Proposed Plan

for

Site 12 - Town Gut Landfill

Indian Head Division
Naval Surface Warfare Center
Indian Head, Maryland

Engineering Field Activity Chesapeake
Naval Facilities Engineering Command

Contract Number N62472-90-D-1298

Contract Task Order 0245

January 2001

PROPOSED PLAN
SITE 12 – TOWN GUT LANDFILL
INDIAN HEAD DIVISION NAVAL SURFACE WARFARE CENTER
INDIAN HEAD, MARYLAND
January 2001

1.0 INTRODUCTION

This Proposed Plan identifies the preferred alternative for a remedial action for the contaminated soil and shallow groundwater at Site 12 (Town Gut Landfill) at the Indian Head Division Naval Surface Warfare Center (IHDIV-NSWC), Indian Head, Maryland. The Plan also provides the rationale for this preference. In addition, this Plan includes summaries of other clean-up alternatives that were evaluated for this site. This document is issued by the Department of the Navy (Navy), the lead agency for site activities, and the U.S. Environmental Protection Agency (EPA) and the Maryland Department of the Environment (MDE), the support agencies. The Navy, in consultation with EPA and MDE, will select a final remedy for the site after reviewing and considering all information submitted during the 30-day public comment period. The Navy, in consultation with EPA and MDE, may modify the preferred alternative or select another response action presented in this Plan based on new information or public comments. Therefore, the public is encouraged to review and comment on all the alternatives presented in this Proposed Plan.

The Navy is issuing this Proposed Plan as part of its public participation responsibilities under Section 300.430(f)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as the Superfund Law. This Proposed Plan summarizes information that can be found in detail in the Remedial Investigation (RI) Report, Feasibility Study (FS) Report, and other documents contained in the Administrative Record file for this site. The Administrative Record file is located at the Charles County Public Library – La Plata Branch and the IHDIV-NSWC General Library. Addresses, telephone numbers, and hours of operation for these locations can be found on page 16 of this document. The Navy, EPA, and MDE encourage the public to review these documents to gain a more comprehensive understanding of the site and Superfund activities that have been conducted for the site.

A glossary of some of the words used in this Proposed Plan is provided in Table 1.

2.0 SITE BACKGROUND

Site 12 comprises approximately 4 acres of undeveloped land located on the southwestern side of the IHDIV-NSWC (see Figure 1). The northern and southern portions of the site are bisected by Atkins Road Extension and a pond (see Figure 2). Another pond forms the western boundary of the southern portion of the site. The ponds, which eventually discharge to Mattawoman Creek, are connected by a pipe located under Atkins Road Extension. A dam at the southern end of the ponds inhibits the tidal changes from Mattawoman Creek and helps to prevent sediment from entering the creek.

Site 12 was used for disposal of landscaping wastes, fill material, and rubble between 1968 and June 1980. Material from outside IHDIV-NSWC was reportedly deposited at the site until 1972. Disposal first occurred on the eastern side of the site in a topographically low area and then continued to the west. It is estimated that the top of the waste material is located 10 to 15 feet above the original ground surface. It has been estimated that Site 12 contains approximately 80,000 cubic yards of mixed solid waste materials, primarily landscaping wastes, tree stumps, and demolition debris. Some of the other material that was reportedly disposed includes paint, varnish, and chemical waste. The waste disposal activities have contaminated soil and shallow groundwater beneath the site.

IHDIV-NSWC was placed on the Superfund National Priorities List (NPL) in September 1995. Sites on the NPL are subject to the requirements of CERCLA and the NCP.

The Navy conducted several investigations at the site. The results are described in Section 3.0, Site Characteristics. Previous public participation efforts are discussed in Section 10.0, Community Participation.

3.0 SITE CHARACTERISTICS

Limited leachate, surface water, and sediment samples collected during the Initial Assessment Study in 1982 and the Confirmation Study in 1985 indicated that Site 12 had no detectable impact on the surrounding surface environment. However, additional information on soil and shallow groundwater was needed.

An RI was performed at the site in 1997 that included a geophysical investigation and soil, shallow groundwater, surface water, and sediment sampling. The RI identified the types, quantities, and locations of contamination. The following summarizes the nature and extent of contamination:

- The surface water analytical data results indicate that activities at Site 12 have had minimal impact on surface water quality.

- Volatile organic compounds (VOCs) were detected infrequently in soil, shallow groundwater, surface water, and sediment.

- Semivolatile organic compounds (SVOCs), primarily polynuclear aromatic hydrocarbons (PAHs), were detected in surface soil and sediment samples. The maximum concentrations in sediment were generally 10 to 20 times higher than for surface soil. The maximum concentrations of most SVOCs were detected at one soil sample location and one sediment sample location. SVOCs were detected infrequently and at low concentrations (2 ppb to 17 ppb) in shallow groundwater samples.

- One pesticide (4,4'-DDT) and its degradation products (4,4'-DDD and 4,4'-DDE) were detected in most of the surface soil and sediment samples. A few other pesticides were sporadically detected in surface soil and sediment samples. PCBs were detected in one surface soil sample and one sediment sample.

- Several metals (e.g., arsenic, cadmium, mercury, and silver) were detected in surface soil, shallow groundwater, and/or sediment sample locations at concentrations exceeding Activity-wide background locations.

- One explosive compound (nitrocellulose) was detected at one surface soil sampling location and at more than half of the sediment sampling locations.

- Biological monitoring of the ponds that was conducted as part of an RI for another site at IHDIV-NSWC indicated there was a low diversity and quantity of aquatic life in the ponds. However, the study concluded that these conditions were caused by naturally poor conditions and probably were not a result of chemical contamination.

Additional investigations were performed in September 1999. Test pits were excavated at 13 locations to better define the landfill boundary. Landfill material was encountered at eight of the excavated test pits. Generally, the depth to the landfill material was approximately 1 to 2 feet below the ground surface and ranged from the ground surface to 8 feet below the surface. The landfill material generally consisted of concrete, wood logs, charred wood, and metal debris. Demolished steel drums and tar shingles were detected at some locations. Wetlands were also delineated to identify areas that may require special consideration during clean-up activities. Wetlands are located along the ponds that border Site 12.

The site has been an inactive landfill from 1980 to the present time. It is not used for any other purpose.

4.0 SCOPE AND ROLE OF RESPONSE ACTION

This Proposed Plan addresses the final remedial actions to be taken regarding contamination at Site 12. The remedial action objectives for Site 12 are to prevent current and future exposure to contaminated media and landfill material. The purpose of the Proposed Plan is to present alternatives from which the Navy, with regulatory agency concurrence and public input, will select a remedy to prevent unacceptable exposure to site contaminants and reduce movement of contaminants into the environment.

5.0 SUMMARY OF SITE RISKS

As part of the RI/FS, the Navy conducted a baseline risk assessment to determine the current and future effects of detected substances on human health and the environment. It is the Navy's current judgment that the preferred alternative identified in this Proposed Plan, or one of the other active remediation alternatives considered in the Proposed Plan, is necessary to protect public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment at Site 12.

Human Health Risks

The human health risk assessment considered the following receptors and exposure pathways:

- Current/future maintenance workers and current/future full-time employees exposed to surface soil and sediment.
- Current/future adolescent trespassers exposed to surface soil, surface water, and sediment.
- Future construction workers exposed to surface soil, shallow groundwater, and sediment.
- Hypothetical future residents exposed to surface soil, shallow groundwater, surface water, sediment, and fish.

Receptor	Cancer Risk	Hazard Quotient
Maintenance worker	1.1E-5	0.14
Full-time employee	9.5E-5	0.47
Adolescent trespasser	2.9E-5	0.10
Construction worker	5.8E-6	0.92
Child resident	3.7E-3	43
Adult resident	7.6E-3	21

A risk level is determined for potential cancer-causing chemicals based on how much of the chemical is present and its strength as a cancer-causing agent. The acceptable risk range that EPA has set for protection of human health is represented as 1E-4 to 1E-6. This range would increase the risk that a male will get cancer from 50 percent (lifetime average cancer risk for a male) to a maximum of 50.01

percent. In addition, the risk that a female will get cancer would increase from 33 percent (lifetime average cancer risk for a female) to a maximum of 33.01 percent. Chemicals producing other harmful effects were compared with reference concentrations (highest concentrations not causing harmful effects) to calculate a Hazard Quotient (HQ). An HQ above 1.0 indicates cleanup may be needed to reduce potential exposures to a safe level. For example, if the chemical concentration results in a daily intake of 25 parts per million (ppm) per day and the reference concentration is 10 ppm per day, the HQ would be 2.5.

The only unacceptable risks were for the hypothetical future residential scenario, which is unlikely for this site. The Navy's statistical analysis of soil sampling data indicates that probable exposure concentrations of arsenic and iron in soil are 14.4 ppm and 23,000 ppm, respectively. These concentrations are associated with HQs due to exposure to contaminated soil of 0.8 and 1.07, respectively, for hypothetical future child residents.

Similarly, the Navy's statistical analysis of shallow groundwater sampling data found that the probable exposure concentration of lead in the groundwater was 34.5 parts per billion (ppb), which is in excess of the Safe Drinking Water Act action level of 15 ppb. The probable exposure concentrations of arsenic, iron, and manganese are 32.8 ppb, 83,700 ppb, and 4,470 ppb, respectively. These concentrations are associated with HQs due to exposure to contaminated groundwater of 7.0, 17.9, and 12.4, respectively, for hypothetical future child residents. The respective HQs for hypothetical future adult residents are 3.0, 7.66, and 5.34. An excess lifetime cancer risk level (as a child and adult) of 7.3E-4 for arsenic also is associated with this exposure concentration. The probable exposure concentration of vinyl chloride (317 ppb) is associated with an excess lifetime cancer risk level of 1.05E-2.

These risks and hazard levels indicate that there is significant potential risk to hypothetical future children and adults from direct exposure to contaminated soil and shallow groundwater under a hypothetical future residential use scenario. These risk estimates are based on future reasonable maximum exposure scenarios and were developed by taking into account various conservative assumptions about the frequency and duration of an individual's exposure to the soil and shallow groundwater. Assumptions on the toxicity of arsenic, iron, manganese, and vinyl chloride were also considered.

Ecological Risks

An ecological risk assessment indicated that there are potential ecological risks from mercury, silver, and PCBs detected in surface soil. The concentrations that pose potential risks were not widespread, but were isolated occurrences. Of these contaminants of concern, silver was detected most frequently and at the highest concentrations. PCBs were only detected at one soil sampling location. This location also had the highest levels of mercury and silver.

Extensive biological monitoring of the ponds adjacent to Site 12 was conducted as part of an RI for another nearby site at IHDIV-NSWC. Drainage for this site also flows to these ponds. This monitoring indicated there was a low diversity and quantity of aquatic life in the ponds. However, the study concluded that these conditions were caused by naturally poor conditions and probably were not a result of chemical contamination.

There are no endangered species or critical habitats at Site 12.

6.0 REMEDIAL ACTION OBJECTIVES

Remedial action objectives (RAOs) provide a general description of what the clean-up will accomplish. These goals typically serve as the design basis for the clean-up alternatives. Based on the recommendations of the RI, an evaluation of state solid waste regulations, and anticipated future uses of the site, the media of interest at Site 12 are surface soils on the former landfill and the landfill waste. Although chemical concentrations in shallow groundwater were higher than drinking water standards, shallow groundwater beneath the site is not a current or potential source of drinking water under the anticipated non-residential land use for the site. However, one of the RAOs is to prevent future residential use and use of contaminated groundwater.

Based on the media of concern, the potential pathways and receptors of concern, and anticipated land use scenarios, one RAO was developed for surface soils. The RAO for surface soils is to eliminate receptor exposure pathways by removing the potential for direct contact between ecological receptors and contaminants.

Based on the intent of the solid waste management regulations, one RAO was developed for the landfill. The RAO is to close the landfill in a manner that protects human health and the environment and controls air, water, and land pollution.

No chemical-specific clean-up levels have been developed for Site 12. The requirements for landfill closure are inherently protective of humans, for the non-residential use anticipated for this site, and measures that address potential ecological receptors can be included in the closure procedures. To the extent that the potential remedial alternative includes removal of landfilled waste material, visual determinations, rather than chemical-specific clean-up levels, would be used to determine whether the landfilled material had been removed.

In summary, the RAOs are as follows:

- Prevent future residential use and use of contaminated shallow groundwater.

- Eliminate receptor exposure pathways by removing the potential for direct contact between ecological receptors and contaminants.

- Close the landfill in a manner that protects human health and the environment and controls air, water, and land pollution.

7.0 SUMMARY OF REMEDIAL ALTERNATIVES

Remedial alternatives for Site 12 are presented below. Several of the remedies require land use controls to limit the use of the site or to prevent the use of shallow groundwater for drinking water purposes. These resource use restrictions are discussed in each alternative as appropriate. The institutional controls would be documented in the Base Master Plan. The Base Master Plan would provide guidance for the Navy to take adequate measures to minimize adverse human and environmental effects at the time of any future land development. The exact type(s) of restrictions and enforceability would need to be determined for the selected remedy in the Record of Decision (ROD). Consistent with expectations set out in the Superfund regulations, none of the remedies relies exclusively on institutional controls to achieve protectiveness.

None of the alternatives includes active cleanup of shallow groundwater. Alternative 4 includes a slurry wall to inhibit shallow groundwater migration. Shallow groundwater at Site 12 is not currently used and is not expected to be used in the future. Monitoring the effectiveness of the remedy, including land use controls, is a component of each alternative except the no-action alternative.

All alternatives, except the no-action alternative, are expected to attain the remedial action objectives. One of the main objectives is to close the landfill in accordance with state solid waste management regulations (COMAR 26.04.07). No hazardous wastes have been identified at Site 12, and none are expected to be generated for any of the alternatives.

More detailed descriptions of the remedial alternatives can be found in the FS Report.

The preferred alternative is Alternative 2 - Soil Cover with Land Use Controls and Monitoring.

Alternative 1 – No Action

Estimated Capital Cost: $0
Estimated Annual Operation and Maintenance (O&M) Cost: $0

Estimated Present Worth Cost: $0
Estimated Construction Timeframe: None

Regulations governing the Superfund program generally require that the no-action alternative be evaluated to establish a baseline for comparison. Under this alternative, the Navy would take no action at the site to prevent exposure to the soil and shallow groundwater contamination.

Alternative 2 – Soil Cover with Land Use Controls and Monitoring

Estimated Capital Cost: $938,600
Estimated Annual O&M Cost: $24,300
Estimated Present Worth Cost: $1,262,000
Estimated Construction Timeframe: 3 months
Estimated Time to Achieve RAOs: 3 months

The purpose of the soil cover would be to eliminate or reduce the possibility of exposure to human and ecological receptors, eliminate physical hazards, reduce erosion, and improve aesthetics. A layer of soil would be placed over the landfill as needed so that all waste would be covered with 2 feet of soil (18 inches of common clean fill and 6 inches of topsoil). Where additional soil is provided to establish the minimum soil cover, the applied soil will consist of topsoil until a 6-inch thickness is achieved. The area would then be revegetated with a type of vegetation that would discourage animals from burrowing into the landfill. The 2 feet of soil cover would provide an ecological buffer layer to reduce the possibility of animals burrowing to the depth of the landfilled waste. An area of approximately 4.3 acres would be covered. Landfilled materials near the edge of the ponds not currently covered with at least 2 feet of soil would be removed to a depth not less than 2 feet. The resulting excavation would be backfilled with 18 inches of common clean fill and 6 inches of topsoil to provide 2 feet of soil cover over the landfilled materials remaining in place. The excavated landfilled material and soil/sediment material would be removed for off-site disposal. Wetland soil and vegetation disturbed during removal activities would be replaced.

Land use controls would be put in place to prohibit residential development and shallow groundwater use. This would also be necessary so that the soil cover would not be damaged from future site activities. Monitoring of shallow groundwater and surface water would be conducted to confirm that migration of contaminants from the site has not occurred and to determine the need for future actions. A site review would be performed within 5 years.

Alternative 3 – Soil Cap with Land Use Controls and Monitoring

Estimated Capital Cost: $1,902,400
Estimated Annual O&M Cost: $24,300
Estimated Present Worth Cost: $2,226,000
Estimated Construction Timeframe: 4 months
Estimated Time to Achieve RAOs: 4 months

The purpose of the soil cap would be to eliminate or reduce the possibility of exposure to human and ecological receptors, eliminate physical hazards, reduce erosion, and improve aesthetics. Additional soil would be placed as needed over the landfill so that all waste would be covered with a 2-foot layer of soil. A soil cap would include a layer of geotextile material, an additional 18 inches of common fill, and 6 inches of topsoil installed over the 2-foot soil cover layer, for a total soil thickness over the waste of 4 feet. The cap would be revegetated with a type of vegetation that would discourage animals from burrowing into the landfill. The 4 feet of soil would provide an ecological buffer layer to reduce the possibility of animals burrowing to the depth of the landfilled waste. An area of approximately 4.3 acres would be capped. Prior to placement of the cap, excavated materials from along the shores of the ponds and adjacent wetlands would be removed for off-site disposal (large debris) or consolidated within the area to be capped (soil and sediment). Wetland soil and vegetation disturbed during removal activities would be replaced.

Land use controls would be put in place to prohibit residential development and shallow groundwater use. This would also be necessary so that the soil cap would not be damaged from future site activities. Monitoring of shallow groundwater and surface water would be conducted to confirm that migration of contaminants from the site has not occurred and to determine the need for future actions. A site review would be performed within 5 years.

Alternative 4 – Engineered Cap and Slurry Walls with Land Use Controls and Monitoring

Estimated Capital Cost: $3,266,100
Estimated Annual O&M Cost: $24,300
Estimated Present Worth Cost: $3,590,000
Estimated Construction Timeframe: 4 months
Estimated Time to Achieve RAOs: 4 months

The purpose of the engineered cap and slurry walls is to eliminate or reduce the possibility of exposure to human and ecological receptors, eliminate physical hazards, reduce the rate of surface water infiltration, reduce migration of shallow groundwater, reduce erosion, and improve aesthetics. Soil would be placed

as needed over the landfill so that all waste would be covered with a 2-foot layer of soil. An engineered cap would be installed over the soil cover. The engineered cap would include a low-permeability synthetic geomembrane, geocomposite drainage layer, 18 inches of common fill, and 6 inches of topsoil. The cap would be revegetated with a type of vegetation that would discourage animals from burrowing into the landfill. The 4 feet of soil would provide an ecological buffer layer to reduce the possibility of animals burrowing to the depth of the landfilled waste. An area of approximately 4.3 acres would be capped. Prior to placement of the cap, excavated materials from along the shores of the ponds would be removed for off-site disposal (large debris) or consolidated within the area to be capped (soil and sediment). Wetland soil and vegetation disturbed during removal activities would be replaced.

Slurry walls would be installed around the perimeter of the landfill areas to minimize the potential for future shallow groundwater discharges to adversely affect surface water quality.

Land use controls would be put in place to prohibit residential development and shallow groundwater use. This would also be necessary so that the engineered cap and slurry walls would not be damaged from future site activities. Monitoring of shallow groundwater and surface water would be conducted to confirm that migration of contaminants from the site has not occurred and to determine the need for future actions. A site review would be performed within 5 years.

Alternative 5 – Landfill Removal and Monitoring

Estimated Capital Cost: $4,657,600
Estimated Annual O&M Cost: $15,300
Estimated Present Worth Cost: $4,868,000
Estimated Construction Timeframe: 6 months
Estimated Time to Achieve RAOs: 6 months

The purpose of landfill removal would be to remove the source of contamination and the possibility of exposure for human and ecological receptors. Approximately 70,000 cubic yards of soil and landfill material would be excavated and transported to an off-site solid waste landfill for disposal. Waste excavated from below the water table would be allowed to dewater on site before off-site disposal. Exposed waste found along the shore of the ponds would also be removed for off-site disposal. After the area has been excavated, it would be backfilled with clean material, compacted, graded, and revegetated. Wetland soil and vegetation disturbed during removal activities would be replaced.

Land use controls would be put in place to prohibit shallow groundwater use. Monitoring of shallow groundwater and surface water would be conducted to confirm that migration of shallow groundwater

contaminants from the site has not occurred and to determine the need for future actions. A site review would be performed within 5 years.

8.0 EVALUATION OF ALTERNATIVES

Nine criteria are used to evaluate the different remedial alternatives individually and against each other in order to select a remedy. This section of the Proposed Plan profiles the relative performance of each alternative against the nine criteria, noting how each compares to the other options under consideration. The nine evaluation criteria are discussed below. The evaluation criteria are explained in Table 2. The detailed analysis of alternatives can be found in the FS. A summary of the evaluation of the alternatives is provided in Table 3. The rationale for selecting the preferred alternative is discussed in Section 9.0, Summary of the Preferred Alternative.

Threshold Criteria

Overall Protection of Human Health and the Environment

All the alternatives except the no-action alternative would provide adequate protection of human health and the environment by eliminating, reducing, or controlling risk through removal, engineering controls, and/or institutional controls. Alternative 5 would provide the most protection of human health and the environment because all contaminated soil and landfill material would be removed from the site, and land use controls would prevent shallow groundwater use.

Alternatives 2 (soil cover), 3 (soil cap), 4 (engineered cap and slurry walls), and 5 (landfill removal) would protect human health through implementation of land use controls to restrict land and/or shallow groundwater use. Alternatives 2, 3, and 4 protect ecological receptors by including a vegetative cover suitable for discouraging animals from burrowing into the landfill. The soil cover for Alternative 2 and the soil cover/cap for Alternatives 3 and 4 would provide an ecological buffer layer to reduce the possibility of animals burrowing to the depth of the landfilled waste. Alternative 5 protects ecological receptors by removing the landfill waste.

The slurry wall included in Alternative 4 would protect the environment more than Alternatives 2 and 3 by minimizing the potential for future shallow groundwater discharges to adversely affect surface water quality. Although the discharge of contaminated shallow groundwater to the ponds has not adversely affected surface water quality in the past, landfill waste is present beneath the water table. The waste could potentially leach contaminants that could further degrade shallow groundwater quality. The slurry wall included in Alternative 4 would inhibit the movement of shallow groundwater from under the landfill to the ponds.

Because the no-action alternative (Alternative 1) would not be protective of human health and the environment, it was eliminated from consideration under the remaining eight criteria.

Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)

Alternatives 2 (soil cover), 3 (soil cap), 4 (engineered cap and slurry walls), and 5 (landfill removal) would meet their respective ARARs from federal and state laws including state solid waste management regulations. For Alternatives 2 and 3, a determination would need to be made that the soil cover and the soil cap, combined with the land use controls and monitoring, would qualify for a variance of state sanitary landfill closure (capping) requirements (COMAR 26.04.07). A variance is warranted because Alternatives 2 and 3 protect public health, natural resources, and the environment and control air, water, and land pollution to the same extent as the capping requirements.

Primary Balancing Criteria

Long-Term Effectiveness and Permanence

Alternative 5 would be the most protective over the long term with respect to soil contamination because the landfill waste would be removed from the site. Alternatives 2, 3, and 4 would be less effective in the long term because the landfill waste would remain on site, and land use controls would be needed to restrict land use. However, the long-term effectiveness of Alternatives 2, 3, and 4 would be monitored, and corrective measures could be taken if necessary. The engineered cap included under Alternative 4 would reduce infiltration and the potential for contaminant migration more efficiently than the soil cap under Alternative 3 and the soil cover under Alternative 2. Although Alternative 4 includes slurry walls to minimize migration of shallow groundwater contaminants to surface water, pre-design studies would be needed to determine that the slurry walls would effectively shut off shallow groundwater flow to the ponds.

Alternatives 2, 3, 4, and 5 would rely on land use controls to control exposure to contaminated materials and/or shallow groundwater. Monitoring would be effective in determining whether shallow groundwater contaminants have migrated beyond the site boundary or to surface water at unacceptable levels.

Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment

None of the alternatives includes treatment to reduce the toxicity, mobility, or volume of the hazardous substances at the site.

Short-Term Effectiveness

No risks to the public are anticipated from implementation of Alternatives 2, 3, 4, or 5.

Exposure of workers to the contaminated media under Alternatives 2, 3, 4, and 5 could be controlled by the use of appropriate controls and adherence to proper health and safety protocols.

Excavation and debris removal under Alternatives 2, 3, 4, and 5 would have a short-term impact to the wetlands in the area. However, all these alternatives include replacement of wetland soil and vegetation following remediation. Erosion controls would be provided for all these alternatives to prevent downstream migration of contaminants.

Alternative 2 would take 3 months to construct, Alternatives 3 and 4 would take 4 months to construct, and Alternative 5 would take 6 months to construct.

Implementability

All technologies and remedies are readily available and generally proven. Pre-design studies would be required for the Alternative 4 slurry walls to confirm that site geologic and hydrogeologic conditions would not adversely affect the implementability. There are also some implementability concerns for Alternative 5 associated with waste excavation below the water table.

Cost

The estimated present-worth cost of Alternative 5 is the highest; however, all solid wastes would be permanently removed from the site. The slurry wall and geosynthetic membrane associated with Alternative 4 results in a higher present-worth cost than for Alternative 3. The soil cap associated with Alternative 3 results in a higher present-worth cost than the soil cover included under Alternative 2.

Modifying Criteria

State Acceptance

State acceptance of the preferred alternative, Alternative 2, will be evaluated after the public comment period and will be described in the ROD for the site.

Community Acceptance

Community acceptance of the preferred alternative, Alternative 2, will be evaluated after the public comment period ends and will be described in the ROD for the site.

9.0 SUMMARY OF THE PREFERRED ALTERNATIVE

The preferred alternative for cleaning up Site 12 is Alternative 2, Soil Cover with Land Use Controls and Monitoring. The preferred alternative was selected over other alternatives because it is expected to achieve substantial and long-term risk reduction through a combination of removal, containment, land use controls, and monitoring. The preferred alternative meets all the remedial action objectives. From a human health perspective, only non-residential land use is anticipated at Site 12, and there are no unacceptable risks to human health under non-residential exposure scenarios. With respect to ecological risks, the landfill surface soils were the sole concern. The overlying 2 feet of soil and the vegetative cover included in this alternative would provide an ecological buffer layer to reduce the possibility of animals coming in contact with the present surface soil or the landfilled waste. Compliance with ARARs would be achieved with the implementation of land use controls and a variance from MDE regarding landfill closure requirements. The variance would be based on the absence of adverse affects from the landfill on the adjacent ponds and the fact that shallow groundwater at the site is not used, or anticipated to be used, as a source of drinking water and it will be monitored in the future.

Although Alternative 3 (Soil Cap) includes up to 4 feet of soil over the landfilled waste, the 2 feet of soil and vegetation cover included under Alternative 2 would provide adequate protection of human health and the environment in a more cost-effective manner.

Alternative 4 (Engineered Cap and Slurry Walls) includes an impermeable barrier over the landfill and a slurry wall around the landfill perimeter. Previous studies have indicated that there have been no adverse affects on the ponds caused by contaminated shallow groundwater under the landfill. This eliminates the need for the impermeable barriers to reduce stormwater infiltration through the landfill and migration of shallow groundwater contaminants to surface water. Additionally, uncertainties regarding the implementability of the slurry wall dictate the need for additional field investigations to determine subsurface conditions.

Total removal of the landfill under Alternative 5 is much more extensive than necessary to meet the needs of non-residential land use while meeting the state landfill closure requirements.

Based on information currently available, the Navy believes that Alternative 2 – Soil Cover meets the threshold criteria and provides the best balance of tradeoffs among the alternatives with respect to

primary balancing and modifying criteria. The Navy expects the preferred alternative to satisfy the following statutory requirements of CERCLA Section 121(b): be protective of human health and the environment, comply with ARARs, be cost effective, and utilize permanent solutions and alternative treatment technologies to the maximum extent practicable. However, because treatment of the principal threats of the site was not found to be practicable, the preferred alternative does not satisfy the statutory preference for treatment as a principal element. The preferred alternative can change in response to public comment or new information.

10.0 COMMUNITY PARTICIPATION

The Navy, EPA, and MDE provide information regarding the cleanup of sites at IHDIV-NSWC, including Site 12, to the public through public meetings, the Administrative Record file for the site, and announcements published in the *Maryland Independent* and *La Plata-Indian Head Ledger*. The Navy, EPA, and MDE encourage the public to gain a more comprehensive understanding of the site and the Superfund activities that have been conducted at the site.

An important part of the selection of a remedial action is community involvement. The Navy relies on public comments to ensure the selected alternative is fully understood and that community concerns have been considered. The following information is provided to solicit community input into the selection of a remedy for Site 12.

Important Dates to Remember

Public comment period begins January 16, 2001

Public Meeting
Tuesday, January 23, 2001
7 - 9 p.m.
Indian Head Senior Center
100 Cornwallis Square
Indian Head, Maryland 20640

Public comment period ends March 2, 2001

During the public meeting, representatives of the Navy, EPA, and MDE will be available to answer questions and accept public comments on the Proposed Plan or remedy for Site 12. In addition, an overview of the site characterization will be presented.

A collection of general information, including the Administrative Record file, is available to the community in the information repositories at the following locations:

Charles County Public Library
La Plata Branch
Charles & Garrett Streets
La Plata, MD 20646
(301) 934-9001

Hours of Operation:
Mon. – Thurs.: 9:00 AM – 8:00 PM
Fri.: 12:00 PM – 5:00 PM
Sat.: Summer (closed)
9:00 AM – 5:00 PM (after Labor Day)
Sun.: Closed

IHDIV-NSWC
General Library
Indian Head Division
Naval Surface Warfare Center
Building 620
101 Strauss Avenue
Indian Head, MD 20640-5035
(301) 744-4747

Hours of Operation:
Mon. – Fri.: 9:00 AM – 5:30 PM
Sat. & Sun.: Closed

Minutes of the public meeting will be made available to the public through the information repositories listed above. A responsiveness summary will be prepared at the conclusion of the comment period to summarize significant comments, criticisms, and new relevant information submitted to the Navy during the comment period. In addition, the summary will include the responses to each issue or question raised at the public meeting. The responsiveness summary will also be included in the ROD for Site 12.

Written comments can be submitted via mail, e-mail, or fax and should be sent to the following addressee:

Ms. Christina Adams
Public Affairs Officer
Indian Head Division
Naval Surface Warfare Center
Code PA, Building 20
101 Strauss Avenue
Indian Head, MD 20640-5035
(301) 744-4304
Fax (301) 744-6524
adamscs@ih.navy.mil

For further information, please contact:

Shawn Jorgensen
Remedial Project Manager
Indian Head Division
Naval Surface Warfare Center
Code 046C, Building D-327
101 Strauss Avenue
Indian Head, MD 20640
(301) 774-2263
jorgensensa@ih.navy.mil

Dennis C. Orenshaw
Remedial Project Manager

U.S. Environmental Protection Agency
1650 Arch Street (3HS13)
Philadelphia, PA 19103-2029
(215) 814-3361
orenshaw.dennis@epamail.epa.gov

Curtis De Tore
Remedial Project Manager
Maryland Department of the Environment
2500 Broening Highway
Baltimore, MD 21224
(410) 631-3440
cdetore@mde.state.md.us

Robert A. Sadorra, PE (Code 1811)
Remedial Project Manager
Engineering Field Activity - Chesapeake
Building 212
1314 Harwood Street, S.E.
Washington Navy Yard, D.C. 20374-5018
(202) 685-3275
sadorra@efaches.navfac.navy.mil

Table 1
Glossary of Terms

This glossary defines the terms used in this Proposed Plan. The definitions apply specifically to this Proposed Plan and may have other meanings when used in different circumstances.

Administrative Record File: A record made available to the public that includes all information considered and relied on in selecting a remedy for a site.

Applicable or Relevant and Appropriate Requirements (ARARs): The federal and state environmental laws that a selected remedy will meet. These requirements may vary among sites and alternatives.

Background Concentrations: Concentrations of chemical compounds in environmental media that are representative of naturally occurring conditions or that may be attributable to historic, widespread human activity.

Baseline Risk Assessment: A study conducted as a supplement to an RI to determine the nature and extent of contamination at an NPL site and the risks posed to human health and/or the environment.

Clean-up: Actions taken to deal with a release or threatened release of hazardous substances that could affect public health or the environment. The noun cleanup is often used to describe various response actions or phases of remedial responses, such as an RI/FS.

Comment Period: A time for the public to review and comment on various documents and actions taken, either by the Navy, EPA, or MDE. For example, a comment period is provided when EPA proposes to add sites to the NPL. A minimum 30-day comment period is held to allow community members to review the Administrative Record file and review and comment on the Proposed Plan.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): A federal law passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act (SARA). The act created a special tax that goes into a trust fund to investigate and clean up abandoned or uncontrolled hazardous waste sites. Under the program, EPA can do either of the following:

- Pay for site cleanup when parties responsible for the contamination cannot be located or are unwilling or unable to perform the work.
- Take legal action to force parties responsible for site contamination to clean up the site or pay back the federal government for the cost of the cleanup.

Contaminant: Any physical, biological, or radiological substance or matter that, at a high enough concentration, could have an adverse effect on human health or the environment.

Ecological Receptor: A plant or animal that is introduced to a compound in the environment.

Feasibility Study (FS): See Remedial Investigation/Feasibility Study.

Geophysical Investigation: A non-intrusive study using various electronic instruments to identify conditions beneath the ground surface.

Groundwater: Water beneath the ground surface that fills spaces between materials such as sand, soil, or gravel to the point of saturation. In aquifers, groundwater occurs in quantities sufficient for drinking water, irrigation, and other uses. Groundwater may transport substances that have percolated downward from the ground surface as it flows towards its point of discharge.

Hazard Quotient (HQ): The ratio of the daily intake of a chemical from on-site exposure divided by the reference dose for that chemical. The reference dose represents the daily intake of a chemical that is not expected to cause adverse health effects.

Hazardous Substance: Any material that poses a threat to public health and/or the environment. Typical hazardous substances are materials that are toxic, corrosive, ignitable, explosive, or chemically reactive.

Information Repository: A file containing information, technical reports, and reference documents regarding an NPL site.

Metals: Metals are naturally occurring elements in the earth. Arsenic, cadmium, iron, mercury, and silver are examples of metals. Exposure to some metals, such as arsenic and mercury, can have toxic effects. Other metals, such as iron, are essential to the metabolism of humans and animals.

Monitoring: Ongoing collection of information about the environment that helps gauge the effectiveness of a clean-up action. This includes the collection of samples with laboratory analysis for the contaminants of interest.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP): The purpose of the NCP is to provide the organizational structure and procedures for preparing for and responding to discharges of oil and releases of hazardous substances, pollutants, or contaminants.

National Priorities List (NPL): The EPA list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial response.

Net Present Worth: A present-worth analysis is used to evaluate costs that occur over different time periods by discounting all future costs to a common base year. It represents the amount of money that, if invested in the base year and dispersed as needed, would be sufficient to cover all costs associated with the remedial action over its planned life. Net present worth considers both capital (construction) costs and costs for annual operation and maintenance.

Organic Compounds: These are naturally occurring or man-made chemicals containing carbon. Volatile organics can evaporate more quickly than semivolatile organics. Other organics associated with RI/FS activities include pesticides and polychlorinated biphenyls (PCBs). Some organic compounds may cause cancer; however, their strength as a cancer-causing agent can vary widely. Other organics may not cause cancer but may be toxic. The concentrations that can cause harmful effects can also vary widely.

Polynuclear Aromatic Hydrocarbons (PAH): A group of chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances. PAHs can be man-made or occur naturally.

Proposed Plan: A public participation requirement of SARA in which the lead agency summarizes for the public the preferred clean-up strategy and rationale for preference and reviews the alternatives presented in the detailed analysis of the FS. The Proposed Plan may be prepared either as a fact sheet or as a separate document. In either case, it must actively solicit public review and comment on all alternatives under consideration.

Record of Decision (ROD): An official public document that explains which clean-up alternative(s) will be used at NPL sites. The ROD is based on information and technical analysis generated during the RI/FS and consideration of public comments and community concerns. The ROD explains the remedy selection process and is issued by the Navy following the public comment period.

Remedial Action: The actual construction or implementation phase that follows the remedial design for the selected clean-up alternative at a site on the NPL.

Remedial Investigation/Feasibility Study (RI/FS): Investigation and analytical studies usually performed at the same time in an interactive process and together referred to as the "RI/FS." They are intended to gather data needed to determine the type and extent of contamination, establish criteria for cleaning up the site, identify and screen clean-up alternatives for remedial action, and analyze in detail the technology and costs of the alternatives.

Remedial Response: A long-term action that stops or substantially reduces a release or threatened release of hazardous substances that is serious but does not pose an immediate threat to public health or the environment.

Response Action: As defined by Section 101(25) of CERCLA, means remove, removal, remedy, or remedial action, including related enforcement activities.

Responsiveness Summary: A summary of oral and written public comments received by the lead agency during a comment period and the responses to these comments prepared by the lead agency. The responsiveness summary is an important part of the ROD, highlighting community concerns for decision makers.

Revegetate: To replace topsoil, seed, and mulch on prepared soil to prevent wind and water erosion.

Risk Assessment: Evaluation and estimation of the current and future potential for adverse human health or environmental effects resulting from exposure to contaminants.

Semivolatile Organic Compounds (SVOCs): Chemical compounds that evaporate more slowly than a volatile organic compound at normal temperatures and pressures.

Superfund: An informal name for CERCLA.

Superfund Amendments and Reauthorization Act (SARA): The public law enacted to reauthorize the funding provisions and amend the authorities and requirements of CERCLA and associated laws. Section 120 of SARA requires that all federal facilities be subject to and comply with this act in the same manner and to the same extent as any non-federal entity.

Volatile Organic Compounds (VOCs): Chemical compounds that evaporate readily at normal temperatures and pressures.

Table 2
Evaluation Criteria for Superfund Remedial Alternatives

In selecting a preferred clean-up alternative, the Navy uses the following criteria to evaluate each of the alternatives developed in the FS. The first two threshold criteria are essential and must be met before an alternative is considered further. The next five primary balancing criteria are used to further evaluate all alternatives that meet the threshold criteria. The final two modifying criteria are used to further evaluate the Proposed Plan after the public comment period has ended and comments from the community, EPA, and MDE have been received. All nine criteria are explained in more detail here.

THRESHOLD CRITERIA

Overall Protection of Human Health and the Environment determines whether an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.

Compliance with ARARs evaluates whether the alternative meets federal and state environmental statutes, regulations, and other requirements that pertain to the site, or whether a waiver is justified.

PRIMARY BALANCING CRITERIA

Long-Term Effectiveness and Permanence considers the ability of an alternative to maintain protection of human health and the environment over time.

Reduction of Toxicity, Mobility, or Volume through Treatment evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.

Short-Term Effectiveness considers the length of time needed to implement an alternative and the risks the alternative poses to workers, the community, and the environment during implementation.

Implementability considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.

Cost includes estimated capital and annual operation and maintenance costs, as well as the present-worth cost. Present-worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to –30 percent.

MODIFYING CRITERIA

State Acceptance considers whether the state agrees with the Navy's analyses and recommendations, as described in the RI/FS and Proposed Plan.

Community Acceptance considers whether the local community agrees with the Navy's analysis and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.

TABLE 3

SUMMARY OF EVALUATION OF ALTERNATIVES
SITE 12 – TOWN GUT LANDFILL
IHDIV-NSWC, INDIAN HEAD, MARYLAND
PAGE 1 OF 3

Evaluation Criteria	Alternative 1 – No Action	Alternative 2 - Soil Cover with Land Use Controls and Monitoring
Threshold Criteria		
Overall Protection of Human Health and the Environment	No reduction in potential risks.	The soil cover, vegetative barrier, and land use controls will reduce risks to human health as well as ecological receptors and the environment.
Compliance with ARARs		
Chemical-specific	Would not comply.	Would comply.
Location-specific	Not applicable.	Can be designed to attain ARARs that apply.
Action-specific	Not applicable.	Qualifies for a variance from state landfill closure requirements
Primary Balancing Criteria		
Long-term Effectiveness and Permanence	Allows risk to remain uncontrolled.	The soil cover, vegetative barrier, and land use controls would reduce risks to human health as well as ecological receptors. Monitoring and use restrictions provide adequate and reliable controls.
Reduction of Toxicity, Mobility, or Volume through Treatment	No treatment.	No treatment.
Short-term Effectiveness	Not applicable. No short-term impacts or concerns.	No impacts to community. Exposure of workers to contaminated media can be adequately controlled. Short-term impact to wetlands. Three months to implement.
Implementability	Nothing to implement. No monitoring to show effectiveness.	Alternative consists of common remediation practices that are readily available and implementable.
Costs		
Capital	$0	$938,600
O&M	$0	$24,300
NPW	$0	$1,262,000
Modifying Criteria		
State Acceptance	To be determined	To be determined
Community Acceptance	To be determined	To be determined

TABLE 3

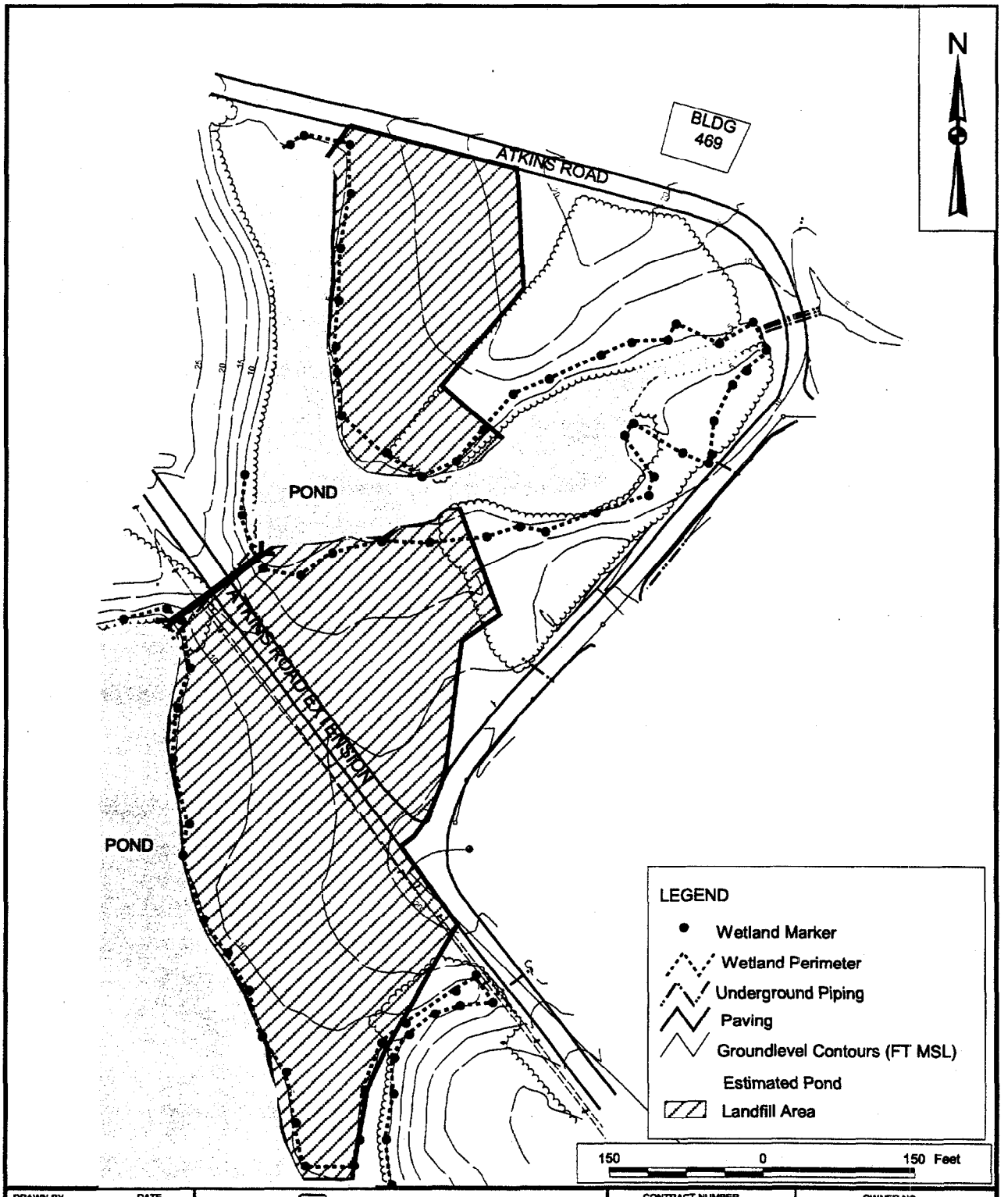
SUMMARY OF EVALUATION OF ALTERNATIVES
SITE 12 – TOWN GUT LANDFILL
IHDIV-NSWC, INDIAN HEAD, MARYLAND
PAGE 2 OF 3

Evaluation Criteria	Alternative 3 – Soil Cap with Land Use Controls and Monitoring	Alternative 4 – Engineered Cap with Land Use Controls and Monitoring
Threshold Criteria		
Overall Protection of Human Health and the Environment	The soil cap, vegetative barrier, and land use controls will reduce risks to human health as well as ecological receptors and the environment.	Landfill cap, slurry wall, vegetative barrier, and land use controls will reduce risks to human health as well as ecological receptors and the environment.
Compliance with ARARs		
Chemical-specific	Would comply.	Would comply.
Location-specific	Can be designed to attain ARARs that apply.	Can be designed to attain ARARs that apply.
Action-specific	Can be designed to attain ARARs that apply. Qualifies for a variance from state landfill closure requirements.	Can be designed to attain ARARs that apply.
Primary Balancing Criteria		
Long-term Effectiveness and Permanence	The soil cap with biotic barrier and land use controls would reduce human health and ecological risks. Monitoring and use restrictions provide adequate and reliable controls.	Landfill cap, slurry wall, biotic barrier, and land use controls would reduce human health and ecological risks. Required depth of slurry wall needs to be determined during the design. Monitoring and use restrictions provide adequate and reliable controls.
Reduction of Toxicity, Mobility, or Volume through Treatment	No treatment.	No treatment.
Short-term Effectiveness	No impacts to community. Exposure of workers to contaminated media can be adequately controlled. Exposure would be eliminated after the installation of the first soil cover component. Short-term impact to wetlands. Four months to implement.	No impacts to community. Exposure of workers to contaminated media can be adequately controlled and would be eliminated after the placement of the first landfill cap component. Short-term impacts to wetlands. Four months to implements.
Implementability	Alternative consists of common remediation practices that are readily available and implementable.	Alternative consists of common remediation practices that are readily available and implementable. Excessive depth to confining layer could adversely affect implementability of slurry wall.
Costs		
Capital	$1,902,400	$3,266,100
O&M	$24,300	$24,300
NPW	$2,226,000	$3,590,000
Modifying Criteria		
State Acceptance	To be determined	To be determined
Community Acceptance	To be determined	To be determined

TABLE 3

SUMMARY OF EVALUATION OF ALTERNATIVES
SITE 12 – TOWN GUT LANDFILL
IHDIV-NSWC, INDIAN HEAD, MARYLAND
PAGE 3 OF 3

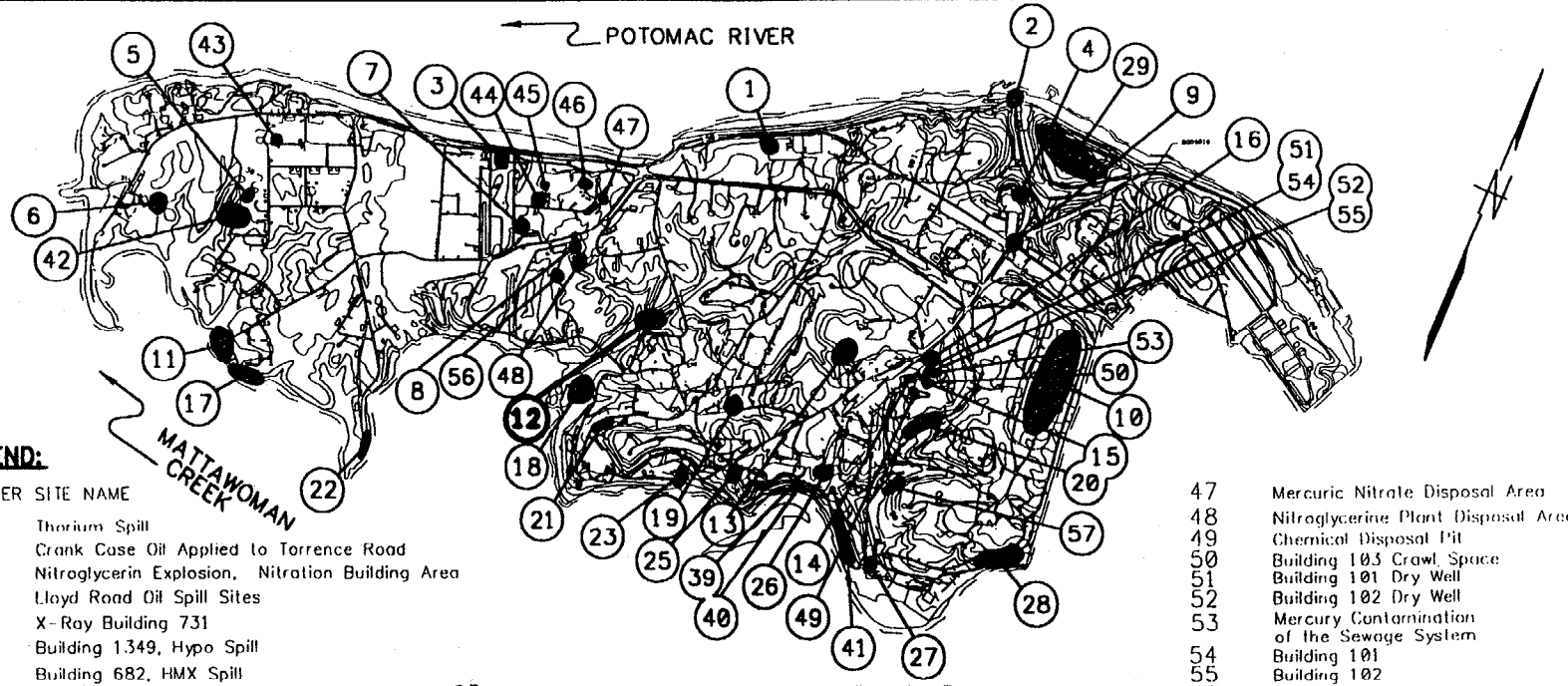
Evaluation Criteria	Alternative 5 – Landfill Removal and Monitoring
Threshold Criteria	
Overall Protection of Human Health and the Environment	Landfill removal and land use controls will eliminate and reduce risks to human health and the environment.
Compliance with ARARs	
Chemical-specific	Would comply.
Location-specific	Can be designed to attain ARARs that apply.
Action-specific	Can be designed to attain ARARs that apply.
Primary Balancing Criteria	
Long-term Effectiveness and Permanence	Landfill removal and land use controls would reduce human health and ecological risks. Monitoring and use restrictions provide adequate and reliable controls.
Reduction of Toxicity, Mobility, or Volume through Treatment	No treatment.
Short-term Effectiveness	No impacts to community. Exposure of workers to contaminated media can be adequately controlled. Short-term impacts to wetlands. Six months to implement.
Implementability	Alternative consists of common remediation practices that are readily available and implementable. There are some implementability concerns associated with excavation below the water table.
Costs	
Capital	$4,657,600
O&M	$15,300
NPW	$4,868,000
Modifying Criteria	
State Acceptance	To be determined
Community Acceptance	To be determined



DRAWN BY: J. BELLONE	DATE: 7/10/00	Tetra Tech NUS, Inc.	CONTRACT NUMBER: 7129 / OWNER NO.: —
CHECKED BY: —	DATE: —	SITE CONDITIONS MAP SITE 12 - TOWN GUT LANDFILL IHDIV-NSWC, INDIAN HEAD, MARYLAND	APPROVED BY: — / DATE: —
COST/SCHEDULE-AREA			APPROVED BY: — / DATE: —
SCALE: AS NOTED			DRAWING NO.: FIGURE 2 / REV: 0

P:\GIS\NSWC_INDIAN_HEAD\7129_PRESENTATION.APR\SITE 12 - SITE CONDITIONS MAP LAYOUT JCB 7/10/00

ACAD: 7129cm39.dwg 08/22/00 HJP



LEGEND:

SITE NUMBER	SITE NAME
1	Thorium Spill
2	Crank Case Oil Applied to Torrence Road
3	Nitroglycerin Explosion, Nitration Building Area
4	Lloyd Road Oil Spill Sites
5	X-Ray Building 731
6	Building 1349, Hypo Spill
7	Building 682, HMX Spill
8	Building 766, Mercury Deposits
9	Patterson Avenue, Oil Spill
10	Single-base Propellant Grains Spill
11	Caffee Road Landfill
12	**Town Gut Landfill**
13	Paint Solvents Disposal Ground
14	Waste Acid Disposal Pit
15	Mercury Manhole Deposits, Flourine Lab
16	Laboratory Chemical Disposal
17	Disposal Metal Parts Along Shoreline
18	Hog Island
19	Catch Basins at Chip Collection Houses
20	Single Base Powder Facilities
21	Bronson Road Landfill
22	NG Slums Burning Site
23	Hydraulic Oil Spill Discharges From Extrusion Plant
24	Abandoned Drain Lines
25	Hypo Discharge X-Ray Building No. 2
26	Thermal Destructor 2
27	Thermal Destructor 1
28	Original Burning Ground
29	The Valley
30-38	Stump Neck Annex
39	Silver Release to Sediments
40	Palladium Catalyst in Sediments
41	Scrap Yard
42	Olsen Road Landfill
43	Toluene Disposal
44	Soak Out Area
45	Abandoned Drums
46	Cadmium Sandblast Grit
47	Mercuric Nitrate Disposal Area
48	Nitroglycerine Plant Disposal Area
49	Chemical Disposal Pit
50	Building 103 Crawl Space
51	Building 101 Dry Well
52	Building 102 Dry Well
53	Mercury Contamination of the Sewage System
54	Building 101
55	Building 102
56	IW87 - Lead Contamination
57	Building 292 ICE Contamination
58-65	Stump Neck Annex

APPROXIMATE SITE LOCATION

INTERMITTENT STREAM

NAVAL RESERVE BOUNDARY

100 CONTOUR INTERVAL 10 FEET

FLOW DIRECTION

0 3000 6000

SCALE IN FEET

DRAWN BY HJP DATE 8/22/00	Tetra Tech NUS, Inc.	CONTRACT NO. 7129	OWNER NO.
CHECKED BY DATE	SITE LOCATION MAP INDIAN HEAD NSWC INDIAN HEAD, MARYLAND	APPROVED BY	DATE
COST/SCHED-AREA		APPROVED BY	DATE
SCALE AS NOTED		DRAWING NO. FIGURE 1	REV. 0

FORM CADD NO. TtNUS_AH.DWG - REV 0 - 1/22/98

MAILING LIST

If you are not on the mailing list and would like to receive future publications pertaining to Site 12 or other sites at IHDIV-NSWC as they become available, please call or complete, detach, and mail a copy of this form to the point of contact listed below:

Ms. Christina Adams
Public Affairs Officer
Indian Head Division
Naval Surface Warfare Center
Code PA, Building 20
101 Strauss Avenue
Indian Head, MD 20640-5035
(301) 744-4304
Fax: (301) 744-6524
adamscs@ih.navy.mil

Name: _____

Address: _____

_____

Telephone: _____

Affiliation: _____

USE THIS SPACE TO WRITE YOUR COMMENTS

Your input on the Proposed Plan for Site 12 at IHDIV-NSWC is important to the Navy. Comments provided by the public are valuable in helping the Navy select a final cleanup remedy for this site.

You may use the space below to write your comments, then fold and mail. Comments must be postmarked by March 2, 2001. Comments can be submitted via mail, e-mail, or fax and should be sent to the following addressee:

Ms. Christina Adams, Public Affairs Officer
Indian Head Division, Naval Surface Warfare Center
Code PA, Building 20
101 Strauss Avenue
Indian Head, MD 20640-5035
Fax: (301) 744-6524
E-mail: adamscs@ih.navy.mil

If you have any questions about the comment period, please contact Mr. Robert A. Sadorra, PE at (201) 685-3275.

Name_____

Address_____

City_____

State_____ **Zip**_____