COMPREHENSIVE LONG-TERM ENVIRONMENTAL ACTION NAVY (CLEAN II)
Northern and Central California, Nevada, and Utah
CONTRACT No. N62474-94-D-7609
Contract Task Order No. 0007

Prepared for

DEPARTMENT OF THE NAVY
Mr. William Radzevich, Remedial Project Manager
Engineering Field Activity West
Naval Facilities Engineering Command
San Bruno, California

HUNTERS POINT SHIPYARD
SAN FRANCISCO, CALIFORNIA

ACTION MEMORANDUM
REMOVAL ACTION DOCUMENTATION
FOR STORM DRAIN SYSTEM SEDIMENTS

September 6, 1996

Prepared By

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September 5, 1996

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CLEAN Contract Number N62474-94-D-7609 (CLEAN II)
Contract Task Order 007

Subject: **Final Action Memorandum for the Storm Drain System Removal Action Hunters Point Shipyard, San Francisco, California**

Dear Mr. Radzevich:

Enclosed are 20 copies of the final action memorandum (AM) for the Storm Drain System removal action at Hunters Point Shipyard. This final AM incorporates responses to comments from the U.S. Environmental Protection Agency, the California Department of Toxic Substances Control, and the California Regional Water Quality Control Board.

Please call me or Patrick Wooliever at (415) 543-4880 with any questions.

Sincerely,

James Sickles
PRC Installation Coordinator

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Enclosures

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ATTACHMENTS

1.0 PURPOSE

The purpose of this action memorandum (AM) is to request and document approval of a non-time-critical removal action of sediments located in the storm drain system in Parcels B, C, D, and E at Hunters Point Shipyard (HPS) in San Francisco, California. The recommended removal action approach was developed as part of an engineering evaluation and cost analysis (EE/CA) conducted by PRC Environmental Management, Inc. (PRC), on behalf of the Department of the Navy (Navy). As the lead agency, the Navy has authority over risk evaluation, removal action alternative selection, and overall public participation activities. The Navy is working in cooperation with the U.S. Environmental Protection Agency (EPA) Region IX; the State of California Department of Toxic Substances Control (DTSC) Region II; and the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) to develop and implement the removal action.

The proposed non-time critical removal action will eliminate the potential for migration of contaminated sediments into the San Francisco Bay via the HPS storm drain system by cleaning all sediments from the storm drain system and disposing of the sediments off site. By doing this, the proposed action will substantially eliminate the identified pathway of exposure to contaminants of concern for aquatic life and humans ingesting aquatic life. This removal action is anticipated to be a final action with regard to contaminated storm drain sediments; no further study or evaluation will be required. An investigation of potential infiltration of contaminated groundwater into the storm drain system has been deferred from this removal action, and will be addressed in the individual parcel remedial investigations and feasibility studies.

The proposed action for storm drain sediments is deemed consistent with the factors set forth within the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (Title 40 Code of Federal Regulations Part 300).

This AM has eight sections including this section. Section 2.0 discusses site conditions and background information for HPS; Section 3.0 discusses threats to public health and welfare, and to the environment from the storm drain sediments; Section 4.0 presents the endangerment determination; Section 5.0 discusses proposed removal action alternatives and estimated costs; Section 6.0 discusses the effects of delaying or not implementing the removal action; Section 7.0 discusses outstanding policy issues; and Section 8.0 discusses the recommended removal action alternative. This AM frequently references text, tables, and figures in the storm drain system EE/CA report, which was finalized in July 1996 and is available for public review. The EE/CA is included as Attachment A. Attachment B presents the administrative record index for this action.

2.0 SITE CONDITIONS AND BACKGROUND

This section summarizes (1) the site description, (2) other removal actions conducted to date at HPS, and (3) the state and local agency roles.

2.1 SITE DESCRIPTION

This section discusses the removal site evaluation, the physical location of HPS, storm drain sediment profile and characteristics, release information, the National Priorities List (NPL) status of HPS, and tables and figures related to the storm drain removal action.

2.1.1 Removal Site Evaluation

Various past industrial activities at the shipyard are believed to be the source of sediment contamination in the HPS storm drain system. A study was conducted by Harding Lawson Associates (HLA) in 1994 to assess the nature and extent of sediment contamination. Sediments were sampled at 78 different locations throughout the storm drain system (HLA 1994). Ten of the sample locations were located in Parcel A, from which storm drain line sediments were subsequently removed. The remaining sample locations are shown in Figure 3 of the EE/CA report (Attachment A) along with drainage basin and parcel delineations.

Generally, metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides/polychlorinated biphenyl compounds (PCBs), and total petroleum hydrocarbons (TPH) were detected in samples collected throughout the storm drain system during the 1994 HLA study. Table 1 of the EE/CA report shows the distribution of detections in these analyte groups by sampling station, drainage basin, and parcel. Table 2 of the EE/CA report summarizes maximum values in the data set for particular analytes (Attachment A).

2.1.2 HPS Physical Location

HPS is in southeastern San Francisco at the tip of a peninsula extending into San Francisco Bay (Figure 1, Attachment A). HPS encompasses 936 acres, 493 of which are on land and 443 of which are below the waters of the bay. The acreage has been divided into five parcels of land (Parcels A through E). The climate at HPS in characterized by partly cloudy, cool summers with little precipitation and mostly clear, mild winters with rainstorms. The average annual precipitation is approximately 19 inches.

HPS is bordered by San Francisco Bay to the north, east, and south. A mixed-use residential and industrial area is located west of HPS. The northern and eastern shores of HPS were developed for ship repair and are equipped with drydock and berthing facilities. The Navy used HPS from 1939 through 1976 for ship repair. Triple A Machine Shop operated HPS as a commercial ship repair facility from 1976 to 1987. Currently, the Navy and private businesses use HPS for limited commercial and light industrial activities.

HPS has been divided into five parcels of land, Parcels A through E, and the subtidal areas, Parcel F. The storm drain reaches covered by this removal action are located in Parcels B, C, D, and E.

2.1.3 Storm Drain System Characteristics

The HPS storm drain system includes, by one estimate, approximately 107,000 linear feet of storm drain line varying in size from 2 to 72 inches in diameter, and 538 catchbasins (HLA 1994). Others have estimated that there are approximately 624 catchbasins and 321 manholes (PRC 1996). The actual length of storm drain lines and actual numbers of manholes and catchbasins are not currently known. Approximately one-sixth of the catch basins are dry wells (Gahagan and Brant 1994), all of which contain sediment of varying amounts. The general configuration of the storm drain system is shown in Figure 2 of the EE/CA report (Attachment A).

The storm drain system discharges to the San Francisco Bay through 33 documented outfalls ranging in diameter from 6 to 72 inches. Various piping materials were used throughout construction of the storm system, including vitrified clay pipe, corrugated metal pipe, steel pipe, concrete pipe, and ductile iron pipe. Manholes were initially constructed of brick and mortar, and later constructed of precast concrete sections. The manhole and catchbasin vaults vary in depth from 1 foot to more than 10 feet. While most of the vault covers are circular, the vaults themselves are either circular, rectangular, or square.

An estimated 2,000 cubic yards of sediment are present in catchbasins and manholes in Parcels A, B, C, D, and E (HLA 1994). Sediments in Parcel A catchbasins, manholes, and trunk lines were cleaned out in 1994.

2.1.4 Release or Threatened Release into the Environment of a Hazardous Substance, Pollutant, or Contaminant

Some contaminants present in storm drain system sediments, including heavy metals, SVOCs, and PCBs are hazardous or toxic substances as defined by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Section 101(14), or the Toxic Substances Control Act (TSCA). A potential exists for contaminated sediments to be transported to the San Francisco Bay with storm drain system effluent.

2.1.5 National Priorities List Status

Because of the presence of hazardous materials from past shipyard operations, HPS was placed on the NPL in 1989. In 1991, HPS was slated for closure pursuant to the terms of the Defense Base Realignment and Closure Act of 1990 (Public Law 101-510). Closure activities at HPS involve environmental remediation activities and making the property available for nondefense use.

2.1.6 Maps, Pictures, and other Graphic Representations

Figures and tables related to the storm drain system removal action are contained in the EE/CA report (Attachment A). Figure 1 shows the HPS location. Figure 2 presents the storm drain system layout. Figure 3 depicts the parcel and basin layouts and presents sediment sampling locations from the 1994 HLA study. Tables 1 and 2 present sediment quality data, and Table 3 lists screening guidelines.

2.2 OTHER ACTIONS TO DATE

Previous removal activities conducted at HPS include (1) PCB cleanup at IR-08, (2) the Tank S-505 removal action, (3) underground storage tank (UST) removals, (4) sandblast grit fixation, and (5) the IR-06 Tank Farm removal action. These actions are discussed in the EE/CA report.

Current removal activities include (1) the pickling and plating yard (PPY) removal action; (2) the exploratory excavation sites removal action; (3) the IR-03 removal action; (4) the IR-1/21: Industrial Landfill Groundwater Plume removal action; and (5) the IR-06 removal action. The PPY removal action is complete and consisted of removal of hazardous substances and decontamination and removal of structures at the PPY. The exploratory excavation sites removal action will involve excavation and

off-site disposal of contaminated soil. The IR-03 removal action will involve isolating impacted groundwater from the San Francisco Bay using a containment technology. The IR-1/21 removal action will include using source control and remediation or isolation of groundwater. The IR-06 removal action will involve excavating and treating or disposing of impacted, vadose zone soil.

2.3 STATE AND LOCAL AGENCY ROLES

Federal Executive Order 12580 delegates the President's authority to undertake CERCLA response actions to the Department of Defense. Congress further outlines this authority in its Defense Environmental Restoration Program (DERP) Amendments, which are presented in 10 United States Code (U.S.C.) 2701-2705. Both CERCLA 120(f) and 10 U.S.C. 2705 require naval facilities to ensure that state and local officials be given the timely opportunity to review and comment on Navy response actions.

Accordingly, DTSC and RWQCB are representing the state during activities that are part of the Navy's CERCLA response program at HPS. State input was solicited by providing DTSC and RWQCB with the opportunity to review and comment on the draft storm drain system EE/CA report and a draft version of this AM.

As lead agency, the Navy has authority over all public participation activities. To foster community awareness and public input, the Navy has an established community relations program at HPS. The Navy regularly publishes fact sheets and public notices to announce environmental restoration activities at HPS. An important part of the community relations program is the HPS restoration advisory board (RAB). The HPS RAB meets monthly as a forum for interested parties to receive information and comment on HPS documents and environmental activities.

For the storm drain system removal action, the Navy's community relations activities included holding a public comment period for the draft-final EE/CA report and presenting information related to the storm drain system removal action at a RAB meeting. A public notice was published in the *Independent* on May 28, 1996 for a public comment period, which occurred from May 28, 1996, to June 25, 1996. Information related to the storm drain system removal action, as well as other ongoing removal actions at HPS, was presented on poster boards during a RAB meeting held June 26, 1996. No public comments were received; therefore, a responsiveness summary is not provided in this AM.

3.0 THREATS TO PUBLIC HEALTH, WELFARE, OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Because of the presence of hazardous substances in sediments throughout the storm drain system at HPS, the Navy determined that, based on the eight removal action factors set forth in the NCP, the storm drain system sediments pose a substantial threat to human health or the environment and that a removal action is appropriate to mitigate the potential for exposure to hazardous substances in the storm drain system. Two of the NCP removal action factors apply to the storm drain system sediments as discussed in Sections 3.1 and 3.2.

3.1 THREATS TO PUBLIC HEALTH OR WELFARE

NCP Section 300.415 (b)(2)(I): Actual or potential exposure of nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants.

A potential indirect human exposure pathway to contaminants exists via ingestion of fish and other aquatic life from the San Francisco Bay with bioaccumulated contaminants. There are no direct pathways for human exposure to contaminated sediments. Because bay water is not used as a domestic drinking water source, exposure resulting from ingestion of bay water is not considered a complete exposure pathway. The only direct human exposure to contaminated sediments would occur during removal of the sediments from catchbasins and manholes.

3.2 THREATS TO THE ENVIRONMENT

NCP Section 300.415 (b)(2)(iv): High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate.

Environmental impacts could occur from release of contaminated soils into the San Francisco Bay via the storm drain system. Aquatic life in the bay could be directly exposed to toxic constituents from ingestion of sedimentary material and indirectly from desorption of contaminants from sediments into bay water.

4.0 ENDANGERMENT DETERMINATION

Qualitative risk evaluation conducted during the EE/CA, which was based on comparison of sediment contaminant concentrations to screening criteria for protection of aquatic life, and other information contained in the administrative record (see index, Appendix B) demonstrate that current conditions of the storm drain system at HPS present immediate and severe threats to the aquatic ecosystem, public health, welfare, or the environment.

Actual or threatened releases of contaminants from this site, if not addressed by implementing the proposed response action recommended in this AM, may present an imminent and substantial endangerment to public health, welfare, or the environment due to migration of contaminated storm drain system sediments to the San Francisco Bay.

5.0 PROPOSED REMOVAL ACTIONS AND ESTIMATED COSTS

This section discusses the proposed removal action, including the description of the proposed removal action, its contribution to remedial performance, a description of alternative technologies, the EE/CA report, applicable or relevant and appropriate requirements (ARARs), the removal action schedule, and estimated costs.

5.1 PROPOSED ACTION DESCRIPTION

The storm drain system removal action will involve cleaning of sediments from all manholes, catchbasins, and storm drain lines in HPS Parcels B, C, D, and E.

Manhole and catchbasin sediments will be manually loosened by rodding, and then vacuumed into the hopper of a vacuum truck or rolloff container. Stubborn sediments will be loosened by hand shovel.

Storm drain lines will be cleaned with a high-pressure jet washer suitable for cleaning gravity flow storm drain lines. The outlet of the downstream manhole will be plugged in order to contain washwater and sediments. The resulting sediment slurry will be collected in specially adapted rolloff containers equipped with filters and decanting equipment. Water will be decanted into a baker tank until remaining solids pass the paint filter liquids test.

Decanted water will be reused whenever possible for additional line cleaning. Spent wash water will be characterized before discharge to the local publicly-owned treatment works (POTW). The spent water is expected to meet POTW acceptance criteria based on pretreatment standards, sediment concentrations, and vendor information.

Sediments will sampled and analyzed to determine waste characteristics. Laboratory analysis of the sediments will be accelerated to the extent possible to facilitate completion of cleaning. All sediments with metals concentrations exceeding land disposal restrictions (LDRs) will be transported to, and stabilized by, an appropriate disposal facility. All sediments with organic compound concentrations exceeding LDRs will be transported to, thermally treated (or equivalent), and stabilized (if necessary) by an appropriate disposal facility. Thus, transportation to different disposal facilities may be necessary for sediments with contaminants exceeding LDRs. Sediments that do not exceed hazardous levels will be transported to and disposed of at a Class III landfill.

Removal and off-site disposal of the sediments will mitigate any public health or environmental threat posed by discharge of contaminated sediments to the San Francisco Bay. This removal action is intended to be a permanent or final response action for contaminated sediments in the storm drain system. Because all the sediments of concern will be cleaned from the system, post-removal site control will not be necessary.

5.2 PROPOSED ACTION CONTRIBUTION TO REMEDIAL PERFORMANCE

All sediments will be removed from the HPS storm drain system and disposed of off site. The proposed removal action is based on comparison of the 1994 HLA study results to conservative screening criteria. Screening levels selected for the storm drain system removal action are effects range - low (ER-L) criteria developed by the National Oceanic and Atmospheric Administration (NOAA) for protection of aquatic organisms. The ER-L value (NOAA 1994) for a constituent is the concentration equivalent to that calculated at the lower 10th percentile of available, screened sediment toxicity data. Thus, it represents the low end of the range of concentrations at which detrimental effects to coastal resources and habitats were observed in studies. ER-Ls were considered conservative screening criteria for this action.

The HLA sampling locations (Parcels B, C, D, and E only) are shown in Figure 3 of the storm drain system EE/CA report (Attachment A). The HLA study results were considered representative of sediment characteristics throughout the storm drain system Parcels B, C, D, and E, and were deemed

adequate for assessing the necessity for, and required extent of, sediment removal. Metals and pesticide/PCB concentrations in sediment samples collected during the 1994 HLA study consistently exceeded screening criteria, while SVOC concentrations exceeded screening criteria in approximately half the samples. Metals concentrations also exceeded Hunters Point Ambient Levels (HPALs) in all samples collected.

Because of the widespread nature of the sediment contamination as exhibited by the HLA study results, cleaning of all sediments from the storm drain system is considered appropriate. Following this removal action, no further action will be required regarding storm drain system sediments. This removal action will contribute to the long-term remedial action for HPS by mitigating the threats from a major source of contamination.

5.3 DESCRIPTION OF ALTERNATIVE TECHNOLOGIES

Three treatment or disposal alternatives were identified and evaluated in the EE/CA report. A brief description of the three removal action alternatives is provided below. Detailed descriptions of the alternatives and comparison of the effectiveness, implementability, and cost of each alternative are presented in Attachment A:

Alternative 1: Off-Site Disposal of Hazardous Sediments. This alternative involves (1) cleaning all sediments out of manholes, catchbasins, and drain lines; (2) sampling all generated sediments; (3) transporting, treating, and disposing of sediments exceeding hazardous characteristics at an appropriate treatment and disposal facility; and (4) stockpiling sediments not exceeding hazardous characteristics for reuse on site as subbase for a potential future cap at the Parcel E (Site IR-1/21) landfill.

Alternative 2: Off-Site Disposal of All Sediments. This alternative involves (1) cleaning all sediments out of manholes, catchbasins, and drain lines; (2) sampling all generated sediments; (3) transporting, treating, and disposing of sediments exceeding hazardous characteristics at an appropriate treatment and disposal facility; and (4) transporting and disposing of sediments not exceeding hazardous characteristics at a Class III landfill.

Alternative 3: On-Site Management of All Sediments. This alternative involves (1) cleaning all sediments out of manholes, catchbasins, and drain lines; (2) sampling all generated sediments; (3) disposal of sediments exceeding hazardous characteristics in an on-site disposal cell; and (4) stockpiling sediments not exceeding hazardous characteristics for reuse on site as subbase for a potential future cap at the Parcel E landfill.

Alternative 4: On-Site Treatment of Hazardous Sediments. This alternative involves (1) cleaning all sediments out of manholes, catchbasins, and drain lines; (2) sampling all generated sediments; (3) stabilizing sediments with leachate that exceeds LDRs for metals; (4) disposing of stabilized sediments at a Class II or Class III landfill; (5) treating and disposing of sediments exceeding hazardous characteristics for organic constituents at an appropriate treatment and disposal facility; and (6) transporting and disposing of sediments not exceeding hazardous characteristics at a Class III landfill.

5.4 EE/CA REPORT

The EE/CA report developed for this non-time-critical removal action identifies and compares several alternatives for management and disposal of hazardous substance-impacted sediments removed from the storm drain system. Based on comparison of the removal action alternatives, the EE/CA report recommended Alternative 2, sediment removal followed by off-site disposal of both hazardous and nonhazardous sediments.

The EE/CA report was released for public comment on May 28, 1996; the public comment period occurred from May 28, 1996 to June 25, 1996. No public comments were received regarding the proposed removal action. Regulatory input regarding the draft and draft final EE/CA reports was received and is incorporated into this AM, as well as into the final EE/CA report.

5.5 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

The NCP states that "removal actions. . . shall to the extent practicable considering the exigencies of the situation, attain applicable or relevant and appropriate requirements under federal environmental or state environmental or facility sitting laws." ARARs are substantive requirements that must be met for on-site actions at CERCLA sites. A requirement is deemed applicable if the law or regulation specifically addresses the chemical of concern, the action, or the affected location at a CERCLA site. If a law or regulation is not applicable, it may be relevant and appropriate if the circumstances are sufficiently similar to circumstances in which the law otherwise applies and if the law or regulation is well suited to site conditions. ARARs are identified for on-site activities, not off-site activities, such as discharge to the POTW or sanitary sewer.

In addition to ARARs, the NCP provides that agency advisories, criteria, or guidance may, as appropriate, be considered for a particular release [40 Code of Federal Regulations (CFR), Part 300.400(g)(3)]. As explained in the preamble to the NCP, "TBCs [criteria to be considered] should not be required as cleanup standards...because they are, by definition, generally neither promulgated nor enforceable so they do not have the same status under CERCLA as do ARARs. TBCs may, however, be useful in helping to determine what is protective at a site, or how to carry out certain actions or requirements (NCP, 55 Federal Register at 8745).

Based on the current site data, a list of federal ARARs and criteria to be considered (TBCs) and the Navy's determination of state ARARs applicable to this removal action are presented below and in the

EE/CA report (Attachment A). ARARs and TBCs are generally divided into three categories: chemical-specific, location-specific, and action-specific. The sections below discuss these ARARs, TBCs, and other requirements for the proposed storm drain system removal action.

Chemical-Specific ARARs and TBCs

Chemical-specific ARARs are generally health- or risk-based numerical values or methodologies applied to site-specific conditions that result in the establishment of numerical cleanup values. No health- or risk-based numerical cleanup values for soil (sediment) have been promulgated by EPA or the State of California; however, federal and state hazardous waste laws are ARARs for evaluating whether excavated soil (sediment) should be managed as a hazardous waste.

The storm drain removal action involves removing contaminated sediments from the system if they pose an imminent threat to potential surface water receptors. The scope of the proposed removal action does not include cleaning up surface water or groundwater. Therefore, it will not be practicable to comply with chemical-specific ARARs for groundwater or surface water during this action.

It is appropriate to evaluate chemical-specific ARARs for the sediment removal action because it is intended as the final action for sediments. No cleanup goals for sediment have been promulgated by EPA or the State of California. Consequently, by definition, no chemical-specific ARARs exist for sediment.

Location-Specific ARARs and TBCs

Location-specific ARARs are restrictions on the concentrations of hazardous substances or on the conduct of activities solely because they are in specific locations. Special locations include flood plains, wetlands, historic places, and sensitive ecosystems or habitats. The storm drains exist throughout the HPS complex. HPS includes wetlands, sensitive habitats, and historic sites. However, the storm drain system is not routed in the vicinity of these special locations. Therefore, no location-specific ARARs are identified for this removal action based on current site data.

Action-Specific ARARs and TBCs

Action-specific ARARs are technology- or activity-based requirements or limitations on actions taken with respect to hazardous substances. These requirements are triggered by the particular remedial

activities selected. Action-specific ARARs alone do not determine the remedial alternative; rather, they indicate how a selected alternative must be implemented.

The substantive requirements of the Resource Conservation and Recovery Act (RCRA) for management of hazardous wastes, as embodied in the California Code of Regulations (CCR), are ARARs for the identification and disposal of sediments determined to be hazardous wastes generated by the storm drain system removal action. A hazardous waste is a waste (any material that is discarded, relinquished, recycled, or inherently waste like [22 CCR 66261.2]) that exhibits one of the characteristics specified in 22 CCR Chapter 11, Article 3 or is listed in 22 CCR, Chapter 11, Article 4.

Soil, groundwater, sediment, and other environmental media are not considered wastes in and of themselves, but they may contain listed hazardous wastes or exhibit a characteristic of hazardous waste (EPA 1988, Wehling 1994). The sediments were determined not to contain listed wastes because there is no documentation to support placement or discharge of listed hazardous wastes into the storm drain system. However, based on a preliminary review of data available for storm drain sediments, some sediments may exhibit one or more of the toxicity characteristics of hazardous waste. All the storm drain sediments will be stored on site in compliance with hazardous waste regulations, whether or not the sediment is determined to exhibit a hazardous waste characteristic. Any wastewater generated during the removal action that exceeds toxicity characteristics will be handled as hazardous waste.

LDRs prohibit the disposal of hazardous wastes unless treatment standards are met.

RCRA Subtitle D as codified in 40 Code of Federal Regulations (CFR) 257 and 258 establishes requirements governing the management and disposal of nonhazardous solid wastes. In addition, the California Integrated Waste Management Board (IWMB) has promulgated regulations for the handling and disposal of solid wastes, and State Water Resources Control Board (SWRCB) regulations (23 CCR Division 2, Chapter 15) address the disposal of nonhazardous and designated solid wastes. Nonhazardous sediments that are disposed of at off-site landfills will be managed according to these regulations. Disposal of sediments off site will comply with the CERCLA off-site rule.

Even though available data show only one sample above 50 parts per million (ppm), the Toxic Substances Control Act (TSCA) will be listed as an ARAR. Sediment sample concentrations below 5 ppm are considered nonhazardous and will be accepted at most Class II landfills. Between 5 and 50 ppm, the sediment is considered non-RCRA hazardous waste and must be disposed of in a Class I

landfill. If the concentration exceeds 50 ppm, the sediment must be disposed of in a TSCA-permitted landfill.

The storm drain removal action may include an on-site discharge, such as air emissions. The Bay Area Air Quality Management District (BAAQMD) requirements for managing stockpiled soil (Rule 8, Regulation 40) are relevant and appropriate to any action that removes and stockpiles sediments from the storm drain.

Off-site activities, such as discharge to the POTW and landfilling, must comply with all applicable requirements, such as POTW acceptance criteria and LDRs.

U.S. Department of Transportation (DOT) requirements (49 CFR, Part 107) are applicable to the transportation of any hazardous waste from HPS to a treatment, storage, or disposal facility.

5.6 PROJECT SCHEDULE

The storm drain system removal action process began with the submission of the removal action work plan in May 1995. Field implementation of the removal action is anticipated to begin during Fall 1996 and last approximately 3 months. Once the removal action is complete, a removal action summary report will be prepared within 90 days to document the field activities and analytical results. The storm drain removal action process is expected to be completed by January 1997 (barring undue interference from adverse weather conditions).

5.7 ESTIMATED COSTS

A detailed cost opinion for sediment removal and off-site disposal is provided in the EE/CA report (Attachment A). A summary of costs is provided below. Actual costs may vary depending on the quantity of hazardous sediments generated, the subcontract negotiated with the construction firm completing the work, and on disposal fees from actual waste management facilities used.

Mobilization and Demobilization	$ 24,450
Sampling and Analysis	139,500
Sediment Collection and Containment	1,185,450
Waste Disposal	1,121,400
TOTAL	**$2,470,800**

6.0 EXPECTED CHANGE SHOULD ACTION BE DELAYED OR NOT TAKEN

If the removal action is delayed, the potential for discharge of contaminated sediments to San Francisco Bay will continue. The result will be potential negative impact to water quality and to aquatic organisms in the bay, and potential threat to human health from ingestion of aquatic organisms.

7.0 OUTSTANDING POLICY ISSUES

No outstanding policy issues exist for this removal action.

8.0 RECOMMENDATION

This AM represents the selection of sediment removal and off-site disposal of all sediments as the removal action for hazardous substance-impacted sediments in the storm drain system at HPS in San Francisco, California. The proposed removal action was developed in accordance with CERCLA as amended by SARA, and is consistent with the NCP. Conditions within the storm drain system indicate that a removal action is appropriate in accordance with Title 40 CFR, Section 300.415(b)(2), criteria for a removal. This decision is based on the administrative record for this action. The index to the administrative record for this action is included in Attachment B.

Michael McClelland
BRAC Environmental Coordinator

Sep 9, 1996
Date

9.0 REFERENCES

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National Oceanic and Atmospheric Administration (NOAA). 1994. Letter and Tables from Michael Buchman to Colleagues Regarding NOAA Screening Guidelines.

PRC. 1996. Memorandum Regarding Statistical Information for the Storm Drain System. Hunters Point Annex. From Paul Rogalla, PRC, to Skip Dinges, PRC. February.

U.S. Environmental Protection Agency (EPA). 1988. CERCLA Compliance With Other Laws Manual: Interim Final. EPA/540/G-89/006. July.

Wehling. 1994. Verbal Guidance to RCRA Hotline. Between Carrie Wehling, EPA Office of Solid Waste and Booze, Allen, and Hamilton. August.

ATTACHMENT A

ENGINEERING EVALUATION AND COST ANALYSIS REMOVAL ACTION DOCUMENTATION FOR STORM DRAIN SYSTEM

ATTACHMENT A

ENGINEERING EVALUATION AND COST ANALYSIS REMOVAL ACTION DOCUMENTATION FOR STORM DRAIN SYSTEM

DATED 26 JULY 1996

THIS RECORD IS ENTERED IN THE DATABASE AND FILED AS

RECORD NO. AR_N00217_003343

ATTACHMENT B

STORM DRAIN ACTION
ADMINISTRATIVE RECORD INDEX

(One page)

STORM DRAIN SYSTEM REMOVAL ACTION
ADMINISTRATIVE RECORD INDEX

Document Title	Author	Date
Draft Engineering Evaluation and Cost Analysis (EE/CA) Report, Removal Action Documentation for Storm Drain System	PRC Environmental Management, Inc. (PRC)	April 5, 1996
Comments on the Draft EE/CA Report	U.S. Environmental Production Agency (EPA)	May 6, 1996
Comments on the Draft EE/CA Report	Department of Toxic Substance Control (DTSC)	May 8, 1996
Draft Final EE/CA Report	PRC	May 24, 1996
Final EE/CA Report	PRC	July 26, 1996
Action Memorandum, Removal Action Documentation for Storm Drain System	PRC	September 6, 1996