

## Analysis of Brownfields Cleanup Alternatives (ABCA)

### I. Introduction and Background

#### a. Site Location

The approximately 1.02-acre site is located at 28W244 Warrenville Road in Warrenville, DuPage County, Illinois (DuPage County PIN # 04-35-403-021).

#### b. Previous Site Use(s) and any previous cleanup/remediation

The site was occupied by a building in a heavily wooded area from 1908 until 1948. Three buildings appeared to have occupied the site from at least 1952 until 1962; based on the city directory listings, these appeared to have been residential buildings. By 1963, a gas station building with an overhang was constructed on the southeast portion of the site; however, records of any associated fuel USTs were not identified. In 1966, according to the OSFM records two underground storage tanks were installed at the site. In 1979, a canopy was added south of filling station building in 1979. In 1985, the former building was removed, and the existing convenience store building (east) and filling station kiosk building (west) were constructed on the site. The site was reportedly upgraded in 1998. The site reportedly operated as a filling station from 1966 until 2016, under the entities of Gas Mart, Petroleum Pride, Inc., Phillips 66 Company, Phillips Petroleum Company, and Conoco Phillips Company. The filling station reportedly ceased operations and has been vacant since 2016.

The site has primarily been bordered to the north by residential/commercial properties and to the west by Batavia Road followed by commercial and residential properties. The site has been bordered to the east by an auto repair facility since at least 1972. The site is bordered to the south, across Warrenville Road (previously known as Aurora Road), by a restaurant and auto dealer and/or repair facility since at least 1970.

The Following activities have been conducted at the site for the City of Warrenville:

- Limited Phase II Subsurface Soil Investigation (LSI), dated March 2017, prepared by Environmental Group Services Limited, (EGSL);
- Phase I Environmental Site Assessment, dated October 2019, prepared by Terracon Consultants, Inc. (Terracon).
- Comprehensive Phase II Environmental Site Assessment, dated January 2020, prepared by Terracon.

#### c. Site Assessment Findings

The ASTM Phase I ESA identified the following RECs:

- Prior to development of the existing filling station structures, the site historically consisted of a prior filling/service station since at least 1966. Based on available information, the current and historical use of the site as a filling/service station for over 50 years is considered a REC to the site.
- Confirmatory soil sampling records were not identified in available documentation for the former 4,000-gallon kerosene UST installed in 1986 and reportedly removed in 2008. The historical UST is considered a REC to the site.

- The open LUST incident from the on-site gas station release reported when the former 6,000-gallon and 8,000-gallon gasoline USTs were removed in 1998 has impacted groundwater on the site at concentrations above unrestricted land use standards, which represents a REC to the site.
- According to the OSFM regulated storage tank (RST) database, two 20,000-gallon gasoline USTs (installed in 1986), one 12,000-gallon diesel UST (installed in 1976), and one 8,000-gallon gasoline UST (installed in 1998) are 21 to 43 years old, are out-of-service and remain on-site. The UST systems were reportedly upgraded in 1998 and 2009. Multiple notices of violation (NOVs) were reported from 2005 to 2016. Based on the age of the tanks and notices of violation, the remaining filling station operations and out-of-service USTs are considered a REC to the site.

The following off-site REC was identified:

- Based on the site's shared property boundary with the east adjoining auto body shop/repair facility, the length of operation of over 32 years, and the property's historical use of solvents and other hazardous materials, the east adjoining property is considered a REC to the site.

The subsurface investigation has been conducted at the site and identified the following contaminations.

- The concentrations of dibenzo (a, h) anthracene, arsenic, lead, and/or manganese in soil samples B-B-2 (0'-3'), B-3 (0'-3'), DI-1 (3'-5'), DI-2 (5'-7'), DI-3 (0'-3'), UST-3 (5'-7'), and UST-4 (3'-5') were detected above one or more of the respective IEPA TACO Tier SRO for the Residential Ingestion and/or Construction Worker Ingestion exposure pathways and respective background concentrations within a metropolitan statistical area, if available
- The concentrations of manganese and/or mercury in soil samples B-3 (3'-5'), B-4 (0'-3'), DI-1 (3'-5'), DI-2 (5'-7'), DI-3 (0'-3'), DI-4 (0'-3'), DI-4 (3'-5'), Pipe-1 (3'-5'), and UST-4 (3'-5') were detected above one or more of the respective IEPA TACO Tier 1 SROs for the Construction Worker Inhalation exposure pathway and respective background concentrations within a metropolitan statistical area, if available
- The concentrations of benzene, arsenic, chromium, lead, and/or selenium in soil samples B-3 (0'-3'), B-4 (7'-9'), DI-1 (3'-5'), DI-2 (5'-7'), DI-3 (0'-3'), Pipe-1 (3'-5'), UST-1 (7'-9'), UST-2 (5'-7'), UST-3 (5'-7'), and UST-4 (3'-5') were detected above the respective IEPA TACO Tier 1 SRO for the Soil Component of the Groundwater Ingestion Exposure Route (SCGIR)/pH Specific SCGIR for Class I groundwater exposure pathway and respective background concentrations within a metropolitan statistical area, if available.
- The concentrations of TCLP barium and TCLP lead in soil sample UST-3 (5'-7') were detected above one or more of the respective IEPA TACO Tier 1 GROs for Class I groundwater.

The nature and source of contamination on the target site is attributed to several decades of commercial and industrial activities. Although the City of Warrenville has conducted a comprehensive environmental investigation to prepare for the remediation of the target site, there is no specific evidence that would link the contamination found on the target site to a viable potentially responsible party considering the past site history except that Phillips 66 Company is responsible for the leaking underground storage tanks incident and impact associated with the existing UST system.

#### **d. Project Goals**

The project goal is to achieve a Comprehensive No Further Remediation (NFR) Letter from the IEPA. After the completion of the cleanup and receipt of an NFR letter, the primary and most immediate planned reuse of the site will be for a public greenspace park with associated supporting improvements. Planned future improvements include potential new private mixed-use structures containing residential dwelling units along the Batavia Road and Warrenville Road frontages of the site. This will significantly improve the safety and environmental conditions on the site and make the entire neighborhood surrounding the site much more attractive for additional private investment and improvement.

### **II. Cleanup Standard and Applicable Laws**

#### **a. Cleanup Oversight Responsibility**

City of Warrenville will perform the cleanup activities using a technical consultant selected based on their qualifications and experience working on Brownfields sites following the IEPA and USEPA regulations. All documents prepared for this site will be submitted to the IEPA SRP for review.

#### **b. Cleanup Standards for Major Contaminants**

Site cleanup activities and cleanup standard will be in accordance with 35 Illinois Administrative Code (IAC) Part 740 Site Remediation Program and Part 742 Tiered Approach to Corrective Action Objectives. The site will be treated as a property.

#### **c. Laws & Regulations applicable to the Cleanup**

Site cleanup activities and cleanup standard will be in accordance with 35 IAC Part 740 Site Remediation Program and Part 742 Tiered Approach to Corrective Action Objectives. All other related federal, state and local regulations including the federal Davis-Bacon Act, State of Illinois Environmental Protection Act, etc. All appropriate permits (e.g., notifications of excavation, soil transport/disposal manifests, etc.) will be obtained prior to the work commencing.

### **III. Alternatives Considered and Proposed Cleanup**

#### **a. Cleanup Alternatives Considered**

To address contamination at the site, three different alternatives were considered for cleanup. The alternatives consist of the following.

- Alternative 1 - No actions;
- Alternative 2 – Extensive soil excavation/disposal, importing three feet of clean soil to cover the entire site to mitigate the ingestion pathway and remediate the groundwater impact; and
- Alternative 3 – Soil excavation/disposal in select areas, importing three feet of clean soil to cover the proposed greenspace area. City will establish a groundwater usage ordinance on the site and adjacent areas.

#### **b. Cost Estimate of Cleanup Alternatives**

To satisfy EPA requirements, the effectiveness, implementability, and cost of each alternative must be considered prior to selecting a recommended cleanup alternative.

### Effectiveness

- Alternative 1 – No Action. This alternative is not effective as it does not address the environmental and human being risk and does not address the contamination caused by the historical commercial and industrial operations at the site.
- Alternative 2 – Alternative 2 is effective in accordance with the state environmental regulations. However, the cost of this alternative is prohibitive.
- Alternative 3 – This alternative is effective. It addresses the current contamination and the associated environmental and human being risks it poses by treating the hazardous waste in the soil in a targeted and cost effective manner so that the exposure pathways no longer exist and the site can be reused in a manner that it will become an asset to the community and help make the entire surrounding area more attractive for additional private investment and improvement.

### Implementability

- Alternative 1 – No Action. This is easy to implement as no actions will be conducted.
- Alternative 2 – This is relatively easy to implement but it is cost prohibitive and does not align with the community's redevelopment goals.
- Alternative 3 – This is easy to implement and aligns well with the community's plans for redevelopment. In-situ treatment areas (lead over hazardous waste level) and soil over attenuation capacity have been identified during the comprehensive site investigation activities. The top three feet of open landscape area will be excavated and clean soil will be imported and placed on the site as an engineered barrier. Part of the proposed parking lot pavement will be utilized as engineered barrier as well. Other institutional controls (limited groundwater usage ordinance and construction worker safety caution) will be utilized.

### Cost

- Alternative 1 – No Action. No cost will occur in this alternative.
- Alternative 2 – Extensive soil excavation/disposal soil excavation/disposal, and importing three feet of clean soil to cover the entire site and groundwater impact remediation makes this approach cost prohibitive (over \$1.5 million).
- Alternative 3 – Soil excavation and disposal in select areas, use three-feet of clean soil, or alternative barrier, as engineered barrier in the proposed greenspace, and use City's limited groundwater usage Ordinance, and construction worker safety caution as institutional control. It is estimated that the cost of this alternative will be on the order of \$617,000. The asbestos mitigation and building demolition cost is roughly \$73,000. Therefore, the total cost is \$690,000.

### **c. Recommended Cleanup Alternative**

Based on its effectiveness, implementability, and cost, alternative 3 was selected as the proposed cleanup alternative. Alternative 3 treats and removes contaminated soil in certain areas, and uses City's limited groundwater usage ordinance, and construction worker caution as institutional control. This alternative addresses the contamination, reduces environmental and human risks, and minimizes the volume of waste that would be generated and disposed at a landfill.