, analysis of benthic community samples may be triggered. Potential changes to site management measures may also be evaluated, including adjustments to the SDZ.

In practice, EPA often collects and preserves benthic community samples during sediment physical and chemistry sampling. However, processing and analysis of benthic community samples may not necessarily occur unless triggered as described above. If triggered, benthic community monitoring involves comparison of the benthic infaunal community inside versus outside the G-DODS. Since some differences are normal and expected – caused by localized physical disturbance from dredged material deposition, textural differences between the native sediments and the dredged material, depth, or other environmental parameters - analysis of benthic community samples is not always triggered unless the monitoring of the dredged material fate or of the sediment physical and chemical analysis indicates that there may be significant or long-term impacts to the environment outside of the G-DODS.

4.2.3 Advanced Environmental Effects Monitoring (Tier III)

Advanced environmental effects monitoring is triggered if sediment quality and benthic community appear to be significantly degraded within the G-DODS, or if there appear to be significant impacts outside the G-DODS. This tier of monitoring consists of collecting sediment grabs from locations where impacts have been detected through the prior tiers of testing, as well as in reference areas. Sediments will then be used to conduct acute toxicology bioassays and tissue bioaccumulation testing in the laboratory, according to the procedures and organisms outlined in the OTM (1991).

4.2.4 Reference Site

To assess potential environmental impacts from dredged material disposal, reference site sediments are be used as a point for comparison for chemicals of concern, acute toxicity of the dredged material, the magnitude of bioaccumulation, and potential ecological impacts at the disposal site.

EPA has selected the location listed in Table 4-2 as the reference site for the G-DODS. The reference area is in approximately 7,200 feet (2,200 meters) of water, at approximately the coordinates listed below.

Table 4-2. Reference site coordinates for the G-DODS.

	Approximate Reference Site Coordinates (Decimal Minutes)	
Disposal Site	**Latitude**	**Longitude**
G-DODS	13°33.90’ N (NAD 83)	144°37.32’ E (NAD 83)

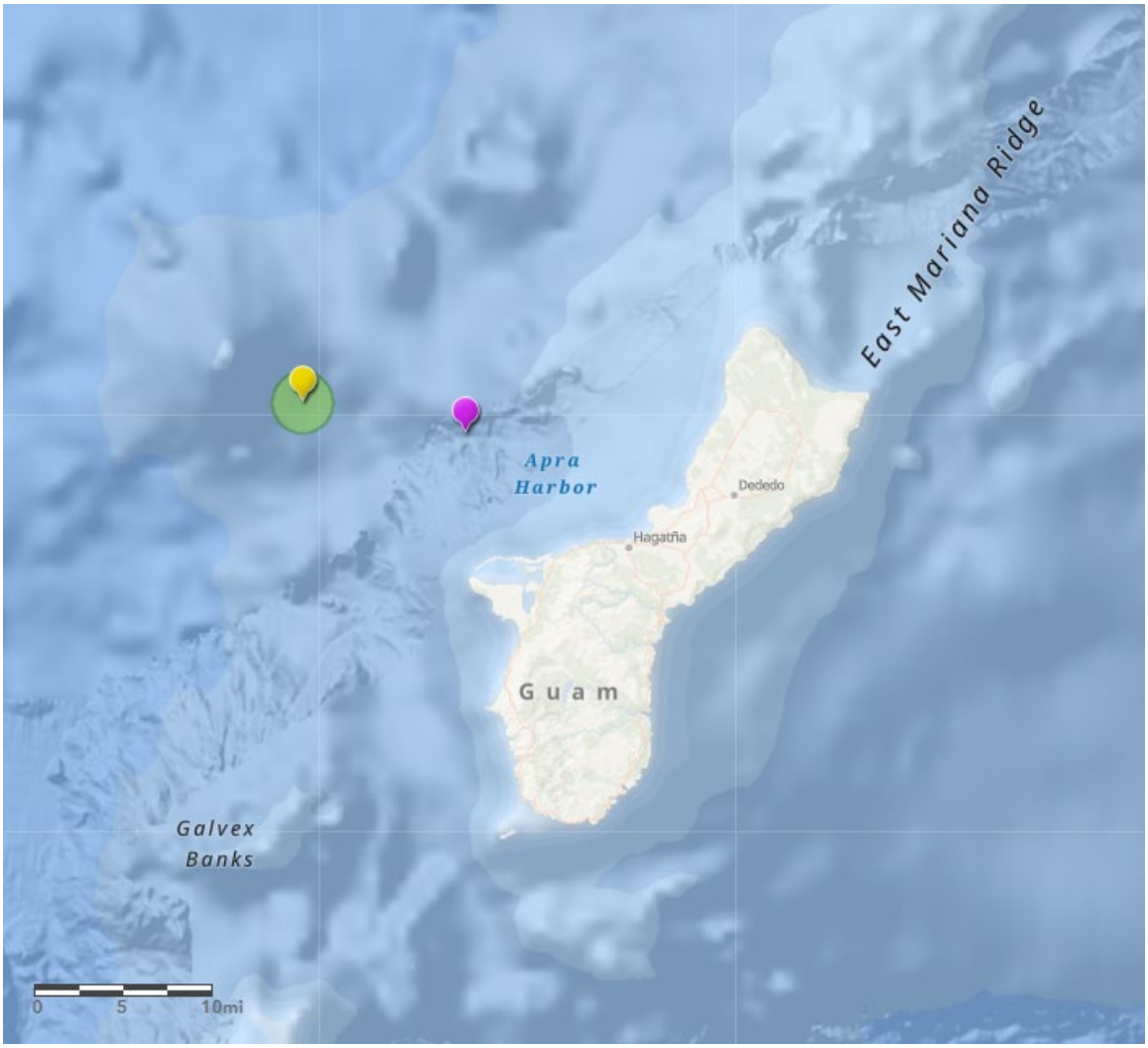

Figure 4-1. Location of the G-DODS (green circle with yellow pin) and its reference site (purple pin).

Table 4-3. Environmental impacts monitoring activities and thresholds for action at the G-DODS.

Frequency	Responsible entity	Monitoring Activity	Purpose	Threshold(s) for Action	If Threshold Not Exceeded	If Threshold Exceeded
Tier I: Dredged Material Footprint and Habitat Mapping						
Approximately every 10 years	EPA	Sediment mapping (generally SPI; multi-beam surveys may be conducted as appropriate based on site usage and prior monitoring trends). Preliminary assessment of benthic community and habitat quality.	Determine extent of dredged material. Evaluate health of the benthic community and habitat through SPI parameters.	Presence of >5cm of non-historic dredged material outside of the G-DODS boundaries. Indication of significant or long-term impacts to the benthic community and habitat outside of the G-DODS boundaries.	Continue monitoring on prescribed schedule.	• Conduct Tier II monitoring. • Review and potentially alter site management measures.
Tier II: Environmental Effects Monitoring						
Implement if disposal footprint extends beyond the site boundaries, or as funding allows.	EPA	Sediment grain size and chemistry (sediment grabs). Collect and analyze benthic community samples as f appropriate based on site usage and prior monitoring trends.	Determine if sediment chemical contaminants are significantly elevated within, and outside of, site boundaries. Evaluate benthic community parameters.	Contaminants are found to be elevated in dredged sediments. Progressive, non-seasonal, long-term changes in sediment quality. Indication of significant or long-term impacts to the benthic community outside of the G-DODS boundaries.	Discontinue specific event monitoring.	• Conduct directed, specific contaminant monitoring to define extent of management action required. • Conduct Tier III monitoring. • Review and potentially alter dredged material evaluation procedures. • Review and potentially alter site management measures.
Tier III: Advanced Environmental Effects Monitoring						
Implement if sediment quality and benthic community appear to be significantly degraded within the G-DODS, or if potential impacts outside the G-DODS, appropriate based on site usage and prior monitoring trends.	EPA	Acute toxicology bioassays and tissue bioaccumulation testing (sediment grabs).	Determine whether there are adverse changes in the benthic community outside of the G-DODS as the result of disposal operations.	Adverse changes observed to the benthic community outside of the site that may endanger the marine environment.	Discontinue specific event monitoring.	• Review and potentially alter dredged material evaluation procedures. • Review and potentially alter site management measures. • Consider restricting site use or potentially discontinuing/de-designating the site.

5 MODIFICATION OF THIS SMMP

This plan is effective and available for implementation from the date of signature. The regulations designating ODMDSs should require site users to comply with specific minimum and terms and conditions identified in the SMMP and incorporated into the site designations. EPA, in conjunction with USACE, should review and revise this SMMP at least every ten years or sooner if site use and conditions at the G-DODS indicate a need for revision. Conditions for updating this SMMP may include but are not limited to:

- Significant changes in disposal site use (change in frequency, site expansion, de-designation, new dredged material source location, etc.)
- Discovery of significant impacts to the physical, chemical, or biological environment during monitoring activities
- Any other conditions or changes at the G-DODS or area surrounding the G-DODS that may necessitate a review or update to the SMMP.

6 REFERENCES

Federal Register, 2010. Ocean Dumping; Guam Ocean Dredged Material Disposal Site Designation, September 2010. Rules and Regulations, Vol. 75, No. 173.

SRS Parsons JV, Geo-Marine, Inc. and Bio-waves, Inc. 2007. Marine Mammal and Sea Turtle Survey and Density Estimates for Guam and the Commonwealth of the Northern Mariana Islands. Prepared for Naval Facilities Engineering Command, Pacific.

U.S. Army Corps of Engineers, 2025. Ocean Dredged Material Disposal Site Database. Obtained from https://odd.el.erdc.dren.mil/ on March 6, 2025.

U.S. Environmental Protection Agency, 2010. Final Environmental Impact Statement for Designation of an Ocean Dredged Material Disposal Site Offshore of Guam, March 2010.

U.S. Environmental Protection Agency, 2024. 2022 EPA Guam Deep Ocean Disposal Site Monitoring and Assessment Report. Available at: https://www.epa.gov/ocean-dumping/guam-deep-ocean-disposal-site-g-dods-monitoring-reports

U.S. Environmental Protection Agency and U.S. Army Corps of Engineers, 1991. *Evaluation of Dredged Material Proposed for Ocean Disposal (Ocean Testing Manual)*, February 1991. Prepared by Environmental Protection Agency Office of Marine and Estuarine Protection and Department of Army United States Army Corps of Engineers under EPA Contract No. 68-C8-0105.

U.S. Environmental Protection Agency and U.S. Army Corps of Engineers, 1996. *Guidance Document for Development of Site Management Plans for Ocean Dredged Material Disposal Sites*, February 1996. Prepared by Environmental Protection Agency Office of Water and Department of Army United States Army Corps of Engineers.

Weston Solutions, Inc., 2006. Zone of Siting Feasibility Study Ocean Dredged Material Site Apra Harbor Guam Final Report, September 2006. Prepared for Department of the Navy, Naval Facilities Engineering Command Pacific.

Weston Solutions, Inc., 2007. Ocean Current Study Ocean Dredged Material Disposal Site Apra Harbor Guam Final Report, August 2007. Prepared for Department of the Navy, Naval Facilities Engineering Command Pacific.

Weston Solutions, Inc., 2009. Field Report Baseline Studies Conducted for the Designation of an Ocean Dredged Material Disposal Site Apra Harbor Guam Draft Report,

February 2009. Prepared for Department of the Navy, Naval Facilities Engineering Command Pacific.

7 APPENDIX A – SITE DESCRIPTION

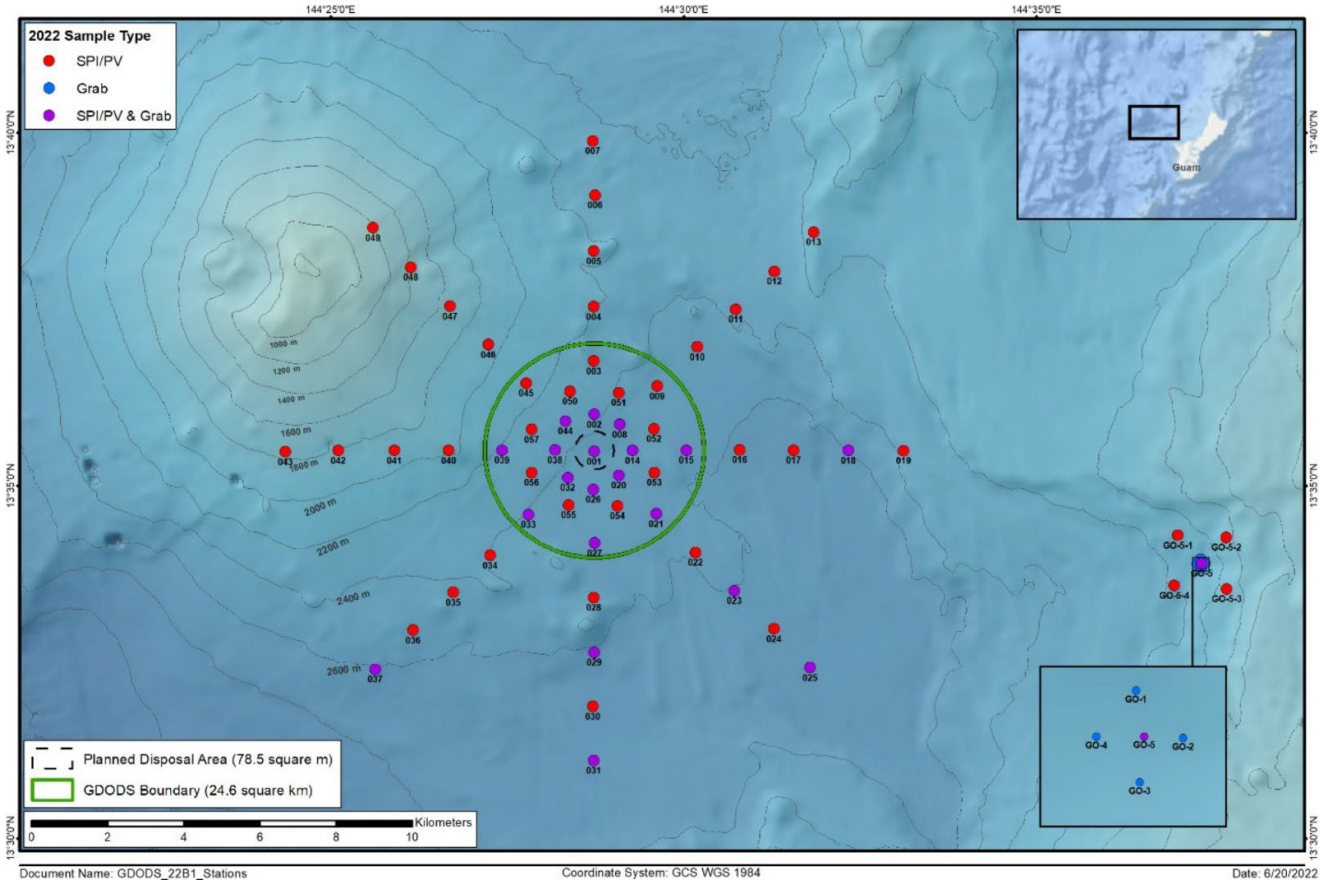

Figure 7-1. Typical G-DODS survey area (stations from the 2022 survey).

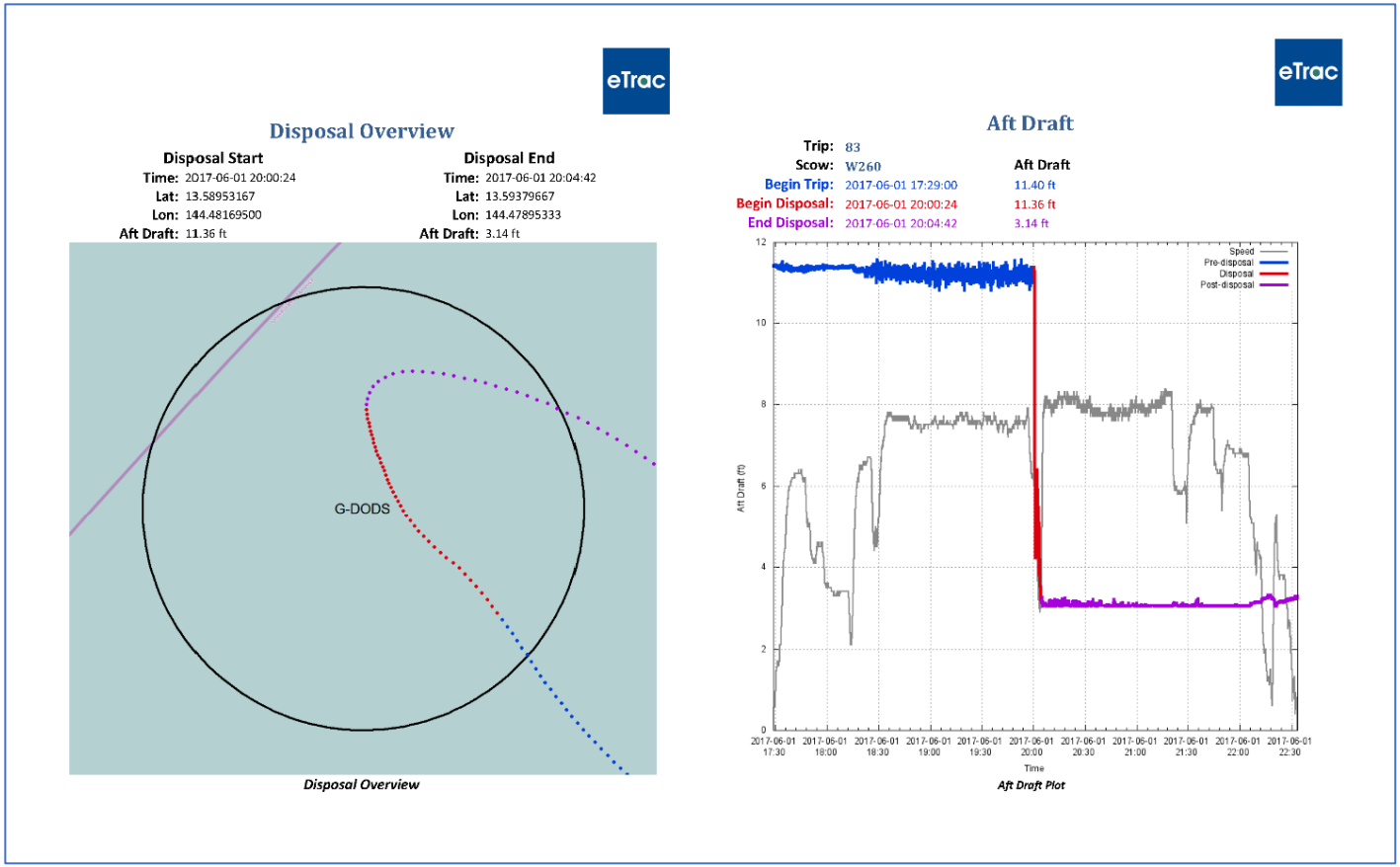

Figure 7-2. Example of a tracking report for an individual disposal trip. On the left is a closeup of the disposal site's SDZ, showing the disposal (in red) occurring fully within the zone. On the right shows the vessel's draft and speed throughout the trip, confirming no substantial loss of material from the vessel during transport.

Table 7-1. Typical parameters analyzed for site monitoring surveys. Limits are reported as the Target Reporting Limit (TRL; dry weight).

Groupings	Analytes	Analytical Method	TRL (Sediment)	TRL (Tissue)	Units
Conventionals	Grain Size	Plumb (1981)	NA		%
	Atterberg limits	ASTM D4318			
	Ammonia	350.1M	0.5		mg/kg
	TOC	USEPA 9060A	0.2		%
	Moisture	160.3	NA		%
	TSS	SM 2540 D	5		mg/L
	TVS	SM 2540E	NA		%
	TPH	SW-846	NA		mg/kg
	TRPH	1664M	25		mg/kg
Metals	Arsenic	USEPA 6020	1	1	mg/kg
	Cadmium	USEPA 6020	0.5	0.5	mg/kg
	Chromium	USEPA 6020	2	2	mg/kg
	Copper	USEPA 6020	3	3	mg/kg
	Lead	USEPA 6020	3	3	mg/kg
	Mercury	USEPA 7471A	0.5	0.5	mg/kg
	Nickel	USEPA 6020	5	5	mg/kg
	Selenium	USEPA 6020	0.1	0.1	mg/kg
	Silver	USEPA 6020	0.2	0.2	mg/kg
	Zinc	USEPA 6020	3	3	mg/kg
Organotins	Dibutyltin	Krone 1989	1	1	µg/kg
	Monobutyltin	Krone 1989	1	1	µg/kg
	Tetrabutyltin	Krone 1989	1	1	µg/kg
	Tributyltin	Krone 1989	1	1	µg/kg
PAHs	1-Methylnapthalene	EPA 8270C SIM	20	20	µg/kg
	1,6,7-Trimethlynapthalene	EPA 8270C SIM	20	20	µg/kg
	2,6-Dimethylnapthalene	EPA 8270C SIM	20	20	µg/kg
	2-Methylnapthalene	EPA 8270C SIM	20	20	µg/kg
	Acenaphthene	EPA 8270C SIM	20	20	µg/kg
	Acenaphthylene	EPA 8270C SIM	20	20	µg/kg
	Anthracene	EPA 8270C SIM	20	20	µg/kg
	Benzo(a)anthracene	EPA 8270C SIM	20	20	µg/kg
	Benzo(a)pyrene	EPA 8270C SIM	20	20	µg/kg
	Benzo(e)pyrene	EPA 8270C SIM	20	20	µg/kg
	Benzo (b) Fluoranthene	EPA 8270C SIM	20	20	µg/kg
	Benzo (g,h,i) Perylene	EPA 8270C SIM	20	20	µg/kg
	Benzo (k) Fluoranthene	EPA 8270C SIM	20	20	µg/kg
	Biphenyl	EPA 8270C SIM	20	20	µg/kg

Groupings	Analytes	Analytical Method	TRL (Sediment)	TRL (Tissue)	Units
	Chrysene	EPA 8270C SIM	20	20	µg/kg
	Dibenz (a,h) Anthracene	EPA 8270C SIM	20	20	µg/kg
	Fluoranthene	EPA 8270C SIM	20	20	µg/kg
	Fluorene	EPA 8270C SIM	20	20	µg/kg
	Indeno (1,2,3- c,d) Pyrene	EPA 8270C SIM	20	20	µg/kg
	Naphthalene	EPA 8270C SIM	20	20	µg/kg
	Phenanthrene	EPA 8270C SIM	20	20	µg/kg
	Pyrene	EPA 8270C SIM	20	20	µg/kg
	Total PAHs	EPA 8270C SIM			µg/kg
PCBs	PCB 018	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 028	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 037	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 044	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 049	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 052	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 066	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 070	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 074	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 077	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 081	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 087	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 099	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 101	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 105	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 110	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 114	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 118	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 119	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 123	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 126	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 128	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 138	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 149	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 151	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 153	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 156	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 157	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 158	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 167	USEPA 8082A ECD	0.5	0.5	µg/kg

Groupings	Analytes	Analytical Method	TRL (Sediment)	TRL (Tissue)	Units
	PCB 168	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 169	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 170	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 177	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 180	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 183	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 187	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 189	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 194	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 201	USEPA 8082A ECD	0.5	0.5	µg/kg
	PCB 206	USEPA 8082A ECD	0.5	0.5	µg/kg
	Total PCBs	USEPA 8082A ECD			µg/kg
Pesticides	2,4'-DDD	US EPA 8081A	2	2	µg/kg
	2,4'-DDE	US EPA 8081A	2	2	µg/kg
	2,4'-DDT	US EPA 8081A	2	2	µg/kg
	4,4'-DDD	US EPA 8081A	2	2	µg/kg
	4,4'-DDE	US EPA 8081A	2	2	µg/kg
	4,4-DDT	US EPA 8081A	2	2	µg/kg
	Total DDTs	US EPA 8081A			µg/kg
	Aldrin	US EPA 8081A	2	2	µg/kg
	Alpha-BHC	US EPA 8081A	2	2	µg/kg
	Beta-BHC	US EPA 8081A	2	2	µg/kg
	Chlordane-alpha (cis)	US EPA 8081A	2	2	µg/kg
	Chlordane-gamma (trans)	US EPA 8081A	2	2	µg/kg
	Cis-nonachlor	US EPA 8081A	2	2	µg/kg
	Trans-nonachlor	US EPA 8081A	2	2	µg/kg
	Oxychlordane	US EPA 8081A	2	2	µg/kg
	Total Chlordane	US EPA 8081A			µg/kg
	Chlordane Technical	US EPA 8081A	10	10	µg/kg
	Delta-BHC	US EPA 8081A	2	2	µg/kg
	Dieldrin	US EPA 8081A	2	2	µg/kg
	Endosulfan I	US EPA 8081A	2	2	µg/kg
	Endosulfan II	US EPA 8081A	2	2	µg/kg
	Endosulfan Sulfate	US EPA 8081A	2	2	µg/kg
	Endrin	US EPA 8081A	2	2	µg/kg
	Endrin Aldehyde	US EPA 8081A	2	2	µg/kg
	Endrin Ketone	US EPA 8081A	2	2	µg/kg
	Gamma-BHC	US EPA 8081A	2	2	µg/kg
	Heptachlor	US EPA 8081A	2	2	µg/kg

Groupings	Analytes	Analytical Method	TRL (Sediment)	TRL (Tissue)	Units
	Heptachlor Epoxide	US EPA 8081A	2	2	µg/kg
	Methoxychlor	US EPA 8081A	2	2	µg/kg
	Toxaphene	US EPA 8081A	10	10	µg/kg

8 APPENDIX B – SITE USE CONDITIONS

Site Use Conditions For MPRSA Section 103 Permits: Guam Deep Ocean Disposal Site (G-DODS)

MPRSA section 102(c)(3) directs EPA in conjunction with USACE to develop a site management and monitoring plan (SMMP) for ODMDSs; such plans are implemented through MPRSA permits issued by USACE or through Federal projects subject to the same criteria, evaluation factors, procedures, and requirements as permits (including through terms and conditions in contracts for Federal projects).

EPA developed the language below for inclusion in permits, though the Conditions are intended to be included on a case-by-case basis. Neither the SMMP nor this Appendix directly impose requirements specific to permitted activity. Instead, the SMMP and this Appendix recommend conditions that USACE should impose and, if not, that EPA should require in concurring on the permit. The regulation designating an ODMDS also may impose conditions on a permittee directly. The terms of any particular permit incorporating the language from this Appendix (including as modified) would impose requirements specific to the permitted activity.

For any future permit, EPA's concurrence review would confirm that appropriate terms are included to assure adequate implementation of the SMMP, and EPA would consider this Appendix to guide its review. EPA may condition its concurrence on compliance with specified terms and conditions derived from this Appendix, or other terms and conditions deemed appropriate to implement this SMMP or the MPRSA, and in such cases USACE must include in the permit the terms and conditions specified by EPA.

8.1 DEFINITIONS

"Permit" as used herein means ocean dumping permits issued by USACE under Section 103 of the MPRSA, and USACE contracts or other authorizations for USACE dredging projects (see MPRSA section 103(e) and 40 CFR § 220.2(h)). The ocean disposal Site Use Conditions included in EPA's project-specific concurrences must be reflected in, or attached to, the permit or authorization for every project as provided in Section 103(c) of the MPRSA and 40 CFR § 220.4(c).

"Permittee" is the entity with overall responsibility for the project, such as USACE itself for USACE Federal (civil works) projects or another public or private entity named in a permit issued by USACE. The permittee is responsible for overall compliance with all of EPA's ocean disposal Site Use Conditions, including reporting requirements.

"Contractor" as used herein means any entity engaged to carry out the permitted work. Contractors are also responsible for complying with all relevant ocean disposal Site Use Conditions including reporting requirements. Contractors may include the prime dredging contractor, as well as any third-party inspector, or contractor otherwise involved in any tracking, recording, and reporting according to the Site Use Conditions below.

"Towing Vessel" is any self-propelled tug or other vessel used to transport (tow or push) the "disposal vessel" for any portion of the transit to the G-DODS.

"Disposal Vessel" is any barge, scow, or self-propelled vessel that carries dredged material during transit and from which the dredged material is discharged, typically by opening the hull or doors in the bottom of 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.

"*Suitable Material*" means dredged material that has been adequately characterized and determined by EPA to be physically compatible with the disposal site, to be non-toxic, and to contain no more than "trace" levels of constituents (see 40 CFR § 227.6).

"***Suitable Unit***" means a dredging unit of defined dimensions and geographic boundaries that contains only material deemed suitable by EPA through pre-disposal evaluation (see above definition for suitable material). This could be a polygon characterized by a composite sample and/or individual cores.

"Surface Disposal Zone" or "SDZ" is the 500 m (1,640 foot) radius circle at the center of the overall disposal site (see **Table 1** below), within which the disposal vessel must discharge all of the dredged material.

8.2 STANDARD CONDITIONS

1. ***Pre-construction Meeting with EPA, Permittee, and Contractor:*** The permittee must organize a pre-construction meeting (which may be virtual) to include EPA, personnel from the permittee's organization, and personnel from the prime dredging Contractor and from any subcontractor involved in transporting the disposal vessels to the G-DODS. The purpose of the meeting is to ensure that the permittee and any Contractor(s) have received and understand EPA's ocean disposal Site Use Conditions. This meeting must be held at least 21 calendar days prior to the start of dredging.
2. ***Dredging Operations Plan*****:** A dredging operations plan (DOP) is a plan that outlines the methods and schedule for conducting dredging activities. The DOP must be sent to EPA for review and approval following EPA ocean disposal concurrence, but at least fifteen (15) calendar days prior to commencement of dredging. After EPA approval of the DOP, any deviations from the original DOP must be sent to EPA for approval at least seven (7) calendar days prior to implementing any changes. The DOP must, at a minimum, include the following elements:
    a. Maps of dredging footprint, including all areas characterized in the SAP, both suitable and unsuitable units clearly labeled as such;
    b. When unsuitable units are present, include:
        i) The sequence of dredging of each unit, if there are unsuitable units that must be avoided or handled for alternative disposal in proximity to suitable units approved for ocean disposal;
        ii) Configurations and protocols of dredging and disposal vessels to be used in the dredging operation, including anchoring or mooring maps, if there is unsuitable material within 50 m of the footprint;
    c. Specifications of the dredging equipment to be used;
    d. Protocols for dredging and disposal vessel positioning alongside the dredging footprint, including superimposition of any sensitive habitat within 50 m of the footprint;
    e. Standard Operating Procedures (SOPs) for preventing dredging deeper in vertical extent or outside approved dredging boundaries, taking into consideration the specific equipment to be used;
    f. Best management practices to be employed, as relevant to the specific dredging location, dredging equipment and vessel, and transit to the G-DODS, including any buffers between sensitive resources, backflow control, etc.;
    g. The list of Points of Contact (POCs) for the dredging project within USACE, the permittee's organization, and any relevant contractors. This list should include project management, compliance tracking, environmental coordination, contract management, etc.;
    h. The remainder of the EPA Site Use Conditions listed below.

3. ***Prohibition on Leaking or Spilling:*** The permittee shall ensure that dredged material is not leaked or spilled from disposal vessels while stationary or during transit to the G-DODS. Transportation of dredged material to the G-DODS shall only be allowed when weather and sea state conditions will not interfere with safe transportation and will not create risk of spillage, leaking, or other loss of dredged material during transit. Disposal vessels must not be loaded beyond a level at which dredged material would be expected to be spilled in transit under anticipated sea state conditions (i.e., should be filled to less than 80%; more restrictive load limits may be implemented for a specific project and will be indicated in Section C). No disposal vessel trips shall be initiated when the National Weather Service has issued a gale warning for local waters during the time period necessary to complete dumping operations.
4. ***Prohibition on Disposal of Uncharacterized Material, Unsuitable Material, Trash and Debris; Use of Grizzly:*** Only dredged material determined in advance by EPA and USACE to be suitable for ocean disposal may be discharged at the G-DODS. Uncharacterized dredged material, vessels, trash, and other debris are prohibited from being discharged at the G-DODS. In order to exclude large trash and debris (including rocks) from being disposed at the G-DODS, all excavated dredged material loads must be placed into scows through a steel mesh or chain “grizzly” with openings of no more than 12 inches by 12 inches. Material retained on the grizzly must be removed and disposed of separately at an appropriate location and may not be disposed of at the G-DODS. EPA and USACE may, on a case-by-case basis, waive the requirement to use a grizzly if they determine that trash and debris is unlikely to be present in the area to be dredged.
5. ***Dredging Footprint Documentation:*** To ensure that only approved, suitable material is disposed at the G-DODS, the project shall have a system that documents the specific location from which dredged material transported for ocean disposal was removed. The system shall be calibrated for accuracy daily, and indicate and record the following information associated with each dredge bucket drop:

    a. position of the bucket on the seafloor (i.e., the ‘bucket print’), for each bucket deployment, superimposed on the dredging unit delineation, to a minimum accuracy of 1 m (3 ft) in World Geodetic System 1984 (WGS84); and

    b. time and date associated with each bucket drop.

    This data shall be compiled on a daily basis throughout the dredging operation and submitted to EPA as part of the monthly reports (as described in Condition 12), including the data from the GPS-based primary dredging equipment tracking system showing the location of the dredging equipment superimposed on a map of the suitable dredged material footprint, and the times and dates associated with the location data.

    The dredge footprint documentation system must also include a real-time display, visible to the dredge operator, showing the position of the dredging equipment relative to the boundaries of the suitable dredged material footprint.

If dredging and ocean disposal of material from outside of, or below, the footprint of approved, suitable material occurs by more than 1m (i.e., any unsuitable or uncharacterized material), both EPA Region IX and USACE Honolulu District must be notified within 24 hours (as described in Condition 13).

6. ***Scow Certification Form:*** The permittee shall submit a Scow Certification form to EPA and USACE for review and approval prior to the commencement of any ocean disposal operations. The Scow Certification will be used to document, at a minimum:
   a. the estimated bin volume of material dredged and loaded into each disposal vessel (to be completed prior to transport for disposal);
   b. the location from which the material in each barge was dredged (i.e., the specific dredge unit identifier) (to be completed prior to transport for disposal);
   c. the marine weather forecast and sea-state conditions (i.e., appropriate NOAA buoys) anticipated during the transit period (to be completed prior to transport for disposal);
   d. the time that each disposal vessel departs for, arrives at, and returns from the G-DODS (to be completed immediately following disposal operations); and
   e. the exact coordinates and time of each disposal event (to be completed during or immediately following each disposal event).

   For each disposal trip, both the permittee (or prime dredging contractor) and an independent quality control inspector ("*independent"* means an individual not directly reporting to the project manager) must certify in writing that the vessel is not over-loaded, and otherwise meets the requirements of the Scow Certification form this Condition. The permittee (or prime dredging contractor) and the independent quality control inspector shall complete the relevant portions of the Scow Certification form prior to transport for disposal and the remaining portions immediately following disposal at the G-DODS.

   The permittee (or prime dredging contractor) shall have an appropriate communications hierarchy and protocols in place to provide the quality control inspector with the authority to ensure that the Site Use Conditions pertinent to the scow, including the loading and sea state conditions (Condition 3), are met and to prevent the scow from departing for a disposal trip if they are not fulfilled. The permittee (or prime dredging contractor) shall submit the completed Scow Certification form to EPA and USACE in accordance with the monthly reporting outlined in Condition 12.

7. ***Surface Disposal Zone (SDZ):*** When discharging dredged material within the G-DODS, no portion of the disposal vessel from which the materials are to be released (e.g., hopper dredge or barge) shall be further than 500 m (1,640 ft) from the center of the G-DODS (unless specified by a project-specific special permit Condition. The center coordinates of the G-DODS (**Table 1**) are also the center coordinates of the SDZ. No more than one disposal vessel may be present within the SDZ at any time.

8.

Table 1. Dimensions and Center Coordinates for the Guam Deep Ocean Disposal Site and its Surface Disposal Zone (SDZ)

	Dimensions		**Center Coordinates in NAD83 (Decimal Degrees)**	
Disposal Site	**Radius of the SDZ**	**Radius Overall Site**	**Latitude**	**Longitude**
G-DODS	1,640 ft (500 m)	1.5 nmi (2.8 km)	13.591667	144.478883

9. ***Disposal Vessel Instrumentation and Tracking:*** The primary tracking system for recording ocean disposal operations and ensuring that no material is released outside of the G-DODS SDZ shall be disposal vessel-based. Each disposal vessel shall have a primary navigation/tracking system functioning during the time of loading of dredged material onto the disposal vessel through the return transportation of the vessel from each disposal trip to the dredging site. No material shall be loaded into the disposal vessel, and no trip shall be initiated, without such a system functioning. This system shall be calibrated for accuracy at a minimum at the beginning of each ocean disposal project, and automatically indicate and record the following information throughout transportation to, disposal at, and return from the G-DODS:

    a. position of the disposal vessel, to a minimum accuracy of 3 m (10 ft) in WGS84 during transport to, disposal at, and return from the G-DODS;

    b. speed and heading of the disposal vessel during transport to, disposal at, and return from the G-DODS;

    c. fore and aft draft of the disposal vessel (sensors as near vessel centerline as possible) from the time that loading begins, to the time of return of the disposal vessel to the dredging site following disposal at the G-DODS;

    d. fore and aft bin height (top of dredged material load in the bin or hopper) (sensors as near vessel centerline as possible) from the time that loading begins, to the time of return of the disposal vessel to the dredging site following disposal at the G-DODS; and

    e. time and location of each disposal event (e.g., the discharge phase).

    This system must record these data at a maximum 1-minute interval while outside the disposal site boundary, and at a maximum 15-second interval while inside the disposal site boundary and the SDZ. The primary system must also include a real-time display, located in the wheelhouse or otherwise visible to the helmsman, showing the position of the disposal vessel relative to the boundaries of the G-DODS and its SDZ, superimposed on the appropriate National Ocean Service (NOS) chart so that the operator can confirm proper position of the disposal vessel within the SDZ

before discharging the dredged material. No automatic rebooting of the system shall occur during transit to, and disposal at, the ODMDS.

10. ***Back-up Navigation System:*** If the primary disposal vessel tracking system fails during transit, the navigation system on the pushing or towing vessel, meeting the minimum accuracy requirements listed above, may be used to complete that disposal trip by maneuvering the pushing or towing vessel so that, given the compass heading and any tow cable length to the scow ("lay back"), the estimated scow position would be within the SDZ. In such cases the pushing or towing vessel's position, any tow cable length, and the compass heading to the disposal vessel must be recorded and reported on the Scow Certification form.

    If the draft sensor for the primary disposal vessel tracking system fails while the disposal vessel is stationary, loading of the disposal vessel must cease until capabilities are restored. If only the GPS tracking fails, then EPA and USACE must be informed of the coordinates at which the disposal vessel is stationed, and the draft must continue to be recorded and posted in accordance with Condition 10 below. However, transit should not occur until full primary tracking (GPS and draft) capabilities are restored (per Condition 8).

11. ***Posting Disposal Vessel Tracking Data on the Internet:*** Within 24 hours of the completion of each disposal trip, data recorded from the primary disposal tracking system must be posted by a third-party contractor to an Internet site accessible by EPA and USACE and any other entity specified by EPA or USACE in project-specific permits. The internet site must be searchable by disposal trip number and date, and at a minimum for each disposal trip, it must provide a visual display of:

    a. the disposal vessel transit route to/from the G-DODS;

    b. the beginning and ending locations of the disposal event; and

    c. the disposal vessel speed and draft from loading, throughout the transit

    The requirement for posting this information on the internet is independent from the reporting requirements listed in Conditions 11-14 below.

12. ***E-Mail Alerts:*** The third-party system must also generate and distribute "e-mail alerts" regarding any degree of apparent dumping outside the Surface Disposal Zone of the G-DODS ("mis-dumping"), and regarding any apparent substantial leakage/spillage or other loss of material while stationary or during transport to the G-DODS. Substantial leakage/spillage or other loss shall be defined as an apparent loss of draft of one foot or more between the time that loading of the disposal vessel with dredged material begins and the time the disposal phase (discharge) begins.

    E-mail alerts must be sent within 24 hours of the dredging contractor or permittee becoming aware of the apparent issue to the appropriate EPA contact at EPA Region IX, to the appropriate USACE Project Manager at the Honolulu District USACE (See **Section F**).

13. ***Record-Keeping, and Monthly Reporting:*** In addition to the requirements in Condition 10, for posting data on the Internet, the permittee shall collect and maintain daily records. These records shall include the approved Scow Certification forms. The permittee shall also collect and maintain dredging footprint documentation for the entirety of any dredging activity, including electronic data from the GPS-based primary dredging equipment tracking system showing the location of the dredging equipment superimposed on a map of the suitable dredged material footprint, and the times and dates associated with the location data.

    Additionally, the permittee shall collect and maintain, for each disposal vessel, from the beginning of loading to the return to the dredging site following disposal, electronic data from the GPS-based primary disposal tracking system (or the backup navigation tracking system when appropriate) showing vessel location and associated time stamp, disposal vessel draft readings, disposal coordinates, and the time and position of the disposal vessel when dumping was commenced and completed.

    All daily records shall be compiled at a minimum for each month during which ocean disposal operations occur, and provided in reports, certified accurate by the dredging contractor and the permittee, to EPA and USACE by the 15th day of the following month. Each monthly report shall include the Scow Certification forms, disposal vessel electronic tracking (or back-up system data), disposal vessel draft, dredging footprint documentation, any appropriate weather/sea-state data, and documentation relevant to any system failures or violations of any of the Site Use Conditions via pdf (or other format deemed acceptable by EPA and USACE).

    The monthly reports shall also include a cover letter summarizing the specific dredging units dredged during the month, the total estimated volume of material dredged during the month (estimated bin volume), any problems complying with the Site Use Conditions, any significant deviations from the anticipated project conditions (e.g., presence of oily sheen, smell, other indications of contamination, changes in dredging equipment, etc.), the cause(s) of the problems, any steps taken to rectify the problems, and whether the problems occurred during dredging of suitable units or on subsequent disposal trips.

14. ***24-Hour Notification Requirement for Potential Leaks, Mis-Dumps, and Dredging of Unsuitable or Uncharacterized Material:*** The permittee shall report any anticipated, potential, or actual variances from compliance with these Standard Conditions, and any additional project specific Special Conditions, to EPA Region IX and the Honolulu District USACE within 24 hours of discovering such a situation. For any variances from compliance, the permittee shall report to EPA the geographic coordinates (in WGS 84) of the incident (including, for example, where a potential leak, mis-dump, or mis-dredge may have occurred). Additionally, the permittee shall report to EPA Region IX and the Honolulu District USACE within 24 hours if any conditions arise that indicate that dredged material previously deemed suitable for ocean disposal by EPA may have unanticipated levels of constituents (e.g., as indicated by the presence of an oily sheen, significant debris, etc). A message from an operational “e-mail alert” system, as described in Condition 11, will be considered as fulfilling this 24-hour notification requirement for mis-dumps or potential leaks, however the permittee must ensure that EPA also receives, within two (2) business days, any necessary location information per this Condition.

In addition, the permittee shall prepare and submit a detailed report of any such compliance problems on a weekly basis by noon Monday PST, to EPA Region IX and the Honolulu District USACE. These reports shall describe the cause(s) of the problems, any steps taken to rectify the problems, and whether the problems occurred on subsequent dredging events or disposal trips.

15. ***Project Completion Report:*** Within 60 calendar days following the completion of ocean disposal operations, the permittee shall submit EPA Region IX and the Honolulu District USACE a project completion report. The project completion report shall, at a minimum, contain:
    a. A cover letter summarizing:
        i. The total number of disposal trips and the overall volume of material (estimated bin volume as well as *in-situ* volume calculated from a post-dredge survey) disposed at the specified site for the project (i.e., G-DODS) The comparison of the total volume dredged with the volume anticipated in the SAP;
        ii. Whether any of this dredged material was excavated from outside the areas authorized for ocean disposal or was dredged deeper than authorized by the permit.
    b. The comparison of the pre- and post-bathymetry of the dredging footprint and surrounding areas to show the depths achieved within the project footprint (and any areas that may have been disturbed outside the footprint), and how they correspond to the project depth. The bathymetry must have sufficiently defined colors to allow for rapid assessments of areas along 1-foot intervals; and
    c. The compilation of the monthly reports required under Condition 12.

8.3 ADDITIONAL PROJECT-SPECIFIC CONDITIONS

EPA or USACE may include additional project- specific conditions or modifications to the Standard permit conditions specified above may be required by EPA and USACE if they determine these conditions are necessary to facilitate safe use or accurate monitoring of the disposal site, or to prevent potential harm to the environment. These can include any conditions that EPA or USACE determine to be necessary or appropriate to facilitate compliance with the requirements of the MPRSA. For example, project-specific conditions could include timing restrictions to avoid sensitive environmental periods, such as peak coral spawning times, or timing of operations or methods of transportation and disposal.

8.4 ALTERNATIVE PERMIT/PROJECT CONDITIONS

Alternatives to these standard Conditions may be authorized in advance if the permittee demonstrates to the satisfaction of EPA and USACE that the alternative Conditions are: sufficient to accomplish the specific intended purpose of the original permit Condition; will not increase the risk of harm to the environment or the health or safety of persons; and will not

impede monitoring of compliance with the MPRSA, the ocean disposal regulations, or the project's permit.

8.5 COMPLIANCE WITH DISPOSAL SITE USE REQUIREMENTS

The permittee and all contractors or other third parties who perform an activity authorized by this permit on behalf of the permittee shall be separately liable for a civil penalty for each violation of any term of this permit committed alone or in concert with the permittee or other parties. Liability shall be individual, rather than joint and several, and shall not be reduced in any fashion to reflect the liability assigned to and civil penalty assessed against the permittee or any other third party as defined in MPRSA section 105(a), 33 U.S.C. § 1415(a). If the permittee or any contractor or other third party knowingly violates any term of this permit (either alone or in concert), the permittee, contractor or other party shall be individually liable for the criminal penalties set forth in MPRSA section 105(b), 33 U.S.C. § 1415(b).

Enforcement action for a violation or non-compliance with any Site Use Condition may be initiated by EPA and/or USACE as appropriate. Examples include but are not limited to: disposal of unsuitable or uncharacterized material; disposal outside the designated boundaries of the site due to mis-dumping or spillage; disposal at a time or in a manner not specifically authorized; failure to maintain or provide required records. If a compliance or enforcement action is initiated, consequences may include interruption or cessation of disposal operations, monetary penalties, or additional monitoring activities to be carried out by the permittee.