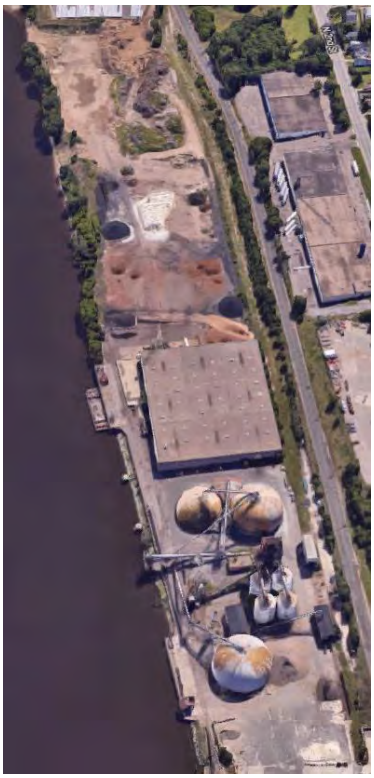
Limited Phase I Environmental Site Assessment

TH 65 Staging Area
Upper Harbor Terminal Site
Minneapolis, Minnesota
State Project Number: 2710-47

Prepared For

Minnesota Department of Transportation



Project B1807531
January 31, 2019

Braun Intertec Corporation

BRAUN INTERTEC
The Science You Build On.

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January 31, 2019

Project B1807531

Ms. Michelle Waters
Minnesota Department of Transportation
Office of Environmental Stewardship
395 John Ireland Boulevard, Mail Stop 620
Saint Paul, MN 55155-1899

Re: Limited Phase I Environmental Site Assessment
TH 65 Staging Area
Upper Harbor Terminal Site
Minneapolis, Minnesota
State Project Number: 2710-47

Dear Ms. Waters:

In accordance with Contract #1031583, Braun Intertec Corporation conducted a Limited Phase I Environmental Site Assessment (ESA) of the above-referenced site (Subject Property). The objective of the Limited Phase I ESA was to serve as a screening tool to identify, to the extent possible, existing sources of contamination (based on present or former uses) at locations that could impact future use of the Subject Property as a staging area for repair work on Bridge 2440 (3rd Avenue Bridge).

The Limited Phase I ESA was prepared on behalf of and for use by the Minnesota Department of Transportation (MnDOT). No other party has a right to rely on the contents of the Limited Phase I ESA without written authorization by Braun Intertec. Please refer to the attached report for the scope, methods, and conclusions of this assessment.

Braun Intertec appreciates the opportunity to provide professional services to you for this project. If you have any questions regarding this letter or the attached report, please contact Kelly Brown at 952.995.2614 or Kenneth Larsen at 952.995.2455.

Sincerely,

BRAUN INTERTEC CORPORATION

Kelly W. Brown
Senior Scientist

Kenneth A. Larsen, PE, PG
Principal

Attachment:
Limited Phase I Environmental Site Assessment Report

AA/EOE

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Appendices

Executive Summary

Braun Intertec Corporation received authorization from the Minnesota Department of Transportation (MnDOT) to conduct a Limited Phase I Environmental Site Assessment (ESA) for State Project 2710-47. MnDOT plans to complete road construction and extensive bridge repairs along Trunk Highway (TH) 65 in Minneapolis, Hennepin County, Minnesota from approximately 1st Street South to approximately 2nd Street SE, including Bridge 2440 (3rd Avenue Bridge) over the Mississippi River. In order to complete the bridge work, property adjacent to the Mississippi River is needed for construction material staging and river access. The Upper Harbor Terminal site consists of nine parcels. MnDOT is interested in utilizing portions of Parcels 2, 3, and 4 (the Subject Property) of the Upper Harbor Terminal site for river access and construction material staging. The Upper Harbor Terminal site exists along the Mississippi River front between Dowling Avenue and Lowry Avenue, east of Washington Avenue.

For the purposes of this report, the Limited Phase I ESA addresses the area within 500 feet of the Subject Property (the Project Area). The objective of the Limited Phase I ESA was to serve as a screening tool to identify, to the extent possible, existing sources of contamination (based on present or former uses) and contaminant distribution at locations that could impact future use of the Subject Property as a staging area for repair work on Bridge 2440 (3rd Avenue Bridge). This information will be used by MnDOT to determine final project design plans/specifications and to potentially obtain liability protections. Braun Intertec followed MnDOT guidelines for completion of the Limited Phase I ESA using a modified version of the American Society of Testing and Materials (ASTM) methodology E 1527-13.

The Upper Harbor Terminal site is an intermodal storage and transfer facility for bulk commodities including grain, aggregate, coal, fertilizer, and metal products, and includes several buildings and many structures associated with the temporary storage and transfer of these materials. The buildings and structures include a large concrete warehouse building, concrete domes, metal grain elevator complex, loading and conveyance structures, outdoor storage areas, a river seawall, and barge moorings. The Subject Property consists of Parcels 2, 3 and 4 of the Upper Harbor Terminal site. The addresses of these three parcels are 2 36th Avenue North, 51 36th Avenue North, and 51 34th Avenue North, respectively. The north part of Parcel 2 was covered by aggregate piles and storage bins and silos (reportedly previously used for urea and grains); the south part of Parcel 2 was covered by a large high bay warehouse. Parcel 3 was used for dumpster storage and soil storage. Parcel 4 was used for wood debris and wood chip storage. The Upper Harbor Terminal site has been used as a storage and transfer facility for commodities since the 1960s.

At the time of this assessment, the Project Area was a mixture of commercial, industrial and residential development including the six remaining parcels that comprise the Upper Harbor Terminal. Based on a review of historical files, portions of the Project Area were developed by 1885 for residential and lumberyard uses. Railroad tracks occupied portions of the Project Area by 1892. The Project Area was a mixture of residential, agricultural, greenhouse, and railroad uses or was undeveloped until the first of the existing commercial buildings was constructed in 1946. The majority of the existing commercial building were constructed in the 1960s.Appendix B includes a Property Area Location Map (Figure 1) and a Project Area Site Ranking Map (Figure 2), which depict the Subject Property location and individual sites within 500 feet of the Subject Property.

Braun Intertec evaluated all sites in the Project Area to determine if they met the ranking criteria established by the Minnesota Department of Transportation (MnDOT) as *de minimis* or having a low, medium, or high potential for contamination. Site summary tables of these ranked parcels are included in Appendix A and the corresponding site summaries are included in Appendix C. Maps depicting the locations of the ranked sites *and de minimis* sites are included in Appendix B. The site summaries provide an overview of the regulatory and historical review information attached as Appendices D through I.

Based on Braun Intertec's assessment, 13 sites were identified within the Project Area as *de minimis* or having a low, medium, or high potential for contamination. More specifically, 1 *de minimis* site, 1 low potential for contamination site, 9 medium potential for contamination sites, and 2 high potential for contamination sites were identified.

Project Area-Wide Concerns

No groundwater plumes extending onto multiple parcels or onto the Subject Property were identified. No Superfund sites were identified within the Project Area.

Braun Intertec completed reviews of Minnesota Pollution Control Agency files, Minnesota Department of Agriculture files, and previous investigations conducted by the City of Minneapolis for sites within the Project Area. The file review information is summarized by site in the site summaries in Appendix C. Based on the regulatory file reviews, there is evidence that a soil vapor intrusion pathway represents a potential or known concern for the following sites:

- Parcel 2 (Upper Harbor Terminal Parcel 2) – 1,3 butadiene was detected at a concentrations greater that 10X the industrial intrusion screening values (ISV) during the 2015 Phase II ESA, as discussed in Section 6.3.

- Parcel 3 (Upper Harbor Terminal Parcel 3) – 1,3 butadiene was detected at a concentrations greater that 10X the industrial ISV, as discussed in Section 6.3.

- Site 1 (Precision Associates) – trichloroethene (TCE) and tetrachloroethene (PCE) were detected above industrial ISVs with PCE exceeding 33x the industrial ISV during a 2017 Additional Phase II Investigation, as discussed in the Detailed Regulatory File Review section of the site summary sheet for Site 1 included in Appendix C.

Based on a review of historical information, many properties within the Project Area were residential or formerly residential. Fuel oil tanks or other hazardous materials may be present within these residential properties. In those cases where historical and/or regulatory information confirmed the presence of tanks or other contaminants, the property was assigned a site number and was ranked in accordance with the MnDOT definitions of having a low, medium, or high potential for contamination. For those properties where historical and/or regulatory information or site reconnaissance did not confirm tanks or hazardous materials were present, the properties were grouped into areas that were assigned a site number and were ranked as having a *de minimis* potential for contamination.

Historically, residential buildings were previously located on the Subject Property. It is unknown if the demolition debris associated with these buildings was buried on the sites or hauled away for disposal. The potential exists that buried materials are present that may require management as solid or hazardous waste if encountered during redevelopment activities. Fill soils are documented on the Subject Property. If fill soils are to be disturbed during the staging process, then additional evaluation of the fill soils might be required for management and disposal purposes.

Conclusions

Based on the information contained within this report, the following sites have historical soil, groundwater, and/or soil vapor impacts warranting possible consideration for additional investigation, depending on the final staging plans:

Site Number	Site Name	Environmental Impacts	Reference/Source
Parcel 2 of the Subject Property	Upper Harbor Terminal Parcel 2	PAHs detected in soil at concentrations below SRVs and SLVs; DRO detected in groundwater at concentrations up to 609 ug/l; 1,3-butadiene detected in soil vapor at a concentration exceeding 10x the industrial ISV. Several additional VOCs were detected in soil vapor but at	Section 6.3 Prior Reports (included in Appendix I on CD)

Site Number	Site Name	Environmental Impacts	Reference/Source
		concentrations less than their respective ISVs. RCRA metals were detected in soil; however, none of the detected concentrations exceeded their respective SRVs or SLVs. Fill material is present.	
		A white granular material, possibly fertilizer, was observed on the ground surface and outdoor equipment in various areas on the northern portion of the parcel.	Site observations
Parcel 3 of the Subject Property	Upper Harbor Terminal Parcel 3	PAHs detected in soil at concentrations below SRVs and SLVs; 1,3-butadiene detected in soil vapor at a concentration exceeding 10x the industrial ISV. Several additional VOCs were detected in soil vapor but at concentrations less than their respective ISVs. RCRA metals were detected in soil; however, none of the detected concentrations exceeded their respective SRVs or SLVs. Fill material is present.	Section 6.3 Prior Reports (included in Appendix I on CD)
Parcel 4 of the Subject Property	Upper Harbor Terminal Parcel 4	PAHs detected in soil at concentrations below SRVs and SLVs; 1,2 dichloroethane detected in groundwater at a concentration exceeding its HRL; DRO detected in groundwater at 171 ug/l. RCRA metals were detected in soil; however, none of the detected concentrations exceeded their respective SRVs or SLVs. Fill material is present.	Section 6.3 Prior Reports (included in Appendix I on CD)
1	Precision Associates	DRO up to 172 mg/kg in soil, PCE up to 0.29 mg/kg in soil, and GRO up to 34 mg/kg in soil; DRO up to 1,740 ug/l in ground water and PCE up to 8.58 ug/l in groundwater; and TCE and PCE above industrial ISVs with	MPCA file review for Brownfields VP27900 and Leak #18423 (see Appendix H on CD)

Site Number	Site Name	Environmental Impacts	Reference/Source
		PCE exceeding 33x the industrial ISV for soil vapors.	
3	Upper Harbor Terminal Parcel 1	PAHs detected in soil at concentrations below SRVs and SLVs; DRO detected in groundwater at 146 ug/l. RCRA metals were detected in soil; however, none of the detected concentrations exceeded their respective SRVs or SLVs.	Section 6.3 Prior Reports (included in Appendix I on CD)
4	Upper Harbor Terminal Parcels 7A and 7B	DRO up to 123 mg/kg in soil; PAHs detected in soil at concentrations below SRVs and SLVs. RCRA metals were detected in soil; however, none of the detected concentrations exceeded their respective SRVs or SLVs.	Section 6.3 Prior Reports (included in Appendix I on CD)
5	Upper Harbor Terminal Parcel 6A	DRO up to 340 mg/kg in soil; PAHs detected in soil at concentrations below SRVs and SLVs. RCRA metals were detected in soil; however, none of the detected concentrations exceeded their respective SRVs or SLVs.	Section 6.3 Prior Reports (included in Appendix I on CD). MPCA file review for Leak #12239 (see Appendix H on CD)
11	Libra	PAHs and VOCS were detected in groundwater at concentrations below their respective Maximum Contaminant Levels (MCL) or HRL.	MPCA file review for Brownfields VP15870 (see Appendix H on CD)
12	Upper Harbor Terminal Parcel 5	DRO up to 210 mg/kg in soil; PAHs detected in soil at concentrations below SRVs and SLVs; DRO detected in groundwater at 214 ug/l. RCRA metals were detected in soil; however, none of the detected concentrations exceeded their respective SRVs or SLVs.	Section 6.3 Prior Reports (included in Appendix I on CD)

One low potential for contamination site, 9 medium potential for contamination sites, and 2 high potential for contamination sites were identified. A Phase II investigation is recommended to assess subsurface conditions at the Subject Property where known or suspected soil, groundwater or soil vapor contamination may affect MnDOT's future river access and staging activities for the 3rd Avenue Bridge project.

1. Introduction

1.1 Purpose

Braun Intertec Corporation received authorization from the Minnesota Department of Transportation (MnDOT) to conduct a Limited Phase I Environmental Site Assessment (ESA) for State Project 2710-47. MnDOT plans to complete road construction and extensive bridge repairs along Trunk Highway (TH) 65 in Minneapolis, Hennepin County, Minnesota from approximately 1st Street South to approximately 2nd Street SE, including Bridge 2440 (3rd Avenue Bridge) over the Mississippi River. In order to complete the bridge work, property adjacent to the Mississippi River is needed for construction material staging and river access. The Upper Harbor Terminal site consists of nine parcels. MnDOT is interested in utilizing portions of Parcels 2, 3, and 4 (the Subject Property) of the Upper Harbor Terminal site. The Upper Harbor Terminal site exists along the Mississippi River front between Dowling Avenue and Lowry Avenue, east of Washington Avenue.

For the purposes of this report, the Limited Phase I ESA addresses the area within 500 feet of the Subject Property (the Project Area). The objective of the Limited Phase I ESA was to serve as a screening tool to identify, to the extent possible, existing sources of contamination (based on present or former uses) and contaminant distribution at locations that could impact future use of the Subject Property as a staging area for repair work on Bridge 2440 (3rd Avenue Bridge). This information will be used by MnDOT to determine final project design plans/specifications and to potentially obtain liability protections. Braun Intertec followed MnDOT guidelines for completion of the Limited Phase I ESA using a modified version of the American Society of Testing and Materials (ASTM) methodology E 1527-13.

The Limited Phase I ESA was prepared on behalf of and for the use by MnDOT in accordance with the contract between MnDOT and Braun Intertec. No other party has a right to rely on the contents of the Limited Phase I ESA without written authorization by Braun Intertec. All authorized parties are entitled to rely on the attached report according to Braun Intertec's contract with MnDOT, and under the same terms, conditions and circumstances.

1.2 Scope of Services

A general overview of Braun Intertec's scope of services for this assessment is listed below. Specific details regarding each task performed follows in the remaining sections of this report.

- Complete a limited Phase I ESA of the Project Area to identify potential sources of contamination that could impact the Project Area. The Project Area includes property within 500 feet of the Subject Property.

- Identify information already available within MnDOT, such as previous Phase I/II ESAs of the Project Area, current and historic aerial photographs, right-of-way and project maps, materials (geotech) boring information, and verbal information from long-term MnDOT employees familiar with the Project Area.

- Review historical and current topographical maps and geological and hydrogeological publications in order to understand geological and hydrogeological conditions in the Project Area.

- Search and review regulatory agency files (including, but not limited to, Minnesota Pollution Control Agency [MPCA] files regarding leaks and spills, Leaking Underground Storage Tank [LUST] sites, Underground Storage Tank [UST] sites, Leaking Aboveground Storage Tanks [LAST] sites, Aboveground Storage Tank [AST] sites, Voluntary Investigation and Cleanup [VIC] sites, Minnesota Department of Agriculture [MDA] Voluntary Investigation and Cleanup [AgVIC] sites, Resource Conservation and Recovery Act [RCRA] sites, Minnesota Environmental Response and Liability Act [MERLA] sites, and United States Environmental Protection Agency [EPA] Superfund sites; fire insurance maps; city and county files; Minnesota Geological Survey [MGS] files and/or Minnesota Well Index [MWI] files; historical maps; and aerial photographs.)

- Interview city and county staff; State project personnel; and possibly neighbors, tenants, and owners of properties within the Project Area.

- Review State information pertaining to locations of wellhead protection areas within the Project Area.

- Complete a reconnaissance of the Project Area including drive- and walk-by reviews and, where feasible (e.g., at properties with public access, such as retail businesses), on-site reviews.

- Conduct a review of MPCA files pertaining to reported contaminated site to obtain additional detailed information about the magnitude and extent of contamination and the status of each site for inclusion in the Phase I ESA report.

- Rank/classify identified sites within the Project Area as *de minimis* or having a low, medium, or high potential for the presence of contamination and document how and why the types of sites identified on the Project Area are given these rankings/classifications. These rankings are based solely on the sites' potential for the presence of contamination and not on the sites' locations with respect to the Subject Property. Site summaries were prepared for sites determined to have a low, medium, or high potential for contamination.

- Prepare this report discussing the findings of the Limited Phase I ESA with supporting documentation provided as appendices.

1.3 General Definitions

The following are definitions of terms used in this report:

- Subject Property: Parcels 2, 3 and 4 of the Upper Harbor Terminal facility.

- Project Area: The area and parcels located within 500 feet of the Subject Property. This includes parcels that are only partially located within 500 feet of the Subject Property.

- Road: The driving surface, or proposed driving surface, from curb to curb or shoulder to shoulder within the Project Area.

- Parcel: A property, or portion of a property, based on a review of the county property information web page located within the Project Area that has been evaluated.

- Site: A parcel/facility or group of parcels/facilities that were collectively investigated or documented within a regulatory listing.

- Facility: A building, business, or land use located on the parcel.

- Right-of-Way: The road and land adjacent to the road to which MnDOT owns or has right of access.

- Recognized Environmental Condition: Defined by ASTM Practice E1527-13 as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to any release to the environment, 2) under conditions indicative of a release to the environment, or 3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not recognized environmental conditions."

1.4 Project Area Ranking Definitions

As indicated, identified parcels within the Project Area were ranked as *de minimis* or having a low, medium, and high potential for contamination to the project area using criteria established by MnDOT. The rankings, defined by MnDOT, are as follows:

De Minimis Sites include sites that do not qualify by definition as low, medium, or high ranked potential for contamination sites and are unlikely to be considered contaminated.

Low Potential for Contamination Sites include sites that are hazardous waste generators, railroad lines, current lumber yards, golf courses, and possibly some farmsteads, residences, or commercial properties where the site reconnaissance showed poor housekeeping.

Medium Potential for Contamination Sites include sites with closed LUSTs/LASTs, all sites with USTs/ASTs, machine shops, all sites with historic or current vehicle and/or auto body repair activities and petroleum use or storage, all bulk grain/feed storage sites, all historical lumber yards, all closed agricultural release sites, graveyards, and all sites with detections of non-petroleum chemicals.

High Potential for Contamination Sites include all active and inactive VIC sites, all active and inactive MERLA/Superfund sites, all active and inactive dumpsites, all active LUST/LAST sites, all dry cleaners (with on-site or unknown chemical processing), all bulk chemical/petroleum facilities, all active agricultural release sites, railroad facilities (fueling, yards or maintenance), clandestine chemical/drug laboratory, and all historic industrial sites with likely chemical use on the premises.

Site Summary Tables for sites that were identified within the Project Area as having a low, medium, or high potential for contamination is attached as Table 1 (numeric order) and as Table 2 (ranking order), Appendix A. A Project Area Site Ranking Map depicting the locations of the sites with low, medium, or high potential for contamination is included as Figure 2, Appendix B. Site summaries were prepared for sites determined to have a low, medium, or high potential for contamination (included as Appendix C). Sites within the Project Area that did not meet the criteria for low, medium, or high potential for contamination were grouped into areas that were assigned a site number and were ranked as having as *de minimis*. A map depicting the locations of the *de minimis* sites is included as Figure 3, Appendix B. A table of the *de minimis* sites is attached as Table 3, Appendix A.

1.5 Assumptions/Data Gaps/Limitations/Methodologies

This assessment was conducted in conformance with MnDOT guidelines using a modified version of the ASTM methodology E 1527-13. The conclusions presented in this report are based on inquiries with public officials, available literature cited in this report, conditions noted at the time of the reconnaissance, and Braun Intertec's interpretation of the information obtained as part of this Limited Phase I ESA. Braun Intertec's conclusions are limited to the specific project and properties described in this report and by the accuracy and completeness of information provided by others.

An environmental site assessment cannot wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property. Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for recognized environmental conditions in connection with a property within reasonable limits of time and cost.

Braun Intertec's visual observations of portions of the Project Area were limited to public road right-of-ways, parking lots, and other publicly accessible properties. None of the buildings in the Project Area were inspected by Braun Intertec, as it was not within the scope of this Limited Phase I ESA. Contaminant sources and/or hazardous materials and substances may exist within the buildings in the Project Area or on areas of the parcels that were not visible from public areas.

Braun Intertec's review of historical sources was limited to those which were reasonably ascertainable and which were likely to be useful, accurate, or complete in terms of identifying obvious past uses and activities in the Project Area. In addition, Braun Intertec reviewed only as many historical sources as needed to meet this objective.

No data gaps were identified during the Limited Phase I ESA process, with the exception that Braun Intertec did not interview all property owners located within the Project Area.

The identified limitations and data gaps did not affect the environmental professional's ability to render opinions regarding conditions indicative of a release or threatened release.

Any information requested during the Limited Phase I ESA and received after issuance of the report will be forwarded to all parties relying on this report. An addendum will be provided if the information received alters the findings of the report.

2. Project Area Description and Location

2.1 Location and Legal Description

MnDOT is interested in utilizing portions of Parcels 2, 3, and 4 (the Subject Property) of the Upper Harbor Terminal site. The Upper Harbor Terminal site exists along the Mississippi River front between Dowling Avenue and Lowry Avenue, east of Washington Avenue, in Minneapolis, Hennepin County, Minnesota. The Project Area includes the area and parcels located within 500 feet of the Subject Property, including parcels that are only partially located within 500 feet of the Subject Property.

The Project Area is located in portions of Township 29 North, Range 24 West, Sections 3 and 10. The Project Area Location Map, attached as Figure 1, Appendix B; the Project Area Site Ranking Map, attached as Figure 2, Appendix B; and the Project Area *De Minimis* Site Map, attached as Figure 3, Appendix B depict the Project Area location and individual sites within the Project Area. Partial legal descriptions are provided in individual site summaries included in Appendix C.

2.2 Historical Project Area Use

Based on a review of historical files, portions of the Project Area were developed by 1885 for residential and lumberyard uses. Railroad tracks occupied portions of the Project Area by 1892. The Project Area was a mixture of residential, agricultural, greenhouse, and railroad uses or was undeveloped until the first of the existing commercial buildings was constructed in 1946. The majority of the existing commercial building were constructed in the 1960s. The Upper Harbor Terminal site has been used as a storage and transfer facility for commodities since the 1960s. The earliest existing Upper Harbor Terminal structures were constructed in approximately 1968.

2.3 Current Project Area Use

At the time of this assessment, the Project Area was a mixture of residential and commercial/industrial development, including the Upper Harbor Terminal site and a MnDOT truck station.

3. Physical Setting

3.1 Topography

According to the United States Geological Survey (U.S.G.S) 7.5-minute topographic map series, Minneapolis North, Minnesota quadrangle, the Project Area is located at an elevation that ranges from approximately 810 feet on the east side, near the Mississippi River, and 850 feet on the western side. The terrain of the Project Area and surrounding area slopes down to the east.

3.2 Geology and Soils

The unconsolidated sediment in the Project Area are postglacial middle and upper terrace deposits, which consist of sand, gravelly sand and loamy sand overlain by thin deposits of silt, loam, or organic sediment (Meyer and Hobbs, 1989). The information discussed in Section 6.3 indicates that previous geotechnical and environmental investigations have encountered a variety of fill soils (silt, sand, and gravel) at depths ranging from 1 foot to 15 feet on Parcel 2 of the Upper Harbor Terminal site.

The uppermost bedrock unit in the western Project Area is the Middle Ordovician, St. Peter Sandstone (Olsen and Bloomgren, 1989). The St. Peter Sandstone is described as a fine- to medium-grained, friable quartz sandstone in the upper half to two thirds of the unit. The lower part of the St. Peter Sandstone contains multicolored beds of mudstone, siltstone and shale with interbedded, very coarse sandstone. The uppermost bedrock unit in the eastern Project Area is the Lower Ordovician, Prairie du Chien Group (Olsen and Bloomgren, 1989). The Prairie du Chien Group is described as Dolostone that varies greatly in thickness because its top is a major erosional surface. The formation is sandy with minor amounts of shale in the upper third to half of the section. The lower part of the section is less sandy except within 10 to 15 feet of the base. The depth to bedrock in the Project Area is 50 feet to 200 feet below land surface (Bloomgren, Cleland and Olsen, 1989).

3.3 Hydrogeology

The reported depth to groundwater in the Project Area ranges from approximately 10 feet to 30 feet below land surface (Kanivetsky, 1989). Based on parcel-specific information obtained through review of the MPCA files, localized groundwater depths on parcels within the Project Area were measured to range from 13.3 to 32 feet below ground surface.

According to published geologic information, the regional groundwater flow direction within the unconsolidated deposits in the Site vicinity is generally easterly (Kanivetsky, 1989). However, nearby streams, lakes, wells, and/or wetlands may locally affect the flow direction of groundwater.
The Project Area-specific groundwater flow direction was not measured by Braun Intertec through direct measurements during this Limited Phase I ESA. Additional field investigation was beyond the Scope of Services of this Limited Phase I ESA and would be required to determine this information.

4. Historical Land Use Review

The objectives of the historical land use review are: 1) develop a general summary of the previous uses of the Project Area and 2) develop a history of the previous uses of properties located within the Project Area to help evaluate the likelihood of past uses of these properties having led to environmental issues that could affect the Project Area. The below sections provide the general summary of the Project Area, historical findings related to specific properties are noted in the site summaries included as Appendix C.

4.1 Historical Maps

Braun Intertec retained Historical Information Gatherers, Inc. (HIG) to obtain historical maps for the Project Area and surrounding areas. Historical maps sometimes include real estate atlases and fire insurance maps. Real estate atlases were produced by private companies and indicated street grids and buildings, which were occasionally labeled as to use or occupant. Fire insurance maps were produced by private fire insurance companies and indicated uses of properties at specific dates. The information noted on the fire insurance maps commonly includes uses of individual structures, locations of fuel and/or chemical storage tanks, and storage of other toxic substances. HIG provided real estate atlases for the years 1885, 1892, 1898, 1903, 1914 and 1940 and fire insurance maps for the years 1889, 1892, 1904, 1912, 1930, 1950, 1952 and 1967. Information obtained for the low, medium, and high potential contamination sites from the review of the historical maps are included in the site summaries in Appendix C. Copies of historical maps are attached as Appendix D. The following is a general summary of the information reviewed.

1885 – 1940
The Project Area is a mixture of residential, agricultural, greenhouse, retail, and railroad uses or undeveloped land.

1950 – 1967
The Project Area is a mixture of residential, greenhouse, retail, and railroad uses in addition to commercial/industrial uses associated with some of the existing buildings.

4.2 Aerial Photographs

Braun Intertec retained Historic Information Gatherers (HIG) to obtain aerial photographs for the Project Area and surrounding areas. Braun Intertec obtained aerial photographs from HIG for years 1934, 1937, 1940, 1947, 1953, 1957, 1964, 1968, 1970, 1979, 1981, 1984, 1991, 1997, 2000, 2008, 2013, and 2017. Information obtained for the low, medium, and high potential contamination sites from the review of the historical maps are included in the site summaries in Appendix C. Copies of the aerial photographs are attached as Appendix E. The following is a general summary of the information reviewed.

1934 – 1940
The Project Area is a mixture of undeveloped land, cultivated cropland, railroad tracks, and residential and commercial buildings. The eastern portions of the Subject Property (Parcels 2, 3 and 4 of the Upper Harbor Terminal site) are located within the Mississippi River.

1947 – 1957
No significant changes are noted at the Project Area except for the presence of the original section of the existing commercial building on Site 1.

1964
The Project Area is relatively unchanged except that the eastern portions of the Subject Property (Parcels 2, 3 and 4 of the Upper Harbor Terminal site) that were located within the Mississippi River are being filled and the existing commercial building on Site 11 is apparent.

1968 – 1970
Additions are apparent to the existing building on Site 1, the existing commercial building on Site 7 is apparent, piles of unknown material are apparent on Sites 5 and 6 and Parcel 2 of the Subject Property, and some of the existing buildings on Site 5 and Parcel 2 of the Subject Property are apparent.

1979 – 1981
The Project Area is further developed for commercial use. Two large storage tanks are apparent on both Sites 5 and 12. The existing commercial building on Site 9 is apparent. The existing warehouse on Parcel 2 of the Subject Property is apparent. Outdoor storage and/or disturbed ground surface are apparent on Site 3 and on Parcels 3 and 4 of the Subject Property.

1984

The Project Area is relatively unchanged, except for the existing north building on Site 6 is apparent and Site 4 is developed as a staging area for the Upper Harbor Terminal activities.

1991 – 2008

The Project Area is relatively unchanged, except that the existing dome structures and silos on Parcel 2 of the Subject Property and the existing south building on Site 6 are apparent. The two large storage tanks previously present on Site 12 are no longer present by 1997.

2013 – 2017

The Project Area appears to be developed with the existing buildings. The two large storage tanks previously present on Site 5 are no longer present.

4.3 City Directory Information

Braun Intertec retained HIG to obtain city directory information for Broadway Avenue within the Project Area. HIG provided city directories for the years 1930, 1935, 1940, 1946, 1952, 1957, 1962, 1967, 1972, 1977, 1982, 1987, 1993, 1999, 2002, 2007 and 2012. Braun Intertec reviewed the city directories to assist in identifying properties by name alone that could affect the Project Area. Information obtained for the low, medium, and high potential contamination sites from the city directory review are included in the site summaries in Appendix C.

Land uses listed in the directories include residential and commercial development throughout the Project Area.

4.4 Historical Topographic Maps

Braun Intertec retained HIG to obtain USGS topographic maps for the Project Area and surrounding areas. Braun Intertec obtained USGS topographic maps from HIG for years 1902, 1952, 1955, 1967, 1972, 1980, 1993, 2013, and 2016. Copies of historical topographic maps are included in Appendix F. Information obtained for the low, medium, and high potential contamination sites from review of the topographic maps are included in the site summaries in Appendix C.

Railroad tracks, city streets and various buildings are depicted in the Project Area from 1902 through 1993. No buildings are depicted in the Project Area on the 2013 and 2016 maps; however, the Project Area is depicted as an urban/developed area.

5. Regulatory Database Review

Braun Intertec obtained regulatory information pertaining to the Project Area and surrounding area from Environmental Data Resources (EDR). The EDR report is a compilation of records of sites that are included on current federal and state environmental regulatory databases. The databases were searched to a distance of one-half mile from the Project Area. Braun Intertec reviewed the EDR report to identify records that indicate known or potential environmental hazards within the Project Area and/or surrounding area and to evaluate the likelihood for those hazards to impact the sites within the Project Area. Information obtained from the EDR report was used to determine which facilities are located within the Project Area and have known or potential contamination associated with current and/or past uses. The EDR report also includes a description, source reference, and date of acquisition.

In addition to the information obtained from the EDR report, Braun Intertec reviewed select petroleum tank release and VIC files and agricultural release files at the MDA. Pertinent information obtained from EDR or the MPCA and MDA file reviews is summarized on the site summaries in Appendix C. Copies of the EDR report and information collected and reviewed as part of the MPCA and MDA file reviews are included as Appendices G and H, respectively.

5.1 EDR Review

5.1.1 Project Area

Sites identified in the EDR report that were determined to be located within or partially within the Project Area are presented in the table below.

EDR Regulatory Database Summary

Database Name	Site Numbers Identified
Resource Conservation and Recovery Act (RCRA) Non-Generator/No Longer Regulated (NonGen/NLR)	1, 5, 11
RCRA Conditionally Exempt Small Quantity Hazardous Waste Generator (CESQG)	6, 7, 8, 10
RCRA Small Quantity Hazardous Waste Generator (SQG)	11
Hazardous Waste Manifest (MANIFEST)	1, 5, 6, 7, 8, 10, 11
What's In My Neighborhood (WIMN)	1, 5, 6, 7, 8, 10, 11, 12
Site Remediation Section (SRS)	1, 5, 6, 7, 11
Petroleum Brownfields Program (BROWNFIELDS)	1, 11
Voluntary Investigation and Cleanup Program (VIC)	1, 11

Database Name	Site Numbers Identified
Underground Storage Tanks (UST)	1, 6, 8, 11
Leaking Underground Storage Tanks (LUST)	1, 6
Recovered Government Archive LUST (RGA LUST)	1, 5, 6
Aboveground Storage Tanks (AST)	5, 6, 12
Leaking Aboveground Storage Tanks (LAST)	6
Vapor Intrusion (VAPOR)	1, 7, 11
Air Permitted Facility (AIRS)	1, 5
Tier 2 Facility (TIER 2)	1, 6, 7
Wastewater Permit Listings (NPDES)	5, 7
Facility Index System/Facility Registry System (FINDS)	1, 4, 5, 6, 7, 8, 10, 11, 12
Integrated Compliance Information System (ICIS)	1, 5
Enforcement and Compliance History Information (ECHO)	1, 5, 6, 8, 10, 11
Generators with Enforcement Logs (ENFORCEMENT)	6
Federal Insecticide, Fungicide and Rodenticide Act/Toxic Substances Control Act (FTTS)	1
Historical FTTS (HIST FTTS)	1
Emergency Response Notification System (ERNS)	5
Asbestos Notification Listing (ASBESTOS)	6
MDA Agricultural Spills (AGSPILLS)	Parcel 2 (Subject Property)
MPCA Spills (SPILLS)	5, 6, 7, 8
Recovered Government Archive Solid Waste Facilities (RGA LF)	Parcels 3 and 4 (Subject Property)
List of Sites (MN LS)	11

The following listings in the EDR report appear to be located within the Project Area but could not be associated to a specific site:

Database Listings within the Project Area not associated with Specific Site

Name	Address	Database(s)
Unknown	2nd Street and 34th Avenue	SPILLS – a 55-gallon drum of petroleum waste was abandoned at the intersection on November 23, 1994; status is listed as closed or completed.

Name	Address	Database(s)
Koch Materials	Washington Avenue and Dowling Avenue	SPILLS – a release of an estimated 80 gallons of "petroleum other" occurred on June 25, 1995; status is listed as closed or completed.

5.1.2 Adjoining Properties

Braun Intertec reviewed the EDR report for properties that adjoin the Project Area and are located within the approximate minimum search distances on the standard environmental records sources as specified in the ASTM Standard that may indicate a release or likely release of hazardous substances and/or petroleum products that may impact the Project Area. Based on factors that include regulatory status, distance from the Project Area, and/or location relative to the regional groundwater flow direction, as referenced in Section 3. Physical Setting, no facilities are identified in the EDR report that pose a potential recognized environmental condition (i.e., potential for contamination).

5.1.3 Unmapped Sites/Orphan Sites

The EDR report identified five "orphan" sites, which, because of poor or inadequate address information could not be mapped by EDR. Using online mapping resources, the sites were identified outside the appropriate minimum search distances for the Site, could not be located based on the information provided, or do not warrant further consideration as potential recognized environmental conditions (i.e., potential for contamination). None of the orphan sites became a site for this assessment.

5.2 MPCA/MDA File Reviews

Several sites warranted an additional MPCA/MDA file review based on their complexity and/or size in order to evaluate the potential impact to the Project Area. Braun Intertec completed MPCA file reviews for available petroleum tank release, and Brownfields/VIC site files for the Project Area. In addition, Braun Intertec reviewed available MDA files. The file review information is summarized by site on the site summaries in Appendix C.

Due to the volume of information obtained from the current assessment MPCA and MDA file reviews, it was not practical to include hard copies of the information as appendices to the bound hard copy of this report. However, this information is provided as Appendix H in the pdf version of this report on the attached CD. Selected diagrams and tables referencing the MPCA and MDA files for subsurface investigations are included under the Detailed Regulatory File Review section in the site summary sheets in Appendix C. Any additional documentation obtained from the MPCA file reviews is on file at Braun Intertec.

Braun Intertec reviewed the following files:

Site Number	Facility Name	Regulatory ID	Status	Significant Findings
Parcel 2 (Subject Property)	River Services	MDA case file 92-0147	Reviewed	Residual dry fertilizer was observed on the rail bed. Analysis of the material determined it was not hazardous waste.
1	PAI Properties LLC	VP27900 Leak 18423	Reviewed	Petroleum and non-petroleum compounds, including tetrachloroethene, were detected in soil and groundwater.
5	Koch Materials	Leak 12239	Reviewed	No residual petroleum soil or groundwater impacts remain.
6	Camden Truck Station #90930	PB4477	Reviewed	Limited petroleum compounds were detected in soil.
7	Flexible Products Division of Airtex Industries	SA1153	Reviewed	The MPCA provided a screen shot from their SA database. According to the information on the screen shot, a lack of a documented hazardous waste release at the site was noted on March 3, 1999.
11	Meritex	VP15870	Reviewed	Identified Release defined as chloroform, trichloroethene, 2-methylnaphthalene, and naphthalene in groundwater.

6. Additional Records

6.1 MnDOT Right-of-Way Mapping

Braun Intertec reviewed the MnDOT Right of Way Mapping and Monitoring web page. The majority of the Project Area is located on Map 17-74 (undated but release dates were noted between July 1, 1979 and May 15, 1996). Highway 94 is not depicted on the map. The unlabeled structures depicted on the map are similar to those apparent on the 1970 aerial photograph. No environmental concerns were noted within the Project Area on the map.

6.2 Minnesota Well Index

The Minnesota Geological Survey (MGS) maintains the Minnesota Well Index (MWI), which is a limited database of water well records. The MWI was accessed through the Minnesota Department of Health (MDH) website. No private wells were identified within the Project Area.

Braun Intertec also accessed the MWI to determine the location/boundaries of any Wellhead Protection Areas (WHPA) and Drinking Water Supply Management Areas (DWSMA) that exist within the Project Area. The Project Area was not located within a WHPA or DWSMA.

6.3 Prior Reports

Braun Intertec reviewed the following previous environmental documents regarding the Project Area (copies of the reports are included as Appendix I):

***Environmental Investigation Report, GAF Materials Corporation, Proposed Facility, NE of 33rd Avenue N. and 2nd Street N., Minneapolis, Minnesota*, prepared by Braun Intertec, dated April 21, 2010 (2010 Environmental Investigation).**

The 2010 Environmental Investigation was conducted on Parcel 5 of the Upper Harbor Terminal (Site 12 for this current assessment). The objective was evaluate the parcel for indications of environmental impacts related to past activities. The parcel was under considerations for leasing for use as a paved materials storage and transfer area; pallets of shingles would be stored for loading onto semi-trailers. At the time of the investigation, the parcel had a sand and gravel surface with a retention pond in the southeast corner (located outside of the Project Area) and the parcel was used for outdoor material storage.

Four soil borings were completed to depths of 21 feet. The borings were completed as temporary monitoring wells. Groundwater was encountered at depths ranging from 16 to 18 feet. Soil and groundwater samples were collected and analyzed for polynuclear aromatic hydrocarbons (PAHs), gasoline range organics (GRO), diesel range organics (DRO), volatile organic compounds (VOCs), and/or RCRA metals. In addition, two shallow soil samples were collected from the retention pond and were analyzed for PAHs, GRO, DRO, VOCs and RCRA metals.

The results of the investigation indicated that fill soil consisting of silty sand with trace gravel was observed from the ground surface to depths ranging from 2 to 8 feet. No field indications of contamination were observed. DRO was detected in soil above laboratory method reporting limits in soil samples collected from depths of 0 to 6 feet. Concentrations of DRO were detected in seven of the eight samples collected at concentrations ranging from 18 milligrams/kilogram (mg/kg) to 210 mg/kg. No indications of groundwater impacts were detected.

***Phase I Environmental Site Assessment, Upper Harbor Terminal, Nine Parcels North of 33rd Avenue North, West of Mississippi River, Minneapolis, Minnesota*, prepared by Braun Intertec, dated September 17, 2015 (2015 Phase I ESA).**

The assessment was conducted on nine contiguous parcels (the Site) totaling approximately 48.16 acres. The Site was used as a storage and transfer facility with Parcel 1 (Site 3 for this current assessment) full of aggregate piles; the north part of Parcel 2 covered mostly by empty storage bins and silos (reportedly previously used for urea and grains); the south part of Parcel 2 covered by a large high bay warehouse full of pallets of steel coils and other building materials; Parcel 3 and Parcel 4 used for wood chip storage; Parcel 5 (Site 12 for this current assessment) full of pallets of roofing shingles; Parcel 6a and Parcel 6b (Site 5 for this current assessment) generally vacant except for vacant office building, truck scales, scale house, and a shed; and Parcel 7a and Parcel 7b (Site 4 for this current assessment) vacant strips of land along U.S. Interstate Highway 94. As previously stated, the Subject Property for this current assessment consists of Parcels 2, 3 and 4 of the Upper Harbor Terminal site.

The Site had been used as a storage and transfer facility for commodities since the 1960s. The earliest existing Site structures were constructed in approximately 1968. Prior to the 1960s, the Site uses included residential, grazing, and cultivated farmland.

The 2015 Phase I ESA identified no recognized environmental conditions in connection with the Site, with the exception of the following:

- Historical information indicates that fill was placed on the Site in the 1960s. The origins of the fill are undocumented. Previous exploratory borings on Parcel 2 encountered wood with creosote odors, fuel oil type hydrocarbons, and cinders in the fill. Based on this information there is a potential for hazardous substance and/or petroleum contamination in the fill.

- Based on regulatory information there is petroleum contaminated soil and groundwater at the Site Parcel 6A, associated with Minnesota Pollution Control Agency (MPCA) Leak 12239. In addition, several petroleum spills have been reported for the Site. Although the leak and reported spills have been assigned a closed status by the MPCA, based on the planned redevelopment of the Site, the identified petroleum contamination to soil and groundwater as well as the potential for unknown petroleum spills was considered a recognized environmental condition.

- Former ASTs with associated pipelines were present on Parcels 5 and 6A. In addition, pipelines connected to the former ASTs on parcel 6A traversed Parcel 2. Although previous closure testing did not identify significant contamination, based on the past storage and

transfer of bulk petroleum products, limitations of past testing (which indicate the potential for smaller localized and unknown past releases), and because of the potential for redevelopment, the past presence of petroleum ASTs and associated transfer pipelines on Parcels 2, 5, and 6a were considered recognized environmental conditions.

Historical information and interview information indicated the presence of underground heating pipelines, fuel pipelines, and conveyance tunnels. There is a potential for asbestos-containing materials on the buried pipes and/or pipes in tunnels.

The 2015 Phase I ESA also referenced additional previously prepared documents pertaining to portions of the Project Area, particularly the Upper Harbor Terminal. The following is the discussion of the previous reports from the 2015 Phase I ESA report:

***Environmental Assessment/Evaluation at Upper Harbor River Terminal Facility in Minneapolis*, Minnesota, prepared by STS Consultants Ltd., dated April 1993 (April 1993 ESA).**

"The April 1993 ESA included the entire Site (all parcels). The April 1993 ESA did not identify a significant release or likely significant release of hazardous substances or petroleum products to the soil or groundwater at the Site. The April 1993 ESA identified the reported leak at the MnDOT Camden Truck Station on adjoining property to the northwest (MPCA Leak 4477) as a potential source of petroleum impacts to groundwater at the Site. However, the GeoSearch report indicates that no groundwater contamination was identified in connection with Leak 4477 and the MPCA has assigned a closed status to Leak 4477."

***Environmental Assessment of Anderson Brothers Construction of Brainerd Minnesota Site*, in Minneapolis, Minnesota, prepared by STS Consultants Ltd., dated May 19, 1993 (May 1993 ESA).**

"The May 1993 ESA was limited to Parcel 5. At that time, Anderson Brothers reportedly operated on Parcel 5 of the Site to transfer and store asphalt cement. The May 1993 ESA included advancing six soil borings, screening soils with a PID, and submitting selected soil samples for laboratory analysis for PAHs. The May 1993 ESA reported no indication of a significant release based on PID screening and PAH analysis."

MPCA Closure Letter (Leak 12239), dated December 19, 2001.

"As discussed in Section B.2.a, the GeoSearch report indicates that the MPCA assigned a closed status to Leak 12239 on December 19, 2001. The GeoSearch report indicates the presence of contaminated groundwater associated with this petroleum release. Detailed information regarding Leak 12239 was not readily available."

***Results of AST Closure Sampling, 3750 North Washington, Minneapolis, Minnesota*, prepared by Pinnacle Engineering, dated June 10, 2013 (closure sampling report).**

"The closure sampling report was related to the removal of two 4,000,000 gallon asphalt ASTs on Parcel 6a in 2011. The closure sampling report indicates that underground piping between Parcel 6a and the river loading terminal still exists in the ground. The closure sampling report indicates that four soil borings were advanced to a depth of eight feet on May 2, 2013 and samples were collected, screened with a photoionization detector (PID), and subsequently laboratory analyzed for volatile organic compounds (VOCs), diesel range organics (DRO), polyaromatic hydrocarbons (PAHs), and total petroleum hydrocarbons (TPH). The closure sampling report indicates that no elevated PID readings were noted in the field screening of the samples. The closure sampling report indicates that no significant concentrations of DRO, PAHs, VOCs, or TPH were reported in any of the samples with the exception of a reported concentration of DRO at 340 milligrams per kilogram (mg/kg) in soil boring number 4 at a sample interval depth of 0 to 2.5 feet."

***Upper Harbor Terminal Redevelopment Strategy,* prepared by Minneapolis Community Planning and Economic Development, dated December 2014. (Redevelopment strategy).**

"The redevelopment strategy provides some background history and concept option plans for future redevelopment of the Site.

The following is an excerpt from the historical background discussion portion of the redevelopment strategy:

The Upper Harbor Terminal (UHT) is a 48-acre industrial property located approximately 2 miles from downtown Minneapolis along the west bank of the Mississippi River, between Lowry Avenue N. and the Camden Bridge in North Minneapolis. The linear site stretches almost one mile long along the Upper Mississippi, located between the shoreline on the east and Interstate 94 on the west. The site enjoys convenient access to Interstate 94 at Dowling Avenue N. and a direct connection to downtown Minneapolis south along Washington Avenue N. Access to the site is currently provided at Dowling Avenue N. and 33rd Avenue N., along 2nd Street N./Washington Avenue N.

The Upper Harbor Terminal site is equipped for intermodal transfer of a variety of bulk commodities including grain, aggregate, coal, fertilizer, and metal products, and comprises a number of buildings and structures for storing and handling these materials, including concrete domes, loading and conveyance structures, a large concrete warehouse building, outdoor storage areas, a seawall, barge mooring cells, and an open area for storage of dredging materials.

The CP Rail Line runs parallel to the river and I-94 and continues to provide rail shipping service to customers south of the Upper Harbor Terminal site and is anticipated to continue to do so into the future. Overhead electrical transmission lines and lattice pole structures are located on the site, between the rail line and the river. The transmission lines originate across the river at an Xcel power plant that has been in operation for over 100 years. The rail and power lines possess easements that limit development of structures within them and carve the terminal site into long narrow development parcels between the river and the rail line. The Upper Harbor Terminal was constructed by the City of Minneapolis beginning in 1968 and took over two decades to reach its present form."

***Geotechnical Services, Minneapolis Upper Harbor Terminal, 3750 Washington Avenue North, Minneapolis, Minnesota*, prepared by Braun Intertec, dated January 27, 2015 (2015 Geotech).**

"The 2015 Geotech report indicates that 6 borings were advanced along the bank of the Mississippi River on Parcel 2. The borings were advanced to depth from 41 to 61 feet below ground surface (bgs). The borings encountered fill from the surface (or just below asphalt pavement) to depths ranging from 5 to 15 feet below ground surface. The fill generally consisted of sand and silt. Two borings encountered wood with creosote odors in the fill and one encountered cinders in the fill. Alluvium was encountered beneath the fill followed by lean clay."

***Limited Subsurface Investigation, Former Organic Technologies, 3750 Washington Avenue North, Minneapolis, Minnesota*, prepared by Wenck Associates, dated May 27, 2015 (LSI).**

"The LSI was limited to Parcel 6a of the Site. According to the LSI report, the investigation was conducted to compare the LSI results to the results of AST closure sampling conducted by Pinnacle in 2013 (closure sampling report). The LSI indicates that that four soil borings were advanced to a depth of eight feet on May 20, 2015 and samples were collected, screened with a photoionization detector (PID), and subsequently laboratory analyzed for VOCs, DRO, PAHs, TPH, and eight RCRA metals.

The LSI indicates that laboratory results were compared to the Minnesota Pollution Control Agency's (MPCA) Tier 1 Residential and Tier 2 Industrial Soil Reference Values (SRVs). Additionally, MPCA Tier 1 Soil Leaching Values (SLVs) were referenced to evaluate the potential risk to groundwater at the Subject Property from the soil-to-groundwater leaching pathway. The LSI indicates that no elevated PID readings were noted. The LSI indicates that laboratory results report no contaminants exceeding the respective MPCA Tier 1 or Tier 2 SRV or SLV. The LSI indicates that no significant detections of DRO (with the highest concentration reported at 32.7 mg/kg). The LSI included sampling and analysis of surface water (assumed to be a rainwater puddle). The LSI indicates that no elevated concentrations of DRO, VOCs, TPH and PAHs were detected above laboratory method detections limits. The LSI indicates that arsenic was reported at a concentration just above the threshold of 10 micrograms per liter (ug/L) at 10.3 ug/L and that dissolved lead was reported just above the threshold of 15 ug/L at 15.2 ug/L."

***Existing Conditions Inspection Re-Use Report, Upper Harbor Terminal, City of Minneapolis, Minnesota*, prepared by Short-Elliot Hendrickson, Inc. (SEH), dated June 30, 2015 (2015 SEH report).**

"The following are excerpts from the 2015 SEH report:

Regarding underground piping

There is a system of underground asphalt piping which apparently served the tanks previously located west of the rail corridor, running to the Boiler Shed; and another system running between tanks previously located on the south end of the site and the Petroleum Dock on the river. We do not possess a map of this system, and did not inspect or locate it. Since this piping no longer serves a purpose, it should ultimately be removed. The Petroleum Dock is a low rock riprap pier jutting into the river at the south end of the site. It was apparently used to transfer petroleum and asphalt products between barges and the tanks previously located on the southern end of the site. It is low enough to the water that it probably inundates during floods. It is only marginally useful to boaters due to its rough walking surface, and probably poses more of a hazard to boaters than any purpose it may currently serve. For both of these elements, we do not consider the Do Nothing option to be feasible, due to potential environmental liability.

Regarding Underground Conveyors and Tunnels

There is a system of underground conveyors serving the Grain Bins, Elevator Tower, and possibly other structures. There are numerous access hatches covered with steel or concrete covers which serve this underground system, in addition to concrete stairs down into it located between the Control Building and the Elevator Tower. We do not possess a map of this system. The access hatches and stair access, which are visible from the ground, appear to be in good condition; but we did not inspect the tunnels themselves as confined space entry was not included in our scope of work.

Regarding State Historic Preservation Structure Inventory and History

Within the terminal, the following buildings, structures, objects, and sites were inventoried in the survey. The retaining wall between the North and South Docks, and the storm sewer outfall wall at Dowling Avenue North were not inventoried.

SHPO Inventory No.	*Description*	*Date*
HE-MPC-9244	*Office Building*	*1968*
HE-MPC-9245	*Scale House*	*1968*
HE-MPC-9246	*Truck Scale*	*1968*
HE-MPC-9247	*Scale House*	*1983*
HE-MPC-9248	*Truck Scale*	*1983*
HE-MPC-9249	*North Mooring Cell*	*1982*
HE-MPC-9250	*North Dock (Dock #1)*	*1968*
HE-MPC-9251	*Loading Area Mooring Cells (3)*	*1974*

HE-MPC-9252	*South Dock (Dock #2)*	*1971*
HE-MPC-9253	*Petroleum Dock*	*1974*
HE-MPC-9254	*Warehouse / Loading Docks*	*1971*
HE-MPC-9255	*Shipping/Receiving Building ca*	*1985*
HE-MPC-9256	*Load-Out Tower*	*1975*
HE-MPC-9257	*Conveyor*	*1975, 1984*
HE-MPC-9258	*Rail Dump*	*1976*
HE-MPC-9259	*4 Bins, Elevator Tower*	*1978*
HE-MPC-9260	*Truck Dump / Hoist*	*1978*
HE-MPC-9261	*Control Building*	*1978*
HE-MPC-9262	*4 Dust Tanks*	*1978*
HE-MPC-9263	*Small dome (1,800 ton capacity)*	*1982*
HE-MPC-9264	*Dome (12,000 ton capacity)*	*1987*
HE-MPC-9265	*Dome (8,000 ton capacity)*	*1984*
HE-MPC-9266	*Dome (16,000 ton capacity)*	*1984*
HE-MPC-9267	*Load-out Shelter (adj. to 9264)*	*1987*
HE-MPC-9268	*Load-out Shelter (adj. to 9265/9266)*	*1984*
HE-MPC-9269	*Truck / Rail Dump*	*1978*
HE-MPC-9270	*Asphalt Tanks (2)*	*1975*
HE-MPC-9271	*Dyke Wall*	*1975*
HE-MPC-9272	*Boiler Shed*	*1975*
HE-MPC-9273	*Petroleum Pumping Spout*	*1975*
HE-MPC-9274	*Petroleum Pumping Spout*	*1975*
HE-MPC-9275	*Truck Staging Area*	*1985*
HE-MPC-9276	*Rail and Roadway System*	*1968-1991*
HE-MPC-9277	*Rail and Roadway System*	*1968-1991*
HE-MPC-9278	*Rail Scale Shed*	*1991*
HE-MPC-9279	*Open Commodity Storage Area*	*1968-1986*
HE-MPC-9280	*Open Commodity Storage Area*	*1968-1986*
HE-MPC-9281	*Open Commodity Storage Area*	*1968-1986*
HE-MPC-9282	*Open Commodity Storage Area*	*1968-1986*
HE-MPC-9283	*Open Commodity Storage Area*	*1968-1986*

Since the survey report was completed in 2007, the asphalt tanks (HE-MPC-9270), dyke wall (HE-MPC-9271), and petroleum pumping spouts (HE-MPC-9273, HE-MPC-9274) have been removed."

The following documents were reviewed on the link provided by MnDOT for the Upper Harbor Terminal Reports and Studies, as noted in Section 8:

***Upper Mississippi River Harbor Development Architectural/Historical Survey, Minneapolis, Hennepin County,* prepared by Hess, Roise and Company, dated October 2007 (2007 Report).**
The information presented in the report did not provide any additional insight beyond that discussed in the 2015 SEH Report above and the 2017 Report below.

***Hazardous Building Materials Inspection Report, Upper Harbor Terminal, Minneapolis, Minnesota*, prepared by Braun Intertec, dated September 17, 2015 (2015 Hazmat Report).**

The scope of the 2015 Hazmat Report was to visually examine accessible areas and identify the locations of suspect asbestos-containing materials (ACM), lead, poly-chlorinated biphenyls (PCBs), mercury, and other miscellaneous hazardous materials; collect and analyze representative bulk samples of materials suspected of containing asbestos; and conduct limited lead-based paint testing of potential re-useable components with painted surfaces suspected of containing lead. ACM and lead-based paint were identified.

***Phase II Environmental Site Assessment, Upper Harbor Terminal, Minneapolis, Minnesota*, prepared by Braun Intertec, dated October 14, 2015 (2015 Phase II ESA).**

The objective of the 2015 Phase II ESA was to evaluate potential impacts to soil, groundwater and/or soil vapor that may be encountered during future redevelopment of the Upper Harbor Terminal. Forty-eight soil borings were advanced to depths ranging from 8 to 25 feet with ten of the borings completed as temporary monitoring wells. Groundwater was encountered and measured in 10 of the 48 soil borings completed. The depth to groundwater ranged from 8.25 feet bgs in soil borings PP-20 and PP-21 to 22.30 feet bgs in soil boring PP-37.

Soil samples were collected and analyzed for VOCs, SVOCs, PAHs, RCRA metals, DRO and organochlorine pesticides. Groundwater samples were collected and analyzed for VOCs and DRO. Soil vapor samples were collected and analyzed for VOCs.

The following is a brief summary of the soil analytical results:

- **PAHs/SVOCs** – PAHs/SVOCs were detected at or above laboratory reporting limits in 12 of the 37 samples submitted for analysis. None of these detections met or exceeded their respective soil reference values (SRVs) or soil leaching values (SLVs), including the SRVs and SLV for the calculated benzo(a)pyrene (BaP) equivalent.

- **RCRA Metals** – Varying concentrations of the eight RCRA metals were detected in all 37 of the soil samples submitted for laboratory analysis. None of the detected concentrations in the soil samples exceeded their respective SRVs or SLVs.

- **DRO** – DRO was detected in 2 of the 7 samples submitted for laboratory analysis. Sample PP-10 (0-2.5') was collected on the north parcel of Site 4 and had a concentration of 123 milligrams/kilograms (mg/kg) and sample PP-37 (2-5') was collected on Parcel 4 of the Subject Property and had a concentration of 12.4 mg/kg. There are no current SRV or SLV standards for DRO.

The following is a brief summary of the groundwater analytical results:

- **VOCs** –1,2 Dichloroethane in sample PP-37W (located on Parcel 4 of the Subject Property) was detected at a concentration of 1.48 micrograms/liter (µg/L), which exceeds the health risk limit (HRL) of 1 µg/L.

- **DRO** – DRO was detected in 6 of the 10 samples submitted for laboratory analysis. The detected concentrations ranged from 146 µg/L in PP-7W (located on Site 3), to 609 µg/L in PP-17W (located on Parcel 2 of the Subject Property). DRO impacts were also identified on Parcel 4 of the Subject Property) and on Site 12. There currently is no HRL for DRO.

The following is a brief summary of the soil vapor analytical results:

- **VOCs –** Various VOCs were detected above laboratory detection limits in both of the submitted air samples (SG-2 and SG-3). No VOCs were detected above MPCA action levels, with the exception of 1,3-Butadiene. In samples SG-2 and SG-3, 1,3-Butadiene was detected at 31 micrograms/cubic meter (µg/m^3) and 23 µg/m^3, respectively. Sample SG-2 was collected from within the warehouse on Parcel 2 of the Subject Property and sample SG-3 was collected from the southern end of Parcel 3 of the Subject Property.

***Intensive Architecture/History Evaluation for the Upper Harbor Terminal, Minneapolis, Hennepin County, Minnesota*, prepared by 106 Group, dated April 2017 (2017 Report).**

The information presented in the report did not provide any additional insight beyond that discussed in the 2015 SEH Report and 2007 Report above.

6.4 City/County Records

Braun Intertec obtained individual parcel information for legal land parcels in the Project Area from the City of Minneapolis and/or Hennepin County web pages in August 2018. The city and county information includes property identification number (PIN), a partial tax description, property address (if available), date of construction (if available), and property owner. Information obtained for low, medium, and high potential for contamination sites from the city and county web page reviews is included in the site summaries in Appendix C.

6.5 State Regulatory Web Pages

Braun Intertec accessed MPCA's Aboveground/Underground Storage Tank Site Search web page, MDA's "What's In My Neighborhood" Agricultural Interactive Mapping web page, MPCA's Petroleum

Remediation Program Maps Online web page, and MPCA's "What's In My Neighborhood" web pages for information regarding the potential for sites located within the Project Area to be of environmental concern that were not identified in the EDR report. Any additional facilities identified that were not included in the EDR report are included in the site summaries in Appendix C.

7. Site Reconnaissance

Braun Intertec personnel and environmental professional, Kelly W. Brown, Senior Scientist, conducted reconnaissance of the Project Area on August 22 and September 4, 2018. At the time of the August 22 reconnaissance (for sites located within 500 feet of the Subject Property), the weather was sunny and calm with a temperature of approximately 80 degrees Fahrenheit. At the time of the September 4 reconnaissance (for the grounds of the Subject Property), the weather was cloudy and drizzling with a temperature of approximately 70 degrees Fahrenheit. General observations were made of the Project Area from public areas such as roads and sidewalks. Observations of the facilities included, but were not limited to:

- Occupant/property use
- Structures
- Evidence of demolished/removed structures
- Tanks
- Unidentified containers (drums, cylinders, etc.)
- Wells
- Septic system or cistern
- Use/storage/disposal of petroleum products, hazardous materials, or other chemicals
- Evidence of dumping, landfilling, or non-native fill
- Evidence of spill or release of petroleum products, hazardous materials, or other chemicals
- Unpaved roads/paths with no outlet
- Outdoor storage
- Surface water features
- Stained soil or stressed vegetation
- PCB-containing equipment
- Odors
- Poor housekeeping
- Past structure use or property ownership

Specific observations of the sites with a low, medium, and high potential for contamination within the Project Area are included in Appendix C.

No sites were identified during the reconnaissance that were not previously ranked based on the historical and regulatory reviews. No sites were up-ranked based on observations during the reconnaissance. Based on the site reconnaissance, no evidence of monitoring wells were observed in the Project Area.

Additional property use and/or activities of concern observed during the site reconnaissance are summarized in the following table.

Site Number	Site Name	Site Address	Property Use/Activities of Concern
Parcel 2 (Subject Property)	Upper Harbor Terminal Parcel 2	2 36th Avenue North	A white granular material, possibly fertilizer, was observed on the ground surface and outdoor equipment in various areas on the northern portion of the site.
Parcel 3 (Subject Property)	Upper Harbor Terminal Parcel 3	51 36th Avenue North	A portable diesel fuel AST was observed stored on the northern end of the site.
1	Precision Associates	3800 Washington Avenue North	A vent pipe, evidence of a possible tank, was observed outside on the west side of the garage at the south end of the building.

8. Interviews

Braun Intertec made inquiry to the following individual to obtain knowledge or records of historical and current land-use information regarding the Project Area and surrounding area:

Mr. Jerry Christensen, Site Manager, River Services, Inc.

At the time of the 2015 Phase I ESA, Mr. Christensen indicated that abandoned underground product pipes and conveyor tunnels existed at the Upper Harbor Terminal site. However, Mr. Christensen indicated that he was not aware of any environmental concerns in connection with the product pipes and conveyor tunnels. Mr. Christensen indicated that he was not aware of any spills or leaks of hazardous substances and/or petroleum products or other environmental concerns at the Upper Harbor Terminal site. Mr. Christensen stated that in his tenure the terminal was generally used to store and transport urea fertilizer (no pesticides) and construction materials (asphalt, concrete, aggregate, shingles, steel, wood) and sometimes salt and coal. Mr. Christensen stated there have been no significant changes to the use of the Upper Harbor terminal site since the completion on the 2015 Phase I ESA.

MnDOT

MnDOT provided the following link for the Upper Harbor Terminal Reports and Studies, which lists previous environmental investigations and historical studies conducted at the Upper Harbor Terminal site from the 2007 through the present:

http://upperharbormpls.com/reports-studies/

Not all of the links to the reports could be opened. Some of reports listed were those discussed in Section 6.3. The reports that could be accessed and that were not previously discussed in Section 6.3 are discussed after the 2015 Phase I ESA discussion in Section 6.3.

Ann Calvert, Principal Project Coordinator, City of Minneapolis, CPED Department

Ms. Calvert stated the City has a property management agreement with River Services, Inc. (RSI), under which RSI manages the terminal for the City. RSI then has "space use" and service agreements with a variety of customers that use space on the site. Ms. Calvert indicated that to her knowledge, those agreements are primarily for storage of various commodities (aggregate, storage containers, etc.) on the outside storage areas, and storage of various materials in the fertilizer domes and cold storage warehouse. She added there is one occupant that grows mushrooms in the warehouse and another that occasionally processes wood products into mulch. She added that Xcel Energy has a lease that allows them to place a small piece of equipment on a pier in the river. Ms. Calvert referred to the 2015 Phase I ESA and the 2015 Phase II ESA reports for information pertaining to past and/or current storage tanks, water wells, septic systems, environmental liens, activity use limitations, releases, and/or environmental investigations on the Upper Harbor Terminal site.

9. Findings & MnDOT Contamination Potential Ranking

As indicated, identified sites within the Project Area were ranked/classified as having a low, medium, or high potential for contamination to the Project Area using criteria established by MnDOT, as amended and discussed in Section 1.4 Project Area Ranking Definitions. The remaining sites, which were evaluated but did not meet the ranking criteria for low, medium, or high potential for contamination, were grouped into areas which were assigned a site number and were ranked as having a *de minimis* potential for contamination.

Based on Braun Intertec's assessment, 13 sites were identified within the Project Area as *de minimis* or as a low, medium, or high potential for contamination.

9.1 De Minimis Sites

De Minimis Sites include sites that do not qualify by definition as low, medium, or high potential for contamination ranked sites and are unlikely to be considered contaminated. Braun Intertec identified 1 *De Minimis Site* within the Project Area, as summarized in the table below and shown on Figure 3, Appendix B.

Site Number	Site Name	Site Address	Ranking Rationale
DM1	Residential Properties	3434, 3438, 3450 and 3530 Washington Avenue North; and 3401, 3415, 3419, 3423, 3425 and 3447 2nd Street North	Historically residential

9.2 Sites with Low Potential for Contamination

Low Potential for Contamination Sites include sites that are hazardous waste generators, railroad lines, current lumber yards, golf courses, and possibly some farmsteads, residences, or commercial properties where the site reconnaissance showed poor housekeeping. Braun Intertec identified 1 *Low Potential for Contamination Site* within the Project Area, as summarized in the table below and shown on Figure 2, Appendix B.

Site Number	Site Name	Site Address	Ranking Rationale
9	Fabric Supply Inc.	3434-42 2nd Street North	Past use as greenhouses. Current commercial use. No historical, regulatory, or visual evidence of significant use and/or storage of hazardous substances or petroleum products was noted.

9.3 Sites with Medium Potential for Contamination

Medium Potential for Contamination Sites include sites with closed LUSTs/LASTs, all sites with USTs/ASTs, machine shops, all sites with historic or current vehicle and/or auto body repair activities and petroleum use or storage, all bulk grain/feed storage sites, all historical lumber yards, all closed agricultural release sites, graveyards, and all sites with detections of non-petroleum chemicals. Braun Intertec identified 9

Medium Potential for Contamination Sites within the Project Area, as summarized in the table below and shown on Figure 2, Appendix B.

Site Number	Site Name	Site Address	Ranking Rationale
Parcel 2 (Subject Property)	Upper Harbor Terminal Parcel 2	2 36th Avenue North	Past and current use as the Upper Harbor Terminal, an intermodal storage and transfer facility for bulk commodities including grain, aggregate, coal, fertilizer, and metal products. Identified on regulatory databases as a closed agricultural spills site. Documented non-petroleum impacts to soil and petroleum impacts to groundwater.
Parcels 3 and 4 (Subject Property)	Upper Harbor Terminal Parcels 3 and 4	51 36th Avenue North and 51 34th Avenue North	Past use as a lumber yard. The eastern portion of the site was filled in with unknown material. Identified on regulatory databases as a yard waste compost facility. Documented petroleum and non-petroleum impacts to soil and groundwater, with 1,2-dichloroethane exceeding its health risk limit for groundwater.
2	Railroad Tracks	101 and 136 34th Avenue North, and 114 36th Avenue North	Former use as a lumber yard and historic railroad tracks.
3	Upper Harbor Terminal Parcel 1	3800 1st Street North	Past use as a lumber yard. Outdoor storage (aggregate and/or equipment) present since at least 1979. Documented non-petroleum impacts to soil and petroleum impacts to groundwater.
4	Upper Harbor Terminal Parcels 7A and 7B	3639 and 3701 Washington Avenue North	Historical use by a tool manufacturer and a regulator/temperature control manufacturer; likely use and storage of hazardous substances and/or petroleum products. Documented petroleum and non-petroleum impacts to soil.
5	Upper Harbor Terminal Parcels 6A and 6B	3648 and 3700 Washington Avenue North	Past commercial uses and current wood and soil disposal use. Identified on regulatory databases for the presence of aboveground storage tanks, as a closed tank release site, as a closed spill site, and for the generation of hazardous waste. Documented non-petroleum impacts to soil.

Site Number	Site Name	Site Address	Ranking Rationale
6	MnDOT Truck Station - Camden	3636 Washington Avenue North	Past outdoor storage of unknown material. Current use as a MnDOT truck station. Identified on regulatory databases for the presence of aboveground storage tanks and underground storage tanks, as a closed tank release site, a closed spill site, and for the generation of hazardous waste.
7	International Paper	3558 2nd Street North	Past use as machine shops. Identified on regulatory databases as a closed Site Assessment/Vapor Intrusion site, as a closed spill site, and for the generation of hazardous waste.
8	Supreme Marine	3456 Washington Avenue North	Past and current manufacturing and/or marine equipment service uses. Identified on regulatory databases for the presence of an underground storage tank, as a closed spill site, and for the generation of hazardous waste.
10	Commercial Building	3442-44 Washington Avenue North	Past and/or current use as pattern works and machine shops. Identified on regulatory databases for the generation of hazardous waste.
12	Upper Harbor Terminal Parcel 5	3360 1st Street North	Former use as a lumber yard and past presence of aboveground storage tanks. The eastern portion of the site has been filled with unknown material. Identified on regulatory databases for the presence of aboveground storage tanks. Documented petroleum and non-petroleum impacts to soil and petroleum impacts to groundwater.

9.4 Sites with High Potential for Contamination

High Potential for Contamination Sites include all active and inactive VIC sites, all active and inactive MERLA/Superfund sites, all active and inactive dumpsites, all active LUST/LAST sites, all dry cleaners (with on-site or unknown chemical processing), all bulk chemical/petroleum facilities, all active agricultural release sites, railroad facilities (fueling, yards or maintenance), clandestine chemical/drug laboratory, and all historic industrial sites with likely chemical use on the premises. Braun Intertec identified 2 *High Potential for Contamination Sites* within the Project Area, as summarized in the table below and shown on Figure 2, Appendix B.

Site Number	Site Name	Site Address	Ranking Rationale
1	Precision Associates	3800 Washington Avenue North	Past commercial use as a lumber yard and past and current light industrial use. Identified on regulatory databases for the presence of underground storage tanks, as an inactive Brownfields/Voluntary Investigation and Cleanup Program site, as a closed petroleum tank release site, and for the generation of hazardous waste.
11	Libra	3310 2nd Street North	Past use as lumberyards. Identified on regulatory databases for the presence of underground storage tanks, as a closed Voluntary Investigation and Cleanup Program site, and for the generation of hazardous waste.

10. Project Area-Wide Concerns

No groundwater plumes extending onto multiple parcels or onto the Subject Property were identified. No Superfund sites were identified within the Project Area.

Our review of MPCA records indicated that several sites within the Project Area warranted a site-specific MPCA/MDA file review based on their proximity to the Project Area, complexity, size, reported on-site dumping, or reported release of volatile organic compounds that may produce potential soil vapor impacts to the Project Area. Braun Intertec completed MPCA file reviews for available VIC and leak site files for the Project Area. In addition, Braun Intertec reviewed available MDA files. The file review information is summarized by site in the site summaries in Appendix C. Based on the regulatory file reviews, there is evidence that a soil vapor intrusion pathway represents a potential or known concern for the following sites:

- Parcel 2 (Subject Property - Upper Harbor Terminal Parcel 2) – 1,3 butadiene was detected at a concentrations greater that 10X the industrial intrusion screening values (ISV) during the 2015 Phase II ESA, as discussed in Section 6.3.

- Parcel 3 (Subject Property - Upper Harbor Terminal Parcel 3) – 1,3 butadiene was detected at a concentrations greater that 10X the industrial ISV, as discussed in Section 6.3.

- Site 1 (Precision Associates) – trichloroethene (TCE) and tetrachloroethene (PCE) were detected above industrial ISVs with PCE exceeding 33x the industrial ISV during a 2017 Additional Phase II Investigation, as discussed in the Detailed Regulatory File Review section of the site summary sheet for Site 1 included in Appendix C.

Based on a review of historical information, many properties within the Project Area were residential or formerly residential. Fuel oil tanks or other hazardous materials may be present within these residential properties. In those cases where historical and/or regulatory information confirmed the presence of tanks or other contaminants, the property was assigned a site number and was ranked in accordance with the MnDOT definitions of having a low, medium, or high potential for contamination. For those properties where historical and/or regulatory information or site reconnaissance did not confirm tanks or hazardous materials were present, the properties were grouped into areas that were assigned a site number and were ranked as having a *de minimis* potential for contamination.

Historically, residential buildings were previously located on the Subject Property. It is unknown if the demolition debris associated with these buildings was buried on the sites or hauled away for disposal. The potential exists that buried materials are present that may require management as solid or hazardous waste if encountered during redevelopment activities. Fill soils are documented on the Subject Property. If fill soils are to be disturbed during the staging process, then additional evaluation of the fill soils might be required for management and disposal purposes.

11. Conclusions

Based on the information contained within this report, the following sites have historical soil, groundwater, and/or soil vapor impacts warranting possible consideration for additional investigation, depending on the final staging plans:

Site Number	Site Name	Environmental Impacts	Reference/Source
Parcel 2 of the Subject Property	Upper Harbor Terminal Parcel 2	PAHs detected in soil at concentrations below SRVs and SLVs; DRO detected in groundwater at concentrations up to 609 ug/l; 1,3-butadiene detected in soil vapor at a concentration exceeding 10x the industrial ISV. Several additional VOCs were detected in soil vapor but at concentrations less than their respective ISVs. RCRA metals were detected in soil; however, none of the detected concentrations exceeded their respective SRVs or SLVs. Fill material is present.	Section 6.3 Prior Reports (included in Appendix I on CD)
		A white granular material, possibly fertilizer, was observed on the ground surface and outdoor equipment in various areas on the northern portion of the parcel.	Site observations
Parcel 3 of the Subject Property	Upper Harbor Terminal Parcel 3	PAHs detected in soil at concentrations below SRVs and SLVs; 1,3-butadiene detected in soil vapor at a concentration exceeding 10x the industrial ISV. Several additional VOCs were detected in soil vapor but at concentrations less than their respective ISVs. RCRA metals were detected in soil; however, none of the detected concentrations exceeded their respective SRVs or SLVs. Fill material is present.	Section 6.3 Prior Reports (included in Appendix I on CD)

Site Number	Site Name	Environmental Impacts	Reference/Source
Parcel 4 of the Subject Property	Upper Harbor Terminal Parcel 4	PAHs detected in soil at concentrations below SRVs and SLVs; 1,2 dichloroethane detected in groundwater at a concentration exceeding its HRL; DRO detected in groundwater at 171 ug/l. RCRA metals were detected in soil; however, none of the detected concentrations exceeded their respective SRVs or SLVs. Fill material is present.	Section 6.3 Prior Reports (included in Appendix I on CD)
1	Precision Associates	DRO up to 172 mg/kg in soil, PCE up to 0.29 mg/kg in soil, and GRO up to 34 mg/kg in soil; DRO up to 1,740 ug/l in ground water and PCE up to 8.58 ug/l in groundwater; and TCE and PCE above industrial ISVs with PCE exceeding 33x the industrial ISV for soil vapors.	MPCA file review for Brownfields VP27900 and Leak #18423 (see Appendix H on CD)
3	Upper Harbor Terminal Parcel 1	PAHs detected in soil at concentrations below SRVs and SLVs; DRO detected in groundwater at 146 ug/l. RCRA metals were detected in soil; however, none of the detected concentrations exceeded their respective SRVs or SLVs.	Section 6.3 Prior Reports (included in Appendix I on CD)
4	Upper Harbor Terminal Parcels 7A and 7B	DRO up to 123 mg/kg in soil; PAHs detected in soil at concentrations below SRVs and SLVs. RCRA metals were detected in soil; however, none of the detected concentrations exceeded their respective SRVs or SLVs.	Section 6.3 Prior Reports (included in Appendix I on CD)
5	Upper Harbor Terminal Parcel 6A	DRO up to 340 mg/kg in soil; PAHs detected in soil at concentrations below SRVs and SLVs. RCRA metals were detected in soil; however, none of the detected concentrations exceeded their respective SRVs or SLVs.	Section 6.3 Prior Reports (included in Appendix I on CD). MPCA file review for Leak #12239 (see Appendix H on CD)

Site Number	Site Name	Environmental Impacts	Reference/Source
11	Libra	PAHs and VOCS were detected in groundwater at concentrations below their respective Maximum Contaminant Levels (MCL) or HRL.	MPCA file review for Brownfields VP15870 (see Appendix H on CD)
12	Upper Harbor Terminal Parcel 5	DRO up to 210 mg/kg in soil; PAHs detected in soil at concentrations below SRVs and SLVs; DRO detected in groundwater at 214 ug/l. RCRA metals were detected in soil; however, none of the detected concentrations exceeded their respective SRVs or SLVs.	Section 6.3 Prior Reports (included in Appendix I on CD)

One low potential for contamination site, 9 medium potential for contamination sites, and 2 high potential for contamination sites were identified. A Phase II investigation is recommended to assess subsurface conditions at the Subject Property where known or suspected soil, groundwater or soil vapor contamination may affect MnDOT's future river access and staging activities for the 3rd Avenue Bridge project.

12. References

References are listed in Appendix J.

13. Standard of Care

The Limited Phase I ESA was conducted in general conformance with guidelines recommended by MnDOT and in general accordance with ASTM methodology E 1527-13. Qualifications of the environmental professionals are attached in Appendix K.

In performing its services, Braun Intertec used that degree of care and skill ordinarily exercised under similar circumstances by reputable members of its profession currently practicing in the same locality. No warranty, express or implied, is made.

Sincerely,

BRAUN INTERTEC CORPORATION

1/31/19

Kelly W. Brown
Senior Scientist

for: 1/31/19

Kenneth A. Larsen, PE, PG
Principal