DRAFT Analysis of Brownfields Cleanup Alternatives – Preliminary Evaluation
120 Main Street, Medway, Massachusetts
Release Tracking Number: 2-0012740

Prepared by the Town of Medway

October 27, 2023

I. Introduction & Background

a. Site Location

The site is located at 120 Main Street in Medway, MA (herein referred to as "the Site").

b. Previous Site Use(s) and any previous cleanup/remediation

The Site is a former masonry supply and concrete block manufacturing facility that operated as "Medway Block Company" since approximately 1950. Ownership of the Site and operations has transferred several times since the 1950s, with the most recent entity having ownership since 1992. The 8.3 acre site consists of four buildings: the Main Office/Retail Building, the Manufacturing Building, the Storage Building with attached maintenance and storage bays, and the Shed where the contamination treatment system was previously located. The remainder of the property is covered with asphalt and gravel parking and driveway areas. Medway Block Company closed its business in 2022, and the property was sold to the Town of Medway on December 16, 2022.

Throughout its history, there were two cleanup/remediation projects at the Site. The first was associated with underground storage tanks located near the Storage Building, and the second was associated with equipment in the Manufacturing Building.

In January 1991, four underground storage tanks containing fuel oil, gasoline, diesel, and waste oil were removed after contamination in the groundwater was identified. Geo-Con Inc. oversaw the excavation and transportation of the contaminated soils to a recycling facility and determined that the source of contamination had been effectively removed.

In January 1999, the Site's former consultant Paragon Environmental Services, Inc. (PES) conducted an initial site and subsurface investigation which entailed the installation of four monitoring wells near the Manufacturing Building. In April 1999, greater than ½-inch of light non-aqueous phase liquid (LNAPL) was detected in one of the wells. The Massachusetts Department of Environmental Protection (MassDEP) was notified of the release within 72 hours and release tracking number (RTN) 2-0012740 was assigned. The Site completed Phase I through Phase V of the Massachusetts Contingency Plan process and cleanup efforts have been well documented.

c. Site Assessment Findings

A Phase I Initial Site Investigation Report and Tier Classification were submitted to MassDEP on April 21, 2000. The nature and source of the LNAPL release was determined to be hydraulic oil that leaked into the soil and groundwater via a former machine pit and associated equipment located in the Manufacturing Building. The leaking equipment was replaced prior to reporting of the release. The site was classified as Tier II.

A Phase II Comprehensive Site Assessment and Phase III Remedial Action Plan were submitted to MassDEP in May 2002. In August 2002, PES installed the Selected Remedial Action Alternative (SRAA), which consisted of a remedial system including a product recovery trench, two recovery wells, an oil/water separator and wastewater treatment through liquid phase granular activated carbon (GAC). The remedial system operated from August 2002 until August 2018.

A Release Abatement Measure (RAM) Completion Report was submitted to MassDEP on December 15, 2006 along with a Phase IV Final Inspection Report and Completion Statement and a Substantial Hazard Evaluation. Thirty-five Phase V Remedy Operation Status Reports were submitted between July 2007 and December 2022.

d. Project Goal

The Site is located in the center of town within the Main Street Business District. Through prior engagement efforts, including the Medway Master Plan update in 2022, residents voiced their desire for the creation of a "Downtown" in this area. In addition to the creation of a town center, the Master Plan Vision Statement expresses the Town's aspiration to have outstanding public facilities for the benefits of all residents. Therefore, the anticipated reuse for the Site is for the construction of a new Town Hall and Public Safety Complex that is strategically located in the center of town.

A Municipal Facilities Condition Assessment was completed in 2021, which identified physical, functional, and code compliance issues at twelve town buildings. Due to various factors including age, condition, and lack of functionality, the report recommended decommissioning the Town Hall, Police Station, and Fire Station #1 and #2 and relocating them to a new facility. A new centralized facility will better accommodate the needs of the town as population increases and more town services and staff are required. Relocating these civic facilities to the Main Street Business District will provide an anchor to the Downtown creation and revitalization efforts. Furthermore, it will provide equitable access to town services and emergency response due to its geographically centralized location.

e. Regional and Site Vulnerabilities

According to the 2022 EPA Region 1 Climate Adaptation Plan, trends for New England include increased air and water temperatures, increased frequency and intensity of precipitation events, and sea level rise due to climate change. Temperature data shows that New England is warming at a faster rate than the global average and has surpassed the 1.5°C worldwide threshold set by the International Panel on Climate Change. The significant increase in air temperature is the catalyst impacting other climate metrics such as change in precipitation. Rising temperatures and increased precipitation are most applicable to the cleanup of the site.

Except for the four buildings, the vast majority of the eight acre site is open and covered in asphalt paving. Sparse vegetation is limited to the perimeter of the property. The heat absorbed by the asphalt as well as the lack of shading from trees causes the Site to exhibit heat island characteristics. Rising temperatures will intensify these conditions. According to FEMA Flood Zone Map 25021C0143E, the Site is located in a type C flood zone. However, it is less than ½ mile upgradient from an AE flood zone and Chicken Brook, an impaired tributary of the Charles River. The extensive impervious cover of the Site increases stormwater runoff, and as precipitation

events intensify and occur more frequently, this issue will be exacerbated. Additionally, soil saturation from more frequent and intense storms may impact the groundwater and potentially cause a disturbance to the location of the subsurface contamination.

II. Applicable Regulations and Cleanup Standards

a. Cleanup Oversight Responsibility

The cleanup will be overseen by a Licensed Site Professional in partnership with Medway's Department of Public Works Director, Board of Health Agent, Building Commissioner, and Sustainability Coordinator. In addition, all documents prepared for this site will be submitted to MassDEP under Release Tracking Number 2-0012740.

b. Cleanup Standards for major contaminants

The Town currently anticipates meeting the Massachusetts Contingency Plan cleanup standards for a Permanent Solution under 310 CMR 40.1000. By doing this, no additional operation, maintenance and/or monitoring of the remedial action alternative will be necessary to ensure the integrity of the Permanent Solution. A Permanent Solution Statement shall be submitted to the Department. A Risk-Characterization report for the reuse of the site will be completed in accordance with Massachusetts regulations.

c. Laws & Regulations Applicable to the Cleanup

Laws and regulations that are applicable to this cleanup include the Massachusetts General Law Chapter 21E (Massachusetts Oil and Hazardous Material Release Prevention and Response Act), Massachusetts Code 310 CMR 40.0000 (Massachusetts Contingency Plan), Massachusetts Code 310 CMR 30.0000 (Hazardous Waste Regulations), Federal Occupational Safety and Health Administration (OSHA) requirements, National Pollution Detection and Elimination System (NPDES) requirements, state and federal procurement requirements, and Massachusetts public notice requirements. In addition, all appropriate local permit and notification requirements such as Dig Safe Notifications, utility closeout notifications, building permits, and Land Disturbance Permit will be required.

III. Evaluation of Cleanup Alternatives

a. Cleanup Alternatives Considered

To address contamination at the Site, four different alternatives were considered including: Alternative #1: No Action, Alternative #2: Demonstration of Contamination Stability and Removal is Infeasible, Alternative #3: Targeted Removal with Offsite Disposal, Alternative #4: Complete Removal with Offsite Disposal. The effectiveness and resiliency to extreme weather events, ease of implementation, cost, and reasonableness of each alternative must be explored prior to selecting a cleanup alternative.

<u>Effectiveness – Including Vulnerability/Resiliency Considerations</u>

- Alternative #1: Considering the past remediation efforts, this Site's "No Action" alternative would require continued on-going monitoring and LNAPL recovery as well as the six-month Phase V Remedy Operation and Status Reports. This alternative is effective and will maintain compliance with Phase V requirements. However, as the likelihood of inland flooding from more intense and frequent precipitation events increases, the stability of the contamination may be compromised.

- Alternative #2: Demonstrating that residual oil is stable and removal is "not feasible" will likely achieve a Permanent Solution with the Implementation of an Activity and Use Limitation (AUL) deed restriction. Although an AUL is effective in preventing exposure to the subsurface contamination, it will likely inhibit the rehabilitation of the Site for use as a Town Hall and Public Safety Complex. Additionally, the EPA and Massachusetts Stormwater Management Requirements encourage stormwater infiltration, which could compromise the stability of the LNAPL and potentially expose downgradient residents and businesses to the contamination. As mentioned in Alternative #1, increased precipitation caused by climate change can have an adverse impact on the site's stability.

- Alternative #3: Targeted removal of oil from areas above "Stability Action Levels" and offsite disposal is an alternative likely to achieve a Permanent Solution with the implementation of an AUL deed restriction. As mentioned in Alternative #2, the AUL is effective in achieving Permanent Solution status; however, this may limit the options for reuse and prohibit the construction of a new municipal facility. As discussed in Alternative #1 and #2, increased precipitation caused by climate change can have an adverse impact on the Site's stability by altering the hydraulic conditions of the site.

- Alternative #4: Complete removal and offsite disposal is an effective way to eliminate risk at the Site because the contamination will be removed, and exposure pathways will no longer exist. The Site can be retrofitted to include additional onsite stormwater management to promote groundwater recharge and flood storage capacity, which will increase the Town's resiliency to climate change impacts. Removing the widespread impervious cover and replacing it with green spaces and tress will mitigate the impacts of extreme heat at the Site and the surrounding residences and businesses, as well as provide new habitat for wildlife.

<u>Ease of Implementation</u>

- Alternative #1: The "no action" alternative is straightforward to implement because it entails ongoing monitoring and reporting from a Licensed Site Professional. Proper disposal of collected LNAPL will follow the state's hazardous waste disposal requirements.

- Alternative #2: Demonstrating contamination stability and removal infeasibility is relatively easy to implement, but the ease of future development will be significant impacted.

- Alternative #3: Targeted removal and offsite disposal is a complex process that includes a hazardous building material survey, hazardous building material disposal, building demolition, site excavation work and material disposal. If the contaminated soils are not completely removed, the reuse of the site will remain limited and will complicate any future development.

- Alternative #4: Complete removal of the contamination and offsite disposal is a complex process as described in Alternative #3; however, redevelopment efforts will be substantially easier after the site is remediated and does not require an AUL.

<u>Total Estimated Cost</u>

- Alternative #1: Ongoing monitoring, disposal of hazardous material, and reporting is approximately $40,000 per year indefinitely.

- Alternative #2: Completion of a study of the plume stability per MassDEP Policy and preparation of the Permanent Solution Statement and AUL Filing is approximately $170,000.

- Alternative #3: Hazardous Building Material Abatement, Demolition of Manufacturing Building, monitoring at UST location, excavation oversite, RAM Plan, Permanent Solution Statement, AUL filing, disposal of excavation materials (estimated 1350 tons), and backfilled with processed gravel is approximately $1,450,650.

- Alternative #4: Hazardous Building Material Abatement, Demolition of Manufacturing Building and Shed, monitoring at UST location, excavation oversite, RAM Plan, Permanent Solution Statement, disposal of excavation materials (estimated 3220 tons), and backfilled with processed gravel is approximately $1,976,700.

c. Analysis of Reasonableness and Recommended Cleanup Alternative

Alternative #1: is not recommended because it is financially unsustainable for the Town, and it does not permanently address the contamination issue. Alternative #2: demonstrating that the contamination is stable but removal is infeasible, may be reasonable if the study finds this situation to be true. However, based on the MCP reports, it is reasonable to presume that removal of the contamination is possible. Alternative #3: Targeted removal and offsite disposal is not recommended because of the associated costs, complex implementation, and the limiting use of the site after the excavation is completed. Alternative #4: complete removal and offsite disposal is the most expensive option and the complexity of implementation is equivalent to Alternative #3; however, Alternative #4 will result in a Permanent Solution without an Activity and Use Limitation. The Town will be able to construct a new municipal complex that is clean and safe for the public, staff, and environment. For these reasons, Alternative #4: Complete Removal and Offsite Disposal is the recommended alternative action.

d. Green and Sustainable Remediation Measures for Selected Alternative

Protecting the natural environment is a core value to the Town of Medway, which is why the Town will reference the more recent Best Management Practices (BMPs) issued under the ASTM Standard E-2893: Standards Guide for Greener Cleanups. Excavation work will be scheduled during dry-weather months in order to minimize groundwater infiltration into the excavation area, reduce dewatering needs and the amount of dewatering liquids requiring of treatment and disposal. Additionally, demolition of the structures will be source separated to encourage reuse and recycling, specifically scrap metal and asphalt. Erosion controls will be required prior to any excavation work to prevent offsite transport of sediment via stormwater. The existing asphalt driveways will remain during excavation and demolition activities and be utilized for equipment stabilization. This will reduce the need import new gravel material for stabilization, which in turn reduces greenhouse gas emissions, and reduces erosion and sedimentation during site work. Once concluded, the site will be stabilized with water tolerate native species and trees. The Town plans to request bidding cleanup contractors to propose additional green remediation techniques in their responses to the Request for Proposal for the Cleanup Contract.