# 1.0 ANALYSIS OF BROWNFIELDS CLEANUP ALTERNATIVES

## 1.1 Introduction/Background: Site Location and Purpose of Analysis of Brownfields Cleanup Alternatives

The Site is located on the western side of Route 123 in Harpswell, Maine, and is a part of the larger Defense Fuel Supply Farm site, REM#03453 (aka Mitchell Field Buildings). The Mitchell Field Site is approximately 117 acres and served as a military fuel storage yard from 1952 to 1991. Ownership of the site changed hands several times since the military operated the facility, and now rests with the Town of Harpswell. See **Figure 1** for a Site Location Map and Figure 2 for a Site Plan.

Beacon Environmental Consultants, LLC (Beacon) is providing this Analysis of Brownfields Cleanup Alternatives (ABCA) to the Maine Department of Environmental Protection (MEDEP) to evaluate cleanup alternatives associated with redevelopment of the Site. This ABCA includes an *Introduction & Background* (Section 1), a discussion of *Applicable Regulations and Cleanup Standards* (Section 2), and an *Evaluation of Cleanup Alternatives* (Section 3).

## 1.2 Site Current and Past Uses

Building #126, the Administration Building, is a 6,100 square foot, one-story, flat-roofed brick building located in the Lower Tank Farm Area adjacent to the pier. It was primarily used as an administration office, a fire equipment storage facility, and a storage center for oil removal equipment, including booms, sorbent material, and an oil skimmer. During a prior remediation/abatement effort, approximately 4,000 square feet of asbestos floor tiles were removed.

Building #159, the Generator Building, is located in between the upper and lower tank farms. This building is used for storage purposes by the Town of Harpswell. According to a 2006 report, asbestos-containing material (ACM) is currently present in mechanical systems housed in Generator Building #159.

Building #164, the Sentry Checkpoint Building, was the main checkpoint building when the Navy occupied the property. It has been used as a storage building since that time.

Building #200, the Foam Injection Building, is located on the western side of the Upper Tank Farm. This building was used to inject foam into the hydrant system when needed. It was also used for storage. See Figure 1 for a Site Location Map. Based on information reviewed during the historical record review, through the Cumberland County Registry of Deeds and available file Site Assessments (as discussed below), historical Site ownership and operator information is provided in the table below.

Previous Owner and/or Operator Information

| Owner/Occupant | Years |
|---|---|
| Town of Harpswell | 1991-Present |
| US Navy | 1954-1991 |

1. This prior ownership information was ascertained from limited research at Cumberland County's Registry of deeds.

## 1.3 Previous Site Assessments Findings

### *Environmental Baseline Survey, prepared by GZA GeoEnvironmental, Inc., February 1997*

This report summarizes previous environmental assessments conducted on the Site and categorizes areas of the Site to identify which areas need further characterization and/or remediation. According to the report, the majority of the Upper and Lower Tank Farms, the Main Gate Area and Building #126 require additional remediation. The report also identified four data gaps: insufficient evaluation of the extent of sub-tidal zone sediment contamination; insufficient evaluation of the extent of stream sediment contamination; insufficient evaluation of lead contamination in surficial soils within the 14 tank berms; and the need for additional soil sampling for fuel oil/VOCs in areas requiring remediation.

In addition to the hazardous materials survey described above, GZA also completed a demolition-level survey to supplement asbestos and lead data collected during previous screening-level surveys performed for the site. Samples were collected from interior and exterior portions of site buildings as applicable (Maintenance Building #129, Storage Building #130, Well House #166, Pier Pump House 1/175, and Truck Rack Structure 1/181 and Separator Building #160). The survey included the collection of building material samples from representative painted building surfaces (lead-containing materials [LCMs]) and samples of potential ACMs.

The results of survey data indicated that hazardous ACMs/LCMs existed at the site.

The following ACMs/LCMs were removed prior to building/structure removal:

- Maintenance Building #129 - Approximately 150 square feet of green floor tile (8 % Chrysotile) located in the bathroom, roofing material on the small compressor shed (15% Chrysotile), and the compressor shed (Resource Conservation and Recovery Act [RCRA] hazardous for lead - 24.3 milligrams per liter by TCLP analysis);
- Administration Building #126 - Approximately 4,000 square feet of vinyl asbestos tile and underlying mastic were removed.
- Separator Building #180 - Roofing material (point count> 1% Chrysotile);
- Sentry Building #164 - Approximately 500 square feet of black floor tile (8% Chrysotile) located throughout; and
- Truck Rack Structure #181 - Corrugated roofing (50% Chrysotile) and insulation around pipe penetrations within the concrete footings (10% Chrysotile).

For the buildings that remained at the Site, DESC and DEP requested that lead abatement be performed. The remaining buildings include the Administration Building #126, Maintenance Building #129, the frame of Storage Building #130. Garage Building #158, Generator Building #159, Water Treatment Building #161, Sentry Building #164, Checker House #167 (on pier), Pier Pump House #175. Water Tower Boiler Building #170, Wood-Framed Building #171 (behind Building #170), Foam House #200, and the Water Tower Well House.

Based on the inspection of painted surface conditions at the site and discussions with lead abatement contractors and the DEP, a "house cleaning" approach (i.e., general clean-up and removal of flaking paint) versus complete removal of all painted surfaces was performed by New Meadows, Inc. of Auburn, Maine. This approach addressed the potential exposure concern due to inhalation of dust/particulates from flaking paint and was more practical.

***Limited Phase I Environmental Site Assessment, prepared by Summit Environmental Consultants, Inc. dated August 21, 2006.***

On August 26, 2001, Summit Environmental Consultants, Inc. (Summit) completed a Limited Phase I ESA report for the Site, which identified the following RECs:

- The site was used by the US Navy as a fuel depot from 1952 until 1991. During this time, through normal operations, many spills and leaks occurred at the site near and around above ground storage tanks (ASTs) and underground storage tanks (USTs).
- A landfill exists on the site. Many types of waste were disposed of in this landfill, including petroleum contaminated soil and tank bottoms.
- Lead associated with Lead-based Paint (LBP) has been identified in the soil surrounding several onsite buildings exceeding the State of Maine's Remedial Action Guidelines. This was completed post 2006 by others.
- A discrepancy exists in the number of USTs once located at the Site. Records indicate either fourteen or fifteen USTs were removed from the Site, but details regarding the fifteenth tank (its location, contents, and date of removal) are not known. This could pose a redevelopment risk if the area was not cleaned up to the standard for the Site.

Summit recommended the following:

- A drilled water supply well is present on the Site that has been approved to pump at a maximum rate of 450 gpd without drawing contaminated groundwater into the water supply. However, the amount of time for which this pump rate can be sustained without drawing in contaminated groundwater has not been determined. A pump test should be conducted on the onsite water supply well to determine if it will meet redevelopment goals of the Town of Harpswell. (A new well was sited and tested post 2006).
- Remediation of petroleum contaminated soils on the Site was based on a trespasser risk scenario, for which a clean-up guideline of 870 mg/kg (field screened) was established. Based upon the Town's redevelopment goals, this standard may not be stringent enough. In addition, the largest data gap for these areas (former tank farms and former drum storage) could be the levels of possible vapors beneath possible buildings. A Phase II ESA including a soil, groundwater, and vapor investigation should be conducted in the Main Gate area, Upper and Lower Tank Farms and Former Drum Storage area to assess current levels of petroleum contamination on the Site and compare them to the current MEDEP Remedial Action Guidelines.
- Documentation of the disposal of tank bottoms within the landfill exists. Groundwater wells located downgradient of the on-site landfill have never been sampled for the presence of DRO. Possible downgradient contamination may impede development. Therefore, Summit recommends sampling these wells for DRO and VOCs.

***Phase II ESA, prepared by Beacon, dated July 13, 2023***

Beacon developed a Site-Specific Quality Assurance Project Plan (SSQAPP) in January 2024 to support the HBMS. On January 22, 2024, Beacon performed the following work as part of the HBMS and Soil Sampling for the Site:

- Using discrete soil core samplers, collected two (2) surficial soil samples and one duplicate for laboratory analysis of Per- and Polyfluoroalkyl Substances (PFASs).

- Performed an asbestos-containing materials (ACM) survey and collected thirteen (13) discrete samples for laboratory analysis.
- Collected seventeen (17) paint chips and one duplicate and seven (7) caulk and one duplicate for laboratory analysis of Polychlorinated Biphenyls (PCBs).
- Subcontracted Community Concepts to complete an LBP survey utilizing an X-Ray Fluorescence (XRF) device.

Soil samples collected from the Site investigation were submitted to Alpha Analytical Laboratory (Alpha) in Woods Hole, Massachusetts for laboratory analysis.

Paint and caulk samples for analysis of PCBs were submitted to Alpha in Westborough, Massachusetts for laboratory analysis.

Suspect ACM samples were submitted to EMSL in South Portland, Maine for laboratory analysis.

There were exceedances of the current MEDEP Remediation Action Guidelines (RAGs) for residential and park user scenarios for arsenic and above the residential, park user, commercial worker, and construction worker RAGs for lead within the sample collected from the boiler slag material from the Administration building.

There were no exceedances of the current residential, park user, commercial worker, or construction worker RAGs for PFASs in the soil samples collected.

Administration door caulking and the Generator building asphaltic footer material were determined to contain asbestos and pipe insulation is known to contain asbestos in the Generator building.

Administration building door caulk, window caulk, and lintel caulk, and Generator building window to metal caulk and lintel caulk were determined to contain PCBs above 50 ppm. Administration building gray paint, white paint, dark green paint, light green paint, Generator building light green paint, silver paint, ceiling paint, Sentry building white exterior paint, green exterior paint, brown paint, white paint, yellow paint, and below the door caulk had greater than 1 ppm but below 50 ppm.

Wipe samples had detections of arsenic, barium, cadmium, chromium, and lead.

Beacon recommended the following:

- Additional samples may be warranted to determine the extent of the PCB impacts in building substrate materials around the caulking;
- PCB-impacted caulking should be managed under a TSCA-approved remediation plan;
- Material on the floor of the boiler room in the Administration and the floor of the Generator building should be containerized and disposed of in accordance with MEDEP and EPA rules;
- An Analysis of Brownfield Cleanup Alternatives (ABCA) should be developed for the property;
- Chromium speciation should be completed to determine if hexavalent chromium is present; and
- Lead-based painted materials and PCB-containing materials should be managed in accordance with MEDEP rules.

### 1.4 Redevelopment Project Goals

The current owner plans on redeveloping the property for municipal and commercial usage.

The project cleanup goals are to remove the accessibility to impacted building materials above the regulatory guidelines.

# 2.0 APPLICABLE REGULATIONS AND CLEANUP STANDARDS

### 2.1 Cleanup Oversight and Responsibility

The cleanup will be overseen by an environmental consultant/environmental professional who will coordinate with the MEDEP and follow applicable guidelines and regulations of the MEDEP and the USEPA. The documents prepared in support of the cleanup will be submitted to both MEDEP and USEPA for review and comment as applicable.

### 2.2 Cleanup Standards for Major Contaminants

Major contaminants identified are below. Applicable Cleanup Standards follow.

*ACM* – ACM was identified within site buildings assessed. MEDEP rules require this material to be removed prior to building demolition.

*PCB Building Materials* – PCBs were identified within buildings assessed. EPA rules require this material to be removed and substrates impacted with PCBs to also be removed prior to building demolition or renovation.

*Cleanup Objectives* - The objective of the remediation at the Site is to remove an environmental and public safety hazard, achieve No Further Action Assurance Letter from MEDEP, and achieve Site closure by elimination or management of environmental conditions that pose a risk to human health and/or the environment. In order to achieve this objective, the following cleanup goals and/or regulatory standards and/or guidelines are applicable:

- Universal, Solid, and Other Regulated Wastes
    - USDOT 49 CFR 100-199 - Transportation of Hazardous Materials
    - MEDEP Chapter 400 – Solid Waste Management
    - MEDEP Chapters 850 - 857 - Maine Hazardous Waste Management Regulations
    - USEPA TSCA Regulations

### 2.3 Laws and Regulations Applicable to the Cleanup

Applicable laws and regulations associated with this cleanup will include the following:

- Brownfields Revitalization Act
- Federal Davis-Bacon Act
- MEDEP state environmental laws and regulations, and
- City By-Laws, as applicable.

Other laws and regulations that may be applicable are cited above. In addition, federal, state, and local laws which identify procurement of cleanup contractors to conduct and oversee cleanup will be followed during the remediation and cleanup. All applicable

permits to conduct the work and hazardous waste manifests for off-site disposal of the contaminated materials will be obtained.

# 3.0 ANALYSIS OF BROWNFIELDS CLEANUP ALTERNATIVES

Each remedial alternative was evaluated with respect to the comparative evaluation criteria including: effectiveness, reliability, implementability, preliminary cost, and the impact of potential climate changes to the remedy based on selection.

The preliminary cost estimates presented (including preliminary engineering, bidding, remediation, contingency, etc.) are approximate estimates prepared solely for the relative comparison of the identified alternatives. As such, these cost data are not to be used as design- level estimates.

## 3.1 Areas of Concern (AOCs)

Four areas of concern have been identified on the property:

1. Building 126 (Administration Building) – Building Materials
2. Building 159 (Generator Building) – Building Materials
3. Building 164 (Sentry Checkpoint Building) – Building Materials.
4. Building 200 (Foam Building)

## 3.2 Evaluation of Remedial Alternatives

A description of each alternate and the results of the comparative analysis are presented in the following subsections.

## 3.3 Identification of Remedial Alternatives

Potential alternatives were evaluated for addressing the environmental conditions that could pose a risk to human health and/or the environment at the Site. A limited number of practicable remedial alternatives that could be implemented at the Site based on available Site data were developed. The "No Action" alternative was included as part of the evaluation to establish a basis for conducting remedial actions at the Site and as required in the Cleanup Grant application.

The remedial alternatives identified for consideration under this alternatives analysis include:

1. No Action Alternative;
2. Off-Site Building Materials Disposal for Rehabilitation of Building
3. Off-Site Building Materials Disposal and Demolition of structure

A description of each alternative and the results of the comparative analysis are presented in the following subsections.

### Building 126 – Administration Building

*Alternative #1A: No Action*

This alternative involves no additional response actions at the Site. Under this alternative, the Site is not redeveloped. The No Action alternative would not prevent exposure of Site contaminants to humans and the environment. Therefore, the No Further Action

alternative will not meet the remedial action objectives and cleanup goals and will not be evaluated further with respect to the comparative evaluation criteria.

The costs for Remedial Alternative #1 are estimated to be **$0.00**.

*Alternative #2A –Hazardous Building Material Removal and Disposal for Building Reuse*

This alternative involves removal of hazardous building materials (PCB/ACM caulking and LBP) (See **Figure 3**). A Self-Implementing Cleanup Plan (SIP) would need to be submitted to the USEPA to provide the cleanup plan for their approval. The alternative will include the removal of the impacted caulking and an estimated three inches of substrate material on either side of the caulking. Analytical samples to verify that the removal of this substrate has satisfactorily met USEPA's cleanup guidelines would be required. Once this has been accomplished, the interior of the building will be sandblasted to remove the lead-based paint. Impacted materials will be placed in lined roll off containers for off-site disposal at a licensed disposal facility. The alternative would include proper management of wastes for off-site disposal, as applicable. The estimated cost ranges for implementing Remedial Alternative #2 are presented below.

| | |
|---|---|
| Self-Implementing Cleanup Sampling and Plan | $10,000 to $20,000 |
| Lead-Based Paint Removal | $15,000 to $20,000 |
| Boiler slag removal | $5,000 to $10,000 |
| Removal and Disposal of PCB/ACM caulking | $50,000 to $70,000 |
| Confirmation Analytical | $5,000 to $10,000 |
| Site Oversight/Engineering/Closure | $10,000 to $20,000 |

The range of costs for Remedial Alternative #2 is estimated to be between **$95,000.00 and $150,000.00** (Note: this does not include renovation and reconstruction costs.)

*Alternative #3A – Hazardous Building Material Removal, Demolition, and Disposal*

This alternative involves removal of hazardous building materials (PCB/ACM caulking and LBP) (See **Figure 3**). A Self-Implementing Cleanup Plan (SIP) would need to submitted to the USEPA to provide the cleanup plan for their approval. The alternative will include the removal of the impacted caulking and an estimated three inches of substrate material on either side of the caulking. Analytical samples to verify that the removal of this substrate has satisfactorily met USEPA's cleanup guidelines would be required. After the removal of the caulking and substrate has met this guidance, the remainder of the building would be demolished and disposed of as construction demolition debris (CDD) at a licensed landfill. The estimated cost ranges for implementing Remedial Alternative #3 are presented below.

| | |
|---|---|
| Self-Implementing Cleanup Sampling and Plan | $10,000 to $20,000 |
| Removal and Disposal of PCB/ACM caulking | $50,000 to $70,000 |
| Boiler Slag Removal | $5,000 to $10,000 |
| Building Demolition and Disposal | $80,000 to $100,000 |
| Confirmation Analytical | $5,000 to $10,000 |
| Site Oversight/Engineering/Closure | $10,000 to $20,000 |

The range of costs for Remedial Alternative #3 is estimated to be between **$160,000.00 and $230,000.00**.

## Building 152 – Generator Building

*Alternative #1B: No Action*

This alternative involves no additional response actions at the Site. Under this alternative, the Site is not redeveloped. The No Action alternative would not prevent exposure of Site contaminants to humans and the environment. Therefore, the No Further Action alternative will not meet the remedial action objectives and cleanup goals and will not be evaluated further with respect to the comparative evaluation criteria.

The costs for Remedial Alternative #1 are estimated to be **$0.00**.

*Alternative #2B –Hazardous Building Material Removal and Disposal for Building Reuse*

This alternative involves removal of hazardous building materials (PCB caulking/paint and LBP) (See **Figure 4**). A Self-Implementing Cleanup Plan (SIP) would need to submitted to the USEPA to provide the cleanup plan for their approval. The alternative will include the removal of the impacted caulking and an estimated three inches of substrate material on either side of the caulking. The PCB-paint would then be sandblasted and the substrate sampled. Analytical samples to verify that the removal of this substrate has satisfactorily met USEPA's cleanup guidelines would be required. Once this has been accomplished, the portions of the building having LBP will be sandblasted to remove the lead-based paint. Impacted materials will be placed in lined roll off containers for off-site disposal at a licensed disposal facility. Additionally, the materials from beneath the grate and on the floor would be removed for appropriate disposal. The alternative would include proper management of wastes for off-site disposal, as applicable. ACM would remain within the footer of the building as the building is being reused and does not require abatement until demolition occurs. The estimated cost ranges for implementing Remedial Alternative #2 are presented below.

| | |
|---|---|
| Self-Implementing Cleanup Sampling and Plan | $10,000 to $20,000 |
| PCB Paint Removal and Disposal | $90,000 to $110,000 |
| Removal and Disposal of PCB caulking | $15,000 to $25,000 |
| Lead-Based Paint Removal | $5,000 to $10,000 |
| Debris Removal and Disposal | $5,000 to $10,000 |
| Confirmation Analytical | $10,000 to $15,000 |
| Site Oversight/Engineering/Closure | $10,000 to $20,000 |

The range of costs for Remedial Alternative #2 is estimated to be between **$140,000.00 and $200,000.00**. (Note this does not include renovation and reconstruction costs.)

*Alternative #3B – Hazardous Building Material Removal, Demolition, and Disposal*

This alternative involves removal of hazardous building materials (PCB/ACM caulking and LBP) (See **Figure 4**). The alternative will include the removal of the impacted caulking and an estimated three-inches of substrate material on either side of the caulking and the PCB-paint would be sandblasted and the substrate sampled. Analytical samples to verify that the removal of this substrate has satisfactorily met USEPA's cleanup guidelines would be required. After the removal of the caulking/paint and substrate has met this guidance, the remainder of the building would be demolished and disposed of as construction demolition debris (CDD) at a licensed landfill. Note, ACM asphaltic sheeting is managed by MEDEP as a special waste but not a friable waste; therefore, it can be

disposed of with the CDD waste as long as the landfill is licensed as a "Special Waste landfill". The estimated cost ranges for implementing Remedial Alternative #3 are presented below.

| | |
|---|---|
| Self-Implementing Cleanup Sampling and Plan | $10,000 to $20,000 |
| PCB Paint Removal and Disposal | $90,000 to $110,000 |
| Removal and Disposal of PCB caulking | $15,000 to $25,000 |
| Debris Removal and Building Demolition and Disposal | $80,000 to $100,000 |
| Confirmation Analytical | $10,000 to $15,000 |
| Site Oversight/Engineering/Closure | $10,000 to $20,000 |

The range of costs for Remedial Alternative #3 is estimated to be between **$215,000.00 and $410,000.00**.

**Building 164 – Sentry Checkpoint Building**

*Alternative #1C: No Action*

This alternative involves no additional response actions at the Site. Under this alternative, the Site is not redeveloped. The No Action alternative would not prevent exposure of Site contaminants to humans and the environment. Therefore, the No Further Action alternative will not meet the remedial action objectives and cleanup goals and will not be evaluated further with respect to the comparative evaluation criteria.

The costs for Remedial Alternative #1 are estimated to be **$0.00**.

*Alternative #2C –Hazardous Building Material Removal and Disposal for Building Reuse*

This alternative involves removal of hazardous building materials (PCB caulking/paint and LBP) (See **Figure 5**). A Self-Implementing Cleanup Plan (SIP) would need to submitted to the USEPA to provide the cleanup plan for their approval. The alternative will include the removal of the PCB-paint by sandblasting and the substrate would then be sampled. Analytical samples to verify that the removal of this substrate has satisfactorily met USEPA's cleanup guidelines would be required. Once this has been accomplished, the interior of the building will be sandblasted to remove the lead-based paint. Impacted materials will be placed in lined roll off containers for off-site disposal at a licensed disposal facility. The alternative would include proper management of wastes for off-site disposal, as applicable. ACM would remain within the footer of the building as the building is being reused and does not require abatement until demolition occurs. The estimated cost ranges for implementing Remedial Alternative #2 are presented below.

| | |
|---|---|
| Self-Implementing Cleanup Sampling and Plan | $10,000 to $20,000 |
| Lead-Based Paint Removal | $5,000 to $10,000 |
| Removal and Disposal of PCB paint | $25,000 to $35,000 |
| Confirmation Analytical | $5,000 to $10,000 |
| Site Oversight/Engineering/Closure | $5,000 to $10,000 |

The range of costs for Remedial Alternative #2 is estimated to be between **$50,000.00 and $85,000.00**. (Note this does not include renovation and reconstruction costs.)

*Alternative #3C – Hazardous Building Material Removal, Demolition, and Disposal*

This alternative involves removal of hazardous building materials (PCB caulking/paint

and LBP) (See **Figure 5**). A Self-Implementing Cleanup Plan (SIP) would need to submitted to the USEPA to provide the cleanup plan for their approval. The alternative will include the removal of the PCB-paint by sandblasting; the substrate would then be sampled. Analytical samples to verify that the removal of this substrate has satisfactorily met USEPA's cleanup guidelines would be required. After the removal of the paint and substrate has met this guidance, the remainder of the building would be demolished and disposed of as construction demolition debris (CDD) at a licensed landfill. The estimated cost ranges for implementing Remedial Alternative #3 are presented below.

| | |
|---|---|
| Self-Implementing Cleanup Sampling and Plan | $10,000 to $20,000 |
| Removal and Disposal of PCB paint | $25,000 to $35,000 |
| Building Demolition and Disposal | $20,000 to $30,000 |
| Confirmation Analytical | $5,000 to $10,000 |
| Site Oversight/Engineering/Closure | $5,000 to $10,000 |

The range of costs for Remedial Alternative #3 is estimated to be between **$65,000.00 and $105,000.00**.

**Building 200 – Foam Building**

*Alternative #1D: No Action*

This alternative involves no additional response actions at the Site. Under this alternative, the Site is not redeveloped. As this structure has no hazardous building components, it can continue to be utilized without restrictions and can meet the current needs of the Town of Harpswell.

The costs for Remedial Alternative #1 are estimated to be **$0.00**.

*Alternative #2D – Building Demolition and Disposal*

This alternative would demolish the building and dispose of the materials at a licensed CDD landfill as no hazardous building materials were identified (See **Figure 6**). The estimated cost ranges for implementing Remedial Alternative #2 are presented below.

| | |
|---|---|
| Building Demolition and Disposal | $15,000 to $25,000 |
| Site Oversight/Engineering/Closure | $2,000 to $5,000 |

The range of costs for Remedial Alternative #3 is estimated to be between **$17,000.00 and $27,000.00**.

## 3.4 Comparison to Evaluation Criteria – Building Materials

This Section presents a relative comparison of the selected remedial alternatives (Alternatives #2 and #3). Alternative #1 is not carried through for review for buildings other than "Building 200 - Foam Building" based on the fact that this alternative does not meet the remedial objectives.

**Building 126 – Administration Building**

*Effectiveness:* Remedial Alternatives #2A & 3A would be effective at achieving Site closure.

*Reliability:* Remedial Alternative #2A & 3A would be reliable in preventing exposure to future users of the Site because the hazardous building materials will be completely removed from the property.

*Difficulty of Implementation:* Remedial Alternative #2A would be moderately more difficult to implement as selective demolition would need to occur to remove substrate materials from beside the caulking and would require reconstruction. Remedial Alternative #3A would be relatively easy to implement as it includes the complete removal of the site structure for disposal.

*Cost-Benefit:* Due to the complete demolition and off-site disposal versus removing just the hazardous building materials, Remedial Alternative #3A is the highest cost.

**Building 152 – Generator Building**

*Effectiveness:* Remedial Alternatives #2B & 3B would be effective at achieving Site closure.

*Reliability:* Remedial Alternative #2B & 3B would be reliable in preventing exposure to future users of the Site because the hazardous building materials will be completely removed from the property.

*Difficulty of Implementation:* Remedial Alternative #2B would be moderately more difficult to implement as selective demolition would need to occur to remove substrate materials from beside the caulking and would require reconstruction. Remedial Alternative #3B would be relatively easy to implement as it includes the complete removal of the site structure for disposal.

*Cost-Benefit:* Due to the complete demolition and off-site disposal versus removing just the hazardous building materials, Remedial Alternative #3B is the highest cost.

**Building 164 – Sentry Checkpoint Building**

*Effectiveness:* Remedial Alternatives #2C & 3C would be effective at achieving Site closure.

*Reliability:* Remedial Alternative #2C & 3C would be reliable in preventing exposure to future users of the Site because the hazardous building materials will be completely removed from the property.

*Difficulty of Implementation:* Remedial Alternative #2C would be moderately more difficult to implement as selective demolition would need to occur to remove substrate materials from beside the caulking and would require reconstruction. Remedial Alternative #3C would be relatively easy to implement as it includes the complete removal of the site structure for disposal.

*Cost-Benefit:* Due to the complete demolition and off-site disposal versus removing just the hazardous building materials, Remedial Alternative #3C is the highest cost.

**Building 200 – Foam Building**

*Effectiveness:* Remedial Alternatives #1D & 2D would be effective at achieving Site closure.

*Reliability:* Remedial Alternative #1D & 2D would be reliable in preventing exposure to future users of the Site.

*Difficulty of Implementation:* Remedial Alternative #2D would be relatively easy to implement as it includes the complete removal of the site structure for disposal.

*Cost-Benefit:* Due to the complete demolition and off-site disposal versus leaving the building, Remedial Alternative #2D is the highest cost.

## 3.5 Selection of Remedial Alternative

The No Action Alternative (Remedial Alternative #1A-1C) was included in this analysis for

comparative purposes only, and is not a feasible alternative because it does not meet the remedial action objectives for any other buildings except for the Foam Building (#1D).

Remedial Alternatives #2A-C and #3A-C were evaluated to address cleanup of impacts within the buildings. Alternative #3A-C provide the most effective method of providing site closure and Alternative #2A and 2B would require reconstruction of the buildings; therefore, these may not meet the current reuse plan for the Town. Therefore, Alternative #3A and 3B were chosen as the preferred remedial alternatives for Building 126 and Building 159. No reconstruction is believed to be needed in order to complete the cleanup efforts.

## 3.6 Costs for Selected Alternatives

In addition to the selected alternatives, MEDEP would request that the property be entered into the Voluntary Response Action Program (VRAP) so that work performed on the property to remediate the impacts is documented and a Commissioner's Certificate of Completion (COC) can be issued to the property owner at the completion of the site work.

Total costs associated with the selected alternatives are tabulated below:

| Selected Alternative | Cost Range |
|---|---|
| Alternative #3A - Hazardous Building Material Removal, Demolition, and Disposal | $160,000-$200,000 |
| Alternative #3B - Hazardous Building Material Removal, Demolition, and Disposal | $215,000.00 - $410,000.00 |
| Alternative #2C - Hazardous Building Material Removal and Disposal | $50,000.00 and $85,000.00 |
| Alternative #1D – No Action | $0 |
| VRAP Application Fee | $15,000.00 |
| **Total** | **$440,000 to $710,000.00** |

## 3.7 Green and Sustainable Remediation and Climate Change

The following measures will be implemented where applicable, beneficial, or feasible to improve the overall sustainability of the proposed remedial alternative as recommended by the EPA Region 1 Green and Sustainable Remediation Guidance.

**Administrative**

- Green remediation principles will be incorporated into the contracting process, as possible.
- Interim and final documents will be submitted in digital rather than hardcopy format, unless otherwise requested by EPA or required by law, in an effort to save paper. This is especially applicable to voluminous data reports.
- Optimize the use of electronic and centralized communication and outreach to the local community

**General Site Operations**

- Use energy efficient equipment
- Reuse or recycle waste
- Protect and conserve water
- Use alternative fuel vehicles (hybrid-electric, biodiesel, ultra-low sulfur diesel)
- Carpool for site visits and project meetings and/or use public transportation
- Schedule activities efficiently so as to minimize travel to and from the site

**Remediation Operations**

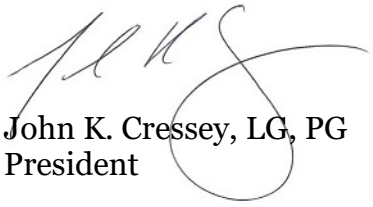
- Encourage use of fuel-efficient / alternative fuel vehicles and equipment
- Minimize mobilizations
- Provide for erosion control to minimize runoff into environmentally sensitive areas
- Encourage use of diesel engines that meet the most stringent EPA on-road emissions standards available upon time of project's implementation
- Maximize use of machinery equipped with advanced emission controls

**Climate Change Conditions**

In evaluating climate change conditions, the proposed cleanup activities were evaluated with regard to proximity to a coastline, flood plain, in an area with a potential increase of drought, and impact of increased frequency and intensity of storms. The Site is located near the coastline of Maine. The Site topographic elevation is approximately 12 feet above mean sea level, and local topography slopes west towards the Atlantic Ocean. The remedial activities proposed for the Site include the removal of building materials/buildings and therefore flooding or other climate-related activities are not believed to be a concern for the Site.

Please feel free to contact me with any questions.

Sincerely,
**BEACON ENVIRONMENTAL CONSULTANTS, LLC**



John K. Cressey, LG, PG
President