

PHASE I ENVIRONMENTAL SITE ASSESSMENT

721 North Main Street
Ann Arbor, Michigan 48104



SMITHGROUP JJR

October 18, 2012

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Ann Arbor, Michigan 48104**

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EXECUTIVE SUMMARY

SmithGroupJJR (SGJJR) retained Tetra Tech to perform a Phase I Environmental Site Assessment (ESA) for the City of Ann Arbor (“the City”; collectively with SGJJR the client for this engagement) concerning the property located at 721 North Main Street (subject property) as part of the due diligence process. This Phase I ESA was performed in accordance with the scope and limitations specified in the American Society for Testing and Materials (ASTM) Standard E 1527-05. This Phase I ESA has been performed to identify Recognized Environmental Conditions (RECs) at the subject property.

RECs are defined in the ASTM Standard E 1527-05 as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into the structures on the property or into the ground, groundwater, or surface water for the property. The term includes hazardous substances or petroleum products, even under conditions in compliance with current environmental regulations.

The Phase I ESA for the subject property has identified 9 RECs for the subject property based on available information. RECs include:

1. Stained soil beneath three (3) one-gallon milk cartons containing a dark odorous substance;
2. UST-containing waste oil and skimmer located on the eastern side of the maintenance building;
3. Former 16,000 gallon gasoline AST in the northwest corner of the subject property;
4. Soil and groundwater beneath the former gasoline and diesel ASTs;
5. Soil beneath the former chloride ASTs;
6. Soil beneath the wooden barn where road salt was stored for over two decades;
7. Soil beneath concrete in maintenance building where hydraulic oil UST leaked and the associated trench was filled in with concrete;
8. Soils located under the former waste oil tank with elevated levels of lead and chromium documented for closure of the 1991 waste oil release; and
9. Soil surrounding the sumps located in the wash bay area.

In addition, the following items which are not RECs but may warrant further consideration were identified in completing this Phase I ESA:

10. Allen Creek Drain, a listed Part 201 site, located beneath the subject property;
11. Unlabeled but potential asbestos containing tiles within the maintenance building;
12. Labeled 'asbestos containing' wrapped pipes observed within the maintenance building;
13. Soil beneath concrete in southern end of maintenance building where asphalt was stored;
14. Stained concrete within the maintenance building near the motor oil tanks;
15. Stained concrete within the maintenance building near the spent antifreeze, hydraulic oil, and waste oil tanks;
16. Adjacent former Standard Oil Company property containing several ASTs; and
17. Hoist system, including underground piping and an associated reservoir of hydraulic oil within the maintenance building.

Finally, identified previously remediated areas and/or historic activities on the subject property noted in completion of this Phase I ESA include and are listed for information purposes only:

18. Soil and groundwater located east of the maintenance building (near 'purge well', AH-01, MW-3, AH-06);
19. Soil and groundwater beneath the former gasoline and diesel USTs, south of the maintenance building (MW-4);
20. Underground conveyance piping between the former tanks and dispenser islands;
21. Boiler room containing coal remnants, north of the maintenance building; and
22. Railspur on the western side of the property.

1. INTRODUCTION

1.1 General Site Description

SmithGroupJJR (SGJJR) retained Tetra Tech to perform a Phase I Environmental Site Assessment (ESA) of the property located at 721 North Main Street, Ann Arbor, Michigan 48104, herein referred to as the “subject property”. The Tax ID number for the site is 09-09-20-409-006, which is comprised of a 5.10 acre lot (Appendix A). Generally, the site lies north of Felch Street, east of the Ann Arbor Railroad (AARR), west of Main Street, and south of Summit Street. The Site Layout with Location Inset (Figure 1) illustrates the subject property location.

1.2 Objectives

The objectives of the Phase I ESA for the subject property are to:

- Identify and evaluate environmental conditions at the subject property; and
- Provide an interpretation on the nature of environmental risk or liability that may be present.

This assessment has been completed in general conformance with the American Society for Testing and Materials (ASTM) Standard E 1527-05 – *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, as outlined in our proposal. The primary focus of the Phase I ESA process is to identify recognized environmental conditions (RECs) and is limited to the identification of RECs within the scope of the ASTM standard. As defined by ASTM, REC means:

“the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of release of any hazardous substance or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.”

This Phase I ESA is limited to areas within and outside of existing structures and features which were readily accessible, and includes a review of historical information regarding activities on

the subject property; review of readily available information concerning the subject property and nearby properties of environmental concern. This Phase I ESA does not include the following:

- Subsurface investigations or inspections within walls or ceilings of buildings;
- Sampling or detailed surveys for lead-based paint, lead in pipes or within drinking water supplies;
- Polychlorinated biphenyls (PCB's) in paint, fluorescent light ballasts, transformers, circuit breakers and other electrical equipment;
- Radon gas or radioactivity;
- Sampling or detailed surveys for Suspected Asbestos Containing Materials; and
- Research of wetlands issues.

The findings, conclusions, and interpretations are subject to modification if subsequent information is discovered by Tetra Tech or provided by others. The findings of this report are time-specific and are only representative of site conditions, as they existed at the time of the site visit.

1.3 Description and Current Uses of Subject Property and Surrounding Area

The subject property is zoned as Public Land. Surrounding properties are located in residentially and commercially zoned areas. A paved entrance drive on the east side of the property provides vehicle access, and leads to a paved parking area surrounded by a fence to the east and south. Three large buildings remain on the subject property. The L-shaped building on the north side of the property was historically used as a maintenance garage, the wood structure on the southwest end of the property was historically used for salt storage, and the long brick structure on the southeast end of the property was historically used for garbage truck storage (**Figure 1**). Today, the L-shaped building is used to store old office furniture and garbage cans, the wood structure is vacant, and the long brick structure is used to store vehicles. There are miscellaneous garbage cans, a dumpster, three inaccessible storage areas (Street Maintenance, Parts Storage and Engineering Storage), abandoned school bus, and city service vehicles on the site. The subject property is fenced off behind the two structures on the south end of the site. A long narrow street traversing north/south and located on the north side of Felch Street is the southernmost portion of the subject property. This area is used for parking vehicles. There is a fence at the north end of the road to separate the main subject property from the area south. The large parking lot located on the subject property is currently being

used by a nearby business, Barracuda Networks. South of Summit Street on the subject property, a public compressed natural gas (CNG) dispenser is available for residents to fuel their vehicles.

Southwest of the subject property is the former Standard Oil Company. Today the building is used for an art studio (Metal) and a fitness center. The former aboveground storage tanks (ASTs) of Standard Oil Company have been removed; however the concrete tank holder remains onsite and is covered with vegetation.

Occupying the corners of Felch Street and North Main Street are residential houses, commercial properties, and the Ann Arbor Community Center. Some of the residences appear to be vacant.

The AARR bounds the site on the west. Triangle Towing occupies the property west of the AARR.

2. PAST USES OF SUBJECT PROPOERTY AND SURROUNDING AREAS

The following sections present information regarding the past history of the subject property and the surrounding area. Historic information for this site was obtained from aerial photographs, a City Directory database search, Freedom of Information Act (FOIA) documents, and available City of Ann Arbor records.

2.1 Previous Property Owners

There are no property transfer records for the subject property. As stated in the City Directory, the City of Ann Arbor Fleet Services and city garage has occupied the buildings on the subject property since they were built in the 1920s.

2.2 Aerial Photography Interpretation

Aerial photographs were reviewed from flight years 1937, 1940, 1949, 1955, 1963, 1969, 1978, 1984, 1985, 1992, 1993, 1997, 2000, 2005, 2006, and 2012. A satellite image was reviewed from 2012. All aerial photographs are provided in **Appendix B**.

Review of the 1937 aerial photograph illustrates residential land surrounding the subject property and commercial land with several structures southwest of the subject property. The

Ann Arbor Railroad runs adjacent to and crosses the Huron River north of the subject property. There appear to be two main buildings (maintenance garage and Garbage Truck Barn) and multiple smaller buildings on the subject property in the 1937 aerial photograph. Residential buildings surround the subject property to the east, north, and south. A structure is visible in the northwest corner of the property in the 1937 aerial that may coincide with an AST identified in the Sanborn maps (see Section 2.4).

Aerial photographs from 1940, 1949, and 1955 exhibit limited change within the subject property and surrounding residential properties. The 1949 aerial appears to have an unknown stockpile located along the southwestern property boundary. A building addition is evident on the east side of the maintenance garage between 1955 and 1963 according to the aerial photographs. Many vehicles appear to be parked on the subject property. Also between 1955 and 1963, residential houses were replaced by a large building on North Main Street adjacent to and east of the subject property. There are no notable changes in the 1969 or 1978 aerial photographs with the exception of the removal of the AST in the northwest corner of the subject property.

The salt storage barn, apparent for the first time, is located west of the Garbage Truck barn in the 1984 aerial photograph suggesting it was built between 1978 and 1984. A new structure north of the subject property appears in the 1985 aerial photograph. East of the subject property, a parking lot was added on North Main Street in the 1992 aerial photograph. Two ASTs located on the western side of the subject property are visible in the 1984 aerial photographs. There are no notable changes in the 1993 and 1997 aerial photographs.

The only notable changes in the 2000 aerial photograph are darkened areas in the central area of the subject property. The darkened areas possibly represent new asphalt. The 2005 satellite image and 2006 aerial photograph do not depict any construction activities or obvious change in land use. In the 2012 aerial photograph, new concrete can be seen on the subject property. The central area of the subject property still appears to be used for vehicle storage. Standing water is evident near the Garbage Truck Barn.

2.3 Historical Topographic Map Review

Tetra Tech representatives reviewed topographic maps spanning from 1904 to 1983. The topographic maps are included in this report as **Appendix C**. The scale, source, and date are provided on each topographic map.

The subject property is contained within the Ann Arbor East Quad and the adjacent properties to the west are located on the Ann Arbor West Quad. The 1904 topographic map is a 1:125,000 scale quadrangle map depicting the general location of the subject property in the northwest corner of the city of Ann Arbor, and southwest of the Huron River. Significant land features include a general slope to the northeast, corresponding to the flow of the Huron River, although the subject property is primarily flat. Allen Creek runs northeast towards the Huron River, through the middle of the subject property. Surrounding the subject property, the slope is east and northeast. A 1906 1:62,500 scale quadrangle map provides a topographic view of the South Lyon Quad, including east Ann Arbor. A 1965 1:24,000 scale quadrangle map provides a more focused view of the subject property and surrounding area. There are no structures mapped in the location of the subject property. According to the aerial photographs, three buildings existed on the subject property in 1965. The slight northeastern slope of the land surface can be seen. The 1973, 1978, and 1983 topographic maps are similar to the 1965 map with no significant differences.

2.4 Sanborn Insurance Map Search

Sanborn maps from 1916 to 1972 were reviewed for the subject property. Sanborn maps are provided in **Appendix D**. The Sanborn map from 1916 identifies the subject property as vacant, with Allen Creek running northeast through the center of the property. Residential properties line Summit, Felch, and North Main Streets, while Standard Oil Company occupies the area southwest of the subject property. A boiler repair shop is located near today's entrance to the subject property in the northeast corner. In the 1925 Sanborn map, most of the site conditions remain the same, however the boiler repair shop is now an auto repair shop. Buildings on the east side of the subject property are labeled with "junk yard".

The 1931 Sanborn map shows the expansion of Standard Oil Company to the southwest. Fuel storage tanks and large buildings can be seen on the Sanborn map. Possible leaking fuel tanks and fuel spills on the adjacent property present a risk for the subject property. A maintenance garage with capacity for 30 cars, trucks, or machinery appears on the subject property. According to the Sanborn map, the garage is constructed of steel, brick, and plastered walls. A 16,000 gallon gasoline AST is identified on the northwest corner of the property. The map identifies 'no exposure' (no coverage) in the southern end of the subject property in 1931. Allen Creek is no longer a surface feature in the 1931 Sanborn Map.

A new structure on the subject property appears on the 1948 Sanborn map. A “street equipment storage” building was erected on the south end of the subject property, north of the residential buildings. The building previously label as “junk yard” is now identified as apartments.

The 1972 Sanborn map shows the addition to the municipal garage on the subject property. Residential buildings north and east of the subject property were removed and a parking lot was added east of the subject property. The building to the east of the subject property, formerly labeled as apartments, is now the Ann Arbor Community Center. There is no exposure on the south end of the subject property for this Sanborn Map. The 16,000 gallon gasoline AST is still identified on the northwest corner of the property.

2.5 City Directories

City directories were reviewed for the years spanning 1910 to 2011, including business directories and telephone directories. The City Directory Report is included in **Appendix E** the source of which is Polk’s City Directory. The first listing for 721 N. Main Street is in 1932 as a City Garage. From 1932 to 2011 the subject property was listed as the following:

- Ann Arbor City Municipal Garage;
- City Street Department Fleet Services;
- City Department of Public Works;
- City Yards for Street Sewer Refuse and Garage;
- City Traffic Street Maintenance; and
- City Waste Field and Ann Arbor Recycling and Solid Waste.

From 1910 to 2011, surrounding properties are listed as private residences. In 2006 the adjacent properties are listed as a janitorial service and a vacant property. In 2011, five residential properties to the south and two residential properties to the north are listed as vacant. Following is a summary of current nearby addresses and their listed use:

Address	Use	Years Listed
708 North Main St.	Vacant, private residence, Thos J. Hession Concrete Contractors	1920-1932, 1940-2011

712 North Main St.	Vacant, private residence, Neff's Bait House	1910-2011
718 North Main St.	Vacant, private residence, Top to Bottom Cleaning	1910-2011
730 North Main St.	Vacant, private residence, Robey Tire Service, Wash Land Laundry, Town and Country Restaurant, Town's Barber Shop, Mister Rib Restaurant, Summit Party Shoppe, & Summit Party Store	1954-2011
733 North Main St.	Vacant, private residence, Ann Arbor Music Center, Fleming & Tamulevich & Associates booking agency	1910-1973, 1983-2011

The City Directories did not reveal any potential RECs regarding the subject property.

2.6 Washtenaw County Services Website

The parcel ID number and current owner information were obtained for the subject property (**Appendix A**). Knowledgeable contacts within the City of Ann Arbor were also contacted for other pertinent information regarding past uses of the subject property. These interviews are included in Section 5.

2.7 Freedom of Information Act (FOIA) Review

The following information was reviewed and can be located in **Appendix F**.

1. Michigan Department of Environmental Quality (MDEQ) Leaking Underground Storage Tank (LUST) Facilities List, reviewed June 1, 2012.
2. MDEQ letter dated January 13, 2000 granting unrestricted residential closure. This letter includes portions of the closure report dated December 9, 1999 and submitted by NTH Consultants, Ltd. (NTH).
3. *Environmental Property Assessments for Hawkins, 415 W. Washington Street and Municipal Garage Properties* dated March 5, 1990 and submitted to the City of Ann Arbor Parks and Recreation Department by Environmental Control Technology Corporation (Encotec) of Ann Arbor.
4. *The Allen Creek Greenway Findings and Recommendations* dated March 16, 2007 and completed by Allen Creek Greenway Task Force.
5. *Type A Closure Report for an Underground Storage Tank Waste Oil Release at the Ann Arbor City Garage*, dated April 7, 1992, submitted to Michigan Department of Natural Resources (MDNR)-Environmental Response Division (ERD) by The Traverse Group, Inc. (TGI).

6. *45 Day Report for a UST Release at The Ann Arbor City Garage*, dated December 5, 1991, submitted to MDNR by TGI.
7. *Gasoline Tank Supplemental Site Investigation Report for an Underground Storage Tank Release at 721 North Main Street*, dated June 21, 1993, submitted to MDNR-ERD by TGI.
8. *Initial Assessment Report for 721 North Main Street*, dated December 26, 1995 submitted by NTH to MDEQ-Underground Storage Tank Division.
9. *Corrective Action Plan* dated April 19, 1996 submitted by NTH to the City of Ann Arbor Engineering Division.
10. Various correspondence documents in the MDEQ file between the years 1989 and 1996.

Review of the MDEQ LUST database indicates that there were three separate releases documented at the site:

- C-1129-89 reported 12/15/89 of an unknown substance.
- C-2246-91 reported 10/23/91 of an unknown substance.
- C-0753-95 reported 06/16/95 for a diesel fuel release.

Two documents were provided by the City of Ann Arbor, the MDEQ letter dated January 13, 2000 granting unrestricted residential closure and *Environmental Property Assessments for Hawkins, 415 W. Washington Street and Municipal Garage Properties* (References 2 and 3 above). Review of the 1990 *Environmental Property Assessment* document indicates that there was total petroleum hydrocarbons present in the soil, although not quantified. Lead was also present in the soil at concentrations in excess of current applicable criteria.

The entire MDEQ form EQP3843 was included in the MDEQ letter described as reference 2 above, however limited figures are available. Review of the information provided indicates the following inconsistencies with the MDEQ LUST database:

- It appears that a gasoline release was reported on 12/14/89 from a 2,000-gallon tank. This coincides with the MDEQ unknown release C-1129-89.
- A second release was reported in June 1995 from a 1,000-gallon diesel fuel UST. This is likely release C-0753-95 described as a 2,000-gallon diesel fuel tank in the MDEQ LUST database.

- The third release, listed as an unknown substance on 10/23/91, in the MDEQ LUST database is not reported in the closure document. This is release number C-2246-91.

As a result of these inconsistencies, a FOIA request was submitted to the MDEQ and a file review was completed on August 9, 2012. Each of the releases identified above are described in detail from the reports obtained during the file review.

Waste Oil Release 10/23/91 (release number C-2246-91)

The *45 Day Report for a UST Release at The Ann Arbor City Garage*, dated December 5, 1991 by TGI indicates a confirmed release was reported on October 23, 1991 for a 500-gallon waste oil tank (Release number C-2246-91). Upon removal of the tank and the associated piping, a 2-inch long and one-half inch wide hole was found in the side of the UST. Three excavations were completed to remove 80 cubic yards of impacted soil. Verification of soil remediation samples were collected from around the tank and one under the piping. The samples were analyzed for only polynuclear aromatic hydrocarbons (PNAs) initially. Subsequent excavations included analyzing soil samples for PNAs, benzene, toluene, ethylbenzene, xylenes (BTEX), cadmium, chromium, lead and select samples were analyzed for PCBs. Sample depths varied between 4.5 and 7 feet below ground surface (bgs).

The *Type A Closure Report for an Underground Storage Tank Waste Oil Release at the Ann Arbor City Garage*, dated April 7, 1992, by TGI (Closure Report) indicates that PNAs were removed from the ground during the cleanup and that elevated levels of cadmium, chromium and lead existed at the site. TGI completed a soil background metals investigation and statistical analysis at the site to determine if the elevated and fluctuating concentrations of lead were due to the high amount of fill material found in the excavation. TGI concluded that the lead concentrations were due to an urban area with large quantities of fill material. As such, they requested and were granted closure for the waste oil tank without further remediation. A letter dated August 6, 1993 from MDNR is included in the correspondence document (reference 10 above) granting closure. Within the document, the MDNR indicates that the property is the location of a former landfill where open burning occurred. This is the only mention of a landfill in the documents reviewed for this site, but could be the 'junk yard' labeled on the 1925 Sanborn map (Section 2.4).

Currently, individual parameters are compared to MDEQ Remediation Division, Operational Memorandum No. 1: Part 201 Cleanup Criteria and Part 213 Risk-Based Screening Levels, dated March 25, 2011 (Part 201/213 criteria). These criteria were developed by the MDEQ to meet the requirements of Section 20120a(1) of the National Resources and Environmental Protection Act (NREPA), Public Act 451, as amended. There are Part 201/213 Criteria for both hexavalent and trivalent chromium. Sample analyses completed in 1991 were not differentiated and therefore represent total chromium. When total chromium analyses are completed, the detected concentration must be compared to the most restrictive criteria, which is hexavalent chromium. Review of the analytical data compared to Part 201/213 Criteria indicates that the detected chromium concentrations from the waste oil tank excavation exceed groundwater to surface water interface protection (GSIP) criteria for hexavalent chromium.

Gasoline Release 12/14/89 (release number C-1129-89)

TGI removed a 2,000 gallon gasoline UST from the southwestern corner of the maintenance garage located at the subject property on December 14, 1989. Groundwater was encountered at 8 feet bgs. Approximately 45 cubic yards of soil were excavated during the tank removal. Analytical data collected during the excavation indicated that the soil and groundwater had been impacted with BTEX parameters above applicable criteria. A follow-up site investigation included installation of temporary and permanent monitoring wells and soil sampling.

TGI reported in the *Gasoline Tank Supplemental Site Investigation Report for an Underground Storage Tank Release at 721 North Main Street*, dated June 21, 1993 of an underground piping release from approximately 1982. The product release was located east of the maintenance garage and west of Allen Drain. Underground piping traversed from the gasoline and diesel fuel ASTs located on the west side of the subject property to the fuel dispenser island east of the maintenance garage (**Figure 1**). Details of the type of product released were not documented, however it is known that soil was excavated and 'purge wells' were installed. The 'purge wells' are described as 55-gallon drums placed into the ground. No other details regarding the construction or use for recovery are documented. TGI sampled the water in one of these purge wells from 7.5 to 12 feet bgs. The BTEX concentration detected was nearly 30,000 parts per billion (ppb). It is unknown if this 'purge well' was removed or if others exist.

Within the correspondence documents reviewed, an *Initial Abatement Measures (20 Day Report)* indicates that TGI removed the gasoline tank, and approximately 10 feet of

underground piping was capped and removed. The vent pipe was also removed. The UST was in groundwater, which was encountered at approximately 8 feet bgs.

An extensive groundwater and soil sampling investigation was completed by TGI between 1990 and 1993. The soil and groundwater at the subject property had concentrations in excess of applicable criteria for select BTEX parameters. All locations were not analyzed for PNAs, but in some instances, total petroleum hydrocarbons are reported and indicate that PNAs may be present in other areas.

The soil impacts were primarily located along the east side of the maintenance garage between the underground piping/fuel dispenser island/Allen Creek and the maintenance building. There are additional concentrations of BTEX at a location on the southeast corner of the maintenance garage near the subject property entrance. The highest soil concentration was detected at the southern end of the maintenance building on the southeast corner (AH-01) between 5 and 7 feet bgs with a combined concentration of 9,190 ppb; primarily comprised of xylenes. When compared to the current soil Part 201/213 Criteria, the reported concentrations for ethylbenzene and xylene in soil exceed drinking water protection (DWP) and GSIP at AH-01.

Groundwater samples were collected from temporary monitoring wells (labeled as AH-01, AH-02, etc.) and permanent monitoring wells (labeled as MW-1, MW-2, etc.). The highest concentration of groundwater impacts at the subject property primarily correspond to the soil impacts (along the east side of the maintenance garage between the underground piping/fuel dispenser island/Allen Creek and the maintenance building). However other locations where BTEX concentrations were detected are as follows:

- West of the maintenance garage at MW-5 in the former location of a 16,000 gallon gasoline AST;
- Southwest corner of the maintenance garage (MW-4), where the former diesel and gas USTs were located; and
- Southeast corner of the maintenance garage near the subject property entrance (AH-12).

When compared to the current Part 201/213 Criteria, the groundwater sampling indicates the following exceedances:

- Benzene exceeds drinking water (DW);
- Xylenes and toluene exceed groundwater to surface water interface (GSI);

The 'purge well' water was sampled and exceeded the following Part 201/213 Criteria:

- Benzene exceeds DW, GSI and residential volatilization to indoor air inhalation;
- Ethylbenzene, toluene and xylenes exceed DW and GSI

Detectable concentrations of PNAs were also reported in the groundwater collected from MW-4 and AH-12 identified above. However, only total PNA concentrations were reported, therefore it is unclear what parameters are present in the groundwater.

A feasibility study was recommended by TGI at the end of the *Gasoline Tank Supplemental Site Investigation Report for an Underground Storage Tank Release at 721 North Main Street* report. Although the feasibility study was not located, the MDNR sent a letter dated July 26, 1993 to the City of Ann Arbor indicating that the site investigation was adequately defined and to proceed with development of a corrective action plan.

A document recovered in the correspondence file at the Jackson MDEQ offices indicates that TGI suggested the use of soil vapor extraction (SVE) with air sparging (AS) as a remediation technology for the site, estimated to take three years from the start date of November 1994. NTH was selected to implement the feasibility study. Information indicated that NTH would complete a pilot test with the following elements to determine the most efficient system for the site remediation:

- Pump test
- SVE
- AS
- Bioventing

Diesel Release June 1995 (C-0753-95)

Free product was identified on April 25, 1995 in MW-4 and was originally believed to be a result of the previous gasoline release until it was identified as diesel fuel. A total of 1.65 gallons of free product was removed from MW-4. NTH reported a diesel fuel release to the MDEQ on June 16, 1995 from a 1,000 gallon, steel UST. On December 26, 1995, an Initial Assessment Report (IAR) was filed for the release. On June 16, 1995, the UST was emptied, cleaned and closed in place by filling with cement grout. Soil around the tank was not excavated for site removal as it 'was not likely to cause a fire hazard or spread' and removing it would 'increase cost of corrective action'. Soil was excavated to reach the tank and expose it for cleaning. Several holes were evident in the bottom of the tank and observations of soil impacts, both

visual and olfactory were documented. It is assumed from the review of the limited documents that these soils were placed back into the excavation around the tank as both soil and groundwater remediation had not been completed to date according to the IAR.

Grab samples were collected from the soil and groundwater during the UST cleaning and are reported in the IAR. These samples were analyzed for BTEX and PNAs. Review of the data indicates that the following exceedances exist in soil when compared to the current Part 201/213 Criteria:

- Benzene, ethylbenzene, xylenes and naphthalene exceed both DWP and GSIP; and
- Toluene, fluoranthene, fluorene and phenanthrene exceed GSIP.

The following exceedances exist in the excavation water grab samples when compared to the current Part 201/213 Criteria:

- Xylenes, fluorene and naphthalene exceed GSI.

The potential environmental concern was migration to Allen Creek via site utility corridors, then to the Huron River. As such a monitoring well was installed along Allen Creek in August 1995 to monitor for migration. Additional groundwater and soil sampling were completed to determine the extent of impacts. Monitoring wells sampled did not report concentrations detected above reporting limits. The soil samples collected had the following exceedances:

- Ethylbenzene was detected above both GSIP and DWP in two soil borings; and
- Xylenes were detected above GSIP in one soil boring.

NTH designed the installation of remediation systems to remediate the combined release of diesel fuel, gasoline and impacts remaining from the product line release in 1982. NTH completed a number of remediation efforts between 1994 and 1999, including pilot tests for a pump and treat system, bioventing, SVE, and soil AS. It was during these pilot tests, that the diesel fuel release was identified and reported. Review of the *Corrective Action Plan (CAP)* dated April 19, 1996 indicates that two dewatering wells, two SVE/bioventing wells, and one AS well were proposed for the final remedy. An aboveground treatment system using granular activated carbon (GAC) for liquid and vapor would be required. Discharge to Allen Creek was proposed after treatment.

A National Pollutant Discharge Elimination System (NPDES) permit was applied for on July 29, 1996 and granted under permit number MIG080000. This indicates that the effluent from the pump and treat system was likely discharged to Allen Creek. Remediation was reported in the CAP to begin in September 1996.

Throughout the pilot test, soil samples were collected for BTEX, PNAs, methyl tertiary butyl ether (MTBE) and lead. Reportedly, six of the soil samples were analyzed for lead below MDEQ statewide default values and the seventh sample was below applicable criteria. MTBE concentrations were reported at concentrations detected below the applicable criteria.

In May 1999, when remediation efforts were nearly complete, Tier 1 criteria for MTBE in groundwater was reduced from 240 micrograms per liter (ug/L) to 40 ug/L. MDEQ Storage Tank Division personnel agreed to allow closure at the 240 ug/L criteria. Today, drinking water criteria for MTBE remains at 40 ug/L. Information included in the closure report dated December 9, 1999 (Reference 2) indicates five locations had concentrations of MTBE detected at concentrations above the current Part 201/213 criteria of 40 ug/L. The limited information provided also indicates xylenes, ethylbenzene, and benzene were detected above current Part 201/213 criteria. The extent of remediation from the treatment system's presumed operation between September 1996 and the closure report of December 1999 is not known. The FOIA review did not include any documents reporting the remediation progress.

2.8 Part 201 Database Review

The MDEQ Part 201 Database was reviewed to determine if sites are located adjacent to the subject property. Allen Creek, which traverses the property within the stormwater drain is a Part 201 Site for BTEX contamination. The MDEQ Part 201 Database indicates that an interim response is in progress for the site listed on June 18, 2004 at 912 N. Main Street, which is downgradient of the subject property. Records identifying the presence, extent and origin of BTEX contamination in Allen Creek were not available for this Phase I ESA. A comprehensive file review or additional onsite sampling is needed to determine if this is a REC on the subject property.

3. ENVIRONMENTAL RECORDS REVIEW

Environmental Data Resources (EDR), Inc., conducted a thorough regulatory review of all available State of Michigan and Federal lists of area sites of environmental concern on August 13, 2012. The environmental database searches are summarized below. EDR's complete report is provided as **Appendix G**. The search radii for each database are per the ASTM Standard. The source and date of the government version of each database is provided in the Data Currency Tracking section of EDR's report. Each site listed in these databases has been evaluated to assess the likelihood of impacting the subject property; however, the objective of this Phase I ESA is to ascertain whether the use of the subject property by its tenants has impacted the subject property and whether adjacent properties have the potential to impact the subject property.

3.1 Subject Property Database Hits

The subject property was identified in 7 databases on the EDR report:

- Resource Conservation and Recovery Act Non-Generator (RCRA-NonGen); a database that indicates that the subject property does not generate hazardous waste.
- Facility Index System (FINDS); a database that contains facility information about various compliance reporting requirements for the subject property.
- Waste Data System (WDS); a database that tracks activities at facilities regulated by the Solid Waste, Scrap Tire, Hazardous Waste and Liquid Industrial Waste programs.
- LUST; database that indicates a release has occurred from an underground storage tank at the subject property.
- Underground Storage Tank (UST); database that indicates registered underground tanks are located on the subject property.
- Aboveground Storage Tank (AST); database that indicates registered aboveground tanks are located on the subject property.
- Permit and Emissions Inventory Data (AIRS – Aerometric Information Retrieval System); database that indicates the subject property is included in this inventory for air quality data.

3.2 National Priorities List

The subject property is not included on the National Priorities List (NPL), a list compiled by the U.S. Environmental Protection Agency (U.S. EPA) of contaminated sites, otherwise known as Superfund, under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), to record risks to human health and the environment associated with contaminated water, soils, or air. A review of the database identified no NPL sites within one mile of the subject property.

3.3 Proposed National Priorities List

The subject property is not listed on the Proposed National Priorities List (PNPL) database. This database lists properties proposed for the NPL. No PNPL sites are listed within one mile of the subject property.

3.4 Delisted National Priorities List

The subject property is not listed on the Delisted National Priorities List (DNPL) database. This database lists properties that were once on the National Priorities List but have since been delisted. No DNPL sites are listed within one mile of the subject property.

3.5 National Priorities List Liens

The subject property is not listed on the Federal Superfund Liens database.

3.6 Comprehensive Environmental Response, Compensation, and Liability Information System

The subject property does not appear on the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) database, a listing of known and suspected uncontrolled or abandoned hazardous waste sites throughout the nation, maintained and compiled by the U.S. EPA, Office of Solid Waste and Emergency Response. CERCLIS contains all possible, proposed, and confirmed NPL sites. A review of the database identified no CERCLA sites within one-half mile of the subject property.

3.7 Comprehensive Environmental Response, Compensations, and Liability Information System, No Further Action Planned

The subject property is not listed on the CERCLIS-No Further Remedial Action Planned (NFRAP) database, a listing of sites that have been removed from the CERCLIS database. NFRAP are sites where contamination was not found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious

enough to require NPL consideration. The database search listed no sites within one-half mile of the subject property.

3.8 Corrective Action Report

The U.S. EPA maintains a Corrective Action (CORRACTS) database of RCRA facilities, which are undergoing “corrective action.” The subject property was not listed in the database and no sites were identified within one mile of the subject property.

3.9 Resource Conservation and Recovery Act – Treatment, Storage and Disposal

The subject property does not appear on the RCRA-Treatment, Storage and Disposal (TSD), which includes information on sites that generate hazardous wastes and those which operate TSD facilities, as defined by RCRA. The RCRA database did not identify any RCRA-TSD sites within one-half mile of the subject property.

3.10 Resource Conservation and Recovery Act Generator

The RCRA – Conditionally Exempt Large and Small Quantity Generators (CELQG and CESQG, respectively) contains information on hazardous waste handlers regulated by the U.S. EPA under RCRA, RCRA notifiers, transporters, and formerly regulated RCRA sites. CESQGs generate less than 100 kilograms (kg) of hazardous waste or less than 1 kg of acutely hazardous waste per month. There were nine CESQGs identified within one-quarter mile of the subject property.

Property Name	Address
U of M Community Dental Center	406 N Ashley
J P Eureka Cleaners	308 N. Main St.
Armorthane of Michigan LLC	907 N. Main St.
Molecular Therapeutics Inc.	924 N. Main St.
Biotectix LLC	940 N. Main St.
C.B. Development	220 Felch St.
DTE Michigan	340 Depot St.
Main Street Motors	906 N Main St.
DTE Energy/MichCon	841 Broadway St.

No violations were reported for the above RCRA-CESQGs.

3.11 Emergency Response Notification System

The Emergency Response Notification System (ERNS) contains information on specific notification of release of oil and hazardous substances into the environment. The search radius includes only the subject property and it is not listed in the database.

3.12 State Hazardous Waste Sites

The State Hazardous Waste Site (SHWS) database contains information on sites that are the state equivalent of CERCLIS sites. These sites may or may not be listed in the CERCLIS database. These are priority sites planned for cleanup using State funds. The subject property was not listed in the database. Eleven properties were identified in the SHWS database search. Each of the properties is located within one mile of the subject property. Regional groundwater flow is assumed to be to the northeast, towards the Huron River.

Property Name	Address	Direction and Distance from Subject Property	Potential REC?
815 Wild St	815 Wild St.	NNW 0- $\frac{1}{8}$ mile	No
Ann Arbor YMCA	396-424 W. Washington St.	SSW $\frac{1}{4}$ - $\frac{1}{2}$ mile	No
H and K Campus Properties	212-216 S. State St.	SE $\frac{1}{2}$ -1 mile	No
Eaton Corporation	315 S. First St.	SSW $\frac{1}{2}$ -1 mile	No
U of M Argus Building	400 Fourth St.	SSW $\frac{1}{2}$ -1 mile	No
Armen Cleaners	630 S. Ashley	S $\frac{1}{2}$ -1 mile	No
Allen Creek Drain	912 N. Main St.	NNE 0- $\frac{1}{8}$ mile	No
MichCon	841 Broadway St.	ENE $\frac{1}{8}$ - $\frac{1}{4}$ mile	No
Lansky Scrapyard	1100 N. Main St.	N $\frac{1}{4}$ - $\frac{1}{2}$ mile	No
Lotus Engineering	1254 N. Main St.	N $\frac{1}{4}$ - $\frac{1}{2}$ mile	No
Broadway Coin Laundry	1120 Broadway	ENE $\frac{1}{4}$ - $\frac{1}{2}$ mile	No

Ten of the above SHWS sites do not pose a potential REC to the subject property. Based on the direction of groundwater flow, the U of M Argus Building could pose a risk. However, the distance to the subject property is over $\frac{1}{2}$ -mile from the U of M Argus Building and is not expected to pose a risk to the subject property.

3.13 Solid Waste Facilities Database

The Solid Waste Facilities Database (SWF/LF) lists solid waste disposal facilities or landfills in Michigan. These may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D, Section 4004 criteria for solid waste landfills or disposal sites. The subject property was not listed in the database and no sites were identified within one mile of the subject property.

3.14 Leaking Underground Storage Tank

The LUST list provides information on known leaking underground storage tanks in the State. In addition to the subject property, twenty-seven LUST sites were identified in the database search within one-half mile of the subject property. Below is a table summarizing the LUST sites within one-half mile of the subject property.

Property Name	Address	Release Date	Substance Released	Release Status
Beakes St. Service Station	101 Beakes St.	9/27/1989	Not reported	Closed
Arcure Motors	617 Detroit St.	7/22/1994	Used oil	Closed
De Long BBQ Pit	314 Detroit St.	3/14/2001	Other	Closed
University Fuel Mart	300 N. Main St.	3/3/1992	Gasoline	Closed
Bill Muncy's Service	423 Miller Ave.	2/2/1999	Unknown	Closed
City of Ann Arbor Fire Department	111 N. Fifth Ave.	9/10/1992	Diesel	Closed
Ashley Terrance Development	208 W. Huron St.	7/24/2006	Gasoline, diesel	Closed
City of Ann Arbor	100 N. Fifth Ave.	9/28/2011	Diesel	Closed
Comerica Bank	300 E. Huron St.	10/8/1991	Not reported	Closed
Comerica Bank	312-314 E. Huron St.	10/9/1991	Unknown	Closed
Ann Arbor Co.	324 E. Huron St.	11/20/1991	Unknown	Closed
WCP Investments Partnership	117 N. First St.	3/19/1991	Unknown	Closed
Illis Auto Service	401 W Huron St.	10/6/1988	Not reported	Closed

Budget Rent A Car	200 S. Ashley St.	4/28/1993	Gasoline	Closed
Campus Auto	202 S. Division St.	9/22/1994	Gasoline	Closed
Ann Arbor Implement	210 S. 1 st St.	6/11/1993	Gasoline	Closed
Parks and Recreation	415 W. Washington St.	3/6/1992	Gasoline	Open
		9/19/1989	Not reported	Open
		12/20/1989	Not reported	Open
North Ingalls Building	400 N. Ingalls St.	12/13/1991	Unknown	Closed
Liberty Street	221 W. Liberty	7/13/2004	Not reported	Open
C.B. Development	220 Felch St.	5/26/1992	Diesel	Closed
		5/28/1992	Diesel	Closed
		6/4/1992	Gasoline	Closed
Dale Krull Construction	221 Felch St.	5/27/1992	Diesel	Closed
Broadway (DTE/MichCon)	841 Broadway St.	7/27/2009	Unknown	Open
		2/2/1993	Gasoline	Open
		6/8/1992	Unknown	Open
		12/3/1996	Unknown	Open
		12/11/1991	Unknown	Open
Ann Arbor Service Center	982 Broadway St.	12/11/1997	Gasoline	Closed
Clark Store #2121	1019 Broadway St.	7/1/2002	Gasoline	Open
		12/21/1990	Not Reported	Open
Marathon Unit #1102	1026 Broadway St.	9/6/2005	Gasoline, Used oil	Closed
Lowertown Development	923 Maiden Ln	10/29/2003	Unknown	Open
Lotus Engineering	1254 North Main St.	8/16/2004	Gasoline, Used oil	Closed
Ann Arbor City Garage (subject property)	721 North Main St.	6/16/1995	Diesel	Closed
		12/15/1989	Not Reported	Closed
		10/23/1991	Unknown	Closed

Releases from closed LUST sites listed above do not pose a risk to the subject property because of their release status, distance or direction relative to the subject property. The open

status LUST sites are downgradient or cross gradient of the subject property, therefore they do not pose a potential REC.

3.15 Underground Storage Tank and Above Ground Storage Tanks

The Registered UST list provides information for all registered USTs in the State. Ten UST sites were identified in the database search within one-quarter mile of the subject property.

Property Name	Address	In use?	Removed or Closed in place?
Beakes St. Service Station	101 Beakes St.	No	Yes
Arcure Motors	617 Detroit St.	No	Yes
De Long BBQ Pit	314 Detroit St.	No	Yes
University Fuel Mart	300 N. Main St.	Yes	No – 2 gasoline USTs
Melvin and Betty Lewis	800 N. Main St.	No	No – 4 USTs of unknown substance
C.B. Development	220 Felch St.	No	Yes
Robey Tire	936 N. Main St.	No	Yes
Dale Krull Construction	221 Felch St.	No	Yes
Main Street Motors	906 N Main St.	No	Yes
Broadway (DTE/MichCon)	841 Broadway St.	No	Yes

Seven of the above UST sites are also listed on the LUST site list. The LUSTs are closed and the USTs in use have no releases reported. The four tanks at 800 N. Main Street are listed as 'temporarily out of use' with no reported substance or date of change in status. This site is downgradient of the subject property. University Fuel Mart, the only UST site with active tanks, is located cross gradient of the subject property. If a release occurred it would not pose a potential REC to the subject property due to the direction of groundwater flow.

3.16 Activity and Use Limitations

Sites listed in the Activity and Use Limitations (AUL) database are sites with engineering and/or institutional controls in place. DeLong BBQ Pit (314 Detroit St.) is listed in the database search and the site is restricted to commercial III or IV property. DeLong BBQ Pit is located $1/8$ - $1/4$ mile

cross gradient of the subject property. Bill Muncy Service (423 Miller Ave.) is listed on the database search as having site-specific restrictions, groundwater consumption restrictions, excavation and soil movement restrictions, and a site health and safety plan. Bill Muncy Service is located ¼-½ mile southwest of the subject. This site is upgradient of the subject property. Tetra Tech (under the name GeoTrans) completed site assessment and closure for the LUST at this property in August 1999. A groundwater plume was not identified and closure was granted with a deed restriction for use of groundwater as a drinking water source. This site is not expected to pose a risk to the subject property.

3.17 Brownfields

The brownfields list contains information regarding brownfields properties addressed by the U.S. EPA Targeted Brownfields Assessments program, which is designed to help states, tribes, and municipalities minimize the uncertainties of contamination often associated with brownfields. Six brownfield sites appeared in the database search.

Property Name	Address	Cleanup Required?	Cleanup conducted?
Main and Summit	800 N. Main St.	No	NA
MichCon	841 Broadway St.	Yes	Interim Response in Progress
Broadway Coin Laundry	1120 Broadway St.	Not Reported	NA
200 S. Ashley St.	200 S. Ashley St.	Yes	Yes
226 W. Liberty	226 W. Liberty	Yes	Not Reported
1012 Pontiac Trail	1012 Pontiac Trail	Yes	Not Reported

The sites listed at 200 S. Ashley and 226 W. Liberty are ½ mile southeast of the subject property. Based on cross gradient groundwater flow, these sites do not pose a potential risk to the subject property.

3.18 Baseline Environmental Assessment Sites

The Baseline Environmental Assessment (BEA) Database provides a listing of all sites for which a BEA has been completed. The subject property is not listed as a BEA site. The database search identified 14 BEA sites within one-half mile of the subject property.

- 815 Wildt St.
- 110 Miller
- 314 Detroit St.
- 204 W. Huron
- 200 S. Ashley
- 220 Felch St.
- 202 S. Division St.
- 221 W. Liberty St.
- 340 Depot St.
- 1012 Pontiac Trail
- 990 Broadway St.
- 923 Maiden Ln.
- 1254 N. Main St.
- 1120 Broadway

These sites are not expected to pose a risk based on their BEA status.

3.19 RCRA-Non Generator Sites

RCRA Non-Generator sites included in the database include selective information of sites which transport, store, and/or dispose of hazardous waste, but do not currently generate hazardous waste. There were six RCRA-NonGen sites listed within ¼ mile of the subject property.

Property Name	Address
Auto Strasse LTD	617 Detroit St.
M A V Development Co.	314 Detroit St.
303 Detroit St. LLC	303 Detroit St.
Amoco Oil Co.	300 N. Main St.
Ann Arbor Auto Service	907 N. Main St.
Michigan Consolidated Gas Co.	841 Broadway St.

Ann Arbor Auto Service has received a violation in the area of 'Generators – Pre Transport' in 2002, however the specific regulation violated was not reported. Notice of this violation was received and an onsite compliance evaluation was performed. No other RCRA-NonGen sites received violations.

3.20 Delisted Contaminated Sites

Delisted State Hazardous Waste Sites (DELSHWS) have been deleted from the List of Contaminated Sites. A review of the DELSHWS lists revealed one site within one mile of the subject property. Montgomery Pumping Station (432 Montgomery) was delisted because it no longer met criteria specified for DELSHWS sites.

3.21 Dry Cleaners

J P Eureka Cleaner, Inc. (308 N. Main St.) is the only drycleaner within a ¼ mile of the subject property. No releases or violations have been reported, however due to the upgradient location of the site, if a release occurred it could pose a risk to the subject property.

3.22 Manufactured Gas Plant Sites

The EDR Proprietary Manufactured Gas Plant (MGP) Database includes records of coal gas plants. Materials and byproducts of gas production are frequently disposed of at the plant site and can remain, serving as a continuous source of soil and groundwater contamination. A review of the MGPs within one mile of the subject property revealed two sites. Both sites are located east of the subject property. City Gas Works (Beakes Street) and The Ann Arbor Gas Company (Broadway Street) are cross gradient of the subject property. The direction of regional groundwater flow is to the northeast therefore, these sites do not pose a risk to the subject property.

3.23 Orphan Sites

EDR designates a listed site as an Orphan Site when the address cannot be properly located. EDR identified twenty Orphan Sites in the summary. Each of the twenty listed orphan sites was identified and five are within one mile of the subject property. These include the following:

Site Name	Data Base
University of Michigan Landfill	CERCLIS-NFRAP
MichCon Coal Plant #1	CERCLIS-NFRAP
MichCon Coal Plant #2	CERCLIS-NFRAP
202 & 212 South Division	BROWNFIELDS
MichCon Beakes Street	Hazardous Waste Site (HWS)

The University of Michigan Landfill and both MichCon Coal Plants are listed as CERCLIS-NFRAP sites. CERCLIS-NFRAP sites have been removed and archived from the inventory of CERCLIS sites. Therefore, these three sites do not pose a risk to the subject property.

The Orphan Site at 202 and 212 South Division is listed as a BROWNFIELDS site. This site was a state funded Part 201, Part 213, or LUST site that had been redeveloped by a private entity using the BEA process. This site does not pose a risk to the subject property.

The MichCon Beakes Street site is listed as an HWS and is within 1000 feet of the subject property. The site is located northeast of the subject property. Because the direction of regional groundwater flow is to the northeast, this site does not pose a risk to the subject property. An interim response is in progress for a portion of this site.

4. PHYSICAL SETTING

The topography at the subject property is generally flat; gently sloping northeast, toward the Huron River. West of the subject property, the topography is sloping to the east, where the Huron River bends and moves from a southerly to an easterly flow direction. The subject property is approximately 2,000 feet south of the Huron River and is partially bound by a 20-foot high AARR embankment to the west and a 20-foot high slope to the north at W. Summit St. The interior of the site is largely flat, with a 2 foot drop in elevation between Felch St. on the south to N. Main St. on the northeast.

The United States Department of Agriculture Web Soil Survey indicates that two soil units were mapped across the subject property, Fox sandy loam, and Matherton sandy loam (**Appendix H**). These soils are described as level to very gently sloping. The Matherton sandy loam is described as somewhat poorly drained, while the Fox sandy loam is described as well drained. The site is located within an area classified as urban land. This classification indicated that soils have been mechanically re-worked thus making the original soil properties no longer evident. The bedrock geology is described as Mississippian Coldwater Shale by W.R. Farrand, 1982.

Allen Creek runs northeast through the subject property to the Huron River. The creek was re-routed through storm sewers underground, sometime between 1925 and 1931 in accordance with the Sanborn Maps. The subject property sits primarily on the floodway and flood fringe of the Huron River.

5. KNOWLEDGEABLE SITE CONTACTS

In a conversation between Patti McCall of Tetra Tech and Matthew Naud, Environmental Coordinator with the City of Ann Arbor on June 4, 2012, Mr. Naud indicated that the site currently contains a compressed natural gas (CNG) fueling station. He confirmed that the site was granted unrestricted residential closure for the previous LUSTs. Historical uses of the property included a railroad spur into the site for off-loading coal, and salt storage domes containing the city's salt for road de-icing. Historical uses of the site may represent other environmental impacts.

Tetra Tech employees interviewed four City of Ann Arbor employees on September 4, 2012. Three of the four employees had worked at the subject property. At a site visit on September 12, 2012, another City of Ann Arbor employee was able to answer questions about the subject property. Their knowledge and details of the site are presented in the following sections.

5.1 September 4, 2012 Meeting

Joy Gryzenia completed a site walk on August 30, 2012. During the site walk, knowledgeable site contacts were not available, and questions arose about the subject property and former practices at the site. A joint meeting was scheduled with Ken Jones, Tim Towles, Matt Naud, and Tom Gibbons on September 4, 2012. Joy Gryzenia and Patti McCall interviewed the city employees and noted the following information:

- The floor tiles upstairs in the maintenance building offices are believed to contain asbestos. The pipes in the maintenance building are wrapped in asbestos.
- There are hoists in the floor of the maintenance garage.
- There is a waste oil UST near the maintenance building eastern overhead door. The tank and associated skimmer remain in the ground. All other USTs have been removed.
- Two ASTs (gasoline and diesel) were located on the western side of the maintenance garage and were pumped to the fuel island on the east side of the maintenance garage (**Figure 1**). There was a release from the underground piping in the early 1980s.
- The fuel island was moved in 1992-1993.
- The railspur on the west side of the property was installed in the 1940s. Coal was delivered to the site and was used in the coal furnace, located in the boiler room on the north end of the maintenance garage.
- Salt was stored in the wooden barn from the early 1980s until 2010.

- Two 1,000 gallon chloride tanks were located to the west of the Garbage Truck Barn. They were in place from the early 1980s until 2008.
- A compressor on the north side of the property belongs to DTE. It is used for the CNG dispenser on the northwest corner of the subject property. DTE leases the land from the city.
- The site was granted “unrestricted residential site closure” from the State of Michigan for the reported LUST releases on record.
- Chemicals used on the property consist of typical maintenance chemicals such as solvents, paints, degreasers, brake fluid, antifreeze, cleaners, and fuels.
- Two 6-8’ deep sumps are located within the wash bay, inside the maintenance building. Fifty-five gallon drums were placed within these sumps to collect solids and oils.
- Standard Oil Company, southwest of the subject property, had numerous ASTs onsite from 1949 to 1979. The site is believed to have been impacted by petroleum hydrocarbons.
- No dumping activities or spills were witnessed by the city employees interviewed.
- No transformers were believed to be used on the subject property.

6. SITE RECONNAISSANCE

Site reconnaissance was conducted on the subject property on August 30, 2012 by Ms. Joy Gryzenia, Project Geologist with Tetra Tech. Ms. Gryzenia was accompanied during the onsite reconnaissance by Mr. Frank Burchett, a ten year veteran of the City of Ann Arbor Fleet Services. A subsequent site visit was conducted by Joy Gryzenia and Patti McCall on September 12, 2012. Ms. Gryzenia and Ms. McCall encountered Mr. Ken Ely, a City of Ann Arbor employee while onsite. Mr. Ely provided additional information about the subject property uses and history and was able to provide site access to a portion of the maintenance building that was previously locked. The purpose of the site visits was to assess the current land use and identify potential environmental concerns at the subject property.

During the site reconnaissance, the interior of the former maintenance building was found to be used as storage for old office furniture. Mr. Burchett informed Ms. Gryzenia that the furniture was moved from city hall during renovations and has been stored there since. Three main buildings are located on the subject property. A maintenance garage, wooden barn and Garbage Truck Barn were inspected. The majority of the property was visually assessed, but the presence of vehicles, and the inability to unlock doors to select sheds and outbuildings prevented the entire ground surface from being observed. On the exterior of the buildings, a dumpster, parking lot, fuel island, and subject property grounds were included in the reconnaissance. The following sections include details of observations made during the site reconnaissance. Photographs taken during the site reconnaissance are included in **Appendix I**.

6.1 Observations

The following sections present specific observations made during the reconnaissance of the interior and exterior of the subject property during the on-site reconnaissance.

6.2 Hazardous Substances and Petroleum Products

Four waste oil ASTs and two hydraulic oil ASTs were observed at the subject property. One waste oil tank located on the east side of the garage was installed in the former location of the leaking waste oil tank reported by TGI in 1991. Two motor oil ASTs were located in the paint booth of the maintenance garage and appear to be empty, with one of the tanks tipped on its side. There was a large pool of brown-orange liquid in the room, within 10 feet of the ASTs.

Two waste oil ASTs and two hydraulic oil ASTs were located in the central section of the maintenance garage. A stain on the ground was observed and kitty litter was placed on top of the stain. These two areas require further inquiry to determine if they are a REC.

Evidence of a hoist system was identified in two locations within the maintenance garage. Hoist systems that include underground piping to convey hydraulic oil typically maintain a reservoir of hydraulic oil below grade in a UST. Because overhead piping for the hoist was not identified, these two areas require further inquiry to determine if USTs are located beneath the building and meet the definition of an REC.

6.3 Storage Tanks

Six ASTs were observed inside the maintenance garage and four empty plastic ASTs were observed on the west side of the property near the railroad tracks. The six ASTs located inside of the maintenance garage are described in the above section. The four empty ASTs located on the west side of the property had no indication of hazardous or petroleum products. City employees indicated these were used for storing water therefore they do not pose a potential risk to the subject property.

6.4 Pool of Liquid

In the maintenance garage, a pool of orange-brown liquid was found inside the paint booth. It appears that the liquid had been pooled in that location for a while, although it was not apparent what the source of the liquid was. This area requires further inquiry to determine if it is a REC..

6.5 Drums

One drum was observed inside the northwest corner of the Garbage Truck Barn. The gate was locked and the label of the drum was not visible. No staining or leaks were observed.

6.6 Unidentified Substance Containers

Multiple paint cans, bottles, one and two gallon metal containers, and spray cans were observed on the west side of the Garbage Truck Barn and inside the maintenance garage. The contents were contained and no leaks or spills were evident.

6.7 Polychlorinated Biphenyls

No PCB-containing transformers were identified on or near the subject property.

6.8 Pits, Ponds, or Lagoons

Ponding of water on the ground surface, northwest of the Garbage Truck Barn was observed. The water was not discolored and did not have an odor; therefore it does not present an REC for the subject property.

6.9 Soil Inspection

On the west side of the subject property, three one-gallon milk cartons were found lying on the ground. A dark liquid was inside the milk cartons. The soil underneath the milk cartons was discolored and an olfactory observation was noted. The gallon containers were less than half full, leading to the assumption that the liquid inside the containers had leaked. Due to the soil staining, olfactory observation, and unmarked containers, this is identified as a REC.

6.10 Stressed Vegetation

Stressed vegetation was not observed on the subject property during the site reconnaissance.

6.11 Odors

An olfactory observation was noted near the dumpster on the west side of the subject property where three one-gallon milk cartons containing a dark liquid were found.

Asphalt was stored inside the southern portion of the maintenance building and an odor was observed in this area.

6.12 Solid Waste

Municipal solid waste dumpsters were located on the central region of the subject property, but it was unclear whether the dumpsters were used for trash on site, or if they were being stored on the subject property. A 40 yard roll off dumpster with unknown contents was observed on the west side of the subject property.

6.13 Waste Water

Sanitary manholes are located onsite. The subject property uses the municipal sanitary sewer system. Storm-water sewers are also located throughout the subject property. Due to runoff from salt storage, storm water on the west side of the Garbage Truck Barn is directed into the sanitary sewer for treatment.

6.14 Wells

The subject property is currently serviced by a municipal water supply. Eight monitoring wells were observed during the site reconnaissance. The wells are positioned to the northwest and east of the fuel island, and to the east of the maintenance garage. City employees confirmed that these wells were installed during the LUST cleanup.

6.15 Septic Systems

An onsite septic system was not observed during the site reconnaissance; therefore it is assumed that the facility utilizes a municipal sanitary sewer.

6.16 September 12, 2012 Site Visits

Joy Gryzenia and Patti McCall completed a subsequent site visit on September 12, 2012. Ken Ely was onsite and provided additional information. The Tetra Tech employees noted the following information:

- A UST containing hydraulic oil thought to be approximately 50 gallons was located in the eastern section of the maintenance building. The tank leaked, was removed, and the area, including an associated trench, was filled with concrete.
- Ken Ely was able to open the locked door to the southern section of the maintenance building. This section was formerly used for parking dump trucks. An employee lunch room was also in the southern end of this building. The building is currently used for storing recycling and garbage cans.
- An oil burning furnace is located in the southern section of the maintenance building. An associated hydraulic oil tank is thought to be located near the furnace, although obstructions did not allow for verification.
- A chemical storage room located on the east corner of the maintenance garage was used for storing solvents, oil, etc., used in the overhead vehicle maintenance lines.
- Asphalt was stored inside the southern portion of the maintenance building.

7. CONCLUSIONS

This report presents the findings of a Phase I ESA for the City of Ann Arbor Fleet Services property located at 721 North Main Street, Ann Arbor, Michigan, Washtenaw County (subject property). The Phase I ESA was conducted for the purpose of providing information on current environmental conditions of the subject property. The Phase I ESA process involves reviewing site information, searching relevant government databases, performing interviews with persons knowledgeable with site use and completing a visual reconnaissance of the site in order to identify RECs.

The Phase I ESA for the subject property has identified 9 RECs for the subject property based on available information. RECs include:

1. Stained soil beneath three (3) one-gallon milk cartons containing a dark odorous substance.
2. UST-containing waste oil and skimmer located on the eastern side of the maintenance building;
3. Former 16,000 gallon gasoline AST in the northwest corner of the subject property;
4. Soil and groundwater beneath the former gasoline and diesel ASTs;
5. Soil beneath the former chloride ASTs;
6. Soil beneath the wooden barn where road salt was stored for over two decades;
7. Soil beneath concrete in maintenance building where hydraulic oil UST leaked and the associated trench was filled in with concrete;
8. Soils located under the former waste oil tank with elevated levels of lead and chromium documented for closure of the 1991 waste oil release; and
9. Soil surrounding the sumps located in the wash bay area.

In addition, the following items which are not RECs but may warrant further consideration were identified in completing this Phase I ESA:

10. Allen Creek Drain, a listed Part 201 site, located beneath the subject property;
11. Unlabeled but potential asbestos containing tiles within the maintenance building;
12. Labeled 'asbestos containing' wrapped pipes observed within the maintenance building;
13. Soil beneath concrete in southern end of maintenance building where asphalt was stored;
14. Stained concrete within the maintenance building near the motor oil tanks;

15. Stained concrete within the maintenance building near the spent antifreeze, hydraulic oil, and waste oil tanks;
16. Adjacent former Standard Oil Company property containing several ASTs; and
17. Hoist system, including underground piping and an associated reservoir of hydraulic oil within the maintenance building.

Finally, identified previously remediated areas and/or historic activities on the subject property noted in completion of this Phase I ESA include and are listed for information purposes only::

18. Soil and groundwater located east of the maintenance building (near 'purge well', AH-01, MW-3, AH-06);
19. Soil and groundwater beneath the former gasoline and diesel USTs, south of the maintenance building (MW-4);
20. Underground conveyance piping between the former tanks and dispenser islands;
21. Boiler room containing coal remnants, north of the maintenance building; and
22. Railspur on the western side of the property.

8. SCOPE OF ACTIVITY

This Phase I ESA has been completed in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances. It is based on the application of scientific principles and professional judgment to certain facts with resultant subjective interpretations. The professional judgments expressed herein are based on facts currently available within the limits of the existing data, scope of work, budget, and schedule. To the extent that more definitive conclusions are desired by the client than are warranted by the currently available facts, it is specifically Tetra Tech's intent that the conclusions and recommendations stated herein be intended as guidance, and not necessarily a firm course of action, except where explicitly stated as such. We make no warranties, expressed or implied, including without limitations, and warranties as to merchantability or fitness of the property for a particular purpose. In addition, the information provided to you in this report is not to be construed as legal advice.

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8.2 Limitations and Exceptions

The findings, conclusions, and interpretations are subject to modification if subsequent information is developed by Tetra Tech or others. The findings of this report are time-specific and are only representative of subject property conditions as they existed at the time of the site visit.

This report has been prepared for the benefit of SGJJR and the City of Ann Arbor and was compiled based partially on information supplied to Tetra Tech from outside sources and other information in the public domain. Tetra Tech has examined and relied on documents referenced in this report and on oral statements made by certain individuals. Tetra Tech has

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