FINAL

RECORD OF DECISION

FOR PLOW SHOP POND (AOC 72) -RED COVE AND FORMER RAILROAD ROUND HOUSE (SA 71)

FORMER FORT DEVENS ARMY INSTALLATION, DEVENS, MA

SEPTEMBER 2015

Prepared for:
US Army Corp of Engineers
New England District
Concord, Massachusetts

Prepared by:
Sovereign Consulting Inc.
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NOTICE

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ABBREVIATIONS, ACRONYMS, AND SYMBOLS

AOC	Area of Contamination
ARAR	Applicable or Relevant and Appropriate Requirement
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EE/CA	Engineering Evaluation/Cost Analysis
ELCR	Excess Lifetime Cancer Risk
GSR	Green and Sustainable Remediation
LUCs	Land Use Controls
LUCIP	Land Use Control Implementation Plan
MassDEP	Massachusetts Department of Environmental Protection
NTCRA	Non-Time Critical Removal Action
RAB	Restoration Advisory Board
RAO	Remedial Action Objective
ROD	Record of Decision
SA	Study Area
Sovereign	Sovereign Consulting Inc.
SHL	Shepley's Hill Landfill
TCRA	Time Critical Removal Action
USACE	United States Army Corp of Engineers
USEPA	U.S. Environmental Protection Agency

1.0 DECLARATION

1.1 Site Name and Location

The site which is the subject of this Record of Decision (ROD) includes the Plow Shop Pond Operable Unit - Area of Contamination (AOC) 72 and the former Railroad Roundhouse Study Area (SA) 71. Response Actions have been conducted in both Plow Shop Pond and the former Railroad Roundhouse site under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) to remove impacts to pond sediments from groundwater discharges containing arsenic from the Shepley's Hill Landfill and railroad maintenance by-product material containing heavy metals that was discharged along the pond shoreline and to remove impacts to upland soil at the former Railroad Roundhouse Site from railroad maintenance byproduct deposition.

Devens (CERCLIS I.D. Number MA7210025154) is located in the towns of Ayer and Shirley (Middlesex County) and Harvard and Lancaster (Worcester County), Massachusetts, approximately 35 miles west of Boston, Massachusetts.

1.2 Statement of Basis and Purpose

This decision document presents the selected remedies for AOC 72 and SA 71 at the former Fort Devens, which was chosen in accordance with CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA), and to the extent practical, the National Contingency Plan (NCP). This decision is based on the Administrative Record file for these two sites.

The Commonwealth of Massachusetts concurs with the Selected Remedy. A copy of the concurrence letter is included as Appendix A.

1.3 Assessment of Site

The response actions selected in this Record of Decision are necessary to protect the human health, welfare and the environment from actual or threatened releases of hazardous substances into the environment at Railroad Roundhouse SA71. A CERCLA action is required because the cumulative Excess Lifetime Cancer Risk (ELCR) for human receptors is above acceptable risk criteria for unrestricted residential use of SA71. However, the human health risk evaluation demonstrates acceptable risk for the assumed future use (open space/recreation) of the site. The potential risk to human health is driven by residual maintenance byproduct material in upland soils of the former Railroad Roundhouse as a result of activities in the former area. The ecological

risk assessment indicated that ecological receptors are unlikely to be at risk from contaminants of concern in surface soil.

The human health risk assessment indicated that potential exposures to contaminants (principally arsenic) in surface water and sediment in Plow Shop Pond, including Red Cove and in the area of the former Railroad Roundhouse, by recreational receptors, are within the USEPA's acceptable cancer risk range and do not exceed a Hazard Index limit of 1. The installation of a low-permeability groundwater barrier wall between the landfill and Red Cove and sediment removal actions within the Red Cove area and former Railroad Roundhouse area of AOC72 have mitigated the potential risk associated with Plow Shop Pond sediments. In addition, all visual evidence of the maintenance byproduct was removed. With the removal of impacted sediment from both Red Cove and in the area of the former Railroad Roundhouse, exposure point concentrations have been reduced, and the benthic community is expected to improve.

1.4 Description of Selected Remedy

1.4.1 Plow Shop Pond - AOC 72

No Further Action is the Selected Remedy for Plow Shop Pond AOC72 because no unacceptable risks to human health and welfare or the environment were identified. To mitigate the source of the arsenic-impacted groundwater discharging to Red Cove, a low-permeability barrier wall was installed upgradient of Plow Shop Pond at Shepley's Hill Landfill (SHL) 2012. The selected remedy for Red Cove was contingent upon the successful implementation of the barrier wall at the landfill.

Following the installation of the barrier wall between SHL and Red Cove in 2012, a removal action was completed at Red Cove to excavate and dispose of off-site, arsenic impacted sediments from the pond. The removal of the arsenic-impacted sediments mitigated the "risk to environmental receptors" and therefore all remedial action objectives for Red Cove had been achieved.

A second removal action was completed in 2013 along the shoreline of the former Railroad Roundhouse to excavate the maintenance by-product below the water line at southern shoreline of Plow Shop Pond to reduce the risk to ecological receptors caused by residual metals concentrations in pond sediments. The removal action was completed successfully, mitigating the risk to the environment and achieved the remedial goal for that area (Sovereign, 2014a).

1.4.2 Former Railroad Roundhouse – SA 71

The major component of the Selected Remedy for the former Railroad Roundhouse SA71 is implementation of land use controls. Land use controls are addressed through institutional controls, access restrictions, affirmative measures, and prohibitive directives.

A removal action was conducted at SA 71 to remove soils impacted with metal caused by the deposition of a maintenance by-product from historic activities at the former Railroad Roundhouse. Approximately 2,400 cubic yards of soil within the former maintenance by-product disposal area was excavated. Final sidewall confirmatory samples identified residual concentrations of antimony and lead at depth above remedial goals. The upland excavation area was later backfilled with clean soil.

1.5 Statutory Determinations

The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost-effective. This remedy utilizes permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable and satisfies the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume as a principal element.

Because this remedy will result in hazardous substances remaining on site above risk-based levels for unrestricted use/unlimited exposure, a five year review will be conducted to ensure that the remedy continues to be protective of public health and welfare, or the environment. The review will be completed once every 5 years until the stakeholders determine that a review is no longer necessary.

1.6 ROD Data Certification Checklist

The following information is included in the Decision Summary section (Section 2) of this ROD. Additional information can also be found in the Administrative Record file for this site.

- Descriptions of constituents of concern (COC) (i.e., heavy metals) remaining on-site;
- Baseline risk represented by the presence of residual metals concentrations;
- Cleanup levels established for chemicals of concern and the basis for these levels;
- How source materials constituting principal threats are addressed;
- Current and reasonably anticipated future land use assumptions and current and potential future beneficial uses of groundwater used in the baseline hazard assessment and ROD;
- Potential land and groundwater use that will be available at the site as a result of the selected remedy;
- Estimated capital, annual operation and maintenance, and total present worth costs, discount rate, and the number of years over which the remedy cost estimates are projected; and
- Key factor(s) that led to selecting the remedy.

1.7 Authorizing Signatures

Signature O'DONNELL.WILLIA.J.1180145105 Digitally signed by O'DONNELL.WILLIAM.J.1180145105 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=O'DONNELL.WILLIAM.J.1180145105 Date: 2015.09.29 14:16:07 -04'00' Date 29 Sep 2015

William J O'Donnell
Chief, Reserve, Industrial and Medical Branch BRAC Division Department of the Army Assistant Chief of Staff for Installation Management

Signature Nancy Barmakian Date 09/30/15

Nancy Barmakian
Acting Chief, Office of Site Remediation and Restoration
U S EPA Region 1

2.0 DECISION SUMMARY

2.1 Site Name, Location and Brief Description

The site that is the subject of this ROD is the Plow Shop Pond (AOC 72) and the former Railroad Roundhouse (SA 71). Plow Shop Pond is located within the former Fort Devens Military Installation (Fort Devens) in the Devens Enterprise Zone (Devens), Massachusetts. Devens is located approximately 35 miles northwest of the city of Boston, within the towns of Ayer, Shirley (Middlesex County), Harvard and Lancaster (Worcester County) in the Commonwealth of Massachusetts (see **Figure 1**). The former Fort Devens was established in 1917 for military training and logistical support during World War I. Fort Devens became a permanent Base in 1931, and continued service until its closure in 1996 pursuant to the Defense Base Closure and Realignment Act of 1990.

The 30-acre Plow Shop Pond is located southwest of the business and residential district in Ayer, Massachusetts. Plow Shop Pond is a man-made pond where water levels are maintained by the concrete Nonacoicus Brook Dam. Plow Shop Pond receives inflow from the Grove Pond to the east through the railroad causeway, and discharges over the dam spillway to Nonacoicus Brook. Plow Shop Pond has a maximum depth of about 9 feet; however, it has an average depth of less than 6 feet. Depth to bedrock under the pond is approximately 40 to 80 feet (AMEC, March 2010).

Both ponds are in an Area of Critical Environmental Concern (ACEC), and in proximity to a protected species habitat in the upland area. An ACEC designation is a formal state designation of a significant ecological area directed to the actions and programs of Massachusetts environmental agencies. Plow Shop Pond is located northeast of SHL, south of Molumco Industrial Park, and west of Grove Pond. The Red Cove area is located in the southwest corner of Plow Shop Pond along the northeast perimeter of SHL.

The former Railroad Roundhouse (SA 71), at the southeast corner of Plow Shop Pond, is the former location of a railroad roundhouse operated by the Boston and Maine Railroad (B&M) from approximately 1900 to 1935. The site consists of a 200- to 300-foot wide strip of land extending south from Plow Shop Pond along the northeast boundary of Devens for approximately 1,100 feet (see **Figure 2**). Historical features included an array of railroad tracks, a coal trestle, ash pit, water tower, and several buildings. The roundhouse was located at the northern end of this strip, immediately adjacent to the southern shore of Plow Shop Pond. The shoreline adjacent to the railroad roundhouse is the location of the Maintenance By-Product Disposal Area that was used as a disposal area for locomotive maintenance waste. Maps and aerial photographs indicate that all of the buildings except a brick storeroom and the water tower were removed by 1942.

The location of the former Railroad Roundhouse has been inferred from site observations and from overlaying a B&M drawing (Right-of-Way and Track Map) prepared by the Office of Valuation Engineer (B&M, 1919) on existing maps (see **Figure 3**). The track map identified areas such as an ash pit, coal trestle, water tower, office, and oil house. There were also several unnamed small buildings or sheds. The roundhouse and structures occupied about 6 acres, while the nearby tracks and freight yard occupied approximately 35 additional acres. According to historical insurance maps, by 1942 all of the buildings except the brick storeroom and the water tower had been removed (MACTEC, 2008).

The Army purchased a 53 acre parcel from the B&M in 1942. Following the 1996 base closure, the Army then leased the land formerly occupied by the roundhouse to MassDevelopment as part of the larger lease parcel known as A.1SHL that includes the SHL (see **Figure 1**). This lease parcel will be transferred by deed to MassDevelopment when the adjacent SHL remedy is determined to be Operating Properly and Successfully (OPS). The buildings and tracks at the site had been removed, but a few concrete foundations remained in the area. SA 71 is presently not used for any purposes (i.e., it is open space), and access to the site is not restricted.

The lead agency for the site is the Army. As lead agency, the Army is responsible for:

- Preparation of the ROD;
- Reassessing its initial determination that the Preferred Alterative(s) provides the best balance of trade-offs;
- Factoring in any new information or points of view;
- Providing the EPA, MassDEP and supporting agencies (MassDevelopment) with an opportunity to review and comment on the ROD; and
- Considering EPA, MassDEP, MassDevelopment comments; and making the final remedy decision jointly with EPA.

The Army will publish a notice of the availability of the ROD in a major local newspaper and make the ROD available for public inspection and copying prior to commencement of remedial actions.

EPA is the lead regulatory agency and is supported by MassDEP. The Army is responsible for implementing, maintaining, reporting on, and enforcing the ROD. Although the Army may later transfer these procedural responsibilities to another party by contract, or through other means, the Army shall retain ultimate responsibility for remedy integrity.

2.2 Site History and Enforcement Activities

On 21 November 1989, Fort Devens was placed on the CERCLA National Priorities List (NPL), assigned CERCLIS I.D. Number MA7210025154, and was identified for cessation of operations and closure under Public Law 101-510, the Defense Base Realignment and Closure Act of 1990. Fort Devens was officially closed in March 1996. Portions of the property formerly occupied by Fort Devens were retained by the Army for reserve forces training and renamed the Devens Reserve Forces Training Area (RFTA). Areas not retained as part of the Devens RFTA were, or are in the process of being, transferred to new owners (MassDevelopment) for reuse and redevelopment.

2.2.1 Plow Shop Pond – AOC 72

From 1992 to 1995, investigations in Plow Shop Pond were initiated under the SHL Remedial Investigation (E&E, 1993; ABB-ES, 1993b; ABB-ES, 1995b). The results of these investigations noted that metals had accumulated in the sediments of Plow Shop Pond. Consequently, the Plow Shop Pond Operable Unit was established under AOC 72, and the USEPA took the lead on performing additional investigations at Plow Shop Pond and Grove Pond to determine other (non-Army) sources of contamination while the Army performed surface water and sediment investigations in Plow Shop Pond as it pertained to analytes related to the SHL and former Railroad Roundhouse area.

As part of the overall Plow Shop Pond remedial investigations conducted from 1995 to 2006, site investigations were conducted in the Red Cove area, which is a shallow cove located in the southwest corner of Plow Shop Pond, and along the southern shoreline of AOC 72 in the area of the former Railroad Roundhouse. The results of these investigations documented concentrations of arsenic in sediment located in the vicinity of Red Cove which were attributed to groundwater discharge from the SHL site (Gannett Fleming, 2006), and maintenance byproduct deposits and concentrations of polycyclic aromatic hydrocarbons, antimony, copper, and lead extending 15 to 25 feet offshore along the southern shoreline of the pond in the area of the former Railroad Roundhouse (ABB-ES, 1995a; MACTEC, 2008).

Following these investigations, the Army completed a comprehensive remedial investigation for AOC 72 in 2011. The results of this investigation confirmed that arsenic was transported to Red Cove via groundwater migrating from SHL, and arsenic was concentrated in a solid iron precipitate (floc) near the sediment surface at the point of groundwater discharge. In addition, the source of the other contaminants identified at AOC 72 was identified as historic releases of liquid wastes from the Hartnett Tannery for chromium, mercury, and arsenic distributed throughout the pond (AMEC, 2011).

Following the completion of the 2011 remedial investigation, the Army determined that it was appropriate to proceed with removal actions at AOC 72 under the Superfund Accelerated Cleanup Model (USEPA, 1994) and the criteria pursuant to CERCLA (40 USC §9604) and the National Contingency Plan (40 CFR 300.415).

Consequently, the Army prepared an Engineering Evaluation/Cost Analysis (EE/CA) to evaluate response measures for a Non-Time Critical Removal Action (NTCRA) at AOC 72 and to address impacted sediment in two specific areas of the pond: Red Cove and along the shoreline of the former Railroad Roundhouse. The EE/CA served as a more streamlined analogous function to the remedial investigation/feasibility study approach conducted for remedial actions. Consequently, a feasibility study was not drafted for AOC 72.

The EE/CA defined the removal action objectives (RAOs), which are project objectives identified to ensure the protection of human health and welfare or the environment, for Red Cove as "mitigate arsenic-impacted sediment in the Red Cove area in AOC 72 to reduce risk to environmental receptors consistent with local conditions in Plow Shop Pond" and for the former Railroad Roundhouse as "mitigate risk to environmental receptors posed by maintenance byproduct-impacted ash-sediment layer along the SA 71 shoreline". Based on the results of the EE/CA, the recommended removal action for AOC 72 was excavation (Sovereign, 2012a).

An Action Memorandum (Sovereign, 2012b) was subsequently prepared in 2012 to document the decision to perform the recommended NTCRA (excavation) in AOC 72 and to solicit public comment regarding the removal action. Following the approval of the AOC 72 Action Memorandum, a Removal Action Work Plan (Sovereign, 2013b) was prepared and removal actions were conducted at Plow Shop Pond (**Figures 2**) between July and October 2013. Prior to commencing work, wetlands and ecological surveys were completed and the pond level was lowered. The removal action area was separated into confirmation sampling grids, and the excavation was initiated at the furthest most cells before moving inland as the excavation progressed. As part of the removal action, approximately 3,000 cubic yards of impacted material was removed from the Red Cove area, and over 900 cubic yards of sediment containing maintenance byproduct was subsequently removed from the shoreline of former Railroad Roundhouse.

The removal action included the restoration of upland areas along Plow Shop Pond that were disturbed during site access and excavation activities. The upland restoration adjacent to the Red Cove area was completed in May 2014. The upland restoration along the shoreline adjacent to SA 71 includes re-grading, re- seeding and re-planting of impacted areas and will be completed no later than 31 October 2015.

2.2.2 Former Railroad Roundhouse – SA 71

From 1993 to 1994, the Army conducted site investigations in the area of the former Railroad Roundhouse site. Data gathered during the investigations indicated the widespread presence of coal ash and maintenance byproduct materials in surface and deeper soil across much of the site. The deposits of maintenance byproduct formed a sloping pond bank on their northern side, underlain by naturally deposited sand, silty sand, and peat and extending out into the pond. High concentrations of inorganic analytes, in particular antimony, copper, and lead, were identified in the area of the observed maintenance byproduct materials, and the probable source of these analytes was attributed to be the disposal of maintenance byproducts from the former roundhouse (ABB-ES, 1993a). However, the contamination in soil did not appear to be a source of groundwater contamination (ABB-ES, 1995a).

Because the majority of soil contaminants occurred in the maintenance byproduct disposal area, and because concentrations of antimony, copper, and lead in soil from that area were substantially above concentrations in the local background area (ABB-ES, 1995a), remediation of these soils was deemed appropriate. Consequently, an Action Memorandum (SWETS, 1999) was subsequently prepared in 1999 to propose a Time Critical Removal Action (TCRA) consisting of the excavation and disposal of impacted soil and to solicit public comment regarding the removal action.

The removal action was conducted at SA 71 from November 1999 to May 2000 and resulted in the removal of approximately 2,400 cubic yards of metals-contaminated soil. The excavation was backfilled with clean soil and in May 2000 was covered with loam and seed. Final sidewall confirmatory samples from the excavation identified concentrations of antimony and lead above the remediation goals. However, due to the large volume of soil already removed and the increased depth of excavation that would be required, additional excavation was put on hold pending results of additional risk evaluations (Weston, 2001).

2.3 Community Participation

In accordance with the Section 117 of CERCLA, the public was provided with the opportunity to participate in the selection of the remedial action. A Proposed Plan for AOC 72 and SA 71 was made available to the public by the Army in December 2014.

> Proposed Plan for
> No Further Action for the Plow Shop Pond Operable Unit – AOC 72;
> Limited Action for SA 71 – former Railroad Roundhouse Site
> Former Fort Devens Army Installation

The Proposed Plan is available in the Administrative Record file and the information repository maintained at the following locations:

U.S Army Garrison Fort Devens
BRAC Environmental Office Building 666, Room 140
Devens, MA 01432
Contact: Robert Simeone (p) 978-796-2205

Ayer Public Library
26 East Main Street
Ayer, MA 01432

Harvard Public Library Fairbanks Street Harvard, MA 01451

The public notice for the Proposed Plan was published in the Lowell Sun and Nashoba Valley Newspapers on Friday, December 12, 2014. The public meeting was held on Thursday, January 15, 2015, to present the Proposed Plan to a broader community audience than those that had already been involved at the site. At this meeting, representatives from the Army, EPA, MassDEP, and MassDevelopment answered questions about the remedy selection process, and also used this meeting to solicit a wider cross-section of community input on the reasonably anticipated future land use and potential beneficial groundwater uses at the site. Though community involvement was solicited, the Army did not receive comments from the general public during the public comment period.

2.4 Scope and Role of Response Actions

The Fort Devens CERCLIS I.D. Number, MA7210025154, is the applicable identification number for the entire property, consisting of 9,300 acres. Since the listing of the property on the NPL, a number of SA, AOC, and Areas Requiring Environmental Evaluation (AREE) have been the subject of investigations and remedial and removal actions have been conducted in accordance with CERCLA. In addition, other releases at the property have undergone response actions under the MCP under the purview of MassDEP.

The scope of this ROD includes Plow Shop Pond (AOC 72) and the former Railroad Roundhouse site (SA 71).

The response actions at AOC 72 have included the following:

- Completion of the installation of a low-permeability barrier wall up gradient of Red Cove at Shepley's Hill Landfill to mitigate the discharge of arsenic impacted groundwater to Plow Shop Pond, prior to commencing removal action;
- Excavation of approximately 3,000 cubic yards of arsenic impacted sediments at Red Cove;
- Excavation of approximately 900 cubic yards of railroad maintenance by-product material and impacted soils and sediments from along the shoreline of the former Railroad Roundhouse site;
- Dewatering and off-site disposal of excavated sediments;
- Completed confirmatory sampling to ensure risk-based goal was achieved; and
- Restoration of upland areas disturbed during site access and excavation activities.

Response Actions at SA 71 have included:

- Excavation of approximately 2,400 cubic yards of heavy metals impacted soils and former building demolition debris; and
- Off-site disposal of excavated soils.

Response actions completed under other regulatory programs similarly have been documented in accordance with applicable requirements. All remedial and removal documentation pertaining to other AOCs, AREEs, and SAs at Devens are available in the Administrative Record.

2.5 Site Characteristics

The 30-acre Plow Shop Pond (AOC 72) is located southwest of the business and residential district in Ayer, Massachusetts. See **Figure 1** for a site location map. The pond is currently zoned as Open Space/Recreational Unrestricted (VHB, 1994), with a posted restriction for "Catch and Release" only fishing. Red Cove is located on the western shore line of the pond adjacent to SHL. The former Railroad Roundhouse is located at the southern end of Plow Shop Pond, bordered to the east by Pan-AM railroad tracks and rail yard, and is zoned Open Space/Recreation. Both the Red Cove and Railroad Roundhouse upland areas are located within the Devens Enterprise Zone.

2.5.1 Conceptual Site Model

Sources of the contaminants that drive potential risk in Plow Shop Pond include historic releases of liquid wastes from the Hartnett Tannery containing chromium, mercury, and arsenic distributed throughout the pond and historic discharge of arsenic impacted groundwater from beneath SHL to the Red Cove area. Metals and PAHs were present in sediment along the shoreline of former Railroad Roundhouse as a result of activities in the former railroad roundhouse. This ROD does not address impacts on the ponds from the former tannery. Those impacts will be addressed under the Massachusetts Contingency Plan.

Plow Shop Pond (AOC 72)

Arsenic concentrations in groundwater at SHL impacted the pond sediments in the Red Cove area of Plow Shop Pond which is located in a cross gradient to down gradient position relative to SHL. Arsenic in Red Cove sediment was concentrated in iron floc near the sediment surface, where groundwater discharge to surface water from SHL occurs. Dissolved arsenic concentrations in Red Cove surface water decreased rapidly with height above the sediment surface, as the water column transitioned to oxidizing conditions and solid arsenic precipitates or adsorbs to iron floc. Iron oxides precipitated as an orange-red floc or sediment in Red Cove as reduced groundwater discharges to oxygenated surface water. Arsenic was absorbed by or co-precipitated with the iron floc near the sediment surface.

The predominant source of the dissolved arsenic emanating from the landfill appears to be naturally occurring arsenic within aquifer sands and bedrock materials. Arsenic is being mobilized by both naturally-occurring and landfill-induced conditions through the geochemical process of reductive dissolution which releases dissolved arsenic to the aquifer. It should be noted that EPA believes the source of the dissolved arsenic emanating from the landfill appears to be two-fold - (1) naturally-occurring arsenic within aquifer sands and bedrock materials; and, (2) arsenic-containing wastes within the landfill.

To mitigate the source of the arsenic-impacted groundwater discharging to Red Cove, a low-permeability barrier wall was installed upgradient of Plow Shop Pond at Shepley's Hill Landfill (SHL) 2012. The selected remedy for Red Cove was contingent upon the successful implementation of the barrier wall at the landfill.

Investigations and removal actions at Red Cove support the conceptual site model (CSM) that site contaminant sources are from SHL. Best available technologies have been used in site investigations and removal actions. These efforts have resulted in the control of the arsenic source discharge to Red Cove as well as the removal of arsenic containing sediments that were determined to be above risk based thresholds.

The former roundhouse was located adjacent to the southern shore of Plow Shop Pond. The shoreline adjacent to the former Railroad Roundhouse site was used as a dumping area for locomotive maintenance by-products. As noted in the May 2008 *Final SA 71 Risk Characterization*, the maintenance byproduct deposits "consist predominantly of coal ash, but also contained fragments of brick, coal, porcelain, and other debris including occasional pieces of a soft, shiny metal that looked as if it had solidified after splashing, molten, on a solid surface" and "the ash-like material is underlain by a dark, fibrous peat." Releases of antimony, copper, lead, zinc, and

PAHs associated with the maintenance by-product at former Railroad Roundhouse appeared limited to the area of waste deposits in the an upland areas and also extending into the pond up to 60 feet from shore.

Former Railroad Roundhouse (SA 71)

The completion of investigations and removal actions at SA 71 from 1998 to 2013 have confirmed the CSM that site risks were driven by the presence of debris and maintenance by-products in site upland soils and pond sediments. Best available technologies have been used in site investigations and removal actions. These efforts have resulted in the reduction of risk to human health in upland soils and the elimination of the ecological risk in pond sediments along the shore line of SA 71.

2.5.2 Site Geology and Hydrogeology

Plow Shop Pond is a man-made pond where water levels are maintained by a concrete dam (Nonacoicus Brook Dam). Plow Shop Pond receives inflow from the Grove Pond to the east through the railroad causeway, and discharges to Nonacoicus Brook. Plow Shop Pond has a maximum depth of about 9 feet but most of the pond is less than 6 feet deep. Depth to bedrock under the pond is estimated to be 40 to 80 feet (AMEC, 2011).

Most of the pond is classified by the MassDEP as a "Deep Marsh". The pond is eutrophic, organically enriched, and supports dense growth of aquatic vegetation during summer months. The pond supports a warm water fish community, and there are no rare species in the pond (ABB-ES, 1992).

The watershed of Plow Shop Pond above the dam is 16.5 square miles and 53% forested (USGS Streamstats). Emergent vegetation is limited to a narrow band along the shoreline. Note that adjacent land is largely developed (Railroad, Shepley's Hill Landfill [SHL], and industrial properties), but that there is a wooded buffer along much of the shoreline.

In addition to the SHL which is located to the west, south, and hydraulically upgradient of the pond basin, Plow Shop Pond is bounded by the Molumco Industrial Park to the north, the former Railroad Roundhouse (SA 71) to the south, and the Guilford Transportation railroad right of way which crosses a causeway between Grove and Plow Shop Ponds to the east.

The upland area of Plow Shop Pond at the former Railroad Roundhouse is generally sandy soils in the overburden with increasing silt with depth. The area is sparsely vegetated with small trees and brush. There is a slight slope to the edge of pond.

2.5.3 Potential Ecological Receptors

Plow Shop Pond is located in an Area of Critical Environmental Concern (ACEC), which are Massachusetts areas that are designated by the Secretary of Environmental Affairs in accordance with 301 CMR 12.00 to receive special recognition because of their ecological quality, uniqueness, and the significance of their natural and cultural resources.

In addition, the upland areas surrounding the pond include freshwater wetland areas subject to protection under state and local regulations and wildlife habitat areas designated under the Massachusetts Natural Heritage and Endangered Species Program (NHESP).

2.5.4 Current and Future Site and Resource Uses

Plow Shop Pond (AOC 72) currently has a catch-and-release fishing advisory according to the Freshwater Fish Consumption Advisory List published August 2013 by the Massachusetts Department of Public Health Bureau of Environmental Health (MassDPH), and information provided in previous reports indicates that "Catch and Release Only" signs are posted at Plow Shop Pond (Gannett Fleming, 2006; AMEC, 2011). According to MassDPH, Plow Shop Pond is categorized as a "P6"advisory, meaning that "No one should consume any fish from this water body" (MassDPH, 2013).

The former Railroad Roundhouse site (SA 71) is currently zoned as Open Space/Recreational per the Devens Reuse Plan. This ROD and subsequent implementation of Land Use Controls (LUCs) will restrict the future use of the upland area of the former Railroad Roundhouse to Open Space/Recreational.

2.6 Summary of Site Risks

Removal actions completed in Red Cove and former Railroad Roundhouse were driven by risk-based clean up criteria. Previous site investigations and confirmation sampling events provide a sufficient data set to determine any risks present at each site.

2.6.1 Plow Shop Pond - AOC 72

The 2011 Remedial Investigation Report evaluated whether a significant risk to human health and welfare and environment existed at AOC 72, Plow Shop Pond, a waterbody located east of the SHL, based on results from all surface water and sediment investigations conducted in and prior to 2009. The 2011 human health risk assessment indicated that potential exposures to contaminants (principally arsenic) in surface water and sediment in Plow Shop Pond, including Red Cove and in the area of the former Railroad Roundhouse, by recreational receptors, are within the USEPA's acceptable cancer risk range and do not exceed a Hazard Index limit of 1.

Furthermore, the results of a qualitative evaluation of the potential for fish ingestion indicate that the estimated risks and hazards associated with arsenic do not exceed the risk management limits, even with conservative exposure assumptions. As a result, no contaminant was identified in either surface water or sediment in Plow Shop Pond, including Red Cove and in the area of the former Railroad Roundhouse, exceeding risk thresholds based on the quantitative human health risk characterization (AMEC, 2011; Sovereign, 2014c).

The ecological risk assessment indicated a risk of adverse effects for several receptors from exposure to contaminants of concern not only in Red Cove and in the area of the former Railroad Roundhouse but throughout both Plow Shop Pond and Grove Pond. These results suggested that a weight of evidence finding on the potential for ecological impacts associated with Red Cove and the former Railroad Roundhouse was not possible. This was because all locations associated with the study showed significant indications of impact related to either exceedance of threshold effect concentrations or diminishment of benthic and/or epibenthic markers (AMEC, 2011). This was similar to the results of the 2006 EPA site investigation at Plow Shop Pond (Gannett Fleming, 2006) and the 2008 sediment risk assessment at SA 71 during which a noticeable difference between study areas could not be identified which resulted in the conclusion that observed impacts were possibly not due solely to contaminants originating from SA 71 (MACTEC, 2008).

Following removals action in 2013, concentrations of metals were reduced to below the remedial goals along the shoreline of the former Railroad Roundhouse and were consistent with pond local condition concentrations. In addition, all visual evidence of the maintenance byproduct was removed. With the removal of impacted sediment from the former Railroad Roundhouse, exposure point concentrations have been reduced, and the benthic community is expected to improve (Sovereign, 2014a).

The installation of a low-permeability groundwater barrier wall between SHL and Red Cove in 2012 (Sovereign, 2013a) and sediment removal actions within the Red Cove area and former Railroad Roundhouse area of AOC 72 in 2013 have mitigated the potential risk associated with Plow Shop Pond sediments. The results of post-excavation confirmatory sediment sampling within Red Cove were below the remedial goals for arsenic (270 mg/kg), consistent with local condition concentrations of arsenic in sediment east of the Red Cove area. With the removal of impacted sediment from Red Cove exposure point concentrations have been reduced, and the benthic community is expected to recover to levels that are consistent with local conditions within the pond.

2.6.2 Former Railroad Roundhouse – SA 71

The removal of 2,400 cubic yards of soil in 1999 has resulted in a reduction of risk to human health and welfare or the environment at SA 71, and the residual conditions in the upland area of SA 71

are consistent with industrial fill containing coal ash. Following the removal action, a human health and ecological risk evaluation was conducted in 2001 (Harding, 2002) to evaluate the risk associated with post-remedial conditions at SA 71. A revised human health and welfare risk evaluation was then conducted in 2014 at the request of the USEPA and MassDEP to update all risk assessment assumptions and address additional state and federal regulatory agency comments (Sovereign, 2014c). As summarized below, the quantitative human health risk evaluation indicates a potential risk to human receptors. The ecological risk assessment indicates risk to the environment has been mitigated, although it still exceeds some of the ecological screening values at some locations.

At this time, the current and future land use of SA 71 remains open space/recreational (VHB, 1994). To be conservative, the quantitative human health risk assessment evaluated unrestricted residential use, using several algorithms and exposure variables, such as chemical-specific toxicity and derivation of exposure factors (Sovereign, 2014c). Table 1 includes a summary of the contaminants of concern that were included in the assessment. Based on 2014 updated human health risk evaluation for SA 71, the cumulative Excess Lifetime Cancer Risk (ELCR) for human receptors is above acceptable risk criteria for unrestricted residential use of SA 71. Specifically, the ELCR for residential human receptors is greater than one chance in 1,000,000 (10^{-6}). However, the updated human health risk evaluation demonstrates acceptable risk for the assumed future use (open space/recreation) of the site (Sovereign, 2014c).

Ecological receptors at SA 71 include terrestrial wildlife, plants, and invertebrates that may occur in or utilize the area. Potential contaminant exposure routes for these receptors include incidental soil ingestion and terrestrial food web exposure. Risk to terrestrial wildlife, plants, and invertebrates was evaluated through comparison of contaminant concentrations in surface soil to Protective Contaminant Levels, phytotoxicity benchmark values, and invertebrate toxicity benchmark values, respectively. The 2001 ecological risk assessment indicated that ecological receptors are unlikely to be at risk from contaminants of concern remaining in surface soil. Although concentrations at some locations still exceed some of the ecological screening values, most concentrations are consistent with background levels, and the overall magnitude of exceedance is small. The lower concentrations, combined with the general observation of a healthy ecological community indicated that ecological receptors are unlikely to be at risk from analytes remaining in the surface soil at SA 71 (Harding, 2002).

Implementing the response action selected in this ROD, will mitigate the risk posed by the potential for actual or threatened releases of hazardous substances from this site. The implementation of a deed restriction that prevents residential use in this area will ensure protection of human health.

2.7 Remedial Action Objectives

The primary project goals as established in the EE/CA (Sovereign, 2012a) for AOC 72 and SA 71 were to mitigate arsenic impacts in sediment in and around Red Cove and to mitigate sediment impacted by maintenance by-product deposits of the former Railroad Roundhouse along the shoreline of Study Area 71 in order to be protective of human health and the environment. The Removal Actions in each area are discussed separately in the sections below.

2.7.1 Removal Action Objective – Plow Shop Pond

In the fall of 2012, an 850-foot long hydraulic barrier wall was installed to the top of bedrock on the eastern boundary of SHL to divert groundwater flow north and away from Plow Shop Pond, under a separate NTCRA. Its purpose is to mitigate the ongoing arsenic flux from SHL to the Red Cove portion of Plow Shop Pond.

In addition, the 2013 removal action at AOC 72 removed arsenic impacted sediments that were associated with the arsenic-in-groundwater flux to Red Cove from beneath SHL prior to the installation of the barrier wall. Based on these two removal actions, risk to human health and welfare or the environment at AOC 72 have been mitigated. Therefore and due to the mitigation of risk at AOC 72, an RAO and Remedial Action Alternatives for AOC 72 are not necessary and the Preferred Remedy of No Further Action is presented in **Section 2.12** below.

2.7.2 Removal Action Objective – Former Railroad Roundhouse

Based on investigations and removal actions completed to date, the RAO for SA 71 is as follows:

- Prevent ingestion/direct contact with residually impacted soil that could pose unacceptable human health risk at SA 71.

2.8 Description of Alternatives

For both sites, remedial alternatives were developed and assessed as part of the EE/CA and Action Memorandum process prior to the NTCRA for AOC 72 in 2013, and the TCRA for SA 71 in 2000. Pursuant to the Superfund Accelerated Cleanup Model (USEPA, 1994) and the criteria pursuant to CERCLA (40 USC §9604) and the National Contingency Plan (40 CFR 300.415), the EE/CA process for NTCRAs and TCRAs served as a more streamlined analogous function to the remedial investigation/feasibility study approach. Consequently, a feasibility study was not prepared for either site. However, the public was provided the opportunity to comment on all proposed alternatives as part of the 2012 Action Memorandum for AOC 72 and the 1999 Action Memorandum for SA 71.

2.9 Plow Shop Pond - AOC 72

The Army prepared an EE/CA in 2012 to evaluate response measures for the NTCRA at AOC 72 and to address impacted sediment at Red Cove and in the area of the former Railroad Roundhouse. The EE/CA defined the RAOs for Red Cove as "mitigate arsenic-impacted sediment in the Red Cove area in AOC 72 to reduce risk to environmental receptors consistent with local conditions in Plow Shop Pond" and for the area of the former Railroad Roundhouse as "mitigate risk to environmental receptors posed by maintenance byproduct-impacted ash-sediment layer along the SA 71 shoreline" (Sovereign, 2012a).

The EE/CA evaluated all of the remedies and/or alternatives based on implementability, cost, and effectiveness. The EE/CA compared six alternatives that would meet the selected RAOs: Alternative 1 - No Action, Alternative 2 - Excavation, Alternative 3 - Capping, Alternative 4 - Excavation and Backfilling, Alternative 5 - Excavation and Capping and Alternative 6 - Excavation and Capping with Sand/Iron Filter. These alternatives are summarized below and presented in greater detail in the aforementioned EE/CA report.

Although there was no cost associated with this alternative, Alternative 1 (No Action) was found to not meet the RAOs or protectiveness requirements. Alternative 2 (Excavation) was found to meet the RAOs and provide protectiveness and was deemed to be readily implementable. Alternative 3 (Capping) was found to meet the RAOs and provide protectiveness; however, there was a degree of uncertainty in the effectiveness because impacted sediment remained and impacted groundwater could discharge beyond the cap. Alternative 4 (Excavation and Backfilling) was found to meet the RAOs and provide protectiveness; however, the cost of this Alternative was more than Alternative 2. Alternative 5 (Excavation and Capping) was found to meet the RAOs and provide protectiveness; however, there was a degree of uncertainty in the effectiveness because impacted sediment remained and impacted groundwater could discharge beyond the cap. Finally, Alternative 6 (Excavation and Capping with Sand/Iron Filter) was found to meet the RAOs and provide protectiveness as well as provide additional protection in Red Cove by preventing groundwater discharge and the formation of iron floc. However, the cost of this alternative was considerably higher than Alternative 2. Consequently, Alternative 2 (Excavation) was selected based on a high degree of protectiveness, relative ease of implementation, relative cost, and compatibility with RAOs (Sovereign, 2012a). Based on the results of the EE/CA, the recommended removal action alternative for AOC 72 was Alternative 2 - Excavation, based on a high degree of protectiveness, relative ease of implementation, relative cost, and compatibility with RAOs (Sovereign, 2012a).
An Action Memorandum (Sovereign, 2012b) was subsequently prepared in 2012 to document the decision to perform the recommended NTCRA (excavation) in AOC 72 and to solicit public

comment regarding the removal action. Following the approval of the AOC 72 Action Memorandum, removal actions were conducted at Plow Shop Pond between July and October 2013 as further detailed in **Section 1.4**.

Following the 2013 removal action at AOC 72 as well as the 2012 installation of the barrier wall at the SHL, risk to human health and welfare or the environment at AOC 72 was mitigated. Therefore, evaluation of additional Remedial Action Alternatives for AOC 72 are not necessary, and the Preferred Remedy based on current conditions is No Further Action.

2.10 Former Railroad Roundhouse - *SA 71*

For SA 71, the Army prepared an Action Memorandum in 1999 to propose the TCRA of soil excavation and removal. Because the removal action was considered time critical, alternative technologies were not evaluated beyond the conceptual level at the time (SWETS, 1999). However, public comment was solicited during the Action Memorandum process. Following the approval of the SA 71 Action Memorandum, removal actions were conducted at SA 71 from November 1999 to May 2000 to remove approximately 2,400 cubic yards of impacted soil.

Final sidewall confirmatory samples from the excavation identified concentrations of contaminants above the remediation goals. However, further excavation was not warranted based on the current and future use of SA 71 (open space/recreation), the depth of the impacted soil, and the low risk associated with the remaining soil (Weston, 2001).

Consequently, the development of additional remedial alternatives for SA 71 focused on limiting the exposure to site soils in excess of human health risk-based thresholds as identified in the site updated risk assessment. Based on this evaluation, two additional alternatives for SA 71 were retained for detailed analysis.

1. No Further Action
2. Limited Action: Implementation of Land Use Controls

2.10.1 SA 71 Alternative 1 – No Further Action

This baseline or No Further Action[1] alternative consists of taking no further action towards preventing direct contact with residually impacted soil that may remain at SA 71. No Further Action is easily implemented but leaves the area as is with no further measures to prevent exposure. There would be no technologies used and no cost associated with this alternative.

[1] CERCLA requires consideration of "No Action" as a baseline with which to compare other alternatives.

2.10.2 SA 71 Alternative 2 – Limited Action: Implementation of Land Use Controls

Land Use Controls (LUCs) for SA 71 would be implemented through institutional controls, affirmative measures and prohibitive directives with the objective of limiting potential exposure to any residual soil contamination associated with the former RRRH activities. The specific elements of the LUCs include (1) prohibiting residential reuse through the use of a property deed restriction and the implementation of an environmental use covenant consistent with a Notice of Activity Use Limitation (NAUL)[2] at the time of property transfer by the Army to MassDevelopment; (2) affirmative measures to include public education and outreach; and (3) prohibitive directives to ensure that any future soil disturbance activities are avoided by the public and that any excavation by construction/utility contractors is performed in accordance with a site specific Soil Management Plan (SMP). The LUCs for SA 71 would be implemented following the issuance of the ROD through a Land Use Control Implementation Plan (LUCIP). The LUCIP formalizes the roles and responsibilities of the Army, EPA, and MassDEP in the long-term administration and management of the alternative. Annual inspections and 5-year reviews will be conducted to confirm the overall effectiveness of the established LUCs. The approximate proposed boundaries of the LUCs would correspond to the SA 71 boundary as presented on **Figure 3** and would be maintained as per the LUCIP.

The capital cost of this alternative is estimated at $35,000 with a $20,000 annual cost.

2.10.3 SA 71 Evaluation of Alternatives

The current alternatives were subsequently evaluated using the threshold criteria, primary balancing criteria, and modifying criteria required by the National Contingency Plan. For current conditions at SA 71, Alternative 1 (No Further Action) is not effective in the long or short term and does not address the hazard of human exposure to remaining residual soil and would therefore not be protective of human health. Alternative 2 (Limited Action – Implementation of Land Use Controls) is protective of human health and provides a means of limiting potential exposure to any residual soil contamination associated with the former RRRH activities. This alternative is readily implementable and would be effective in the long and short term. Consequently, Alternative 2 (Limited Action – Implementation of Land Use Controls) provides the most appropriate and reasonable means of addressing any potential risk associated with

[2] An NAUL can be implemented at disposal sites deemed by the MassDEP to be Adequately Regulated pursuant to 310 CMR 40.0111 where the selected remedy relies, in whole or in part, on the imposition of land use controls to minimize the potential for human or ecological exposure to contamination or to protect the integrity of a remedy.

future exposure to any residual soil contamination remaining in the upland area of SA 71. A summary of this evaluation is provided on Table 2.

2.11 Comparative Analysis of Alternatives

As detailed in the proceeding sections, remedial alternatives were developed and assessed with respect to their effectiveness in meeting the RAO for SA 71. The preferred and appropriate alternative for AOC 72 is No Further Action, and the preferred and appropriate alternative for SA 71 is Alternative 2 – Limited Action: Implementation of LUCs.

Table 2 – Summary of Remedial Alternatives Evaluation

	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*	*Implementability*	*Cost*
AOC 72							
1 – No Further Action	●	●	●	○	●	●	●
SA 71							
1 – No Further Action	○	◐	○	○	○	●	●
2 – Limited Action - LUCs	●	●	●	○	●	●	●

● Fully meets criterion
◐ Partially meets criterion
○ Does not meet criterion

Based on the information currently available, the Army believes these Alternatives meet the threshold criteria and modifying criteria. The Army's rationale and preferred remedy for the each area are presented in the following sections.

Plow Shop Pond - AOC 72

Under CERCLA, if no unacceptable risks to human health and welfare or the environment are identified, then No Further Action is the appropriate remedy. Following the installation of the

barrier wall between SHL and Red Cove and the successful implementation of the AOC 72 removal action in 2013 to address contaminated sediments in Plow Shop Pond, risk to human health and welfare or the environment has been mitigated; therefore, the "No Further Action" is proposed. Future monitoring of the effectiveness of the barrier wall will be incorporated into the SHL Long-Term Monitoring and Maintenance Plan (Sovereign, 2013c) and will be conducted as part of long-term monitoring at SHL. The results of the long-term groundwater monitoring in the area of the barrier wall and Red Cove will be presented in SHL Annual Reports (Sovereign, 2014b).

Former Railroad Roundhouse - SA 71

Following the 1999 removal action, the presence of railroad maintenance byproduct materials in the upland soil and the risk to human health and welfare or the environment has been mitigated but not reduced to acceptable risk levels for residential use. Based on the screening of alternatives, Alternative 2 (LUCs) provides the most appropriate and reasonable means of addressing any potential risk associated with future exposure to any residual soil contamination associated with the former RRRH activities remaining in the upland area of SA 71. The Army is recommending this alternative as it is protective of human health, complies with ARARs, is cost-effective and meets the RAO of preventing ingestion/direct contact with any residual soil contamination which may remain at the site.

The LUCs will require a deed restriction prohibiting residential reuse that runs with the land and is legally enforceable. All resources needed to implement Alternative 2 at SA 71 are readily available. LUCs, once finalized, would be implemented through a LUCIP. The LUCIP formalizes the roles and responsibilities of the Army, EPA, and MassDEP in the long-term administration and management of the LUCs. Annual reviews/inspections will be conducted to confirm the overall effectiveness of the established LUCs.

The LUCs will require notification to all current and future landowners to confirm they understand LUC requirements, restrictions and annual inspections to verify compliance with the LUCs.

2.12 Alternative Selection

Based on the information presented in the CERCLA nine-criteria screening process, Alternative 2 - Limited Action: Implementation of Land Use Controls, is the selected remedy for SA 71 that is protective of human health and the environment. Alternative 2 – complies with ARARs and is a cost effective remedy.

As stated in Section 2.7.1, No Further Action is the preferred remedy for AOC 72, as the risk to human health and welfare or the environment at AOC 72 have been mitigated.

2.13 Principal Threat Waste

Principal threat wastes are defined as source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur. These include soils containing significant concentrations of highly toxic materials and surface or subsurface soils containing high concentrations of contaminants that are, or potentially are mobile due to wind entrainment, volatilization, surface runoff, or sub-surface transport.
The residual subsurface contamination associated with maintenance byproduct material located in the upland area of SA 71 are not considered to pose a Principal Threat.

2.14 Selected Remedy

2.14.1 Plow Shop Pond - AOC 72

The Selected Remedy based on current conditions at AOC 72 is No Further Action.

2.14.2 Former Railroad Roundhouse – SA 71

The Selected Remedy is Alternative 2 – Limited Action: Implementation of Land Use Controls. The LUCs are addressed through institutional controls, access restrictions, affirmative measures, and prohibitive directives:

- Institutional controls are to be implemented through a deed restriction prohibiting future residential use. The deed restriction will be implemented at the time of property transfer from the Army to MassDevelopment. In addition, an environmental use covenant consistent with a NAUL will be implemented at the time of property transfer.
- Affirmative measures to include public education and outreach.
- Prohibitive directives to ensure that any future soil disturbance activities are avoided by the public and that any excavation by construction/utility contractors is performed in accordance with a site specific Soil Management Plan (SMP).
- Annual site inspections of the site to evaluate access controls and evaluate the overall effectiveness of the LUCs will be conducted every five years.

The LUCs would be implemented following the issuance of the ROD through a LUCIP. Within 120 days of ROD signature, the Army shall prepare and submit for EPA review and approval a draft LUCIP that shall contain implementation and maintenance actions, including periodic inspections. The LUCIP formalizes the roles and responsibilities of the Army, EPA, MassDEP,

and MassDevelopment in the long-term administration and management of the alternative. The LUCIP will provide details of the deed restriction, details of the information to be included in the brochure/fact sheets and website, locations of brochure/fact sheet distribution, detailed description and survey coordinates of the area that is being addressed by the LUCs (see **Figure 3**), and the schedule/procedure for dissemination of the information. The LUCIP will include a Soils Management Plan for a future invasive work at the site. These instructions will include requirements for informing EPA, public notification requirements, safety procedures, and protocols for proper soil handling procedures.

The implementation of MassDevelopment/DEC requirements will be monitored as part of this alternative under the LUCIP and as part of the Comprehensive Five-Year Review process conducted at Devens which is required under Section 121 of CERCLA, as amended by SARA of 1986.

The estimated costs include initial capital costs to develop the educational materials, 30-year annual costs, and a 3% discount rate is as follows:

- Estimated Capital Cost: $35,000
- Estimated Present-Value Annual Cost: $20,000
- Estimated Total Present-Value Cost: $432,085.04

Capital and annual costs used in the calculation of present worth costs for the selected remedy are presented in **Table 3** attached. In addition, project management costs were added to capitals costs as a percentage of calculated costs. A 20% management and contingency fee was added to the annual costs associated with Alternative 2. Cost estimates assume Land Use Controls will be maintained until such time that the risks associated with subsurface soils and debris is at levels to allow for unrestricted use and exposure.

The Army is responsible for implementing, maintaining, reporting on, and enforcing the Land Use Controls. Although the Army may later transfer these procedural responsibilities to another party by contract, property transfer agreement, or through other means, the Army shall retain ultimate responsibility for the remedy integrity.

2.15 Statutory Determinations

Under CERCLA §121 and the NCP, the lead agency must select remedies that are protective of public health, welfare and the environment, comply with ARARs (unless a statutory waiver is justified), are cost-effective, and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. In addition,

CERCLA includes a preference for remedies that employ treatment that permanently and significantly reduces the toxicity, mobility or volume (TMV) of hazardous wastes as a principal element and a bias against off-site disposal of untreated wastes. The following sections discuss how the selected remedy meets these statutory requirements.

2.15.1 Protection of Public Health, Welfare, or the Environment

The selected remedy for SA 71 (Alternative 2), will protect public health and welfare through mitigation of potential risk to health and welfare from exposure to residual soil and debris in the upland of the former Railroad Roundhouse. This is accomplished in two ways:

- Implementation of Land Use Controls
- Prohibitive directives to include restrictions on all ground intrusive activities unless a Site-specific Soils Management Plan is followed.

Threats to the environment are not anticipated while residual subsurface contamination associated with maintenance byproduct material remains in place.

2.15.2 Compliance with Applicable and/or Relevant and Appropriate Requirements

The prior response action at SA 71 met the ARARs identified in the Action Memorandum (SWETS, 1999). No other ARARs are applicable to the selected remedy.

2.15.3 Cost Effectiveness

In the lead agency's judgment, the selected remedy is cost-effective and represents a reasonable value for the money to be spent. In making this determination, the following definition was used: "A remedy shall be cost-effective if its costs are proportional to its overall effectiveness." (40 CFR 300.430(f)(3)(i)(a))This was accomplished by evaluating the "overall effectiveness" of those alternatives that satisfied the threshold criteria (i.e., were both protective of human health and the environment and ARAR-compliant). Overall effectiveness was evaluated by assessing three of the five balancing criteria in combination (long-term effectiveness and permanence; reduction in TMV through treatment; and short-term effectiveness). Overall effectiveness was then compared to costs to determine cost-effectiveness. The relationship of the overall effectiveness of this remedial alternative was determined to be proportional to its costs and hence this alternative represents a reasonable value for the money to be spent.

As shown in the comparative analysis of alternatives and summarized in **Table 2**, the selected remedy for SA 71, Alternatives 2, is the most cost effective alternative evaluated that provides acceptable levels of achievement of the other evaluation criteria, including implementability, short- and long-term effectiveness, and protectiveness.

The estimated present worth cost of the selected remedy is $432,085.04 for Alternative 2. Although Alternative 1 is less expensive, protection of public health and welfare is not addressed. Other alternatives evaluated may provide incrementally more protectiveness; however, their increased costs are not warranted by the incremental increases in protectiveness. In addition, under future use conditions, overall risks from potential subsurface residual soil contamination were found to be low.

2.15.4 Utilization of Permanent Solutions and Alternative Treatment Technologies (or Resource Recovery Technologies) to the Maximum Extent Practicable

The Army has determined that the selected remedy represents the maximum extent to which permanent solutions and treatment technologies can be utilized in a practicable manner at the site. Of those alternatives that are protective of human health and the environment , the Army has determined that the selected remedy provides the best balance of trade-offs in terms of the five balancing criteria, while also considering the statutory preference for treatment as a principal element and bias against off-site treatment and disposal and considering state and community acceptance.

The selected remedy reduces potential risks to public health and welfare by mitigating potential future exposure to residual subsurface soil contamination associated with maintenance byproduct material at the former Railroad Roundhouse. The selected remedy does not present short-term risks different from the other alternatives. There are no special implementability issues that set the selected remedy apart from any of the other alternatives evaluated. Additionally, a Principal Threat has not been found to exist at the former Railroad Roundhouse; therefore, the preference for treatment is not paramount.

2.15.5 Preference for Treatment as a Principal Element

Because of the low risk levels currently existing at the site, treatment of residual subsurface soil contamination associated with maintenance byproduct material is not deemed necessary. Therefore, because treatment was evaluated and deemed unnecessary, this statutory preference is satisfied.

2.15.6 Five-Year Review Requirements

Because contaminants remain on site at concentrations greater than those that would allow for unlimited use and unrestricted exposure, a statutory review will be conducted within 5 years after initiation of remedial action to evaluate whether the remedy continues to be protective of public health, welfare, and the environment in both the short- and long-terms.

2.16 Documentation of Significant Changes

The Proposed Plan was released for public comment in December 2014. It identified No Further Action as the Preferred Alternative for AOC 72 and Alternative 2 – Limited Action (LUCs) as the Preferred Alternative to address the potential risk above residential standards at the former Railroad Roundhouse.

Alternative 2 involved the institution of Land Use Controls, as a deed restriction to restrict site use to Open Space/Recreation Unlimited, and prevent residential use of the property. There were no significant changes presented during the comment period.

3.0 RESPONSIVENESS SUMMARY

3.1 Stakeholder Comments and Lead Agency Responses

No written comments from the public were received on the Proposed Plan (Sovereign, 2015) for the duration of the public comment period.

The Army conducted a Public Meeting on the Proposed Plan on 15 January 2015. A transcript of the meeting and copy of the presentation is provided in **Appendix B**. No significant changes to the Proposed Plan were presented by the public during the hearing. A copy of agencies' comments and the Army's response to those comments are attached in **Appendix C**.

3.2 Technical and Legal Issues

The Land Use Controls will require a deed restriction prohibiting future residential use. Other than the legal changes to deeds and deed notices noted in Subsection 2.16, no other technical or legal issues are foreseen during implementation of the selected remedies.

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FIGURES

FIGURE 1 - SITE LOCUS MAP

Plow Shop Pond
Former Fort Devens, Ayer, Massachusetts

Latitude: 42˚ 33' 19.93"N
Longitude: 71˚ 35' 32.27"W

0 1,000 2,000 4,000
Feet

SOVEREIGN CONSULTING INC.
16 CHESTNUT STREET
FOXBOROUGH, MA 02035
Tel: 508-339-3200 Fax: 508-339-3248
www.sovcon.com

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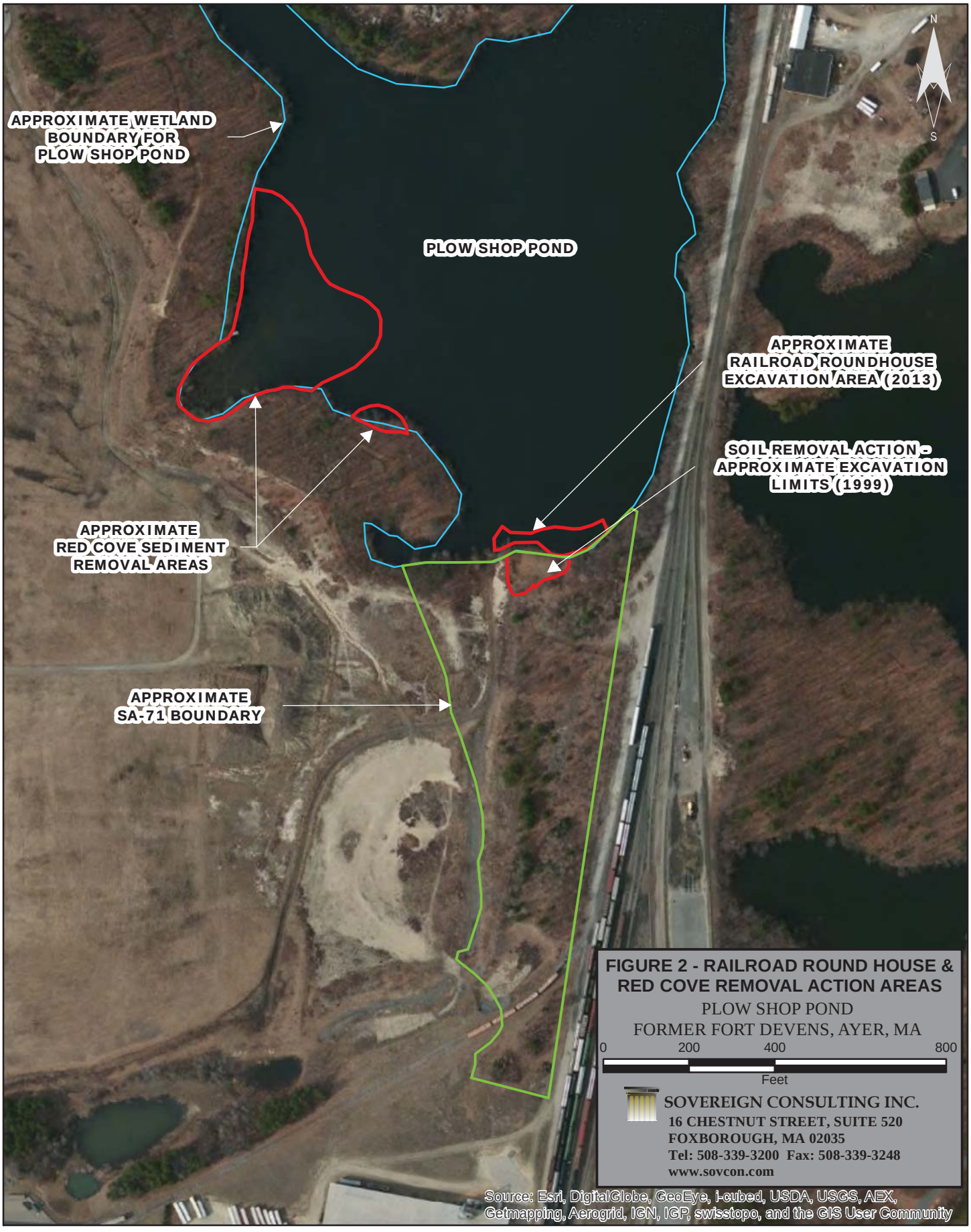

Wetland Data Source: National Wetland Inventory Layer. 2010. US Fish & Wildlife Service.

02/26/2015 ROV
Updated 07/15/2015 ROV

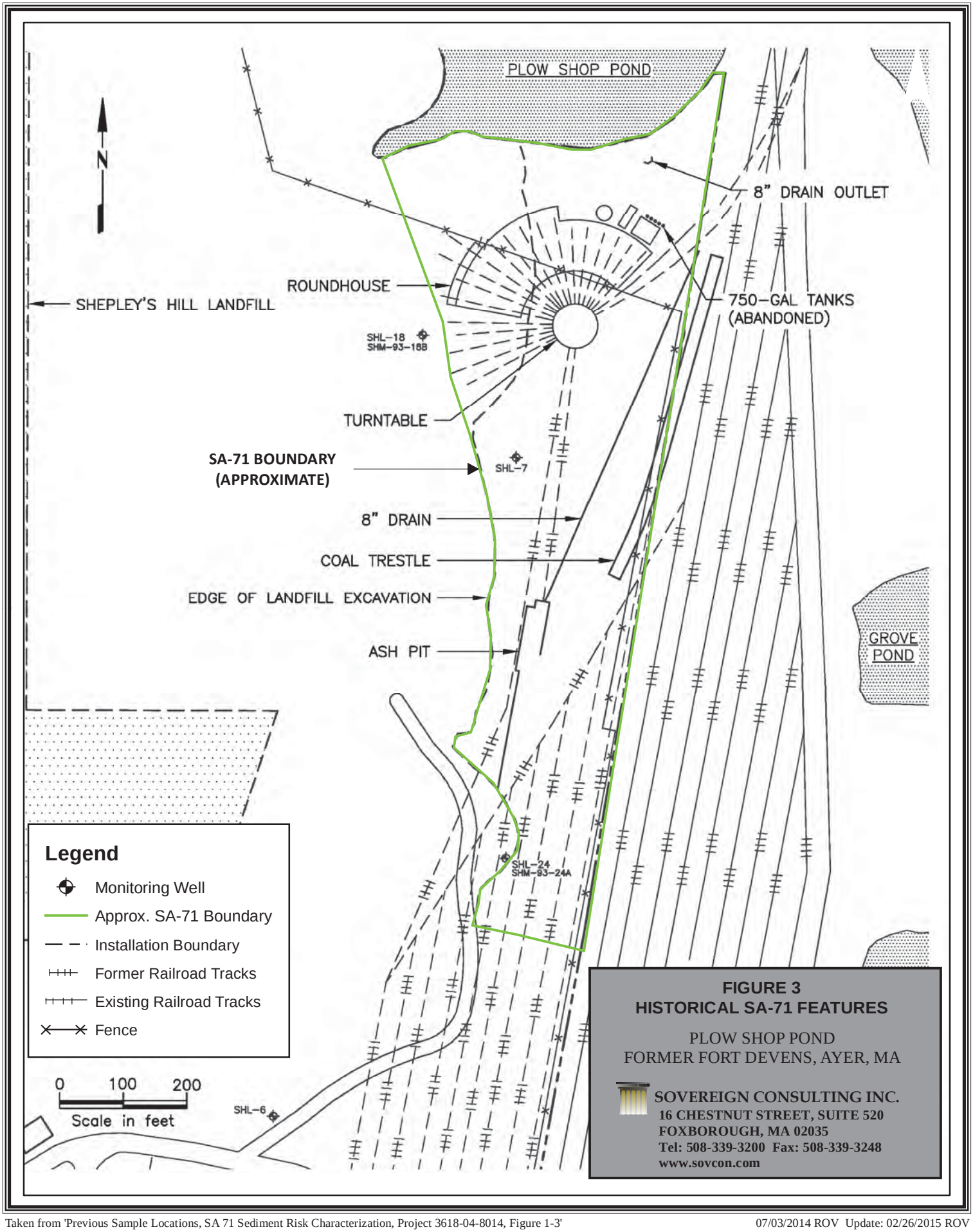

FIGURE 3
HISTORICAL SA-71 FEATURES

PLOW SHOP POND
FORMER FORT DEVENS, AYER, MA

SOVEREIGN CONSULTING INC.
16 CHESTNUT STREET, SUITE 520
FOXBOROUGH, MA 02035
Tel: 508-339-3200 Fax: 508-339-3248
www.sovcon.com

Taken from 'Previous Sample Locations, SA 71 Sediment Risk Characterization, Project 3618-04-8014, Figure 1-3' by MACTEC dated October 13, 2006.

07/03/2014 ROV Update: 02/26/2015 ROV

TABLES

TABLE 1
SOIL CONTAMINANT OF CONCERN TABLE
Railroad Roundhouse
Ft. Devens Study Area 71
Devens, Massachusetts

Compounds Detected During Subsurface Sampling Activities Master Listing	MassDEP Background Natural Soil	MassDEP Background Coal Ash Fill	Frequency of Detection	Highest Concentration Detected	Contaminant of Concern?	Justification For Removal From COC List	Location
	mg/kg	mg/kg	#/#	mg/kg			
VOLATILE ORGANICS							
Toluene	N/A	N/A	1/2	0.002	No	BRSLs	SHS-93-02X-0.0
Naphthalene	0.5	1	11/21	10.00	YES	COC	RHS-94-09X-0.0
PAHs				30			
2-methylnapthalene	N/A	N/A	10/21	20.00	No	BRSLs	RHS-94-08X-1.1
Acenapthene	0.5	2	6/19	10.00	No	BRSLs	RHS-94-09X-0.0
Acenaphthylene	0.5	1	3/19	1.00	No	ProUCL EPC Below Background	RHS-94-13X-0.2
Anthracene	1	4	11/21	30.00	No	BRSLs	RHS-94-09X-0.0
Benzo(a)anthracene	2	9	11/21	20.00	No	ProUCL EPC Below Background	RHS-94-09X-0.0
Benzo(a)pyrene	2	7	6/21	30.00	No	ProUCL EPC Below Background	RHS-94-09X-0.0
Benzo(b)fluoranthene	1	4	9/21	10.00	No	ProUCL EPC Below Background	RHS-94-09X-0.0
Benzo(g,h,i)perylene	1	3	6/19	9.00	No	No RSL	RHS-94-09X-0.0
Benzo(k)fluoranthene	1	4	10/21	10.00	No	ProUCL EPC Below Background	RHS-94-09X-0.0
Chrysene	2	7	12/21	30.00	YES	COC	RHS-94-09X-0.0
Dibenz(a,h)anthracene	0.5	1	2/19	3.00	No	ProUCL EPC Below Background	RHS-94-09X-0.0
Fluoranthene	4	10	13/21	60.00	No	BRSLs	RHS-94-09X-0.0
Fluorene	1	2	7/21	10.00	No	BRSLs	RHS-94-09X-0.0
Indeno(1,2,3-cd)pyrene	1	3	6/19	9.00	No	ProUCL EPC Below Background	RHS-94-09X-0.0
Phenanthrene	3	20	13/21	70.00	No	No RSL	RHS-94-09X-0.0
Pyrene	4	20	14/21	50.00	No	BRSLs	RHS-94-09X-0.0
INORGANICS							
Aluminum	10,000	10,000	21/21	4710.00	No	ProUCL EPC Below Background	RHS-94-12X-0.0
Antimony	1	7	23/35	38.00	YES	COC	SA71-HS2
Arsenic	20	20	35/35	26.00	No	ProUCL EPC Below Background	SA71-HS2
Barium	50	50	21/21	138.00	No	BRSLs	SHS-93-02X-0.0
Beryllium	0.4	0.9	1/21	1.10	No	BRSLs	SHS-93-02X-0.0
Cadmium	2	3	3/19	6.57	YES	COC	RHS-94-12X-0.0D
Calcium	N/A	N/A	21/21	11200.00	No	BRSLs	SHS-93-03X-0.0
Chromium	30	40	17/21	15.80	No	ProUCL EPC Below Background	RHS-94-12X-0.0
Cobalt	4	4	19/21	4.77	No	BRSLs	RHS-94-12X-0.0
Copper	40	200	21/21	153.00	No	BRSLs	RHS-94-12X-0.0
Iron	20,000	20,000	21/21	20300.00	No	BRSLs	RHS-94-12X-0.0
Lead	100	600	33/35	660.00	No	ProUCL EPC Below Background	SA71-FL33
Magnesium	5,000	5,000	21/21	170.00	No	ProUCL EPC Below Background	RHS-94-12X-0.0
Manganese	300	300	21/21	291.00	No	ProUCL EPC Below Background	RHS-94-12X-0.0
Mercury	0.3	1	9/21	0.33	No	BRSLs	RHS-94-08X-0.0
Nickel	20	30	21/21	19.50	No	ProUCL EPC Below Background	RHS-94-12X-0.0
Potassium	N/A	N/A	21/21	5352.00	No	No RSL	SHS-93-03X-0.0
Selenium	0.5	1	9/21	4.20	No	BRSLs	RHS-94-09X-0.0
Silver	0.6	5	1/21	2.97	No	ProUCL EPC Below Background	SHS-93-03X-0.0
Sodium	N/A	N/A	21/21	613.00	No	No RSL	RHS-94-12X-0.0D
Thallium	0.6	5	1/19	0.50	No	ProUCL EPC Below Background	RHS-94-11X-1.5
Tin	N/A	N/A	9/19	16.70	No	BRSLs	RHS-94-08X-0.8
Vanadium	30	30	18/21	15.80	No	ProUCL EPC Below Background	RHS-94-12X-0.0
Zinc	100	300	20/21	3380.00	YES	COC	RHS-94-12X-0.0D
PESTICIDES							
4,4'-DDE	N/A	N/A	1/2	0.01	No	BRSLs	SHS-93-02X-0.0

Notes:
MDL - Method Detection Limit
COC - Contaminant of Concern
N/A - Not applicable

BRSLs- Concentration below USEPA Regional Screening Levels (RSLs) for residential soil.
Chrysene not identified as a COC in the 2001 RA.
Cobalt, iron and magnesium have limited toxicology data. Although they are considered COCs limited toxicological data resulted in minimal risks associated with exposure.

TABLE 3

Capital and Annual Costs for Selected Remedy
Alternative-2

	Quantity	Unit	Cost
Capital Costs			
Preparation of LUCIP	10500	1	$ 10,500.00
Implementation of LUCs	7500	1	$ 7,500.00
Legal Support	5500	1	$ 5,500.00
Puplic Involvement	3500	1	$ 3,500.00
Distribution of Site Information	2100	1	$ 2,100.00
Management & Contingency		20%	$ 5,820.00
		Total	$ 34,920.00
Annual Costs			
Site Inspection	7750	1	$ 7,750.00
Potential Review of Site Conditions	8500	1	$ 8,500.00
Management & Contingency		20%	$ 3,250.00
		Total	$ 19,500.00

TABLE 3

Net Present Worth Calculations

Year	Capital Cost	Annual Cost	Total Cost	Discount Factor	Present Worth
0	$ 34,920.00	$ 19,500.00	$ 54,420.00	1.00	$ 54,420.00
1		$ 19,500.00	$ 19,500.00	0.97	$ 18,915.00
2		$ 19,500.00	$ 19,500.00	0.94	$ 18,347.55
3		$ 19,500.00	$ 19,500.00	0.91	$ 17,797.12
4		$ 19,500.00	$ 19,500.00	0.89	$ 17,263.21
5		$ 19,500.00	$ 19,500.00	0.86	$ 16,745.31
6		$ 19,500.00	$ 19,500.00	0.83	$ 16,242.95
7		$ 19,500.00	$ 19,500.00	0.81	$ 15,755.67
8		$ 19,500.00	$ 19,500.00	0.78	$ 15,283.00
9		$ 19,500.00	$ 19,500.00	0.76	$ 14,824.51
10		$ 19,500.00	$ 19,500.00	0.74	$ 14,379.77
11		$ 19,500.00	$ 19,500.00	0.72	$ 13,948.38
12		$ 19,500.00	$ 19,500.00	0.69	$ 13,529.93
13		$ 19,500.00	$ 19,500.00	0.67	$ 13,124.03
14		$ 19,500.00	$ 19,500.00	0.65	$ 12,730.31
15		$ 19,500.00	$ 19,500.00	0.63	$ 12,348.40
16		$ 19,500.00	$ 19,500.00	0.61	$ 11,977.95
17		$ 19,500.00	$ 19,500.00	0.60	$ 11,618.61
18		$ 19,500.00	$ 19,500.00	0.58	$ 11,270.05
19		$ 19,500.00	$ 19,500.00	0.56	$ 10,931.95
20		$ 19,500.00	$ 19,500.00	0.54	$ 10,603.99
21		$ 19,500.00	$ 19,500.00	0.53	$ 10,285.87
22		$ 19,500.00	$ 19,500.00	0.51	$ 9,977.29
23		$ 19,500.00	$ 19,500.00	0.50	$ 9,677.98
24		$ 19,500.00	$ 19,500.00	0.48	$ 9,387.64
25		$ 19,500.00	$ 19,500.00	0.47	$ 9,106.01
26		$ 19,500.00	$ 19,500.00	0.45	$ 8,832.83
27		$ 19,500.00	$ 19,500.00	0.44	$ 8,567.84
28		$ 19,500.00	$ 19,500.00	0.43	$ 8,310.81
29		$ 19,500.00	$ 19,500.00	0.41	$ 8,061.48
30		$ 19,500.00	$ 19,500.00	0.40	$ 7,819.64
TOTALS		$ 604,500.00	$ 639,420.00		$ 432,085.04
			Total Present Worth		$ 432,085.04

APPENDIX A

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

Ms. Nancy Barmakian, Acting Director
U.S. Environmental Protection Agency
5 Post Office Square, Suite 100
Mail Code: OSRR07-03
Boston, MA 02114-2023

Re: Record of Decision
Area of Concern 72 and Study Area 71
Former Fort Devens Army Installation
MassDEP RTN 4-3002621
Date: September 29, 2015

Dear Ms. Barmakian:

The Massachusetts Department of Environmental Protection (MassDEP) reviewed the *Record of Decision for Plow Shop Pond (AOC 72) - Red Cove and Former Railroad Round House (Study Area 71), Former Fort Devens Army Installation, Devens, Massachusetts*, dated September 2015. The Record of Decision summarizes the results from the site investigations that were conducted to characterize site conditions, summarizes the results from the removal actions that were conducted to address unacceptable risks to human health and the environment, and documents the Army's rationale for selecting a No Further Action Decision for AOC 72 and Alternative 2 - Limited Action: Implementation of Land Use Controls for SA 71. MassDEP concurs with the selected decision.

If you have any questions or comments, please contact David Chaffin, Project Manager (617-348-4005), or Anne Malewicz, Federal Facilities Section Chief (617-292-5659).

Sincerely,

Paul Locke
Acting Assistant Commissioner
Bureau of Waste Site Cleanup

cc: C. Keating, USEPA
R. Simeone, USA-Devens
R. Ostrowski, MassDevelopment
Restoration Advisory Board
J. Naparstek, MADEP-Boston

APPENDIX B

Transcript of the Public Meeting on January 15, 2015 concerning the Proposed Plan for AOC 72 and SA 71 – MassDevelopment Commerce Center, Devens MA.

Meeting Attendees:

Robert Simeone, Army BRAC Environmental Coordinator;
Jane Dolan, US Environmental Protection Agency (USEPA);
Laurie O'Connor, USEPA;
David Chaffin, Massachusetts Department of Environmental Protection (MassDEP)
Pam Papineau, Ayer Board of Health;
Ron Ostrowski, MassDevelopment;
Elizabeth Andersen, H&S Environmental;
Laurie Nehring, Local Citizen and with People of Ayer Concerned about the Environment (PACE);
Julie Corenzwit, RAB Co-Chair and PACE member;
Richard Dotherty, ECR Consulting (consultant to PACE);
Ann Malewicz, MassDEP;
Melissa Macdonald, PACE;
Penny Reddy, Corps of Engineers;
Steve Passafaro, Sovereign Consulting;
Rachel Leary, Sovereign Consulting;
John Bishop, Ayer Public Spirit;
Robert Corrieri, Devens Committee;
Frank Maxant, Ayer;
Gail Berlinger, Ayer

******P R O C E E D I N G S ******

Mr. Simeone:

There is a sign in sheet going around. Okay, so if there are not any questions I'll have Steve start in on the slides for the proposed plan.

Mr. Passafaro:

Ok, as Bob said, we're here to discuss the Proposed Plan tonight and we have put together some brief summary slides of the information you will find in the plan. First, to start off with, the proposed plan itself—the purpose of it is to facilitate public involvement in the remedy selection process for both Plow Shop Pond, AOC 72, and the former railroad roundhouse site, SA 71. The plan presents the Department of Army's preferred alternatives for both sites, which for Plow Shop Pond is no further action, and for the former railroad roundhouse is limited action or land use controls. So, this is just a map of the area. Just to point out a few quick things: Plow Shop Pond is located northeast of the Shepley's Hill landfill, and it is fed by Grove Pond, which is to the east and discharges to Nonacoicus Brook to the northwest. A few areas of interest are the former Hartnett tannery, located off of tannery cove at the northwest corner of Grove Pond, east of the pond itself. And the former railroad roundhouse site—it's orange here, it's a little hard to see—comes off of the other end of the pond. It's approximately eleven hundred feet long and varies from two hundred to three hundred

feet wide. That's the site of the former Boston-Maine railroad roundhouse turnaround, which operated from 1900 to 1935.

Ms. Nehring:

Could you point out on that map where our drinking water supplies were?

Mr. Passafaro:

We have a McPherson well, which is located about right here, and that would be the closest drinking water supply.

Ms. Nehring:

What about Ayer's?

Mr. Passafaro:

Oh, sorry—the Ayer wells are right here, and the Devens wells are right about here, right off of the—this is the CSMS facility for the guard.

Ms. Nehring:

And just for people who don't know, maybe the direction of water flow?

Mr. Passafaro:

Ground water flow, you mean?

Ms. Nehring:

No, surface water flow.

Mr. Passafaro:

Surface water flow—from Grove Pond to Plow Shop Pond out to Nonacoicus Brook.

Ms. Nehring:

Thank you.

Mr. Passafaro:

Sure. A little brief background on the pond itself—site investigations were conducted here between 1992 and 2010 and identified elevated concentrations of arsenic in the Red Cove area, which was attributed to Shepley's Hill. The Red Cove itself is this small

area right here. And railroad maintenance byproducts along the shoreline of the former roundhouse—that's this area right here. Prior to performing removal actions in the pond, it's important to note that non-time critical removal action was conducted in 2012 between the landfill and Red Cove to install a groundwater barrier wall to mitigate the arsenic and groundwater flux from beneath the landfill to Red Cove slash Plow Shop Pond. After which point a non-time critical removal action was conducted in the pond, in 2013 that resulted in the removal of three thousand cubic yards of impacted sediment from Red Cove, mitigating risk to the environmental receptors there, from the arsenic, as well as over nine hundred cubic yards of impacted sediment from the shoreline adjoining the former railroad roundhouse, mitigating risk to environmental receptors posed by maintenance byproduct.

Ms. Nehring:

Could you define for me what non-time critical removal means, exactly?

Mr. Passafaro:

Well, there's two removal actions under CERCLA that you could take that are separate from the standard FS and FFS process, either time critical or non-time critical removal action. The difference between the two is based on contaminants, severity…This was taken from what's called the Engineer Evaluation and Cost Analysis, or EE/CA, sidetrack, which allowed the Army to evaluate alternatives and move forward with removal action.

Ms. Nehring:

So basically, it was pretty bad chemicals that were in there, but nobody was being exposed to it, so there wasn't urgency to get it out, but it does have to come out.

Mr. Passafaro:

Basically. And you'll see what's going on by the railroad roundhouse, where a time critical action was inducted in 2000, but that's in the next slide. So this shows you right here a figure of the old layout of the roundhouse site itself. The pond is up top. Here's the old roundhouse. The maintenance byproduct disposal area is this area right here, between the roundhouse turnaround and the shoreline itself. Investigations in the early nineties identified elevated concentrations of antimony, copper and lead in that area, which was attributed to former operations at the roundhouse itself. So, in this case, a time critical removal action was conducted in 1999 to remove twenty-four hundred cubic yards of impacted soil from the former maintenance byproduct disposal area up to the shoreline. However, final side-wall samples identified residual concentrations of antimony and lead after the removal action was completed. So, to summarize the site risk for Plow Shop Pond, as I stated earlier, the combination of the installation of the groundwater barrier wall between the landfill and Red Cove in 2012, as well as the sediment removal actions within Red Cove and along the shoreline of the former

railroad roundhouse, resulted in the mitigation of the risk to human health and the environment in the pond itself. Regarding the former railroad roundhouse, in '99, the removal action resulted in a reduction in risk to human health and the environment. In 2014, a follow-up human health risk evaluation indicated that the cumulative excess lifetime cancer risk for human receptors is above acceptable criteria for unrestricted use. However, it did demonstrate that was acceptable risk for the assumed future use, and current use, of the site, which is open space and recreation. So consequently, this led to the remedial action objectives and alternatives for the pond. Again, since risk was mitigated, there wasn't a real action objective, and alternatives weren't necessary, and the preferred remedy for AOC 72, Plow Shop Pond, is no further action. For the former railroad roundhouse, because there is still possible risk to unrestricted use, the remedial action objective is to prevent ingestion or direct contact with residual soils, and remedial alternatives that were evaluated included no further action—however, that doesn't prevent exposure—and implementation of land use controls, which is the preferred remedy. Now, land use controls are institutional controls which would limit potential exposure to residual soil contamination and this would be accomplished through a property deed restriction, which would prohibit residential reuse, and maintain just open space, and also would require, if there were any soil disturbances, that they be managed under a soil management plan as well as a health and safety plan. Now, these land use controls would be implemented following the issuance of the Record of Decision, and through a Land Use Control Implementation Plan, or LUCIP for short. The LUCIP would formalize the roles and responsibilities of the Army, EPA and DEP and long-term administration and management, and require annual inspection and five-year reviews to confirm the overall effectiveness. Now, at this time, the approximate boundaries for the land use controls will probably correspond to the boundary of the former railroad roundhouse, although a final determination with come with the LUCIP regarding the boundary extent. So, as I'm sure everyone's aware, we're in the middle of a public comment period right now, and comments are due postmarked by February third, at which time the Army will respond as part of a responsiveness summary, which will be included in the Record of Decision, which is the final document for these sites. And, lastly, all written comments can be sent to the address up there. So are there any additional questions?

Ms Corenzwit:

So is the remaining contamination primarily on the land adjacent to the pond, or is it in the pond sediments, or both?

Mr. Passafaro:

For the railroad roundhouse, there are residual impacts in the soil adjacent to the pond, but they're located at depth primarily at ten to fifteen feet below grade, although I believe in some cases there might be a six to nine foot sample. In the pond itself, the removal actions have brought the pond back to local conditions.

Ms Papineau:

Just kind of a follow-up question to that statement you just made, I want to clarify something that I think I gathered from reading the background materials, that we're not actually saying for Plow Shop that there are no hazardous contaminants. We're saying they're reduced to the baseline level before the Army got involved in things getting there. Is that correct? We're not really saying that Plow Shop that there are no environmental concerns with Plow Shop. It's just not—it's at a kind of baseline level. Is that correct?

Mr. Passafaro:

Yes.

Mr. Simeone:

Right. That's what we mean when we say local conditions.

Ms. Papineau:

Yeah, that's what I wondered, I wanted to clarify that "local conditions." And we think that a lot of that may have come from the tannery or whatever.

Mr. Simeone:

Correct.

Ms Papineau:

Can you give any kind of a general environmental assessment based on what you know of what are those baseline hazards associated with Plow Shop?

Mr. Simeone:

I have a stack of reports, about that high, from over the years.

Ms Papineau:

Is it horribly bad, medium bad…?

Mr. Simeone:

A lot of the heavy metals are not bioavailable, so you don't get a lot of uptake of the mercury. I mean, mercury in sediments in ponds in the Northeast is well-documented. The levels of mercury are pretty high, but we did various risk assessments and others have as well, so we can point you to that information if you really wanted to get into that quantitative summary of that. Overall, obviously it would be better if it wasn't there, but it

is, and whether it's worth removing it from the resource is probably questionable, because it is an extensive area.

Ms Papineau:

And it's all sediment-based.

Mr. Simeone:

It's mainly mercury and chromium from the tannery, so it's pretty widespread throughout the pond.

Ms Nehring:

One of the long-term concerns I think Ayer is going to have is the impact on the abutting Grove Pond, and I know the water flows in the other direction from Grove to Plow Shop Pond, but we hear talk from time to time depending on who is managing the recreation department about how to better use Grove Pond for recreation. And so there's some talk sometimes of, for example, putting herbicides in there to get rid of all the weeds that are there today, so that it can become more of a community boating area. We hear sometimes talk about using Grove Pond as a water source, and they want to stir up the sediment, I believe they would stir up the sediment, to be able to pump water from Grove Pond up to the fields to water the fields, and we hear about this and it's like, 'Oh, gosh, we don't want that to happen', because we don't know the locations where all this stuff is buried, and it's not bioavailable because of the way it is now, but people might unknowingly make that an awful lot different in the future, when there aren't all of us around watching. So I think I'm wondering, all the things that we're doing to watch the ponds, long-term, can there be some sort of deed restriction, could there be some way of making sure that if people do that they do so with a lot of study and guidance and experts investigating? I don't know if you share my concern?

Ms Papineau:

I do share your concern, and we might be kind of crossing that border between is it something that's Army responsibility versus town responsibility, and as far as going with that baseline level versus what the Army has responsibility for. But I agree with you. I think that there are concerns. We know it now because we're involved in it, but time goes by and we lose that knowledge.

Ms. Nehring:

With Plow Shop Pond, maybe that comes back to Ayer at some point, so we want to keep an eye for the same reason, recreational purposes. And if the surrounding area is going to be limited now, in terms of open space and recreation, where Shepley's Hill is and the railroad roundhouse was, could there be disturbances at some point later on that could inadvertently cause some problems.

Ms Papineau:

Are those land areas within the current boundaries of Devens, or are some of them crossing over into Ayer?

Mr. Simeone:

You mean the pond itself?

Ms. Papineau:

No, the roundhouse area.

Mr. Simeone:

The roundhouse is a part of former Devens. It's property that will go to Mass Development as part of the landfill parcel, so it hasn't been formally transferred yet to Mass Development, but it will be someday.

Ms. Papineau:

Okay. It's not within the current boundaries of Ayer.

Mr. Simeone:

The Harvard-Ayer line runs—yeah, it's within Ayer. It's within the town of Ayer but it's within the enterprise zone of Devens.

Ms. Papineau:

Yeah, that's where I get a little foggy on what's enterprise zone versus what's—

Mr. Simeone:

Any property that's former Devens is within the enterprise zone.

Mr. Ostrowski:

The Army property was transferred to Devens back in '96 so that's why the property will come back to Mass Development once Shepley's Hill is operating properly and successfully.

Ms. Papineau:

So then is it correct to say it's within the historical boundary of Ayer?

Mr. Simeone:

Yes. Exactly. The historical boundary.

Mr. Maxant:

The current town boundary has never changed. All of the enterprise zone is Ayer, Harvard, or Shirley. We should be clear about that. It's in Ayer. In the enterprise zone.

Mr. Simeone:

Good distinction.

Ms. Papineau:

That's why I'm foggy. [laughter] Is it the same with Plow Shop? Is that also within the Devens enterprise zone?

Mr. Simeone:

No. Plow Shop is outside the boundary of former Devens.

Ms. Papineau:

Okay. That's Ayer we own that.

Mr. Simeone:

Well, Calvin Moore is the owner. Any other questions?

Mr. Maxant:

So the Army owns the roundhouse site and the Shepley's Hill Landfill.

Mr. Simeone:

Right.

Mr. Maxxant:

Under the expectation that it will be transferred to Mass Development. But who has municipal jurisdiction right now over the land owned by the Army by the railroad?

Mr. Simeone:

MassDev. Mass Development.

Mr. Maxant:

Mass Development has municipal jurisdiction.

Mr. Simeone:

Correct. Yes, Rich?

Mr. Dotherty:

First I want to say that I acknowledge all the good work that's been done in the Army related to Red Cove with excavation and the barrier wall, just great things that happened there. But I do have one concern about the Proposed Plan, and that's source of the arsenic that contaminated Red Cove is still there. The contaminated landfill is still there and there is a barrier wall now. My concern is that the Proposed Plan has no monitoring of that whatsoever that I can see, other than the monitoring of the barrier wall, which is just hydraulic monitoring, and that's fine, but I was just wondering, is there some way there could be some element of monitoring the Cove itself incorporated into the proposed plan?

Mr. Simeone:

We made the decision—the short answer is yes, we can incorporate monitoring, but we made the decision administratively not to incorporate it under this Proposed Plan, but to do it under the management plans for the landfill, which we know are going to go on for some time. So, under the landfill O&M plans that we have, we will be incorporating future evaluations. How effective the barrier wall is will determine whether there's future breakout of iron and arsenic within Red Cove again, so that's how we're going to monitor the effectiveness of the barrier wall through the Shepley's remedy and the receptor of it, the pond itself.

Mr. Dotherty:

So let's say in five years, the hydraulic monitoring shows a very low [inaudible], and Red Cove suddenly turns red again, and dead fish appear or something? Is there some sort of even visual monitoring of Red Cove?

Mr. Simeone:

Again, I think it would all fall under Shepley's. The visual and the chemical would fall under that. I mean, if by some chance it's not associated with the barrier wall but it's still the landfill—maybe it's skirting around the barrier wall or whatever—then we'd have to address that at that time.

Ms. Nehring:

Has the monitoring been established yet?

Mr. Simeone:

We haven't set those parameters yet, because the barrier wall hasn't really been in that long and we need time for the down gradient groundwater of the barrier wall to flush through the system, so that we can then start to look at it anew. But it will be incorporated into future monitoring plans.

Ms. Nehring:

Would it be monitored yearly, something like that?

Mr. Simeone:

Probably, yes. Probably yearly. As far as the management of the resources of the ponds as a whole, regarding what you said about Grove Pond, I do think that is a question for the towns and the DEP as well. As you know, the tannery is a DEP/MCP site, so if you wanted to have a holistic resource management plan associated with the ponds, I think that's a good place to start. We're certainly going to help out with putting signs around the ponds, "No Fishing" signs.

Ms. Papineau:

I was also wondering, is the railroad ever going to be brought into this to help fund the railroad roundhouse cleanup that was done?

Mr. Simeone:

That's still being litigated. That's still in the courts, unfortunately. We are trying to. For those who don't know, the contamination that we cleaned up was from the railroad, but the Army purchased the property, so we were liable under CERCLA to do the cleanup. We did it, and now we're trying to recover our costs from the railroad, and that's kind of where it's at. And in doing so, they apparently also countersued the government and included the town of Ayer in that suit. It's very complicated, but…that's where that stands. The DOJ attorney that I work with is in contact with the Town of Ayer's attorney it's working its way through. That's really all I can say.

Ms. Malewicz:

So, Bob, Fort Devens currently owns this property, the roundhouse?

Mr. Simeone:

Correct.

Ms. Malewicz:

So you could put a deed restriction on it?

Mr. Simeone:

Yes.

Ms. Malewicz:

And you decided to do a land use control or soil management plan versus a removal of the top few inches or few feet? Did you look at the cost difference between…

Mr. Simeone:

Yes, it's—what occurred out there with the removal action was, they did the time critical action memo, and then in the action memo they set very conservative preliminary remediation goals of unrestricted use, which was not the correct thing to do. The land use plan, we should have a commercial or open space type land use to do the cleanup. So we got out there, we started digging, and that hole was—I wasn't there, but it was over fifteen feet deep, and they dug below the water table, and they took confirmatory samples and found that they were still elevated above the unrestricted use cleanup goals. So what we did, was we reevaluated, and said, 'Really, these cleanup goals should be commercial,' so in the completion report, that's documented, and the confirmation samples that were taken, that's the sidewall samples that are referenced in that slide, were below the commercial standards. So we never really gave much though to continuing the excavation to not have the land use control—

Ms. Malewicz:

Right, because it's so deep.

Mr. Simeone

—especially given how deep it was, yes.

Ms. Malewicz:

I understand.

Mr. Simeone:

So this seemed like the easiest fix. Even though the unacceptable risk is kind of borderline, there are uncertainties with that site. There's a lot of coal ash that spread

throughout the site from the railroad operations. Those, as you know, fall under the MCP for cleanup nor do they fall under CERCLA for cleanup. But they can have elevated heavy metals and PAHs. So those are still there, and there is still the residual that we identified in our own confirmation samples that is still there. Based on that uncertainty, and based upon how the property's going to be used in the future, it made sense to do that.

Ms. Nehring:

Are there any specific plans for that property that are happening from Mass Development's perspective, like the open space plans?

Mr. Ostrowski:

There's been a lot of talk about putting solar panels out there. The Army has talked about that and there has been some talk about using the land outside of the 84 acres of the landfill. But still, nothing's certain. There's no concrete plans, or somebody coming in, it's still talk.

Mr. Simeone:

It's all talk till it happens.

Ms. Nehring:

That would not be recreational use, though.

Mr. Ostrowski:

Well, if it's an Army project, they can make it work.

Mr. Simeone:

There is talk about putting solar panels on the landfill, to power the pump-and-treat, things like that. That's, again, just talk.

Ms. Malewicz:

The deed is for non-residential. In the deed it doesn't talk about recreational. I'm sorry, I'm mumbling. It's after five, I have my quiet voice on, I guess. So, the deed looks like it's going restrict for residential, thus it will be used for commercial or open space, and you don't anticipate recreational, that would not be included?

Mr. Simeone:

In the roundhouse? No, it's still suitable for recreation.

Ms. Malewicz:

But not residential?

Mr. Simeone:

But not residential. Correct. It's suitable for open space. The risk calculations we did indicated it was acceptable risk for the current land use which is open space slash recreational.

Ms. Nehring:

And not commercial, right?

Mr. Simeone:

And not commercial, right.

Ms. Papineau:

Is that area zoned for a particular use right now?

Mr. Ostrowski:

Open space. If you look behind there, on the screen, the land reuse plan there—

Ms. Papineau:

Oh, okay.

Ms. Nehring:

That's why I was asking about solar panels, because we favor solar energy, but we move a large amount of open space and recreation from the original plan—if Shepley's Hill Landfill is zoned for open space, and we end up putting solar panels on it instead, and that chunk of land is removed from the recreational aspect, that differs from what people envisioned it as in the future, so we'd have to re-zone it and people would need to be involved in that decision.

Mr. Ostrowski:

All I know is I've been hearing about it for a couple of years now, that it might be used as a solar farm, but nothing's happening, so I don't know. I don't know how that's going to go, I can't read the future.

Ms. Nehring:

But if it were to happen, it would go before a zoning board?

Mr. Ostrowski:

Well, that's kind of a question that the DEC (Devens Enterprise Commission) would have to answer. The first level of re-use is open space, but there could be other layers that would be acceptable under open space, maybe that's one I don't know, possibly, I'm not in that area but Peter Lowitt would be the guy to address those issues involving the reuse plan.

Ms. Nehring:

Okay. So it wouldn't be open space where people are running around, but maybe wildlife, and there wouldn't be asphalt, or—

Mr. Ostrowski:

Well, open space you can put trails, you can put walking paths, you can put maybe, uh, some golf stuff, maybe.

Ms. Nehring:

But not if there are solar panels there.

Mr. Ostrowski:

But see, you've still got the grasshopper sparrow there too, so that kind of puts a limit on their habitat, and that's a known Massachusetts endangered species, so that's another consideration with what to do with it.

Ms. Papineau:

So, if in the possible chance that there's open space and you put trails there, one of our members was asking, if children were to be looking around back there looking for turtles along the shoreline, is that safe? Is that something we need to be worried about?

Mr. Simeone:

On the landfill?

Ms. Papineau:

No, not on the landfill—I guess I mean, along—on either of the two sites.

Mr. Simeone:

It's not a problem. The open space had the recreational exposure scenario.

Ms. Papineau:

She was specifically talking about kids picking up turtles, picking up snakes, picking up stuff that is in direct contact with dirt and soil, so…is there a risk assessment specifically looking at children being exposed?

Mr. Simeone:

I'm not sure. I'd have to check the child scenario for that. Like I said, it passed the recreational trespasser scenario.

Ms. Malewicz:

That's different than a child.

Mr. Simeone:

Yes, it is.

Ms. Malewicz:

That needs to be looked at.

Mr. Simeone:

Let me take a look at that and see.

Ms. Malewicz:

Could you put a soccer field here, or anything like that?

Mr. Simeone:

Sure. I mean, anything like that presumes that you would come in with fill and put clean fill down. The contamination we're talking about—we've already covered over the excavation that we did at the roundhouse that had those elevated numbers of antimony and lead. They were already down deep to begin with. Then we came in and we backfilled, and we backfilled even more when we made a terrace to dig out the sediments from the pond. And now in the springtime, we're going back in, and we're going to topsoil and seed that entire bank of the roundhouse where the excavation work was done, so anyone kind of walking through there is not going to be exposed to the residual that is well beneath. Nevertheless, when we did risk assessments, we assume that that's not there, and that there is that exposure, in case someone digs a hole or

whatever, so we'll take a look at it.

Ms. Dolan:

The risk assessment did include both adults and children.

Ms. Malewicz:

For recreational?

Ms. Dolan:

Yes.

Mr. Simeone:

Any other questions?

Mr. Dotherty:

The fill that the Army put at SA-71, is that going to stay there?

Mr. Simeone:

Yes, pretty much. It's had some problems with erosion, because we didn't stabilize it right away, and we're going to reshape it somewhat so that we can get slopes that aren't as steep as they are now. And then topsoil and seed it. Alright, any other questions on the Proposed Plan?

Conclusion of the AOC 72 and SA 71 Proposed Plan Public Meeting.

APPENDIX C

MassDEP COMMENTS ON
DRAFT RECORD OF DECISION AOC 72 & SA71 FOR
RED COVE AND FORMER RAILROAD ROUND HOUSE
FORMER FORT DEVENS ARMY INSTALLATION (RTN 2-0000662)
May 12, 2015

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1) Section 1.3, First Sentence: Please replace "the environment" with "human health and the environment".

Response:

The recommended text edit will be made.

2) Section 1.4, Final Sentence: Please replace "Preferred Remedy" with "selected remedy" throughout the document.

Response:

Alternate text was inserted here, based on EPA comment No. 4.

3) Section 2.1, Third Paragraph: Please confirm that the ACEC was established "due to the proximity to SHL and the protected species habitat in the upland area", or revise the sentence to indicate that the ponds are located within an ACEC and the upland is a habitat for a protected species.

Response:

The text has been inserted to clarify that the pond and upland areas are located within an ACEC.

4) Section 2.1, Fourth Paragraph: Please change the figure citation to Figure 3 or identify the SA 71 boundary on Figure 2.

Response:

The citation will be updated.

5) Section 2.1, Fifth Paragraph: Please change the figure citation to Figure 3.

Response:

The recommended text edit will be made.

6) Section 2.2: Please define the acronyms NTCRA and TCRA where first used.

Response:

The recommended text will be inserted as described above.

7) Section 2.2: Please confirm/correct the "Figures 3 and 4" citation (e.g., replace with "Figure 2").

Response:

The recommended text edit will be made.

8) Section 2.5: Please confirm that Plow Shop Pond is located within the Devens Enterprise Zone and zoned as indicated or correct text (e.g., revise to explain that adjacent upland is located within DEZ and zoned as indicated).

Response:

Plow Shop Pond is not located in the DEZ. The upland areas of RRRH and Red Cove are located in the DEZ and are zoned as Recreational/Open Space. The language in Section 2.5 will be revised to clarify this point.

9) Section 2.5.1, Subsection Plow Shop Pond: Please eliminate repeated text in second paragraph (first sentence).

Response:

The recommended text edit will be made.

10) Section 2.10: Please confirm/correct the Section 3.2 citation.

Response:

The citation was deleted.

11) Section 2.10.2: Please change the figure citation to Figure 3.

Response:

The citation will remain the same, but Figure 2 will be updated.

12) Sections 2.14 and 2.15.3: Please confirm the estimated total present value cost ($7,820 is the NPV of the year 30 annual cost?).

Response:

The total cost of $432,085.04 will be referenced. The appropriate edits will be made.

13) Section 2.15.3: Please confirm/correct the Table 3 citation (should be Table 2?).

Response:

The citation is correct.

14) Table 4: The SA 71 remedy will allow soil disturbance in accordance with a soil management plan. Consequently, the list of location-specific ARARs should also include: Endangered Species Act regulations (321 CMR 10.00) and Areas of Critical Environmental Concern regulations (301CMR 12.00).

Response:

The ARAR Table will be updated to include Endangered Species Act regulations (321 CMR 10.00) and Areas of Critical Environmental Concern regulations (301CMR 12.00).

15) Table 4, Action-Specific ARARs: A Notice of Activity and Use Limitation [310 CMR 40.0111(8)] should be used to impose land use controls at SA 71.

Response:

Table 4 was removed from document since the ARARs were not applicable to the final remedy.

16) 16. The RRRH upland restoration and associated RACR Addendum should be completed prior to signing the ROD, or the ROD should be revised to indicate that RRRH upland restoration and associated RACR Addendum will be completed prior to December 31, 2015.

Response:

The upland restoration is scheduled to be completed in September 2015, prior to signing the ROD.

EPA COMMENTS ON
DRAFT RECORD OF DECISION AOC 72 & SA71 FOR
RED COVE AND FORMER RAILROAD ROUND HOUSE
FORMER FORT DEVENS ARMY INSTALLATION (RTN 2-0000662)
May 11, 2015

GENERAL COMMENTS

1) Please ensure consistency by naming the site "Former Railroad Roundhouse SA71".

Response:

The recommended text edits will be made.

SPECIFIC COMMENTS

1) TABLE OF CONTENTS – Please make the following changes:

1.2 – Should read "Statement of Basis and Purpose".

1.4 – Add 1.4.1 and 1.4.2 before Plow Shop Pond and Railroad Roundhouse.

2.2 – Add 2.2.1 and 2.2.2 before Plow Shop Pond and Railroad Roundhouse.

2.5.1 – The title should be lowercase. Delete Plow Shop Pond and Railroad Roundhouse.

2.5.2 – Site Geology and Hydrogeology (should hydrogeology by hydrology?)

2.5.3 and 2.5.4 – Potential Ecological Receptors and Current and Future Site and Resource Uses

2.6 – Add 2.6.1 and 2.6.2 before Plow Shop Pond and Railroad Roundhouse.

2.8 – Description of Alternatives should be uppercase.

2.9 – Plow Shop Pond – AOC72

2.10.3 – Delete.

2.11 through 2.15 – The titles should be uppercase in the TOC and text.

2.16 – The title should be uppercase in the TOC and text.

3.1 – The title should be lowercase.

Response:

The Table of Contents will be update appropriately following the revisions to this draft.

2) Pg 1, Section 1.1 – Replace "includes the" with "is" and delete "Site, Limited Action" in the first sentence.

Response:

The recommended text edit to delete "Site, Limited Action" in the first sentence, will be made. The remainder of the sentence will not be updated.

3) Pg 1, Section 1.3 – Assessment of Site. Change to read:

"The remedial actions selected in this Record of Decision are necessary to protect human health, welfare and the environment from actual or threatened releases of hazardous substances into the environment at Railroad Roundhouse SA71. A CERCLA action is required because the cumulative Excess Lifetime Cancer Risk (ELCR) for human receptors is above acceptable risk criteria for unrestricted residential use of SA71. However, the human health risk evaluation demonstrates acceptable risk for the assumed future use (open space/recreation) of the site. The potential risk to human health is driven by residual maintenance byproduct material in upland soils of the former Railroad Roundhouse as a result of activities in the former area. The ecological risk assessment indicated that ecological receptors are unlikely to be at risk from contaminants of concern in surface soil.

The human health risk assessment indicated that potential exposures to contaminants (principally arsenic) in surface water and sediment in Plow Shop Pond, including Red Cove and in the area of the former Railroad Roundhouse, by recreational receptors, are within the USEPA's acceptable cancer risk range and do not exceed a Hazard Index limit of 1. The installation of a low-permeability groundwater barrier wall between the landfill and Red Cover and sediment removal actions within the Red Cover area and former Railroad Roundhouse area of AOC72 have mitigated the potential risk associated with Plow Shop Pond sediments. In addition, all visual evidence of the maintenance byproduct was removed. With the removal of impacted sediment from both Red Cove and in the area of the former Railroad Roundhouse, exposure point concentrations have been reduced, and the benthic community is expected to improve."

Response:

The above text edits will be made

4) Pg 2, Section 1.4 – Description of Selected Remedy. Change to read:

"The major component of the Selected Remedy for the former Railroad Roundhouse SA71 is implementation of land use controls. Land use controls are addressed through institutional controls, access restrictions, affirmative measures, and prohibitive directives. No Further Action is the Selected Remedy for Plow Shop Pond AOC72 because no unacceptable risk to human health and welfare or the environment were identified." Please feel free to embellish the description if so desire.

Response:

The above sentences will be inserted in Section 1.4.1 and Section 1.4.2 as appropriate.

5) Pg 3, Section 1.5 – Delete first paragraph in this section and substitute:

"The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost-effective. This remedy utilizes permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable and satisfies the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume as a principal element.

Because this remedy will result in hazardous substances remaining on site above health based levels, a five year review..." continue with existing second paragraph in this section.

Please ensure consistency in this section with ROD guidance.

Response:

The above text will be inserted in Section 1.5.

6) Pg 4, Section 1.6 – Please remove James T. Owens from the signature block and identify Nancy Barmakian as the Acting Director, Office of Site Remediation and Restoration.

The recommended text edits will be made.

7) Pg 5, Section 2.1 – Insert "(B&M)" after "Boston and Maine Railroad".

The recommended text edits will be made.

8) Pg 6, Section 2.1, par 2 – Replace the "and" that follows "1942" with a period, followed by the new second sentence beginning: "Following the 1996…"

The recommended text edits will be made.

9) Pg 7, Section 2.1, par 3 – End the first sentence after the ID number. Begin the new second sentence: "It was identified…"

The text will remain as stated in the draft.

10) Pg 6, Section 2.2 – Begin this section with the third paragraph. Either delete the first two paragraphs or combine them with the information provided at the bottom of page 7 and page 8. Add to the end of the first paragraph on page 9 the following: "The preliminary restoration conducted in May 2014 has degraded and will therefore require re-grading, re- seeding and re-planting. These activities are anticipated to be conducted in the early summer of 2015 but will be completed no later than 31 December 2015. These restoration activities are a requirement of this

Record of Decision. The post-removal bordering wetland assessment and restoration activities will be documented in an addendum to the Remedial Action Completion Report."

The first two paragraphs of Section 2.2 will be deleted and the above sentence was added at the end of Section 2.2.2.

11) Pg 11, Section 2.5 – Begin the last sentence with: "The former Railroad Roundhouse site is located …" Ensure consistency throughout the document.

The recommended text edits will be made.

12) Pg 13, Section 2.5.1, par 1 – Delete "an" in the last sentence.

There does not appear to be an "an" to delete in this paragraph. No changes were made.

13) Pg 14, Section 2.5.4, par 2 - Delete the extra period at the end of the last sentence.

The extra period will be removed.

14) Pg 14, Section 2.5.5, par 1 – Insert "a" prior to "catch-and-release".

The recommended text edits will be made.

15) Pg 14, Section 2.6, par 2 - Change to read: "... and welfare and environment existed at AOC 72, Plow Shop Pond, a water body located east..."

The recommended text edits will be made.

16) Pg 15, Section 2.6, par 4 – Insert a comma after "With the removal of impacted sediment from Red Cove…"

There already is a comma in that place. No changes were made.

17) Pg 16, Section 2.6, par 1 – Replace the last sentence with: "The ecological risk assessment indicates risk to the environment has been mitigated, although it still exceeds some of the ecological screening values at some locations."

The recommended text edits will be made.

18) Pg 16, Section 2.6, par 4 - At the end of the page to conclude the "assessment of the Site" section of the Decision Summary, please add this paragraph: "Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this ROD, may present an imminent and substantial endangerment to public health, welfare, and the environment."

The following text will be inserted to address the above comment:

"Implementing the response action selected in this ROD, will mitigate the risk posed by the potential for actual or threatened releases of hazardous substances from this site. Without the implementation of a deed restriction in this area, an imminent and substantial endangerment to public health, welfare, and the environment remains."

19) Pg 22, Section 2.13 – Add a definition of Principal Threat Waste.

The definition of Principal Threat Wastes will be added to the text.

20) Pg 22, Section 2.14 – Add Subsection 2.14.1 Plow Shop Pond AOC72. Add "The Selected Remedy based on current conditions at AOC72 is No Further Action." Add Subsection2.14.2 Former Railroad Roundhouse SA71. Add "The Selected Remedy is Alternative 2 - Limited Action: Implementation of Land Use Controls. Land use controls are addressed through…"

The recommended text edits will be made.

21) Pg 23, Section 2.14, first bullet - Replace the draft text with: "Institutional controls are to be implemented through a deed restriction prohibiting residential reuse that runs with the land and is legally enforceable."

The following text will be inserted "Institutional controls are to be implemented through a deed restriction prohibiting future residential use."

22) Pg 23, Section 2.14, par 2 – Replace "including period inspections" with "including periodic inspections".

The recommended text edits will be made.

22) Pg 24, Section 2.15 – Replace "or" with "and" at "public health, welfare or the environment…" Ensure consistency throughout the document. Also, spell out "TMV".

The recommended text edits will be made.

23) Pg 25, Section 2.15.3 - Please use the CFR citation rather than NCP: 40 C.F.R. § 300.430(f)(1)(ii)(D)).

The recommended text edits will be made.

24) Pg 26, Section 2.15.6 – Add "continue to" at the beginning of the fourth line.

The recommended text edits will be made.

26) Pg 27, Section 3.2 - Add this sentence at the beginning of the section: "The Land Use Controls will require a deed restriction prohibiting residential reuse that runs with the land and is legally enforceable."

The following text will be inserted, "The Land Use Controls will require a deed restriction prohibiting future residential use."

1) Response to MassDEP Comment (RTC) 8: The proposed revision was not fully implemented - text should not indicate that Plow Shop Pond is zoned Open Space/ Recreational (PSP is off-post), and to identify the assumed future use, text should indicate that the Railroad Round House upland area is zoned Open Space/Recreation.

Response

The following text was inserted in Section 2.5

"The former Railroad Roundhouse is located at the southern end of Plow Shop Pond, bordered to the east by Pan-AM railroad tracks and railyard *and is zoned Open Space/Recreation.* "

2) RTC 11: The proposed revision was not implemented – Please change the figure citation to Figure 3, which presents the SA 71 boundary.

Response

Figure 2 has been revised and will be included in the Final ROD.

3) RTC 12: The proposed revision was not fully implemented – The total present value cost of Alternative 2 given in Section 2.15.3 ($7,820) is incorrect.

Response

The amount of $432,085.04 replaced $7,820 in the text.

4) RTC 15: The proposed revision was not implemented – Per recent EPA-DEP agreement regarding the use of AULs at CERCLA sites, Table 4 should identify 310 CMR 40.0111(8) as the ARAR that applies to the land use controls that will be used at SA 71.

Response

Table 4 was removed from document since the ARARs were not applicable to the final remedy.

EPA COMMENTS ON
DRAFT RECORD OF DECISION AOC 72 & SA71 FOR
RED COVE AND FORMER RAILROAD ROUND HOUSE
FORMER FORT DEVENS ARMY INSTALLATION (RTN 2-0000662)
June 23, 2015

GENERAL COMMENTS

1) For consistency, I think Railroad Round House should be Railroad Roundhouse.

Response

The suggested change was made.

2) It's not critical, but "Former" should be capitalized if it's in the title, otherwise it should be lowercase "former". Sound OK?

Response

A lower case "former" is used throughout the body of the text of the Final ROD.

3) I think "R" in "Railroad" on the cover page has been deleted.

Response

That is correct. The "R" was inadvertently deleted.

4) "Action" should also be deleted in the first paragraph of Section 1.1.

Response

The suggested change was made.

5) Two spelling errors in paragraph 2 in Section 1.3 (this alas was EPA's mistake for not reading suggested text more carefully). Change "Cover" to "Cove".

Response

The suggested change was made.

JULIE CORENZWIT COMMENTS ON
DRAFT RECORD OF DECISION AOC 72 & SA71 FOR
RED COVE AND FORMER RAILROAD ROUND HOUSE
FORMER FORT DEVENS ARMY INSTALLATION (RTN 2-0000662)
June 19, 2015

A couple of minor corrections to the public meeting transcript in Appendix B:

- Line 15: Unless there is more than one Melissa Macdonald, she is a local citizen and member of PACE

- Lines 328 and 362: Frank Maxant's name is misspelled with a double 'x'.

Response:

The recommended edits will be made in Appendix B.