PROPOSED PLAN

SUPERFUND

Linemaster Switch Corporation Superfund Site

Woodstock, CT

THE SUPERFUND PROGRAM protects human health and the environment by locating, investigating, and cleaning up hazardous waste sites and engaging communities throughout the process. Many of these sites are complex and need long-term cleanup actions. Those responsible for contamination are held liable for cleanup costs. EPA strives to return previously contaminated land and groundwater to productive use.

YOUR OPINION COUNTS

OPPORTUNITIES TO COMMENT ON EPA'S PROPOSED AMENDED CLEANUP PLAN FOR THE LINEMASTER SWITCH CORPORATION SUPERFUND SITE, WOODSTOCK, CONNECTICUT (THE SITE).

The U.S. Environmental Protection Agency (EPA) will be accepting public comments on EPA's proposed cleanup plan (Proposed Plan) from December 13, 2023 through January 12, 2024. EPA is seeking input on all the alternatives and the rationale for the Preferred Remedial Alternative. Additionally, new information or comments that EPA learns during the public comment period could result in the selection of a final remedial action that differs from the Preferred Remedial Alternative. You do not have to be a technical expert to comment. If you have a concern, suggestion, or preference regarding this Proposed Plan, EPA wants to hear from you before making a final decision on how to protect your community. Comments can be sent by mail, email, or fax. People also can offer oral comments at the formal Public Hearing. A public informational meeting will be held prior to the Public Comment period to further explain the cleanup plan. Both meetings will be held at Woodstock Middle School. Representatives from EPA will be available to answer questions you may have.

INFORMATIONAL MEETING

Monday • December 11, 2023 Beginning at 7 PM

FORMAL PUBLIC HEARING

Wednesday • January 10, 2024 Beginning at 7 PM

KEY CONTACTS:

CHARLOTTE GRAY
U.S. EPA
Community Involvement Coordinator
(617) 918-1243
gray.charlotte@epa.gov

JOHN BRYANT
U.S. EPA
Remedial Project Manager
(617) 918-1375
bryant.john@epa.gov

MICHAEL SENYK
Connecticut Department of Energy and Environmental Protection
Project Manager
(860) 462-8494
michael.d.senyk@ct.gov

GENERAL INFO:

EPA NEW ENGLAND
(617) 918-1111
www.epa.gov/region1

TOLL-FREE CUSTOMER SERVICE
1-888-EPA-7341

EPA United States Environmental Protection Agency

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Copies of the EPA's Proposed Plan may be viewed on the Site web page at: www.epa.gov/superfund/linemaster or obtained by contacting Charlotte Gray, (617) 918-1243 or emailing: gray.charlotte@epa.gov

In accordance with Section 117 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the law that established the Superfund program, this document summarizes EPA's cleanup proposal. For detailed information on the cleanup options evaluated for use at the Site, see the Linemaster Switch Corporation Focused Feasibility Study and other documents contained in the Site's Administrative Record available for review on- line at www.epa.gov/superfund/linemaster

Access to the internet is available at:

Woodstock Town Hall
415 CT-169
Woodstock, CT 06281

EPA New England Records Center (First Floor)
5 Post Office Sq.,
Boston, MA 02109-3912

CLEANUP PROPOSAL SNAPSHOT

This Proposed Plan presents EPA's change to the current cleanup remedy for the Linemaster Switch Corporation Superfund Site (the Site) in Woodstock, Connecticut (Figure 1). In a 1993 Record of Decision (ROD), EPA selected a cleanup remedy for the entire Site which required construction and operation of a combined groundwater and soil vapor extraction (SVE) system with treatment in the source area and groundwater extraction and treatment in the management of migration area. In 2004, EPA issued an Explanation of Significant Differences (ESD) which provided for the SVE system to be shut down. Despite 25 years of active site remediation, and evidence that natural attenuation is occurring, significant impacts to soil and groundwater remain. In addition, plume migration to the south has impacted two private wells. As a result, EPA is proposing to amend the 1993 ROD; the proposed revised remedy will include deep soil mixing that will include shallow soil excavation with off-site disposal coupled with in situ treatment in the source control area. In addition, EPA is proposing to expand the existing groundwater extraction and treatment system in the management of migration area. EPA's Preferred Remedial Alternative for a final modified remedy includes the following components:

- Source Control Area (Figure 2) – Alternative SC-9, Option A
  - Discontinue the existing groundwater extraction and treatment system in the source control area;
  - Excavate shallow contaminated soils and dispose of off-site;
  - Mix treatment amendments into deep contaminated soil using large augers;
  - In situ (below ground) treatment to reach contaminated soil under the building;
  - Expanded Institutional Controls to prevent exposure to Site contaminants;
  - Monitoring of the contaminated groundwater to evaluate the performance of the remedy; and
  - Periodic reviews, at a minimum of every five years, to assess the protectiveness of the remedy.
- Management of Migration Area (Figure 3) – Alternative MoM-3, Option B
  - Install and connect new groundwater extraction wells to the existing treatment system;
  - Continue to operate and monitor the existing treatment system with new and existing groundwater extraction wells;
  - Continue to maintain the existing residential point-of-use treatment systems;
  - Institutional Controls to prevent exposure to Site contaminants;

— Monitoring of the contaminated groundwater to evaluate the performance of the remedy; and

— Periodic reviews, at a minimum of every five years, to assess the protectiveness of the remedy.

The proposed final remedy is estimated to cost approximately $11.4 million ($6.4 million for the source control area and $5.0 million for the management of migration area) and is estimated to take approximately 2 years to design and implement. A more detailed description of this proposal is outlined below and in the Focused Feasibility Study Report (FFS) dated October 20, 2023.

A CLOSER LOOK AT EPA'S PROPOSED CLEANUP APPROACH

This Proposed Plan discusses the remedial alternatives evaluated in the October 2023 FFS and presents the Agency's Preferred Remedial Alternative for an amended remedy at the Site[1]. The newly proposed amended remedy (anticipated to be the final remedy) is a modification of the source control and management of migration remedial components of the original Site remedy selected by EPA in a Record of Decision (ROD), dated July 21, 1993, and modified by EPA in an Explanation of Significant Differences (ESD), dated December 13, 2004.

This Proposed Plan introduces EPA's Preferred Remedial Alternative, which is designed to treat Site soil and groundwater to: (1) prevent ingestion of groundwater above cleanup levels; (2) prevent or minimize the continued release of Site contaminants from the source area to groundwater; (3) restore groundwater to cleanup levels; (4) prevent further contaminant migration in groundwater to off-site receptors; and (5) prevent potential exposure to indoor air vapors at levels that could present risk.

EPA'S CLEANUP APPROACH

From 2015 to 2017, Linemaster completed additional bedrock investigations to develop an understanding of the migration pathways associated with the groundwater plume and in the source control area to confirm existing environmental conditions. These, along with groundwater monitoring reports, summarize the nature and extent of remaining contamination in soil and groundwater at the Site and were used to prepare the 2017 Site Investigation Report and the October 2023 FFS. In the FFS, an evaluation was performed of different cleanup alternatives for both the source control area and the management of migration area that would both treat and reduce migration of contaminated groundwater beyond the source control area.

The final remedy EPA proposes in this Proposed Plan has the following components:

- Source Area Chemical Oxidation Deep Soil Mixing: Oversized augers would facilitate the distribution of the treatment amendment throughout the overburden soil matrix in the open areas (especially near the dry well where high soil and groundwater volatile organic compound [VOC] concentrations still exist). Mixing provides more uniform distribution of the reagents and is not limited by preferential flow-paths or tight soils, provides hydration of vadose zone soils through mixing, and provides treatment. Additionally, an increase in volume typically occurs with deep soil mixing; therefore, some of the excess source area material would require excavation and disposal off site.
- Source Area Chemical Oxidation Injections: Chemical Oxidation injections utilizing in situ technologies involve the introduction of a chemical oxidant into the subsurface for the purpose of transforming groundwater or soil contaminants into less harmful chemical species. These injections are specifically used to reduce contaminant mass and concentrations in soil and groundwater, reduce contaminant mass flux from source areas to downgradient pump-and-treat systems, and to reduce anticipated cleanup

[1] In accordance with Section 117 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the law that established the Superfund program, this document summarizes EPA's cleanup proposal. For detailed information on the cleanup options evaluated for use at the Site, see the Linemaster Switch Corporation Focused Feasibility Study (October 2023) and other documents contained in the Site's Administrative Record available for review online at http://www.epa.gov/superfund/linemaster

times required for other remedial options. This targeted approach would focus on the source area that has previously been difficult to access and treat (i.e., under the manufacturing building).

- Management of Migration Groundwater Extraction: The existing Interim Removal Action (IRA) system (which includes extraction and treatment) would be modified by adding extraction wells to better capture impacted groundwater that is currently migrating off Site and to extract impacted groundwater closer to the source area (to limit contaminant migration from the shallow soils to deeper into the bedrock). The added flow from the new extraction wells would be managed by the existing IRA system, based on the system's design parameters. This component could require additional studies (e.g., geophysical analyses) to best determine the location and depth of new extraction wells.
- Monitoring: The current monitoring well network, in addition to the newly installed monitoring wells (as part of the new source control remedial alternative), would be monitored to assess the performance of the final remedy in the source area and management of migration area.
- Institutional Controls: Institutional controls, as required by the 1993 ROD, will remain a component of this remedy. In addition, institutional controls will be expanded at the Site and on properties impacted by Site contaminants to include: (1) a requirement that a vapor intrusion evaluation be performed if a new building is constructed or an existing building is renovated over the contaminated groundwater plume in the soil source area and vapor mitigation measures be taken, if warranted; and (2) a requirement that the existing residential point-of-use treatment systems continue to be operated and maintained until remediation goals are achieved.
- Five-Year Reviews: The Site will continue to be reviewed at a minimum of every five years to assess protectiveness and the progress of the final remedy.

These actions would prevent current and minimize future human health exposure to, and risk from, hazardous materials.

ESTIMATED COST OF THE PROPOSED CLEANUP

The estimated total present value[2] of this proposed cleanup approach, including construction of new remedy components, operation and maintenance, and long-term monitoring is approximately $11.4 million. Each component of the proposed cleanup approach is outlined below and discussed in greater detail in the October 2023 FFS.

POTENTIAL COMMUNITY IMPACTS

Impacts to the community are expected to be limited, but design and implementation of the remedy will require communication and coordination with on-site and surrounding landowners and utility companies. EPA will coordinate with the property owners to minimize construction-related disturbances. Potential impacts to Site workers will be temporary and any potential risk mitigated through proper health and safety precautions (e.g., personal protective equipment). The cleanup work will be performed during typical work hours to minimize noise disturbances.

EPA, the lead agency for the Site, developed this Proposed Plan in consultation with the State of Connecticut Department of Energy and Environmental Protection (CTDEEP), the support agency. EPA, in consultation with CTDEEP, will select an amended final remedy for the source area and management of migration area after reviewing and considering all information submitted during a 30-day public comment period. EPA, in consultation

[2] Present value" is the amount of money set aside today to ensure that enough money is available over the expected life of the project, assuming certain economic conditions (e.g., inflation).

with CTDEEP, may modify the Preferred Remedial Alternative or select a different cleanup alternative than presented in this Proposed Plan based on new information and/or public comments.

EPA IS REQUESTING PUBLIC COMMENTS ON THE FOLLOWING PROPOSED DETERMINATION

POTENTIAL LIMITED IMPACTS TO WETLANDS

Wetlands are located on the east, west, and south edges of the Site. Impacts to wetlands could potentially occur through the installation and maintenance of monitoring wells. Section 404 of the Clean Water Act, federal regulations at 44 C.F.R. Part 9, and Executive Order 11990 (Protection of Wetlands) require a determination, when circumstances necessitate, that there is no practicable alternative to taking federal actions in waters of the United States or wetlands. Should there be no alternative, the federal actions should minimize the destruction, loss, or degradation of these resources and preserve and enhance their natural and beneficial values. While there are wetlands present at the Site, the Preferred Remedial Alternative is unlikely to impact them. EPA will minimize potential harm and avoid adverse impacts to wetlands by using best management practices to minimize harmful impacts on the wetlands, wildlife or their habitat, and by restoring these areas consistent with federal and state wetlands protection laws. Any wetlands affected by remedial work will be restored with native vegetation as a wetland area and such restoration will be monitored until the wetland vegetation becomes re-established. Other mitigation measures will be used to protect wildlife and aquatic life during remediation and restoration, as necessary.

BACKGROUND

SITE DESCRIPTION AND LAND USE

The Linemaster Switch Corporation Superfund Site is located at 29 Plaine Hill Road in Woodstock, Connecticut (Figure 1). The Site consists of approximately 92 acres. State Route 171 borders the Site to the south, Plaine Hill Road borders the Site to the west, and State Route 169 borders the Site to the north and east. The Linemaster manufacturing facility consists of over 45,525 square feet of production, office, and warehouse space used to manufacture electrical and pneumatic foot switches and wiring harnesses. In addition to the manufacturing facility, there is a 4,000-square-foot maintenance garage and several residences on the property, including the original estate mansion built in the early 1900s (currently housing a restaurant and bed-and-breakfast facility), an adjacent event center and banquet facility.

The property is characterized by grassed and forested open space with pavement present largely near the various structures and in association with on-site parking facilities and access roads. The Site and immediate surrounding area are not served by public water or sewer. An on-site water supply well (i.e. a production well) and nearby domestic drinking water wells, located proximate to the Site, are routinely sampled as part of on-going management of migration monitoring activities under the Site's existing long-term monitoring program. Several ponds and an unnamed stream are located near the eastern boundary of the Site. The area in which the property is located is zoned as "Community District"; the existing industrial use is allowed without the need for a special permit as it was in place at the time the zoning regulations were established.

The geologic setting at the Site consists of glacial till overlying fractured schist and granitic rock. The till is dense and highly compacted and is of low permeability. The bedrock is fractured, with the schist exhibiting a greater fracture frequency than the gneiss. Fracture apertures and orientations vary widely, but there is likely a prevalence of fractures generally oriented northeast/southwest.

Groundwater is found in the till and shallow bedrock at depths that range from 20 to 120 feet below ground surface. The overburden aquifer, while saturated and exhibiting large vertical hydraulic gradients, transmits very little water, resulting in high heads with little vertical migration. It includes a sparse network of natural fractures that may impact lateral and vertical contaminant migration. In general, the bedrock aquifer is connected through a network of more transmissive fractures, although the fracture frequency varies with bedrock type. Under natural gradients (i.e., in the absence of pumping), groundwater flows nearly radially away from the topographic high through bedrock fractures to the north, east, and south of the facility (Figure 4). Groundwater also discharges to Mill Brook and its tributaries, although surface water characterization has shown no surface water quality impacts. Groundwater flow from the Site is largely controlled by the groundwater extraction system, with aquifer drawdowns reaching in excess of 100 feet.

SITE HISTORY OF CONTAMINATION, INVESTIGATIONS, AND REMEDIAL ACTIONS

Soil and groundwater at the Site have been contaminated by historical manufacturing operations and waste disposal activities beginning in 1952 at Linemaster. Paint thinner was used beginning in 1952 in support of spray-painting operations. As part of the manufacturing of foot-operated switches, several chemicals were used at the Site, including trichloroethene (TCE), which was used between 1969 and 1979 as a parts degreaser. An estimated 100 to 600 gallons of TCE was used per year during this time. Approximately 20 to 200 gallons of waste per year were reportedly discharged to an on-site dry well, located east of the manufacturing facility, between 1969 and 1979 (Figure 5).

In the early- to mid-1980s, CTDEEP and EPA conducted groundwater investigations at the Site, followed by an Abatement Order issued by the state of Connecticut to Linemaster in 1986 requiring the company to investigate the extent of contamination, and to take actions necessary to minimize or eliminate the contamination. The dry well was removed in 1989, at which time approximately 1,000 gallons of hazardous liquid was removed for off-site disposal. Also located east of the manufacturing facility was a paint settling booth, which reportedly received paint mists, with paint solids accumulating on the dirt floor of a wooden paint settling booth until they were periodically removed. The paint settling booth, remaining paint solids, and several cubic yards of soil were removed from this area in 1986. The Site was listed on the National Priorities List in 1990. As an interim removal action, Linemaster installed a groundwater extraction and treatment system in 1992 to contain the impacted groundwater and prevent further migration off Site. The IRA system consists of deep bedrock extraction wells and a groundwater treatment system, which includes an air stripper and activated carbon for treatment of extracted water.

A 1992 Remedial Investigation (RI) and Feasibility Study (FS) concluded that the disposal of TCE and other VOCs into the dry well had contaminated on-site soil and groundwater to levels that were above state and federal standards. The dry well area and surrounding impacted area are referred to as the source area. Groundwater impacts were detected in overburden and bedrock monitoring wells installed at the Site. In the 1993 ROD, EPA selected a (1) source control area remedial action of cleanup through a combined groundwater and soil vapor extraction (SVE) system with treatment (the Phase 1A remedial system) in the overburden and shallow bedrock within the former dry well area, an environmental monitoring program, and institutional controls, and a (2) management of migration area remedial action consisting of overburden and bedrock groundwater extraction and treatment (using the existing IRA system), an environmental monitoring program for on-site and off-site wells, and institutional controls. Groundwater treatment includes air stripping with activated carbon. In 2005, a Declaration of Restriction and Grant of Easement for the Linemaster property was recorded that includes the following restrictions:

- Groundwater cannot be withdrawn or used for consumption unless treated or otherwise approved by EPA;
- Approved pumping of water supply wells must meet certain restrictions (i.e., production well shall not be used to extract more than 90,000 gallons of water per month);
- The Soil Restriction Area can be used only for commercial or industrial activities;
- No excavation or construction in the Soil Restriction Area unless approved by EPA; and
- No excavation or construction outside the Soil Restriction Area if it includes dewatering or lowering the groundwater table unless approved by EPA.

Five Year Reviews are also a component of the remedy. The work required by the 1993 ROD is currently being implemented through a 1994 Consent Decree signed by Linemaster and EPA.

As stated in the 1993 ROD, the anticipated time to cleanup was 3 to 10 years in the source control area and an additional 35 years to restore the groundwater to drinking water standards. The SVE system operated for five years from 1998 to 2003 but was shut down when it was determined that the SVE was not performing as expected due to low hydraulic conductivity (tight soil conditions through which water could not easily move through) and was not going to achieve soil cleanup objectives in a cost-effective manner within the timeframe initially estimated. This was documented in an ESD in 2004; the groundwater extraction component of the source control remedy remained online as well as all other remedy components of the 1993 ROD.

After 25 years of active site remediation, and despite evidence that natural attenuation is occurring, significant impacts to soil and groundwater remain. In 2014, EPA included a recommendation in the Third Five Year Review for an evaluation of the source control and management of migration remedies and to determine how additional remedial measures could reduce the cleanup time frame and better control the contaminant distribution at the Site. The estimated remaining TCE mass indicates that the time frame to achieve groundwater cleanup levels using current groundwater treatment systems is over 70 years for the source area and 250 years for the remainder of the plume areas. Additionally, plume migration to the south has caused two residential wells (GW14 & GW76DB) to become contaminated above acceptable levels. The additional remedial measures, contemplated in this Proposed Plan, would also address the private well impacts and management of migration to the south. From 2015 to 2017, Linemaster completed bedrock investigations to develop an understanding of the migration pathways associated with the groundwater plume and in the source control area to confirm existing environmental conditions. In 2019, a FFS was initiated to evaluate the additional remedial alternatives.

WHY IS CLEANUP NEEDED?

Releases of hazardous wastes to the environment during past operations at the Site resulted in the contamination of soil and groundwater in the source area as well as groundwater downgradient, including two off site private wells. The presence of VOCs (including 1,4-dioxane) and arsenic have also been identified throughout the Site at levels that present an unacceptable future risk to human health if consumed. Additional actions are therefore required to address the potential human health risks associated with the current and future ingestion of contaminated groundwater.

An amended remedy is necessary to continue restoration of soil and groundwater to meet its beneficial use (e.g. drinking water) and to prevent unacceptable risks from future exposure to Site contaminants.

SITE CONTAMINANTS

The main contaminants of concern (COCs) at the Site include, but are not limited to:

- VOCs: Include a variety of chemicals which are used as ingredients in many products and materials such as glue, paint, solvents, and other products. Volatile organic compounds, or VOCs, are organic chemical compounds that easily evaporate. Thirteen VOCs are found in Site groundwater and six VOCs are found in Site soil. TCE is the primary VOC present.
- 1,4-Dioxane: 1,4-dioxane is a synthetic industrial chemical that was widely used as a stabilizer of chlorinated solvents. 1,4-dioxane is completely soluble in water, is highly mobile, and does not readily biodegrade in the environment. 1,4-Dioxane has been identified as a COC in Site groundwater.
- Metals: Metals occur in all ecosystems, although natural concentrations vary according to local geology. Human activities and land disturbance can redistribute or concentrate metals in areas where they may not have been present or mobilize metals into groundwater and streams. While some metals are essential as nutrients, all metals can be toxic at some level. Some metals are toxic in minute amounts. Metals found in groundwater at the Site include arsenic.

In 2021, and again in 2023, groundwater sampling for per- and polyfluoroalkyl substances (PFAS) was performed at the Site. In general, PFAS sampling indicates that PFAS, including perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA), are present in source area till and shallow bedrock wells. However, PFAS detections generally do not extend beyond the source area and do not appear to be migrating off-site. Monitoring for PFAS will continue on a quarterly basis. EPA will further evaluate PFAS concentrations based on future monitoring to determine whether to add one or more PFAS contaminants as a COC in a future decision document.

Table 1 and Table 2 provide a list of Site groundwater and soil COCs and preliminary remediation goals which form the basis for the proposed cleanup levels.

HOW IS RISK TO PEOPLE EXPRESSED?

Every person has a baseline (non-site related) risk for cancer and non-cancer health effects to occur. For example, the American Cancer Society estimates that 1 in 2 men, and 1 in 3 women, will develop cancer over a lifetime (Cancer Facts and Figures for 2020, American Cancer Society). While people also have baseline risk from non-cancer health effects, these adverse effects are organ-specific and cannot be expressed in terms of probability.

In evaluating chemical exposure risk to humans, estimates for risk from carcinogens and non-carcinogens (chemicals that may cause adverse effects other than cancer) are expressed differently. EPA also considers the cumulative carcinogenic and non-carcinogenic effects when multiple chemical exposures with similar target endpoints are present.

For carcinogens, risk estimates are expressed in terms of probability. For example, exposure to a particular site-related carcinogenic chemical may present a 1 in 1,000,000 increased chance of causing cancer over an estimated lifetime of 70 years. This can also be expressed as one-in-a-million or 1×10^{-6} excess lifetime cancer risk. The EPA acceptable risk range for carcinogens is 1×10^{-6} (1 in 1,000,000) to 1×10^{-4} (1 in 10,000) over a 70-year lifetime. In general, site-related risks higher than this range would require consideration of cleanup alternatives.

For non-carcinogens, exposures are first estimated and then compared to a reference dose (RfD). RfDs are developed by EPA scientists to estimate the amount of a chemical a person (including the most sensitive person) could be exposed to over a lifetime without an appreciable risk of developing adverse health effects. The exposure dose is divided by the RfD to calculate the ratio known as a hazard quotient (HQ) to determine whether non-cancer adverse health effects would likely occur or not. The hazard index (HI) is the sum of the

HQs from multiple contaminants. An HI greater than 1 suggests that adverse effects may be possible and would require consideration of cleanup alternatives.

EXPOSURE PATHWAYS & POTENTIAL RISK

Exposure occurs when humans or other living organisms eat, drink, breathe or have direct skin contact with a hazardous substance or waste material. Further, if there is no exposure to a hazardous substance, there is no potential risk.

Based on existing or reasonably anticipated future land use at a site, EPA develops possible exposure scenarios to determine potential risk, appropriate cleanup levels for contaminants, and potential cleanup approaches, all of which are documented in the October 2023 FFS.

Prior to the development of the 1993 ROD, a Human Health Risk Assessment (HHRA) and an Ecological Risk Assessment (ERA) were performed to estimate the probability and magnitude of potential adverse human health and environmental effects from exposure to contaminants associated with the Site. Additionally, a Supplemental HHRA was completed in 2009 and 2021 and a vapor intrusion study was completed after the Third Five Year Review (2014). The risk assessments and evaluations are briefly described below. These conservative assessments use site-specific exposure scenarios to determine if and where there are current or potential future unacceptable risks to humans and/or the environment.

HUMAN HEALTH EXPOSURE ASSESSMENT

People have the potential for exposure to Site contaminants through drinking untreated groundwater within the Linemaster property boundary as well as downgradient groundwater, including off site private wells. Further discussion of the exposure pathways is presented below.

Exposure assessment characterizes the physical setting of the Site and evaluates the exposures that may be experienced by a receptor population. To have an exposure, several factors must be present: a source of contamination, a mechanism through which a receptor can come into contact with the contaminants in that source, and a potential or actual receptor present at the point of contact.

In 1992, EPA completed a HHRA to estimate potential adverse human health effects from exposure to contaminated media at the Site through the following exposure pathways: ingestion of groundwater, ingestion of soil, and inhalation of vapors. Health risks were evaluated for current and possible future users of the Site, including residential users, trespassers, and industrial scenarios (e.g., site workers). Residential use assumes the use of groundwater as both a drinking water and non-drinking water resource (e.g., for showering or watering plants). Under the residential use scenario, young children and adults were assumed to spend the majority of their time each day in a residential dwelling located on-site. Soil ingestion and inhalation scenarios were also evaluated for current and possible future users of the Site under various scenarios.

Under the 1992 HHRA, it was concluded that unacceptable cancer risks exist for current and potential future residents from groundwater ingestion from VOCs. Cancer risk for the reasonable maximum exposure scenario (high-end exposure scenario) was estimated to be 1×10^{-1} (or about 1 in 10). This cancer risk estimate exceeds EPA's acceptable risk range of 10^{-4} to 10^{-6}. Risk from the ingestion of arsenic in the groundwater also exceeds threshold (and/or or regulatory) levels due to the naturally occurring presence of arsenic in area groundwater; however, even with naturally occurring arsenic, concentrations were above the site-specific background level in some areas. The estimated risks to human health from all other exposure pathways evaluated were determined not be an unacceptable risk.

EPA completed a supplemental HHRA in 2009 to determine whether there is any direct contact threat to contaminated soils, should the asphalt parking area in the source area be removed (a risk scenario not previously evaluated). The HHRA concluded that the risks due to direct exposure to soil under the asphalt would be no higher than background risks, and that any such exposure would be further minimized through the current restrictions provided in the easements recorded.

As documented in the Third Five Year Review (2014), a risk evaluation was conducted by EPA for potential vapor exposures based on indoor air sampling within two on-site residential buildings. The risk evaluation concluded that there was no unacceptable risk at either building. In 2021, a supplemental HHRA confirmed that contaminants in groundwater continue to pose an unacceptable human health risk. The risk drivers (i.e., chemical detected) were re-evaluated and revised as described in the October 2023 FFS.

It is the EPA's judgement that the Preferred Cleanup Alternative identified in this Proposed Plan, or one of the other active measures considered in the Proposed Plan, is necessary to protect public health and the environment from actual or threatened releases of site-related hazardous substances into the environment.

THREATS TO THE ENVIRONMENT

A baseline ecological risk assessment (BERA) was conducted to evaluate the risks to ecological receptors from the Site in support of the 1993 ROD. The BERA process included: an assessment of habitat, identification of ecological receptors, identification of complete or potentially complete exposure pathways, and a comparison of detected chemical concentrations to ecotoxicity screening criteria. Potential ecological risk was evaluated through the calculation of a hazard quotient (HQ) for each contaminant; contaminants with an HQ of 1 or greater were labeled as COCs.

The BERA evaluated risks from exposure to Site-derived contamination of soil, sediment, and surface water. Ecological receptors evaluated included terrestrial, wetland, and/or aquatic flora and fauna. The levels of contamination detected in the wetland and aquatic exposure zones and the HQ associated with each contaminant were calculated. The BERA concluded that the Site consists of typical assemblages of plant and animal habitats for the northeastern region of Connecticut, with species composition, distribution and diversity in undisturbed portions of the Site typical for the area. No unusual signs of stress to individual plants were observed. In the maintained portions of the Site, areas within the TCE plume path appeared no different from areas outside of the influence of the plume. No significant risks to aquatic organisms or wetland habitats on-site or in downstream areas receiving surface water discharges from the Site were identified.

PRINCIPAL THREAT WASTE

The National Contingency Plan (NCP), which governs EPA cleanups, at 40 C.F.R. § 300.430(a)(1)(iii), states that EPA expects to use "treatment to address the principal threats posed by a site, wherever practicable" and "engineering controls, such as containment, for waste that poses a relatively low long-term threat" to achieve protection of human health and the environment. This expectation is further explained in an EPA fact sheet (OSWER #9380.3-06FS), which states that principal threat wastes are 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. Low-level threat wastes are source materials that generally can be reliably contained and that would present only a low risk in the event of exposure.

The concept of principal threat and low-level threat waste is applied on a site-specific basis when characterizing source material. Source material is defined as material that includes or contains hazardous substances, pollutants, or contaminants that act as a reservoir for migration of contamination to groundwater, surface water, air, or act as a source of direct exposure.

EPA has not established a threshold level of toxicity/risk to identify a principal threat waste; however, where toxicity and mobility of source materials combine to pose a potential risk of 10^{-3} or greater, generally treatment alternatives should be evaluated.

The Source Control (SC) evaluation focuses on treating the principal threats represented by the soil located in the former dry well area and the former paint solids accumulation area to the east of the Linemaster building. These soils have the greatest potential to impact groundwater quality.

REMEDIAL ACTION OBJECTIVES

Once possible exposure pathways and potential risks have been identified, cleanup alternatives are developed to reduce and/or mitigate the identified unacceptable risks and achieve site-specific Remedial Action Objectives (RAOs), which are also known as the cleanup objectives. RAOs for the Site were originally identified in the 1993 ROD for the source control area and management of migration area. EPA is now modifying the RAOs to reflect information gained since the remedy was implemented as well as nature and extent of contamination identified in the 2017 Site Investigation Report. EPA is proposing an amended (final) remedy for the Site that is designed to prevent continued release of site contaminants from the source area, prevent exposure to groundwater and potential indoor air vapors, prevent or minimize further migration of contaminants in groundwater, and restore groundwater to beneficial use (e.g., drinking water). Accordingly, EPA has developed revised RAOs. The RAOs for the source control area and management of migration are proposed as follows:

- Prevent or minimize the continued release of Site contaminants from the source area soil to the groundwater that would result in groundwater concentrations that exceed cleanup levels selected for this Site;
- Prevent exposure to groundwater containing Site contaminants that exceed cleanup levels selected for this Site;
- Prevent potential exposure by current or future building occupants to indoor air vapors, via a vapor intrusion pathway, containing Site contaminants that would result in a total excess lifetime cancer risk greater than the target risk range of 10^{-4} to 10^{-6}, and/or a non-cancer HI greater than 1;
- Prevent or minimize further migration of Site contaminants in groundwater in excess of cleanup levels selected for this Site; and
- Restore groundwater containing Site contaminants to its beneficial use as drinking water by reducing concentrations of Site contaminants so that they do not exceed cleanup levels selected for this Site.

PRELIMINARY REMEDIATION GOALS

In general, Preliminary Remediation Goals (PRGs) are used to measure long-term contaminant levels needed to be achieved by the remedial alternatives to meet RAOs. PRGs are identified in a FS and used to develop final cleanup goals in a decision document. The Site's groundwater and soil COCs and their PRGs have been updated from the interim cleanup levels identified in the 1993 ROD to include current site contaminants and current federal and state chemical-specific Applicable or Relevant and Appropriate Requirements (ARARs), from which PRGs for remedies are typically based. No ecological risks were identified in the ERA; therefore, ecological risks did not impact the development of PRGs at the Site, only risk to human health.

Groundwater ARARs include the Safe Drinking Water Act promulgated Maximum Contaminant Levels (MCLs), Connecticut MCLs, and promulgated standards within the Connecticut Remediation Standard Regulations (RSRs) Groundwater Protection Criteria (GWPC). If ARARs were not available, federal risk-based concentrations (e.g., EPA's Regional Screening Levels [RSLs]) were developed. Additionally, when background levels are higher than ARARs or risk-based cleanup levels, background is regularly used to set remediation goals.

An existing Site background value for arsenic in groundwater was previously developed and is identified as the PRG; however, the background value is being reviewed and the PRG may be revised based on the results of that review.

The soil cleanup levels established in the 1993 ROD were risk-based and were developed using the Summers Model, based on protection of groundwater (i.e., leaching of contaminants). With the promulgation of the Connecticut RSRs, there are now State ARARs for soil based on protection of groundwater that consider leaching. (Groundwater Class GA Pollutant Mobility Criteria [GA-PMC]). These were used to develop soil PRGs.

The groundwater and soil PRGs are presented in Tables 2-6 and 2-7 of the October 2023 FFS. The tables below provide a summary of updated and new PRGs which represent the proposed cleanup levels for each COC in groundwater and soil.

SUMMARY OF REMEDIAL ALTERNATIVES

CERCLA requires that remedial actions be protective of human health and the environment, cost-effective, comply with ARARs (or waive them), and utilize permanent solutions and alternative treatment technologies and resource recovery alternatives to the maximum extent practicable. The proposed amended remedy is intended to provide protection of human health and the environment (although no unacceptable risks to the environment were identified at the Site). PRGs are based on chemical-specific ARARs. PRGs for groundwater and soil, as listed in Table 1 and Table 2, are the Site cleanup levels for the protection of human health. Location-specific and Action-specific ARARs will also be met by the proposed remedy. A complete listing of ARARs for the Preferred Remedial Alternatives, should they be selected, will be provided in a ROD Amendment which would follow this Proposed Plan. This amended remedy also addresses the statutory mandate to utilize permanent solutions and alternative treatment technologies to the maximum extent practicable.

The remedial alternatives developed for the Site in the October 2023 FFS are listed below. Alternative SC-9, Option A (Deep Soil Mixing and In Situ Treatment with Chemical Oxidation), with no contingency, is EPA's Preferred Remedial Alternative for the source control area and Alternative MOM-3, Option B (Groundwater IRA Modified Continued Action with New Extraction Wells), with no contingency, is EPA's Preferred Remedial Alternative for the management of migration area.

CLEANUP ALTERNATIVES CONSIDERED

SOURCE CONTROL AREA

Alternative SC-2: Phase 1A Continued Action (No Action Alternative)

Alternative SC-2 involves continued operation of the existing Phase 1A groundwater extraction and treatment system selected under the 1993 ROD, and amended in the 2004 ESD, as the remedy to address source area RAOs. Under this alternative, no modifications would be made to the existing groundwater extraction system (one shallow bedrock and five overburden extraction wells). Under this continued action, the existing asphalt parking area would remain in place. Evaluation of this alternative satisfies the NCP's evaluation of a "no-action" alternative.

Continued implementation of the Phase 1A groundwater extraction and treatment system would also involve continued source control area groundwater monitoring, expansion of institutional controls to require a vapor intrusion evaluation if a new building is constructed or an existing building is renovated in the source control area and vapor mitigation measures taken if warranted, natural attenuation, and Five-Year Reviews.

Alternative SC-5: In Situ Treatment, Option A (Chemical Oxidation) and Option B (Enhanced Reductive Bioremediation)

Alternative SC-5 includes in situ treatment of source area soil and groundwater. This alternative includes two options, as follows: Option A, chemical oxidation – this option includes in situ treatment of source area overburden through the direct injection of oxidizing chemicals and Option B, enhanced reductive bioremediation – this option includes in situ treatment of source area overburden through the direct injection of amendments and/or nutrients. The existing asphalt parking area would be removed for both options.

Due to the relatively low hydraulic conductivity of the source area materials (as evidenced by the decommissioned SVE system) potential enhancements for distributing amendments in the subsurface may include horizontal wells, soil fracturing, or a combined injection/extraction recirculation system, and can be considered in the remedial design. Because the distribution of the amendments and the associated treatment processes within the subsurface are reliant on the presence of water, this alternative is most effective in treating saturated soils; however, the water table is present at a depth of approximately 23 ft below ground surface (bgs) in the source area. Chemical oxidation amendments can treat 1,4-dioxane while enhanced reductive bioremediation amendments do not.

The in situ treatment alternative (Options A and B) would also involve additional characterization of current source area conditions, continued source control area groundwater monitoring, expansion of institutional controls to require a vapor intrusion evaluation if a new building is constructed or an existing building is renovated in the source control area and vapor mitigation measures taken if warranted, natural attenuation, and Five-Year Reviews.

Alternative SC-6: Deep Soil Mixing, Option A (Chemical Oxidation) and Option B (Enhanced Reductive Bioremediation)

Alternative SC-6 includes in situ treatment (Option A, chemical oxidation or Option B, enhanced reductive bioremediation) of the source area overburden introduced with deep soil mixing, in which oversized augers facilitate the distribution of the treatment amendment throughout the soil matrix. Mixing provides more uniform distribution of the reagents and is not limited by preferential flow-paths, aids in the mobilization of contaminants through the physical mixing process, provides hydration of vadose zone soils through mixing, and provides treatment in a single event. An increase in volume typically occurs with deep soil mixing; therefore, some of the excess source area material would require excavation and disposal off site. Option A, chemical oxidation amendments can treat 1,4-dioxane while Option B, enhanced reductive bioremediation amendments do not. The existing asphalt parking area would be removed for both options.

Treatment to the top of bedrock (i.e., approximately 40 ft in depth) is attainable using large-diameter hollow stem augers. The presence of subsurface obstructions (e.g., boulders) and soils with strong clumping tendencies can affect the ability of this alternative to thoroughly mix the amendments with the soil. Additionally, deep soil mixing would not occur near or under the adjacent manufacturing building because it would compromise the structure of the building, thus limiting the amount of source area treated.

Deep soil mixing (Options A and B) would also involve additional characterization of current source area conditions, continued source control area groundwater monitoring, expansion of institutional controls to require a vapor intrusion evaluation if a new building is constructed or an existing building is renovated in the source control area and vapor mitigation measures taken if warranted, natural attenuation, and Five-Year Reviews.

Alternative SC-9: Deep Soil Mixing and In Situ Treatment, Option A (Chemical Oxidation) (EPA's Preferred Remedial Alternative) and Option B (Enhanced Reductive Bioremediation)

Alternative SC-9 includes in situ treatment of the source area combined with deep soil mixing (Options A, chemical oxidation or Option B, enhanced reductive bioremediation). Deep soil mixing will be done in the open-source areas (e.g., near the dry well where high soil and groundwater VOC concentrations still exist) while utilizing in situ technologies like injections under the manufacturing building which would expand treatment in the source area as compared to each technology on its own. In situ treatment under the building avoids structural issues associated with conducting soil mixing. An increase in volume typically occurs with deep soil mixing; therefore, some of the excess source area material would require excavation and disposal off site. Option A, chemical oxidation amendments can treat 1,4-dioxane while Option B, enhanced reductive bioremediation amendments do not. This alternative does not include post-treatment source area groundwater extraction. The existing asphalt parking area would be removed for both options.

Deep soil mixing and in situ treatment (Options A and B) would also involve additional characterization of current source area conditions, continued source control area groundwater monitoring, expansion of institutional controls to require a vapor intrusion evaluation if a new building is constructed or an existing building is renovated in the source control area and vapor mitigation measures taken if warranted, natural attenuation, and Five-Year Reviews.

MANAGEMENT OF MIGRATION AREA

Alternative MoM-2: Groundwater IRA Continued Action (No Action Alternative)

Alternative MoM-2 involves a continuation of the existing IRA system being conducted at the Site. The operation of the existing groundwater remedial systems would be continued, as well as the maintenance of the two off-site point-of-use residential well treatment systems. Evaluation of this alternative satisfies the NCP's evaluation of a "no-action" alternative.

Alternative MoM-3: Groundwater IRA Modified Continued Action, Option B (New Extraction Wells) (EPA's Preferred Remedial Alternative)

Alternative MoM-3, Option B involves the continuation of the existing remedial activities in the management of migration area with modifications to the existing IRA system. Under this alternative, the existing extraction system would be modified by adding extraction wells to capture impacted groundwater that is currently migrating off Site and/or to extract impacted groundwater closer to the source area (to limit contaminant migration from the overburden deeper into the bedrock). The added flow from the new extraction wells would be easily managed by the existing IRA system, based on the system's design parameters. This option would likely require additional design studies (e.g., geophysical analyses) to best determine extraction well location(s) and depth(s), along with testing of the new wells to determine the appropriate zones to most effectively contain impacted groundwater.

Alternative MoM-3, Option B would also involve additional evaluation of impacted residential wells, continued management of migration area groundwater monitoring, institutional controls requiring that the point-of-use residential treatment systems continue to be operated and maintained until remediation goals are achieved, natural attenuation, and Five-Year Reviews.

Alternative MoM-4: Alternative Water Supply, Option A (Connection to Municipal Water Supply) and Option C (New, Deeper Wells to Impacted Residences)

Alternative MoM-4, Option A involves continuing to pump and treat the existing on-site supply well; however, the operation of the existing groundwater IRA system would be discontinued, as well as the maintenance of the existing off-site point-of-use residential well treatment systems at impacted residential wells. Option A includes extending the Putnam municipal water supply system to the vicinity of the Site and connecting the two impacted properties to the water supply system.

Alternative MoM-4, Option A would also involve continued management of migration area groundwater monitoring, institutional controls, natural attenuation, and Five-Year Reviews.

Alternative MoM-4, Option C involves continuing to pump and treat the existing on-site supply well; however, the operation of the existing groundwater IRA system would be discontinued, as well as the maintenance of the existing off-site point-of-use residential well treatment systems at impacted residential wells. Alternative MoM-4, Option C includes installation of deeper replacement wells for the two impacted residential properties.

Alternative MoM-4, Option C would also involve additional evaluation of impacted residential wells, continued management of migration area groundwater monitoring, institutional controls, natural attenuation, and Five-Year Reviews.

THE NINE CRITERIA FOR CHOOSING A CLEANUP PLAN

EPA uses nine criteria to evaluate cleanup alternatives and select a final cleanup plan. EPA has already evaluated how well each of the cleanup alternatives developed for the Site meet the first seven criteria in the October 2023 FFS. Based on this evaluation, EPA is proposing an amended remedy at this time. Once comments from the community and state are received and considered, EPA will select a final cleanup plan and document its selection in a ROD Amendment for the Site. The nine criteria are:

1. Overall protection of human health and the environment: Will it protect you and the plant and animal life on and near the Site? EPA will not choose a cleanup plan that does not meet this basic criterion.
2. Compliance with ARARs: Does the alternative meet all federal environmental and state environmental and facility siting statutes and regulations that are either applicable or relevant and appropriate to the selected cleanup plan? The cleanup plan must meet this criterion.
3. Long-term effectiveness and permanence: Will the effects of the cleanup plan last or could recontamination cause future risk?
4. Reduction of toxicity, mobility, or volume through treatment: Using treatment, does the alternative reduce the harmful effects of the contaminants, the spread of contaminants, and the amount of contaminated material?
5. Short-term effectiveness: How soon will site risks be adequately reduced? Could the cleanup cause short-term hazards to workers, residents, or the environment?
6. Implementability: Is the alternative technically feasible? Are the right goods and services (i.e., treatment equipment, space at an approved disposal facility) available?
7. Cost: What is the total cost of an alternative over time? EPA must select a cleanup plan that provides necessary protection for a reasonable cost.
8. State acceptance: Do state environmental agencies agree with EPA's proposal?
9. Community acceptance: What support, objections, suggestions, or modifications did the public offer during the comment period?

CLEANUP ALTERNATIVES COMPARISON

The alternatives considered and evaluated for the source area and management of migration area are attached as Tables 3 and 4, along with their costs. The listed alternatives were compared to each other to identify how well each alternative meets EPA's evaluation criteria. The State and Community Acceptance criteria will be evaluated once feedback is received during the public comment period. The following discussion presents a general and cost comparison summary of the alternatives against EPA evaluation criteria. Detailed evaluations and comparisons of alternatives can also be found in Section 4 (source control) and Section 6 (management of migration) of the October 2023 FFS.

SOURCE CONTROL AREA

Overall Protection of Human Health and the Environment

Alternatives SC-5, SC-6 and SC-9 are all generally comparable in terms of overall protection of human health and the environment. Alternatives SC-6 and SC-9 protect in terms of long-term effectiveness and reduction in mobility and toxicity, while Alternative SC-5 is deemed more readily implementable, with less complexity than the alternatives that include deep soil mixing. Alternative SC-2 provides no source control actions other than continued groundwater extraction and treatment and provides the least overall protection of the source control alternatives evaluated.

Compliance with ARARs

Each of the alternatives is expected to achieve action-specific, location-specific, and chemical-specific ARARs. Alternative SC-9, with its combined deep soil mixing and in situ injections, provides the ability to comply with applicable ARARs within a reasonable time period, as the combination of good amendment/contaminant contact created by deep soil mixing, supplemented with injection where more appropriate and implementable, should result in source area reductions of COC levels. Alternative SC-5 would also achieve applicable specific ARARs in a reasonable time, if potential constraints related to amendment distribution can be overcome. For alternatives SC-5, SC-6, and SC-9, chemical oxidation is more likely to address 1,4-dioxane as well as the primary COCs. Alternative SC-2 relies solely on the continuation of groundwater extraction for source area remediation and will reach applicable ARARs in a much greater timeframe.

Long-term Effectiveness and Permanence

Alternatives SC-6 and SC-9 perform the best overall in this category. The mechanical mixing of amendments with source area soils and groundwater utilized with Alternatives SC-6 and SC-9 can provide more effective treatment with less residual contamination than Alternative SC-5. Chemical oxidation could be more effective than bioremediation for use in Alternatives SC-5, SC-6, and SC-9, due to its rapid reaction time and ability to treat 1,4-dioxane. Alternative SC-2 provides the least long-term effectiveness and permanence, as it relies on groundwater flushing of contaminants over a long period of time.

Reduction of Contaminant Toxicity, Mobility, or Volume through Treatment

Alternative SC- 9, deep soil mixing with in situ injections, performs the best overall in this category. Deep soil mixing allows for increased contact between amendment and contaminated media, while in situ injections allow for treatment to be provided in areas inaccessible to deep soil mixing processes, areas which would potentially not be treated under Alternative SC-6. Alternative SC-6 is second in this category as it retains the increased contact between amendment and contaminated media. Alternative SC-5 utilizes effective treatment means to reduce COC toxicity and volume; however, it may not be as effective as Alternatives SC-6 and SC-9 if amendment distribution proves difficult. Chemical oxidation treatment is generally favored over bioremediation,

as it is most likely to address 1,4-dioxane concurrently with the other COCs. This is notably the case for Alternatives SC-6 and SC-9, where sequential treatment of the soil mixing area may not be feasible. Alternative SC-2 provides the least reduction of toxicity, mobility, or volume through treatment, as its treatment capacity is limited.

Short-term Effectiveness

Alternative SC-5 performs the best overall in this category, with Option A (chemical oxidation) and Option B (enhanced reductive bioremediation) being comparable. The active treatment of soils and groundwater allows for a quicker potential achievement of RAOs. Chemical Oxidation potentially presents greater short-term risks than enhanced reductive bioremediation, due to the chemicals involved, but could also offer quicker remedial results. Alternative SC-2 follows in terms of short-term effectiveness. Given that this alternative utilizes the existing IRA system, short-term risks associated with its implementation are minimal. However, achievement of RAOs is a long-term process. The deep soil mixing alternatives (SC-6 and SC-9) have the highest short-term risks, due to the potential for worker exposure and management of chemicals. However, these risks can be adequately controlled using proper health and safety practices and decontamination procedures. In general, short-term risks working with amendments is slightly higher with chemical oxidation than enhanced reductive bioremediation. The limited excavation and deep soil mixing components of the alternatives present increased potential risk due to the potential volatilization of the VOCs during the mixing process.

Implementability

Alternative SC-2 performs the best overall in this category, as it utilizes existing remedial systems, however, it would not meet RAOs in a reasonable amount of time. The in situ injection alternative (SC-5) is next in terms of implementability, as it utilizes well established technologies and presents no concerns regarding access for treatment. The deep soil mixing alternatives present the greatest challenges relative to implementability, as they employ a more innovative technology with limited commercial vendors. Alternative SC-9, with the combined in situ injection/deep soil mixing approach, is more implementable than Alternative SC-6 as it overcomes the access constraints for conducting soil mixing near or beneath the facility building but requires the implementation of two remedial technologies (deep soil mixing and in situ injection), which will need to be closely coordinated. In general, the chemical oxidation options are more implementable than the associated enhanced reductive bioremediation options since a secondary treatment step to address 1,4-dioxane is not necessary.

MANAGEMENT OF MIGRATION AREA

Overall Protection of Human Health and the Environment

The four alternatives for the management of migration area are generally comparable in terms of overall protection of human health and the environment, although Alternative MoM-3 Option B is considered to provide the greatest protection, due primarily to its relative ability to more quickly comply with chemical-specific ARARs.

Compliance with ARARs

Each of the alternatives is expected to achieve action-specific and location-specific ARARs. Alternative MoM-3 Option B is most effective in complying with applicable chemical-specific ARARs within a reasonable period of time, as the incorporation of additional extraction wells to the IRA system is expected to improve the ability of the extraction system to address the migration of groundwater contaminants. Alternative MoM-2 follows in terms of ability to achieve applicable ARARs as the alternative involves the continuation of the existing IRA

system. Alternative MoM-4 Options A and C do not include any active remediation and therefore are least effective in any ability to achieve chemical-specific ARARs.

Long-term Effectiveness and Permanence

Alternative MoM-4 Option A provides the greatest long-term effectiveness and permanence relative to limiting long-term off-site risks and reliability as it eliminates potential exposures to impacted groundwater through the provision of a public water supply. Alternative MoM-3 Option B follows based on its improved ability to limit migration and achieve chemical-specific ARARs. MoM-4 Option C requires continued monitoring to confirm that no groundwater impacts occur after reconstruction of private residential wells and additional off-site wells are not impacted following cessation of on-site extraction and treatment. Alternative MoM-2 provides the least long-term effectiveness and permanence of the alternatives, as it is not as effective as the other alternatives in limiting on-site or off-site risk and does not provide the long-term reliability that is provided by Alternative MoM-4 Option A.

Reduction of Contaminant Toxicity, Mobility, or Volume through Treatment

Alternative MoM-3 Option B performs the best overall in this category, as it provides improvements in the management of contaminant mobility and increased volume recovery through the addition of extraction wells to the existing IRA system. Alternative MoM-2 will continue to provide a gradual reduction in the mobility and toxicity of impacted groundwater through the continued use of existing extraction and treatment systems. Alternative MoM-4, Options A and C provide no reduction in toxicity, mobility, or volume through treatment other than through naturally occurring degradation or attenuation processes or treatment of water extracted from the facility's water supply well.

Short-term Effectiveness

All of the MoM alternatives are fairly comparable relative to short-term effectiveness. Alternatives MoM-2 and MoM-3 Option B utilize existing groundwater extraction and treatment systems (with or without modification) and can be implemented relatively quickly. Alternative MoM-4, Option C can also be implemented relatively quickly, with existing point-of-use treatment systems addressing any short-term risks to receptors. Alternative MoM-4, Option A presents the least short-term effectiveness, as it requires a longer period to implement and presents the greatest short-term risks to remedial workers. Due to the nature of managing contamination in a fractured bedrock setting, none of the alternatives considered are expected to attain RAOs over the short-term.

Implementability

MoM-2, Mom-3 Option B and Mom-4 Option C are fairly comparable relative to their implementability. Alternative MoM-2 is the most easily implemented alternative, requiring only minor modifications to the existing IRA groundwater extraction system. Alternative MoM-3 Option B follows closely behind, requiring the construction of additional extraction wells and their connection to the treatment system. Alternative MoM-4 Option C is also fairly easily implemented, although it does require work at private residences, which can potentially complicate implementation. Alternative MoM-4 Option A provides the greatest challenges to implementation as it requires extensive off-Site construction activities.

WHY EPA RECOMMENDS THIS PROPOSED CLEANUP PLAN

Based on the results of the Remedial Investigation, human health and ecological risk evaluations, additional investigations, and the October 2023 FFS for the Site, EPA recommends Alternative SC-9, Option A, Deep Soil Mixing and In Situ Injections with Chemical Oxidation for treatment of the source control area and Alternative

MoM-3, Option B, Groundwater IRA Modified Continued Action, Installation of New Extraction Well(s) for the management of migration area as its Preferred Remedial Alternatives. EPA believes this cleanup approach achieves the best balance among the criteria EPA is required to evaluate when selecting cleanup actions.

The proposed cleanup plan meets the cleanup objectives or RAOs for the Site. This Proposed Plan includes a summary in general terms of why EPA recommends this cleanup plan for the Site. For more detail, refer to the October 2023 FFS.

SOURCE CONTROL AREA

Alternative SC-9, Option A, Deep Soil Mixing and In Situ Injections with Chemical Oxidation is EPA's Preferred Remedial Alternative for treatment of the source area for the following reasons:

- The Preferred Remedial Alternative targets areas with the greatest risk for ingestion of groundwater and potential vapor intrusion for future construction, existing building renovation, and/or expansion or change in use, over elevated TCE concentrations;
- In addition to reducing VOCs from the source area, the Preferred Remedial Alternative is expected to reduce emerging contaminants, specifically 1,4-dioxane, PFOA, and PFOS, thus reducing contaminant concentrations in the source area, and reduce migration to properties downgradient of the source area;
- By treating source area contamination, the Preferred Remedial Alternative is expected to decrease the time needed to reach final cleanup levels in the source area and the need to mitigate future vapor intrusion risk;
- The Preferred Remedial Alternative would include existing institutional controls, such as restricting certain activities on site and prohibiting the use of contaminated groundwater until final cleanup levels are met, and new institutional controls on properties impacted by Site contaminants to include a requirement that a vapor intrusion evaluation be performed if a new building is constructed or an existing building is renovated over the contaminated groundwater plume in the soil source area and vapor mitigation measures be taken, if warranted. By reducing contaminant concentrations more rapidly, the Preferred Remedial Alternative is expected to reduce the risks associated with the difficulty of implementing, maintaining and ensuring adherence to institutional control restrictions and requirements;
- The Preferred Remedial Alternative is readily implementable based on the availability of equipment and materials; and
- The Preferred Remedial Alternative is an innovative approach by combining two technologies, with very limited remedy infrastructure requirements for amendment injections and auger mixing, that takes advantage of developing in situ technologies for PFAS and 1,4-dioxane and has a positive environmental impact.

In addition to the above technical reasons, the Preferred Remedial Alternative meets the revised RAOs for the Site; is protective of human health and environment; complies with federal and state requirements under ARARs; and is cost effective.

EPA believes that this proposed cleanup approach is protective of human health and the environment through the use of innovative and proven cleanup technologies such as in situ groundwater treatment and deep mixing and is cost effective.

MANAGEMENT OF MIGRATION AREA

Alternative MoM-3, Option B, Groundwater IRA Modified Continued Action, Installation of New Extraction Well(s) is EPA's Preferred Remedial Alternative for the following reasons:

- The Preferred Remedial Alternative targets areas with the greatest risk for ingestion of groundwater;
- In addition to reducing the migration of VOCs off the source area properties, the Preferred Remedial Alternative is expected to reduce migration of emerging contaminants, specifically 1,4-dioxane, PFOA, and PFOS, thus reducing contaminant concentrations in properties downgradient of the source area;
- By reducing off-source area contaminant migration and potentially decreasing the size of the plume at a faster rate than the current IRA treatment system, the Preferred Remedial Alternative is expected to decrease the time needed to reach final cleanup levels at off-source area properties;
- The Preferred Remedial Alternative would include institutional controls to prohibit use of contaminated groundwater and ensure that existing residential point-of-use treatment systems are operated and maintained until final cleanup levels are met. By reducing contaminant concentrations more rapidly, the Preferred Remedial Alternative is expected to reduce the risks associated with the difficulty of implementing, maintaining and ensuring adherence to institutional control restrictions and requirements;
- The Preferred Remedial Alternative is readily implementable based on the availability of equipment and materials; and
- The Preferred Remedial Alternative is an effective approach, with very limited additional remedy infrastructure requirements in order to modify the IRA treatment system, that takes advantage of treatment technologies for PFAS and 1,4-dioxane and has a positive environmental impact.

In addition to the above technical reasons, the Preferred Remedial Alternative meets the revised RAOs for the Site; is protective of human health and environment; complies with federal and state requirements under ARARs; and is cost effective.

EPA's proposed cleanup approach is protective of human health and the environment and cost effective through the use of an effective cleanup technology to treat and extract groundwater until groundwater cleanup levels are reached.

NEXT STEPS

After the public comment period, described below, EPA expects to review and respond to all comments received on this proposal and will issue a ROD Amendment. The ROD Amendment will be a written document that describes the chosen cleanup plan and includes a summary of responses to public comments received during the comment period (the Responsiveness Summary). Once signed, the Responsiveness Summary will then be made available, along with the ROD Amendment, to the public on the EPA Website for the Linemaster Switch Corporation Superfund Site. Internet access will be provided at the Woodstock Town Hall and at the EPA New England Records Center (see addresses on Page 2). EPA will announce the final decision on the cleanup plan through the local media (i.e., a Public Notice) and on EPA's website.

WHAT IS A FORMAL COMMENT?

EPA will accept public comments during a 30-day formal comment period, which runs from December 13, 2023 through January 12, 2024. EPA considers and uses these comments to improve its cleanup approach. During the formal comment period, EPA will accept written comments via mail, email, and fax. Additionally, oral comments may be made during the formal Public Hearing on January 10, 2024. All comments offered during the hearing will be recorded for the official record. EPA will not respond to comments during the formal Public Hearing but will respond to them in writing in a Responsiveness Summary, described below.

EPA will review all formal comments received during the Public Hearing and during the formal comment period before making a final cleanup decision. EPA will then prepare a written response to the formal written and oral comments received. Your formal comment will become part of the official public record. The transcript of

comments and EPA's written responses will be issued in a document called a Responsiveness Summary when EPA releases the final cleanup plan, in a document referred to as the ROD Amendment. The Responsiveness Summary and ROD Amendment will be made available to the public on the site's website. A hard copy can be requested and mailed if needed. Internet access will be provided at the Woodstock Town Hall and at the EPA New England Records Center (see addresses on Page 2).

HOW TO PARTICIPATE IN EPA'S INFORMATIONAL MEETING AND HEARING:

EPA will host a public informational meeting December 11, 2023 at 7 PM at Woodstock Middle School. This meeting is being held in an ADA accessible space. If special accommodation or translation are needed, please reach out to Charlotte Gray one week before the meeting.

Following this information meeting the public comment period will begin December 13, 2023 through January 12, 2024. A Public Hearing will be held January 10, 2024 at 7 PM at Woodstock Middle School for EPA to accept verbal comments.

Woodstock Middle School (Cafeteria)
147B Route 169
Woodstock, CT 06281

FOR MORE DETAILED INFORMATION

The Administrative Record, which includes all documents that EPA has considered or relied upon in proposing this cleanup plan for the Linemaster Switch Corporation Superfund Site, is available for public review shortly before the start of the comment period at www.epa.gov/superfund/linemaster. The public can use the following locations as access points to the internet if needed: Woodstock Town Hall and the EPA New England Records Center (see addresses on Page 2).

This Proposed Plan and the site's Administrative Record are also available for review online at:
www.epa.gov/superfund/linemaster

SEND US YOUR COMMENTS

Provide EPA with your written or oral comments about the Proposed Plan for the Linemaster Switch Corporation Superfund Site. Please email (bryant.john@epa.gov), fax (617-918-0346), voice mail (617-918-1375), or mail comments, post- marked no later than January 12, 2024 to:

John Bryant
EPA Region 1 New England
5 Post Office Square, Suite 100
Mail Code: SEMD 07-MI
Boston, MA 02109-3912
bryant.john@epa.gov
Fax: 617-918-0346

Table 1

Groundwater Contaminant Preliminary Remediation Goals (Proposed Cleanup Levels) as presented in the 2023 Focused Feasibility Study Linemaster Switch Corporation Superfund Site, Woodstock, Connecticut

Contaminant of Concern	PRG (µg/L)	Cancer (c) or non-cancer (n)	Target Organ	Basis for PRG
Arsenic	188[2]	c	-	Background
Carbon tetrachloride	5	c	-	Federal/State MCL; RSRs - GWPC
1,2-Dichloroethane	1[2]	c	-	RSRs – GWPC
1,1-Dichloroethene	7	n	Liver	RSRs – GWPC
cis-1,2-Dichloroethene	70	n	Kidney	Federal/State MCL; RSRs - GWPC
trans-1,2-Dichloroethene[1]	100	n	Immune System	Federal/State MCL; RSRs - GWPC
1,2-Dichloropropane	5	n	Skeletal	Federal/State MCL; RSRs - GWPC
1,4-Dioxane[1]	0.46	c	-	Federal Risk Based
Ethylbenzene[1]	700	c	-	Federal/State MCL; RSRs - GWPC
Tetrachloroethene	5	n	Nervous System	Federal/State MCL; RSRs - GWPC
Toluene[1]	1,000	n	Kidney	Federal/State MCL; RSRs - GWPC
1,1,2-Trichloroethane	5	n	Blood, Immune System	Federal/State MCL; RSRs - GWPC
Trichloroethene	5	n	Developmental, Immune System	Federal/State MCL; RSRs - GWPC
Vinyl Chloride	2	c	-	Federal/State MCL; RSRs - GWPC
Xylenes[1]	530	n	Nervous System	RSRs – GWPC

Notes:

1. PRGs proposed in anticipation that substance will be added as COC in ROD Amendment
2. Proposed changes from the interim groundwater cleanup levels identified in the 1993 ROD.

Acronyms:

GWPC = Groundwater Protection Criteria

MCL = Maximum Contaminant Level

PRG = Preliminary Remediation Goal

RSR = Connecticut Remediation Standard Regulations

µg/L = Micrograms per liter

Table 2

Soil Contaminant Preliminary Remediation Goals (Proposed Cleanup Levels) as presented in the 2023 Focused Feasibility Study Linemaster Switch Corporation Superfund Site, Woodstock, Connecticut

Contaminant of Concern	PRG (µg/kg)	Cancer (c) or non-caner (n)	Target Organ	Basis for PRG
1,2-Dichloroethane	20[2]	c	-	RSRs – GA-PMC
cis-1,2-Dichloroethene[1]	1,400	n	Kidney	RSRs – GA-PMC
Tetrachloroethene	100[2]	n	Nervous System	RSRs – GA-PMC
Toluene[1]	20,000	n	Kidney	RSRs – GA-PMC
Trichloroethene	100[2]	n	Developmental, Immune System	RSRs – GA-PMC
Xylenes[1]	19,500	n	Nervous System	RSRs – GA-PMC

Notes:

1. PRGs proposed in anticipation that substance will be added as COC in ROD Amendment
2. Proposed changes from the interim soil cleanup levels identified in the 1993 ROD.

Acronyms:

GA-PMC = Groundwater Class GA Pollutant Mobility Criteria

PRG = Preliminary Remediation Goal

RSR = Connecticut Remediation Standard Regulations

µg/kg = Micrograms per kilogram

Table 3

Comparative Analysis of Source Control Alternatives as presented in the 2023 Focused Feasibility Study Linemaster Switch Corporation Superfund Site, Woodstock, Connecticut

Evaluation Criteria	Alternative SC-2 Groundwater Phase 1A Continued Action	Alternative SC-5 In Situ Treatment		Alternative SC-6 Deep Soil Mixing		Alternative SC-9 Deep Soil Mixing and Supplemental In Situ Treatment	
		Option A: Chemical Oxidation	Option B: Enhanced Reductive Bioremediation	Option A: Chemical Oxidation	Option B: Enhanced Reductive Bioremediation	Option A: Chemical Oxidation[1]	Option B: Enhanced Reductive Bioremediation
Overall Protection of Human Health and the Environment[2]	Passes	Passes	Passes	Passes	Passes	Passes	Passes
Compliance with Applicable or Relevant and Appropriate Requirements	Passes	Passes	Passes	Passes	Passes	Passes	Passes
Long-Term Effectiveness and Permanence	●●●	●●●	●●●	●●●●	●●●●	●●●●●	●●●●●
Reduction of Toxicity, Mobility, or Volume through Treatment	●●●	●●●●	●●●●	●●●●	●●●●	●●●●●	●●●●●
Short-term Effectiveness	●●●●	●●●●●	●●●●●	●●●●	●●●●	●●●●	●●●●
Implementability	●●●●●	●●●●	●●●●	●●●	●●●	●●●	●●●
Cost – Capital	$0	$5,200,000	$5,100,000	$5,440,000	$4,740,000	$6,340,000	$5,940,000
Cost – Total Net Present Value	$500,000	$5,300,000	$5,200,000	$5,500,000	$4,800,000	$6,400,000	$6,000,000

Notes:

1. SC-9, Option A is EPA's preferred remedial alternative.
2. Not applicable for the environment. The results of the Baseline Ecological Risk Assessment did not identify unacceptable risks to ecological receptors from exposure to soil.

● Low rating in comparison to other alternatives for specified criterion (least favorable outcome for criteria)

●● Low to mid-range rating in comparison to other alternatives for specified criterion

●●● Mid-range rating in comparison to other alternatives for specified criterion

●●●● Mid-range to high rating in comparison to other alternatives for specified criterion

●●●●● High rating in comparison to other alternatives for specified criterion (most favorable outcome for criteria)

Table 4

Comparative Analysis of Management of Migration Alternatives as presented in the 2023 Focused Feasibility Study Linemaster Switch Corporation Superfund Site, Woodstock, Connecticut

Evaluation Criteria	Alternative MoM-2 Groundwater IRA Continued Action	Alternative MoM-3 Groundwater IRA	Alternative MoM-4 Alternative Water Supply	
		Option B: Installation of New Extraction Well(s)[1]	Option A: Connection to Municipal Water Supply	Option C: Provide New, Deeper Wells to Impacted Residences
Overall Protection of Human Health and the Environment[2]	Passes	Passes	Passes	Passes
Compliance with Applicable or Relevant and Appropriate Requirements	Passes	Passes	Fails	Fails
Long-Term Effectiveness and Permanence	●●	●●●●	●●●●	●●
Reduction of Toxicity, Mobility, or Volume through Treatment	●●	●●●●	●	●
Short-term Effectiveness	●●●●	●●●●	●●●	●●●
Implementability	●●●●●	●●●●	●●●	●●●●
Cost – Capital	$300,000	$1,400,000	$4,300,000	$600,000
Cost – Total Net Present Value	$3,800,000	$5,000,000	$6,200,000	$1,600,000

Notes:

1. MoM-3, Option B is EPA's preferred remedial alternative.
2. Not applicable for the environment. The results of the Baseline Ecological Risk Assessment did not identify unacceptable risks to ecological receptors from exposure to groundwater.

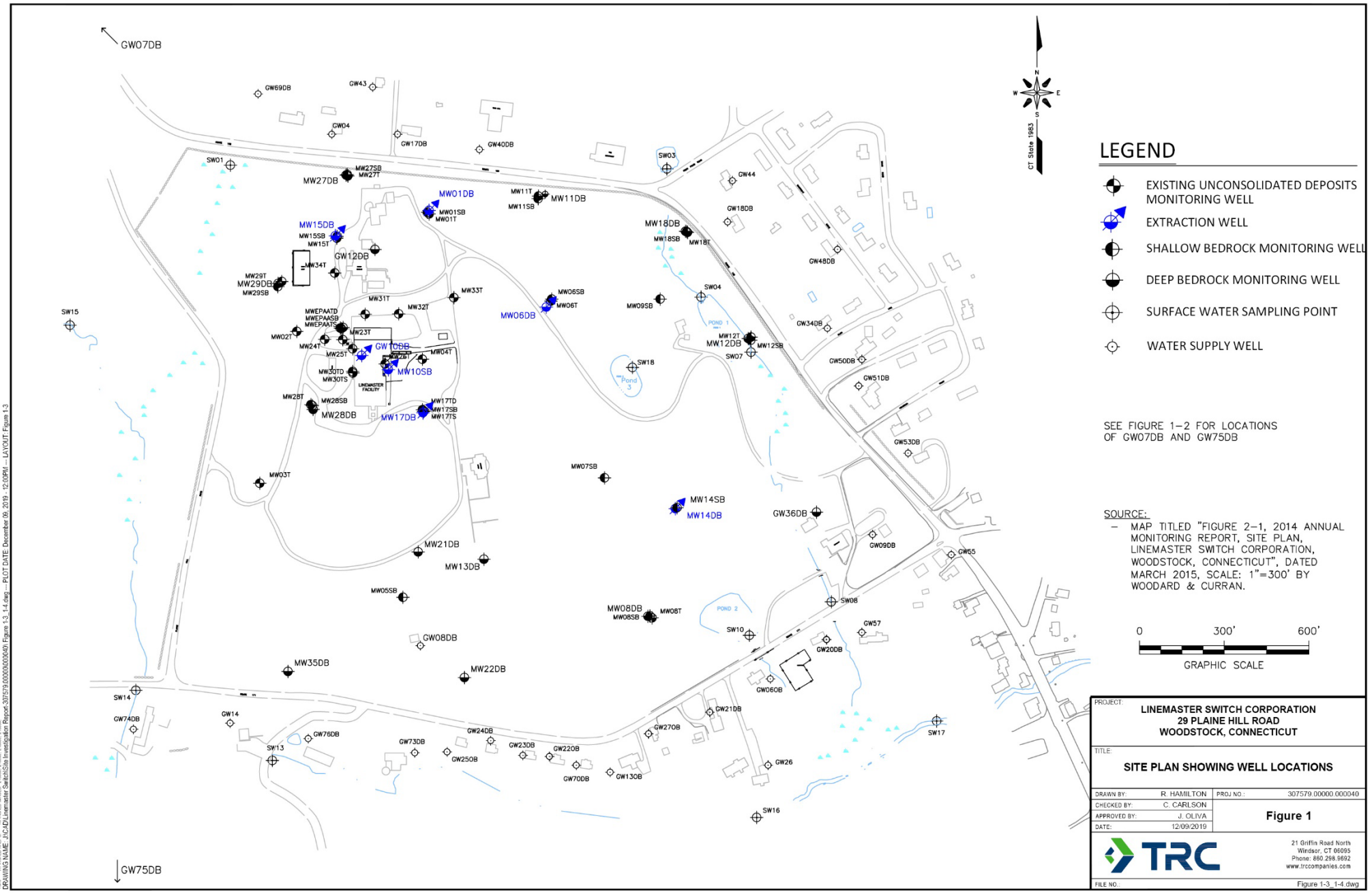
● Low rating in comparison to other alternatives for specified criterion (least favorable outcome for criteria)

●● Low to mid-range rating in comparison to other alternatives for specified criterion

●●● Mid-range rating in comparison to other alternatives for specified criterion

●●●● Mid-range to high rating in comparison to other alternatives for specified criterion

●●●●● High rating in comparison to other alternatives for specified criterion (most favorable outcome for criteria)



LEGEND

- EXISTING UNCONSOLIDATED DEPOSITS MONITORING WELL
- EXTRACTION WELL
- SHALLOW BEDROCK MONITORING WELL
- DEEP BEDROCK MONITORING WELL
- SURFACE WATER SAMPLING POINT
- WATER SUPPLY WELL

SEE FIGURE 1-2 FOR LOCATIONS OF GW07DB AND GW75DB

SOURCE:

- MAP TITLED "FIGURE 2-1, 2014 ANNUAL MONITORING REPORT, SITE PLAN, LINEMASTER SWITCH CORPORATION, WOODSTOCK, CONNECTICUT", DATED MARCH 2015, SCALE: 1"=300' BY WOODARD & CURRAN.

0 300' 600'

GRAPHIC SCALE

PROJECT:
LINEMASTER SWITCH CORPORATION
29 PLAINE HILL ROAD
WOODSTOCK, CONNECTICUT

TITLE:
SITE PLAN SHOWING WELL LOCATIONS

DRAWN BY:	R. HAMILTON	PROJ NO.:	307579.00000.000040
CHECKED BY:	C. CARLSON		**Figure 1**
APPROVED BY:	J. OLIVA		
DATE:	12/09/2019		

TRC
21 Griffin Road North
Windsor, CT 06095
Phone: 860.298.9692
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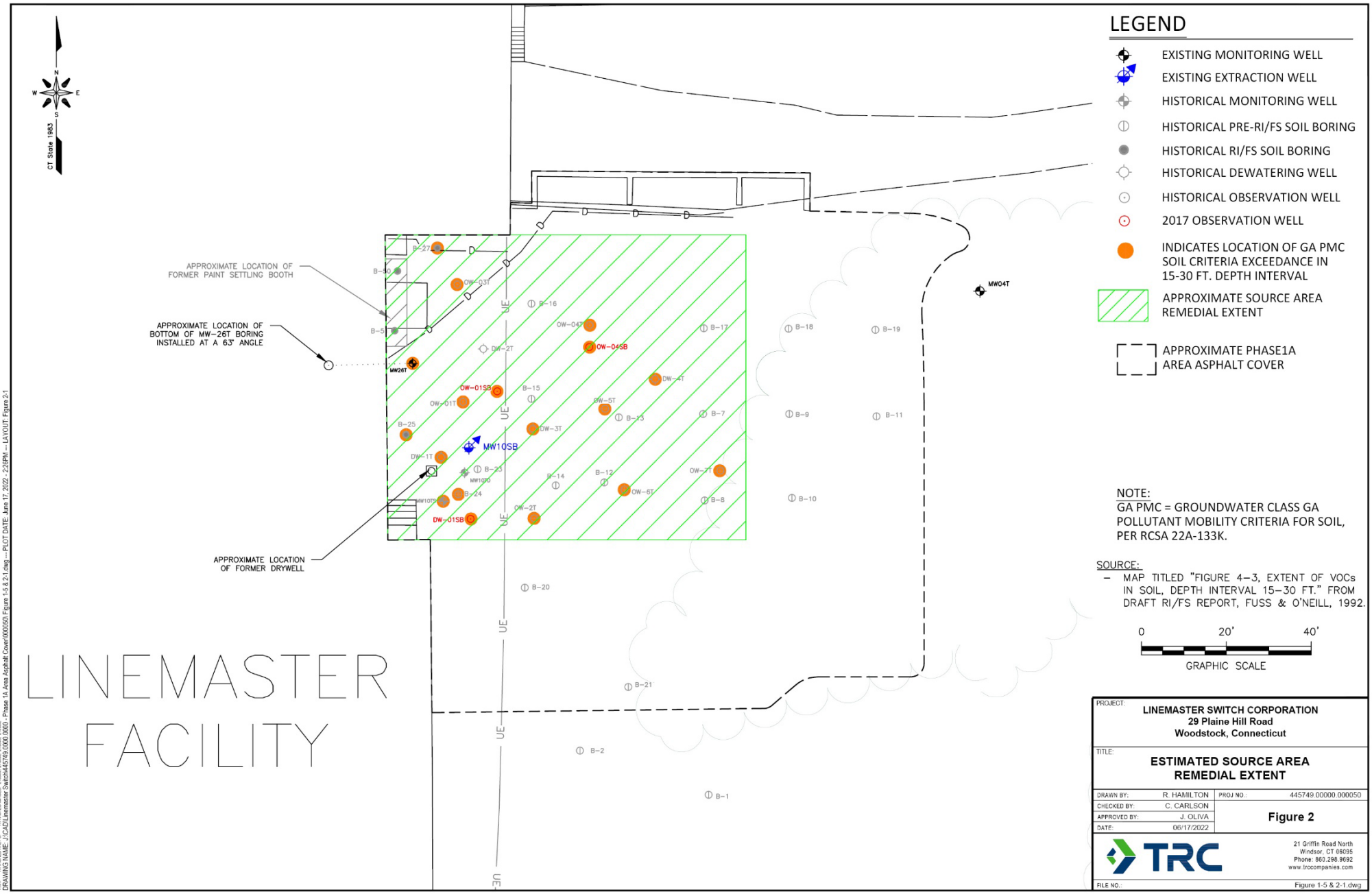
FILE NO.: Figure 1-3_1-4.dwg

DRAWING NAME: J:\ACAD\Linemaster Switch\Site Investigation Report-307579.00000000040\ Figure 1-3_1-4.dwg — PLOT DATE: December 09, 2019 - 12:00PM — LAYOUT: Figure 1-3


LEGEND
EXISTING MONITORING WELL
EXISTING EXTRACTION WELL
HISTORICAL MONITORING WELL
HISTORICAL PRE-RI/FS SOIL BORING
HISTORICAL RI/FS SOIL BORING
HISTORICAL DEWATERING WELL
HISTORICAL OBSERVATION WELL
2017 OBSERVATION WELL
INDICATES LOCATION OF GA PMC SOIL CRITERIA EXCEEDANCE IN 15-30 FT. DEPTH INTERVAL
APPROXIMATE SOURCE AREA REMEDIAL EXTENT
APPROXIMATE PHASE1A AREA ASPHALT COVER
APPROXIMATE LOCATION OF FORMER PAINT SETTLING BOOTH
APPROXIMATE LOCATION OF BOTTOM OF MW-26T BORING INSTALLED AT A 63° ANGLE
APPROXIMATE LOCATION OF FORMER DRYWELL
LINEMASTER FACILITY
MW26T
MW10SB
MW04T
NOTE:
GA PMC = GROUNDWATER CLASS GA POLLUTANT MOBILITY CRITERIA FOR SOIL, PER RCSA 22A-133K.
SOURCE:
– MAP TITLED "FIGURE 4-3, EXTENT OF VOCs IN SOIL, DEPTH INTERVAL 15-30 FT." FROM DRAFT RI/FS REPORT, FUSS & O'NEILL, 1992.
0 20' 40'
GRAPHIC SCALE
PROJECT:
LINEMASTER SWITCH CORPORATION
29 Plaine Hill Road
Woodstock, Connecticut
TITLE:
ESTIMATED SOURCE AREA REMEDIAL EXTENT
DRAWN BY: R. HAMILTON
CHECKED BY: C. CARLSON
APPROVED BY: J. OLIVA
DATE: 06/17/2022
PROJ NO.: 445749.00000.000050
Figure 2
TRC
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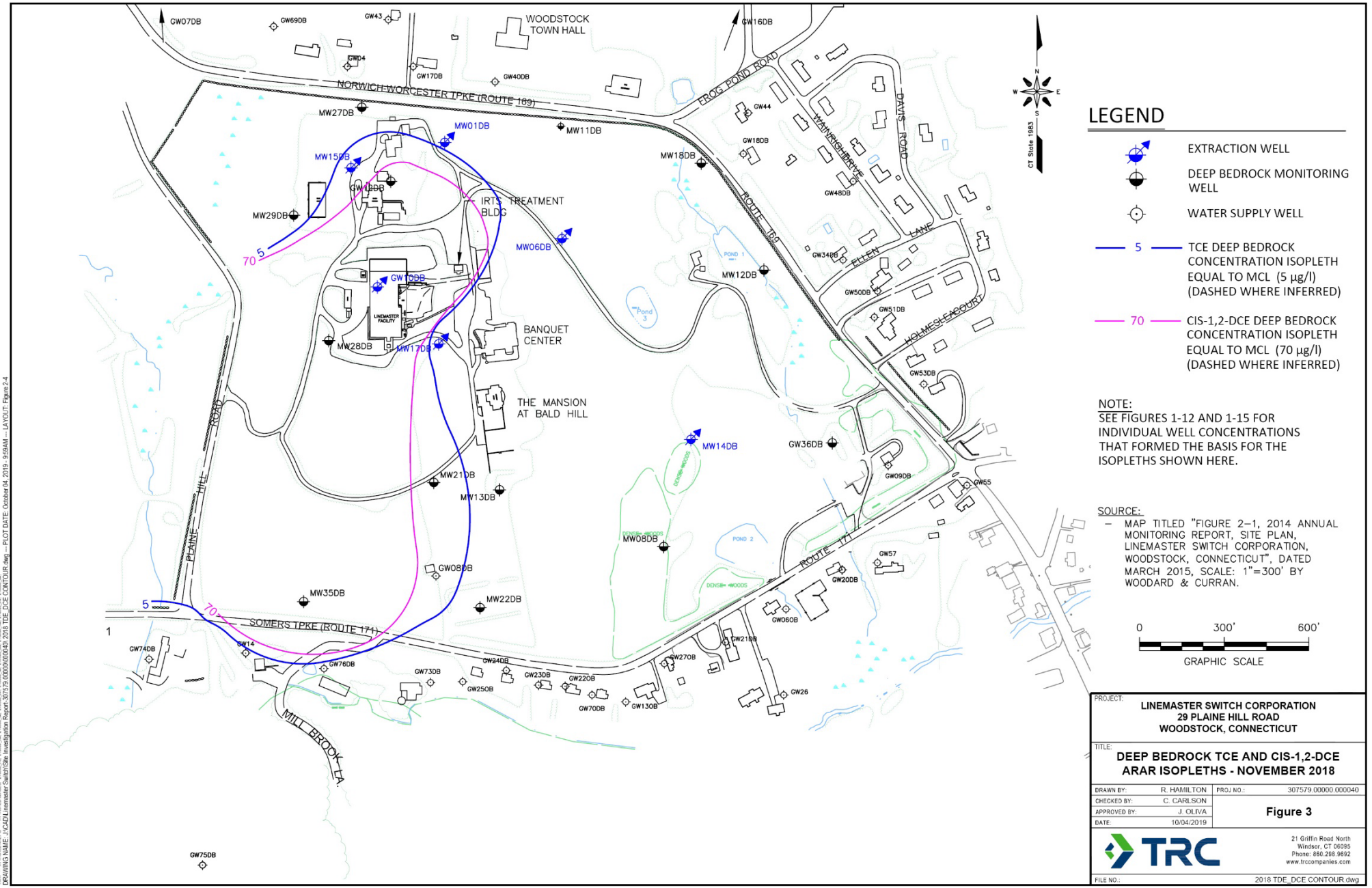
FILE NO.: Figure 1-5 & 2-1.dwg



LEGEND

- EXTRACTION WELL
- DEEP BEDROCK MONITORING WELL
- WATER SUPPLY WELL
- 5 — TCE DEEP BEDROCK CONCENTRATION ISOPLETH EQUAL TO MCL (5 µg/l) (DASHED WHERE INFERRED)
- 70 — CIS-1,2-DCE DEEP BEDROCK CONCENTRATION ISOPLETH EQUAL TO MCL (70 µg/l) (DASHED WHERE INFERRED)

NOTE:
SEE FIGURES 1-12 AND 1-15 FOR INDIVIDUAL WELL CONCENTRATIONS THAT FORMED THE BASIS FOR THE ISOPLETHS SHOWN HERE.

SOURCE:
- MAP TITLED "FIGURE 2–1, 2014 ANNUAL MONITORING REPORT, SITE PLAN, LINEMASTER SWITCH CORPORATION, WOODSTOCK, CONNECTICUT", DATED MARCH 2015, SCALE: 1"=300' BY WOODARD & CURRAN.

0 300' 600'
GRAPHIC SCALE

PROJECT:
LINEMASTER SWITCH CORPORATION
29 PLAINE HILL ROAD
WOODSTOCK, CONNECTICUT

TITLE:
DEEP BEDROCK TCE AND CIS-1,2-DCE ARAR ISOPLETHS - NOVEMBER 2018

DRAWN BY:	R. HAMILTON	PROJ NO.:	307579.00000.000040
CHECKED BY:	C. CARLSON		
APPROVED BY:	J. OLIVA		**Figure 3**
DATE:	10/04/2019		

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FILE NO.: 2018 TDE_DCE CONTOUR.dwg

DRAWING NAME: I:\CAD\Linemaster Switch\Site Investigation Report\307579.0000\000040\ 2018 TDE_DCE CONTOUR.dwg -- PLOT DATE: October 04, 2019 - 9:59AM -- LAYOUT: Figure 2-4


LEGEND
EXISTING UNCONSOLIDATED DEPOSITS MONITORING WELL
EXTRACTION WELL
SHALLOW BEDROCK MONITORING WELL
DEEP BEDROCK MONITORING WELL
SURFACE WATER SAMPLING POINT
WATER SUPPLY WELL
OBSERVATION WELL
FORMER DRY WELL
SOURCE:
– MAP TITLED "FIGURE 2–1, 2014 ANNUAL MONITORING REPORT, SITE PLAN, LINEMASTER SWITCH CORPORATION, WOODSTOCK, CONNECTICUT", DATED MARCH 2015, SCALE: 1"=300' BY WOODARD & CURRAN.
– 2012 AERIALS FROM UNIVERSITY OF CONNECTICUT "MAGIC" WEB SITE.
0 200' 400'
GRAPHIC SCALE
PROJECT: LINEMASTER SWITCH CORPORATION
29 PLAINE HILL ROAD
WOODSTOCK, CONNECTICUT
TITLE: SITE PLAN
DRAWN BY: R. HAMILTON
CHECKED BY: C. CARLSON
APPROVED BY: J. OLIVA
DATE: 03/03/2021
PROJ. NO.: 445749-000010-000041
Figure 4
TRC
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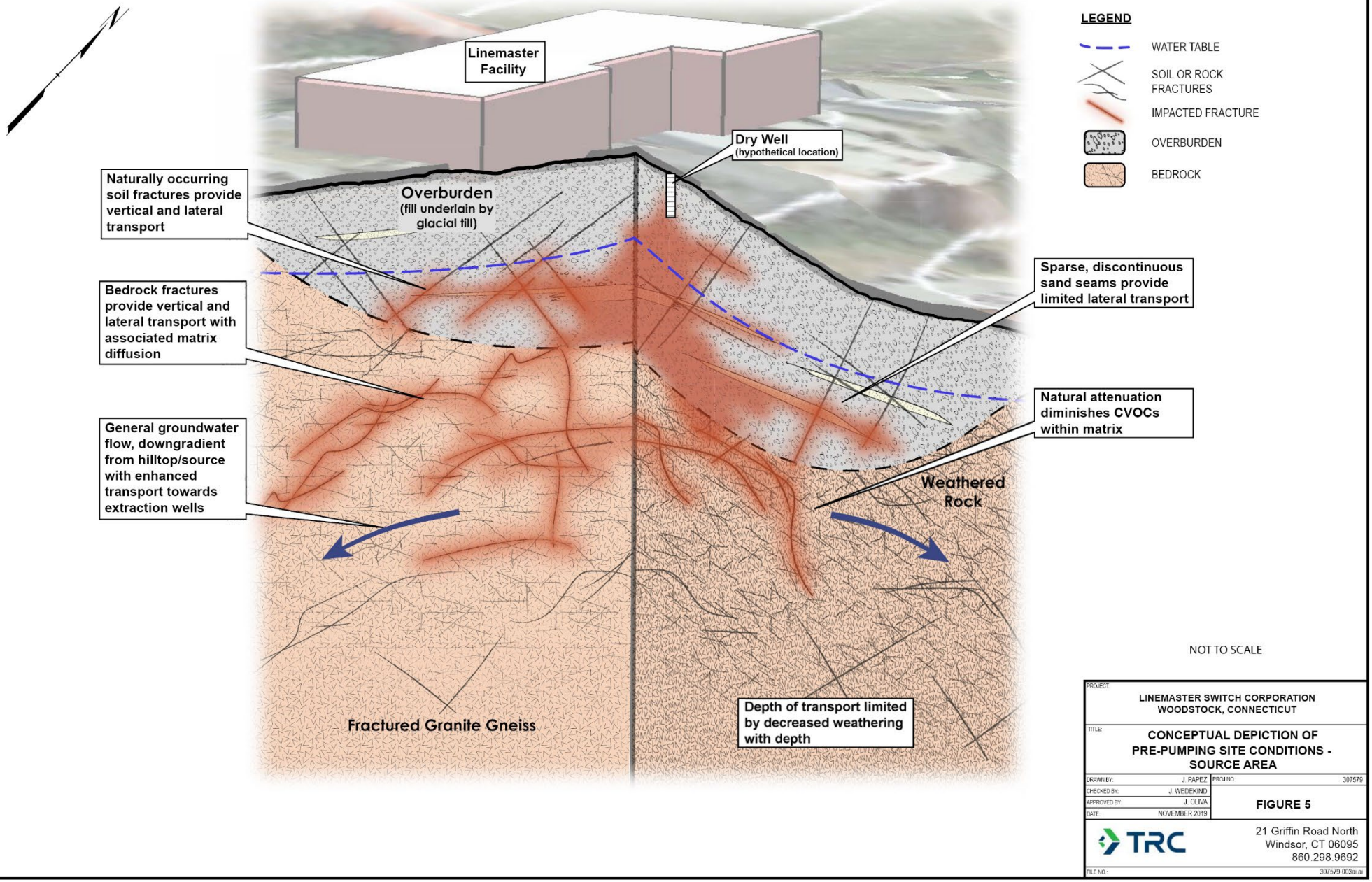
FILE NO.: 2019 GW CONTOUR.dwg


Linemaster Facility
Dry Well (hypothetical location)
Overburden (fill underlain by glacial till)
Naturally occurring soil fractures provide vertical and lateral transport
Bedrock fractures provide vertical and lateral transport with associated matrix diffusion
General groundwater flow, downgradient from hilltop/source with enhanced transport towards extraction wells
Sparse, discontinuous sand seams provide limited lateral transport
Natural attenuation diminishes CVOCs within matrix
Weathered Rock
Fractured Granite Gneiss
Depth of transport limited by decreased weathering with depth
LEGEND
WATER TABLE
SOIL OR ROCK FRACTURES
IMPACTED FRACTURE
OVERBURDEN
BEDROCK
NOT TO SCALE
PROJECT: LINEMASTER SWITCH CORPORATION WOODSTOCK, CONNECTICUT
TITLE: CONCEPTUAL DEPICTION OF PRE-PUMPING SITE CONDITIONS - SOURCE AREA
DRAWN BY: J. PAPEZ
CHECKED BY: J. WEDEKIND
APPROVED BY: J. OLIVA
DATE: NOVEMBER 2019
PROJ NO.: 307579
FIGURE 5
TRC
21 Griffin Road North
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FILE NO.: 307579-003ai.ai