



# Modified Phase IV Remedy Implementation Plan

Version: Draft for Public Comment

Former Varian Facility Site, 150 Sohier Road, Beverly, Massachusetts  
01915  
MassDEP Site # 3-0485

April 9, 2025

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**Jacobs Engineering Inc.**

120 St. James Avenue  
5th Floor  
Boston, MA 02116  
United States

[www.jacobs.com](http://www.jacobs.com)

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## Acronyms and abbreviations

COC	contaminant of concern
CSA	Comprehensive Site Assessment
CSM	conceptual site model
ISB	in situ bioremediation
ISCR	in situ chemical reduction
LSP	Licensed Site Professional
MassDEP	Massachusetts Department of Environmental Protection
MCP	Massachusetts Contingency Plan
Modified Phase IV Plan	Modified Phase IV Remedy Implementation Plan
OHM	oil and/or hazardous material
PAZ	permeable adsorptive zone
PIP	Public Involvement Plan
PRZ	permeable reactive zone
PSL	Potential Source Location
RAA	remedial action alternative
RAP	Remediation Action Plan
Site	Former Varian Facility located at 150 Sohier Road in Beverly, Massachusetts
SSDS	sub-slab depressurization system
Varian	Varian Medical Systems, Inc.
VOC	volatile organic compound

## 1. Introduction

Jacobs has prepared this Modified Phase IV Remedy Implementation Plan (Modified Phase IV Plan) on behalf of Varian Medical Systems, Inc. (Varian) in accordance with the Massachusetts Contingency Plan (MCP) (Section 310 Code of Massachusetts Regulations 40.0870) for the Former Varian Facility located at 150 Sohier Road, in Beverly, Massachusetts (Site). Within this report, the term “Site” is used in accordance with the MCP, being any place or area where oil and/or hazardous material (OHM) from Varian’s former facility have come to be located. The “facility” refers to Varian’s former facility property. The Site general location is shown on Figure 1-1. The Site has been the subject of multiple assessment activities, which have indicated that release of OHM has occurred at the Former Varian Facility. The Site is listed as a Disposal Site under the MCP and was assigned Release Tracking Number 3-0485 by the Massachusetts Department of Environmental Protection (MassDEP). Tetrachloroethene, trichloroethene, cis-1,2-dichloroethene, vinyl chloride, and 1,1,1-trichloroethane have been identified as the contaminants of concern (COCs) for the Site.

The purpose of this Modified Phase IV Plan is to present plans for modification to the selected remedial action alternative (RAA) for the downgradient plume area along Tozer Road. The plan being modified was outlined in the *Partial Massachusetts Contingency Plan Phase IV Remedy Implementation Plan, Part 1* (Aptim 2023c), and includes implementation of the RAA for addressing the downgradient areas of the Site along the groundwater flow pathway at Tozer Road.

As required by the MCP, this Modified Phase IV Plan is being submitted electronically to MassDEP concurrently with a completed Comprehensive Response Action Transmittal Form (BWSC-108). A copy of the BWSC-108 form is provided in Appendix A. The Site is an active Public Involvement Plan (PIP) site under the MCP. Therefore, a copy of this report will be sent to the information repository established for the Former Varian Facility Site at the Beverly public library. In addition, this report will be presented at a public meeting and will undergo a 20-day public comment period.

### 1.1 Disposal Site Name, Location, and Locus Map

Varian’s former facility was located at 150 Sohier Road in Beverly, Essex County, Massachusetts. The property at 150 Sohier Road has the Universal Transverse Mercator coordinates of North 4,715,075 meters and East 345,475 meters (Longitude 70° 52’ 57” West: Latitude 42° 34’ 28” North). Figure 1-2, the Expanded Site Plan, identifies the location of 150 Sohier Road and the surrounding area.

The facility is located on approximately 24 acres of land and contains four large complexes of buildings covering approximately 250,000 square feet. The facility’s southern portion includes an open field and a paved parking area. The central portion of the facility includes a building complex (Buildings 5, 5A, 8, and 10) (referred to as the Building 5 complex). North of the Building 5 complex is a paved parking area and to the northwest is another building complex (Buildings 1, 2, 3, 4, and 6) (referred to as the Building 3 complex). West of the Building 3 complex is former Building 7, which is now operated as Kelly Classics and Restoration.

Presently, CPI Electron Device Business maintains the use of Buildings 1 through 6, 8, 9, and 10 and other structures at the 150 Sohier Road property.

## 1.2 Regulatory Reporting

On October 7, 2022, a *Public Comment Draft Phase II Comprehensive Site Assessment (CSA) Addendum* was submitted to MassDEP. This CSA Addendum comprehensively assessed current Site conditions, including the nature and extent of chlorinated volatile organic compounds (VOCs), which were identified as the primary compounds released at the Site, and provided an updated evaluation of risk based on these current Site conditions. A public meeting to present the October 2022 Phase II CSA Addendum took place on November 9, 2022. Comments were received during the public comment period, which ended on November 29, 2022, and responses to comments were provided on December 7, 2022. *The Final Phase II CSA Addendum* was submitted to MassDEP on March 10, 2023 (Aptim 2023b).

On December 7, 2022, a *Public Comment Draft Phase III Remedial Action Plan (RAP)* was submitted to MassDEP. A public meeting to present the *Phase III RAP* was held on January 24, 2023. Comments were received during the public comment period, which ended on February 14, 2023, and responses to comments were provided on March 16, 2023.

A *Revised Phase III RAP* was submitted to MassDEP on March 17, 2023 (Aptim 2023a). This report was presented at a public meeting on June 7, 2023. Comments were received during the public comment period, which ended on June 27, 2023, and responses to comments were provided on July 27, 2023. No changes to the *Revised Phase III RAP* were made as a result of the comments, and the document is considered final. The *Final Phase III RAP* selected a permeable adsorptive zone/permeable reactive zone (PAZ/PRZ) as the RAA for the downgradient plume along Tozer Road.

Along with the *Revised Phase III RAP*, a *Public Comment Draft for the Partial MCP Phase IV Remedy Implementation Plan, Part 1 (Phase IV Plan, Part 1)*, was submitted to MassDEP on March 17, 2023. This report included remedy implementation plans for the downgradient plume (Tozer Road PAZ/PRZ). The public meeting to present the Phase IV Plan, Part 1, was also held on June 7, 2023. Comments were received during the public comment period, which ended on June 27, 2023, and responses to comments were provided on July 27, 2023. No changes to the Phase IV Plan, Part 1, were made as a result of the comments, and the document was considered final (Aptim 2023c).

A *Partial MCP Phase IV Remedy Implementation Plan, Part 2 (Phase IV Plan, Part 2)*, was submitted on September 8, 2023 and provides details on the remedy implementation plans for in situ bioremediation (ISB) via enhanced reductive dechlorination at Building 5, and in situ chemical treatment in bedrock (Jacobs 2023a). Additionally, a *Partial MCP Phase IV Remedy Implementation Plan Phase IV Plan, Part 3 (Phase IV Plan, Part 3)*, was submitted on November 7, 2023 providing the remedy implementation plan for a subgrade biogeochemical reactor at potential source location (PSL)-10 (Jacobs 2023b). The RAAs at Building 5, Building 3, and PSL-10 are referred to as source area treatments in this report.

## 1.3 Statement of Purpose

This Modified Phase IV Plan includes information on why the RAA selected for the downgradient plume along Tozer Road is not implementable and therefore will be excluded from the Site treatment plan. There are no significant modifications to the other remedy implementation plans provided in the Phase IV Plan, Part 1, Part 2 and Part 3, but some enhancements are planned for the Building 5 source area and bedrock RAAs.

## **2. Project Contacts**

The responsible party, the licensed site professional (LSP), and the party that will own, operate, and/or maintain the selected RAA during and following construction are listed in this section.

### **2.1 Responsible Party**

Matthew Gillis  
Environmental Affairs Program Manager  
Varian Medical Systems, Inc.  
801 Pennsylvania Avenue NW  
Washington, DC, 20004  
Phone: 410-459-1710

### **2.2 Licensed Site Professional**

Matthew E. Hackman, P.E.  
LSP No. 9456  
CHMM, Inc.  
97 Asylum Rd  
Warwick, Rhode Island, 02886-8001  
Office Phone: 401-737-9211

### **2.3 Owner/Operator of the Selected Remedial Action Alternative**

Matthew Gillis  
Environmental Affairs Program Manager  
Varian Medical Systems, Inc.  
801 Pennsylvania Avenue NW  
Washington, DC, 20004  
Phone: 410-459-1710

### 3. Modification to Downgradient Plume Remedy

This section outlines the Site remedy modification that excludes the RAA selected in the Phase III RAP for the downgradient plume along Tozer Road (PAZ/PRZ) because this RAA cannot be practically and safely implemented without property access. Included in this section is a detailed explanation of the reasons for the change and information on enhancements to other Site remedies to achieve the Site cleanup goals.

Installation of the PAZ/PRZ is not necessary to achieve a Permanent Solution. Other upgradient remedies in the Building 3 area (in situ thermal remediation), Building 5 area (ISB), and bedrock (in situ chemical reduction [ISCR]) are the RAAs that are intended to achieve a Permanent Solution. The PAZ/PRZ was previously included in the treatment plan to help maintain the Temporary Solution by providing additional control and mitigation of VOCs that may potentially be liberated during the treatment in source areas. Implementing treatment at Tozer Road where groundwater data indicate VOCs are migrating into the deep overburden from bedrock was previously considered to be the most effective mitigation approach. As further discussed below, given the improved understanding of VOC migration in bedrock at the Site through field investigations conducted over the past year, implementing an enhanced treatment in bedrock at 150 Sohier Road will provide mitigation of potential VOC migration moving west towards Tozer Road. This approach will be combined with groundwater monitoring downgradient of the treatment areas.

#### 3.1 Reason for Remedy Modification

In support of the planned PAZ/PRZ design, a multiple phase investigation was completed to better understand the VOC distribution and hydraulic setting, and ultimately to identify groundwater flow pathways beneath Tozer Road through which most of the VOCs are moving. The results of this investigation were provided in the *February 2025 Phase IV Status Report* (Jacobs 2025). Throughout the investigation, access to multiple private properties was negotiated for the installation of monitoring wells, collection of soil and groundwater samples, and deployment of flux meters.

In parallel, the Varian team discussed access with two property owners for the installation of the PAZ/PRZ in the most effective location based on the assessment results. Despite MassDEP joining discussions in the fall of 2024, access authorization for installation of the PAZ/PRZ could not be obtained. Given the limited space available between the private property and the active roadway lanes and the timeline for completing treatment implementation, it was determined that the installation of the PAZ/PRZ could not be practically and safely completed.

With the PAZ/PRZ not implementable, and the need to keep other remedial efforts within the upgradient source areas moving forward at the Site to achieve a Permanent Solution, Varian evaluated enhancements to other treatment plans that could limit potential VOC migration from the source areas at 150 Sohier Road toward Tozer Road. These enhancements are based on the current Conceptual Site Model (CSM), which was updated based on the findings from the Tozer Road and bedrock pre-design investigations.

The updated CSM indicates that:

- Groundwater flowing through bedrock fractures (bedrock aquifer) is the primary VOC migration pathway between the source areas and the downgradient areas.
- Groundwater in the shallow bedrock west of 150 Sohier Road appears to flow laterally into the deep overburden near Tozer Road.

The updated CSM supports the conclusion that the enhancements to the bedrock and Building 5 RAAs will be effective at intercepting groundwater traveling from the source area towards Tozer Road because of the



connectivity of the bedrock aquifer to the downgradient overburden aquifer. Treatment of overburden in the source areas will result in lower concentrations of VOCs migrating into the bedrock. In addition, bedrock treatment downgradient of the source areas (i.e., west of Building 3 and north of Building 5) and upgradient (east) of Tozer Road is expected to result in lower VOC concentrations migrating westerly to the Tozer Road area, including migration into the overburden aquifer.

The planned enhancements include the following elements:

- Overburden monitoring wells will be installed north of Building 5, as shown on Figure 3-1. The Building 5 RAA is ISB in overburden below Building 5. If VOC concentrations increase in the overburden monitoring wells north (downgradient) of Building 5 to above 0.5% of their solubility, additional ISB injections will be performed in the overburden north of Building 5.
- Because the updated CSM indicated that bedrock is the primary VOC migration pathway between the onsite source areas and the downgradient areas, enhancements to the bedrock RAA (ISCR treatment via injections) are planned. Enhancements planned for the bedrock RAA include the use of colloidal activated carbon (to adsorb VOCs migrating in the fractures) along with the zero-valent iron (which chemically destroys VOCs) and slow- and faster-release microbial food sources to provide both short- and long-lasting treatment in the fractures. Furthermore, prior to performing injections, groundwater will be extracted from each bedrock injection location to minimize potential downgradient mobilization of VOC-containing groundwater in the fractures during injection. Injections will target the bedrock fractures that, based on the predesign investigation results, contribute to the overburden downgradient plume.

A Method 3 Risk Assessment indicated no current or future Significant Risk to workers in off-property commercial/industrial buildings along Tozer Road, residents in areas to the west and south of Tozer Road, and children playing in the stream (Aptim 2023b). Therefore, for the Tozer Road remedy, treatment is not needed to address the presence of significant risk. Instead, the Tozer Road remedy was selected to provide additional reduction in concentrations of VOCs migrating from the source areas. Based on the groundwater flow and connectivity between overburden and bedrock discussed above, the enhancements to the bedrock and Building 5 treatment plans are intended to achieve the same concentration reduction goal.

## 3.2 Remedial Goals

Although the previously proposed downgradient plume RAA near Tozer Road will no longer be implemented, the monitoring and enhancements to the Building 5 and bedrock RAAs are designed to meet the remedial objectives for the downgradient plume, including: (1) groundwater concentration reduction; and (2) control of potential migration of VOCs away from source areas toward Tozer Road.

### 3.2.1 Performance Standards for Downgradient Plume

The following performance standards from the Phase IV Plan, Part 1 (Aptim 2023c) apply to the downgradient plume:

1. Limit COC concentrations in the plume downgradient of Tozer Road to less than half of GW-3 standards.

2. Demonstrate that the groundwater plume downgradient of Tozer Road is stable or contracting.<sup>1</sup>

Monitoring of shallow groundwater downgradient of the source areas and east of Tozer Road will continue as part of the routine groundwater monitoring program. If concentrations suggest a potential vapor intrusion concern, contingency measures will be implemented (e.g., collection of soil vapor samples, vapor mitigation, if needed).

### **3.2.2 Requirements for Achieving a Permanent or Temporary Solution**

There are no changes from the Phase IV, Part 1 to the requirements to achieve a Temporary or Permanent Solution for the downgradient plume, as summarized in Table 3-1.

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<sup>1</sup> The Phase IV, Part 1 (Aptim 2023c) had an additional performance standard: a reduction in COC mass discharge from the upgradient overburden groundwater plume to the area downgradient of Tozer Road (i.e., a decrease in the levels of VOCs detected at wells upgradient of the barrier compared to those downgradient). This performance standard was established to assess the performance of the proposed PAZ/PRZ, which was designed to reduce the mass discharge downgradient of Tozer Road. It is no longer applicable because the PAZ/PRZ will not be installed at Tozer Road.

**Table 3-1. Requirements for Achieving a Temporary or Permanent Solution at Downgradient Plume**

Item	Definitions and Requirements		Status	
	Permanent Solution	Temporary Solution	Current Status	Expected Post-Remediation Status
No Substantial Hazard	Documented	Documented	Achieved	Achieved
No Significant Risk	Documented	Documented	Achieved	Achieved
Solution Statement Submitted	Permanent Solution Statement Submitted	Temporary Solution Statement Submitted	Temporary Solution Statement Submitted February 2024	A Permanent Solution Statement will be submitted once Permanent Solution requirements met
Unpermitted releases of OHM contamination	Eliminated	Eliminated	Achieved	Achieved
OHM Contaminant Sources	Eliminated or eliminated to the extent feasible and controlled	Eliminated or controlled to the extent feasible	Achieved	Achieved
Plumes of dissolved OHM in groundwater and vapor-phase OHM in the Vadose Zone	Stable or contracting	Stable or contracting, or otherwise controlled or mitigated to the extent feasible	Achieved	Achieved
Non-stable nonaqueous phase liquid (NAPL) not present	Not present under current site conditions and for the foreseeable future	Removed and/or controlled to the extent feasible if present	Monitoring data shows non-stable NAPL not present	Monitoring data shows non-stable NAPL not present
NAPL with micro-scale mobility	Removed to the extent feasible if present	Removed and/or controlled to the extent feasible if present	NAPL with micro-scale mobility not observed	NAPL with micro-scale mobility not observed

### **3.2.3 Timeframe to Achieve Temporary or Permanent Solution**

A Temporary Solution requires the implementation of measures that will eliminate substantial hazards presented by the Site until a Permanent Solution is achieved. The Site achieved a Temporary Solution in February 2024 (Jacobs 2024a).

As noted at the beginning Section 3, installation of the PAZ/PRZ is unnecessary to achieve a Permanent Solution, nor was it intended to. Other upgradient RAAs in the Building 3 area (in situ thermal remediation), Building 5 area (ISB), and bedrock (ISCR) are the RAAs designed to achieve a Permanent Solution.

### **3.3 Inspections and Monitoring**

Groundwater monitoring in the Tozer Road area will continue as part of the semiannual sitewide monitoring program. Shallow groundwater monitoring will be conducted at wells located near downgradient buildings (Building 7, 27 Tozer, 28 Tozer, 30 Tozer, and 31 Tozer) to determine whether VOC concentrations are increasing to levels that could indicate a potential vapor intrusion concern. Previous shallow groundwater, soil vapor, and indoor air data demonstrating that a condition of No Significant Risk exists will be reviewed to determine groundwater concentration action levels above which contingency measures would be needed. Initial contingency efforts would include soil vapor sampling, indoor air sampling, or both, to evaluate potential vapor intrusion concerns. If vapor intrusion sampling results indicate that the presence of VOCs is attributable to the Site and VOC concentrations exceed MassDEP action levels, then mitigation measures would be implemented, such as sealing slab cracks or utility penetrations; adjusting heating, ventilation, and air conditioning system operation; installing a sub-slab depressurization system (SSDS); or enhancing an existing SSDS.

The monitoring results will be reported in semiannual Phase IV or Phase V Status Reports and will include an evaluation of overall remedial performance and recommendations for remedy optimization, such as supplemental injections, if warranted.

### **3.4 Property Access Issues**

Groundwater, soil vapor, and indoor air monitoring may be conducted at the downgradient properties at Building 7, 27 Tozer, 28 Tozer, 30 Tozer, and 31 Tozer Road. Varian has property access agreements with the properties along Tozer Road to conduct groundwater monitoring; however, additional negotiations or access agreements may be required to conduct soil vapor or indoor air monitoring.

### **3.5 Schedule**

As previously discussed, the planned PAZ/PRZ will not be implemented. Therefore, a schedule is no longer relevant or necessary with respect to the PAZ/PRZ. In place of the PAZ/PRZ, enhancements are proposed to the bedrock and Building 5 RAAs. The anticipated schedule for the bedrock and Building 5 source area treatment (RAAs) is as follows:

- Modified Phase IV comment period and response: April and May 2025
- Installation of new overburden monitoring wells near Building 5, baseline sampling, and data evaluation: Spring-Summer 2025
- Installation of bedrock injection wells, injections, and monitoring for Phase 1 of the bedrock RAA: Spring and Summer 2025

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- Injections and monitoring for Building 5 source area RAA: Summer 2025
- Treatment monitoring: Summer and Fall 2025, and Winter 2026
- Phase IV Status Report: August 2025
- Installation of injection wells, injections and monitoring for Phase 2 of the bedrock RAA: second half of 2025
- Phase IV Status Report: February 2026

## 4. Conclusions

The Phase IV Plan for the Tozer Road PAZ/PRZ was submitted to the MassDEP in a report titled *Partial Massachusetts Contingency Plan Phase IV Remedy Implementation Plan, Part 1* (Aptim 2023c). Remedial design investigations conducted in 2024 (Jacobs 2025) have provided comprehensive insights into the Site geology and the movement of groundwater and COCs in the Tozer Road area, improving our Conceptual Site Model. Additionally, access negotiations with property owners on Tozer Road have been unsuccessful in obtaining the necessary access to install the Tozer Road PAZ/PRZ. While Site data confirms the barrier's technical viability, practical and safe implementation requires property access. However, the increased technical understanding of the Site geology has enabled the Varian team to develop more robust cleanup approaches upgradient of Tozer Road at the 150 Sohier Road source areas (bedrock and Building 5) to meet the remedial cleanup objectives without the need for installation of the PAZ/PRZ, along with an expanded monitoring program to confirm that the current condition of No Significant Risk is maintained.

The modifications to the Phase IV Plan proposed in this document include treatment enhancements to the bedrock and Building 5 source area RAAs in place of the planned PAZ/PRZ at Tozer Road. These enhancements do not represent a major modification to the Phase IV Plans for the bedrock and the Building 5 source area. Installation of the PAZ/PRZ was previously considered to maintain the Temporary Solution, while other upgradient remedies in the Building 3 area (in situ thermal remediation), Building 5 area (ISB), and bedrock (ISCR) are the RAAs designed to achieve a Permanent Solution. Combined with downgradient groundwater monitoring, the bedrock and Building 5 enhancements will provide mitigation of potential VOC migration moving west towards Tozer Road. These treatments will be implemented in accordance with their respective Phase IV Plans and are expected to lead to a Permanent Solution.

## **5. Public Involvement**

In accordance with the MCP and the Site PIP (Jacobs 2024e), the following public involvement activities will be completed relevant to Modified Phase IV including:

- The Mayor and Board of Health of the City of Beverly will be notified of the availability of the Modified Phase IV Plan, including information about how local officials may obtain a copy of the report.
- A copy of the Modified Phase IV Plan will be sent to the information repository established in the PIP for the Former Varian Facility Site (Beverly Public Library).
- A public meeting will be held to present this document, followed by a 20-day public comment period.

A copy of the PIP notice is included in Appendix B.

## 6. References

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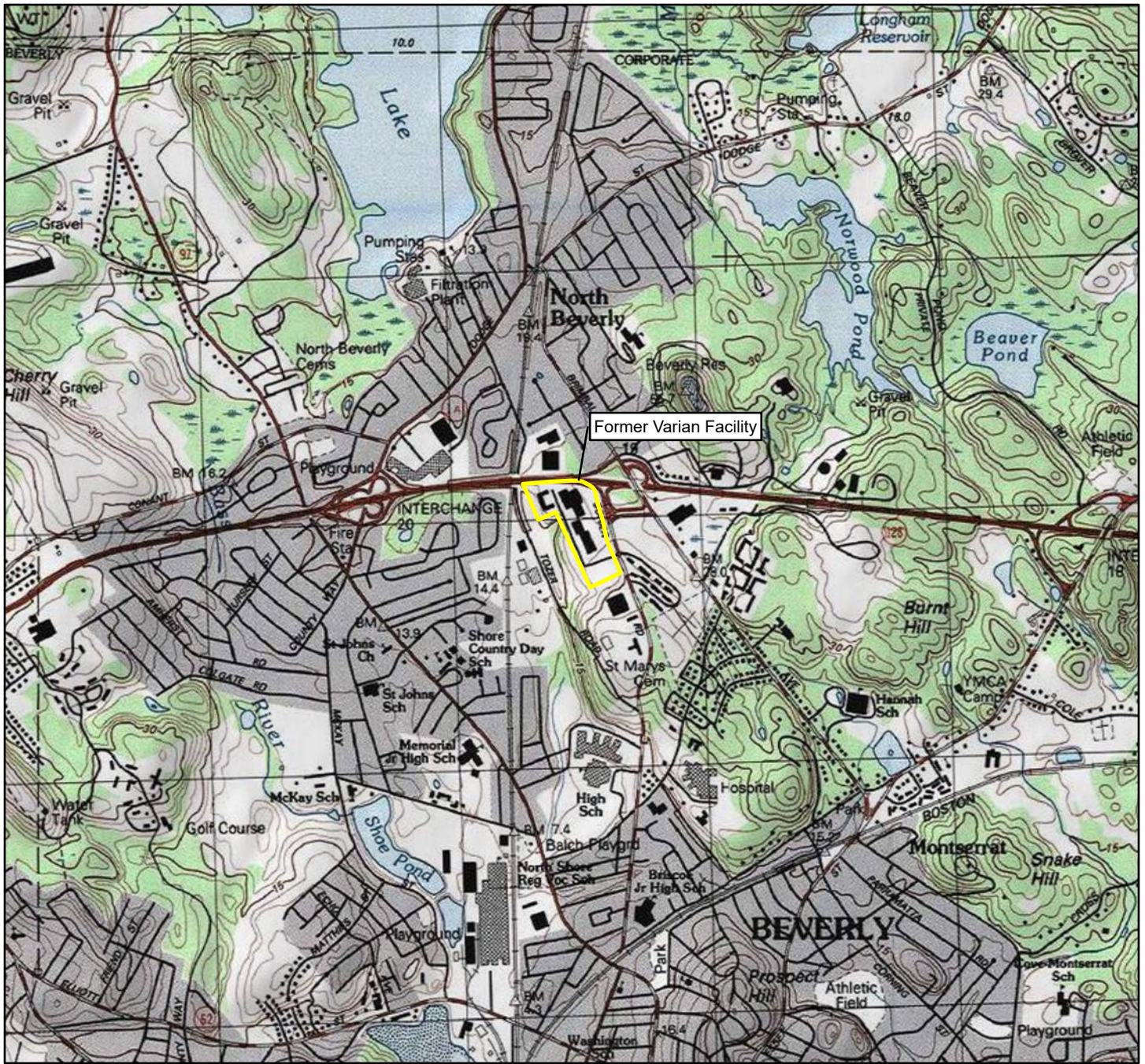
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# Figures



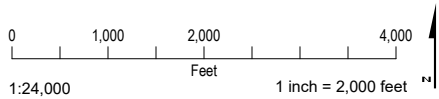
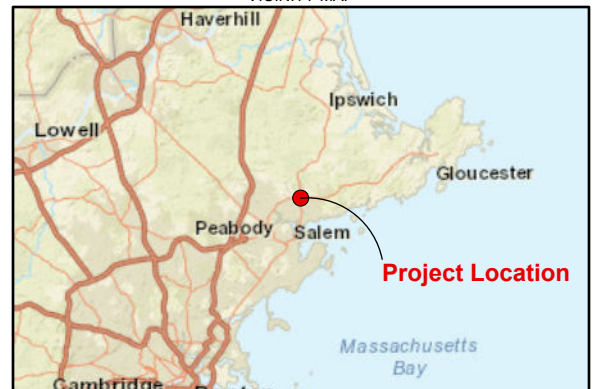




**LEGEND**

Former Varian Facility

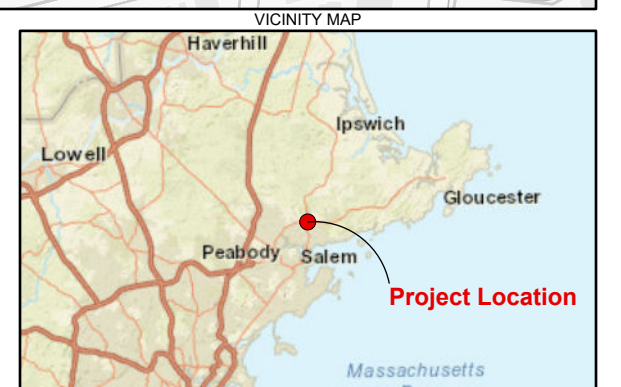
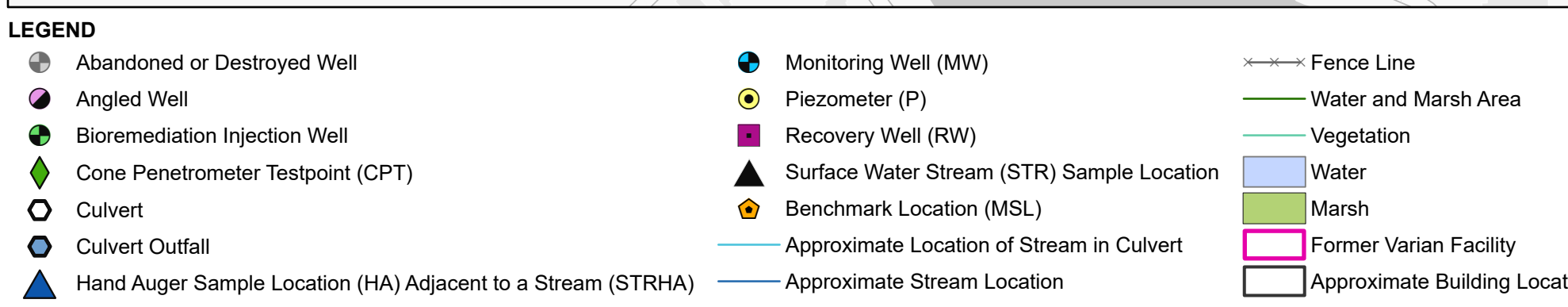
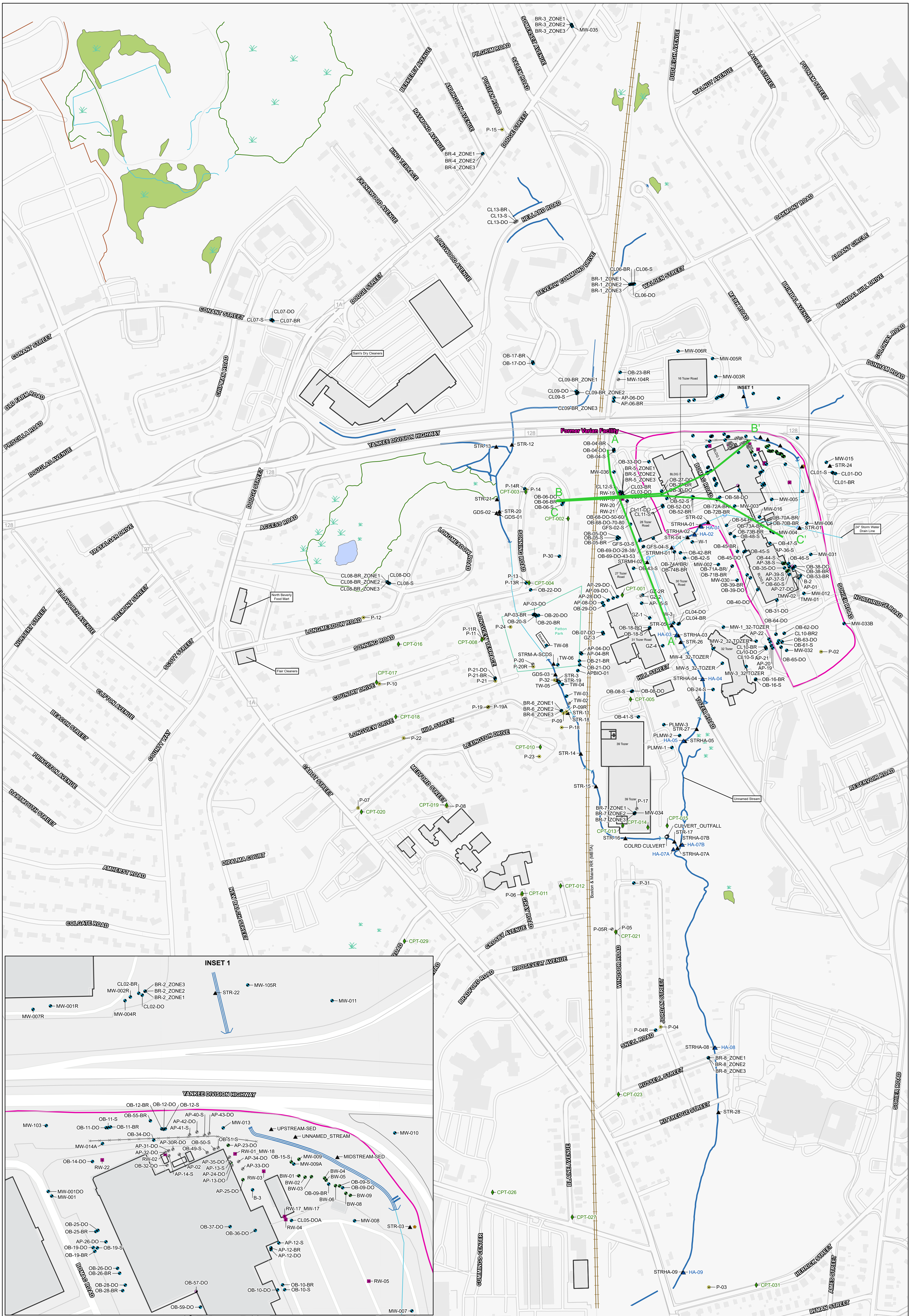
VICINITY MAP



Service Layer Credits: World Street Map: Esri, HERE, Garmin, NGA, USGS, NPS USA\_Topo\_Maps: Copyright:© 2013 National Geographic Society, i-cubed

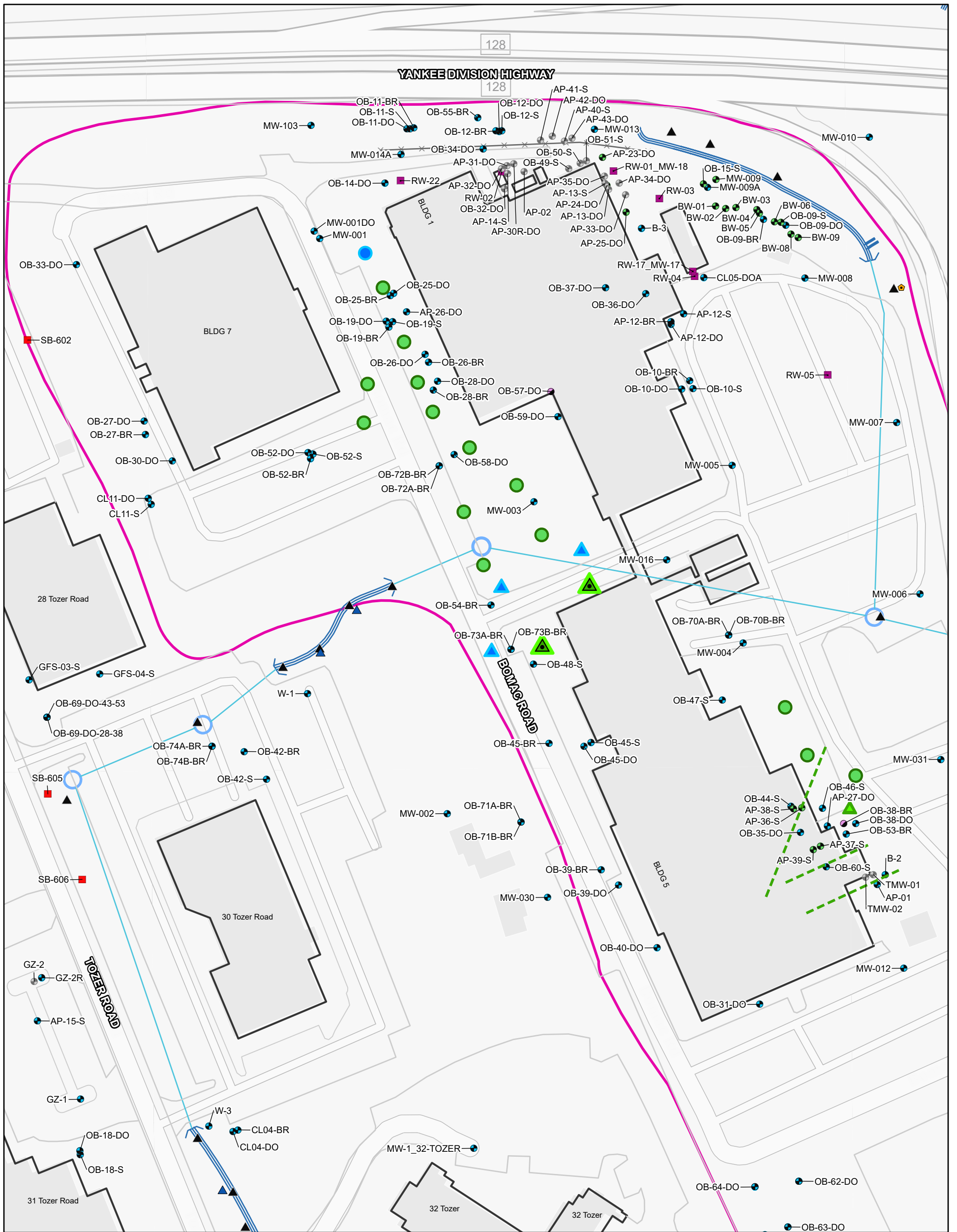
**FIGURE 1-1**  
**Site Location Map**  
**Former Varian Facility Site**  
*Beverly, Massachusetts*



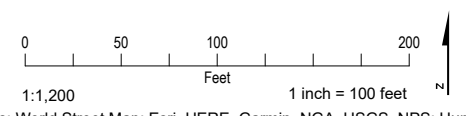


**FIGURE 1-2**  
Expanded Site Plan  
Former Varian Facility Site  
Beverly, Massachusetts





- LEGEND**
- Proposed Bedrock Monitoring Well
  - Proposed Bedrock Injection Point
  - ▲ Proposed Deep Overburden Monitoring Well
  - ▲ Deep Overburden Injection Point
  - ▲ Proposed Contingency Deep Overburden Injection Point
  - Proposed Angled Overburden Injection Fans
  - Abandoned or Destroyed Well
  - Angled Well
  - Previous Bioremediation Injection Well
  - ▲ Hand Auger Sample Location (HA) Adjacent to a Stream (STRHA)
  - Monitoring Well (MW)
  - Recovery Well (RW)
  - ▲ Surface Water Stream (STR) Sample Location
  - Completed DPT Location
  - Fence Line
  - Approximate Location of Stream in Culvert
  - Approximate Stream Location
  - Former Varian Facility
  - Approximate Building Location



**FIGURE 3-4**  
**Proposed Bedrock and Overburden**  
**Injection and Monitoring Wells**  
**Former Varian Facility Site**  
*Beverly, Massachusetts*

Service Layer Credits: World Street Map: Esri, HERE, Garmin, NGA, USGS, NPS; Human Geography Detail: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community; Human Geography Base: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

**Appendix A**  
**Comprehensive Response Action**  
**Transmittal Form**







**COMPREHENSIVE RESPONSE ACTION TRANSMITTAL  
FORM & PHASE I COMPLETION STATEMENT**

Release Tracking Number

3 - 485

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

**B. THIS FORM IS BEING USED TO (cont.):** (check all that apply)

- 14. Submit a **Revised Phase IV Completion Statement**, pursuant to 310 CMR 40.0878 and 40.0879.
- 15. Submit a **Phase V Status Report**, pursuant to 310 CMR 40.0892.
- 16. Submit a **Remedial Monitoring Report**. (This report can only be submitted through eDEP.)
  - a. Type of Report: (check one)     i. Initial Report     ii. Interim Report     iii. Final Report
  - b. Frequency of Submittal: (check all that apply)
    - i. A Remedial Monitoring Report(s) submitted monthly to address an Imminent Hazard.
    - ii. A Remedial Monitoring Report(s) submitted monthly to address a Condition of Substantial Release Migration.
    - iii. A Remedial Monitoring Report(s) submitted every six months, concurrent with a Status Report.
    - iv. A Remedial Monitoring Report(s) submitted, concurrent with a Status Report.
  - c. Status of Site: (check one)     i. Phase IV     ii. Phase V     iii. Remedy Operation Status     iv. Temporary Solution
  - d. Number of Remedial Systems and/or Monitoring Programs: \_\_\_\_\_

A separate BWSC108A, CRA Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.
- 17. Submit a **Remedy Operation Status**, pursuant to 310 CMR 40.0893.
- 18. Submit a **Status Report to maintain a Remedy Operation Status**, pursuant to 310 CMR 40.0893(2).
- 19. Submit a **Transfer and/or a Modification of Persons Maintaining a Remedy Operation Status (ROS)**, pursuant to 310 CMR 40.0893(5) (check one, or both, if applicable).
  - a. Submit a **Transfer of Persons Maintaining an ROS** (the transferee should be the person listed in Section D, "Person Undertaking Response Actions").
  - b. Submit a **Modification of Persons Maintaining an ROS** (the primary representative should be the person listed in Section D, "Person Undertaking Response Actions").
  - c. Number of Persons Maintaining an ROS not including the primary representative: \_\_\_\_\_
- 20. Submit a **Termination of a Remedy Operation Status**, pursuant to 310 CMR 40.0893(6).(check one)
  - a. Submit a notice indicating ROS performance standards have not been met. A plan and timetable pursuant to 310 CMR 40.0893(6)(b) for resuming the ROS are attached.
  - b. Submit a notice of Termination of ROS.
- 21. Submit a **Phase V Completion Statement**, pursuant to 310 CMR 40.0894.
 

Specify the outcome of Phase V activities: (check one)

  - a. The requirements of a Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.
  - b. The requirements for a Temporary Solution have been met. A completed Temporary Solution Statement and Report (BWSC104) will be submitted to DEP.
- 22. Submit a **Revised Phase V Completion Statement**, pursuant to 310 CMR 40.0894.
- 23. Submit a **Temporary Solution Status Report**, pursuant to 310 CMR 40.0898.
- 24. Submit a **Plan for the Application of Remedial Additives** near a sensitive receptor, pursuant to 310 CMR 40.0046(3).
  - a. Status of Site: (check one)
    - i. Phase IV     ii. Phase V     iii. Remedy Operation Status     iv. Temporary Solution

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COMPREHENSIVE RESPONSE ACTION TRANSMITTAL  
FORM & PHASE I COMPLETION STATEMENT

Release Tracking Number

3 - 485

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

C. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> if Section B indicates that a **Phase I, Phase II, Phase III, Phase IV or Phase V Completion Statement** and/or a **Termination of a Remedy Operation Status** is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B indicates that a **Phase II Scope of Work** or a **Phase IV Remedy Implementation Plan** is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B indicates that an **As-Built Construction Report, a Remedy Operation Status, a Phase IV, Phase V or Temporary Solution Status Report, a Status Report to Maintain a Remedy Operation Status, a Transfer or Modification of Persons Maintaining a Remedy Operation Status** and/or a **Remedial Monitoring Report** is being submitted, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be inaccurate or materially incomplete.

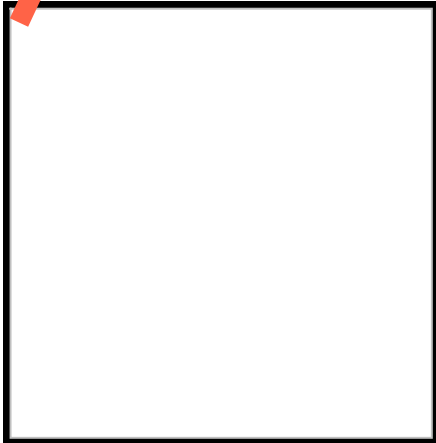
1. LSP#: 9456

2. First Name: MATTHEWE 3. Last Name: HACKMAN

4. Telephone: 4017379211 5. Ext.: 6. Email: matthewehackman@verizon.net

7. Signature: \_\_\_\_\_

8. Date: \_\_\_\_\_ (mm/dd/yyyy)

9. LSP Stamp: 

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COMPREHENSIVE RESPONSE ACTION TRANSMITTAL  
FORM & PHASE I COMPLETION STATEMENT

Release Tracking Number

3 - 485

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

D. PERSON UNDERTAKING RESPONSE ACTIONS:

- 1. Check all that apply:  a. change in contact name  b. change of address  c. change in the person undertaking response actions
- 2. Name of Organization: VARIAN MEDICAL SYSTEMS INC
- 3. Contact First Name: MATTHEW 4. Last Name: GILLIS
- 5. Street: 801 PENNSYLVANIA AVE NW STE 73 6. Title: \_\_\_\_\_
- 7. City/Town: WASHINGTON 8. State: DC 9. ZIP Code: 200040000
- 10. Telephone: \_\_\_\_\_ 11. Ext: \_\_\_\_\_ 12. Email: MATTHEW.GILLIS@VARIANT.COM

E. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTIONS:  Check here to change relationship

- 1. RP or PRP  a. Owner  b. Operator  c. Generator  d. Transporter  
 e. Other RP or PRP Specify: NON-SPECIFIED PRP
- 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)
- 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))
- 4. Any Other Person Undertaking Response Actions Specify Relationship: \_\_\_\_\_

F. REQUIRED ATTACHMENT AND SUBMITTALS:

- 1. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.
- 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of any Phase Reports to DEP.
- 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase III Remedial Action Plan.
- 4. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase IV Remedy Implementation Plan.
- 5. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of any field work involving the implementation of a Phase IV Remedial Action.
- 6. If submitting a Transfer of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for the person making this submittal (transferee) is attached.
- 7. If submitting a Modification of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for each new person making this submittal is attached.
- 8. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to: BWSC.eDEP@Mass.Gov.
- 9. Check here to certify that the LSP Opinion containing the material facts, data including, but not limited to: pressure measurements, maps, graphs, or diagrams, and other information is attached.



**COMPREHENSIVE RESPONSE ACTION TRANSMITTAL  
FORM & PHASE I COMPLETION STATEMENT**

Release Tracking Number

3 - 485

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

**G. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTIONS:**

1. I, \_\_\_\_\_, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

>if Section B indicates that this is a **Modification of a Remedy Operation Status (ROS)**, I attest under the pains and penalties of perjury that I am fully authorized to act on behalf of all persons performing response actions under the ROS as stated in 310 CMR 40.0893(5)(d) to receive oral and written correspondence from MassDEP with respect to performance of response actions under the ROS, and to receive a statement of fee amount as per 4.03(3).

I understand that any material received by the Primary Representative from MassDEP shall be deemed received by all the persons performing response actions under the ROS, and I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

2. By: \_\_\_\_\_ 3. Title: \_\_\_\_\_  
Signature

4. For: VARIAN MEDICAL SYSTEMS INC 5. Date: \_\_\_\_\_  
(Name of person or entity recorded in Section D) (mm/dd/yyyy)

6. Check here if the address of the person providing certification is different from address recorded in Section D.

7. Street: \_\_\_\_\_

8. City/Town: \_\_\_\_\_ 9. State: \_\_\_\_\_ 10. ZIP Code: \_\_\_\_\_

11. Telephone: \_\_\_\_\_ 12. Ext.: \_\_\_\_\_ 13. Email: \_\_\_\_\_

**YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO \$10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.**

Date Stamp (DEP USE ONLY:)

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# Appendix B

## Public Notice



**Notice of Phase IV Plan Modification  
Public Comment Period**

**Notice of Phase IV Remedy Implementation Plan Modification  
and Public Comment Period  
FORMER VARIAN FACILITY SITE  
150 SOHIER ROAD, BEVERLY, MASSACHUSETTS  
MADEP SITE #3-0485**

**PUBLIC MEETING  
April 16, 2025  
Beverly Middle School Library  
502 Cabot Street, Beverly, MA 01915  
Doors open at 6:30 p.m. – Presentation to begin at 7:00 p.m.**

On **April 9, 2025**, a **Phase IV Remedy Implementation Plan Modification** will be provided to the Massachusetts Department of Environmental Protection (MassDEP) for the former Varian Facility Site (Site) in Beverly, Massachusetts.

The Phase IV Plan modification proposes adjustments to the treatment plans along Tozer Road and 150 Sohier Road. The changes include expanding the treatment scope at 150 Sohier Road in place of the planned permeable adsorptive/reactive zone at Tozer Road (the Tozer Road barrier).

Remedial design investigations conducted in 2024 have provided comprehensive insights into the site's geology and the movement of groundwater and site-related chemicals in the area. In parallel, access negotiations with property owners on Tozer Road have been unsuccessful in obtaining the necessary access to install the Tozer Road barrier. While testing confirms the barrier's technical viability, practical and safe implementation requires property access. However, the increased technical understanding of the underlying geology has enabled the team to develop a more robust cleanup approach at 150 Sohier Road to meet our cleanup objectives, along with an expanded monitoring program to confirm that the current condition of no significant risk is maintained.

A public meeting will be held on April 16, 2025, to provide a status update on the remedial construction activities (including the Building 3 thermal treatment system and the PSL-10 subgrade biogeochemical reactor), to give an overview of the Phase IV Plan modifications, and to answer questions. The meeting will be followed by a 20-day public comment period (April 17-May 6, 2025) on the proposed Phase IV Plan modification.

Public comments can be submitted online at <https://beverlysitecleanup.com/public-involvement/>, by email to [raymond.cadorette@jacobs.com](mailto:raymond.cadorette@jacobs.com), or by mail to: Jacobs Solutions, attn: Raymond Cadorette, 120 St. James Avenue, 5th Floor, Boston, MA 02116.

**Notice of Phase IV Plan Modification  
Public Comment Period**

**After April 9**, a copy of the Phase IV Remedy Implementation Plan Modification will be on file and available for review at:

Beverly Public Library – Reference Desk  
32 Essex Street, Beverly, MA 01915  
Tel. 978.921.6062

Hours:  
Mon-Thurs 9:00 am-9:00 pm  
Fri and Sat: 9:00 am-5:00 pm  
Sun: 1:00 pm-5:00 pm

A copy of this report will be also available **beginning April 9** on the MassDEP website at the following link: <https://eeaonline.eea.state.ma.us/portal/dep/wastesite/viewer/3-0000485>, or by scanning the QR code using the camera on a tablet or smartphone:

