



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

San Francisco Channel Bar Ocean Dredged Material Disposal Site (SF-8)
Site Management and Monitoring Plan (SMMP)

Updated December 20, 2010

Introduction

The Marine Protection, Research and Sanctuaries (MPRSA) of 1972 (33 USC Section 1401 et seq.) is the primary legislative authority regulating the disposal of dredged material into ocean waters. The MPRSA prohibits disposal activities that would unreasonably degrade or endanger human health or the marine environment. Under the act, the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (Corps) have joint authority for regulating ocean disposal of dredged material and for managing ocean disposal sites. Management of an ocean disposal site consists of: (a) regulating the quantities, types of material, times, rates, and methods of disposing dredged material at an ocean disposal site; (b) development and maintenance of an effective monitoring program for the site; (c) recommending changes to site use, disposal amounts, or designation for a limited time based on periodic evaluation of site monitoring results; and (d) enforcement of permit conditions.

Section 506 of the Water Resources Development Act (WRDA) amends Section 102(c) of the MPRSA. These amendments require, in part, that a site management plan be developed for each designated ocean disposal site. This site management plan is required to include:

- a baseline assessment of conditions at the site and a program for monitoring the site;
- special management practices necessary for protection of the site;
- consideration of the quantity and contaminant levels of material to be disposed at the site;
- consideration of the active life of the site and for management after site closure; and
- a schedule for review and revision of the site management plan.

Section 506 of WRDA further requires that, after January 1, 1995, a site management plan must be developed and approved before final designation is issued for new sites. After January 1, 1997, no permit for dumping may be issued by the Corps under Section 103 of the MPRSA unless the proposed disposal site has received final designation.

SF-8 and San Francisco Main Ship Channel Dredging

The San Francisco Channel Bar ocean dredged material disposal site (ODMDS), also known as “SF-8”, is in a high current and wave energy environment straddling the San Francisco Bar ([Figure 1](#)). As such it is a generally dispersive site for the sandy material discharged there. Sand on the south half of the Bar disperses toward and eventually feeds the beaches along the west side of the San Francisco peninsula, such as Ocean Beach.

Historically, SF-8 was used only for disposal of sand dredged by the USACE during its maintenance of the San Francisco Main Ship Channel immediately to the north. The USACE’s annual maintenance dredging of the Main Ship Channel generally occurs in the spring, using a federally-operated hopper dredge (such as the *Essayons*). The volume of material dredged each year has ranged from approximately 100,000 cubic yards to approximately 1,000,000 cubic yards, averaging approximately 400,000 cubic yards. This material has consistently been comprised of 90 percent or more sand or larger size particles, with less than one percent total organic carbon (TOC) and only very low (background) levels of chemical contamination. This material has consistently been determined by EPA to meet the exclusionary criteria at 40 CFR 227.13(b), which exempt from testing material of predominantly sand or larger grain sizes, from high current or wave energy locations such as coastal areas with shifting bars or channels.

Although the Main Ship Channel sediments consistently meet exclusionary criteria, in 2003 the USACE submitted, and EPA approved, a Master Sampling and Analysis Plan (SAP) for the Main Ship Channel project. This Master SAP calls for periodic physical (“Tier I”) testing of the sediment dredged from the Main Ship Channel to confirm that the material remains suitable for disposal at SF-8 according to its site designation regulation. Under the SAP and this SMMP, Main Ship Channel sediments will be sampled and tested at least every six years for grain size, TOC, and total solids. Provided that the material remains greater than 90 percent sand with low TOC, additional testing will not be required for up to another six years. Tier I exclusions would continue to be granted in the years between testing unless EPA has reason to believe that conditions may have changed (for example, in the event of a major oil spill in the vicinity).

SF-8 and Other Dredging Projects

Beginning in 2003, EPA began considering approval of other dredging projects for disposal in a small portion of SF-8. Specifically, the easternmost portion of SF-8 is within the 3-mile limit ([Figure 1](#)), and thus is regulated under section 404 of the Clean Water Act (CWA) when the purpose of the discharge is for “fill.” (MPRSA regulates dredged material discharges within the 3-mile limit when the purpose of the discharge is disposal of waste.) Placement in this location of sand from other dredging projects adds new material to the San Francisco Bar littoral system that nourishes beaches along the west shore of the San Francisco peninsula, including Ocean Beach. Therefore, EPA and USACE define the placement of dredged sand in the portion of SF-8 that is within the 3-mile limit as “fill” regulated under CWA. Effectively, this superimposes a CWA Section 404 disposal site over the easternmost portion of the larger MPRSA-designated SF-8 ODMDS, as shown in [Figure 1](#).

Consistent with management of the larger SF-8 site under the MPRSA, EPA and USACE will only consider material for placement at the easternmost (CWA-regulated) portion of SF-8 that is predominantly sand with low TOC, and either meets exclusionary criteria or has otherwise been determined by EPA and the USACE to be suitable for unconfined aquatic disposal.

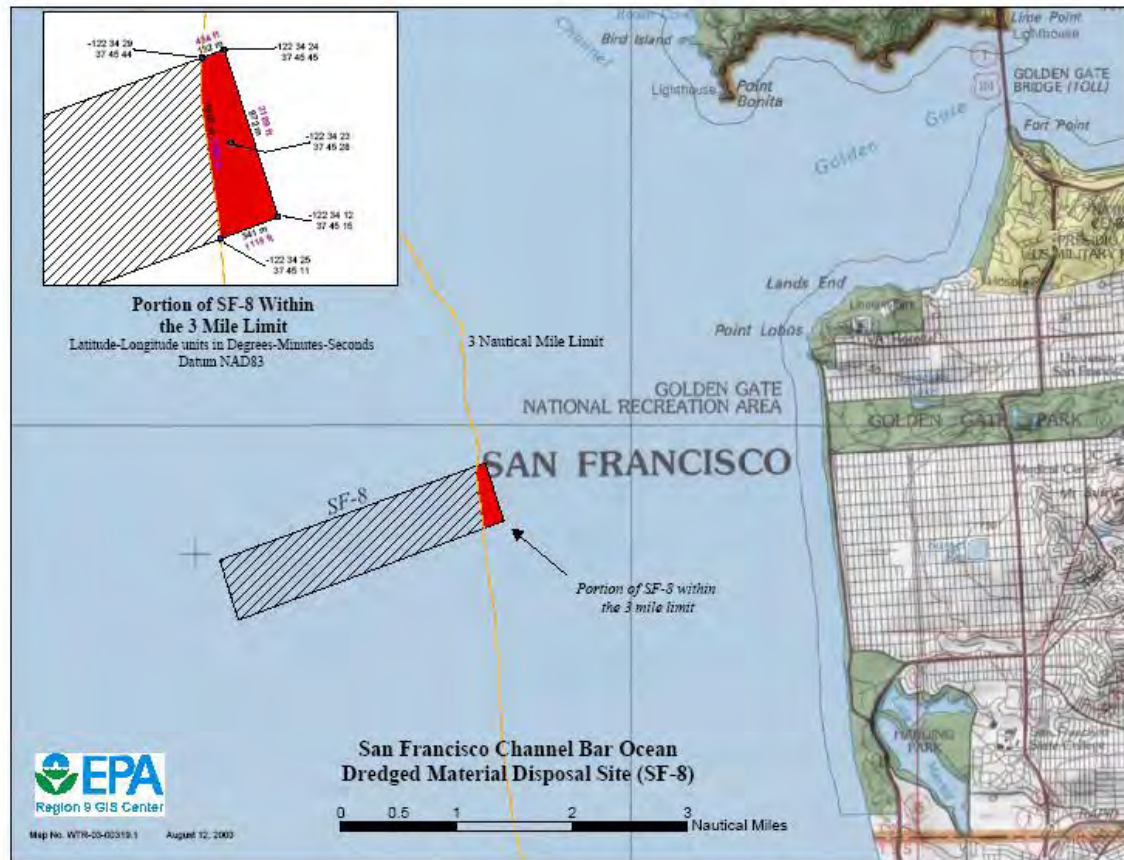


Figure 1. The San Francisco Channel Bar Ocean Dredged Material Disposal Site (SF-8). Note that the highlighted, easternmost portion of the disposal site (inshore of the 3-mile limit) is also regulated under Section 404 of the Clean Water Act.

SMMP for the Channel Bar Site (SF-8)

Location and Physical Description.

The San Francisco Channel Bar disposal site, known as “SF-8”, is a permanently-designated ODMDS just offshore of San Francisco, California ([Figure 1](#)). The site is a rectangle ~914 meters wide by ~4,572 meters long, extending from just inside the 3-mile limit to ~2.5 miles outside the 3-mile limit, in water depths of 11 to 14 meters. The coordinates of its four corners are:

NAD 27 Coordinates:

37°44'55"N, 122°37'18"W
37°45'45"N, 122°34'24"W
37°44'24"N, 122°37'06"W
37°45'15"N, 122°34'12"W

NAD 83 Coordinates:

37°44'54.75"N, 122°37'21.91"W
37°45'44.75"N, 122°34'27.91"W
37°44'23.75"N, 122°37'09.92"W
37°45'14.75"N, 122°34'15.91"W

SF-8 straddles the San Francisco Bar immediately south of, and parallel to, the San Francisco Main Ship Channel. This is a high current and wave energy environment. As such SF-8 is a generally dispersive site for the sandy material discharged there. Sand on the south half of the Bar eventually feeds the beaches along the west side of the San Francisco peninsula, such as Ocean Beach. SF-8 was purposely located on the south side of the Main Ship Channel to keep the sand dredged from the channel within the littoral transport system that nourishes these beaches.

The easternmost portion of SF-8 that lies within the 3-mile limit is an irregular polygon approximately 434-1,118 feet wide and 3,000-3,303 feet long, as shown on [Figure 1](#). The corner coordinates (NAD 83) of this smaller portion of SF-8 are:

37°45'43.36"N, 122°34'32.83"W;
37°45'44.75"N, 122°34'27.91"W;
37°45'14.75"N, 122°34'15.91"W;
37°45'11.00"N, 122°34'28.82"W.

Limitations on Disposal Operations.

The regulation designating the site is found at 40 CFR 228.15(l)(4). According to this regulation, disposal at SF-8 is:

“limited to material from required dredging operations at the entrance of the San Francisco main ship channel which is composed primarily of sand having grain sizes compatible with naturally occurring sediments at the disposal site and containing approximately 5 percent of particles having grain sizes finer than that normally attributed to very fine sand (.075 millimeters). Other dredged materials meeting the requirements of 40 CFR 227.13 but having smaller grain sizes may be dumped at this site only upon completion of an appropriate case-by-case evaluation of the impact of such material on the site which demonstrates that such impact will be acceptable.”

As noted above, SF-8 itself is limited to disposal of sand from dredging of the adjacent Main Ship Channel, or material from other projects based on case-by-case evaluation. Under this SMMP, the easternmost portion of SF-8 that lies within the 3-mile limit is similarly restricted to material that is predominantly sand with low TOC, and either meets exclusionary criteria or has otherwise been determined by EPA and the USACE to be suitable for unconfined aquatic disposal.

Otherwise, there are no specific restrictions on the volume of material that may be disposed in any year, no overall restriction on the timing or method of disposal operations, and no specific date on which the site is set to “expire.” Note, however, that this SMMP does impose certain mandatory site use requirements as discussed under “Special Site Management Practices” below.

Baseline Conditions.

The SF-8 location has been in continual use for disposal of dredged material from maintenance of the San Francisco Main Ship Channel since 1972, first as an “interim” disposal site and later as a “permanent” disposal site. Baseline conditions for SF-8 were evaluated in EPA’s 1982 site designation EIS. Since the site is in a high current and wave energy area, and since only sand may be discharged there, conditions are not expected to be significantly changed as a result of ongoing use. No further baseline studies are required or contemplated.

Special Site Management Practices.

This SMMP does not in itself authorize anyone to discharge any material at SF-8, under either the MPRSA or CWA. Before the USACE can issue a permit or other authorization for disposal at SF-8, EPA must concur in writing that the material is suitable for such disposal, and that there are no available, practicable alternatives that would be less environmentally damaging.

As part of determining material suitability, EPA requires that the USACE periodically conduct confirmatory grain size and organic carbon analyses on Main Ship Channel sediments prior to dredging. EPA may also require any additional chemical and/or biological testing it deems necessary. Similarly, proponents of other dredging projects will be required to produce information adequate for EPA and USACE to determine suitability under the MPRSA or CWA testing manuals, as applicable.

Any USACE permit or other authorization for discharge at SF-8 must incorporate the most recent standard site use conditions. The standard site use conditions in effect at the time of writing this SMMP are given in the [Appendix](#). Any updated conditions will be transmitted with EPA’s concurrence letters on individual dredging and disposal projects.

In addition to the mandatory standard site use conditions, EPA and/or the USACE may impose any additional project-specific conditions deemed necessary for safe disposal operations and/or to protect environmental quality at the site, through the MPRSA Section 103 or CWA Section 404 permitting processes as applicable. Similarly, EPA may modify or suspend disposal operations, including closing the site, if it determines that acceptable environmental conditions can not be maintained with ongoing site use.

Site Monitoring Plan.

The USACE conducts physical (bathymetric) monitoring of SF-8 prior to each year's disposal operations. The main purpose of this monitoring is to confirm that enough dispersion has occurred since the previous disposal event to allow safe operation of the large bottom-dump hopper dredge used by USACE to dredge the Main Ship Channel. Inadequate depths in some areas of SF-8 would force disposal to occur in other, deeper portions of the site. If at any time inadequate physical capacity exists for safe disposal operations across the entire site, EPA may invoke management actions such as placing specific restrictions on disposal equipment, methods, or timing. If necessary, EPA may even close the disposal site temporarily or permanently.

In addition to the physical (bathymetric) surveys, the standard site use conditions (see the [Appendix](#)) require a variety of project-specific compliance monitoring activities to document that individual disposal operations occur as mandated by this SMMP.

Review and Revision of this SMMP.

This SMMP will be reviewed, and revised if necessary, at least every 10 years. EPA encourages and accepts comments on this SMMP at any time. Interested parties may provide comments or questions on this SMMP by sending an e-mail to ota.allan@epa.gov, or by writing to:

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APPENDIX:

Standard Ocean Disposal Site Use Conditions for SF-8 (May, 2007 version)

1. Dredged material shall not be leaked or spilled from disposal vessels during transit to SF-8. Transportation of dredged material to SF-8 shall only be allowed when weather and sea state conditions will not interfere with safe transportation and will not create risk of spillage, leak or other loss of dredged material in transit to the site.
2. The primary tracking system for recording ocean disposal operations shall be disposal vessel- (e.g., scow-) based. Disposal vessels shall use an appropriate Global Positioning System (satellite) tracking system capable of indicating and recording the position of the disposal vessel with a minimum accuracy of ± 10 feet during all transportation and disposal operations. The primary disposal tracking system must indicate and record the position and draft of the disposal vessel throughout transit to the disposal site, during dumping, and for at least one-half hour after disposal is complete, as well as indicate and record the time and location of the beginning and end of each disposal event (e.g., the opening and closing of the hull doors of the disposal vessel). This primary disposal tracking system must indicate and automatically record both the position and the draft of the disposal vessel at a maximum 15-second interval.
3. Data recorded from the primary disposal tracking system must be posted by a third party contractor on a near-real time basis to a World Wide Web (Internet) site accessible by EPA Region 9, the San Francisco District USACE, and also (for disposal in the easternmost portion of the site regulated under the CWA) the San Francisco Regional Water Quality Control Board and the California Coastal Commission. The Web 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: the disposal vessel transit route to SF-8; the beginning and ending locations of the disposal event; and the disposal vessel draft throughout transit and disposal. The requirement for posting this information on the Web is independent from the hard-copy reporting requirements listed in Special Condition 5, below.
4. A functioning back-up navigation system, meeting the minimum accuracy requirement listed above, must also be in place on the towing vessel (tug, if any). If the primary (disposal vessel's) navigation tracking system fails during transit, the disposal trip may continue only so long as the back-up (towing vessel's) navigation and tracking system remains operational, by placing the towing vessel in such a location that, given the compass heading and tow cable length to the scow ("lay back"), the estimated scow position would be within the disposal site boundaries. In such cases the towing vessel's position and the tow cable length and compass heading to the disposal vessel must be recorded and reported. Further disposal operations using a disposal vessel whose navigation tracking system fails must cease until those primary capabilities are restored.

5. In addition to the requirement in Special Condition 3, above, for posting data on the Web, the permittee shall maintain daily records (using an EPA- and USACE-approved Scow Certification Checklist) of: the amount of material dredged and loaded into barges for disposal; the location from which the material in each barge was dredged; the weather report for and sea-state conditions anticipated during the transit period; the time that each disposal vessel departs for, arrives at and returns from SF-8; the exact location and time of each disposal; and the volume of material disposed at SF-8 during each disposal trip. The permittee shall also maintain, for each ocean disposal trip, both electronic data and printouts from the GPS-based primary disposal tracking system (or the backup navigation tracking system when appropriate) showing transit routes, disposal vessel draft readings, disposal coordinates, and the time and position of the disposal vessel when dumping was commenced and completed. These 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 independent quality control inspector, to both EPA and USACE. For each ocean disposal trip, these reports shall include the electronic tracking and disposal vessel draft data on CD-ROM (or other media approved by EPA and USACE), as well as hard copy reproductions of the Scow Certification Checklists and printouts listed above. The reports shall include a cover letter describing any problems complying with the Ocean Disposal Special Conditions, the cause(s) of the problems, any steps taken to rectify the problems, and whether the problems occurred on subsequent disposal trips.
6. The permittee shall report any anticipated, potential, or actual variances from compliance with the above Ocean Disposal Special Conditions, and any additional project-specific Special Conditions, to the District Engineer and the Regional Administrator within 24 hours of discovering such a situation. In addition, the permittee shall prepare and submit a report of any such compliance problems, on a weekly basis by noon Monday, to the District Engineer and the Regional Administrator.
7. Within 60 days following the completion of ocean disposal operations, the permittee shall submit to the District Engineer and Regional Administrator a completion letter summarizing the total number of disposal trips and the overall (in-situ) volume of material disposed at SF-8 for the project, and 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.

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