

8/1/08-02.133



# Proposed Plan

## Site 23, Building LP-20 Plating Shop:

Naval Station Norfolk  
Norfolk, Virginia

AUGUST 2008

### 1 Introduction

This **Proposed Plan** identifies the Preferred Remedial Alternative and provides the rationale for addressing historical releases at **Site 23, Building LP-20 Plating Shop** at Naval Station Norfolk (NSN). The U.S. Navy (Navy) proposes the implementation of **Land Use Controls (LUCs)** to effectively limit site access and to protect against human exposure to unacceptable risk in soil at Site 23.

This Preferred Alternative is presented jointly by the Navy, the lead agency for site activities, and the **United States Environmental Protection Agency (USEPA)** Region 3, in consultation with the **Virginia Department of Environmental Quality (VDEQ)**, the support agency. The Navy and USEPA, in consultation with VDEQ, will make the final decision on the remedial approach for Site 23 after reviewing and considering all information submitted during the 30-day **public comment period**. Therefore, public comment on the Preferred Alternative or other alternatives is invited and encouraged. Information on how to participate in this decision-making process is presented below and in Section 8. The Navy and USEPA, in consultation with VDEQ, may modify

the Preferred Alternative or select a different **remedial action** based on new information or public comments. The Navy is issuing this Proposed Plan as part of the public involvement responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and Section 300.430(f)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This Proposed Plan summarizes information that can be found in greater detail in the April 2006 Final Site Investigation (SI) Report for Site 23, the Focused Feasibility Study dated April 2008, and other documents available in the Administrative Record file and Information Repository for NSN (see Section 8). This plan summarizes the following:

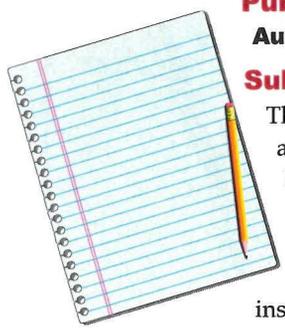
Technical or administrative terms used in this document are called out in **bold text** and included in the glossary on page

- **Site Characteristics** (Section 3)
- **Scope and Role of Proposed Plan** (Section 4)
- **Summary of Site Risks** (Section 5)
- **Remedial Action Objectives (RAOs)** (Section 6)
- **Preferred Alternative** (Section 7)
- **Community Participation** (Section 8)

### Mark Your Calendar for the Public Comment Period

**Public Comment Period**  
**August 4 – September 4, 2008**

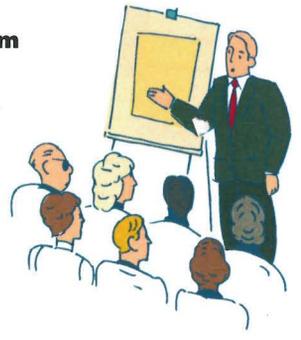
**Submit Written Comments**  
The Navy, USEPA, and VDEQ will accept written comments on the Proposed Plan during the public comment period. To submit comments or obtain further information, please refer to the insert page.



**Attend the Public Meeting**  
**August 6, 2008 from 6:00pm to 7:00pm**

Place – **SpringHill Suites**  
**Norfolk Old Dominion University**  
**4500 Hampton Boulevard,**  
**Norfolk, Virginia 23508**

The Navy will hold a public meeting to explain the Proposed Plan. Verbal and written comments will be accepted at this meeting.



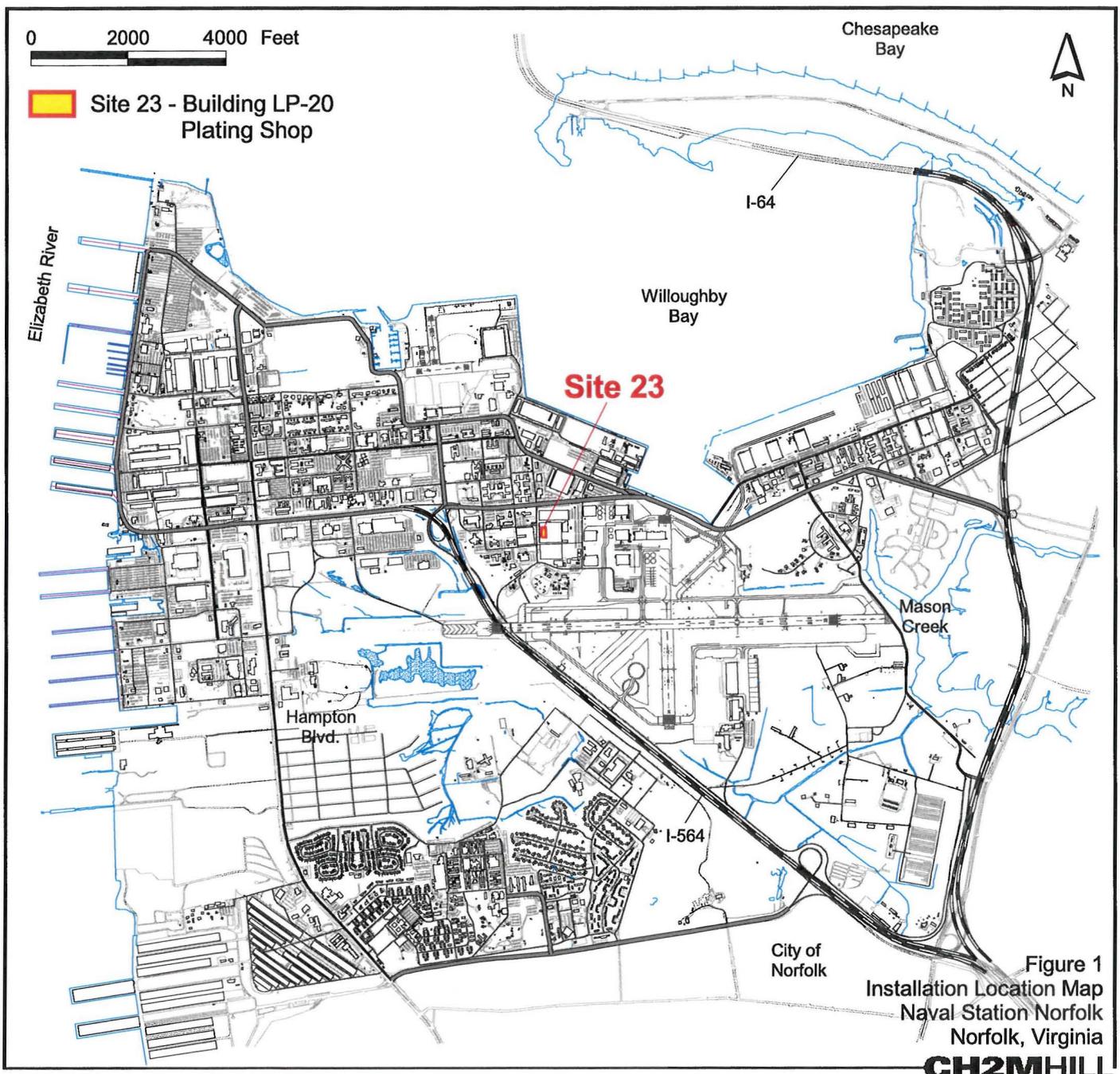
### Location of Information Repository

For more information about Site 23, see the Public Repository at:  
**Kirn Memorial Branch/ Norfolk Public Library**  
301 East City Hall Avenue  
Norfolk, VA 23510  
Phone: 757.644.7323

## 2 Site Background

NSN is located in the northwest portion of the City of Norfolk, Virginia (Figure 1). Located on 4,631 acres of land, NSN is the largest naval base in the United States. NSN is bounded on the north by Willoughby Bay, on the west by the confluence of the Elizabeth and James Rivers, and on the south and east by the City of Norfolk. A portion of the NSN eastern boundary is formed by Mason Creek. NSN includes approximately 4,000 buildings, 20 piers, and an airfield. The western portion of NSN is a developed waterfront area containing the piers and facilities for loading, unloading, and servicing naval vessels. Land use in the surrounding area is commercial, industrial, and residential. The waterfront area south of NSN provides shipping facilities for several large industries. NSN was added to the National Priorities List (NPL) on April 1, 1997. Site 23, the LP-20 Plating Shop, was originally investi-

gated under the Resource Conservation and Recovery Act (RCRA) program for NSN. A Clean Closure Plan and Contingency Plan were completed for Site 23 in 1993 and approved by VDEQ in September 1994. Although final closure was not achieved under the RCRA program, partial closure did occur. Partial closure included the removal of the process tanks and equipment located in pits and removal of the piping for decontamination or disposal as hazardous waste. In September 2000, a revised Clean Closure Plan was submitted to VDEQ that consisted of the general cleanup and decontamination of the Plating Shop and removal of the top 3 feet of soil beneath the Plating Shop. No additional activities were performed under the RCRA program following the submittal of the revised Clean Closure Plan and the Contingent Closure Plan in September 2000. In July 2003, the Navy, in partnership with USEPA and VDEQ, transferred regulatory responsibility for remediation of the site from RCRA to the CERCLA program and designated it as Site 23 - Building LP-20 Plating Shop



### 3 Site Characteristics

Site 23 is an Installation Restoration site located among many large buildings northwest of the main runway (Figure 2). The LP-20 Plating Shop was located within Building LP-20 Site (Site 20) and is located on the west side of the building. Building LP-20 is currently used as a motor pool and office space. In the past, a portion of the building was used for aircraft engine overhaul and maintenance. It is anticipated that use of the site will continue to be industrial.

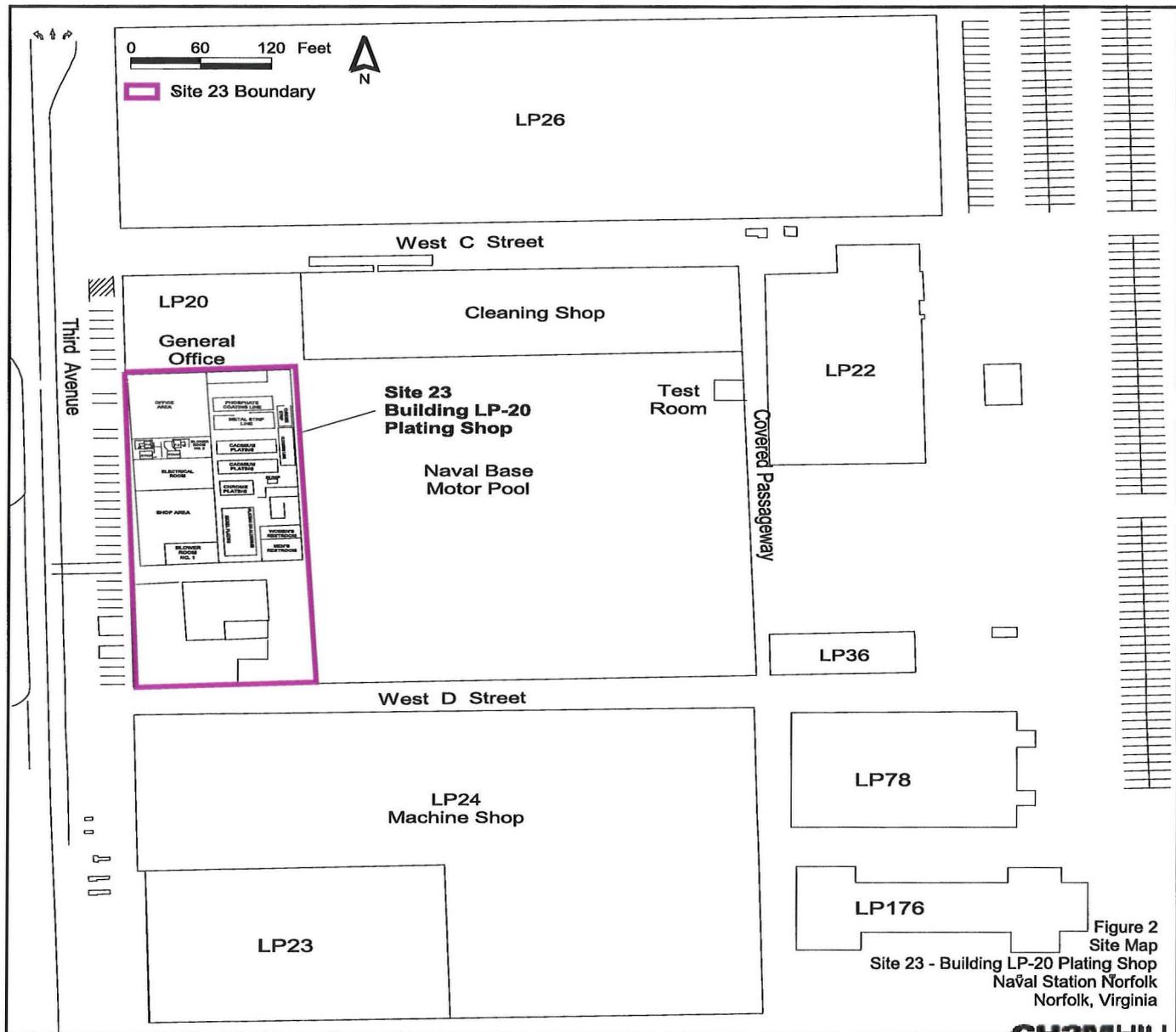
Site 23 occupies approximately 9,500 square feet of Building LP-20, which is a little less than a quarter of the total area. The Plating Shop contained seven process pits that extended beneath the concrete slab floor and were used for cleaning, stripping, and plating engine parts. Rinse waters generated from these activities were transferred to the industrial wastewater treatment plant via underground piping. A non-time-critical removal action was completed in 2007 to install a concrete cover over the former plating shop floor to prevent exposure to contaminated soil beneath the site.

### Soil

The subsurface soil at Site 23 is generally characterized by fine grained sands and clayey silt/silty clay. The soils beneath the site consist of some fill material. Some debris (coal fragments, ash, gravel, and wood) was observed at two soil boring locations (DS05 and DS23) during a 2005 investigation at Site 23. In addition, shell fragments were observed in the soils at the majority of the boring locations and may indicate the use of dredge spoil as fill material. Historical aerial photographs indicate much of the vicinity of Site 23 was created by filling operations of Bousch Creek as the Naval Station expanded in the early 1940s.

### Groundwater

Groundwater associated with Site 23 was characterized during the Site 20 Remedial Investigation completed in 1996. Groundwater at this site is not currently used nor is it anticipated to be used as a drinking water supply. Groundwater associated with Site 23 and Site 20 is considered one hydrogeologic unit and is currently being remediated as part of Site 20.



## Summary of Previous Investigations

Since Site 23 is located within the boundary of Site 20, the results of investigations at Site 20 are used in part to evaluate the contamination within Site 23. Eleven separate pre-remedial investigations were conducted between September 1986 and May 1994 in the Building LP-20 area. The paragraphs below summarize the investigations and actions conducted at Site 23 since 1994.

### Site 23 LP-20 Plating Shop RCRA Investigation

Three phases of activities were included in the Site 23 RCRA Investigation. Phase I of the field investigation was conducted in February 1996. Evaluation of the results of the Phase I sampling indicated the need for additional delineation of soil contamination in the former Plating Shop area. The Phase II investigation occurred in October 1996 and included additional subsurface soil sampling. The Phase II data was incorporated into a Revised Closure Report, submitted to VDEQ. Based on VDEQ's comments, three additional background soil samples were collected in December of 1997 as Phase III of the investigation.

#### Phase I Summary

The objective of the Phase I activities was to delineate the extent of contamination. The field investigation consisted of the collection of soil, concrete, and groundwater samples. A total of 26 shallow soil borings were sampled within the Plating Shop and former process pits. Two deep soil samples were also collected along the industrial waste sewer running through the Plating Shop. In addition, a total of eight soil samples were collected from background locations in the vicinity of Building LF-18. Groundwater samples were also collected from up gradient and down gradient locations as well as within the Plating Shop. Furthermore, five concrete floor samples within the Plating Shop and background concrete samples from areas with little to no industrial activity were collected.

#### Phase II Summary

The objective of the Phase II investigation was to further delineate the areas of subsurface soil contamination where the concentrations of the Phase I sampling locations exceeded the risk-based criteria. Thirteen additional borings and 21 additional soil samples were selected to provide further horizontal and vertical delineation of contamination.

#### Phase III Summary

The objective of the Phase III investigation was to evaluate the background soil conditions. Three additional background soils samples were collected during this sampling event.

### Site 23 LP-20 Plating Shop Site Investigation

Following the transfer of Site 23 from the RCRA program in July of 2003, a Site Investigation (SI) was conducted in 2004 under the CERCLA program. Additional soil samples were collected in three different areas of the Plating Shop to fill spatial data gaps from previous sampling and delineate soil contamination within the Plating Shop area outside of the pits.

The SI for Site 23 was focused on the site soils. The investigation was performed to:

- Further investigate the vertical extent of soil contamination in identified hotspots (areas of higher contamination),
- Determine the nature and extent of soil contamination in the metal plating/processing pits,
- Delineate soil contamination within the Plating Shop areas outside of the pits, and;
- Evaluate a more extensive list of analytes (chemicals) than was conducted during the previous RCRA investigations.

Surface and subsurface soil samples were collected from Site 23. Samples were collected in three different areas of the Plating Shop including the previously identified hotspots, metal plating and process pits, and outside the process pits. A total of 55 samples were collected at 26 sample locations. The number and placement of samples were designed to fill spatial gaps from previous sampling events and delineate soil contamination within the Plating Shop area outside of the pits.

In May of 2005, the NSN Tier I Partnering Team – consisting of the Navy, USEPA, and VDEQ - agreed to conduct an interim removal action to address the soils at Site 23. The Site Investigation report recommended that the interim removal action consist of a cover and implementation of land-use controls (LUCs) be evaluated in an Engineering Evaluation/Cost Analysis (EE/CA).

### Site 23 Engineering Evaluation/Cost Analysis

Based on the Site Investigation results and recommendations by the NSN Tier I Partnering Team, an **Engineering Evaluation/Cost Analysis (EE/CA)** was prepared in 2006. The EE/CA was performed to identify and analyze alternatives to mitigate potential human health risk associated with contaminated soil in the former process pits at Site 23, Building LP-20 Plating Shop. Three alternatives were evaluated under the EE/CA. These alternatives were:

- (1) **No Action** (required for all EE/CA evaluations, providing a baseline against which to assess other alternatives);
- (2) **Concrete Cover to Prevent Exposure to Soil and LUCs**; and
- (3) **Floor Demolition, Excavation, Offsite Disposal, and Restoration of Building.**

A comparative analysis of the alternatives included evaluating the effectiveness, implementability, and cost of each. The evaluation of effectiveness included reviewing the protectiveness of the alternatives for human health and the environment, compliance with **Applicable or Relevant and Appropriate Requirements (ARARs)** to the extent practical, long-term effectiveness and permanence, reduction in toxicity, mobility or volume of contaminants, short-term effectiveness, and each alternative's ability to meet the objective of the removal action. Implementability included evaluating the technical feasibility, availability, and administrative feasibility of the alternatives. The evaluation of cost included a review of capital costs and total net present values of each alternative.

Based on the EE/CA findings, a concrete cover to prevent exposure to soil and LUCs was recommended as the Preferred Alternative. This Proposed Plan identifies the Preferred Alternative which is LUCs to prevent future exposure to soil beneath the concrete cover.

#### **Non-Time-Critical Removal Action**

In 2007, the non-time-critical removal action recommended in the 2006 EE/CA was implemented. All debris and brick tiling located within the process pits and brick tiles covering the floor were removed and disposed of appropriately. The Plating Shop pits and interconnected conduits were filled with flowable concrete fill, and a concrete cover with an industrial floor sealant was installed. The purpose of these actions was to provide for usable warehousing space while providing a sufficient barrier to prevent potential human exposure to underlying contaminated soil.

## **4 Scope and Role of Response Action**

In 1975, the Department of Defense (DoD) began the Installation Restoration Program (IRP) to identify, evaluate, and remediate environmental contamination resulting from activities that involved hazardous and toxic materials at military facilities. In 1976, the RCRA was passed by Congress to address human health and environmental issues related to the management and disposal practices of hazardous wastes. In 1980, Congress passed the CERCLA, more commonly known as "Superfund." This program was put in place to investigate and remediate areas affected by past hazardous waste management practices. The CERCLA program is administered by the USEPA. The DoD's IRP is implemented in accordance with CERCLA, the Defense Environmental Restoration Program (10 U.S.C. 2701 et seq.), and all applicable state laws. Additionally, the President of the United States, by Executive Order, has delegated certain CERCLA responsibilities to DoD for facilities such as Naval Station Norfolk.

In 1997, Naval Station Norfolk was placed on USEPA's NPL of Superfund sites. The purpose of the preferred alternative presented in this Proposed Plan is to address all of the potential threats posed by Site 23 that are not already being remediated under the response action for Site 20, and to minimize the potential for exposure to contaminated soil that may pose unacceptable human health or ecological risks. The specific objectives of the preferred remedy are referred to as Remedial Action Objectives (RAOs), which are listed in Section 6.

## **5 Summary Of Site Risks**

### **Human Health Risk Screening Summary**

A streamlined risk evaluation was conducted to evaluate the potential human health risks associated with exposure to soil at Site 23 in the EE/CA. Exposure scenarios evaluated were "future onsite industrial worker" and "future construction worker." Adult and child resident scenarios were not evaluated because the anticipated future use of the site is industrial; Bldg. LP-20 is located in a primarily industrial area of NSN adjacent to Chambers Field airfield. The screening of the Site 23 surface soil and subsurface soil data resulted in a number of **chemicals of potential concern (COPCs)** which indicates a potential for unacceptable human health risks associated with exposure to the surface and subsurface soil at Site 23. For surface soil, the COPCs retained are inorganic constituents including cadmium, chromium, lead, and nickel. The COPCs retained for the subsurface soil are PAHs and metals including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, arsenic, and cadmium. Table 1 presents the conclusions of the human health risk screening performed in the EE/CA. A more detailed discussion of the site risk screening assessment and the results are contained in the Final EE/CA, which is available at the Information Repository listed on Page 14.

Implementation of the selected alternative from the EE/CA was completed in 2007. A concrete cover with an industrial floor sealant was installed over the surface soil to provide a protective barrier as well as serve as usable warehousing space. As a result, there is no potential exposure to the surface and subsurface soil, and no unacceptable risks to current or future on-site workers as long as the cover is properly maintained and not disturbed. Tables 1 and 2 summarize the streamlined risk evaluation.

TABLE 1		
Site 23 –Risk Screening Summary – Prior to Installation of Concrete Cover and LUCs		
Media	Human Health Risk Screening Current/Future On-Site Workers	Ecological Risk
Surface Soil	Unacceptable	No Exposure Pathway
Subsurface Soil	Unacceptable	No Exposure Pathway

TABLE 2		
Site 23 –Risk Screening Summary – After Installation of Concrete Cover and LUCs		
Media	Human Health Risk Screening Current/Future On-Site Workers	Ecological Risk
Surface Soil	No Exposure Pathway	No Exposure Pathway
Subsurface Soil	No Exposure Pathway	No Exposure Pathway

## What is a Streamlined Human Health Risk Evaluation and How is it Conducted?

A streamlined human health risk evaluation identifies the chemicals most likely to pose a potential impact to human health (chemicals of potential concern [COPCs]) at a site, and identifies potential current and future human exposure that should be prevented. The human health screening-level evaluation was conducted in three steps using a risk ratio approach (U.S. Navy, May 2000). If COPCs were retained after Step 1, identified COPCs were evaluated in Step 2. If COPCs were retained after Step 2, the site was carried through to Step 3. The three steps of the screening evaluation are described below:

### Step 1: Comparison of Maximum Detected Concentrations to Human Health Risk-Based Criteria and Background Concentrations.

In Step 1, the maximum detected concentrations in each medium are compared to human health risk-based criteria from the USEPA Region III Risk Based Concentration (RBC) Table. Soil data are compared to industrial soil RBCs as the site is located in an industrial area of the base and likely future use of the site would also be industrial. RBCs based on non-carcinogenic effects (indicated by an N next to the RBC on the RBC table) are divided by 10 to adjust the RBC from a hazard quotient (HQ) of 1 to a hazard quotient of 0.1, to conservatively account for exposure to multiple constituents. RBCs based on carcinogenic effects are used as presented in the RBC table, and are based on a carcinogenic risk of  $1 \times 10^{-6}$ . The maximum detected constituent concentrations are also compared to available background concentrations. The background concentrations used for this comparison are the upper tolerance limit (UTL) concentrations from the most conservative background data grouping (samples BG1, and BG3-5), which are applicable to soils that are collected at any area that is not dredge fill found throughout NSN, as presented in the Soil Background Investigation Report (CH2M HILL, September 2000)..

### Step 2: Risk Ratio using Maximum Detected Concentration

In Step 2, a corresponding risk level is calculated as follows:

$$\text{Corresponding Risk Level} = \frac{\text{Maximum Concentration} \times \text{Acceptable Risk Level}}{\text{RBC}}$$

The industrial RBC from the USEPA Region III RBC table is used for both non-carcinogenic and carcinogenic constituents. The RBC is not adjusted to a HQ of 0.1 for non-carcinogenic effects, as is done for the Step 1 screening. The acceptable risk level included in the equation is a HQ of 1 or a carcinogenic risk of  $1 \times 10^{-6}$ . The maximum concentration is the same maximum concentration that is used in the Step 1 screening. The corresponding risk levels for each constituent are summed to calculate the cumulative corresponding hazard index (for non-carcinogens) and cumulative corresponding carcinogenic risk (for carcinogens). The cumulative corresponding hazard index is also calculated for each target organ/effect. If the cumulative corresponding hazard index for a target organ/effect is greater than 0.5, or the cumulative corresponding carcinogenic risk is greater than  $5 \times 10^{-5}$ , then the risk evaluation proceeds to Step 3. Only those constituents contributing to the hazard (contributing an individual corresponding risk level to a total cumulative corresponding hazard index greater than 0.5 for a target organ effect) or risk (contributing a corresponding risk level to a total cumulative corresponding risk greater than  $5 \times 10^{-5}$ ) are carried to Step 3.

### Step 3: Risk Ratio using 95 percent Upper Confidence Limit Concentration

In Step 3, a corresponding risk level is calculated as is done for Step 2, however, the 95 percent upper confidence limit (95 percent UCL) is used in place of the maximum detected concentration to obtain a more site-specific risk ratio. The USEPA's ProUCL software program, described in Calculating Upper Confidence Limits For Exposure Point Concentrations at Hazardous Waste Sites (USEPA, December 2002), is used to calculate 95 percent UCL exposure point concentrations. If the cumulative corresponding hazard index by target organ/effect is greater than 0.5, or the cumulative corresponding carcinogenic risk is greater than  $5 \times 10^{-5}$ , then there is a potential for unacceptable human health risks associated with exposure to the site.

## Nature and Extent of Contamination

The nature and extent of contamination at Site 23 is based on analysis of the surface and subsurface soil and comparison of these analytical results to EPA risk-based screening criteria. The results of the Site Investigation indicated that metals were detected across the site in surface and subsurface soil at concentrations exceeding residential and industrial risk-based concentrations. The highest concentrations of the metals were in the southern portion of the site. The semivolatile organic compounds (SVOCs) appeared to be limited in distribution in both subsurface and surface soils, and were mainly detected in isolated areas in the northern and western sections of the site. In general, the concentrations of SVOCs were higher in surface soils. Only one VOC was detected at a concentration above the residential risk-based concentration (RBC), and only in one location in the subsurface soil. A comparison of the analytical results to the background levels demonstrated that the majority of the exceedances of arsenic (18 out of 26), a portion of the benzo(a)pyrene and iron exceedances, as well as the thallium exceedance were below background levels for the area.

## Contaminant Fate and Transport

Because the site is partly within but mostly underneath a building, the typical mechanisms for the movement of contaminated materials, such as precipitation runoff, leaching from infiltration of precipitation, and erosion and deposition do not play a role in contaminant transport at Site 23. The primary potential mechanism for contaminant transport at this site is the shallow groundwater as it migrates underneath the site; however, contaminants identified in Site 23 soil were not identified as risk drivers in Site 23/Site 20 groundwater.

## 6 Remedial Action Objectives

In March 2007, a Focused Feasibility Study (FFS) for Site 23 was completed to perform the analyses used to develop remedial action alternatives for Site 23 and provide an evaluation of those alternatives.

The site-specific RAO for Site 23 is to limit use of and restrict exposure to soil beneath the Plating Shop that poses a potential unacceptable risk to human health. Based on future use of Site 23 as an industrial site, the existing concrete cover prevents unacceptable exposure to soil beneath the cover as long as LUCs are implemented and enforced.

The following alternatives were developed and evaluated in the Site 23 FFS to address this risk:

- Alternative 1 - No Action
- Alternative 2 -LUCs

The FFS recommended Alternative 2, LUCs. This alternative achieves the RAOs by limiting site access and use to prevent exposure to unacceptable risks in soil. Under this alternative, any necessary measures for protecting construction workers from exposure to soil would be addressed in a Remedial Design (RD). This recommended alternative meets the NCP evaluation criteria for Superfund sites.

The major components of Alternative 2 include:

- Preparing an RD to outline the objectives of LUCs and to specify measures for implementing the controls, which will include measures to assure that the land comprising Site 23 remains in industrial use,
- Installing signs at Site 23 entrances describing the site conditions and restrictions,
- Performing periodic site inspections and associated reporting to ensure continued effectiveness of the non-time-critical removal action, and
- Conducting 5-year site reviews and preparing reports as required under CERCLA to evaluate the continuing effectiveness, protectiveness, and need for LUCs.

## 7 Preferred Alternative

The recommended remedial alternative is Alternative 2, LUCs. This recommendation is based on a detailed evaluation of alternatives using criteria including protection of human health, compliance with ARARs, long-term effectiveness and permanence, reduction of toxicity, mobility and volume of contamination through treatment, short-term effectiveness, implementability, and cost.

Specifically, the FFS concluded that LUCs will effectively limit site access and protect against human exposure to soil that may result in unacceptable risks. Implementation of LUCs has minimal associated cost, is straightforward, protective in both the short- and long-term, and does not violate any ARARs. A comparison of cost as evaluated in the FFS is provided in Table 3.

<b>Site 23 FFS – Descriptions of Alternatives</b>			
• Alternative	• Components	• Details	• Cost
1—No Action	Existing Site 23 Area	Not Applicable	Capital Cost \$0 Annual O&M \$0 Present-Worth \$0 Time Frame >70 years
2 – Land Use Controls	- Land Use Controls (LUCs) to cover Site 23 Area	- Sign Installation - Remedial Design for LUCs - Integrity Inspections - Statutory remedy 5-year reviews	Capital Cost \$11,600 Annual O&M \$1,526 Net Present-Worth \$64,998 Time Frame 30 years

<b>Site 23 FFS – Comparative Analysis of Alternatives</b>			
		Alternative 1 (No Action)	Alternative 2 (Land Use Controls)
Threshold Criteria	Overall Protection of Human Health/ Environment	Not Effective	Effective
	Compliance with ARARs	No ARARs	No ARARs
Primary Balancing Criteria	Long Term Effectiveness and Permanence	Not Effective	Effective
	Reduction of Toxicity, Mobility, or Volume	None	None
	Short Term Effectiveness	Effective under current land use	Effective
	Implementability	Feasible	Feasible
	Cost	None	Low

## **8 Community Involvement**

Community involvement has been conducted throughout the investigation of Site 23. Public input is a key element in the decision-making process. Nearby residents and other interested parties are strongly encouraged to use the comment period to relay any questions and concerns about Site 23 and the Preferred Alternative. The Navy will summarize and respond to comments in a Responsiveness Summary, which will become part of the official ROD.

A **Restoration Advisory Board (RAB)** was formed in 1994. Meetings continue to be held to provide an information exchange among community members, the USEPA, VDEQ, and the Navy. These meetings are open to the public and are held approximately every 6 months. This Proposed Plan fulfills the public involvement requirements of CERCLA Section 117(a), which specifies that the lead agency (the Navy) must publish a plan outlining any remedial alternatives evaluated for the site and identify the Preferred Alternative. All documentation pertaining to the investigation of Site 23 and the development of the remedial action alternatives presented in this Proposed Plan is available for public review in the Administrative Record and at the Information Repository.

### **Public Comment Period**

The public comment period for the Site 23 Proposed Plan provides an opportunity to provide input about the how the Navy plans to control the source and reduce human health risk for Site 23. The public comment period will be held from August 4, 2008 to September 4, 2008, and a public meeting will be held on August 6, 2008, at the SpringHill Suites, Norfolk Old Dominion University (4500 Hampton Boulevard, Norfolk, Virginia 23508) from 5:00 p.m. to 6:00 p.m. All interested parties are encouraged to attend the meeting to learn more about the alternatives developed for Site 23. The meeting will provide an additional opportunity to submit comments on the Proposed Plan to the Navy.

Comments on the Preferred Alternative, or this Proposed Plan, must be postmarked no later than September 4, 2008. On the basis of comments or new information, the Navy and USEPA may modify the Preferred Alternative or choose another alternative. The comment page included as part of this Proposed Plan may be used to provide comments to the Navy.

Table 4 summarizes the comparison against seven of the NCP criteria. The remaining two criteria (modifying criteria), state acceptance and community acceptance, are fully assessed following completion of this Proposed Plan in the ROD.

### **Record of Decision**

After the public comment period, the Navy, in consultation with the USEPA and VDEQ, will determine how the Proposed Plan should be modified on the basis of comments received. Any required modifications will be made by the Navy and reviewed by the USEPA and VDEQ. If the modifications substantially change the proposed remedy, additional public comment may be solicited. If not, the USEPA and the Navy will prepare and sign the Record of Decision (ROD). The ROD will detail the remedial action chosen for the site and will include the Navy's responses to comments received during the public comment period.

### **Available Information**

The Community Relations Plan, fact sheets, and final technical reports concerning Site 23 are available to the public at the following locations:

**Naval Facilities Engineering Command, Atlantic**  
**Attention: Kelly Stirling, Public Affairs Officer**

**6506 Hampton Boulevard**  
**Norfolk, Virginia 23508-1278**  
**(757) 322-8005**

**Kirn Memorial Branch**  
**Norfolk Public Library**  
**301 East City Hall Avenue**  
**Norfolk, Virginia 23510**  
**(757) 664-7323**

**If individuals have any questions about NSN Site 23, they may call or write to one of the contact people identified on page 17.**

**Area of Concern (AOC):** any area of suspected release that is not associated with a Solid Waste Management Unit.

**Administrative Record:** A compilation of the site documents used to support an administrative action under Superfund, generally placed in an Information Repository at or near the facility to facilitate public review.

**Applicable or Relevant and Appropriate Requirements (ARARs):** Federal or State environmental statutes and regulations with which remedial actions under CERCLA must comply or waiver must be justified under CERCLA.

**Aquifer:** an underground formation composed of sand, soil, gravel, or porous rock that can store and supply groundwater to wells and springs.

**Clean Closure Plan:** A plan for the complete removal of all waste and waste residuals, including contaminated soils at a RCRA site. A clean closure is generally defined as being when waste materials and residuals are removed to a point where remaining contaminant concentrations are at or below background levels or levels established by the relevant regulatory agencies.

**Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA):** A Federal law, commonly referred to "Superfund", passed in 1980 and amended by the Superfund Amendments and Reauthorization Act of 1986. CERCLA provides for cleanup and emergency response in connection with existing inactive hazardous waste disposal sites that endanger public health and safety or the environment.

**Chemical of Potential Concern (COPC):** A chemical that, based upon comparison to regulatory screening criteria, has potential to pose unacceptable risks or hazards to receptors at the site.

**Contingency Plan:** A plan devised for a specific situation when things could go wrong.

**Engineering Evaluation/Cost Analysis (EE/CA):** A stream-lined but structured evaluation of alternatives and associated costs for non-time-critical removal actions; similar to a Remedial Investigation and Feasibility Study.

**Exposure Pathway:** the means by which a person or animal comes into contact with a substance through inhalation, ingestion, or direct contact with the skin, either acute or chronic.

**Federal Facility Agreement (FFA):** An agreement between the agencies to identify sites of potential historic contamination and implement corrective actions based on public health and environmental considerations. Among other requirements, the agreement outlines a process to insure regulatory authority and oversight.

**Focused Feasibility Study (FFS):** A study that encompasses the development and screening of remedial action alternatives and a detailed analysis of a limited number of the most promising options to establish the basis for a remedy selection decision.

**Groundwater:** Subsurface water that occurs in soils and geologic formations that are fully saturated.

**During the comment period, interested parties may submit written comments to the following addresses:**

**Ms. Winoma Johnson, Code EV3**

Naval Facilities Engineering Command – Mid-Atlantic  
Building N-26, Room 3208  
9742 Maryland Ave.  
Norfolk, VA 23511-3095  
(757) 322-4587  
Fax - (757) 322-4415

**Mr. Steven Hirsh**

Remedial Project Manager  
USEPA Region III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103  
(215) 814-3352

**Mr. Eric Salopek**

Remedial Project Manager  
Virginia Dept. of Environmental Quality  
629 Main Street  
Richmond, Virginia 23219  
(804) 698-4427

**Mrs. Terri Davis**

Attn: Public Affairs Officer  
Naval Station, Norfolk  
1510 Gilbert Street, Suite 200  
Norfolk, Virginia 23511-2722  
(757) 322-2576

**Information Repository:** A set of current information, technical reports, and reference documents regarding a Superfund site; generally located in a public building that is convenient for local residents, such as a public school, city hall, or public library.

**Initial Assessment Study (IAS):** A preliminary study conducted at a facility to identify and assess sites posing a potential threat to human health or the environment due to contamination from past hazardous materials handling and operations activities. The study is typically based on information obtained from historical records, photographs, site inspections, and personnel interviews.

**Installation Restoration Program (IRP):** The program by which the Department of Defense investigates and cleans up Superfund sites.

**Land Use Controls (LUCs):** Restrictions on how a site can be used, such as restrictions on accessibility, soil excavation, construction, etc.

**National Oil and Hazardous Substances Pollution Contingency Plan (NCP):** The national plan which provides the organizational structure and procedures needed to prepare for and respond to discharges of oil and releases of hazardous substances, pollutants, and contaminants.

**National Priorities List (NPL):** A list, developed by USEPA, of uncontrolled hazardous substance release sites in the United States that are priorities for long-term remedial evaluation and response.

**Nine Evaluation Criteria:** A common set of criteria specified in the National Contingency Plan (NCP) against which the remedial alternatives developed for a site are evaluated. The criteria are as follows:

- **Overall Protection of Human Health and the Environment:** Addresses whether a remedy provides adequate protection and describes how risks posed through each pathway are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

- **Compliance with ARARs:** Addresses whether a remedy will meet all of the ARARs of other Federal and State environmental laws and/or justifies a waiver of the requirements.

- **Long-Term Effectiveness and Permanence:** Addresses the expected residual risk and the ability of a remedy to maintain reliable protection of human health and the environment over time, after clean-up goals have been met.

- **Reduction of Toxicity, Mobility, and Volume Through Treatment:** Addresses the degree to which a treatment technology may be successful in eliminating, reducing or stabilizing contamination.

- **Short-Term Effectiveness:** Considers the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until clean-up goals are achieved.

- **Implementability:** Evaluates the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement an option.

- **Cost:** Compares the estimated capital, operations and maintenance, and present worth costs among the alternative remedial actions.

- **State Acceptance:** Considers the State support agency comments on the Proposed Remedial Action Plan.

- **Community Acceptance:** Provides the public's general response to the alternatives described in the Proposed Remedial Action Plan, RI, and FS Reports. The specific responses to the public comments are addressed in the Responsiveness Summary section of the ROD.

**Non-Time-Critical Removal Action:** An action taken to abate, prevent, minimize, stabilize, mitigate, or eliminate the release or threat of release of a contaminant at a Superfund site for which a planning period of at least six months is available before onsite activities must begin and the need is less immediate.

**Pre-Remedial Investigation (PRI):** A study of environmental releases before a site has been evaluated and listed on the National Priorities List (NPL).

**Proposed Plan:** A document that presents and requests public input regarding the preferred cleanup alternative.

**Public Comment Period:** The specific time-period allocated for the members of the affected community to express views and concerns regarding an action proposed to be taken by USEPA, such as a rulemaking, permit issuance, or Superfund remedy selection.

**Record of Decision (ROD):** A legal document that describes the cleanup action or remedy selected for a site, the basis for choosing that remedy, and public comment on alternative remedies.

**Remedial Action:** A cleanup method proposed or selected to address contaminants at a site. Implementation of the remedy, once selected in accordance with the CERCLA process.

**Remedial Action Objectives (RAOs):** Objectives of remedial actions that are developed based on contaminated media, contaminants of concern, potential receptors and exposure scenarios, human health and ecological risk assessment, and attainment of regulatory cleanup levels, if any exist.

**Remedial Design (RD):** the phase in Superfund site cleanup where the technical specifications for cleanup remedies and technologies are designed. Remedial Action (RA) follows the remedial design phase and involves the actual construction or implementation phase of Superfund site cleanup.

**Remedial Investigation (RI):** A study of a facility that supports the selection of a remedy where hazardous substances have been disposed or released. The RI identifies the nature and extent of contamination at the facility.

**Resource Conservation and Recovery Act (RCRA):** The 1976 amendment to the first federal solid waste legislation, the Solid Waste Disposal Act of 1965. In RCRA, Congress established initial directives and guidelines for USEPA to regulate and manage solid waste, including hazardous waste. RCRA established a regulatory system to track hazardous substances from the time of generation to final disposal. The law requires safe and secure procedures to be used in treating, transporting, storing and disposing of hazardous wastes. RCRA was designed to prevent new, uncontrolled hazardous waste sites, while Superfund was designed to address existing hazardous waste sites.

**Restoration Advisory Board (RAB):** A community group co-chaired by a local citizen and a representative of the lead agency, designed to increase two-way communication between the agency and the community and to provide an opportunity for members of the community to provide input on the decision-making processes.

**Site:** The area of the facility where a hazardous substance waste or constituent, pollutant, or contaminant from the facility has been deposited, stored, disposed of, or placed; has migrated; or has otherwise come to be located.

**Solid Waste Management Unit (SWMU):** any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste.

**United States Environmental Protection Agency (USEPA):** The federal agency responsible for administration and enforcement of CERCLA (commonly referred to as "Superfund") and other environmental regulations, and with final approval authority for the selected Record of Decision.

**Virginia Department of Environmental Quality (VDEQ):** The Commonwealth of Virginia's agency responsible for administration and enforcement of environmental regulations.

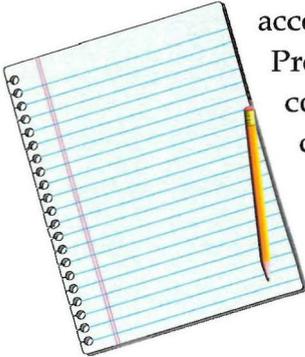


**Mark Your Calendar for the Public Comment Period**

**Public Comment Period**  
**August 4 – September 4, 2008**

**Submit Written Comments**

The Navy, USEPA, and VDEQ will accept written comments on the Proposed Plan during the public comment period. To submit comments or obtain further information, please refer to the insert page.

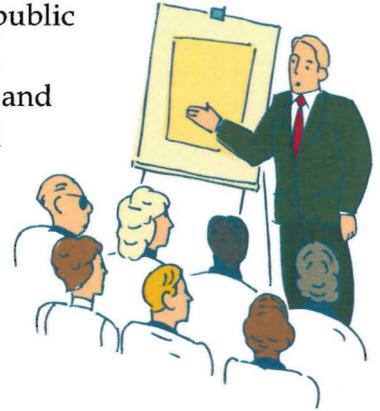


**Attend the Public Meeting**

**August 6, 2008 from 6:00pm to 7:00pm**

SpringHill Suites  
Norfolk Old Dominion University  
4500 Hampton Boulevard  
Norfolk, Virginia 23508

The Navy will hold a public meeting to explain the Proposed Plan. Verbal and written comments will be accepted at this meeting.



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stamp  
here

Ms. Winoma Johnson, Code EV3  
Naval Facilities Engineering Command – Mid-Atlantic  
Building N-26, Room 3208  
9742 Maryland Ave.  
Norfolk, VA 23511-3095