HAZARDOUS SITES CLEAN-UP UNDER THE ACT OF OCTOBER 18, 1988

NOTICE OF PROPOSED REMEDIAL RESPONSE

The Bishop Tube Site, South Malin Road, Malvern, PA, 19355, East Whiteland Township **Chester County**.

The Department of Environmental Protection ("DEP"), under the authority of the Hazardous Sites Cleanup Act ("HSCA") (35 P.S. §§ 6020.102-6020.1303), is proposing a remedial response action at the Bishop Tube HSCA Site ("the Site") to address soil, groundwater, surface water, and a residential drinking water supply that have been contaminated by chlorinated solvents and/or inorganic contaminants of concern ("COCs").

The Site consists of areas of groundwater, soil, and surface water contamination. Groundwater contamination at the Site affects properties, located along South Malin Road, Lancaster Avenue (US Rt. 30), Conestoga Road (PA Rt. 401), Morehall Road (PA Rt. 29), and Village Way. The sources of the contaminated groundwater and surface water and areas of contaminated soil are located on the 13.7-acre former Bishop Tube property ("Source Property"), currently owned by Constitution Drive Partners, L.P. ("CDP"). The Source Property's address is listed as 1 South Malin Road, Malvern, PA 19355.

TCE is considered the primary Site-related COC because its concentrations within soil, groundwater, and surface water are generally higher than other chlorinated solvents and pose the most substantial threat to human health and the environment of all Site-related COCs. Additionally, TCE has migrated further in groundwater than the other COCs released at the Site. Since a public water supply is available within the entire Site boundary, vapor intrusion ("VI"), and not ingestion of or direct exposure to groundwater, is anticipated to be the most significant exposure pathway. Potential routes of exposure on the Source Property include trespasser and construction worker direct contact to soil and surface water, and construction worker inhalation during excavation. Potential exposure routes for a future redevelopment scenario may include inhalation from VI and drinking from wells, if installed. Potential routes of exposure for downgradient properties may include the VI pathway, if new construction occurs in areas impacted by contaminated groundwater and/or occupied buildings are modified, and the potential use of untreated contaminated groundwater, if any new supply wells are installed. DEP is proposing to divide the Site into three operable units ("OU") and to remediate the Site to a combination of the Act 2 standards, including background, Statewide health, and site-specific.

OU 1 consists of soil contamination on the Source Property. Alternatives considered for OU1 include Alternative 1 – No Action, which is required to be considered as a baseline for each OU; Alternative 2 - Engineering Controls, Coupled with Institutional Controls ("ICs"); Alternative 3 - Excavation with Offsite Treatment and/or Disposal; Alternative 4 - Excavation with Onsite Treatment and Alternative 5 - In Situ Chemical Oxidation/In Situ Chemical Reduction ("ISCO/ISCR"), Coupled with Soil Mixing. DEP proposes the selection of Alternative 5 – ISCO and/or ISCR, Coupled with Soil Mixing to address areas of elevated COCs in unsaturated and saturated soils. The proposed alternative is more cost effective and provides unique benefits that are expected to compliment the preferred groundwater remediation approach, discussed below. This alternative will comply with Applicable, or Relevant and Appropriate Requirements

("ARARs"), is expected to have a smaller carbon footprint and results in lower potential for erosion/sedimentation and fugitive air emissions than the other alternatives considered. Engineering controls, designed to protect Little Valley Creek ("LVC") and reduce surface infiltration and contaminant migration, would be evaluated upon completion of the soil remedy work and implemented and/or maintained as part of the groundwater remedy. Completion of this alternative is expected to take four years and cost around $2.8 million. Long-term operations and maintenance costs associated with engineering and institutional controls are incorporated into the OU2 Groundwater remedy.

ISCO/ISCR, coupled with soil mixing would be protective of public health and the environment and meet the remedial action objectives ("RAOs") by addressing soil exposure pathways, reducing contaminant transfer and migration to and by groundwater, and preventing erosion during construction and after regrading and/or restoration are completed.

OU2 consists of Site groundwater. Alternatives considered for OU2 include Alternative 1 – No Action; Alternative 2 – Monitored Natural Attenuation; Alternative 3 – In Situ Injection (ISCO/ISCR/Bioremediation); Alternative 4 – In Situ Thermal Treatment ("ISTT"); and Alternative 5 – Hydraulic Control. DEP proposes selecting Alternative 3 – In Situ Injection (ISCO/ISCR/Bioremediation) to address COCs in groundwater. Implementation of this alternative would involve phased injection of amendments to treat the targeted groundwater source areas; engineering and/or ICs to mitigate Site impacts to LVC and address potential future human exposure to COCs in groundwater resulting from water well installation and/or VI; and long-term monitoring of engineering controls/ICs and ongoing natural attenuation.

Establishment of ICs, as an initial step, would immediately address the primary RAO to mitigate potential future human exposure to Site-related COCs in accordance with an Act 2 site-specific standard. Over time, implementation of Alternative 3 would achieve the other RAOs, including reducing COC migration in groundwater across the Source Property boundary, reducing the diffuse discharge of COCs to LVC, and hastening retraction of the contaminant plume. Completion of the active (i.e., injection) phase would be evaluated through monitoring of amendment distribution and attainment of conditions suitable for continued anaerobic biological degradation of CVOCs. After completion of the active phase of remediation, long-term monitoring would continue to assure exposure pathways are not opened due to changes in conditions (i.e., new construction or supply well installation), operations and maintenance of engineering controls and/or ICs, and to evaluate progress toward attaining RAOs.

DEP considers Alternative 3 to be more implementable than hydraulic control and ISTT because no extracted water will require discharge and/or additional pre-treatment before discharge. Any stream or sewage discharge would necessitate additional levels of pre-treatment and approvals for discharge to an exceptional value water or public sewer system. It is also more cost effective than these other alternatives and would provide for quicker attainment of RAOs than monitored natural attenuation alone. Preconstruction, construction, and active remedy implementation costs associated with the proposed alternative would be approximately $2.8M. Long-term post remedial costs are estimated to be $2.5M, based on a present value ("PV") calculation, resulting in a total estimated PV cost of about $5.3M.

The in situ injection alternative would comply with ARARs and be protective of human health and the environment primarily through assuring exposure pathway elimination via engineering controls and ICs.

OU3 consists of the one contaminated potable drinking water supply, located within the Site area. Alternatives considered for OU3 include Alternative 1 – No Action; Alternative 2 - Continued Operation, Maintenance, and Monitoring of a Whole House Carbon Filtration System, Combined with Restrictions on the Use of Groundwater; and Alternative 3 - Connection to the Existing Public Water Supply Waterline, Combined with Restrictions on the Use of Groundwater. DEP proposes the selection of Alternative 3 - Connection to the Existing Public Water Supply Waterline, Combined with Restrictions on the Use of Groundwater. Under Alternative 3, a lateral connection would be installed from the existing waterline main to the affected residential property and the private water supply well would be abandoned. The proposed alternative is a permanent solution that is protective of human health. The nearby existing public water infrastructure makes the proposed project alternative relatively easy to implement. Once connected to the waterline, the private well will be abandoned, therefore additional sampling of the residential well will not be required. The action will comply with ARARs relating to safe drinking water standards.

Connection of the home to the existing public water supply would cost approximately $24,000 and is more cost effective than continuing to operate, maintain, and monitor the point of entry system that currently exists on this residential water supply.

Alternative 3 would protect public health by permanently eliminating exposure to Site-related COCs resulting from use of the impacted private well.

In summary, DEP's proposed remedy includes ISCO/ISCR, coupled with soil mixing to address unsaturated and saturated soils impacted by Site COCs; in situ injection of ISCO, ISCR or bioremediation amendments in the two primary CVOC source areas to address contaminated groundwater with engineering, and/or ICs, and long-term monitoring; and connection of the residence with an impacted domestic well to the existing public water line.

In combination, implementation of these proposed alternatives would protect public health and the environment and address potential exposure pathways by using engineering controls and ICs, connecting a home with a private well to the public waterline, reducing COC migration across the source property boundary, reducing migration and diffuse discharge of COCs to LVC, and hastening retraction of the groundwater contaminant plume by reducing source concentrations of COCs in soil and groundwater.

If selected, implementation of these alternatives would be designed and implemented in a complimentary manner to avoid potential negative interactions, comport with the protections afforded under Article 1, Section 27 of the Pennsylvania Constitution, comply with ARARs, and avoid negative impacts to LVC. The total estimated PV cost of the proposed final remedial response action is $8.1M.

This notice is being provided pursuant to Section 506(b) of HSCA. The administrative record, including the Analysis of Alternatives and Proposed Response Document, which contains the information that forms the basis and documents the selection of this response action is available for public review and comment. An electronic copy of the administrative record is available to review on the DEP's website www.dep.pa.gov/bishoptube. The hard copy of the administrative record is located at DEP's office at 2 East Main Street, Norristown, PA 19401 and is available for review Monday through Friday from 8:00 am until 4:00 pm. Those interested in examining the Administrative Record at the DEP's office should contact Dustin A. Armstrong at 484.250.5723 to arrange for an appointment. Additional copies of the Administrative Record are available for review at East Whiteland Township's Municipal Building.

The administrative record will be open for comment from September 25, 2021 until January 3, 2022. Persons may submit written comments into the record during this time only by sending them by mail to Dustin A. Armstrong, Environmental Protection Specialist at the Pennsylvania Department of Environmental Protection, 2 East Main Street, Norristown, PA 19401 or by email to RA-EP-SEROECB@pa.gov. Please include "Bishop Tube Public Comment" in the subject of the email.

In addition, persons may present oral comments, for inclusion in the administrative record, at the public hearing. DEP has scheduled a Virtual Public Hearing for Tuesday, November 9, 2021, beginning at 6:30 PM. Individuals who wish to present testimony at the virtual hearing must email RA-EP-SEROECB@pa.gov a minimum of 24 hours in advance of the hearing to reserve a time to present testimony; a link will be provided upon registration. For those wishing only to listen, access information to the hearing will be posted to the Virtual Public Hearing web page found at www.dep.pa.gov (select ''Public Participation''). All comments, whether delivered orally during the virtual hearing or submitted in writing to RA-EP-SEROECB@pa.gov carry equal weight and consideration with DEP. Verbal testimony is limited to 3 minutes for each witness. Video demonstrations and screen sharing by witnesses will not be permitted. DEP asks that each organization designate one speaker per group and reminds those presenting that time may not be shared or relinquished to others. More information on DEP virtual hearings may be found on DEP's Public Participation page, at www.dep.pa.gov (select "Public Participation").