FINAL
PROPOSED PLAN FOR
LAND USE CONTROL SITES AT THE
FORMER CURTIS BAY ORDNANCE DEPOT
CURTIS BAY, MARYLAND

Contract No. [redacted] Task Order No. [redacted]

Prepared for

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ACRONYMS AND ABBREVIATIONS

ARAR	applicable or relevant and appropriate requirement
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COC	constituent of concern
COPEC	Contaminant of potential ecological concern
Depot	Former Curtis Bay Ordinance Depot
DLA	Defense Logistics Agency
DNSC	Defense National Stockpile Center
DU	decision unit
EA	EA Engineering, Science, and Technology, Inc., PBC
EC	Environmental Concern
EPA	U.S. Environmental Protection Agency
ERT	ERT, Inc.
ESAR	Environmental Survey and Analysis Report
ESI	Expanded Site Inspection
FRI	Focused Remedial Investigation
FS	feasibility study
FSI	Focused Site Inspection
ft	feet/foot
FUDS	Formerly Used Defense Site
FYR	Five-year review
GSA	General Services Administration
HHRA	human health risk assessment
IRP	Installation Restoration Program
LUC	land use control
MDE	Maryland Department of the Environment
MMRP	Military Munitions Response Program
NA	Not Applicable
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
PP	Proposed Plan
PRG	preliminary remediation goal
RAO	remedial action objective
RCRA	Resource Conservation and Recovery Act
RI	remedial investigation
ROD	Record of Decision
SLERA	Screening Level Ecological Risk Assessment
USACE	U.S. Army Corps of Engineers
UECA	Uniform Environmental Covenants Act
UU/UE	unlimited use/unrestricted exposure

1. INTRODUCTION

1.1 PURPOSE OF PROPOSED PLAN

This Proposed Plan (PP) provides information necessary to allow the public to participate with the Defense Logistics Agency (DLA) and U.S. Army Corps of Engineers (USACE), in the remedy selection process at sites specified as "Land Use Control (LUC) Sites" at the Former Curtis Bay Ordnance Depot (Depot) located in Anne Arundel County, Maryland. LUC Sites at the Depot include Environmental Concern (EC) sites EC-3, EC-16A, EC-16B, EC-16C, EC-16D, EC-22, EC-27, EC-29, EC-30, EC-31, EC-33, EC-34, EC-35, EC-39, EC-50, EC-53, EC-57C, EC-58B, EC-58C, and all other areas within the installation boundary (except the "Action Sites" that are the subject of a separate Proposed Plan, and sites EC-25 and EC-49 that were the subject of a separate Remedial Investigation/Feasibility Study [RI/FS]) (**Figure 1**). This action is being conducted in consultation with the State of Maryland, which is being represented by the Maryland Department of the Environment (MDE), the lead regulatory agency.

This PP summarizes the information in previous investigations, and the additional documents available in the Administrative Record. The public is encouraged to review these documents to understand the environmental activities conducted to date at the Depot. Comments on this PP will be documented in the Record of Decision (ROD) for the Depot, which will set forth the final remedial actions chosen.

1.1.1 Purposes of this Proposed Plan

In 2021/2022, individual RI/FSs were prepared for the Depot EC sites by EA Engineering, Science, and Technology, Inc., PBC (EA) and Decision Unit (DU) sites by ERT, Inc. (ERT).

This PP identifies the Preferred Alternative to reduce potential risks from soil to human health and the environment in the Depot. This PP also summarizes the historical uses of the Depot, the constituents of concern (COCs) historically detected in surface soil, the data objectives of the RI, the remedial alternatives considered in both Depot Feasibility Studies, and the justification for these initial recommendations in the PP.

General Services Administration (GSA) currently owns the former Depot, approximately 435 acres, and plans to transfer this property. The Department of Defense delegated to the DLA the responsibility for completing the environmental investigations and remedial actions associated with the former defense-related operations and activities onsite. DLA, with the support of USACE Baltimore and Munition Design Center of Excellence, is completing the former defense-related environmental efforts onsite. These remedial efforts are being conducted in consultation with the MDE, the lead regulatory agency, as well as GSA, the property owner. MDE concurs with the Preferred Alternative as necessary to protect human health, welfare, and the environment from actual or threatened releases of hazardous substances into the environment. However, final acceptance of the PP is reserved until the public comment period ends.

The DLA and USACE are issuing this PP as part of the public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, 42 U.S. Code § 9617(a), and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) at 40 Code of Federal Regulations (CFR) 300.430(f)(2). The public is encouraged to review and comment on this PP.

An electronic copy of this PP and relevant documents that support the selection of the preferred alternative are available for review online at: https://www.dla.mil/Installation-Management/Environmental-documents/.

For convenience, these documents are available to the public at:

Brooklyn Park Library
1 East 11th Avenue
Baltimore, Maryland 21225

or

Maryland Department of the Environment (MDE)
1800 Washington Boulevard
Baltimore, Maryland 21230

The Administrative Record is maintained at:

Defense Logistics Agency
8725 John J. Kingman Road
Fort Belvoir, VA 22060-6221

For administrative records access, contact either the DLA Restoration Division Chief or DLA Public Affairs Office.

A 30-day public comment period will be held from May 20 through June 18, 2026.

The public comment period will include a public meeting during which the DLA, USACE, and MDE will present information and answer questions related to the site. The public meeting will be held on May 20, 2026 at 6 p.m. Please email DLAEnvPC@dla.mil for information on how to participate via computer or phone. Comments may also be submitted online through June 18, 2026 via email at DLAEnvPC@dla.mil.

Based on new information that becomes available or public comments, DLA and USACE, in consultation with MDE, may modify the preferred alternative for the site outlined within this PP. Therefore, the public is encouraged to review and comment on all alternatives for the site that are discussed in this document.

Dates to Remember

Public Comment Period:	May 20 through June 18, 2026. The DLA and USACE will accept written comments on the Proposed Plan via email at DLAEnvPC@dla.mil.
Public Meeting:	May 20, 2026 at 6 p.m. The DLA, USACE, and MDE will hold a public meeting to explain the Proposed Plan and to answer questions. Oral and written comments will also be accepted at the meeting. Registration and access instructions for the public meeting are available via the DLA link below: https://www.dla.mil/Installation-Management/Environmental-documents/ OR Please email DLAEnvPC@dla.mil for information on how to participate via computer or phone.

2. SITE BACKGROUND

The Depot is located at 710 East Ordnance Road, Baltimore, in Anne Arundel County, Maryland, approximately 1 mile southeast of Baltimore City. The Depot is bordered to the north by the Baltimore Beltway (Interstate 695) and East Ordnance Road, to the south by Furnace Creek, to the east by Curtis Creek and Stahl Point Road, and to west by Back Creek (**Figure 1**) (EA 2021).

GSA currently owns approximately 435 acres associated with the Depot. This acreage represents the remaining portion of the original 789-acre (later expanded to 815 acres) U.S. Army Depot established in 1918. The 435-acre area where continued Department of Defense storage activities occurred (and current remediation is taking place) is separate from the 316-acre Formerly Used Defense Site (FUDS)-eligible portion of the Depot that was transferred to various entities between 1958-1982.

Operational in 1920-1950s, past Depot uses included receiving, shipping, storage, maintenance, and demilitarization of munitions from domestic and overseas supplies (the Depot was a portion of the property formerly known as the U.S. Army Ordnance Depot). In 1952, GSA delegated a new strategic and critical materials stockpile program to its own newly established Emergency Procurement Service. A portion of the Depot was set aside for the storage of strategic and critical materials by the Emergency Procurement Service. In 1958, storage activities at the Depot were placed on inactive status, apart from strategic and critical materials activities; the property was renamed the Curtis Bay Ordnance Depot. During this time, the 435-acre Depot property, which included critical materials storage areas, was transferred to the GSA as excess property. In 1992, the Defense Logistics Agency (DLA) established the Defense National Stockpile Center (DNSC) to manage the stockpile program after DLA was assigned responsibility over the program. DNSC ceased active stockpile operations at the site in 2005, and all stockpiles were removed from the Depot. Currently, there are no DLA activities occurring at the Depot.

2.1 HISTORY OF SITE INVESTIGATIONS

The DLA was the most recent user of the property and oversees investigation and remediation of the property. Numerous site investigations have occurred at the Depot, including those in **Table 1**, for varying environmental concerns that can be found in greater detail in the Final Remedial Investigation Report (EA 2021) and other documents contained in the Administrative Record file for this site.

Table 1. Historical Site Investigations for the Depot

Focused Site Investigation (FSI) – 2000
Expanded Site Investigation (ESI) – 2003
Focused Remedial Investigation (FRI) – 2005
Final Environmental Survey and Analysis Report (ESAR) – 2011
Remedial Investigation for Military Munitions Response Program (MMRP) and Installation Restoration Program (IRP) EC Sites – 2021
Site-wide Remedial Investigation for Arsenic and Manganese (DUs) – 2021

2.1.1 Remedial Investigation/Feasibility Study for EC Sites

As part of the RI evaluation, it was determined that further evaluation was needed based on the distribution and locations of arsenic and/or manganese contaminated soil in the EC Sites. RI sampling was conducted (including at EC-3, -16 [-16A, -16B, -16C, -16D], -21, -22, -27, -28, -29, -30, -31, -32, -33, -34, -35, -36, -39, -50, -52, -53,

-57B, -57C, -57D, -58B, and -58C) to evaluate compounds that could potentially pose unacceptable human health and/or ecological risks in surface soil, subsurface soil, surface water, or sediment across the facility. EC-39 and EC-53 were addressed during development of the RI sampling Work Plan; multiple previous investigations and site reviews have been performed within the two areas and no harmful materials were discovered.

MMRP EC Sites were investigated for both munitions and explosives of concern hazards, and munitions constituents contamination; while the IRP EC Sites were investigated for Hazardous and Toxic Waste contamination. The MMRP and IRP EC Sites RI Report (EA 2021) provides methodology and results of the RI investigations and findings for the IRP and MMRP EC sites listed above. The RI Report includes Human Health Risk Assessments (HHRAs) and Screening Level Ecological Risk Assessments (SLERAs) for the EC sites. No release was identified at 12 EC sites (EC-3, EC-16A, -16C, -16D; EC-22; EC-27, EC-31; EC-33; EC-34; EC-35; EC-50; and EC-58C). No unacceptable risk was identified for 5 additional EC sites (EC-16B, EC-29, EC-30, EC-57C, and EC-58B), based on HHRA and SLERA results (**Table 2**). From the RI, "Due to the multiple locations for EC-57, ERT reviewed historical records and concluded that EC-57 is three separate areas; EC-57B, EC-57C, and EC-57D. Research indicated that EC-57A is not an EC…" (EA 2021). Therefore, EC-57A was dropped from the program. Additionally, from the RI, it was concluded that EC-58 is comprised of two separate areas, EC-58B and EC-58C (research indicated that EC-58A was not an EC); only EC-58B corresponds to the location presented in the ESP (USACE 2012) and ESAR (EA 2011). No concerns were identified in groundwater. Locations of EC sites are shown on **Figure 1**.

Table 2. MMRP and Installation Restoration Program EC Sites Included in this LUC Sites Proposed Plan

MMRP EC Sites
EC-22: Barricade 646-XK/Former Explosive Open Burning Area
EC-57C: Bldg. J-408
EC-58B: Explosive Open Burning/Wire Cage
EC-58C: Open Burning Wire Cage
All other areas within the installation boundary, except EC-25/EC-49 (ongoing separate RI/FS)

IRP EC Sites
EC-3: PE Paint storage
EC-16A, EC-16B, EC-16C, EC-16D – Transformers
EC-27: Bldg. 831 – Oil House Utility Area
EC-29: Bldg 822 – E.E. Machine Shop
EC-30: Bldg. 821 – Locomotive House
EC-31: Bldg. S8s33 – Post Engineer Storage
EC-33: Bldg. S835 – BTG Lumber Storage Shed
EC-34: Bldg 1025 – Boiler House Warehouse Area
EC-35: Bldg 1026 – Oil House Warehouse Area
EC-39: AOC-5 – Medical Supplies Burial Area
EC-50: Bldg 724-G – Tire Retreading Shop
EC-53: Leach Fields / Septic Tanks
All other areas within the installation boundary*

*While not a separate EC, "All other areas within the installation boundary" will be covered under the site-wide LUC.

Because the evaluation of the EC sites was based on future industrial use of the property, rather than unrestricted use, MDE mandated that the entire property be included in the FS. The FS included

remedial action objectives (RAOs), preliminary remedial goals (PRGs), and evaluations of four remedial alternatives to meet the RAOs. The RAOs for the EC sites in Table 2 and the remaining property (except EC-25/EC-49 and the "Action Sites") were focused on LUCs to prevent use of the property without further evaluation of potential risks to human health that were not previously evaluated (primarily the hypothetical future resident child and adult receptors). The alternatives were evaluated using the NCP criteria, including protection of human health and the environment, compliance with regulations, short-term and long-term effectiveness, implementability, and cost.

2.1.2 Remedial Investigation/Feasibility Study for Site-Wide Arsenic and Manganese in Soil

A second, site-wide RI was conducted to address identified site-wide arsenic and manganese concentrations in soil at the facility; this is also referred to as the RI/FS for the Decision Units (DUs). Incremental sampling was conducted; and a SLERA and HHRA were completed for three DUs encompassing the Depot (ERT 2021). The total investigation area for arsenic and manganese in soil is approximately 425 acres. DU 1 consists of approximately 411.1 acres, DU 2 approximately 8.6 acres, and DU 3 approximately 5.1 acres. DU 2 consists of the IRP Shop EC sites (EC-28, EC-31, EC-32, and EC-33 are within this footprint). Groundwater received no further action based on early RI sampling.

Based on the results of the site-wide HHRA, potentially unacceptable risks were identified for: hypothetical future resident child receptor due to manganese in surface and subsurface soil in DU 1; hypothetical future resident child and adult receptors due to arsenic and/or manganese in DU 2; and current and future site workers in DU 3 due to manganese concentrations in surface and subsurface soil combined (ERT 2021). Based on the results of the site-wide SLERA, significant ecological impacts due to arsenic in soils are unlikely; and potentially significant ecological impacts exist at DU 3 from manganese in soil (ERT 2021).

The FS was then completed for site-wide arsenic and manganese (ERT 2022) and included RAOs, PRGs, and evaluations of remedial alternatives to meet the objectives. For each of the three DUs, the alternatives were also screened against the NCP criteria.

Combining the RI/FSs for EC sites and site-wide arsenic and manganese, the Depot sites of interest were divided into sites requiring action ("Action Sites") and sites requiring LUC [1] only ("LUC Sites"). The Action Sites are the subject of a separate PP.

Figure 1 presents the Depot LUC Sites addressed in this PP. The total Depot LUC Sites include: EC-3, EC-16A, EC-16B, EC-16C, EC-16D, EC-22, EC-27, EC-29, EC-30, EC-31, EC-33, EC-34, EC-35, EC-39, EC-50, EC-53, EC-57C, EC-58B, and EC-58C (**Figure 1**). In addition to the LUC-only sites, the remainder of the Depot (except sites EC-25 and EC-49 that were investigated under a separate RI) is subject to LUC.

2.2 SITE CHARACTERISTICS

The Depot's current features consist of warehouses in various stages of disrepair, concrete pads where warehouses and other buildings once stood, a network of paved and gravel roads, numerous revetments, railroad tracks, and vacated railroad beds. The dock area of Curtis Creek (east of the Depot) is owned and controlled by the U.S. Army Reserve; however, access to the dock area is via existing Depot roads. The property is zoned for "W2 – Industrial Light" (Anne Arundel County 2019) use,

[1]. Maryland has adopted the Uniform Environmental Covenants Act (UECA). Therefore, MDE requires an Environmental Covenant as the instrument used to convey environmental requirements to future property owners. State and local governments have clear rights to enforce the land use controls. GSA (as the current property owner) is responsible for implementation of the environmental covenants. If ownership of the property is transferred, then the responsibility for maintaining the covenant would also transfer.

and the future land use is expected to remain industrial.

The ecological site characteristics of the Depot indicate altered habitat and lack of native vegetation. The Depot has been filled, drained, graded, and otherwise altered to the point that there are few natural areas remaining. All areas of the Depot have been altered to varying degrees by management practices and by mission-related maintenance activities within the past 80 years. Outside the Depot boundary but within the 0.5-mile radius of the site, most of the land area is of mixed use (residential, industrial, commercial) and open water.

Shallow groundwater depths at the Depot range from 1.71 feet (ft) below ground surface (bgs) (southern areas) to 62.82 ft bgs (northern areas) (EA 2011).

2.3 SUMMARY OF SITE RISKS

Two RIs and two FSs were prepared, one RI/FS for the EC sites and one RI/FS for the site-wide arsenic and manganese in soil (DUs), respectively. The RIs identified the types, quantities, and locations of contaminants and the associated risk; then the individual FSs developed alternatives to address the unacceptable risk identified in the RIs. Risk assessments were performed on sites that contain measurable levels of COCs in environmental media. Risks to human health and the environment can be estimated using concentrations of COCs. Soil, sediment, and surface water data were evaluated during the HHRAs and SLERAs.

The primary purpose of the SLERA is to compare concentrations of site-related constituents to ecological screening values and to conduct a risk characterization. Based on the extent of potential ecological risk, additional work may be required at a site. For ecological receptors, surface soil exposures, as well as potential exposures to surface water and sediment, were evaluated in the EC SLERAs. Although the Depot is not a managed ecological site and will likely be used for industrial purposes based on current zoning, a SLERA was also performed in accordance with U.S. Environmental Protection Agency (EPA) guidance for each site DU. A complete description of the methodology used in conducting the SLERAs can be found in the RI reports (ERT 2021; EA 2021).

2.3.1 Site Risks for EC Sites

Information about identified COCs for MMRP and IRP EC Sites are discussed below. Locations of EC sites included in this PP are shown on **Figure 1** (EA 2022).

2.3.2 Site Risks for Site-Wide Arsenic and Manganese in Soil

Arsenic and manganese exceeded the project screening level in numerous locations around the Depot and was investigated during the site-wide RI as DUs (ERT 2021). A complete description of the methodology used in conducting the HHRAs can be found in the RI reports (ERT 2021; EA 2021). A summary of the RI conclusions and recommendations for three DUs encompassing the Curtis Bay Depot (ERT 2021) to mitigate potential risks to human health and/or the environment that remain within the Depot is presented in the Action Sites PP. Locations of DUs are shown on **Figure 1**.

- **DU 1–**The SLERA concluded that ecological impacts were unlikely (ERT 2022). Further action is warranted to address the manganese impacts to DU 1 soil.

- **DU 2–**The SLERA concluded that ecological impacts were unlikely (ERT 2022). The SLERA found that no analytes are retained as contaminants of potential ecological concern (COPECs) at EC-31 (now part of DU 2). Further action is warranted to address the arsenic and/or manganese impacts to DU 2 soil.

- **DU 3–**The SLERA concluded that ecological impacts due to manganese concentrations in soil were likely (ERT 2022); manganese is the ecological COPEC in DU 3 soil. Further action is warranted to address the manganese impacts to DU 3 soil.

2.4 SCOPE AND ROLE OF THE RESPONSE ACTION

This PP presents the Preferred Alternative to address the potential risks posed by contaminants that may be present in surface and subsurface soil within the Depot. The purpose of the remedial actions for soil is to prevent unacceptable risks to future hypothetical residential human receptors and ecological receptors. Because the "Action Sites" are addressed by a separate PP, and EC-25/EC-49 are addressed by a separate RI/FS, this PP excludes those areas but encompasses the remainder of the former Depot property.

As discussed further in this PP, the Preferred Alternative for the Depot LUC Sites is Site-Wide LUCs. The Preferred Alternative is protective of human health and the environment and is effective in the long- and short-term.

3. REMEDIAL ACTION OBJECTIVES

RAOs provide goals for protecting human health and the environment and are established based on media-specific contaminants.

3.1 REMEDIAL ACTION OBJECTIVES

The RAO for the Depot is to prevent direct contact (ingestion and/or dermal contact) with COCs in surface and subsurface soil that cause an unacceptable risk to an exposed human or ecological receptor.

The areas of concern that would cause unacceptable risk to human health (using the industrial/current land use scenario) or ecological receptors have been classified as "Action Sites" and will be the subject of active remedial action detailed in a separate PP. However, the LUC Sites are considered areas of concern for non-industrial uses of the land and for exposure risk to children or adolescents.

For this PP, no PRGs will be developed because no COCs are posing unacceptable risk to human receptors under an industrial exposure scenario or to the environment. To exclude land uses that would include children and adolescents (i.e., schools, daycares, camps, playgrounds) without further assessment of potential risk, LUCs will be required for the entire Depot parcel until such time that it can be demonstrated that risks posed by contaminant concentrations in surface soil and subsurface soil are at levels that are acceptable for unlimited use/unrestricted exposure (UU/UE).

Based on the COCs, constituents of ecological concern, affected media, and exposure pathways, the RAO for LUC Sites is:

- Restrict future land uses until such time that it can be demonstrated that risks posed by contaminant concentrations in surface soil and subsurface soil are at levels that are acceptable for UU/UE.

4. SUMMARY OF REMEDIAL ALTERNATIVES

4.1 ALTERNATIVES

This section describes the remedial alternatives that were developed in the FSs for the EC and DU sites (EA 2022; ERT 2022). The alternatives were screened against effectiveness, implementability, and cost. Alternative 1 was retained as a baseline alternative. Two remedial alternatives were retained for evaluation to undergo the more thorough and detailed analysis against the CERCLA nine criteria to meet the RAOs by preventing future exposure to potential contaminants in soil:

- LUC Alternative 1 – No Action
- LUC Alternative 2 – Site-Wide LUCs

4.1.1 LUC Alternative 1: No Action

Pursuant to Section 300.430(e)(3)(ii)(6) of the revised NCP, the "No Action" alternative is developed to provide a baseline against which the other remedial alternatives are to be compared. The No Action alternative includes no remedial actions or institutional controls. No additional monitoring or maintenance would be conducted. In accordance with CERCLA Section 121(c) and EPA guidance, Five-Year Reviews (FYRs) would be conducted by USACE because COCs would remain in soil at concentrations exceeding PRGs.

Estimated Capital Cost: $0 - 0.1 Million[2]

Estimated Time to Achieve RAOs: Will not achieve RAOs

2. Per EPA guidance (EPA 1988), the present worth cost and capital cost of the No Action alternative is $0, since no action is being taken. However, if the No Action alternative is selected, then Five-Year reviews would be required; the estimated cost is included for the Five-Year Reviews.

4.1.2 LUC Alternative 2: Site-Wide LUCs

The alternative would consist of the implementation of a site-wide (for the entire Depot parcel) LUC (such as an environmental covenant) to exclude land uses that would include children and adolescents (i.e., schools, daycares, camps, playgrounds) without further assessment of potential risk. The fencing around the entire Depot parcel would be maintained as an engineering control, and additional fencing would restrict access to EC sites/DUs with unacceptable risk. LUCs would restrict future uses to only those compatible with the remedy. Informational signage would be placed on the fencing. A LUC Implementation Plan would be developed, and FYRs would be required to assess the continued protectiveness of the remedy.

Estimated Capital Cost: $0.25 - $1.9 Million
Estimated Time to Achieve the RAO: 30 years of Operation and Maintenance

5. EVALUATION OF REMEDIAL ALTERNATIVES

In evaluating remedial alternatives, the potential performance of each alternative is evaluated in terms of the evaluation criteria required by the NCP at 40 CFR 300.430(e)(9)(iii), an explanation of which is included in **Table 3**. The nine criteria are categorized into three categories: threshold criteria, primary balancing criteria, and modifying criteria. The alternative selected must satisfy the threshold criteria, which are of primary importance. The primary balancing criteria are used to weigh the major trade-offs among the alternatives, and the modifying criteria are considered after the public has commented on the PP. The two FS Reports provide more detailed comparative analyses.

Table 3. Explanation of Evaluation Criteria for Superfund Remedial Alternatives

Threshold Criteria
Overall Protection of Human Health and the Environment refers to whether a remedy provides adequate protection against harmful effects. It calls for consideration of how human health or environmental risks are eliminated, reduced, or controlled through treatment, engineering controls, or land use controls.
Compliance with applicable or relevant and appropriate requirements (ARARs) addresses whether a remedy meets all the applicable or relevant and appropriate requirements of federal and state environmental statutes.
Primary Balancing Criteria
Long-Term Effectiveness and Permanence refers to the magnitude of residual risk and the ability of a remedy to maintain reliable protection of human health and the environment after cleanup goals have been meet.
Reduction of Toxicity, Mobility, or Volume through Treatment refers to the effectiveness of the treatment technologies to reduce the toxicity, mobility, or volume of contaminants.
Short-Term Effectiveness refers to the speed with which the remedy achieves protection and to the remedy's potential, during construction and implementation, to have adverse effects on human health and the environment.
Implementability refers to the technical and administrative feasibility of a remedy, including the availability of required materials and services.
Cost includes capital expenditures and operation and maintenance costs. Present worth cost is the total cost of an alternative over time in terms of today's dollar value.
Modifying Criteria
State Acceptance indicates whether the State concurs with, opposes, or has no comment on the preferred alternative based on its review of the feasibility study report(s) and PP, and any public comments received on the PP.
Community Acceptance considers whether the local community agrees with MDE's analyses and preferred alternative. Community Acceptance is documented in the ROD following a review of public comments on the PP.

5.1 EVALUATION OF ALTERNATIVES

5.1.1 Threshold Criteria

Overall Protection of Human Health and the Environment
LUC Alternative 2 provides protection for human health and the environment, through LUCs to restrict site use. LUC Alternative 1 does not meet this threshold criterion, as it would not address potential exposure to impacted soil.

Compliance with Applicable or Relevant and Appropriate Requirements
Location-specific ARARs are related to the protection of the environment and wildlife species. LUC Alternatives 1 and 2 meet this threshold criterion, as they would comply with location-specific ARARs. No removals or construction of physical LUCs are anticipated under Alternative 2; however, action-specific ARARs may be triggered if additional fencing is installed.

5.1.2 Primary Balancing Criteria

Long-Term Effectiveness and Permanence
Alternative 2 would meet RAOs and would also provide long-term effectiveness and permanence, LUCs would minimize the likelihood of exposure to soil remaining at levels unacceptable for UU/UE. However, Alternative 2 would leave contaminated soil in place, and while the access of receptors to potential risks is reduced, it is not eliminated. LUC Alternative 1 would not meet RAOs and would not be effective in the long term.

Reduction in Toxicity, Mobility, and Volume through Treatment
LUC Alternatives 1 and 2 do not provide any reduction of toxicity, mobility, or volume through treatment, because neither of the alternatives include treatment.

Short-Term Effectiveness
LUC Alternative 1 has no short-term effectiveness. Alternative 2 has moderate short-term effectiveness by immediately restricting both access and land use until media reach levels that are acceptable for UU/UE.

Implementability
The implementability of LUC Alternative 2 is considered high, as required equipment and personnel are readily available. Alternative 1 would likely not be implementable due to inability to obtain regulatory approval for a No Action alternative.

Cost
The estimated cost of LUC Alternative 2 ($0.25-$1.9M) is greater than LUC Alternative 1, which has no costs associated with it (other than FYRs).

5.1.3 Modifying Criteria

The modifying criteria (i.e., state acceptance and community acceptance) will be addressed in the ROD after public comments on the PP have been received and responses have been prepared.

MDE supports the preferred remedial alternative as necessary to protect human health and the environment adequately and cost-effectively. The comparative analysis of the remedial alternatives for the LUC Sites is summarized in **Table 4**.

Table 4. Comparative Analysis Summary of EC and DU LUC Site Remedial Alternatives

Criteria	Alternative 1 No Action	Alternative 2 Land Use Controls
Overall Protection of Human Health and the Environment	○	•
Compliance with ARARs	○	•
Long-Term Effectiveness and Permanence	○	◊
Reduction of Toxicity, Mobility, or Volume Through Treatment	○	○
Short-Term Effectiveness	NA	◊
Implementability	◊	•
Total Cost (30-year present worth) **	$0-0.1M*	$0.25-1.9M
State Acceptance		Yes
Community Acceptance	**	**

Notes:
* = The No Action alternative is included as a baseline for comparison with other alternatives. The present worth cost and capital cost of the No Action alternative is $0; however, if selected, costs will be incurred for Five-Year Reviews.
** = To be addressed during PP review and ROD preparation.
• = Favorable (Yes for threshold criteria)
◊ = Moderately Favorable (Partially meets threshold criteria)
○ = Not Favorable (No for threshold criteria)
NA = Not applicable

6. PREFERRED REMEDY SUMMARY

The EC Sites in **Table 2** are included in the site-wide land use control alternative (excluding the No Action alternative). For the sites designated as "LUC Sites", only Alternatives 1 and 2 in either FS are being considered, since no active remedial action will be required for these sites.

The preferred Alternative is Alternative 2, because it provides protection equivalent to or better than the No Action alternative and is cost effective. Alternative 2 is protective of human health and the environment and is effective in both the long term and short-term; compliance with ARARs is not applicable to this evaluation because no ARARs were identified for this remedial alternative. The areas to be restricted by LUCs are shown on **Figure 1**. Site-Wide LUCs is the preferred remedial alternative for the LUC Sites because implementation of LUCs would minimize the likelihood of exposure to soil remaining at levels unacceptable for UU/UE. LUCs is a total estimated cost of $250,000-$1,900,000.

6.1 SITE-WIDE LUCs

The Preferred Alternative would consist of the implementation of a site-wide LUC (such as an environmental covenant) to exclude land uses that would include children and adolescents (i.e., schools, daycares, camps, playgrounds) without further assessment of potential risk. The fencing around the entire Depot parcel would be maintained as an engineering control, and additional fencing would be required to restrict access to EC sites and DUs with unacceptable risk (under the current industrial scenario). Informational signage would be placed on the fencing. LUCs would restrict future uses to only those compatible with the remedy. FYRs would be required to assess the continued protectiveness of the remedy.

6.2 SUMMARY STATEMENT

The DLA, the responsible agency, has retained the USACE to identify the remedial action. Based on the information currently available, the DLA believes the Preferred Alternative meets the threshold criteria and provides the best balance of trade-offs among the modifying criteria when compared to the other alternative presented. The DLA expects the Preferred Alternative to satisfy the following statutory requirements specified in Section 121(b) of CERCLA (42 U.S. Code § 9621(b)):

- Be protective of human health and environment,
- Comply with ARARs,
- Be cost-effective,
- Use permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable, and,
- Satisfy the preference for treatment as a principal element when justified.

Pursuant to Section 121(c) of CERCLA and the NCP at § 300.430(f)(5)(iii)(C), FYRs will be required as long as contaminants remain on the site above levels that allow for UU/UE.

The DLA would be responsible for implementing, maintaining, and enforcing the site-specific LUCs described in this PP. The details of the LUCs to be implemented would be specified in a remedial design document (LUC Implementation Plan). The remedial design would be prepared and submitted. As part of the DLA's inspection and reporting responsibilities, periodic reviews of the restrictions and objectives outlined above would be undertaken.

If GSA transfers a property addressed by this PP, they will need to make sure the receiving owner is aware of the land use controls and is capable of meeting the requirements.

MDE has reviewed the PP and supports the Preferred Alternative identified for Depot LUC Sites soil; MDE will give its final concurrence after receipt of, and review of, the comments received during the public comment period. Based on new information that may become available or based on public comments received, the DLA and USACE, in consultation with MDE, may modify the Preferred Alternative outlined in this PP. Thus, the public is encouraged to comment on this plan.

7. COMMUNITY PARTICIPATION

The DLA, USACE, and MDE are soliciting input from the community on each of the proposed alternatives for soil. This comment period includes a public meeting at which the DLA, USACE, and MDE will present the PP and accept both oral and written comments. The dates for the public comment period, the date, location, and time of the public meeting, and the locations of the Administrative Record files, are provided on the front page of this PP. Comments on the PP will be summarized and responded to in the Responsiveness Summary Section of the ROD, which is the document that presents the selected remedy.

Further information is also available from the two RIs (EA 2021; ERT 2021) and the two FSs (EA 2022; ERT 2022) prepared for the Depot, as well as other related documents. These documents are contained within the Administrative Record at the DLA headquarters at Fort Belvoir, Virginia. These documents can be reviewed online at https://www.dla.mil/Installation-Management/Environmental-documents/ and at the Brooklyn Park Library or MDE (addresses provided earlier in this PP).

Written comments must be postmarked no later than the day before the last day of the public comment period.

To send written comments or obtain further information, contact any of the following representatives.

Restoration Division Chief
Environmental Management, DLA Installation Management, Defense Logistics Agency
[redacted]8725 John J. Kingman Road
Fort Belvoir, Virginia 22060
[redacted]

Contracting Officer's Representative
USACE
2 Hopkins Plaza
Baltimore, Maryland 21201
[redacted]

Remedial Project Manager
Maryland Department of the Environment
Federal Assessment and Remediation Division
1800 Washington Boulevard, [redacted]
Baltimore, Maryland 21230
[redacted]

8. REFERENCES

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USACE Baltimore District. 2020. TCLP Sampling at EC21 and EC52, Sites used to Store Bulk Propellants at the Former Curtis Bay Army Depot Memorandum for the Record. 20 May.

9. GLOSSARY OF TERMS

Administrative Record: This is the collection of documents that were referred to or relied upon to support a decision document or enforcement action, including information and reports generated during the site investigations. The administrative record is available for public review.

Applicable or Relevant and Appropriate Requirements (ARARs): Those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. Only those state standards that are identified by a state in a timely manner and that are more stringent than federal requirements may be applicable. ARARs are requirements that must be met in the implementation of remedial alternatives unless a waiver is granted.

Carcinogenic Risk: Cancer risks are expressed as numbers reflecting the increased chance that a person will develop cancer if exposed to chemicals or substances. For example, the EPA's acceptable risk range for Superfund sites is $1.0x10^{-6}$ to $1.0x10^{-4}$. This means the probability of an individual contracting cancer as a result of exposure to site-related contamination should not be greater than a 1 in 1,000,000 chance to a 1 in 10,000 chance.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): A federal law that was passed in 1980 that is commonly referred to as the "Superfund Law." This law provides for liability, compensation, cleanup, and emergency response in connection with the cleanup of inactive hazardous waste disposal sites that endanger public health and safety or the environment.

Exposure Pathway: Describes the course a chemical or physical agent takes from the source to the exposed individual. Elements of the exposure pathway are: (1) the source of the chemical release, (2) the medium (i.e., soil), (3) a point of contact with the medium, and (4) an exposure route (i.e., ingestion, inhalation) at a contact point.

Feasibility Study (FS): This provides a detailed analysis of remedial alternatives for a site. This analysis supports a risk management decision to select an appropriate remedy.

Five-Year Review (FYR): "FYRs generally are required by CERCLA or program policy when hazardous substances remain on site above levels that permit unlimited use and unrestricted exposure. Five-year reviews provide an opportunity to evaluate the implementation and performance of a remedy to determine whether it remains protective of human health and the environment. Generally, reviews take place five years following the start of a CERCLA response action, and are repeated every succeeding five years so long as future uses remain restricted. ..."

National Contingency Plan (NCP): The "National Oil and Hazardous Substances Pollution Contingency Plan" are regulations that give the federal government the authority to respond to the problems of abandoned or uncontrolled hazardous waste disposal sites, as well as to certain incidents involving hazardous wastes.

Proposed Plan (PP): This document presents the preferred cleanup alternative and requests public input regarding the remedial alternatives analyzed.

Record of Decision (ROD): The ROD provides the cleanup action or remedy selected for a site, the basis for selecting that remedy, public comments on alternative remedies, responses to comments, and the cost of the remedy.

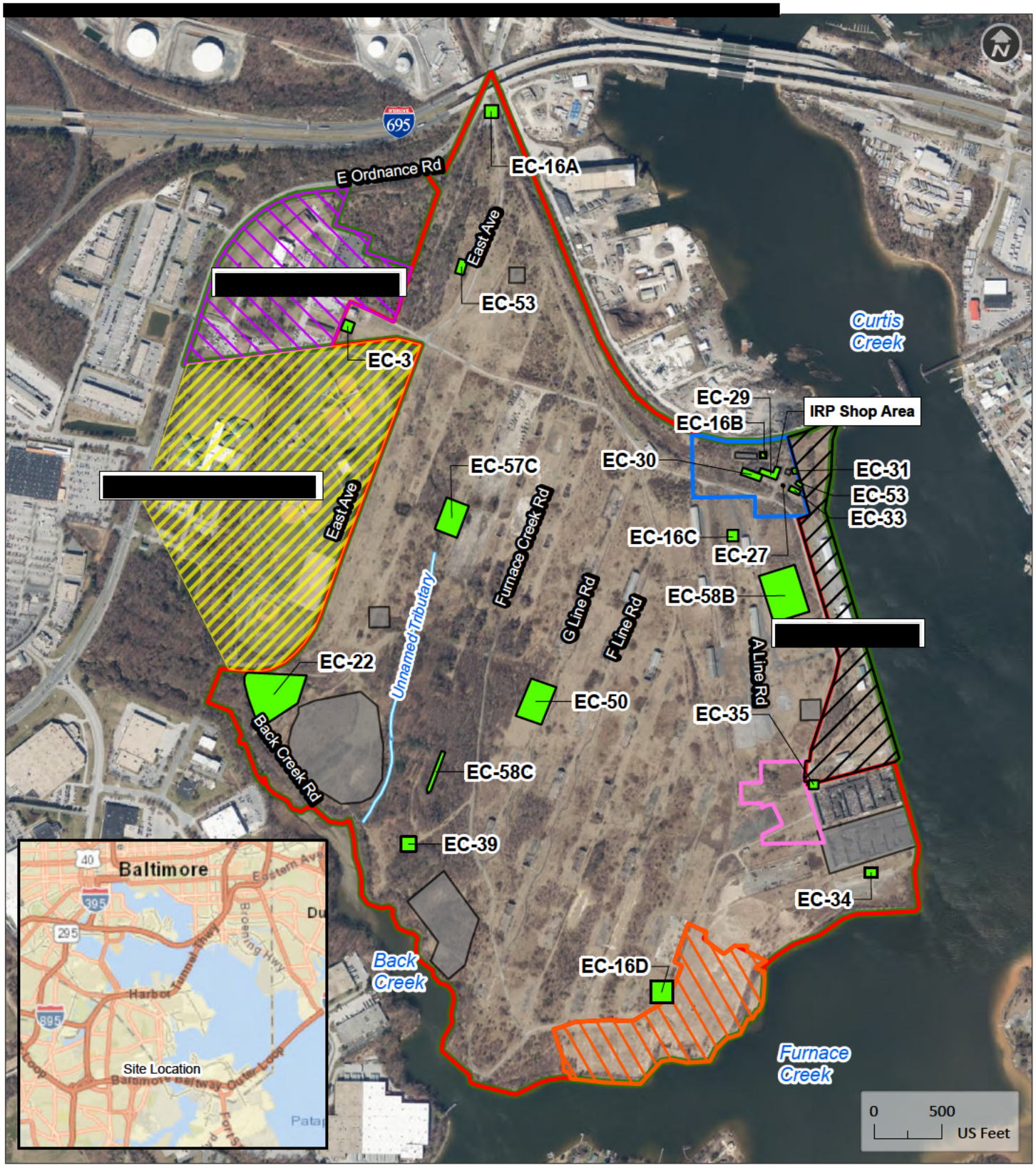
Remedial Action Objectives (RAOs): Medium-specific goals for protecting human health and the environment, which can be achieved by reducing exposure (e.g., limiting access) as well as reducing the level of constituents of concern.

Remedial Investigation (RI): The purpose of an RI is to characterize contamination at a site and to identify sites that may require remedial action.

Resource Conservation and Recovery Act (RCRA): An act, enacted in 1976, which established the first comprehensive federal regulatory program for controlling hazardous waste at active sites. This act also provided grants and technical assistance to the states to help improve their waste management techniques.

Unlimited Use and Unrestricted Exposure: This term denotes the land use condition under which no limitations are required to be placed on the use of any media (e.g., soil, surface water, or groundwater) at the site as a result of contaminants present at the site.

FIGURE



Legend

- Land Use Control Site
- Action Site
- DU 1
- DU 2 (IRP Shop Area)
- DU 3 (Formerly EC-57D)
- EC-25 & EC-49 MRS Boundary
- Anne Arundel County Facility
- [redacted]
- [redacted]
- Curtis Bay Ordnance Depot Boundary
- Unnamed Tributary

Former Curtis Bay Ordnance Depot

Baltimore, Maryland

Land Use Control Sites

Figure 1