

CALIFORNIA COASTAL COMMISSION

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Th 10b

July 15, 1999

To: Coastal Commissioners and Interested Parties

From: Peter Douglas, Executive Director
Mark Delaplaine, Federal Consistency Supervisor

Re: Navy Monitoring Plan, "Homeporting" Project, Coronado, Submitted in Compliance with CD-95-95

STAFF NOTE/BACKGROUND:

On November 16, 1995, the Commission concurred with the Navy's consistency determination for the relocation of one NIMITZ class aircraft carrier from the Naval Air Station in Alameda, San Francisco Bay, to the Naval Air Station, North Island (NASNI) in San Diego Bay (CD-95-95). This project included a number of components, including construction of a 13.4 acre fill area adjacent to the Turning Basin at NASNI. Because contaminants existed at the site of the fill, and because additional contaminants from the dredging component of the project were proposed for placement into the fill area, the Navy committed to performing post-construction monitoring of the confined disposal fill (CDF) activity.

Because the monitoring plan was not available when the Commission was reviewing the Homeporting project, the Commission and the Navy agreed the monitoring plan would be the subject of a future public hearing. Relevant excerpts from the Commission's findings in concurring with the Homeporting project include:

To assure the integrity of the fill is maintained and to contain the contaminants at the site, the Navy is in the process of preparing "an effective maintenance and management plan" for the rock dike and fill area. This plan will include a biological and water quality monitoring program, including a mussel watch station and visual inspections to insure structural integrity. This will allow "early detection of bioaccumulation in transplanted and resident biota that may indicate a breach in the integrity of the facility." In addition, an engineering

monitoring program will be prepared to evaluate the structural integrity of the rock dike throughout its lifetime The RWQCB will require finalization of the plan within three months of its waste discharge permit issuance for the project, which is currently expected in early January 1966. The Navy has agreed to submit the final monitoring plan to the Commission, for its review and concurrence (including a public hearing), prior to placing any fill material within the fill area.

A key project feature is the final, post-disposal monitoring program needed to assure the continuing integrity of the fill is retention of the contained contaminants at the fill site. Because this monitoring is critical to the Commission's finding, the Commission staff has requested and the Navy has agreed to submit this monitoring plan to the Commission, for its review and concurrence (including a public hearing), prior to placing any material within the fill area. With this assurance the Commission is able to conclude that the proposed mitigation and monitoring provisions are adequate to address project impacts.

While the Navy did not complete the monitoring plan prior to placing fill in the structure, the Commission staff agreed to defer review of the plan to a later date. In compliance with its commitments to the Commission (and also in compliance with U.S. Army Corps of Engineers (Corps) permit conditions and Regional Water Quality Control Board (RWQCB) requirements) the Navy has now compiled the necessary monitoring plan, dated February 1999, which is attached (Exhibit 1).

The monitoring plan has been reviewed by the Commission staff, as well as the staffs of the RWQCB, the Corps, and the California Department of Toxic Substances Control (DTSC). The Navy modified the plan to incorporate the recommendations in these agencies' and the Commission staff's comments.

The Commission staff and the Navy also received comments on the plan from the Environmental Health Coalition (EHC) (Exhibit 2). EHC's primary concern was over the duration of monitoring stated in the plan, which only appeared to commit to taking monitoring samples for two years. In discussing this matter with the Navy, the Navy stated its intent was to re-evaluate the monitoring results after two years, to determine the most appropriate type and frequency for subsequent monitoring, but not to discontinue monitoring after two years. The Navy has committed that it will monitor the site for the life of the rock dike/CDF structure, and will not reduce the frequency of monitoring until the Commission staff has had an opportunity to review the Navy's re-evaluation and concur with any modifications. In addition, at the end of the plan (Exhibit 1, last page), the Navy has provided written responses to EHC's comments. The Commission staff believes the Navy has committed to a process which will assure adequate long-term monitoring of the site.

PROCEDURES:

The Commission 's review of this plan is being carried out under Section 930.44 of the federal consistency regulations, which provides that:

(b) The State agency shall request that the Federal agency take appropriate remedial action following a serious disagreement resulting from a State agency objection to a Federal activity which was:
(1) Previously determined to be consistent to the maximum extent practicable with the State's management program, but which the State agency later maintains is being conducted or is having a coastal zone effect substantially different than originally proposed and, as a result, is no longer consistent to the maximum extent practicable with the State's management program The State agency's request must include supporting information and a proposal for recommended remedial action.

CONCLUSION:

With the Navy's agreement to submit the quarterly and annual reports to be generated under the plan to the Commission staff, to monitor for the life of the structure and submit future monitoring plan changes to the Commission staff for its review, the Commission staff believes this plan is adequate to detect any potential escape of contaminants from the site, and, with remediation procedures in place to be triggered in the event escape of contaminants were to occur, is adequate to protect marine resources and environmentally sensitive habitat in San Diego Bay.

The Commission staff has concluded that there is no basis for the Commission to find that the project is not being carried out in a manner consistent the maximum extent practicable with the California Coastal Management Program.

**NEARSHORE CONFINED DISPOSAL FACILITY
POST DREDGE MONITORING PLAN**

CVN HOMEPORTING PROJECT

NAVAL AIR STATION, NORTH ISLAND

CORONADO, CALIFORNIA

Prepared for:

**SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND**

South Bay Area Focus Team
2585 Callagan Highway, Building 99
San Diego, California 92136-5198

Contract No. N68711-92-C-4595

February, 1999

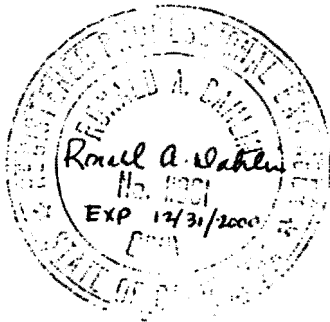
Enclosure (1)

**NEARSHORE CONFINED DISPOSAL FACILITY
POST DREDGE MONITORING PLAN**

CVN HOMEPORTING PROJECT

NAVAL AIR STATION, NORTH ISLAND

CORONADO, CALIFORNIA




Ronald Dahlia, Professional Engineer

Prepared for:

**SOUTHWEST DIVISION
NAVAL FACILITIES ENGINEERING COMMAND**
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Contract No. N68711-92-C-4595

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February, 1999

CVN HOMEPORTING PROJECT
NEARSHORE CONFINED DISPOSAL FACILITY POST DREDGE MONITORING PLAN

SUMMARY

This Post Dredge Monitoring Plan presents the long term monitoring plan for dredge sediments utilized as fill and in-situ Installation Restoration (IR) Site 1 Harbor Sediments for Outfalls 9 through 15 located adjacent to Naval Air Station North Island at the Turning Basin. This report responds to requirements described in the California Regional Water Quality Control Board Order 95-118 as clarified in the August 20, 1996 Supplement to Pre-Dredge Monitoring Report and to the conditions in the US Army Corps of Engineers permit 94-20861-DZ. The plan provides information to monitor the potential leaching of sediment borne contaminants from either the dredge fill sediments or in-situ sediments into San Diego Bay. The monitoring plan described herein consists of water quality monitoring from groundwater monitoring wells and physical inspection of the site. Annual reports will be prepared to synthesize quarterly data and evaluate/discuss groundwater movement patterns over the year, including potentiometric surfaces, gradient changes, and groundwater migration rates. Groundwater at the Confined Disposal Facility site (CDF) will be monitored for 2-5 years. After two years of quarterly sampling, the frequency of the sampling and the types of chemicals examined will be reevaluated. All proposed changes to groundwater monitoring at the CDF will be written and submitted to regulators for review and approval.

A separate Focused Remedial Investigation/RCRA Facility Investigation Work Plan for IRP Site 1 has been prepared. The report detailing this activity was submitted in April 1998. Installation of the groundwater monitoring wells and the collection and testing protocol are provided in the April 1998 document. The groundwater wells have been installed and sampling has been initiated. The provisions specified within this plan require the data to be collected to conform to the quality assurance/quality control (QA/QC) standards of the CERCLA and the Resource Conservation and Recovery Act (RCRA).

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NEARSHORE CONFINED DISPOSAL FACILITY POST DREDGE MONITORING PLAN

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1.0 INTRODUCTION

The purpose of this document is to present the long term monitoring plan for the Nearshore CDF in compliance with the U.S. Army Corps of Engineers (ACOE) and California Regional Water Quality Control Board (RWQCB) permits regarding CWA section 404 and Waste Discharge Requirements (WDRs). This involves both groundwater monitoring and structural integrity monitoring. A separate action is to conduct a CERCLA remedial investigation/feasibility study (RI/FS) to determine whether additional remedial efforts are necessary beyond those provided for the ongoing CERCLA removal action. The report detailing the (RI/FS) work plan was submitted in April 1998. In order to accomplish the second purpose, groundwater monitoring information will be used in conjunction with a sophisticated groundwater modeling program to perform this evaluation. The collected data and investigation together with the generated report documents will ensure that the RCRA corrective action requirements (RFI/CMS/CMI) for this site are met. The collected data and subsequent evaluation will ultimately lead to a CERCLA Record of Decision (ROD)/RCRA Statement of Basis (SOB) for the site. The ROD/SOB also will be submitted as a separate document.

1.1 Site Background

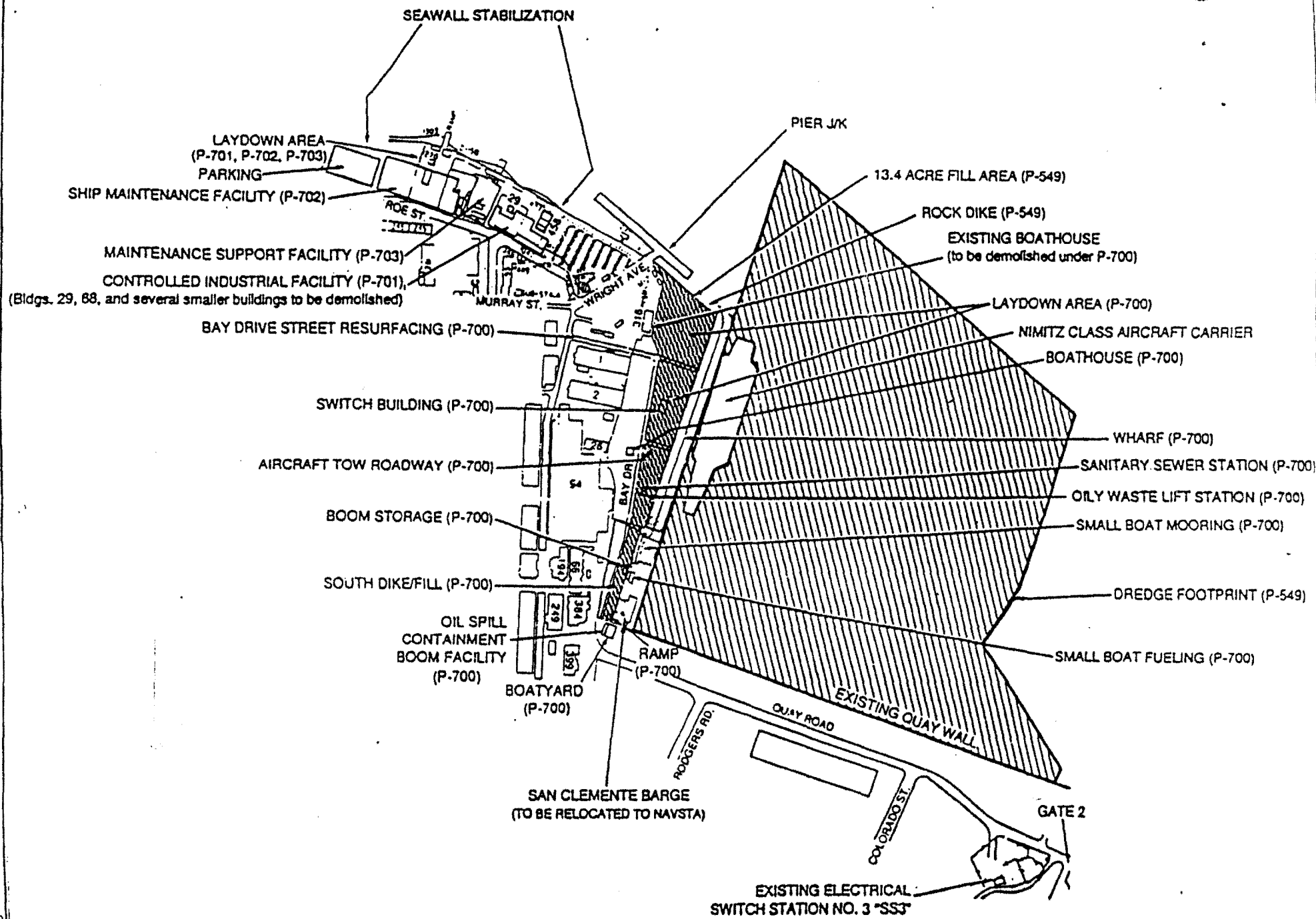
The Navy has constructed facilities to accommodate the relocation of one NIMITZ class aircraft carrier from Naval Air Station Alameda, San Francisco Bay, to Naval Air Station North Island (NASNI), San Diego Bay, California. This action is being taken to comply with the 1993 Base Realignment and Closure (BRAC III) directive from Congress to close Naval Air Station (NAS) Alameda. Ships currently homeported at NAS Alameda will be relocated to fleet concentrations in San Diego and the Pacific Northwest.

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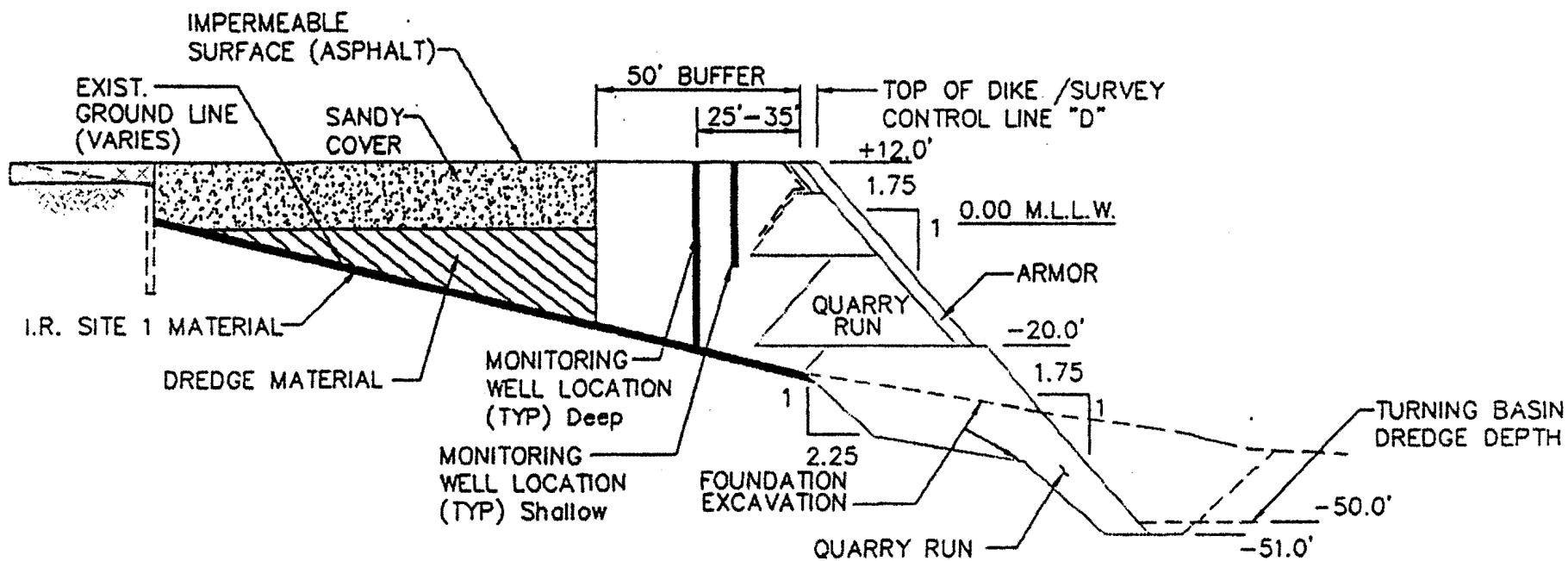
To homeport and maintain one NIMITZ class aircraft carrier in San Diego Bay, extensive dredging is necessary. A NIMITZ class aircraft carrier has a deeper draft than the conventionally powered carriers currently homeported at NASNI. Consequently, to facilitate safe and routine navigation and berthing of this vessel, dredging of the aircraft carrier turning basin and San Diego Bay Navigation Channel was required (see Figure 1).

Prior to issuance of dredging and disposal permits, the U.S. Army Corps of Engineers (ACOE) and U.S. Environmental Protection Agency (EPA) required extensive chemical, physical, and biological testing to assess; 1) the quality of the proposed dredged material, and 2) to identify acceptable sediment disposal location(s). Disposal options identified for this project included: beach replenishment, ocean disposal, or containment within a rock dike structure. All testing results are contained in a set of eight report volumes for this project¹. Approximately 9 million cubic yards (cy) of sediment was tested for the preferred disposal options (beach replenishment or ocean disposal). The vast majority of the proposed dredged material was determined to be suitable for these two options. The ultimate disposal was primarily limited to ocean disposal due to the presence of an indeterminate amount of unexploded ordnance. A smaller portion of the material, approximately 85,300 cy (hereafter referred to as the "fill sediment"), was determined to be unsuitable for the proposed disposal options based on bioassay test results.

The Navy has placed this fill sediment within a Nearshore Confined Disposal Facility (CDF) constructed at the project site to provide a berthing wharf for the new CVN. The CDF consists of a rock dike structure and 50 ft buffer zone of granular material. The fill sediment has been capped by approximately 150,000 cy of clean sandy sediment derived from creation of the mitigation site. Furthermore, the majority of this clean sediment has been capped with asphalt or concrete, which will substantially prevent rainwater infiltration into the CDF.



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TYPICAL FILL SECTION

N.T.S.

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1.2 Site Conceptual Model

As shown in Figure 2, the newly created CDF site consists of a rock dike containment structure, granular dredged material forming a 50 foot barrier at the bay edge, and dredge sediments containing some chemicals of concern behind the 50 foot buffer zone. The bottom of the site consists of in-situ bay sediments containing some chemicals of concern. The site is capped to a final elevation of +10 to +15 feet mllw with clean sandy material excavated from a mitigation area created for this project. The CDF and dike structure are pervious to both the bay and the existing land at North Island. It is anticipated that the most active groundwater area will be at the tidal interface, or at approximately mean sea level (+2.7 feet mean lower low water). The in-situ ocean floor Site 1 sediments are expected to exhibit the higher concentrations of chemicals of concern.

The final surface is asphalt or building foundations underlain by 10 to 15 feet of clean fill sediments, and is therefore not considered a pathway for the chemicals of concern. Therefore, it is anticipated that at the point of compliance (dike face), the source of chemicals of concern, if any, could be either from:

1. Existing upland groundwater containing chemicals of concern flowing bayward from North Island through the CDF,
2. Subsurface water mixed with dredge sediments within the CDF containing soluble chemicals of concern flowing bayward, or
3. In-situ Site 1 sediments beneath the CDF containing soluble chemicals of concern also flowing bayward via groundwater or subsurface water.

Given these potential loss pathways, complete water level and chemical, monitoring should be provided near the bay edge (point of compliance) both at the bay floor and in the tidal zone. Temporary water level measurements should be provided for the dredge and *in-situ* sediments

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within the CDF for modeling purposes. Long Term water level monitoring should be provided near the former shoreline in up-gradient monitoring wells.

2.0 REGULATORY FRAMEWORK

This report specifically responds to provisions in the Army Corps of Engineers (ACOE) and California Regional Water Quality Control Board (RWQCB) Permits. An ACOE permit² (with EPA Region IX concurrence) was issued to the Navy to conduct both the dredging and disposal operations. A requirement of this permit (Special Conditions for Corps Permit NO. 94-20861-DZ at Section V.G.) is to submit a plan for monitoring the concentrations and solubility of the chemicals of concern in the fill material and effectiveness of the CDF in preventing chemicals of concern from migrating into San Diego Bay or groundwater sources. In addition to the ACOE's permit, the San Diego Regional Water Quality Control (RWQCB) issued Order No. 95-118 titled "Waste Discharge Requirements (WDRs) for the U.S. Navy Dredge and Fill Activities, Homeporting Project, San Diego County."³ A requirement of this order (Monitoring and Reporting Program No. 95-118 at Section D. 1) is to submit a proposal for an ongoing water quality monitoring program to monitor the effectiveness of the site conditions and quaywall construction in preventing chemicals of concern from migrating into San Diego Bay.

The *in-situ* sediments below the CDF fill sediments are the subject of a CERCLA time-critical removal action (TCRA) now taking place. This TCRA located between Outfalls 9-15⁴ was selected as an appropriate situation specific remedy to prevent hazardous chemicals of concern, entrained in the near-shore bay sediments, from entering the surface water and potentially adversely affecting humans, the environment and the ecosystem. A CERCLA Action Memorandum signed by the Commanding Officer, NAS North Island was prepared to document this decision. The groundwater monitoring plan proposed as part of the Focused Remedial Investigation/RCRA Facility Investigation (April 1998)⁵ will provide data necessary

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for evaluating the long term effectiveness of the CDF as a barrier to migration of chemicals of concern.

3.0 DESCRIPTION OF THE SITE

The site is located adjacent to the Naval Air Station North Island (NASNI) at the Turning Basin as shown in Figures 3 and 4. The site consists of newly created land utilizing dredge material and rock dikes. The operation and details of the site are provided in the Final Environmental Impact Statement (FEIS) prepared by the US Department of the Navy dated November 1995⁶. The sediment characteristics of the dredged material for this project, both chemical and physical, are described thoroughly in the Sediment Characterization Report⁷, and further discussed in the Supplement to Pre-Dredge Monitoring Report.⁸ The underlying site geology is thoroughly described in the Geotechnical Investigation Report for the proposed dredging project⁹ and generally consists of beach/channel deposits or the Bay Point Formation.

Numerous environmental studies have been conducted in the site, the CDF material, and the IR Site 1 beneath the CDF. The following three reports are listed for information. A complete list of the results and findings would be too voluminous for this report however, the three listed suggest the type of information available.

- 1989 Harding Lawson Associates, Remedial Investigation Shoreline Sediments (Site 1), Naval Air Station, North Island, San Diego California (two volumes)
- 1992 MEC Analytical Systems, Inc., Results of Chemical Physical and Bioassay Analyses on Sediments from Bravo Pier and the Aircraft Turning Basin in the San Diego Bay, CA
- 1995 Ogden Environmental and Energy Services, Sediment Characterization Report for Nimitz Class Aircraft Carrier Homeporting Facilities, NAS North Island, CA (seven vols.)

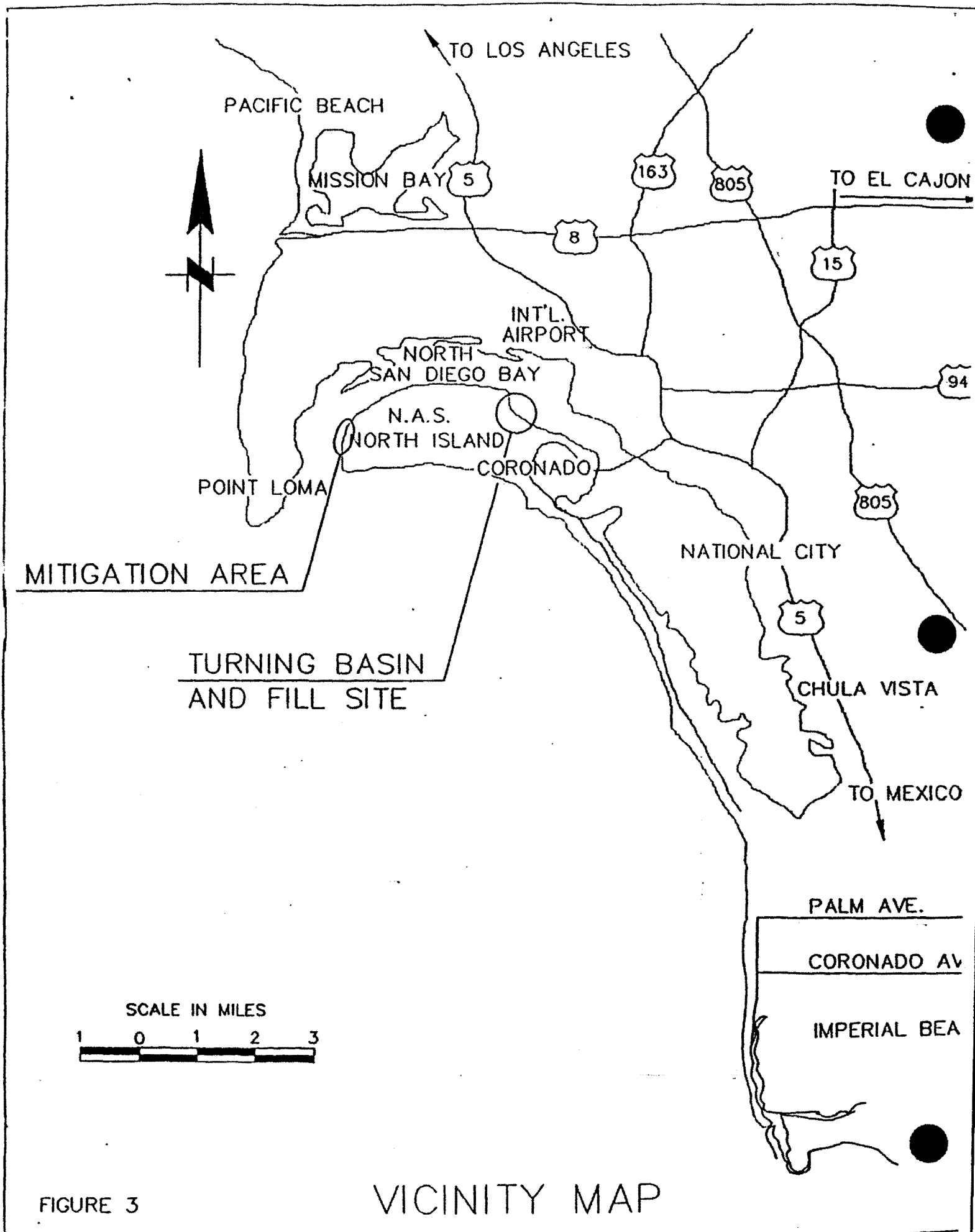
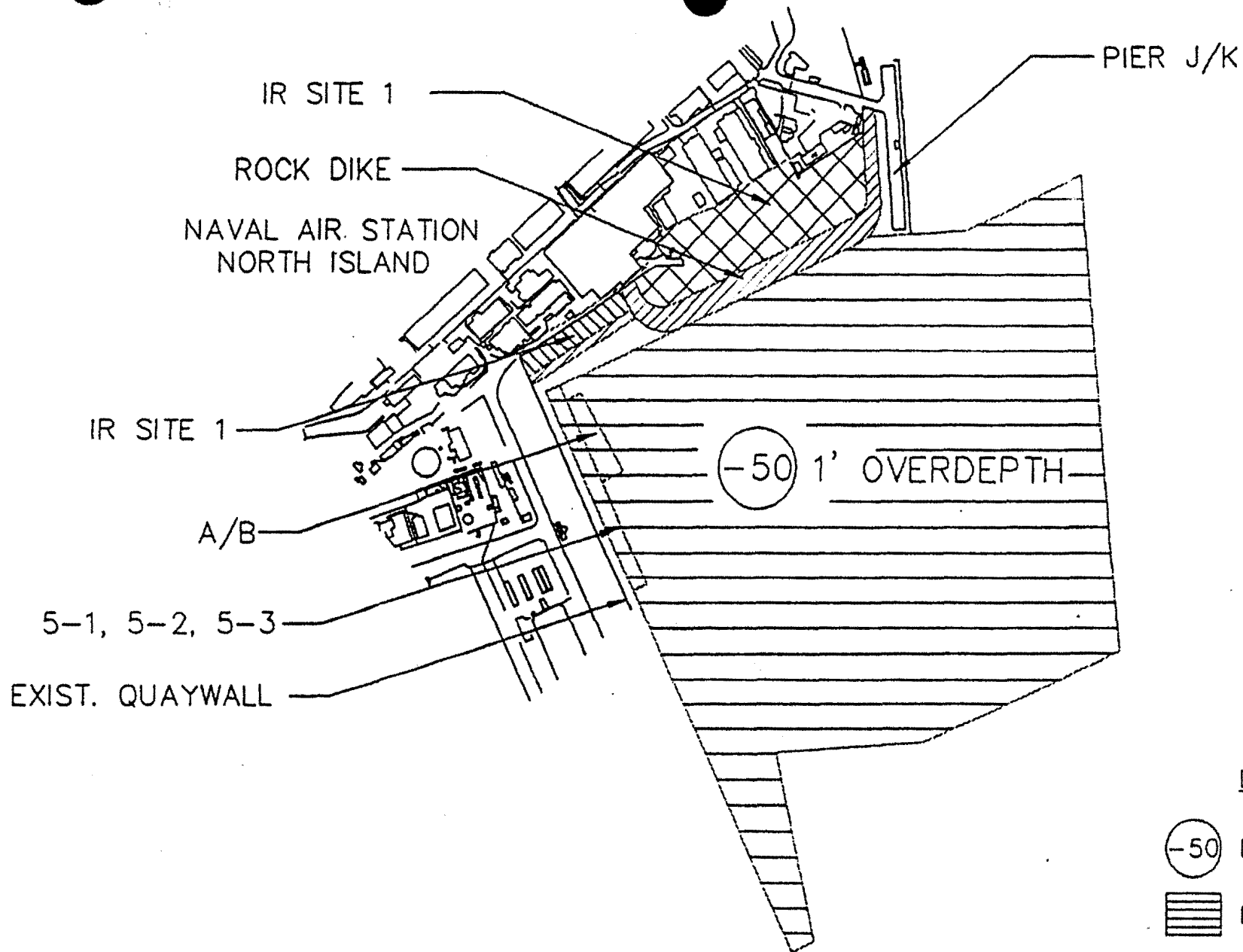


FIGURE 3

VICINITY MAP



LEGEND:

- (-50) DREDGE DEPTH
- [Horizontal Lines] DREDGE AREA
- [Grid Pattern] FILL AREA
- [Diagonal Lines] LAYDOWN AREA
- [Cross-hatch Pattern] ROCK DIKE

TURNING BASIN AND FILL
SITE PLAN

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NEARSHORE CONFINED DISPOSAL FACILITY POST DREDGE MONITORING PLAN

4.0 STATUS OF CONSTRUCTION AND MONITORING

Construction of this project began in September 1996 as outlined in the Pre-Dredge Operations Plan¹⁰ and was completed in August 1998. The first of a series of post-dredging/disposal reports¹¹ has also been completed which includes the activities of the contractor through March 1997. The final report will be submitted in March 1999. In summary, the CDF fill and containment dikes were complete as of March, 1997. Densification to the newly created fill (backland) and armor stone placement was completed in mid-June 1997. The site improvements including utility construction and paving were completed by July of 1998.

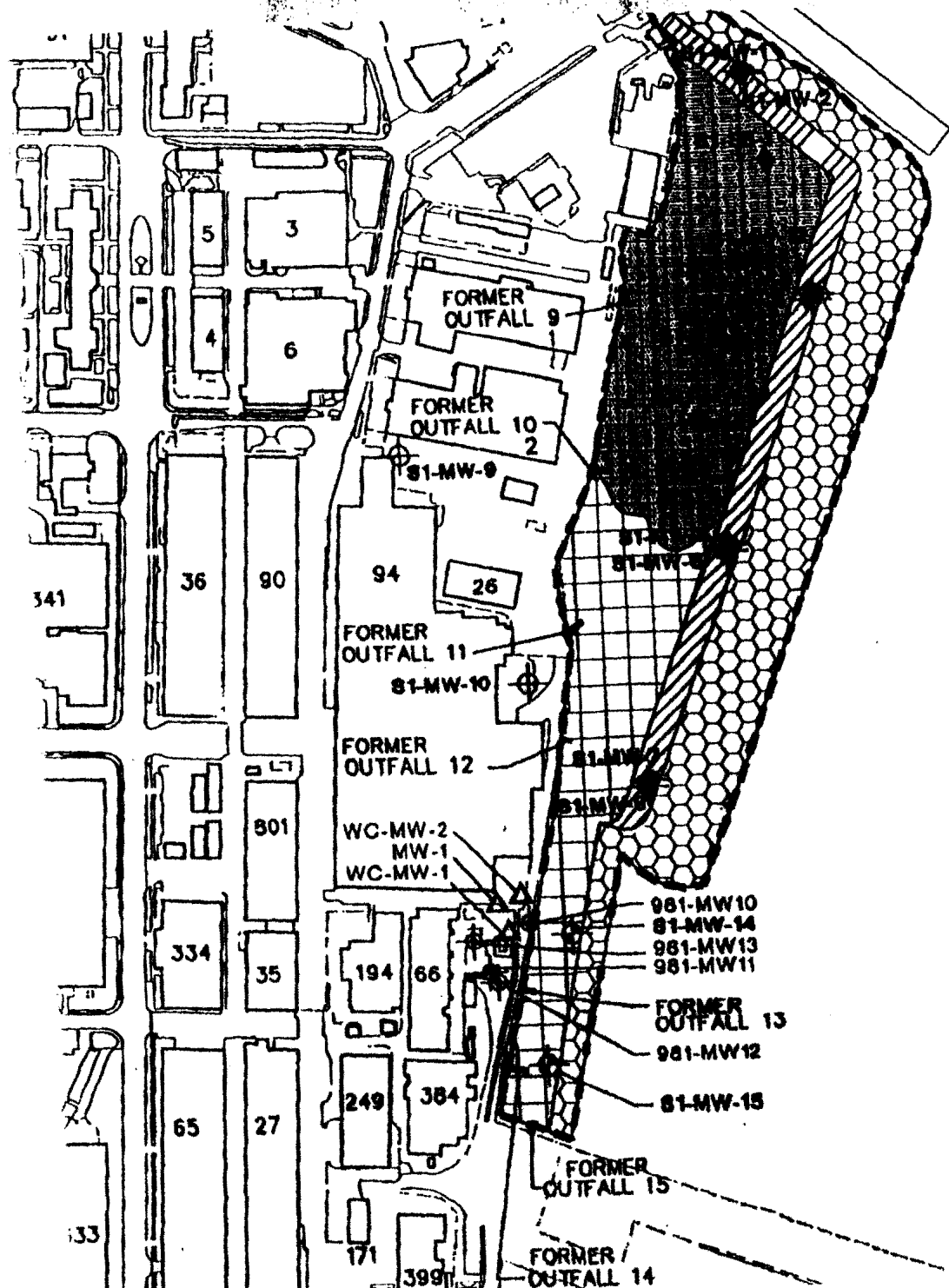
Construction monitoring during dredging was also required and described in the ACOE and RWQCB permits. In accordance with the permits, water sampling and testing results were submitted to the RWQCB as the data was processed. There were no instances of non-compliance during removal or placement of the material within the CDF.

5.0 LONG TERM MONITORING PLAN

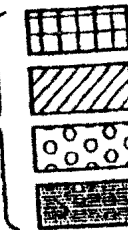
This long-term monitoring plan has been prepared to comply with the requirements specified in the ACOE & RWQCB permits.

5.1 Water Quality Monitoring

Groundwater at the CDF will be monitored for 2-5 years. After two years of quarterly sampling, the frequency of the sampling and the types of chemicals examined will be reevaluated. Based on the site history and the chemical results of the first year of groundwater monitoring, the monitoring plan will be adjusted. All proposed changes to groundwater monitoring at the CDF will be written and submitted to regulators for review and approval.



THESE FEATURES
CONSTITUTE THE CDF

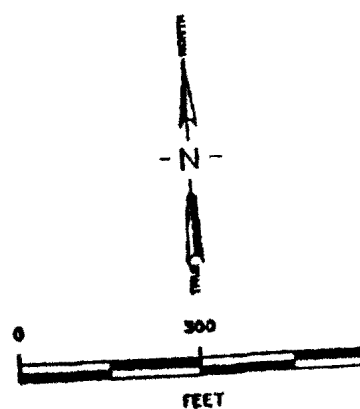


FILL PLACED IN CDF
60-FT CLEAN FILL BUFFER Z
ROCK DIKE OR QUAYWALL
AREA OF DREDGED-FILL

- 81-MW-1 PROPOSED COMPLIANCE MON
- 81-MW-15 PROPOSED SEDIMENT SAMPLE LOCATION AND TEMPORARY MONITORING WELL
- 81-MW-11 PROPOSED UPGRADIENT WELL
- 81-SB-1 PROPOSED SEDIMENT SAMPLE LOCATIONS
- ΔMW-1 EXISTING MONITORING WELL
- 981-MW11 EXISTING MONITORING WELL

NOTE: FIGURE FEATURES FROM US DON RI
SOURCE: BASEMAP FROM RICK ENGINEERING
COORDINATE SYSTEM IN NAD 83

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Focused RI/RFI Work Plan
Figure 5
Proposed Well Locations
Naval Air Station North Island, San

1
SAUCE

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NEARSHORE CONFINED DISPOSAL FACILITY POST DREDGE MONITORING PLAN

Ground water sampling will be performed quarterly at fifteen monitoring wells to be installed in locations shown in Figure 5. The details of the well installation, sampling techniques, constituents of concern, and quality control procedures are outlined in the Final Focused Remedial Investigation.

Results of the water quality sample analysis and site inspection will be compiled in annual reports and submitted to the Regional Water Quality Control Board (RWQCB) and Department of Toxic Substance Control (DTSC) for information. Should results indicate potential problems, the Navy and RWQCB will discuss corrective measures.

5.2 Visual Inspection of CDF and Wells

Visual site inspection will be conducted quarterly along the dike perimeter to identify cracks or other features that may suggest undue settlement or dike movement. This activity will be conducted from the surface of the fill during the collection of monitoring well data. Thorough inspection of the dike and wharf structures will be conducted, which may include diver inspection along the dike toe and along the wharf, after major seismic activity such as a 5.0 magnitude earthquake occurs. Five inclinometers were also installed upon completion of the dikes that provide an indicator for dike movement. The inclinometer readings will be provided in the annual report, which includes four quarters. Additional readings may be taken during significant seismic events.

Visual well inspection will be conducted during each quarterly sampling interval. Maintenance will likely consist of repair or replacement of locks and caps. Redevelopment may be necessary if changes are seen in the flow rate or water color or quality which indicate silting or bacterial growth is interfering with the flow of water into the well.

5.3 Mussel Watch Program

Original comments from the USACE suggested the use of a mussel watch program as a means to monitor water quality at the site. The CERCLA program includes an ecological risk screening and provides equivalent information about the status of the water quality. Therefore, the Navy has determined that the mussel watch program is no longer necessary.

6.0 REPORTING

NAS North Island maintains a Corrective Action Coordinator to monitor and report on Base CERCLA/RCRA response actions involving groundwater monitoring. This coordinator will provide the ACOE, RWQCB and DTSC annual groundwater and visual inspection monitoring reports as follows.

The annual report will provide the results of the previous four quarters and discuss anomalous data and any long term trends. The annual report will:

- Discuss changes in potentiometric levels and gradients
- Incorporate last four quarters of data with all past data; present this compilation in tabular form. The Table will include the elevations of well screen and filter pack intervals.
- Discuss potentiometric results and trends
- Present water quality data with a discussion of the plume configuration for current and previous years
- discuss analytical results and identify trends
- Identify data gaps and potential deficiencies in the monitoring system or reporting program
- Provide a narrative of the CDF and monitoring well visual inspection.
- Provide results of the inclinometer readings.

The report appendices will contain all water quality data and will include as a minimum:

- Water elevation in tabular format with historic data

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- Ground water quality data in tabular format with all historic data:
 - Contaminant concentration vs. time for each well
 - Cross section with concentration profiles
- Physical data such as well locations and boring / well logs, site map , well construction logs
- Field Procedures sections
- QA/QC Plan Sections

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NEARSHORE CONFINED DISPOSAL FACILITY POST DREDGE MONITORING PLAN

10.0 REFERENCES

- ¹ U.S. Department of the Navy, 1995. Sediment Characterization Report for NIMITZ-class Aircraft Carrier Homeporting Facilities, Naval Air Station, North Island, California, Volumes I through VIII.
- ² U.S. Army Corps of Engineers-Los Angeles District, 1996, Permit No.: 94-20861-DZ for San Diego Bay, Imperial Beach, Mission Beach, Del Mar, Oceanside, and the LA-5 Ocean Disposal Site (LA-5), San Diego County, California); and Proposed Modification submitted for public comment from June 27, 1996 through July 12, 1996.
- ³ California Regional Water Quality Control Board-San Diego Region. 1995. Waste Discharge Requirements (WDRs) for the U.S. Navy Dredge and Fill Activities Homeporting Project San Diego County, Order No. 95-118.
- ⁴ US Department of the Navy, 1995. Action Memorandum for Removal Action at Site 1, Outfalls 9 through 15, Naval Air Station North Island, San Diego, California.
- ⁵ US Department of the Navy, 1998. Final Focused Remedial Investigation/RCRA Facility Investigation Work Plan, IRP Site 1, Outfalls 9-15, Shoreline sediments, Naval Air Station North Island, San Diego, California.
- ⁶ US Department of the Navy, 1995. Final Environmental Impact Statement for the Development of Facilities in San Diego/Coronado to Support the Homeporting of One Nimitz Class Aircraft Carrier.
- ⁷ U.S. Department of the Navy, 1995. Sediment Characterization Report for NIMITZ-class Aircraft Carrier Homeporting Facilities, Naval Air Station, North Island, California, Volumes I through VIII.
- ⁸ US Department of the Navy, 1996. Supplement of Pre-Dredge Monitoring Report CVN Homeporting Project, Naval Air Station, North Island, Coronado, California.
- ⁹ Woodward Clyde Consultants, August, 1994. Geotechnical Investigation Proposed Dredging Along Quaywall and Turning Basin (P-549), Naval Air Station, Coronado, California.
- ¹⁰ Pre-Dredge/Disposal/Discharge Operations Plan For Corps Permit No. 94-20861-DZ, Contract N68711-93-C-1424; Part A, FY95 Project P-549, Dredging Along Quaywall & Turning Basin: Naval Air Station, North Island, Coronado, CA. 23 May, 1996.

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NEARSHORE CONFINED DISPOSAL FACILITY POST DREDGE MONITORING PLAN

" Post-Dredge/Disposal/Discharge Operations Plan For Corps Permit No. 94-20861-DZ, Contract N68711-93-C-1424; Part A, FY95 Project P-549, Dredging Along Quaywall & Turning Basin: Naval Air Station, North Island, Coronado, CA. March, 1997.

Southwest Division
Naval Facilities Engineering Command
South Bay Area Focus Team
2585 Callagan Highway, Building 99
Naval Station San Diego
San Diego, CA 92136-5198

**RESPONSE TO ENVIRONMENTAL HEALTH COALITION COMMENTS ON THE
NEARSHORE CONFINED DISPOSAL FACILITY POST DREDGE MONITORING
PLAN**

March 8, 1999

Enclosure (2)

The following paragraphs respond to the concerns expressed in the letter. Groundwater at the CDF will be monitored for 2-5 years. After two years of quarterly sampling, the frequency of the sampling and the types of chemicals examined will be reevaluated. Based on the site history and the chemical results of groundwater monitoring, the monitoring plan will be adjusted. All proposed changes to groundwater monitoring at the CDF will be written and submitted to regulators for review and approval.

The material placed in the CDF was classified as "designated waste" not hazardous waste. The extent of long-term monitoring will hinge on the results of current monitoring. It is too early to make an informed decision on the type and frequency of monitoring past two years.

It is unlikely that any significant settling or moving of the sediments will take place at the CDF. The sediments were graded and compacted during the CDF construction. Also, a network of stone columns was driven into the sediment material to reinforce the structural stability.

A map depicting the groundwater monitoring well network will be added to the plan.

We are unaware of any scientific studies supporting the theory that chemical concentrations in groundwater change significantly with tides. Recently, at Naval Amphibious Base Coronado the groundwater was sampled at different times in the tide cycle and displayed no significant differences in concentrations.

The CDF purposely allows the movement of tides and groundwater. Concentrations of the chemicals of concern are very low to begin with since the material is a designated waste not a hazardous waste. Preliminary models indicate that no significant levels of contaminants will reach the bay.