ANALYSIS OF BROWNFIELD CLEANUP ALTERNATIVES

ARROWHEAD REDEVELOPMENT

1355-1357 & 1359-1363 MAIN STREET AND 506-512, 525, & 529-543 ANN UCCELLO STREET HARTFORD, CONNECTICUT

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1.0 INTRODUCTION

WSP USA Inc. (WSP) prepared this Analysis of Brownfields Cleanup Alternatives (ABCA) of an assemblage of property identified as 1355-1357 & 1359-1363 Main Street and 506-512, 525, & 529-543 Ann Uccello Street in Hartford, Connecticut (the "Site"). The Site consists of vacant or underutilized and neglected properties that are targeted for reuse as the Arrowhead Redevelopment by Gateway Partnership LLC. The redevelopment plan includes the construction of a new mixed-use building and rehabilitation of three existing structures. Historical contamination of soil and groundwater at portions of the Site will be addressed under the Connecticut Department of Economic and Community Development (DECD) Brownfield Remediation and Revitalization Program (BRRP). Hazardous building materials (HBM) within the existing building will be abated prior to redevelopment. This ABCA was prepared in preparation of Site remediation and abatement activities funded under a United States Environmental Protection Agency (USEPA) Revolving Loan Fund.

2.0 SITE BACKGROUND

The Arrowhead Redevelopment includes a total of eight parcels of land that total 0.87-acres situated at the intersections of Main, Ann Uccello, and High Streets in Hartford, Connecticut (Figure 1). The work considered under this ABCA is proposed at only five of the eight parcels as described below. A conceptual development plan is included as Appendix I.

The Arrowhead Redevelopment Plan is an urban, walkable residential and commercial mixed-use project. The redevelopment plan includes the construction of a new mixed-use building and rehabilitation of three existing structures. Most of the Site buildings will include first floor commercial uses with upper floor residential apartments. With a zone change eliminating a minimum parking requirement parking requirement, the project was able to reduce vehicular activity and the need for impervious surface.

The Arrowhead Redevelopment is intended to establish an inviting gateway between the Clay Arsenal neighborhood and Downtown Hartford. The development will enhance existing

structures with the addition of new construction that is cohesive with the existing character and feel of the neighborhood.

The rehabilitation of the existing structures includes Energy-star appliances and mechanical systems, and the eligibility for participation in the Residential New Construction Program sponsored by Eversource Energy, which will include an Energy Rating System (HERS) Rater. Eligibility stems from the utilization of all-electric equipment for space heating, water heating, oven/range and clothes drying. Fossil fuel burning combustion is not permitted. All air source heat pumps are listed on the Energize CT Heat Pump Qualified Product List. An additional 25% eligibility bonus has been awarded because the project has an affordable housing component.

The redeveloped building will have passive climate resilience measures; the upgraded insulation and insulated windows can provide temporary protection in the case of unintended interruptions to the power grid. In addition, the site plan will employ the use pervious pavers to induce stormwater infiltration and limit the off-site transport of stormwater.

The 1359-1363 Main Street parcel was previously occupied by a multi-tenant commercial building that was demolished following a fire in 2015. Portions of the former building were occupied by a dry cleaner from 1941 through 1979. Historical atlases demonstrate that the footprint of the dry cleaner space originally was situated along the west-central portion of the Site; however, the operation had expanded to occupy approximately one-half of the former building by 1979. Soil and groundwater at this parcel have been impacted by releases of dry cleaner solvent and heating oil. The solvent impacts have the potential to have a vapor intrusion impact to the indoor air quality of a future building at this parcel. Typical polluted urban soils were also encountered.

The 525 Ann Uccello Street parcel was historically occupied by two multi-family dwellings in the early-1900s and then a gasoline service station from 1936 to 1956. The service station building was converted into a restaurant in the 1960s and was then demolished in the 1980s. Two gasoline underground storage tanks (USTs) were depicted at west-central portions of the Site in an historical atlas. Soil and groundwater at this parcel have been impacted by release from the

former USTs and service station operations. Typical polluted urban soils were also encountered.

The 1355-1357 Main Street parcel is occupied by a 4-story mixed use building constructed in late-1800s. The building was formerly occupied by a restaurant on the first floor and residential apartments on the upper floors. The building has been vacant since circa 2015. Hazardous building materials such as asbestos and lead based paint have been identified within this structure.

The 506-512 Ann Uccello Street parcel is occupied by a 3-story multi-family residential building that was constructed circa 1900. Hazardous building materials such as asbestos and lead based paint have been identified within this structure.

The 529-543 Ann Uccello Street parcel is occupied by a 4-story mixed use Flatiron style building that was constructed in 1901. The first floor has historically been occupied by restaurants and retail storefronts. The upper floors of the building were residential apartments. The building has been vacant since circa 2020. Hazardous building materials such as asbestos and lead based paint have been identified within this structure. Groundwater impacts from releases at the adjacent 525 Ann Uccello Street parcel have the potential to have a vapor intrusion impact to the indoor air quality of the existing building at this parcel.

3.0 ENVIRONMENTAL SETTING

3.1 Regional Physiography

The Site is located on the U.S. Geological Survey (USGS), Hartford North, Connecticut topographical quadrangle. The Site topography is relatively flat and situated at approximately 60 to 65 feet above mean sea level. The area topography slopes down gradually to the northwest.

3.2 Geologic Conditions

The surficial materials at the Site are mapped as fines (Stone, et. al 1992). Subsurface investigation encountered reworked urban soils containing little debris overlying native silt and

clay deposits to refusal, which was encountered at 38- to 43-feet below grade. Bedrock beneath the Site is mapped as the Portland Arkose, which is a reddish-brown sandstone (Rodgers, 1985).

3.3 Hydrologic Characteristics and Known Groundwater Uses

Groundwater beneath the Site has been assigned a quality of Class "GB" by the Connecticut Department of Energy and Environmental Protection (CTDEEP). This water quality designation is assigned to groundwater within a historically highly urbanized area, or an area of intense industrial activity where public water supply service is available. Such groundwater may not be suitable for human consumption without treatment due to waste discharges, spills or leaks of chemicals or land use impacts (CTDEEP, 2011). Groundwater was encountered at portions of the Site at depths of 5 to 7 feet below grade and was identified to flow to the west and northwest across the Site. However, we note that localized flow variations may exist as a result of irregular topography, underground utilities or heterogeneous subsurface conditions.

The Connecticut River is the nearest surface water body and is located approximately 2,600 feet to the east of the Site. This water body has been designated by the CTDEEP as "Class SB." This designation indicates it is known or presumed to meet the water quality criteria for one or more of the designated uses, which may include habitat for fish and other aquatic life and wildlife; recreation; navigation; and water supply for industry or agriculture.

The State of Connecticut Department of Public Health (CTDPH) GIS mapping does not identify any reservoirs, public water supply wells or watershed areas within a quarter-half mile radius of the Site. The CTDPH mapping indicates that public water service is available to the Site and surrounding area.

The CTDEEP Aquifer Protection Program web-based mapping series does not identify any aquifer protection areas within one-quarter mile radius of the Site.

3.4 Regional and Site Vulnerabilities

The Site is located in a densely developed urban area that is mapped by Federal Emergency

Management Agency (FEMA) as outside of the 100-year and 500-year flood zone. The anticipated impacts of climate change including increases in temperatures and precipitation coupled with weather variability, increased extreme precipitation events, and rises in sea level are not anticipated to significantly affect the Site.

4.0 REGULATORY SETTING

Gateway Partnership LLC will address the identified soil and groundwater contamination at the Site within the BRRP in accordance with November 6, 2023 program acceptance letters from the CTDECD. The BRRP requires the investigation of the release or threatened release of any regulated substance within the boundaries of the Site in accordance with prevailing standards and guidelines and the remediation of any release or threatened release of regulated substances within the boundaries of the Site in accordance with the Regulations of Connecticut State Agency (RCSA) Sections 22a-133k-1 through 3 (the "Remediation Standard Regulations"). Under the BRRP, there is no requirement to characterize, abate and remediate the release of a regulated substance beyond the boundary of the Site. The regulatory criteria within the Remediation Standard Regulations (RSRs) are risk based cleanup standards promulgated to protect human health and the environment. Based on the environmental setting of the Site, the applicable regulatory criteria are summarized in the subsections below.

Direct Exposure Criteria (DEC)

Mass-based concentrations of contaminants in soil are used to evaluate compliance with the Direct Exposure Criteria (DEC). The purpose of the DEC standards is to protect human health from risks associated with direct contact/ingestion of soil contaminants. The DEC are applicable to soil within 15 feet of the ground surface. Separate criteria are established for residential (R-DEC) and industrial/commercial (I/C-DEC) areas; however, use of the less stringent industrial/commercial standards for Site closure requires recording an EUR on the land records prohibiting residential use of the property. The DEC standards do not apply to "inaccessible soils", which are defined as soils more than four feet below ground surface, two feet below qualifying pavement, or below an existing building, provided an EUR is in effect for the whole parcel or the area of the release. A residential use restriction is not currently contemplated;

accordingly, we have presented Site contaminants in relation to the R-DEC.

GB Pollutant Mobility Criteria (GB-PMC)

Concentrations of contaminants in soil are also evaluated relative to the Pollutant Mobility Criteria (PMC). The purpose of the PMC standard is to evaluate the potential for contaminants to migrate from the soil and degrade the underlying groundwater. For most constituents, this evaluation can be performed by either: 1) using samples analyzed for total mass concentrations and comparing directly to PMC values presented in the RSRs; or 2) subjecting soil samples to the Synthetic Precipitation Leaching Procedure (SPLP) and comparing the concentrations of contaminants in the extracts directly to GWPC. For inorganic compounds, the PMC are not applicable to mass analyses and SPLP testing is necessary. As a conservative screening approach, based on the underlying methodology, the maximum potential SPLP concentrations can be estimated by dividing total mass concentrations by twenty; actual leachable concentrations are generally well below this calculated maximum.

Separate PMC standards are contained within the RSRs for sites located within Class GA (i.e., drinking water quality) groundwater areas versus those located within Class GB groundwater areas. Based on the Site location (within a Class GB groundwater area), compliance with the PMC was evaluated using the GB-PMC. The GB-PMC applies to soils located above the seasonal high groundwater table. In addition, the PMC are not applicable to some contaminated soils that are “environmentally isolated” (e.g., below a building).

Volatilization Criteria (VC)

The purpose of the Volatilization Criteria (VC) standard is to protect human health from risks associated with inhalation of volatile vapors which may migrate through building slabs into occupied spaces. Separate criteria are established for residential (R-VC) and industrial/commercial (I/C-VC) areas; however, use of the less stringent industrial/commercial standards requires recording an EUR on the land records. A residential use restriction is not currently contemplated; accordingly, we have presented Site contaminants relative to the R-VC.

Surface Water Protection Criteria (SWPC)

The purpose of the SWPC standard is to evaluate if contaminated groundwater that discharges to a surface water body interferes with the attainment of surface water quality standards in that water body. The default SWPC were derived using the CTDEEP Water Quality Standards multiplied by a conservative estimation of dilution as the groundwater plume enters the receiving water body. Compliance with the SWPC is demonstrated on a site-wide basis by comparing the average plume concentrations or plume concentrations directly upgradient of the point of discharge to the receiving surface water body to the SWPC.

5.0 SUMMARY OF ENVIRONMENTAL CONDITIONS

The Site conditions have been evaluated by a series of environmental investigations including a May 2023 Phase I Environmental Site Assessment (ESA) completed by BGTEnvironmental, an April 2022 Phase II ESA by BETA Group, a July 2023 Investigation Data Package by BGTEnvironmental, and supplemental investigations documented within an October 2023 Remedial Action Plan (RAP) by WSP. Phase I ESA update reports dated April 23, 2024 were also completed for portions of the Site by WSP. In addition to the environmental investigation reports, HBMs were evaluated within the three existing Site buildings as documented within reports by Freeman Companies LLC including a January 2023 Toxic Characteristic Leaching Procedure Results Report for 1355 Main Street and 529 Ann Uccello Street, a February 2023 Hazardous Materials Abatement Specifications report for 529 Ann Uccello Street, a February 2023 Hazardous Materials Abatement Specifications report for 1355 Main Street, a June 2023 Hazardous Materials Abatement Inspection Report for 506 Ann Uccello Street, and a June 2023 Hazardous Materials Abatement Specifications report for 506 Ann Uccello Street. These prior investigations were relied upon in evaluating the characterization of the Site. A complete listing of references is provided at the end of this report.

The Phase I ESA investigations resulted in the identification of certain historical uses of the 1359-1363 Main Street and 525 Ann Uccello Street parcels as recognized environmental conditions (RECs) including use as a dry cleaner and a gasoline filling and service station.

Certain oil storage tanks and historical fires were also identified as RECs. The identified RECs were evaluated with significant subsurface investigations. A summary of the investigation data is presented within summary tables and figures provided as Appendix II. The findings of the subsurface investigations are summarized below.

1359-1363 Main Street

A total of 45 soil samples were collected from the Site and analyzed for volatile organic compounds (VOCs). Tetrachloroethylene (PCE) and its biodegradation daughter products were detected in 13 soil samples at concentrations ranging from 0.0065 to 57 milligrams per kilogram (mg/kg). Only trace impacts were detected in shallow soils located at the ground surface to a depth of 5 feet below grade (SB-103 and B9). Samples above trace concentrations were detected in soils in the vicinity of the water table at boring B7 and B8 and then in deeper soil samples collected at borings SB-101, SB-102, and SB-107. These soil impacts were below the water table and are not subject to the GB-PMC; regardless, the impacts at boring B8 and SB-102 appear to be the source area impacts associated with concentration seen in groundwater. The PCE detection at boring B8 exceeds the R-DEC.

Petroleum impacts were detected in soils from at the water table at borings SB-102 and B10. Only the concentration of extractable total petroleum hydrocarbons (ETPH) detected at boring B10 exceeded the R-DEC. The source of the petroleum impacts is uncertain and may be related to a former heating oil underground tank.

Groundwater was evaluated with the installation and sampling of three shallow overburden wells and two deep overburden aquifer wells installed at the apparent top of bedrock. In addition, three shallow overburden monitoring wells were installed approximately 60 feet downgradient of the Site. PCE and its biodegradation daughter products were detected in groundwater samples collected from shallow and deep overburden monitoring wells at the Site. The concentrations within groundwater from the shallow overburden wells varied significantly with time with initial sampling events in January 2022 detecting PCE at up to 1,900 micrograms per liter (µg/l) and subsequent sampling in July 2023 only detecting trace impacts. The concentrations of PCE and trichloroethylene (TCE) in on-Site groundwater exceeded the R-VC and SWPC within the

dataset of the initial sampling event and were below these criteria in subsequent sampling events. Vinyl chloride was detected in groundwater from one shallow overburden monitoring well (MW-2) at a concentration of 3.5 µg/l, which exceeded the R-VC. Only marginal impacts were detected within the groundwater samples collected from the downgradient off-Site monitoring wells.

Groundwater from the two deep overburden monitoring wells installed at the top of apparent bedrock were found to exhibit PCE impacts at concentrations of 5.9 and 12 µg/l. TCE and vinyl chloride, likely evidence of ongoing breakdown of PCE, were also detected at 40 and 12 µg/l, respectively in groundwater from one of these wells, well MW-3D. These deep impacts exceed the numerical R-VC; however, the volatilization criteria only apply to the concentrations observed in the uppermost water table monitoring wells.

Polyfluoroalkyl substances (PFAS) were recently identified by the CTDEEP as a constituent of concern at dry cleaners and within certain firefighting foams that may have been used at the Site. Given the absence of analyses for PFAS within the prior investigations, WSP recently completed a screening to evaluate if PFAS are present within soil and groundwater at the Site. PFAS compounds were detected in shallow soil samples within the footprint of the former dry cleaner at concentrations ranging from 0.14 to 0.31 µg/kg, which are below relevant regulatory criteria. PFAS were also detected in shallow overburden aquifer groundwater at the Site at concentrations ranging from 0.112 µg/l at upgradient portions and 0.119 µg/l at downgradient portions of the Site. Relevant regulatory criteria have not been developed for PFAS compounds in groundwater. Based on the de minimis PFAS impacts detected in soil and the similar concentrations of PFAS at upgradient and downgradient portions of the Site, PFAS remediation is not anticipated.

525 Ann Uccello Street

A ground penetrating radar (GPR) survey of the Site was completed by CorBuilt LLC on June 21, 2023 and evidence of the presence of USTs was not identified.

Petroleum and metals impacts were detected in shallow soils within the area of the former service station building. The R-DEC were only exceeded with respect to concentrations of

extractable total petroleum hydrocarbons (EPTH), polynuclear aromatic hydrocarbons (PAHs), and/or lead in shallow soils at borings SB-202 and SB-209. Leachability analyses demonstrate that these impacts do not exceed the GB-PMC. Polychlorinated biphenyls (PCBs) were not detected.

Only benzene exceeded the GB-PMC, which was found in the area surrounding the former USTs (SB-5, SB-5, SB-6, and SB-7) that were depicted in a historical atlas. However, the impacts were below the water table and do not appear to be subject to the GB-PMC. The remaining detections of volatile organic compounds were all below the R-DEC and GB-PMC.

Groundwater impacts were detected at the Site proximate to the former gasoline UST area, generally at levels below the R-VC. The impacts primarily included gasoline related VOCs, ETPH, and 1,2-dichloroethane (DCA). Trace concentrations of PAHs and metals were also detected. Only concentrations of benzene, 1,3,5-trimethylbenzene, and 1,2-DCA from wells MW-201 and MW-202 exceeded the R-VC in groundwater samples. Benzene and ETPH in groundwater from these wells also exceeded the SWPC.

1355-1357 Main Street

Hazardous building materials including asbestos and lead based paint were identified throughout the building. The asbestos containing materials (ACMs) included pipe insulation, boiler insulation, ceiling materials within a walk-in cooler, flooring, window caulking, flashing, and roofing materials. Lead based paint qualifying as characteristically hazardous was identified within walls and ceiling plaster. Other identified hazardous materials including fluorescent bulbs, mercury thermostats, tritium containing exit signs, lead-acid batteries, refrigerant in air conditioning units, and pigeon guano. PCBs were presumed to be present in certain building materials that were found to contain ACMs and are targeted for disposal as a mixed asbestos/PCB waste.

529-543 Ann Uccello Street

Hazardous building materials including asbestos and lead based paint were identified throughout the building. The ACMs included flooring, roofing materials, and window caulk, glazing, and

sashes. PCBs were presumed to be present in certain building materials that were found to contain ACMs and are targeted for disposal as a mixed asbestos/PCB waste.

506-512 Ann Uccello Street

Hazardous building materials including asbestos and lead based paint were identified throughout the building. The ACMs included chimney flue cement and sink undercoating. Lead based paint was identified within several exterior painted surface. Other identified hazardous materials including fluorescent bulbs and refrigerant. PCBs were presumed to be present in certain building materials that were found to contain ACMs and are targeted for disposal as a mixed asbestos/PCB waste.

6.0 EVALUATION OF CLEANUP ALTERNATIVES

Subsurface investigation has resulted in the identification of releases that require remediation and the presence of HBMs within existing structures. This ABCA documents the analyses of remedial alternatives as follows:

- Alternative #1: No Action.

- Alternative #2: Abatement of Hazardous Building Materials and In-situ Remediation. Vapor mitigation systems would be installed in certain future and existing buildings.

- Alternative #3: Abatement of Hazardous Building Materials and Excavation and Off-Site Disposal of Soil Impacts with construction of an Environmental Cap. The Environmental Cap would consist of proposed hardened surface coverings including a Site building, pavement, and hardscape features. Vapor mitigation systems would be installed in certain future and existing buildings.

The remediation alternatives were evaluated in consideration of planned redevelopment of the Site in the subsections that follow. The results of this evaluation were summarized in Table 1.

6.1 Effectiveness of Remedial Alternative

Alternative #1: No Action

This alternative would not achieve compliance with the RSRs. Development of the Site could not occur without addressing the resulting impacts to human health and the environment at the Site.

Alternative #2: Abatement of Hazardous Building Materials and In-situ Remediation

This alternative includes removal and abatement of HBMs prior to building construction as this is the most effective method to prevent unacceptable exposures to future receptors. Soil impacted with organic compounds can often be remediated via in-situ remedial methods. In-situ remediation is less effective addressing inorganic contaminants (metals). All in-situ methods rely on movement of air and/or chemicals through subsurface soil to effect remediation.

Natural Attenuation – Natural attenuation relies on naturally occurring processes such as dilution, dispersion, volatilization, and biodegradation to reduce organic chemical concentrations in the ground. Effectiveness varies considerably based on contaminant type, subsurface conditions (e.g. soil permeability, depth to groundwater, air exchange, etc.). Natural attenuation typically occurs gradually over a relatively long period of time even in optimal conditions. Natural attenuation is not a viable option for contaminants that remain persistent in the environment or for contaminants that exist at high concentrations below grade.

Soil Vapor Extraction (SVE) - SVE is a physical treatment process for in situ remediation of VOCs in the vadose zone (unsaturated) soils. SVE (also referred to as in situ soil venting or vacuum extraction) is based on mass transfer of contaminant from the solid (sorbed) and liquid (aqueous or non-aqueous) phases into the gas phase, with subsequent collection of the gas phase contamination at extraction wells. Extracted contaminant mass in the gas phase (and any condensed liquid phase) is either treated or discharged direct to the exterior air depending on effluent air concentrations. SVE is a technology used to remove VOCs.

Chemical Injections – Various types of chemical injection remedial technologies are

commercially available that would promote the destruction of the pollutants at the Site. These techniques generally require extended contact time for the chemical injectant and the polluted soil media. Given the presence of soil impacts above the water table, the sustained contact of the injectant and soil impacts will not be possible under normal conditions.

The surficial materials at the Site were identified to include a relatively thin layer of urban soil over native silt and clay deposits. The native silts and clay deposits in the Site area are known to have limited conductivity and permeability for movement of liquids and vapors. Based on these conditions, in-situ methods would not be a viable option at the Site.

Alternative #2 and #3 both include the installation of similar vapor mitigation measures that would prevent the migration of VOCs within the environment from entering certain existing and proposed buildings. The contemplated measures are readily available and highly effective.

Alternative #3: Abatement of Hazardous Building Materials and Excavation and Off-Site Disposal of Soil Impacts with construction of an Environmental Cap

This alternative includes removal and abatement of HBMs prior to building construction as this is the most effective method to prevent unacceptable exposures to future receptors. Removing contaminated soil with off-site disposal is the most effective way to permanently eliminate soils exceeding the RSRs. Excavation and confirmation sampling can effectively achieve remedial goals in a relatively short period of time. This alternative could potentially include the on-site management of typical urban soils containing certain petroleum and metals impacts below hardened surface coverings. This remedial approach is best used in conjunction with soil excavation and off-site disposal since chlorinated solvent contamination and source area soil impacts causing a groundwater plume are not allowed to be left in place or reused beneath the Site in accordance with the RSRs.

Alternative #2 and #3 both include the installation of similar vapor mitigation measures that would prevent the migration of VOCs within the environment from entering certain existing and proposed buildings. The contemplated measures are readily available and highly effective.

6.2 Implementability

Alternative #1: No Action

This alternative would require no implementation.

Alternative #2: Abatement of Hazardous Building Materials and In-situ Remediation

The abatement of HBMs and vapor mitigation controls are relatively easy to implement. The necessary services and materials to complete the remedial tasks are readily available, including the necessary equipment and contractors. In-situ remedial methods are relatively involved and a challenge to properly implement both technically and from a permitting perspective. In addition, active in-situ remediation, such as an SVE system has costs associated with equipment, and long-term operations and maintenance. Implementation of in-situ methods can take years to achieve results.

Alternative #3: Abatement of Hazardous Building Materials and Excavation and Off-Site Disposal of Soil Impacts with construction of an Environmental Cap

The abatement of HBMs and vapor mitigation controls are relatively easy to implement. The necessary services and materials to complete the remedial tasks are readily available, including the necessary equipment and contractors. The excavation and removal and/or capping of contaminated soil would be feasible since the Site is currently vacant and undeveloped. Therefore, the impacted soils would be readily accessible. Implementation of excavation and off-site disposal of soil following this approach is relatively straightforward and can achieve results immediately. The use of an environmental cap would require the recording of a CTDEEP approved Environmental Use Restriction (EUR) within the land records, which can be a cumbersome process. The EUR would limit excavation following the installation of the hardened surface covering cap; however, the EUR would not include a residential restriction.

6.3 Cost

WSP has compared costs for the implantation of the remedial alternatives as follows:

Alternative #1: No Action

This alternative requires no cost but could result in unacceptable exposures and regulatory enforcement. In addition, this alternative would not allow for the Site to be returned to a viable economic parcel that would be positive for the surrounding community.

Alternative #2: Abatement of Hazardous Building Materials and In-situ Remediation

Chlorinated solvents and gasoline impacts would be the only contaminants identified where in-situ treatment using a SVE system could be effective on the Site; however, in-situ remediation alone would not resolve all impacts. Building vapor mitigation measures are also prescribed as a conservative measure to protect future building occupants from residual volatile organic compounds (VOCs) in soil and groundwater. Soil capping and the recording of an EUR would also be needed to address soils impacted with metals and ETPH. Estimated costs include the following:

HBM Abatement: $314,000
Remediation System Equipment/piping/installation: $200,000
Routine Operations and Maintenance/electrical service (3 to 5 years) $300,000 to $500,000
Vapor Mitigation Systems: $80,000
LEP/Consulting Oversight = $97,000 to $118,000
EUR Prep with estimated legal fees = $98,000

Total Estimated Cost: $1,089,000 to $1,310,000

Alternative #3: Abatement of Hazardous Building Materials and Excavation and Off-Site Disposal of Soil Impacts with construction of an Environmental Cap

The dry cleaner soil impacts and former gasoline UST soil impacts exceed regulatory criteria in discrete areas and require remediation. Remediation of the apparent hot-spot soil impacts is also anticipated to remove the primary source area of the groundwater plume detected at the Site that exceed regulatory criteria. This process would be assisted through the use of groundwater extraction with a vacuum truck during excavation activities. Surficial soil impacts associated with historical service station operations and/or urban soils can be excavated and removed or

capped with hardened surface coverings. We have that the soil remediation program will include the excavation and removal of 350 tons of hazardous waste soil from the 1359-1363 Main Street parcel and 540 tons of non-hazardous waste soil from the 525 Ann Uccello Street parcel. Building vapor mitigation measures are also prescribed as a conservative measure to protect future building occupants from residual VOCs in soil and groundwater. Estimated costs include the following:

HBM Abatement: $314,000
Remedial Contractor Excavation, Backfilling, Compaction: $72,000
Hazardous Waste Transport & Disposal (350 tons x $750 per ton): $245,000
Non-Hazardous Waste Transport & Disposal (540 tons x $120 per ton): $64,800
Clean Fill: $37,400
Vacuum Truck Groundwater Extraction and Disposal: $30,000
Vapor Mitigation Systems: $80,000
LEP/Consulting Oversight = $67,500
EUR Prep with estimated legal fees = $98,000

Total Estimated Cost: $1,008,700

6.4 Resiliency to Climate Change

The US Global Change Research Program identifies trends for the northeast region of the United States include increased temperatures, increased precipitation with greater variability, increased extreme precipitation events, and rises in sea level. Increased precipitation may affect flood waters and stormwater runoff during and after Site remediation and redevelopment.

Alternative #1: No Action

This alternative would prohibit or significantly limit the scope of the redevelopment of the Site, leaving preexisting vulnerabilities to impacts of climate change. This alternative would also eliminate the benefits of the use of sustainable design measures and building materials that would be associated with the proposed development as summarized in Section 2.0.

Alternatives #2 and #3: Abatement of Hazardous Building Materials with In-situ or Ex-situ Remediation

The selection of Alternative #2 or #3 will both result in the redevelopment of the Site using sustainable design measures and building materials, which will be resilient to climate change. Alternative #2 will likely involve a greater amount of short-term resiliency due to the need for more limited excavation during soil remediation. However, the short-term impacts to resiliency associated with Alternative #3 would be mitigated using U.S. EPA Region 1 Green and Sustainable Remediation Guidance by completing the short-term remedial measures during the dry season and through the use of robust stormwater and erosion control measures. Both remedial alternatives will involve a similar use of energy and resources with a higher electrical energy expenditure over time with Alternative #2 and a higher short-term use of energy resources associated with Alternative #3.

6.5 Recommended Cleanup Alternative

The recommended cleanup alternative is Alternative #3: Abatement of Hazardous Building Materials and Excavation and Off-Site Disposal of Soil Impacts with construction of an Environmental Cap. This alternative also includes the installation of vapor intrusion mitigation measures. This alternative is practical, implementable, and effective in protecting human health and the environment. It is also an effective way to prevent future receptors from coming into direct contact with hazardous building material and contaminated soils onsite. This option also is the best chance of achieving compliance with the RSRs so that a LEP can render a verification within the 8-year time frame.

Alternative #1: No Action cannot be recommended since it does not address site risks. Alternative #2: Abatement of Hazardous Building Materials and In-situ Remediation will likely have only limited effectiveness due to the predominance of silts and clays soils in subsurface soils at the Site. The significant costs with poor outcome potential makes this alternative impractical to select.

Green and Sustainable Remediation Measures for Selected Alternative

The following measures will be implemented to the extent feasible to improve the overall sustainability of the proposed remedial alternative:

- Documents and communications will be issued electronically in most circumstances.
- Incentivize the use of fuel-efficient/alternative fuel vehicles.
- The developer will require the cleanup contractor and soil transportation contractors to follow an idle-reduction policy and use heavy equipment with advanced emissions controls operated on ultra-low sulfur diesel.
- The excavation work would be conducted during the dry-weather months in order to minimize, mobilization of polluted soils, stormwater impacts, and dewatering needs.
- Minimize the off-site transport of contaminated soils through the use of engineered controls allowed under the CTDEEP RSRs.

May 21, 2024

REFERENCES

BETA. 2022. Phase II Environmental Site Assessment (ESA), 1355-1357 & 1359-1363 Main Street and 522 & 532 Ann Uccello Street, Hartford, Connecticut.

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TABLE

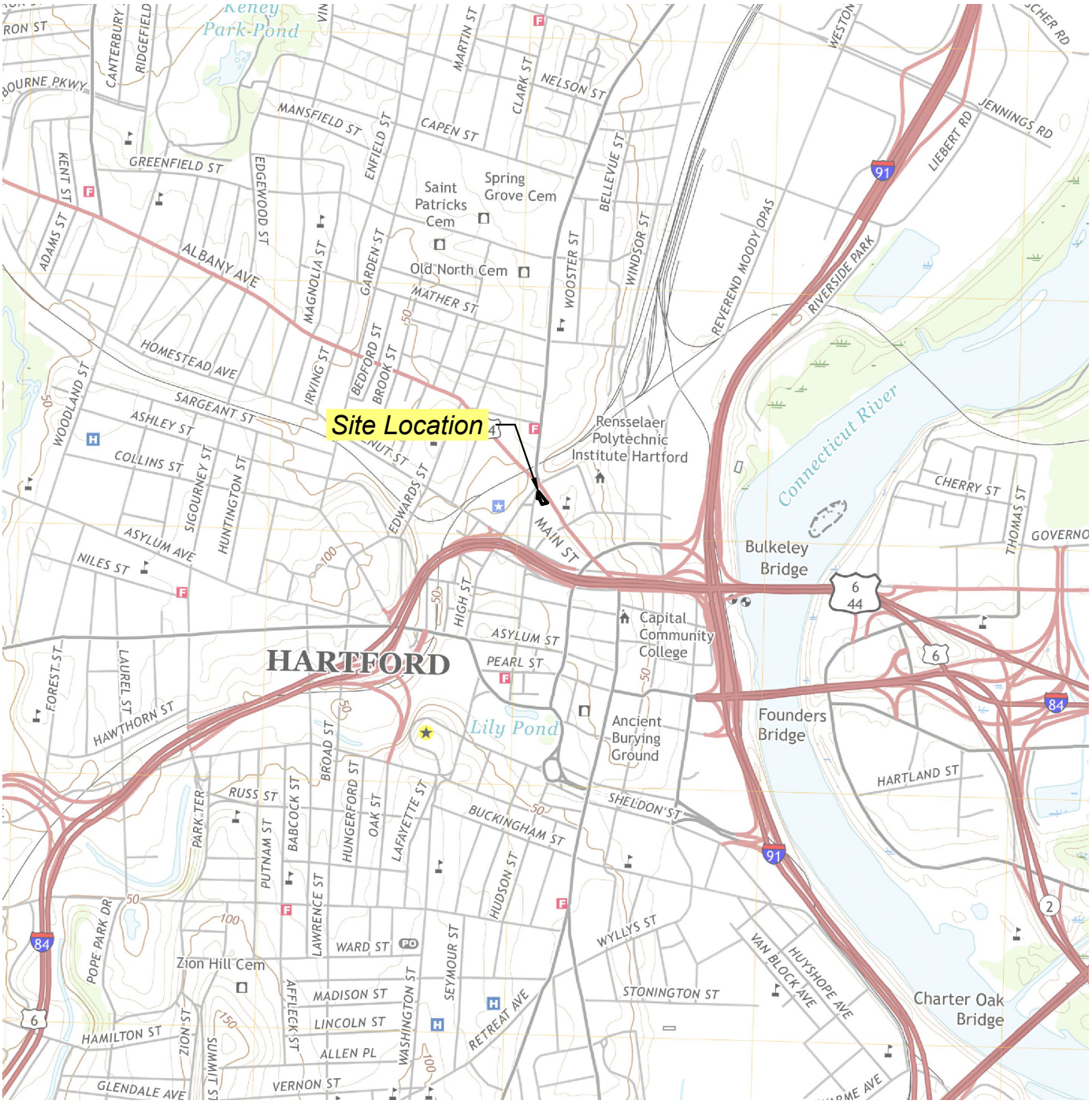
TABLE 1
Remedial Alternatives Evaluation Matrix

Arrowhead - Gateway Partners Redevelopment Project
Hartford, Connecticut

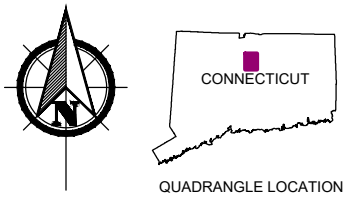
	Effectiveness	Difficulty in Implementation	Relative Cost	Resiliency	Duration of Remediation
Alternative #1: No Action	Low	Low	Low	Low	Short-term
Alternative #2: HBM Abatement and In-Situ Remediation	Low	High	High	High	Long-term
Alternative #3: HBM Abatement and Contaminated Soil Excavation and Removal	High	Moderate	Moderate-High	High	Short-term

FIGURE

DWG Date: 09/13/23
Checked: MS
Approved: DJ
Drawn By: RAC
A



SOURCE: USGS TOPOGRAPGIC QUADRANGLE HARTFORD, NORTH (2018).



QUADRANGLE LOCATION

LEGEND

PROPERTY BOUNDARY

0 2000

SCALE IN FEET

WSP USA Inc.
6 Research Drive
Suite 260
Shelton, Connecticut 06484
(203) 929-8555

Arrowhead Redevelopment
Hartford, Connecticut

SITE LOCATION MAP

FIGURE 1

APPENDIX I

ARROWHEAD DEVELOPMENT

Conceptual Site Plan

01/31/2023

HIGH STREET

MAIN STREET - ROUTE 44

HISTORIC FLATIRON BUILDING

PROPOSED GATEWAY BUILDING & ADDITION

HISTORIC ARROWHEAD BUILDING

SHADE TREE (TYP.)

HC VAN

PARKING: 11 SPACES

HC VAN

PARKING: 5 SPACES

FRONTAGE BUFFER WITH ORNAMENTAL METAL FENCE

EXISTING COOP BUILDING

GRAPHIC SCALE

20 10 0 20

SCALE IN FEET

FREEMAN COMPANIES

APPENDIX II

ANN UCCELLO STREET

SIDEWALK

MW-2

B1

B6

B9

SB-4

SIDEWALK

MAIN STREET

B3

SB-215

SB-212

B2

VACANT LOT
1359-1363 MAIN STREET

SB-10//MW-104

B4

SB-220

SB-5/TMW-5

MW-3D

SB-214

SB-213

MW-1D

SB-101/MW-101

SB-221

B7

B5

B10

SB-102

B8

SB-219

SB103

B11

B12

SB-3

VACANT 4-STORY
BUILDING
1355-1357 MAIN STREET

LEGEND

- PROPERTY BOUNDARY
- MONITORING WELL (WSP)
- MONITORING WELL (BETA)
- SOIL BORING/TEMPORARY MONITORING WELL (BETA)
- SOIL BORING (WSP)
- SOIL BORING (BGTE)
- SOIL BORING (BETA)

0 10

SCALE IN FEET

WSP USA Inc.
6 Research Drive
Suite 260
Shelton, Connecticut 06484
(203) 929-8555

Drawn By:	RAC
Checked:	MS
Approved:	DJ
DWG Date:	10/19/23

1359-1363 Main Street
Hartford, Connecticut

REMEDIAL EXCAVATION PLAN

FIGURE 3

B

Table 1

GATEWAY PARTNERSHIP LLC
1359-1363 MAIN STREET
HARTFORD, CONNECTICUT

Summary of Analaytical Results of Soil Samples

	Units	Regulatory Criteria GB-PMC	Regulatory Criteria R-DEC	SB-3 (5-7) 8/12/20	SB-4 (10-12) 8/12/20	SB-5 (15-17) 8/12/20	SB-101 6.2 1/19/22	SB-101 16.5 1/19/22	SB-102 8 1/19/22	SB-102 16 1/19/22	SB-103 1.5 1/19/22	SB-107 25 1/19/22	SB-212 (2-4) 7/15/23	SB-213 (2-4) 7/15/23	SB-214 (2-4) 7/15/23	SB-215 (2-4) 7/15/23	SB-219 (2-4) 7/15/23	SB-220 (2-4) 7/15/23	SB-221 (2-4) 7/15/23	MW-1 (0-2) 8/31/23
Volatile Organic Compounds (HVOCs)																				
cis-1,2-Dichloroethene	ug/kg	14,000	500,000	ND<8.2	ND<7.2	ND<12	ND<6.4	ND<7.5	ND<360	ND<410	ND<4.5	7.4	ND<3.7	ND<3.9	ND<5.8	ND<5.3	ND<4.2	ND<4.4	ND<4.9	ND<4.8
sec-Butylbenzene	ug/kg	70,000	1,000,000	ND<8.2	ND<7.2	29	ND<6.4	ND<7.5	220	ND<410	ND<4.5	ND<6.5	ND<3.7	ND<3.9	ND<5.8	ND<5.3	ND<4.2	ND<4.4	ND<4.9	NA
Tetrachloroethene	ug/kg	1,000	12,000	ND<8.2	ND<7.2	13	ND<6.4	2,500	ND<140	57,000	6.5	2,900	ND<3.7	ND<3.9	ND<5.8	ND<5.3	ND<4.2	ND<4.4	ND<4.9	ND<4.8
trans-1,2-Dichloroethene	ug/kg	20,000	500,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND<4.8
Trichloroethene	ug/kg	1,000	56,000	ND<8.2	ND<7.2	ND<12	ND<6.4	27	ND<140	270	ND<4.5	16	ND<3.7	ND<3.9	ND<5.8	ND<5.3	ND<4.2	ND<4.4	ND<4.9	ND<4.8
Trichlorofluoromethane	ug/kg	200,000	500,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND<4.8
Vinyl chloride	ug/kg	400	320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND<4.8
SPLP VOCs	ug/L	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND<1.0	NA	NA	NA	NA	NA	NA	NA
Polynuclear Aromatic Hydrocarbons (PAHs)																				
Benz(a)anthracene	ug/kg	1,000	1,000	440	ND<290	ND<320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	ug/kg	1,000	1,000	590	ND<290	ND<320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluorene	ug/kg	1,000	1,000	360	ND<290	ND<320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(ghi)perylene	ug/kg	1,000	8,400	400	ND<290	ND<320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	ug/kg	1,000	8,400	380	ND<290	ND<320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	ug/kg	1,000	84,000	460	ND<290	ND<320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	ug/kg	56,000	1,000,000	370	ND<290	ND<320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	ug/kg	1,000	1,000	370	ND<290	ND<320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	ug/kg	40,000	1,000,000	590	ND<290	ND<320	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Extractable Total Petroleum Hydrocarbons (ETPH)	mg/kg	2,500	500	ND<56	ND<63	83	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Metals																				
Arsenic	mg/kg	N/A	10	3.95	3.90	5.17	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	mg/kg	N/A	4,700	79.0	83.4	333	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	mg/kg	N/A	2	ND<0.30	0.36	1.42	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/kg	N/A	34	1.02	0.98	2.73	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/kg	N/A	NE	29.4	17.7	61.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/kg	N/A	2,500	22.1	24.8	50.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	mg/kg	N/A	400	86.7	74.1	18.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	mg/kg	N/A	20	0.07	0.10	ND<0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	mg/kg	N/A	1,400	15.3	16.2	53.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	mg/kg	N/A	470	23.2	27.9	88.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	mg/kg	N/A	20,000	99.7	66.5	119	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SPLP Metals																				
Barium	mg/L	10	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	mg/L	0.04	N/A	NA	NA	ND<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.05	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	0.5	N/A	NA	NA	0.019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	mg/L	0.15	N/A	ND<0.010	NA	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	mg/L	1	N/A	NA	NA	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	mg/L	50	N/A	NA	NA	0.032	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

GB-PMC: GB Pollutant Mobility Criteria
R-DEC: Residential Direct Exposure Criteria
ug/kg: micrograms per kilogrram
mg/kg: milligrams per kilogram

ND<: Not detected above laboratory reporting limits
NA: Constituent not analyzed
Bold: Exceeds one or more criterion

Table 1

GATEWAY PARTNERSHIP LLC
1359-1363 MAIN STREET
HARTFORD, CONNECTICUT

Summary of Analaytical Results of Soil Samples

	Units	Regulatory Criteria GB-PMC	Regulatory Criteria R-DEC	MW-1 (5-7) 8/31/23	MW-1 (10-12) 8/31/23	B1 (0-2) 8/31/23	B1 (6-8) 8/31/23	B2 (1-3) 8/31/23	B2 (6-8) 8/31/23	B2 (11-13) 8/31/23	B3 (0-2) 8/31/23	B3 (6.5-8) 8/31/23	B4 (1-3) 8/31/23	B4 (6-8) 8/31/23	B5 (1-3) 8/31/23	B5 (5-7) 8/31/23	B5 (10-12) 8/31/23	B6 (0-2) 8/31/23	B6 (7-8) 8/31/23	B7 (1-3) 8/31/23	B7 (6-8) 8/31/23	B8 (0-2) 9/1/23
Volatile Organic Compounds (HVOCs)																						
cis-1,2-Dichloroethene	ug/kg	14,000	500,000	290	1,300	ND<4.9	ND<6.1	ND<4.9	ND<6.4	ND<6.7	ND<4.6	ND<6.6	ND<5.3	ND<4.8	ND<4.0	8.7	19	ND<5.4	ND<5.0	ND<4.3	510	ND<4.2
sec-Butylbenzene	ug/kg	70,000	1,000,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	ug/kg	1,000	12,000	160	4,300	ND<4.9	ND<6.1	ND<4.9	ND<6.4	180	ND<4.6	ND<6.6	ND<5.3	ND<4.8	ND<4.0	ND<5.4	ND<6.0	ND<5.4	ND<5.0	ND<4.3	7,500	ND<4.2
trans-1,2-Dichloroethene	ug/kg	20,000	500,000	ND<5.0	5.4	ND<4.9	ND<6.1	ND<4.9	ND<6.4	ND<6.7	ND<4.6	ND<6.6	ND<5.3	ND<4.8	ND<4.0	ND<5.4	ND<6.0	ND<5.4	ND<5.0	ND<4.3	ND<330	ND<4.2
Trichloroethene	ug/kg	1,000	56,000	11	370	ND<4.9	ND<6.1	ND<4.9	ND<6.4	ND<6.7	ND<4.6	ND<6.6	ND<5.3	ND<4.8	ND<4.0	ND<5.4	13	ND<5.4	ND<5.0	ND<4.3	320	ND<4.2
Trichlorofluoromethane	ug/kg	200,000	500,000	ND<5.0	7.1	ND<4.9	ND<6.1	ND<4.9	ND<6.4	ND<6.7	ND<4.6	ND<6.6	ND<5.3	ND<4.8	ND<4.0	ND<5.4	ND<6.0	ND<5.4	ND<5.0	ND<4.3	ND<330	ND<4.2
Vinyl chloride	ug/kg	400	320	ND<5.0	34	ND<4.9	ND<6.1	ND<4.9	ND<6.4	ND<6.7	ND<4.6	ND<6.6	ND<5.3	ND<4.8	ND<4.0	ND<5.4	ND<6.0	ND<5.4	ND<5.0	ND<4.3	ND<320	ND<4.2
SPLP VOCs	ug/L	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Polynuclear Aromatic Hydrocarbons (PAHs)																						
Benz(a)anthracene	ug/kg	1,000	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	ug/kg	1,000	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluorene	ug/kg	1,000	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(ghi)perylene	ug/kg	1,000	8,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	ug/kg	1,000	8,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	ug/kg	1,000	84,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	ug/kg	56,000	1,000,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	ug/kg	1,000	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	ug/kg	40,000	1,000,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Extractable Total Petroleum Hydrocarbons (ETPH)	mg/kg	2,500	500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Metals																						
Arsenic	mg/kg	N/A	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	mg/kg	N/A	4,700	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	mg/kg	N/A	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/kg	N/A	34	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/kg	N/A	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/kg	N/A	2,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	mg/kg	N/A	400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	mg/kg	N/A	20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	mg/kg	N/A	1,400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	mg/kg	N/A	470	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	mg/kg	N/A	20,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SPLP Metals																						
Barium	mg/L	10	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	mg/L	0.04	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.05	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	0.5	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	mg/L	0.15	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	mg/L	1	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	mg/L	50	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

GB-PMC: GB Pollutant Mobility Criteria
R-DEC: Residential Direct Exposure Criteria
ug/kg: micrograms per kilogrram
mg/kg: milligrams per kilogram

ND<: Not detected above labo
NA: Constituent not analyzed
Bold: Exceeds one or more cri

Table 1

GATEWAY PARTNERSHIP LLC
1359-1363 MAIN STREET
HARTFORD, CONNECTICUT

Summary of Analaytical Results of Soil Samples

	Units	Regulatory Criteria GB-PMC	Regulatory Criteria R-DEC	B8 (6-7) 9/1/23	B9 (0-2) 9/1/23	B9 (6.5-8) 9/1/23	B10 (0-2) 9/1/23	B10 (5-7) 9/1/23	B11 (0-2) 9/1/23	B11 (6-8) 9/1/23	B12 (0-2) 9/1/23	B12 (5-7) 9/1/23
Volatile Organic Compounds (HVOCs)												
cis-1,2-Dichloroethene	ug/kg	14,000	500,000	460	ND<5.4	ND<6.4	ND<5.1	ND<220	ND<5.1	ND<5.0	ND<5.3	ND<6.0
sec-Butylbenzene	ug/kg	70,000	1,000,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	ug/kg	1,000	12,000	20,000	6.7	7.7	ND<5.1	ND<220	ND<5.1	ND<5.0	ND<5.3	6.5
trans-1,2-Dichloroethene	ug/kg	20,000	500,000	ND<5.4	ND<5.4	ND<6.4	ND<5.1	ND<220	ND<5.1	ND<5.0	ND<5.3	ND<6.0
Trichloroethene	ug/kg	1,000	56,000	590	ND<5.4	ND<6.4	ND<5.1	ND<220	ND<5.1	ND<5.0	ND<5.3	ND<6.0
Trichlorofluoromethane	ug/kg	200,000	500,000	ND<5.4	ND<5.4	ND<6.4	ND<5.1	ND<220	ND<5.1	ND<5.0	ND<5.3	ND<6.0
Vinyl chloride	ug/kg	400	320	16	ND<5.4	ND<6.4	ND<5.1	ND<220	ND<5.1	ND<5.0	ND<5.3	ND<6.0
SPLP VOCs	ug/L	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA
Polynuclear Aromatic Hydrocarbons (PAHs)												
Benz(a)anthracene	ug/kg	1,000	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	ug/kg	1,000	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluorene	ug/kg	1,000	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(ghi)perylene	ug/kg	1,000	8,400	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	ug/kg	1,000	8,400	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	ug/kg	1,000	84,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	ug/kg	56,000	1,000,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	ug/kg	1,000	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	ug/kg	40,000	1,000,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Extractable Total Petroleum Hydrocarbons (ETPH)	mg/kg	2,500	500	NA	NA	NA	NA	**900**	NA	NA	NA	NA
Total Metals												
Arsenic	mg/kg	N/A	10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	mg/kg	N/A	4,700	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	mg/kg	N/A	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/kg	N/A	34	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/kg	N/A	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/kg	N/A	2,500	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	mg/kg	N/A	400	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	mg/kg	N/A	20	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	mg/kg	N/A	1,400	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	mg/kg	N/A	470	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	mg/kg	N/A	20,000	NA	NA	NA	NA	NA	NA	NA	NA	NA
SPLP Metals												
Barium	mg/L	10	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	mg/L	0.04	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.05	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	0.5	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	mg/L	0.15	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	mg/L	1	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	mg/L	50	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA

GB-PMC: GB Pollutant Mobility Criteria
R-DEC: Residential Direct Exposure Criteria
ug/kg: micrograms per kilogrram
mg/kg: milligrams per kilogram

ND<: Not detected above labo
NA: Constituent not analyzed
Bold: Exceeds one or more crit

Table 2

GATEWAY PARTNERSHIP LLC
1359-1363 MAIN STREET
HARTFORD, CONNECTICUT

Summary of Analytical Results of Groundwater Samples

	Units	Regulatory Criteria SWPC	Regulatory Criteria R-VC	TMW-5 8/12/20	MW-101 1/26/22	MW-101 7/25/23	MW-101F 7/25/23	MW-107 1/26/22	MW-107 7/25/23	MW-107F 7/25/23	MW-216 7/25/23	MW-217 7/25/23	MW-218 7/25/23	MW-1D 9/7/23	MW-2 9/7/23	MW-3D 9/7/23
Halogenated Volatile Organic Compounds (HVOCs)																
Chloroform	ug/L	14,100	26	ND<1.0	ND<1.0	ND<1.0	NA	ND<10	ND<1.0	NA	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
cis-1,2-Dichloroethene	ug/L	6,200	NE	ND	ND<1.0	ND<1.0	NA	ND<20	ND<1.0	NA	ND<1.0	ND<1.0	4	ND<1.0	63	51
Tetrachloroethene	ug/L	88	340	**150**	15	6.5	NA	**1,900**	2.3	NA	ND<1.0	ND<1.0	ND<1.0	5.9	62	12
Trichloroethene	ug/L	2,340	27	4.9	ND<1.0	ND<1.0	NA	**67**	ND<1.0	NA	ND<1.0	ND<1.0	1.9	ND<1.0	9.9	**40**
Trichlorofluoromethane	ug/L	10,000	1,300	ND<1.0	3.4	4.7	NA	ND<20	5.6	NA	ND<1.0	ND<1.0	ND<1.0	ND<1.0	48	ND<1.0
Vinyl chloride	ug/L	15,750	1.6	ND	ND<1.0	ND<1.0	NA	ND<10	ND<1.0	NA	ND<1.0	ND<1.0	1.2	ND<1.0	**3.5**	**12**
Polynuclear Aromatic Hydrocarbons (PAHs)	ug/L	various	various	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA
Extractable Total Petroleum Hydrocarbons (ETPH)	mg/L	0.25	N/A	NA	ND<0.066	ND<0.067	NA	NA	ND<0.069	ND<0.067	NA	NA	NA	NA	NA	NA
Total Metals																
Arsenic	mg/L	0.004	NE	**0.709**	ND<0.004	ND<0.004	ND<0.004	NA	**0.005**	ND<0.004	NA	NA	NA	NA	NA	NA
Barium	mg/L	2.2	NE	**35.2**	0.424	0.122	0.111	NA	0.073	0.05	NA	NA	NA	NA	NA	NA
Beryllium	mg/L	0.004	NE	**0.16**	ND<0.001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.006	NE	**0.189**	ND<0.001	ND<0.001	ND<0.001	NA	ND<0.001	ND<0.001	NA	NA	NA	NA	NA	NA
Chromium	mg/L	0.11	NE	**6.77**	0.026	0.002	ND<0.001	NA	0.004	ND<0.001	NA	NA	NA	NA	NA	NA
Copper	mg/L	0.048	NE	**6.87**	0.026	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	mg/L	0.013	NE	**13.60**	**0.014**	ND<0.001	ND<0.002	NA	0.004	ND<0.002	NA	NA	NA	NA	NA	NA
Nickel	mg/L	0.88	NE	**4.9**	0.018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	mg/L	0.27	NE	**7.87**	0.028	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	mg/L	0.123	NE	**24.6**	0.051	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

SWPC: Surface Water Protection Criteria
R VC: Residential Volatilization Criteria
ug/L: micrograms per liter
mg/L: milligrams per liter
NE: Criteria not established
NA: Constituent not analyzed
Bold: Exceeds one or more criterion

Table 3

GATEWAY PARTNERSHIP LLC
1359-1363 MAIN STREET
HARTFORD, CONNECTICUT

Summary of Analytical Results of PFAs in Soil Samples

	Units	Regulatory Criteria GB-PMC	Regulatory Criteria R-DEC	B3 (1-3) 8/31/23	B4 (1-3) 8/31/23	B5 (1-3) 8/31/23
Per - & Polyfluorinated Alkyl Acids	ug/kg	14	1,350	*0.14*	*ND*	*0.31*
HFPO-DA	ug/kg	--	--	ND<0.42	ND<0.43	ND<0.42
NEtFOSAA	ug/kg	--	--	ND<0.10	ND<0.11	ND<0.11
NMeFOSAA	ug/kg	--	--	ND<0.10	ND<0.11	ND<0.11
PFBS	ug/kg	--	--	ND<0.10	ND<0.11	ND<0.11
PFDA	ug/kg	--	--	ND<0.10	ND<0.11	ND<0.11
PFDoA	ug/kg	--	--	ND<0.10	ND<0.11	ND<0.11
PFHpA	ug/kg	--	--	ND<0.10	ND<0.11	ND<0.11
PFHxS	ug/kg	--	--	ND<0.10	ND<0.11	ND<0.11
PFHxA	ug/kg	--	--	ND<0.10	ND<0.11	ND<0.11
PFNA	ug/kg	--	--	ND<0.10	ND<0.11	ND<0.11
PFOS	ug/kg	--	--	ND<0.10	ND<0.11	0.16
PFOA	ug/kg	--	--	0.14	ND<0.11	0.15
PFTeDA	ug/kg	--	--	ND<0.10	ND<0.11	ND<0.11
PFTrDA	ug/kg	--	--	ND<0.10	ND<0.11	ND<0.11
PFUnA	ug/kg	--	--	ND<0.10	ND<0.11	ND<0.11

GB-PMC: GB Pollutant Mobility Criteria
R-DEC: Residential Direct Exposure Criteria
ug/kg: micrograms per kilogram
mg/kg: milligrams per kilogram
ND<: Not detected above laboratory reporting limits
NA: Constituent not analyzed
NE: Criteria not established
*Note: Applicable GB PMC and R DEC are based on the cumulative results of PFOA, PFOS, PFNA, PFHxS & PFHpA (in bold). The results for each sample are shown in italics.

Table 4

GATEWAY PARTNERSHIP LLC
1359-1363 MAIN STREET
HARTFORD, CONNECTICUT

Summary of Analytical Results of PFAs in Groundwater Samples

	Units	Regulatory Criteria SWPC	MW-101 8/31/23	MW-107 8/31/23
Per - & Polyfluorinated Alkyl Acids (PFAs)	ng/L	NE	112	119
HFPO-DA	ng/L		ND<2.0	ND<2.0
NEtFOSAA	ng/L		ND<2.0	ND<2.0
NMeFOSAA	ng/L		ND<2.0	ND<2.0
PFBS	ng/L		4.3	3.1
PFDA	ng/L		ND<2.0	4.4
PFDoA	ng/L		ND<2.0	ND<2.0
PFHpA	ng/L		10	9.3
PFHxS	ng/L		3.8	2.7
PFHxA	ng/L		13	11
PFNA	ng/L		3.3	3.8
PFOS	ng/L		57	70
PFOA	ng/L		29	25
PFTeDA	ng/L		ND<2.0	ND<2.0
PFTrDA	ng/L		ND<2.0	ND<2.0
PFUnA	ng/L		ND<2.0	ND<2.0

SWPC: Surface Water Protection Criteria
ug/kg: micrograms per kilogrram
mg/kg: milligrams per kilogram
ND<: Not detected above laboratory reporting limits
NA: Constituent not analyzed
NE: Criteria not established
*Note: Applicable SWPC are based on the cumulative results of PFOA, PFOS, PFNA, PFHxS & PFHpA (in bold). The results for each sample are shown in italics.

VACANT 4-STORY BUILDING
529-543 ANN UCCELLO STREET

HIGH STREET

ANN UCCELLO STREET

SB-208

SB-209

SB-202//MW-202

SB-211

SB-210//MW-210

SB-207

FORMER SERVICE STATION BUILDING

SB-201//MW-201

SB-206

SB-205

VACANT LOT
525 ANN UCCELLO STREET

FORMER GASOLINE TANK AREA

SB-204

LEGEND

PROPERTY BOUNDARY

MONITORING WELL

SOIL BORING

0 10

SCALE IN FEET

B

WSP USA Inc.
6 Research Drive
Suite 260
Shelton, Connecticut 06484
(203) 929-8555

Drawn By:	RAC
Checked:	MS
Approved:	DJ
DWG Date:	09/13/23

525 Ann Uccello Street
Hartford, Connecticut

SOIL BORING PLAN

FIGURE 2

Table 1

GATEWAY PARTNERSHIP LLC
525 ANN UCCELLO STREET
HARTFORD, CONNECTICUT

Summary of Soil Sample Analyses

	Units	Regulatory Criteria GB-PMC	R-DEC	SB-201 (8-10') 7/13/23	SB-201 (10-12') 7/13/23	SB-202 (1-3') 7/12/23	SB-202 (12-14') 7/12/23	SB-204 (1-3') 7/13/23	SB-204 (10-12') 7/13/23	SB-205 (8-10') 7/13/23	SB-205 (10-12') 7/13/23	SB-206 (8-10') 7/13/23	SB-206 (10-12') 7/13/23	SB-207 (8-10') 7/13/23	SB-207 (10-12') 7/13/23	SB-208 (1-3') 7/12/23	SB-208 (10-12') 7/12/23	SB-208 (12-12.5') 7/12/23	SB-209 (1-3') 7/12/23
Extractable Total Petroleum Hydrocarbons (ETPH)	mg/kg	2,500	500	120	NA	2,200	NA	170	NA	ND<74	NA	ND<72	NA	ND<70	NA	98	NA	ND<64	520
Polychlorinated Biphenyls (PCBs)	ug/kg	N/A	1,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA<460	NA	ND<440	ND<370
Volatile Organic Compounds (VOCs)																			
1,2-Dichloroethane	ug/kg	200	6,700	ND<20	ND<20	ND<4.0	3.9	ND<6.2	ND<6.2	ND<20	ND<20	ND<7.9	ND<7.2	ND<6.7	11	ND<7.7	ND<6.0	ND<8.1	ND<5.6
1,2,4-Trimethylbenzene	ug/kg	28,000	500,000	180	ND<400	ND<4.0	2.5	ND<6.2	ND<6.2	1,200	740	4.6	3.1	180	250	ND<7.7	ND<6.0	ND<8.1	ND<350
1,3,5-Trimethylbenzene	ug/kg	28,000	500,000	840	420	ND<4.0	ND<6.1	ND<6.2	ND<6.2	1,100	890	45	22	19	38	ND<7.7	ND<6.0	ND<8.1	ND<350
2-Isopropyltoluene	ug/kg	5,000	500,000	190	ND<400	ND<4.0	ND<6.1	ND<6.2	ND<6.2	ND<470	ND<380	11	7.5	ND<6.7	ND<6.4	ND<7.7	ND<6.0	ND<8.1	ND<350
Benzene	ug/kg	200	21,000	1,400	570	ND<4.0	130	ND<6.2	ND<6.2	3,000	2,200	1,600	3,900	2,000	3,000	ND<7.7	ND<6.0	ND<8.1	ND<5.6
Ethylbenzene	ug/kg	10,100	500,000	2,800	1,300	ND<4.0	58	ND<6.2	ND<6.2	1,000	920	630	360	270	220	ND<7.7	ND<6.0	ND<8.1	ND<5.6
Isopropylbenzene	ug/kg	5,000	500,000	1,400	980	ND<4.0	28	ND<6.2	ND<6.2	400	350	85	78	39	22	ND<7.7	ND<6.0	ND<8.1	ND<350
Naphthalene	ug/kg	70,000	1,000,000	270	ND<400	ND<4.0	ND<6.1	ND<6.2	ND<6.2	450	320	92	65	28	26	ND<7.7	ND<6.0	ND<8.1	ND<350
n-Butylbenzene	ug/kg	10,000	500,000	330	280	ND<4.0	ND<6.1	ND<6.2	ND<6.2	ND<470	ND<380	21	12	3.4	ND<6.4	ND<7.7	ND<6.0	ND<8.1	ND<350
n-Propylbenzene	ug/kg	56,000	500,000	1,900	1,300	ND<4.0	23	ND<6.2	ND<6.2	510	470	110	91	41	21	ND<7.7	ND<6.0	ND<8.1	ND<350
p-Isopropyltoluene	ug/kg	5000	500,000	810	620	ND<4.0	4.1	ND<6.2	ND<6.2	220	230	38	22	8.9	7.2	ND<7.7	ND<6.0	ND<8.1	ND<350
sec-Butylbenzene	ug/kg	70,000	500,000	450	360	ND<4.0	4.2	ND<6.2	ND<6.2	ND<470	ND<380	22	15	5	ND<6.4	ND<7.7	ND<6.0	ND<8.1	ND<350
Total Xylenes	ug/kg	19,500	500,000	220	ND<400	ND<4.0	ND<6.1	ND<6.2	ND<6.2	1,400	960	50	54	29	170	ND<7.7	ND<6.0	ND<8.1	ND<5.6
Polynuclear Aromatic Hydrocarbons (PAHs)																			
2-Methylnapthalene	ug/kg	5,600	270,000	ND<320	NA	2,100	NA	ND<270	NA	ND<340	NA	ND<330	NA	ND<330	NA	ND<330	NA	ND<300	ND<290
Acenaphthene	ug/kg	84,000	1,000,000	ND<320	NA	ND<250	NA	ND<270	NA	ND<340	NA	ND<330	NA	ND<330	NA	ND<330	NA	ND<300	ND<290
Acenaphthylene	ug/kg	84,000	1,000,000	ND<320	NA	7,000	NA	ND<270	NA	ND<340	NA	ND<330	NA	ND<330	NA	ND<330	NA	ND<300	ND<290
Anthracene	ug/kg	400,000	1,000,000	ND<320	NA	5,600	NA	ND<270	NA	ND<340	NA	ND<330	NA	ND<330	NA	ND<330	NA	ND<300	ND<290
Benz(a)anthracene	ug/kg	1,000	1,000	ND<320	NA	12,000	NA	ND<270	NA	ND<340	NA	ND<330	NA	ND<330	NA	ND<330	NA	550	ND<290
Benzo(a)pyrene	ug/kg	1,000	1,000	ND<320	NA	16,000	NA	ND<270	NA	ND<340	NA	ND<330	NA	ND<330	NA	ND<330	NA	540	ND<290
Benzo(b)fluoranthene	ug/kg	1,000	1,000	ND<320	NA	14,000	NA	ND<270	NA	ND<340	NA	ND<330	NA	ND<330	NA	ND<330	NA	710	340
Benzo(ghi)perylene	ug/kg	1,000	8,400	ND<320	NA	8,400	NA	ND<270	NA	ND<340	NA	ND<330	NA	ND<330	NA	ND<330	NA	390	300
Benzo(k)fluoranthene	ug/kg	1,000	8,400	ND<320	NA	3,500	NA	ND<270	NA	ND<340	NA	ND<330	NA	ND<330	NA	ND<330	NA	ND<300	ND<290
Chrysene	ug/kg	1,000	84,000	ND<320	NA	14,000	NA	ND<270	NA	ND<340	NA	ND<330	NA	ND<330	NA	ND<330	NA	550	ND<290
Dibenz(a,h)anthracene	ug/kg	1,000	1,000	ND<320	NA	2,400	NA	ND<270	NA	ND<340	NA	ND<330	NA	ND<330	NA	ND<330	NA	ND<300	ND<290
Fluoranthene	ug/kg	56,000	1,000,000	ND<320	NA	11,000	NA	ND<270	NA	ND<340	NA	ND<330	NA	ND<330	NA	ND<330	NA	1,100	600
Fluorene	ug/kg	56,000	1,000,000	ND<320	NA	1,100	NA	ND<270	NA	ND<340	NA	ND<330	NA	ND<330	NA	ND<330	NA	ND<300	ND<290
Indeno(1,2,3-cd)pyrene	ug/kg	1,000	1,000	ND<320	NA	6,600	NA	ND<270	NA	ND<340	NA	ND<330	NA	ND<330	NA	ND<330	NA	370	ND<290
Naphthalene	ug/kg	56,000	1,000,000	ND<320	NA	2,200	NA	ND<270	NA	ND<340	NA	ND<330	NA	ND<330	NA	ND<330	NA	ND<300	ND<290
Phenanthrene	ug/kg	40,000	1,000,000	ND<320	NA	6,100	NA	ND<270	NA	ND<340	NA	ND<330	NA	ND<330	NA	ND<330	NA	400	370
Pyrene	ug/kg	40,000	1,000,000	ND<320	NA	26,000	NA	ND<270	NA	ND<340	NA	ND<330	NA	ND<330	NA	ND<330	NA	970	460
Total Metals																			
Arsenic	mg/kg	N/A	10	NA	NA	3.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.46	NA	3.81	4.15
Barium	mg/kg	N/A	4,700	NA	NA	93.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	95.3	NA	233	102
Cadmium	mg/kg	N/A	34	NA	NA	1.57	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.04	NA	1.77	1.39
Chromium	mg/kg	N/A	3,900	NA	NA	23.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	12.7	NA	44.5	20.4
Lead	mg/kg	N/A	400	20.1	19.2	77.9	NA	28.5	16.2	22.0	20.1	20.5	22	21	22.9	172	NA	106	639
Mercury	mg/kg	N/A	20	NA	NA	0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.16	NA	0.08	0.2
Selenium	mg/kg	N/A	340	NA	NA	ND<1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND<2.0	NA	ND<1.8	ND<1.8
Silver	mg/kg	N/A	340	NA	NA	ND<0.37	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND<0.5	NA	ND<0.45	ND<0.45

GB PMC: GB Pollutant Mobility Criteria
I/C DEC: Industrial/Commercial Direct Exposure Criteria
I/C VC: Industrial/Commercial Volatilization Criteria
mg/kg: milligram per kilogram
mg/L: milligrams per liter
SPLP analyses are not shown.

Table 1

GATEWAY PARTNERSHIP LLC
525 ANN UCCELLO STREET
HARTFORD, CONNECTICUT

Summary of Soil Sample Analyses

	Units	Regulatory Criteria GB-PMC	Regulatory Criteria R-DEC	SB-209 (10-12') 7/12/23	SB-210 (1-3') 7/12/23	SB-210 (10-12') 7/12/23	SB-211 (1-3') 7/12/23	SB-211 (12-14') 7/12/23
Extractable Total Petroleum Hydrocarbons (ETPH)	mg/kg	2,500	500	NA	77	NA	430	NA
Polychlorinated Biphenyls (PCBs)	ug/kg	N/A	1,000	NA	NA	NA	ND<360	NA
Volatile Organic Compounds (VOCs)								
1,2-Dichloroethane	ug/kg	200	6,700	ND<6.3	ND<6.2	ND<6.6	ND<4.9	200
1,2,4-Trimethylbenzene	ug/kg	28,000	500,000	ND<6.3	ND<6.2	ND<6.6	ND<4.9	ND<8.7
1,3,5-Trimethylbenzene	ug/kg	28,000	500,000	ND<6.3	ND<6.2	ND<6.6	ND<4.9	ND<8.7
2-Isopropyltoluene	ug/kg	5,000	500,000	ND<6.3	ND<6.2	ND<6.6	ND<4.9	ND<8.7
Benzene	ug/kg	200	21,000	ND<6.3	ND<6.2	ND<6.6	ND<4.9	ND<8.7
Ethylbenzene	ug/kg	10,100	500,000	ND<6.3	ND<6.2	ND<6.6	ND<4.9	ND<8.7
Isopropylbenzene	ug/kg	5,000	500,000	ND<6.3	ND<6.2	ND<6.6	ND<4.9	ND<8.7
Naphthalene	ug/kg	70,000	1,000,000	ND<6.3	ND<6.2	ND<6.6	ND<4.9	ND<8.7
n-Butylbenzene	ug/kg	10,000	500,000	ND<6.3	ND<6.2	ND<6.6	ND<4.9	ND<8.7
n-Propylbenzene	ug/kg	56,000	500,000	ND<6.3	ND<6.2	ND<6.6	ND<4.9	ND<8.7
p-Isopropyltoluene	ug/kg	5000	500,000	ND<6.3	ND<6.2	ND<6.6	ND<4.9	ND<8.7
sec-Butylbenzene	ug/kg	70,000	500,000	ND<6.3	ND<6.2	ND<6.6	ND<4.9	ND<8.7
Total Xylenes	ug/kg	19,500	500,000	ND<6.3	ND<6.2	ND<6.6	ND<4.9	ND<8.7
Polynuclear Aromatic Hydrocarbons (PAHs)								
2-Methylnapthalene	ug/kg	5,600	270,000	NA	ND<260	NA	ND<250	NA
Acenaphthene	ug/kg	84,000	1,000,000	NA	ND<260	NA	ND<250	NA
Acenaphthylene	ug/kg	84,000	1,000,000	NA	ND<260	NA	ND<250	NA
Anthracene	ug/kg	400,000	1,000,000	NA	ND<260	NA	300	NA
Benz(a)anthracene	ug/kg	1,000	1,000	NA	ND<260	NA	780	NA
Benzo(a)pyrene	ug/kg	1,000	1,000	NA	ND<260	NA	740	NA
Benzo(b)fluoranthene	ug/kg	1,000	1,000	NA	ND<260	NA	920	NA
Benzo(ghi)perylene	ug/kg	1,000	8,400	NA	ND<260	NA	420	NA
Benzo(k)fluoranthene	ug/kg	1,000	8,400	NA	ND<260	NA	310	NA
Chrysene	ug/kg	1,000	84,000	NA	ND<260	NA	740	NA
Dibenz(a,h)anthracene	ug/kg	1,000	1,000	NA	ND<260	NA	ND<250	NA
Fluoranthene	ug/kg	56,000	1,000,000	NA	ND<260	NA	1,800	NA
Fluorene	ug/kg	56,000	1,000,000	NA	ND<260	NA	ND<250	NA
Indeno(1,2,3-cd)pyrene	ug/kg	1,000	1,000	NA	ND<260	NA	420	NA
Naphthalene	ug/kg	56,000	1,000,000	NA	ND<260	NA	ND<250	NA
Phenanthrene	ug/kg	40,000	1,000,000	NA	ND<260	NA	1,000	NA
Pyrene	ug/kg	40,000	1,000,000	NA	ND<260	NA	1,500	NA
Total Metals								
Arsenic	mg/kg	N/A	10	NA	3.36	NA	4.89	NA
Barium	mg/kg	N/A	4,700	NA	177	NA	334	NA
Cadmium	mg/kg	N/A	34	NA	1.62	NA	2.03	NA
Chromium	mg/kg	N/A	3,900	NA	37.4	NA	37	NA
Lead	mg/kg	N/A	400	NA	63.5	NA	108	NA
Mercury	mg/kg	N/A	20	NA	0.24	NA	0.48	NA
Selenium	mg/kg	N/A	340	NA	ND<1.5	NA	ND<1.4	NA
Silver	mg/kg	N/A	340	NA	ND<0.37		ND<0.36	NA

GB PMC: GB Pollutant Mobility Criteria
I/C DEC: Industrial/Commercial Direct Exposure Criteria
I/C VC: Industrial/Commercial Volatilization Criteria
mg/kg: milligram per kilogram
mg/L: milligrams per liter
SPLP analyses are not shown.

Table 2

GATEWAY PARTNERSHIP LLC
525 ANN UCCELLO STREET
HARTFORD, CONNECTICUT

Summary of Groundwater Sample Analyses

	Units	Regulatory Criteria SWPC	Regulatory Criteria R-VC	MW-201 7/25/23	MW-202 7/25/23	MW-210 7/25/23
Extractable Total Petroleum Hydrocarbons (ETPH)	mg/l	0.25	NA	0.92	0.32	ND<0.72
Volatile Organic Compounds (VOCs)						
1,2-Dichloroethane	ug/kg	2,970	6.5	45	8.3	0.67
1,2,4-Trimethylbenzene	ug/kg	150	940	22	ND<1.0	ND<1.0
1,3,5-Trimethylbenzene		260	730	24	ND<1.0	ND<1.0
Benzene	ug/kg	710	215	980	2.3	ND<0.7
Chloroform	ug/kg	14,100	26	ND<6.0	1.2	ND<1.0
Ethylbenzene	ug/kg	580,000	50,000	120	ND<1.0	ND<1.0
Isopropylbenzene	ug/kg	210	900	19	ND<1.0	ND<1.0
Naphthalene	ug/kg	210	NE	13	ND<1.0	ND<1.0
Total Xylenes	ug/kg	270	21,300	23	ND<1.0	ND<1.0
Polynuclear Aromatic Hydrocarbons (PAHs)						
2-Methylnapthalene	ug/l	62	13,100	1.3	ND<0.48	ND<0.51
Naphthalene	ug/l	210	NE	6.4	ND<0.48	ND<0.51
Total Metals						
Arsenic	mg/kg	0.004	N/A	ND<0.004	ND<0.004	0.031
Barium	mg/kg	2.2	N/A	0.141	0.229	1.19
Cadmium	mg/kg	0.006	N/A	ND<0.001	ND<0.001	0.008
Chromium	mg/kg	0.11	N/A	ND<0.001	0.009	0.167
Lead	mg/kg	0.013	N/A	ND<0.001	0.002	0.07

SWPC: Surface Water Protection Criteria
R-VC: Residential Volatilization Criteria
NE: Not Established
mg/l: milligram per liter
ugl: micrograms per liter