

Response Action Plan/Construction Contingency Plan Implementation Report

Smith Avenue Transit Center (VP22090)
Smith Avenue and Kellogg Boulevard
St. Paul, Minnesota

Prepared for

**City of St. Paul Department of Planning and
Economic Development**

Professional Certification:

I hereby certify that this plan, specification or Report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Geologist under the laws of the State of Minnesota


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License Number: 30740



Project SP-06-01713A
March 31, 2008

Braun Intertec Corporation



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March 31, 2008

Project SP-06-01713A

Mr. Gerald Stahnke
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Voluntary Investigation and Cleanup Program
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Re: Response Action Plan/Construction Contingency Plan Implementation Report
Smith Avenue Transit Center (VP22090)
Smith Avenue and Kellogg Boulevard
St. Paul, Minnesota

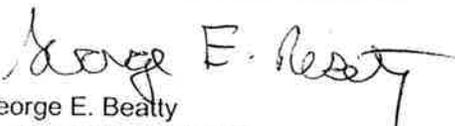
Dear Mr. Stahnke:

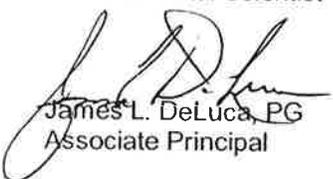
On behalf of City of St. Paul Department of Planning and Economic Development (PED), Braun Interotec Corporation (Braun Interotec) has prepared this Response Action Plan/Construction Contingency Plan (RAP/CCP) Implementation Report for the construction excavation activities at the above-referenced site. Work was completed in accordance with the RAP/CCP and Emissions Control Plan (ECP) submitted to the Voluntary Investigation and Cleanup (VIC) program dated June 14, 2006. The City of St. Paul PED requests a No Further Action Letter for soils at the Smith Avenue Transit Center property located on the Smith Avenue and Kellogg Boulevard (Site).

If you have questions regarding this report, please call George Beatty at 651.487.7037 or Jim DeLuca at 651.487.7005.

Sincerely,

BRAUN INTERTEC CORPORATION


George E. Beatty
Environmental Scientist


James L. DeLuca, PG
Associate Principal

c: Mr. Martin Schieckel, City of St. Paul Dept. of Planning and Economic Development
Mr. Paul Oberhaus, CPMI



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March 31, 2008

Project SP-06-01713A

Mr. Mark Koplitz
Petroleum and Closed Landfill Section
Petroleum Brownfields Program
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

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Smith Avenue Transit Center (VP22090)
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If you have questions regarding this report, please call George Beatty at 651.487.7037 or Jim DeLuca at 651.487.7005.

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Table of Contents

1.0 Introduction	1
2.0 Background	1
2.1 Braun Intertec Site Observations	1
2.2 Northern Technologies Phase I ESA Review	2
2.3 Braun Intertec Phase II ESA	3
2.4 Response Action Plan/Construction Contingency Plan	3
3.0 RAP/CCP Implementation	3
3.1 Caisson Water Evaluation	4
3.2 ACM Removal Activities	4
3.2.a Asbestos Management and Removal	4
3.2.b Soil Screening	5
3.2.c Confirmation Soil Sampling	5
3.2.d Groundwater	5
3.3 Petroleum Impacted Soil Removal Activities	5
3.3.a Soil Screening	5
3.3.b Soil Sampling	6
3.3.c Groundwater	6
4.0 Conclusions and Recommendations	6
5.0 References	6
6.0 Standard of Care	7

Figures

Figure 1: Site Location Map

Figure 2: Sample Location Sketch

Tables

Table 1: ACM Removal Field Screening Results

Table 2: Petroleum Impacted Soil Field Screening Results

Table 3: Petroleum Impacted Soil Analytical Results

Appendices

Appendix A: Site Photographs

Appendix B: Laboratory Analytical Reports

Appendix C: Disposal Report

Appendix D: Tank Disposal Records

**Response Action Plan/Construction Contingency Plan
Implementation Report
Smith Avenue Transit Center
Smith Avenue and Kellogg Boulevard
St. Paul, Minnesota**

1.0 Introduction

The City of St. Paul Department of Planning and Economic Development c/o CPMI (CPMI) has completed redevelopment of a surface parking lot east of the intersection of Smith Avenue and Kellogg Boulevard into a transit center that includes a Metro Transit station on the ground level and 5 floors of parking above the station (the Site). The lot is bounded by 5th Street on the east, the extension of Smith Avenue on the south, Kellogg Boulevard on the west, and green space with the on-ramp to I-94 beyond on the north. The site location is shown on Figure 1 and the approximate site boundaries are shown on Figure 2.

This Response Action Plan and Construction Contingency Plan (RAP/CCP) Implementation Report provides details related to the removal of contaminated soils and water found on the Site during redevelopment. Work was conducted in accordance with the June 14, 2006, RAP/CCP and June 14, 2006, Emissions Control Plan (ECP).

2.0 Background

2.1 Braun Intertec Site Observations

In preparation of the Site for construction of a parking ramp, the city of St. Paul's general contractor, CPMI, and its excavation contractor, Carl Bolander & Sons Co. (Bolander) discovered possible asbestos containing material (ACM) in fill at the northwest end of the Site on May 23, 2006. The materials included aircell insulation material, a fibrous pipe-fitting insulation material, and a tarpaper material that was used to wrap electrical conduit. The apparent ACM and associated debris were within what appeared to be a former building foundation at the northwest end of the lot. CPMI immediately stopped work and contacted Braun Intertec, and the material was observed and samples of it were taken for polarized light microscopy (PLM) analysis. The Minnesota Pollution Control Agency (MPCA) was notified on May 24, 2006, upon PLM confirmation that ACM was present in the excavation.

2.2 Northern Technologies Phase I ESA Review

Braun Intertec reviewed the following report to evaluate Site history and contaminant sources:

- *Phase I Environmental Site Assessment; Smith Avenue Transit Center, Smith Avenue and Kellogg Boulevard, St. Paul, Minnesota; Northern Technologies, Inc., dated February 14, 2002 (Northern, 2002).*

Northern, 2002 covered a larger parcel that included the Site and the remainder of the block to the south toward 7th Street (Fort Road; called Main Avenue on older maps). Northern, 2002 identified the following recognized environmental conditions (RECs) in connection with the Site: hydrocarbon contamination, asbestos, paints, solvents and PCB's.

Based on our review of the information available in Northern, 2002, we conclude that the RECs identified in Northern, 2002 are actually the possible contaminants of concern that could have been released as a result of the following RECs identified by Braun Intertec:

- 1) Numerous buildings have been demolished at the Site.
- 2) A filling station was located at the southeast corner of the parcel being investigated in the 1920s, and it was listed as a garage in the 1950s and 1960s; a filling station was located at the southwest corner of the parcel being investigated in the 1950s, and an automotive service garage was located in the central portion of the parcel being investigated from the 1920s through the 1950s. The filling stations and the garage between them (located along 7th Street/Fort Road) are south of the Site and the Smith Avenue Transit Center construction activities and were not anticipated to be affected by these RECs along 7th Street/Fort Road.
- 3) An auto repair facility was located in the south-central portion of the Site in the 1920s and a machine shop was added in the 1950s.
- 4) A fireproofing contractor was located in the south-central portion of the Site from the 1920s through the 1960s, according to Northern, 2002.
- 5) The Site is in an area with numerous regulated facilities, some of which are located in the inferred upgradient direction of the Site.

Available Site history information in Northern, 2002, including Sanborn fire insurance maps, indicated that the Site had been used for residential purposes and for stores in the late 1800s and early 1900s, with land use on the north end of the Site changing to small manufacturing (upholstery, etc.) by the time of the 1926 fire insurance map. The north end of the Site is where ACM was observed. The south-central portion of the Site changed to auto repair and related activities in the 1920s.

2.3 Braun Intertec Phase II ESA

Test pits were excavated on May 24, 2006, to further evaluate the extent of ACM at the Site. Potential ACM was observed only in TT-1. The main ACM type was the aircell (60% chrysotile) related to a 6-inch diameter piping run, and the pipe with the insulation appeared to be largely intact. The tarpaper (no ACM) discovered on May 23, 2006, and a piece of transite (10% chrysotile) observed during the test trenching appeared to be isolated.

A building foundation was encountered near the area where ACM was found, apparently being the remains of the building block that preceded the auto repair facility and machine shop in the north-central portion of the Site. In addition, limestone building foundations were observed at the south ends of TT-2 and TT-3, apparently from the same building block. No suspect ACM was observed in the remainder of that former building block, or in the approximate location of the former auto repair and machine shop facility on the south side of the Site. Based on observations made during the Phase II ESA, it was estimated that approximately 100 cubic yards of fill on the north end of the Site containing ACM would be encountered and managed as such.

There were no indications of contamination from the former auto repair and machine shop facility on the south side of the Site

2.4 Response Action Plan/Construction Contingency Plan

The RAP/CCP outlined the following actions at the Site:

- Demolition debris within former building foundations with known ACM will be excavated in accordance with ECP.
- Remaining demolition debris will not be disturbed.
- Soil samples will not be collected and analyzed unless unexpected contaminated fill/soil is encountered.

3.0 RAP/CCP Implementation

RAP/CCP activities conducted on the Site included the following:

- Evaluation of water from caissons.
- Observing removal of ACM and demo debris.
- Observing removal of petroleum-impacted soil.

Results of RAP/CCP activities are summarized in the following sections.

3.1 Caisson Water Evaluation

A Braun Intertec field technician was on Site on June 7, 2006, to evaluate groundwater encountered in caissons. Containerized groundwater from caissons was observed to have a yellowish color, slight sheen, and no odors. Photographs of caissons are included in Appendix A.

Two groundwater samples (Caissons 1 and Caissons 2) were collected for VOC, DRO, and GRO laboratory analyses and compared to Minnesota Department of Health (MDH) Health Risk Limits (HRLs). VOCs and GRO were not detected above laboratory method reporting limits. DRO was detected at a concentration of 1,900 micrograms per liter ($\mu\text{g/L}$) in Caissons 1 and 1,700 $\mu\text{g/L}$ in Caissons 2. A HRL has not been established for DRO. Laboratory analytical reports are included as Appendix B.

Groundwater from caissons was applied to the Site surface by the construction contractor.

3.2 ACM Removal Activities

The following are procedures with regards to asbestos that were followed throughout the project:

- Observed ACM was managed in accordance with the ECP.
- Mavo Systems, an asbestos abatement contractor licensed by the Minnesota Department of Health, performed asbestos abatement work.
- ACM removed from the Site was hauled to the SKB Industrial Waste Facility in Rosemount, MN.
- A Braun Intertec environmental technician certified as a Minnesota licensed asbestos inspector conducted field observations on June 23, 2006, and July 7, 2006.
- A disposal report and waste manifests, prepared by SKB Environmental Inc. (SKB) and showing volumes of contaminated materials hauled, are presented in Appendix C.

3.2.a Asbestos Management and Removal

Based on a conversion factor of 1.4 tons/cubic yards and 253.97 tons of material, approximately 181.41 cubic yards of fill and debris material were removed from the Site on June 23 and July 7, 2006, and transported to the SKB landfill in Rosemount, Minnesota. Fill and debris were wetted, removed from the source area with a backhoe excavator, and placed in plastic-lined dump trucks to be hauled to the SKB facility. Only known ACM from within the former building foundation was removed from the Site. Photographs of site conditions and response actions are included in Appendix A.

3.2.b Soil Screening

Soils observed were primarily poorly-graded sands and silty sands, with areas of debris observed. Debris was observed from approximately 8 to 13 feet bgs and included brick, piping with wrapping, metal casing, concrete, and charred wood. A concrete floor was also encountered at approximately 9 feet bgs along pipe runs and the foundation wall. Ten field screening samples were collected and analyzed using MPCA-approved methodology utilizing a photoionization detector (PID) as fill/debris was being removed from the site. Field screening results ranged from 0 parts per million (ppm) to 3.7 ppm and are summarized in Table 1.

3.2.c Confirmation Soil Sampling

Confirmation soil samples were not collected from the excavation of ACM.

3.2.d Groundwater

Groundwater was not encountered during fill/debris removal activities.

3.3 Petroleum Impacted Soil Removal Activities

A Braun Intertec technician was on Site April 24 to 27, 2007 to observe the excavation and stockpiling of petroleum-impacted soil by Bolander. Excavation depths ranged from 6 to 10 feet bgs and were generally limited by the presence of bedrock. Petroleum impacted soil was stockpiled on and covered with poly sheeting until it could be disposed. A total of 1,456.78 tons (1,040.56 cubic yards) of petroleum-impacted soil was removed from the southeast portion of the Site and disposed of at SKB Landfill in Rosemount on May 7, May 8, and June 25, 2007. Excavation limits are depicted on Figure 2 and copies of disposal manifests are included in Appendix C. During excavation activities, an underground storage tank (UST) of dimensions 6 feet by 6 feet was discovered with approximately 180 gallons of used oil and 10 gallons of liquid sludge product inside. Material was pumped from the tank, and the tank disposed of by Determan Brownie. The location of the tank is depicted in Figure 2, and tank and product disposal records are included in Appendix D.

3.3.a Soil Screening

Soils observed included silty sands and clayey sands, with some petroleum odors and trace amounts of debris (primarily brick). Minor staining was observed underneath the UST. This material was excavated and added to existing petroleum impacted soil stockpiles. Bedrock limited excavation underneath the UST. Bedrock was generally encountered at approximately 10 feet bgs and was observed to be smooth and flat. Sixty (60) field screening samples were collected and analyzed using MPCA-approved methodology utilizing a PID as petroleum impacted soil was removed from the Site. Field screening results ranged from 0 parts per million (ppm) to 68 ppm and are summarized in Table 2.

3.3.b Soil Sampling

Four soil samples were collected for laboratory analysis from excavated soil stockpiles. Soil samples were analyzed for VOCs, DRO, and GRO. VOCs were detected in three samples (Impacted Stockpile, SP-2, and Stockpile #2: SP-2(3) North End), but were not present above Tier 2 Industrial SRVs or Tier 1 SLVs. DRO was detected in all soil samples, with concentrations ranging from 15 mg/kg to 20 mg/kg. GRO was only detected in one soil sample (Impacted Stockpile) at a concentration of 200 mg/kg. SRVs or SLVs have not been established for DRO or GRO. Petroleum impacted soil analytical data is summarized in Table 3.

Confirmations samples were not collected from the bottom of the petroleum impacted soil excavation due to the presence of bedrock.

3.3.c Groundwater

Groundwater was not encountered during petroleum impacted soil removal activities

4.0 Conclusions and Recommendations

Based on the results of this report, we conclude the following:

- The RAP/CCP (June 14, 2006) was successfully implemented in tandem with the Revised ECP (June 14, 2006).
- Approximately 181.41 cubic yards of asbestos-impacted soil were removed from the Site, and disposed of at SKB Landfill in Rosemount, MN, in accordance with the RAP/CCP and the ECP.
- Approximately 1,040.56 cubic yards of petroleum-impacted soil were removed from the Site, and disposed of at SKB Landfill in Rosemount, MN.

Based on the results presented in this report, we recommend that this work be considered a final remedial action. Braun Intertec recommends that a No Further Action Letter be issued to City of St. Paul PED by the MPCA VIC program regarding non-petroleum impacts documented at the Site and that a Release Site File Closure Letter be issued to City of St. Paul PED by the MPCA PBP program regarding petroleum impacts documented at the Site.

5.0 References

Northern, 2002. Phase I Environmental Site Assessment; Smith Avenue Transit Center, Smith Avenue and Kellogg Boulevard, St. Paul, Minnesota. Northern Technologies, Inc., February 14, 2002.

Braun Intertec, 2006a. Phase II Environmental Site Assessment, Proposed Smith Avenue Transit Center, Smith Avenue and Kellogg Boulevard, St. Paul, Minnesota. Braun Intertec Corporation, June 2, 2006. Project SP-06-01713A.

Braun Intertec, 2006b. Emissions Control Plan, Proposed Smith Avenue Transit Center, Smith Avenue and Kellogg Boulevard, St. Paul, Minnesota. Braun Intertec Corporation, June 14, 2006. Project SP-06-01713A.

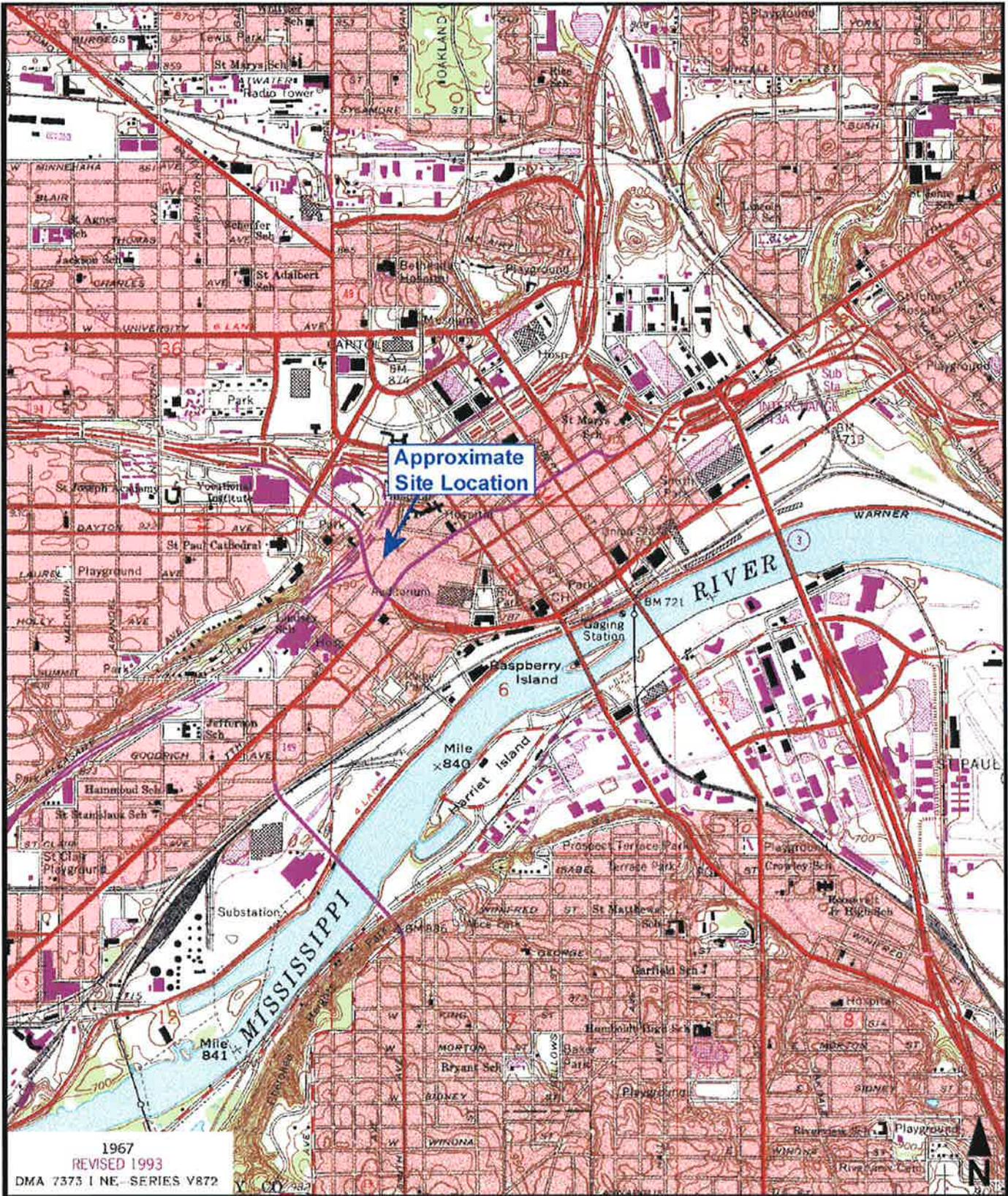
Braun Intertec, 2006c. Response Action Plan and Construction Contingency Plan, Smith Avenue Transit Center, Smith Avenue and Kellogg Boulevard, St. Paul, Minnesota. Braun Intertec Corporation, June 14, 2006. Project SP-06-01713.

6.0 Standard of Care

The analysis, conclusions and recommendations provided in this report are based on site observations, material sampling and laboratory analytical results obtained during this project.

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

Figures



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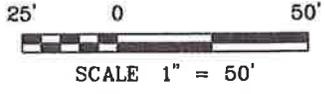
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Site Location Map
 Smith Avenue Transit Center
 Smith Avenue & Kellogg Boulevard
 St. Paul, Minnesota

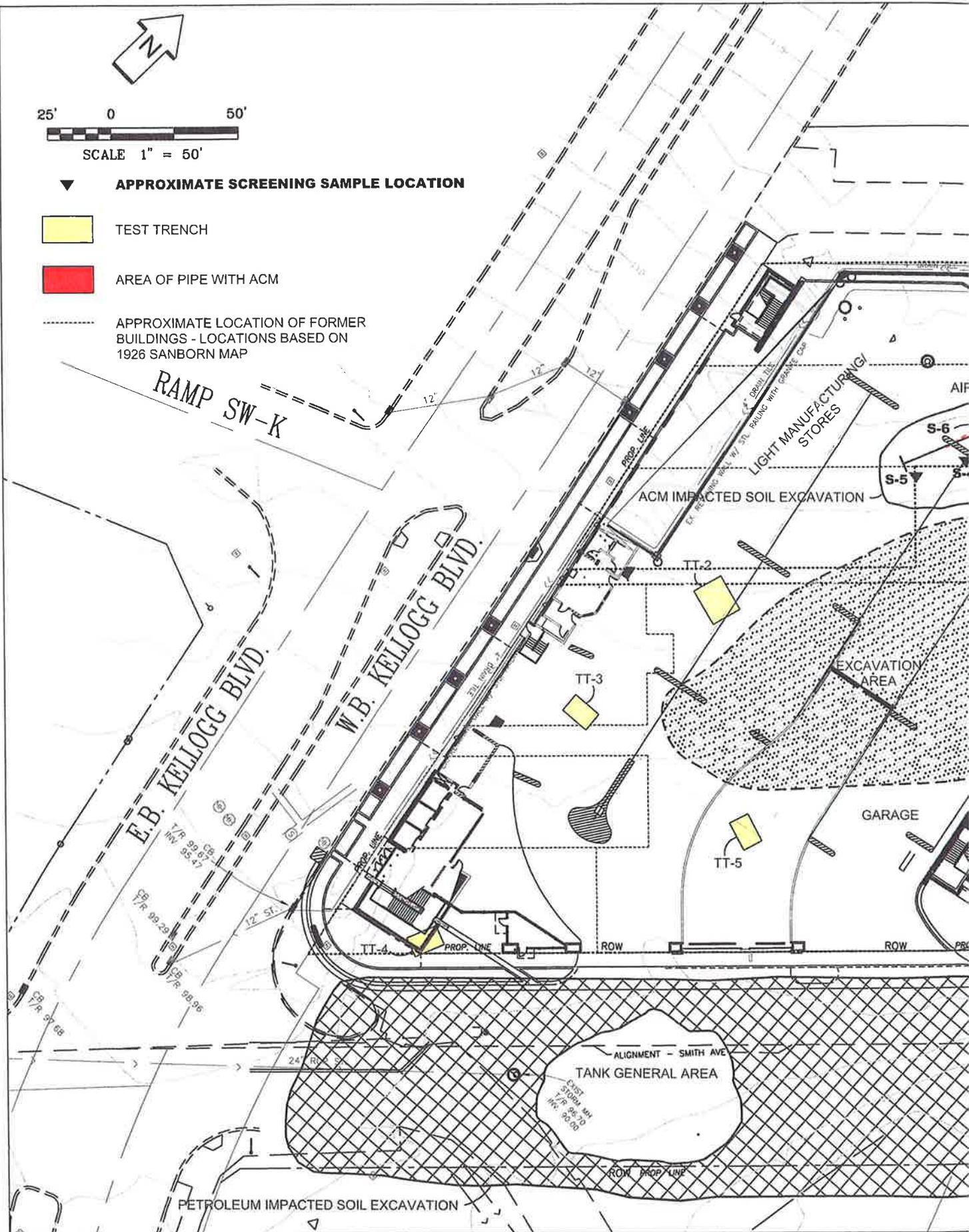
USGS TOPOGRAPHIC MAP

St. Paul East, MN

DATE:	5/30/2006	
JOB NO.:	SP-06-01713	
SCALE:	1 : 24,000	FIGURE NO.:
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- ▼ APPROXIMATE SCREENING SAMPLE LOCATION
- TEST TRENCH
- AREA OF PIPE WITH ACM
- APPROXIMATE LOCATION OF FORMER BUILDINGS - LOCATIONS BASED ON 1926 SANBORN MAP



Tables

Table 1
ACM Removal Field Screening Results
Smith Avenue Transit Center
Smith Avenue & Kellogg Boulevard
St. Paul, Minnesota
SP-06-01713A

Location	Date	Time	Depth (feet)	PID (ppm)	Description
S-01	6/23/2006	1031	7	1.2	Poorly-graded sand, silty-sand with gravel.
S-02	6/23/2006	1034	7	1.2	Poorly-graded sand, silty-sand with gravel.
S-03	6/23/2006	1112	3	1.2	Poorly-graded sand, silty-sand with gravel.
S-03	6/23/2006	1113	7	2.5	Poorly-graded sand with brick debris and gravel.
S-04	6/23/2006	1152	3	3.7	Poorly-graded sand, silty-sand with gravel.
S-04	6/23/2006	1154	7	2.5	Poorly-graded sand with brick debris and gravel.
S-05	6/23/2006	1253	3	2.5	Poorly-graded sand, silty-sand with gravel.
S-05	6/23/2006	1254	7	2.5	Poorly-graded sand with brick debris and gravel.
S-06	7/7/2006	0816	12	0.0	Poorly-graded sand, silty-sand with gravel and brick debris.
S-07	7/7/2006	0818	13	0.0	Poorly-graded sand, silty-sand with charred debris.

Notes:

S = Soil sample

Table 2
Petroleum Impacted Soil Field Screening Results
Smith Avenue Transit Center
Smith Avenue & Kellogg Boulevard
St. Paul, Minnesota
SP-06-01713A

Location	Date	Time	Depth (feet)	PID (ppm)	Description
S-08	4/24/2007	1015	-	10.8	Silty-sands, brown to gray, with petroleum odor.
S-09	4/24/2007	1015	-	34.5	Silty-sands, brown to gray, with petroleum odor.
S-10	4/24/2007	1045	-	0	Clayey sands, gray.
S-11	4/24/2007	1045	-	0	Clayey sands, gray.
S-12	4/24/2007	1100	-	0	Clayey sands, gray.
S-13	4/24/2007	1100	-	0	Clayey sands, gray.
S-14	4/24/2007	1120	-	0	Clayey sands, gray.
S-15	4/24/2007	1120	-	0	Clayey sands, gray.
S-16	4/24/2007	1150	-	0	Silty-sands, dark gray.
S-17	4/24/2007	1150	-	0	Silty-sands, dark gray.
S-18	4/24/2007	1220	-	0	Silty sand, dark brown, with trace brick.
S-19	4/24/2007	1220	-	0	Silty sand, dark brown, with trace brick.
S-20	4/24/2007	1245	-	0	Silty sand, dark brown to black, with trace brick.
S-21	4/24/2007	1245	-	0	Silty sand, dark brown to black, with trace brick.
S-22	4/24/2007	1305	-	0	Silty sand, dark brown to black, with trace brick.
S-23	4/24/2007	1305	-	0	Silty sand, dark brown to black, with trace brick.
S-24	4/24/2007	1320	-	0	Silty sand, dark brown to black, with trace brick.
S-25	4/24/2007	1320	-	0	Silty sand, dark brown to black, with trace brick.
S-26	4/24/2007	1445	-	44.3	Clayey sands, brown to gray.
S-27	4/25/2007	1200	-	10.2	
S-28	4/25/2007	1200	-	8	
S-29	4/25/2007	-	-	3.5	No odor.
S-30	4/25/2007	-	-	0	
S-31	4/25/2007	-	-	0	
S-32	4/25/2007	-	-	0	
S-33	4/25/2007	-	-	0	
S-34	4/25/2007	-	-	0	
S-35	4/25/2007	-	-	0	
S-36	4/25/2007	-	-	0	Petroleum odor.
S-37	4/25/2007	-	-	0	
S-38	4/25/2007	-	-	0	Dark gray, petroleum odor.
S-39	4/25/2007	1659	-	42	Silty sand with gravel, dark gray, petroleum odor.
S-40	4/26/2007	0715	-	0	Silty sands with poorly-graded gravel, brown to gray.
S-41	4/26/2007	0715	-	0	Silty sands with poorly-graded gravel, brown to gray.
S-42	4/26/2007	0730	-	0	Silty sands with poorly-graded gravel, brown to gray.
S-43	4/26/2007	0730	-	0	Silty sands with poorly-graded gravel, brown to gray.
S-44	4/26/2007	0745	-	0	Silty sands with poorly-graded gravel, brown to gray.
S-45	4/26/2007	0745	-	0	Silty sands with poorly-graded gravel, brown to gray.
S-46	4/26/2007	0800	-	0	Silty sands with poorly-graded gravel, brown to gray.
S-47	4/26/2007	0800	-	0	Silty sands with poorly-graded gravel, brown to gray.
S-48	4/26/2007	0830	-	5	Petroleum odor.
S-49	4/26/2007	0830	-	6	Petroleum odor.
S-50	4/26/2007	0845	-	16	Clayey sands, gravel, with petroleum odor.
S-51	4/26/2007	0845	-	42	Clayey sands, gravel, with petroleum odor.
S-52	4/26/2007	0930	-	0	Silty sands and clayey sands, brown.
S-53	4/26/2007	0845	-	0	Silty sands and clayey sands, brown.
S-54	4/26/2007	0945	-	0	Silty sands and clayey sands, brown.
S-55	4/26/2007	0945	-	0	Silty sands and clayey sands, brown.
S-56	4/26/2007	1015	-	0	Silty sands and clayey sands, brown.
S-57	4/26/2007	1015	-	0	Silty sands and clayey sands, brown.
S-58	4/26/2007	1200	-	5.1	Clayey sands, gray to brown.
S-59	4/26/2007	1200	-	23	Clayey sands, gray to brown.
S-60	4/26/2007	1230	-	0	Clayey sands, gray to brown.

Table 2
Petroleum Impacted Soil Field Screening Results
Smith Avenue Transit Center
Smith Avenue & Kellogg Boulevard
St. Paul, Minnesota
SP-06-01713A

Location	Date	Time	Depth (feet)	PID (ppm)	Description
S-61	4/26/2007	1230	-	0	Clayey sands, gray to brown.
S-62	4/26/2007	1300	-	0	Clayey sands, gray to brown.
S-63	4/26/2007	1300	-	0	Clayey sands, gray to brown.
S-64	4/26/2007	1345	-	0	
S-65	4/26/2007	1345	-	0	
S-66	4/27/2007	1130	-	0	Inorganic clays and clayey sands, gray to brown. From ends of UST.
S-67	4/27/2007	1315	-	68	Clayey sands with inorganic clay, gray. From north end of UST with staining observed.

Notes:

S = Soil sample

Table 3
Petroleum Impacted Soil Analytical Results
Smith Avenue Transit Center
Smith Avenue & Kellogg Boulevard
St. Paul, Minnesota
SP-06-01713A

Compound/Parameter	CAS No.	Impacted	SP-2	Stockpile #2 :	Stockpile #2 :	Industrial	Tier I
		Stockpile		SP-2(2) South	SP-2(3) North		
		04/24/2007	04/25/2007	04/25/2007	04/25/2007	(mg/kg)	(mg/kg)
Volatle Organic Compounds(mg/kg dry)							
1,2,4-Trimethylbenzene	95-63-6	15 ^[6]	<(0.055)	<(0.055)	<(0.056)	25	NE
1,3,5-Trimethylbenzene	108-67-8	4.4 ^[6]	<(0.055)	<(0.055)	<(0.056)	10	NE
cis-1,2-Dichloroethene	156-59-2	<(0.30) ^[6]	0.059	<(0.055)	<(0.056)	22	0.14
Ethylbenzene	100-41-4	2.4 ^[6]	<(0.055)	<(0.055)	<(0.056)	200	4.7
Isopropylbenzene	98-82-8	0.6 ^[6]	<(0.055)	<(0.055)	<(0.056)	87	18
m,p-Xylenes	108-38-3/106-42-3	6.9 ^[6]	<(0.055)	<(0.055)	<(0.056)	130	45
n-Propylbenzene	103-65-1	2.7 ^[6]	<(0.055)	<(0.055)	<(0.056)	93	NE
Naphthalene	91-20-3	1.9 ^[6]	<(0.055)	<(0.055)	<(0.056)	28	7.5
o-Xylene	95-47-6	1.5 ^[6]	<(0.055)	<(0.055)	<(0.056)	130	45
Tetrachloroethene	127-18-4	<(0.61) ^[6]	2.2	0.37	<(0.11)	131	0.068
Trichloroethene	79-01-6	<(0.30) ^[6]	0.064	<(0.055)	<(0.056)	46	0.14
Total Petroleum Hydrocarbons							
Diesel Range Organics (DRO)	NA	16 ^[2]	18 ^[3]	20 ^[2]	15 ^[2]		
Gasoline Range Organics (GRO)	NA	200 ^{[1][6]}	<(11)	<(11)	<(11)		

Notes:

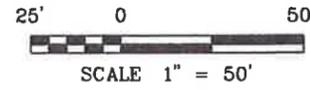
mg/kg = Milligrams per kilogram.

< = Less than the reporting limit indicated in parentheses.

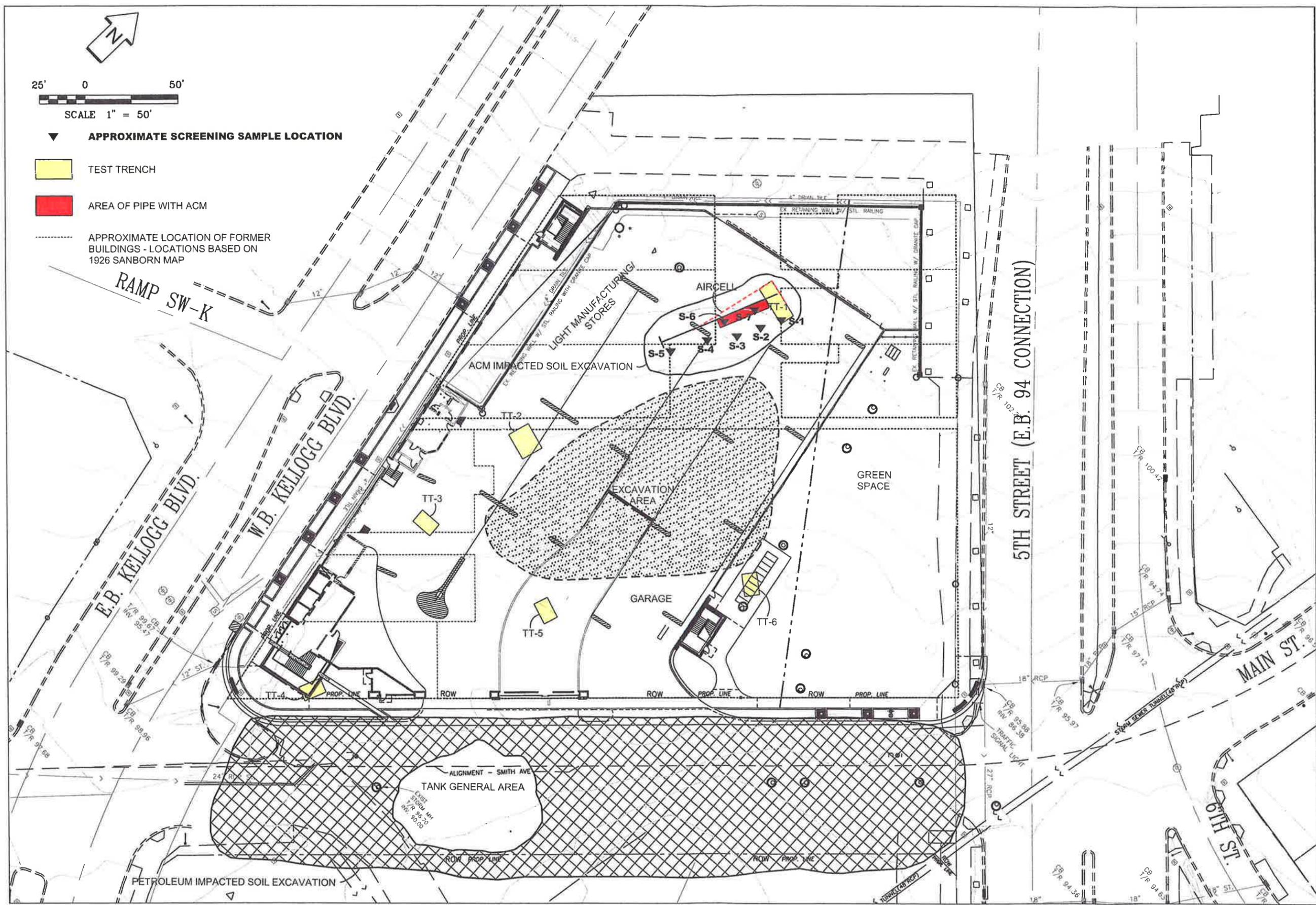
NE =Not Established

SRV - Soil Reference Value established by the Minnesota Pollution Control Agency; 1999, revised 2005

SLV - Soil Leaching Value established by the Minnesota Pollution Control Agency; 1999, revised 2005



- ▼ APPROXIMATE SCREENING SAMPLE LOCATION
- TEST TRENCH
- AREA OF PIPE WITH ACM
- APPROXIMATE LOCATION OF FORMER BUILDINGS - LOCATIONS BASED ON 1926 SANBORN MAP



RAP/CCP IMPLEMENTATION
SMITH AVENUE TRANSIT CENTER
SMITH AVENUE AND KELLOGG BOULEVARD
SAINT PAUL, MINNESOTA

INT	DATE
DRAWN BY: MRC	5-30-06
APP'D BY: GEB	12-6-07
JOB NO. SP0601713A	
DWG. NO. SP0601713A	SHEET OF
	SCALE 1" = 50'