



# PROPOSED PLAN / DRAFT REMEDIAL ACTION PLAN Marine Corps Firing Range

Former Mare Island Naval Shipyard, Vallejo, California

April 2010

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## IMPORTANT DATES TO REMEMBER

**PUBLIC COMMENT PERIOD**  
April 7, 2010 - May 6, 2010

**PUBLIC MEETING**  
April 21, 2010 at 7:00 PM  
Mare Island Conference  
Center, Vallejo, California

## INTRODUCTION

The Department of the Navy (Navy) invites the public to comment on this Proposed Plan (PP)/Draft Remedial Action Plan (RAP) which proposes a final cleanup plan for the Marine Corps Firing Range (MCFR) at the Former Mare Island Naval Shipyard (MINS). The Navy has worked with the California Environmental Protection Agency Department of Toxic Substances Control (DTSC), the California Regional Water Quality Control Board, San Francisco Bay Region (Water Board), and the United States Environmental Protection Agency, Region 9 (USEPA), to evaluate remedial action alternatives for this Site, including the recommended alternative for remedial action.

## RECOMMENDED ALTERNATIVE

This PP/Draft RAP recommends the use of Institutional Controls (ICs) as the final remedial action at the MCFR. This alternative is recommended based on the results from numerous investigations, removal actions, and risk assessments conducted to date. The Navy has determined that the Recommended Alternative is protective of human health and the environment and achieves the Remedial Action Objectives developed for the site. The other alternative considered, the No Action Alternative, while feasible, has been determined to be less effective at protecting human health and the environment over the long term. Detailed descriptions of the site and the cleanup alternatives considered are provided in this PP/Draft RAP.

## PROPOSED PLAN / DRAFT RAP CONTENT

This PP/Draft RAP summarizes the regulatory framework that governs the cleanup; summarizes environmental investigations, prior removal actions, risk assessments, and remedial alternatives developed and evaluated for the MCFR; and presents the recommended alternative. The Navy and DTSC will consider public comments on this PP/Draft RAP during the public comment period. The Navy encourages you to participate by submitting written or oral comments on this PP/Draft RAP.

## INVITATION TO COMMENT

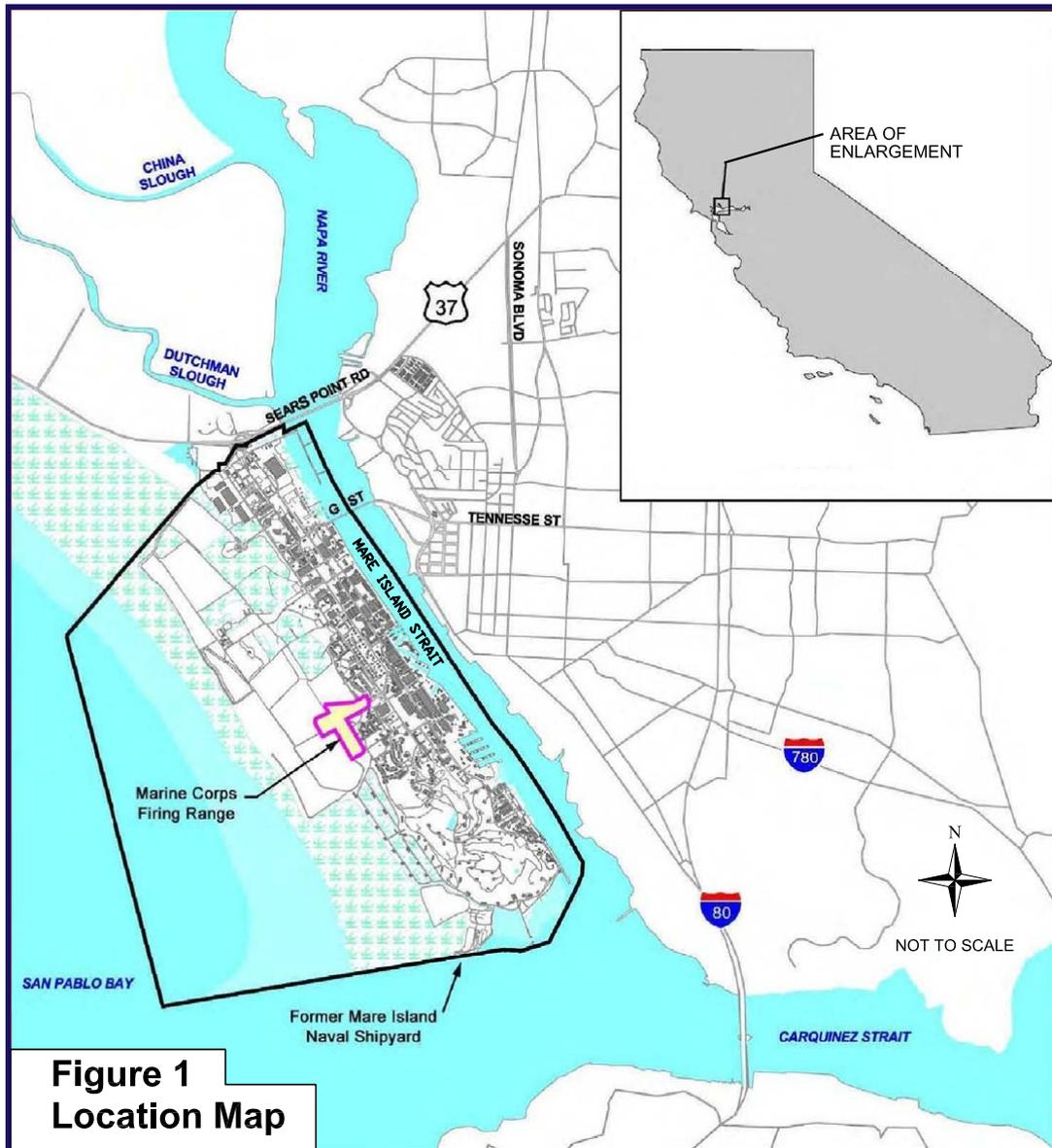
The Navy is issuing this PP/Draft RAP as part of its public participation responsibilities under Section 117(a) of CERCLA and Sections 300.430(f)(2) and (3) of the National Oil and Hazardous Substance Contingency Plan (NCP) to ensure that the public has the opportunity to comment. This PP/Draft RAP summarizes information detailed in documents, including the RI/FS, contained in the Administrative Record (AR) File for this site. The Navy encourages the public to review these documents to gain an understanding of the environmental investigations, assessments, and removal actions that have been conducted. Documents generated for the site are available for public review at the locations listed on page 11. Some documents may be available at the DTSC website: <http://www.envirostor.dtsc.ca.gov/public/>

**The Navy invites you to attend a public meeting to discuss the PP/Draft RAP on April 21, 2010, at 7:00 pm at the Mare Island Conference Center in Vallejo, California. The public comment period begins on April 7, 2010, and ends on May 6, 2010.**

## BACKGROUND AND OVERVIEW

### MARE ISLAND NAVAL SHIPYARD HISTORY

The Former MINS is located approximately 30 miles northeast of San Francisco in Vallejo, California and is separated from the City of Vallejo by the Mare Island Strait (Figure 1). The peninsula is bound to the east, south, and west by the Napa River (Mare Island Strait), Carquinez Strait, and San Pablo Bay, respectively. Mare Island was originally an island composed of shale, siltstone, and sandstone covering approximately 1,000 acres, with surrounding wetlands of approximately 300 acres in size. Over time, the placement of fill and dredge materials has transformed the island to the current peninsula, which covers over 5,600 acres.

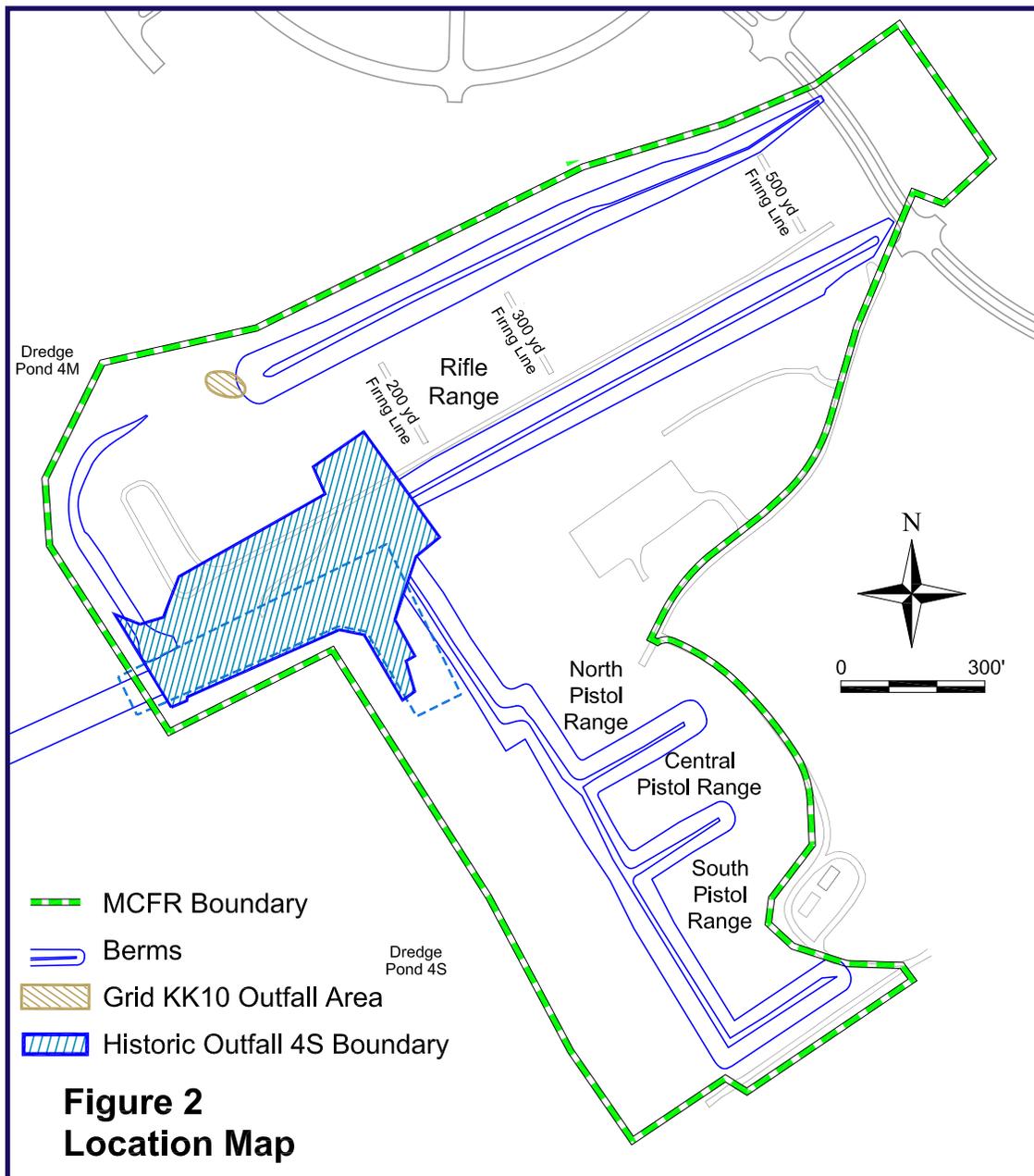


The Navy purchased Mare Island in 1853 and started shipbuilding operations the following year. The primary ship construction and maintenance area of the Former MINS was established along the northeastern shore of the original island adjacent to Mare Island Strait. The entire facility saw vast transformations during its years of operation as shipbuilding technologies advanced from wooden to steel construction and wind power to nuclear propulsion. During World War II, MINS reached peak capacity for shipbuilding, repair, overhaul, and maintenance. Following the war, MINS was considered a primary station for construction and maintenance of the Navy's Pacific fleet of submarines. Due to decreasing Navy needs in a postwar environment, shipyard activity decreased, and MINS was closed on April 1, 1996, after 142 years of operation.

## SITE DESCRIPTION

The MCFR is situated between the boundaries of the Eastern and Western Early Transfer Parcels and consists of the Rifle Range and three pistol range complexes (South, Central, and North), as shown on Figure 2. The MCFR was constructed in 1940 and the Rifle Range began operation at that time. The pistol ranges at MCFR began operation in 1949. The MCFR covers an area of approximately 42 acres. Large earthen berms with heights varying from 6 to 15 feet separate most of the range complex from the surrounding area. A five-acre portion located within the boundary of the MCFR is referred to as the Historic Outfall 4S area. This area, adjacent to the southwest corner of the Rifle Range, is the location of a former dredge outfall for Dredge Pond 4 South and includes a portion of the 4S Levee that separates two of the Dredge Ponds (Pond 4S and Pond 4M). The Historic Outfall 4S area contains deposits of sediment and materials from Mare Island Strait that were transported across the island via pipeline to the dredge ponds along the west side of the island. A smaller area, referred to as the Grid KK10 area, is another former outfall location within the boundary of the MCFR.

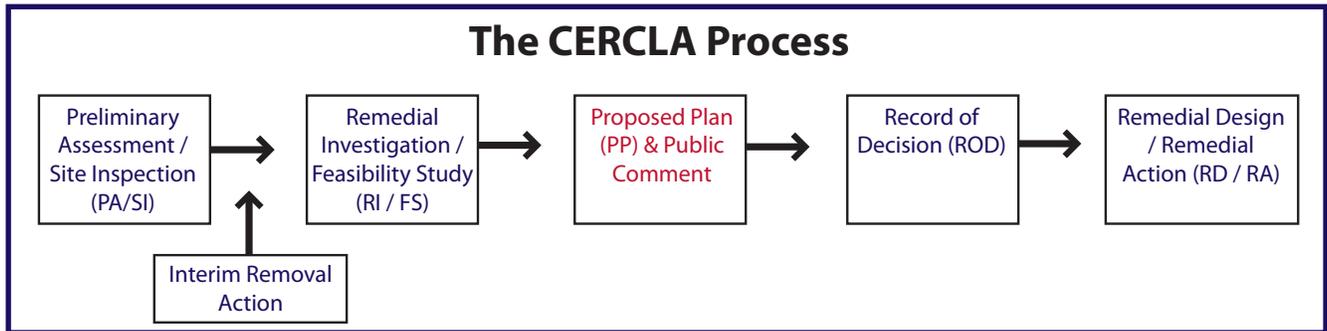
These outfall areas located within the MCFR contained munitions and explosives of concern (MEC) and radiological items that were originally deposited in the Mare Island Strait and subsequently transported with the sediment and material during the dredging operations. The use of the property as a firing range resulted in metal contamination (primarily antimony, lead, and copper) in the soil. Five (5) different removal activities have been carried out at MCFR since 1998.



## THE CERCLA PROCESS

This PP/Draft RAP details the Navy's preferred alternative and provides an overview of the environmental investigations and results for the site. As required by CERCLA, the community has an opportunity to comment on the PP/Draft RAP, which describes the site history, environmental studies, past environmental cleanup, and how the recommended action will protect human health and the environment. Upon completion of the public comment period, the Navy will consider public comments during the preparation of a record of decision/remedial action plan (ROD/RAP), which documents the selected alternative.

The PP/Draft RAP is part of the overall cleanup efforts at MINS pursuant to the Navy's Base Realignment and Closure Program (BRAC). MCFR is one of various sites at MINS being addressed by the Navy and other entities pursuant to CERCLA and BRAC.



## PREVIOUS INVESTIGATIONS AND REMOVAL ACTIONS

Key investigations, removal actions, and reports for the MCFR include:

- Site Investigation performed in 1996;
- Unexploded Ordnance investigation/removal performed between 1998 and 2001;
- Radiological investigation/removal performed between 1999 and 2001;
- Wet Physical Separation Treatability Study performed in 1999;
- Action Memorandum prepared in 2003 (includes a discussion of the human health, ecological, ordnance, and radiological risk assessments for the site);
- Initial Time Critical Removal Action (TCRA) performed during 2003 and 2004;
- Final TCRA performed during 2005 and 2006;
- Infrastructure Development Area investigation and soil removal in 2005; and
- Remedial Investigation / Feasibility Study (RI/FS) report in 2009.



## IMPORTANT DATES TO REMEMBER

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## RESULTS OF PREVIOUS INVESTIGATIONS AND REMOVAL ACTIONS

Previous investigations and removal actions at the MCFR focused on identifying and removing soils containing constituents at concentrations higher than site-specific cleanup concentrations developed for the MCFR. The characterization results indicated that antimony, lead, and copper were the primary chemical constituents of concern related to the use of the MCFR as a small arms range. Additionally, previous investigations and removal actions focused on the removal and safe disposal of MEC and radiological items found at Historic Outfall 4S and Grid KK10 located within the MCFR site. A detailed description of the previous work is included in the RI/FS report and is summarized below.

### RIFLE AND PISTOL RANGES

Over 1,200 soil samples were collected from the MCFR during the previous investigations and were analyzed for constituents (primarily antimony, lead, and copper) representative of past small arms activities at the site. Twenty percent of the samples were also analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), California Code of Regulations (CCR) Title 22 total threshold limit concentration (TTL) metals, and polychlorinated biphenyls (PCBs). Sampling efforts were comprehensive and resulted in sufficient spatial coverage as well as an appropriate focus on areas where impacts were most likely based on the historic use of the site as a small arms firing range. Locations where the cleanup goals were exceeded were identified for excavation and removal, resulting in the removal of over 35,000 cubic yards of soil excavated during the previous removal action activities.

## **HISTORIC OUTFALL 4S / GRID KK10**

During the extensive geophysical investigations conducted throughout the MCFR, the Historic Outfall 4S and Grid KK10 outfall locations (as shown in Figure 2) were identified and cleared of debris and ordnance material. All of the high density metallic debris identified within the outfall footprint was excavated. In many cases, this excavation extended to a depth of approximately 8 feet to the native Bay Mud layer. The Bay Mud was deposited naturally before dredging materials were placed.

Following excavation activities at the Historic Outfall 4S and Grid KK10 areas, radiological scans and detailed geophysical surveys were conducted to ensure that radiological and MEC items had been completely removed from the sites. The radiological scans did not locate any radiological material remaining in the subsurface. The geophysical surveys for MEC identified target anomalies that were each investigated to determine their source. A total of 1,291 anomalies were identified based on both the initial clearance survey and subsequent final confirmation electromagnetic surveys performed at Historic Outfall 4S and adjacent levee and the MCFR floor (including the grid KK10 area). Of the 1,291 targets identified, only one (located within Grid Z11) contained an actual MEC item, which was safely removed. The remaining excavated anomalies consisted of cultural debris, including non MEC related metal objects.

## **GROUNDWATER**

Groundwater at the Former MINS is not currently used nor has it been historically used for domestic, agricultural, or industrial water supply. Based on the poor quality (high total dissolved solids content) and low quantity (yield), it has been concluded, and the regulatory agencies have concurred, that the groundwater in this area should not be considered appropriate for municipal and domestic supply.

## **RISK ASSESSMENT RESULTS**

The various risk assessment results for the site are summarized below.

### **HUMAN HEALTH RISK ASSESSMENT**

A baseline human health risk assessment (HHRA) for the MCFR was performed in 2003 that concluded that the constituents left in the soils at that time (pre-excavation) posed a potential threat to human health. The results provided support for conducting the subsequent TCRA. The baseline risk assessment was updated in 2009 using current risk assessment methodology and an updated and expanded data set from the TCRA activities. Risk calculations were based on conservative assumptions, which mean that the assumptions are designed to overestimate risk, resulting in

conservative assessments that are protective of human health. The results of the human health risk assessment indicated that carcinogenic and non-carcinogenic risks were below the EPA established thresholds for the protection of human health and the environment under a residential land use exposure scenario.

### **ECOLOGICAL SCOPING ASSESSMENT**

An Ecological Scoping Assessment for the MCFR was performed in 2003 to identify potential ecological receptors and potentially complete exposure pathways at the site. The site is covered primarily with invasive weed species not suitable for native wildlife habitat. There are no complete ecological pathways at the site; therefore, risk to ecological receptors is not a key driver in developing remedial action objectives (RAOs) for the site. In addition, none of the remedial alternatives analyzed would involve site disturbances of any kind.

### **ORDNANCE AND RADIOLOGICAL ASSESSMENT**

The ordnance and radiological risk assessment conducted in 2003 for the Historic Outfall 4S area determined that the MEC present at the site at that time posed a threat to human health and the environment and required removal. The same risk assessment concluded that radiological items remaining at the Historic Outfall 4S area did not pose a threat to human health or the environment. Extensive removal actions were conducted to remove the MEC and RAD items from the Historic Outfall 4S and Grid KK10 areas followed by detailed field verification that the removal had been effective and complete. Extensive geophysical testing and radiological scans were conducted following removal actions to demonstrate the items of concern had been located and removed, eliminating the known explosive risks which had been identified regarding the presence of MEC items. The RAD items were removed simultaneously to the MEC items because they were intermingled, even though it had been demonstrated that the RAD items themselves did not to pose a direct risk to human health and the environment based on planned land use.

### **MEC HAZARD ASSESSMENT**

An updated Hazard Assessment (HA) has been completed in accordance with the USEPA Interim Munitions and Explosives of Concern Hazard Assessment Methodology. The MEC HA is a systematic approach to assess the potential acute explosive hazards at a munitions response site given current site conditions and under various cleanup or land use control alternatives. The detailed assessment and results are presented in the RI/FS report. The resulting Hazard Level score, reflecting previous site removal activities, corresponds to a category 4 determination, which represents the lowest possible hazard level and indicates that the site has a low potential for an explosive incident under current and reasonably anticipated and appropriate future use conditions.

## OVERALL CONCLUSIONS

Based on the risk assessment results discussed above, the human health and ecological risks associated with chemicals and RAD items present at the site have been addressed through previous response actions, and do not warrant further action. Although extensive surveys and actions have removed all known MEC items from the site, an action is warranted based on US EPA Guidance suggesting that there is an inherent risk at all sites where a MEC removal action has taken place because it is not possible to be certain that 100 percent of MEC items have been found and removed, regardless of the care taken during removal or subsequent geophysical surveys.

## REMEDIAL ACTION OBJECTIVES

The RI/FS report presented the development, evaluation, and comparative analysis of the remedial alternatives to achieve the RAOs for the MCFR.

The specific RAOs for the site include:

- Protect human health from exposure through ingestion, inhalation, and direct contact with contaminated soils that present an unacceptable risk;
- Protect human health and safety by preventing contact with MEC items; and
- Protect ecological receptors from exposure to contaminants in soil that present an unacceptable risk.

## DESCRIPTION OF REMEDIAL ALTERNATIVES

Five (5) different removal actions have been undertaken at the MCFR since 1998. Previous removal actions have reduced the chemical concentrations at the site to levels appropriate for unrestricted uses, and the MEC and radiological items have been cleared in the areas of the outfalls. As a result, further treatment alternatives and removal alternatives were not analyzed. Alternatives were developed based on EPA guidance suggesting that an inherent risk exists at sites where MEC removals have taken place since it is impossible to guarantee that all MEC items have been removed, regardless of the degree of care exercised. Descriptions of the evaluated alternatives developed for the MCFR are presented below.

### ALTERNATIVE 1 – NO ACTION

The no action alternative provides a baseline for comparing to other alternatives. No remedial actions, monitoring, or reporting are implemented under this alternative. There would be no restrictions on future activities or uses at the site to prevent possible contact or movement of the soil.

### ALTERNATIVE 2 – INSTITUTIONAL CONTROLS (PREFERRED ALTERNATIVE)

Under this alternative, Institutional Controls (ICs) are implemented to prevent exposure to people in areas where potential unacceptable risk remains at the site. The Navy conducted a thorough removal action for MEC and radiological items within the MCFR. However, due to the acute risk associated with MEC, this alternative evaluated ICs to prohibit sensitive uses and restrict future invasive activities in the historic outfall areas. ICs are legal and administrative mechanisms used to implement land use restrictions in order to limit the exposure of future landowner(s) or user(s) of the property to potentially hazardous substances present on the property, and to ensure the integrity of the remedial action. Proprietary controls in the form of a land use covenant (LUC) will be implemented to legally enforce the institutional controls.

The LUC proposed for the site will be limited to the Historic Outfall 4S and the Grid KK10 areas of the MCFR. Restrictions will prevent:

- Land disturbing activity below the current land surface. These restrictions would not apply to any imported fill materials that may be placed over the site during future development.
- Installation of new groundwater wells.

In addition, the following land uses will not be allowed in the areas with institutional controls:

- Residences
- Hospitals
- Schools for persons under 18 years of age
- Daycare facilities for children

## EVALUATION OF REMEDIAL ALTERNATIVES

Both alternatives have undergone a detailed evaluation and analysis using the nine criteria set forth in the NCP, which are categorized into three groups: threshold criteria, primary balancing criteria, and modifying criteria. Threshold criteria must be satisfied in order for an alternative to be eligible for selection. Primary balancing criteria are used to weigh major tradeoffs among alternatives. The modifying criteria (State Acceptance and Community Acceptance) are not completely assessed until after public comment is received on the PP/Draft RAP and reviewed with the various federal and state regulatory agencies to determine if the preferred alternative remains the most appropriate remedy. Therefore, only the first seven criteria (threshold and primary balancing criteria) are evaluated in the detailed analysis in the RI/FS report and are on the following page.

## EVALUATION OF REMEDIAL ALTERNATIVES CONTINUED

**1. Overall Protection of Human Health and the Environment — assesses whether a remedy provides adequate public health protection and tells how health risks posed by the site will be eliminated, reduced, or controlled.**

Both alternatives are protective of human health and the environment under the current use of the site. Alternative 2 achieves a higher level of protection than Alternative 1 for future uses and activities within the areas around the former outfalls.

**2. Compliance with ARARs — addresses whether a remedy will meet all federal, state, and local environmental statutes or requirements.**

Due to the prior removal actions, there are no chemical-specific ARARs at this site. Both alternatives comply with location-specific and action-specific ARARs identified for the site.

**3. Long-Term Effectiveness and Permanence — refers to the ability of a remedy to protect human health and the environment over time, after the cleanup action is completed.**

Only Alternative 2 provides control over future activities, which limits potential exposure to MEC due to excavation, removal, or movement of soil in the areas of the historic outfalls. Alternative 1 would not provide any protection from potential future exposures.

**4. Reduction of Toxicity, Mobility, or Volume — refers to the degree to which a remedy uses treatment technologies to reduce: (1) harmful effects to human health and the environment (toxicity), (2) the contaminant's ability to move (mobility), and (3) the amount of contamination (volume).**

Treatment is not a component of either alternative. Therefore, neither of the proposed alternatives would reduce the toxicity, mobility, or volume of potential contamination through treatment. Reduction of the mobility and volume of contamination has already been achieved to existing regulatory standards for chemical contamination, and to the extent practicable for MEC contamination, through the completed TCRA actions.

**5. Short-Term Effectiveness — assesses how well human health and the environment will be protected from impacts due to construction and implementation of a remedy.**

Neither alternative will introduce a risk to the community or the environment in the short term, since no active remedial action is performed. Alternatives 1 and 2 are effective in the short term because the MCFR poses no unacceptable risk or threat under the current and anticipated future use of the site. These actions, by themselves, will entail no significant adverse environmental impacts at the site.

**6. Implementability — refers to the technical feasibility (how difficult the remedy is to construct and operate) and administrative feasibility (coordination with other agencies). Factors such as availability of materials and services needed are considered.**

Both Alternative 1 and Alternative 2 are straightforward to implement. No significant difficulties are associated with the technical feasibility aspects of implementing either alternative.

**7. Cost — evaluates the estimated capital costs and present value in today's dollars required for design and construction and long-term operation and maintenance costs.**

No costs are associated with Alternative 1. Alternative 2 has low costs associated with implementing the LUC.



### DATES TO REMEMBER MARK YOUR CALENDAR

#### PUBLIC MEETING:

April 21, 2010 at 7:00 PM

Mare Island Conference Center, Vallejo, California

You are invited to attend a public meeting to discuss information presented in this Proposed Plan/Draft Remedial Action Plan regarding the MCFR. Navy representatives will provide visual displays and information on the investigations, removal actions completed, and the cleanup alternatives evaluated. You will have the opportunity to ask questions and formally comment on the alternatives.

#### PUBLIC COMMENT PERIOD:

April 7, 2010 to May 6, 2010

We encourage you to comment on this Proposed Plan/Draft Remedial Action Plan during the 30-day public comment period. You may submit written comments by mail, postmarked no later than May 6, 2010, to:

Mr. Michael Bloom

BRAC Program Management Office West

1455 Frazee Road, Suite 900

San Diego, CA 92108-4310

Comments may also be sent to Mr. Michael Bloom by fax to (619) 532-0995 or via email at [michael.s.bloom@navy.mil](mailto:michael.s.bloom@navy.mil). Public comments received during this period or in person at the public meeting will be included in the Responsiveness Summary section of the ROD/RAP and considered in the final remedy decisions for the MCFR. Please see page 9 for more information.

## SUMMARY OF THE PREFERRED ALTERNATIVE

Table 1 summarizes the comparison between Alternatives 1 and 2 based on the NCP criteria. Based on an analysis of the alternatives, Alternative 2 achieves an overall higher level of performance than Alternative 1. Alternative 2 provides greater protection than Alternative 1 for future uses and activities within the areas around the former outfalls. Under Alternative 2, ground disturbance activities are restricted through a LUC in the areas around the former outfalls by restricting excavation, removal, or movement of those soils below the fill line from the site without prior approval of the regulatory agency, and only if environmental and worker safety control measures are implemented by properly trained personnel as specified in the LUC. Alternative 1 would not include restrictions on development or site activities; therefore, potential future use could result in exposure to human receptors or the uncontrolled movement of soil where MEC had been of concern prior to removal actions.

The Navy expects Alternative 2 to satisfy the statutory requirements of CERCLA § 121(b) because it: (1) is protective of human health and the environment; (2) complies with ARARs; (3) is cost-effective; (4) establishes a permanent solution; and (5) does not require treatment due to prior removal actions and the risk profile of the site.

Table 1 Ranking of Alternatives		ALTERNATIVES	
		Alternative 1: No Action	Alternative 2: Institutional Controls
CRITERIA			
Overall Protection of Human Health and the Environment			
Compliance with ARARs			
Long-term Effectiveness and Permanence			
Reduction of Toxicity, Mobility, or Volume Through Treatment *		N/A	N/A
Short-term Effectiveness			
Implementability			
Cost		No Cost	
Notes: Relative Performance in Satisfying the Criteria: Fair     Good * Prior removal actions have already reduced the toxicity, mobility, and volume of contamination. ARARs = applicable or relative and appropriate requirements			

## REGULATORY SUMMARY

### CALIFORNIA HEALTH AND SAFETY CODE

This PP/Draft RAP has been prepared to meet the requirements of the California Health and Safety Code (HSC) Section 25356.1 for hazardous substance release sites. The HSC requires preparation of a RAP for sites that are not listed on the National Priorities List (NPL), such as Mare Island. Therefore, this document also serves as a Draft RAP to fulfill the public notice and comment requirements of the HSC. The final RAP will be incorporated in the ROD for this site.

### CALIFORNIA ENVIRONMENTAL QUALITY ACT

As required by California state law (the California Environmental Quality Act or CEQA), DTSC has studied the risks associated with the residual chemical concentrations at the site and possible effects of the proposed cleanup on human health and the environment. The findings of the study can be reviewed in a document called a Notice of Exemption (commonly referred to as an NOE). The NOE is prepared by DTSC based on the findings of the risk assessment. The NOE documents that the proposed cleanup will have no negative impact on human health or the environment.

### NONBINDING ALLOCATION OF RESPONSIBILITY

HSC Section 25356.1(e) requires DTSC to prepare a preliminary nonbinding allocation of responsibility among all identifiable potentially responsible parties. HSC Section 25356.3(a) allows potentially responsible parties with an aggregate allocation in excess of 50 percent to convene an arbitration proceeding by submitting to binding arbitration before an arbitration panel. Based on the available information regarding the former Mare Island Naval Shipyard, DTSC determines that the Navy is a responsible party with aggregate alleged liability in excess of 50 percent of the costs of removal and remedial action pursuant to HSC Section 25356.3. The Navy may convene arbitration if it so chooses.

**For further information on the MCFR site, please contact one of the following project representatives:**

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## THE NEXT STEPS FOR THE MCFR

The Navy will present the PP/Draft RAP for the MCFR at a public meeting on April 21, 2010. After the public comment period ends on May 6, 2010, the Navy and DTSC will review and consider public comments concerning the recommended remedial alternative. The Navy's decision will be documented in a ROD/RAP, which will include all of the comments received, as well as the Navy's responses. A Public Notice will be published in the Vallejo Times-Herald announcing when the ROD/RAP is available to the public in the information repositories.

### MULTI-AGENCY ENVIRONMENTAL TEAM CONCURS WITH MCFR PREFERRED REMEDY

**The BCT (BRAC Cleanup Team), composed of representatives from the Navy, DTSC, Water Board, and USEPA, was established with the primary goals of protecting human health and the environment, expediting the environmental cleanup, and coordinating the environmental investigations and cleanup at the installation.**

**The team also serves as the primary forum for assessing cleanup priorities and progress. The team obtains a consensus on issues regarding the installation's environmental activities and makes a concerted effort to integrate current and potential future uses into the cleanup decisions. The BCT has been involved in the review of all major documents and activities associated with the MCFR. This review included the Removal Action Completion Reports and the RI/FS Report for the MCFR, which included detailed risk assessments, an evaluation of the effectiveness of the remedial alternatives for the MCFR, and documentation that these alternatives meet the NCP evaluation criteria.**

**Based on reviews and discussions of key documents and activities, the multi-agency team concurs with the Navy's recommendation of Alternative 2, Institutional Controls.**

## DEFINITIONS OF CHEMICAL AND TECHNICAL TERMS

**Administrative Record (AR) File** is a collection of reports and historical documents used in the selection of cleanup or environmental management activities.

**Applicable or relevant and appropriate requirements (ARARs)** are the Federal and State environmental laws and regulations that must be followed for the selected cleanup remedy. These requirements may vary among sites and alternatives.

**Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**, also known as Superfund, is a federal law that regulates environmental investigation and cleanup of sites identified as potentially posing a risk to human health and/or the environment.

**Human health risk assessment (HHRA)** is an analysis of the potential negative human health effects caused by potential exposure to hazardous substances released at a site.

**Institutional controls (IC)** are non-engineering mechanisms established to limit human exposure to contaminated soil, sediment, and/or groundwater.

**Land use covenants (LUC)** are proprietary controls that specify requirements or limit the use of real property and affect the title to the property.

**Munitions and explosives of concern (MEC)** is a term that distinguishes specific categories of military munitions that may pose unique explosives safety risks, including, but not limited to, unexploded ordnance (UXO).

**MEC hazard assessment** evaluates baseline explosive hazards to people based on current or reasonably anticipated land use activities and also to evaluate relative reduction of explosive hazards to people through removal or remedial actions.

**National Oil and Hazardous Substances Pollution Contingency Plan (NCP)** is the federal regulation that guides determination of the sites to be corrected under both the Superfund program and the program to prevent or control spills into surface waters or elsewhere.

**National Priorities List (NPL)** is the list of national priorities among known releases or threatened releases of hazardous substances, pollutants, or contaminants through the United States and its territories. The NPL is intended primarily to guide the EPA in determining which sites warrant further investigation.

**Polychlorinated biphenyl (PCB) aroclors** are a group of toxic, persistent chemicals used in electrical transformers and capacitors for insulating purposes, and in gas pipeline systems as lubricant. The sale and new use of these chemicals, also known as PCBs, were banned by law in 1979.

**Proposed Plan (PP)/Draft Remedial Action Plan (RAP).** PPs and RAPs are plans that meet federal and state requirements, respectively for site cleanup activities at sites not listed on the National Priorities List and are available for the public to comment.

**Remedial Investigation/Feasibility Study (RI/FS).** The RI identifies the nature and extent of potential contaminants at a site and assesses human health and environmental risks. The FS is a study that identifies and evaluates cleanup technologies for a site based on effectiveness, availability, cost, and other criteria.

**Record of Decision (ROD)/RAP** is a public document that explains the selected remedial alternative to be implemented at a specific site. The ROD/RAP is based on information and technical analysis generated during the RI/FS and on consideration of public comments received throughout the process and in response to the PP/Draft RAP.

**Remedial action** is a general term used to describe technologies used to contain, remove, or treat hazardous wastes to protect human health and/or the environment.

**Remedial action objectives (RAOs)** are goals established for the protection of human health and the environment.

**Semi-volatile organic compounds (SVOCs)** are organic (carbon-containing) compounds that volatilize slowly at standard temperature.

**Time Critical Removal Action (TCRA)** is a short-term action taken to clean up or remove released hazardous substances or substances that might pose a threat of a release. The NCP characterizes three removal actions (based on situation, the urgency of the threat of release, and the subsequent time frame in which the action must be initiated) as (1) emergency removal actions, (2) time-critical removal actions, and (3) non-time critical removal actions.

**Volatile organic compounds (VOCs)** make up a general category of organic (carbon-containing) compounds that evaporate easily at room temperature. VOCs are commonly used for degreasing, paint stripping, and other industrial operations. Some VOCs are known cancer-causing compounds.

## HOW DO YOU PROVIDE INPUT TO THE NAVY?

**There are two ways to provide comments during the public comment period from April 7, 2010 until May 6, 2010:**

- Offer oral comments during the public meeting; or
- Provide written comments by mail, fax, or email to the Navy no later than May 6, 2010 (see contact information below).

The public meeting will be held on April 21, 2010, at the Mare Island Conference Center, Vallejo, California. Navy and DTSC representatives will provide information on the environmental investigations, completed removal actions, and remedial alternatives for the MCFR. You will have an opportunity to formally comment on the remedial alternatives summarized in this PP/Draft RAP during that meeting.

**Additionally, written comments can be sent to:**

Mr. Michael Bloom  
BRAC Program Management Office West  
1455 Frazee Road, Suite 900  
San Diego, CA 92108-4310  
Phone (619) 532-0967  
Fax (619) 532-0995  
[michael.s.bloom@navy.mil](mailto:michael.s.bloom@navy.mil)

### RESTORATION ADVISORY BOARD

The Navy provides information on the MCFR to the public through public meetings, the Administrative Record (AR) File for the site, and notices published in the local newspapers. Restoration Advisory Board (RAB) meetings are held monthly on the fourth Thursday of the month and are open to the public. Please visit the Navy's website for more RAB information: <http://www.bracpmo.navy.mil>.

### ADMINISTRATIVE RECORD FILE AND INFORMATION REPOSITORY

The collection of reports and historical documents used by the Navy, in conjunction with the regulatory agencies, in the selection of cleanup or remedial alternatives is the AR File. The AR File includes such documents as the RI/FS Report and other supporting documents and data for the MCFR.

Community members interested in the full technical details beyond the scope of this PP/Draft RAP can also find key supporting documents that pertain to the MCFR and a complete index of all MINS documents at the information repository.

The local Information Repository is located at the following address:

John F. Kennedy Library  
505 Santa Clara Street  
Vallejo, California 94590  
Phone (707) 553-5568

### OFFICIAL ADMINISTRATIVE RECORD LOCATION:

Naval Facilities Engineering Command,  
Southwest  
1220 Pacific Highway, Building 128 Mailroom  
Attn: Ms. Diane Silva, Administrative Records  
Coordinator  
Building 1, 3rd Floor  
San Diego, CA 92132-5190

### SITE INFORMATION CAN ALSO BE OBTAINED FROM THE FOLLOWING LOCATION:

DTSC  
700 Heinz Avenue  
Berkeley, California 94710  
Phone (510) 540-3800  
(By Appointment Only)

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# INVITATION TO COMMENT

## On the Proposed Remedial Action for the Marine Corps Firing Range, Former Mare Island Naval Shipyard



### IMPORTANT DATES TO REMEMBER

#### PUBLIC COMMENT PERIOD

APRIL 7, 2010 TO MAY 6, 2010

#### PUBLIC MEETING

APRIL 21, 2010 AT 7:00 PM

MARE ISLAND CONFERENCE CENTER,  
VALLEJO, CALIFORNIA

See details inside.



**BRAC Program Management Office West**  
1455 Frazee Road, Suite 900  
San Diego, CA 92108-4310