



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912

MEMORANDUM

DATE: May 23, 2024

SUBJ: Nuclear Metals, Inc. Superfund Site, Concord, Massachusetts

RE: Pre-Final/Final Site Inspection for the Knox Trail Groundwater Extraction System Expansion

FROM: Kara Nierenberg, Remedial Project Manager

TO: Nuclear Metals Superfund Site File

CC: Matt Audet, Massachusetts Section Chief, Massachusetts Superfund Site
Bob Cianciarulo, Remediation Branch Chief

In accordance with December 6, 2019 Consent Decree (CD) for Remedial Design / Remedial Action (RD/RA) Statement of Work (SOW) for the Nuclear Metals, Inc. Site, a pre-final/final inspection of the Knox Trail Groundwater Extraction System Expansion (also referred to as ex-situ off-property groundwater) was conducted by EPA at the site on May 22, 2024. The pre-final inspection shall also serve as the final inspection because there is only 1 minor punch list item remaining and it does not affect the effectiveness of the remedy. The site inspection and end of the shakedown period, along with the approval of the Remedial Action Report mark the Remedial Action Construction Complete Milestone. The milestone is defined in the RD/RA Consent Decree SOW Section 4.5(a) as “construction of the treatment plant and monitoring system are complete, and the systems are operating as intended”.

The Knox Trail treatment system was initially constructed as part of the 2017 Groundwater Non-Time Critical Removal Action (NTCRA)¹ at 16 Knox Trail in Acton, Massachusetts in the downgradient area at the Nuclear Metals, Inc. Superfund Site (the NMI Site) located in Concord, Massachusetts. The Knox Trail treatment system was implemented as a NTCRA and relied on a deep overburden extraction well, EW-1, to intercept Site groundwater upgradient of the Town of Acton wellfield. To date, the Knox Trail treatment system has operated well.

¹ de maximis, 2020. Groundwater Non-Time Critical Removal Action Construction Completion and Final Report, Nuclear Metals, Inc. Superfund Site, Concord, Massachusetts. May 29, 2020. EPA SEMS ID # 100014317

The Knox Trail Groundwater Treatment System Expansion included the addition of two new extraction wells (bedrock extraction well BEW-5 and overburden extraction well EW-2) to the existing treatment system. The wells are pumped through horizontal directional drilling (HDD) conduits under the Assabet River to the treatment building located at 16 Knox Trail, Acton, Massachusetts. The Remedial Action work was performed consistent with the *100% Design – Knox Trail Groundwater Extraction System Expansion* (dated September 15, 2022) and the *Knox Trail Groundwater Extraction System Expansion Remedial Action Work Plan* (the “Knox Trail Expansion RAWP”) dated December 5, 2022.

The Knox Trail Groundwater Treatment System Expansion was constructed started in May 2023 and the system started up in November 2023. The shakedown period took place between November 2023 and December 2023. The system has been operating continuously since December 2023. System optimization began in February 2024 to adjust the key system variables on a step wise basis to identify the optimum settings to achieve the required 1,4-dioxane discharge criteria.

The following personnel were present for the Knox Trail Groundwater Treatment System Expansion final inspection:

- Kara Nierenberg – EPA RPM
- ZaNetta Purnell – EPA CIC
- Garry Waldeck – MassDEP
- Andrew Schkuta – AECOM
- Nick Carabillo – AECOM
- Bruce Thompson – de maximis
- Christine Taddonio – de maximis
- Adrian Bilger – de maximis
- Carl Edler – Geosyntec
- Amy DeSantis – Geosyntec
- Garrett Fuerst – O&M, Inc.
- Dave Pierce – O&M, Inc.

The above personnel made a visual inspection of the Knox Trail Groundwater Treatment System Expansion, including the following items:

- BEW-5 extraction well and above ground vault
- EW-2 extraction well vault and transition vault
- Entry vault at the Knox Trail treatment system building
- Knox Trail treatment system – influent lines, valves, and treatment system
- Knox Trail effluent discharge point

Upon our arrival, the treatment system was extracting, treating, and discharging to the Assabet River at approximately 23.5 gallons per minute (gpm). The most recent effluent sampling results indicate that effluent discharge limits² are being achieved. de maximis and Geosyntec are preparing the Knox Trail Pump and Treat Expansion Project Construction Completion Report for submittal in June 2024.

² de maximis, 2024. Effluent Discharge Criteria, Nuclear Metals, Inc. Superfund Site, Concord, Massachusetts. February 13, 2024. EPA SEMS ID # 100028554