AECOM Environment

Prepared for:
City of Oshkosh Public Works Dept.
Oshkosh, Wisconsin

Prepared by:
AECOM
Oshkosh, WI
60190330
March 7, 2011

Soil and Groundwater Management Plan

2011 Capital Improvement Project Contract 11-04 Concrete Paving & Utilities (Central), Oshkosh, Wisconsin

Osceola Street Segment from Pearl Avenue to the Fox River

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Project Manager

Reviewed By Paul F. Timm
Senior Project Manager

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1.0 Introduction

AECOM Technical Services, Inc. (AECOM) has prepared this Soil and Groundwater Management Plan (Plan) on behalf of the City of Oshkosh Public Works Department (COPWD) for the 2011 Capital Improvement Project (CIP) Contract 11-04 Concrete Paving & Utilities (Central) in Oshkosh, Wisconsin, the Osceola Street Segment from Pearl Avenue to the Fox River. Based upon the results of the environmental database review completed by AECOM (*Environmental Database Review Results for 2011 Capital Improvement Projects (Contracts: 11-01, 11-04, 11-05, 11-07, 11-08, and Miscellaneous Projects) in Oshkosh, Wisconsin*, AECOM Project No. 60190330, dated January 10, 2011), there is the potential for petroleum contaminated soil and groundwater to be encountered during the construction activities. This Plan presents the project handling approach for the contaminated material.

1.1 Project scope

The Osceola Street improvements will include road replacement and new utility construction from the Fox River to Algoma Boulevard (**Figure 1**). This management plan focuses on the Osceola Street segment from Pearl Avenue to the Fox River. The construction will occur in areas within the street right-of-ways (ROWs). Excavations up to 12 feet in depth will be required for some utility construction.

1.2 Potential hazardous material threat

Based upon the environmental database review, the Osceola Street segment of Contract 11-04, from Pearl Avenue to the Fox River, was identified as presenting potential hazardous material concerns to the ROW during construction. AECOM's knowledge of and experience with the adjacent properties, the field observations and laboratory analytical results (for waste characterization) from the geotechnical investigation indicated that petroleum impacted soil and groundwater may be encountered in the ROW (**Figure 2**).

A review of several Sanborn® Maps showed many industrial/manufacturing facilities along Osceola Street, from Pearl Avenue to the Fox River. The 1890 and 1903 maps showed a shop and foundry associated with a shingle manufacturer from Pearl Avenue to the Fox River. The 1949 and 1957 maps showed Giant Grip Manufacturing Company, a manufacturer of horse shoes that involved burning coal and coke near the intersection of Pearl Avenue and Osceola Street. At the same location, the 1949 and 1957 maps depict Deltox Rug Company and Wisconsin Match Corporation, both of which may have used chemicals in their manufacturing processes. A review of the Wisconsin Department of Natural Resources (WDNR) Bureau of Remediation and Redevelopment Tracking System (BRRTS) database found a listing for historical soil impacts under the asphalt near the intersection of Osceola Street and Pearl Avenue at the former Kaiser building site, but this concern is listed as no action required. AECOM has performed several environmental site assessments and subsurface investigations in this area, which confirmed the use of chemicals and petroleum products with historical operations. AECOM also encountered historical fill material that contained polynuclear aromatic hydrocarbons (PAHs), however, at concentrations that did not require further investigation or remediation.

Soils encountered in the borings performed in this area (O- 5 through O-8) consisted of approximately 1.0 to 1.5 feet of asphalt pavement and the underlying base course (O-5 and O-6) or topsoil (O-8);

boring O-7 did not encounter any surface material. Underlying the surface material (where encountered) was approximately three (O-5) to five feet (O-7 and O-8) of fill, which consisted of fragments of wood/lumber and building brick, silt, clay and some sand. AECOM also observed some sand (possible cinders based on previous subsurface investigations), dark brown and black staining in the soils and a moderate petroleum (degraded diesel or fuel oil) odor. According to the geotechnical report, groundwater was encountered in these borings at depths ranging from 4.5 (O-5) to 8.0 (O-6) feet below ground surface during drilling. At the completion of drilling these borings (prior to backfilling), groundwater was observed between 6.5 (O-8) and 13.0 (O-7) feet below ground surface.

Low level photoionization detector (PID) readings were detected in the soil samples collected from borings O-1 through O-8 during the geotechnical investigation, between non-detectable to 4.0 instrument units (O-6 at 6 to 7.5 feet below ground surface), with a majority of the highest readings observed in borings O-5 and O-6. However, moderate petroleum odors were observed by AECOM in the soil samples collected from O-6 between 2.5 and 7.5 feet below ground surface (bgs). The soil samples collected from O-6 at these depths were composited and submitted for laboratory analysis of petroleum volatile organic compounds (PVOCs), diesel range organics (DRO), PAHs, flash point and free liquids. The laboratory results indicate the presence of petroleum impacts in the soil sample collected from soil boring O-6. Concentrations of DRO at 2.9 milligrams per kilogram (mg/kg; equivalent to parts per million [ppm]), naphthalene at 5.1 micrograms per kilogram (µg/kg), and 2-methylnaphtalene at 4.1 µg/kg were reported in soil sample. However, these levels did not exceeded their respective NR 720 generic residual contaminant level (RCL) for the protection of groundwater exposure pathway, where established. The laboratory results also indicated the soil met the criteria for acceptance as a special solid waste at a landfill.

2.0 Soil and groundwater management plan

2.1 Health and safety requirements

The contractor shall prepare a site-specific Health and Safety Plan complying with the Occupational Safety and Health Administration (OSHA) standard for Hazardous Waste Operation and Emergency Response (HAZWOPER), 29 CFR 1910.120. The site-specific Health and Safety Plan shall be submitted to the Engineer prior to the start of any excavations.

All site workers taking part in construction activities who will have the reasonable probability of exposure to safety or health hazards associated with the contaminated material shall have completed health and safety training that meets OSHA requirements. The Contractor shall submit to the Project Engineer, prior to the start of any excavations, written verification that the workers have completed up to date OSHA training. The Contractor shall be responsible for the implementation of the Health and Safety Plan and for all site safety, including the delineation and enforcement of the health and safety exclusion zone for the construction site, pursuant to 29 CFR 1910.120.

2.2 Contractor coordination

The Contractor shall coordinate the project excavation activities with the Environmental Consultant retained by the COPWD:

Consultant: AECOM

Address: 558 North Main Street, Oshkosh, WI 54901

Contact: Michelle L. Freimund, P.G.
T (920) 236-6712
F (920) 235-0321

The role of the AECOM will be limited to documenting that the soil excavated during construction is managed in accordance with this Plan, identifying soil encountered during the excavations that may be characterized as contaminated, and determining the disposal requirements for contaminated material. When such contaminated material is encountered, AECOM will advise the Contractor and Project Engineer as to the requirements for the management and disposal of the material. AECOM will be responsible for obtaining the necessary approvals for the disposal of contaminated soil.

The Contractor shall notify the Project Engineer and AECOM a minimum of ten business days prior to the commencement of excavation. The Contractor shall coordinate with AECOM to ensure that AECOM is present during the excavation activities in the area identified in this Plan. If contaminated soil and/or groundwater is/are encountered at other depths or locations on the project than those described within this Plan, the Contractor shall terminate excavation activities in the area and notify the Project Engineer and AECOM. The Project Engineer and AECOM shall determine if contaminated soil and/or groundwater encountered elsewhere on the project are to be managed as described in this Plan, or if other management procedures need to be implemented.

2.3 Contaminated soil management

Based upon the laboratory analytical data, the contaminated soil removed from the project excavations will be managed as a special solid waste and disposed off site into Waste Management's Valley Trail Recycling and Disposal Facility (RDF) located in Berlin, Wisconsin. AECOM will be completing Waste Management's waste profile application (**Appendix A**) for acceptance from the Valley Trail RDF. According to WAC Ch. NR 718.07, the Contractor (or the firm contracted by the Contractor to haul the excavated contaminated soil to the disposal facility) will be required to have a solid waste collection and transportation service operating license under NR 502.06.

AECOM will be on site to observe and identify the excavation areas containing petroleum impacted soil requiring disposal. This will be accomplished through visual and olfactory observations (sheen, petroleum product, stained soils, and petroleum odors) and field screening of the soils excavated for obvious signs of contamination. AECOM will utilize a photoionization detector (PID) to field screen the excavated soils. PID field screening readings of 15 instrument units (equivalent to ppm) or higher will be considered contaminated and hauled to the Valley Trail RDF.

Based upon the information obtained, the petroleum contaminated soil requiring special management is likely to be encountered on Osceola Street between Pearl Avenue and the Fox River (**Figure 2**), specifically, between Stations 12+00 and 16+50.

The contaminated soil disposed of in this manner requires manifesting, which will require the Project Engineer's signature or a representative for and designated by the Project Engineer who will be present during the excavation to sign the transportation manifests. It is anticipated that AECOM will be the designated personnel to sign the transportation manifests on behalf of the City of Oshkosh. If impacted soil encountered is contaminated with material/substances other than petroleum products, then the impacted soil will be required to be stockpiled on and covered with plastic within the construction limits. At that time, AECOM will collect a sample for waste characterization for soil disposal at an appropriate, licensed facility.

2.4 Contaminated groundwater management

Based upon the anticipated depth to groundwater (4.5 to 13 feet bgs, which fluctuates based on the time of the year) and the depth the impacted soil was observed (2.0 to 7.5 feet bgs), there is the potential to encounter contaminated groundwater within the utility construction excavations. In the event contaminated groundwater is observed, it will require removal from the project excavations. The groundwater will need to be collected and pumped to a 2,000 gallon aboveground storage tank. This will allow sufficient time for AECOM to collect a sample for laboratory analysis and to settle out suspended solids prior to disposal into the Oshkosh Sanitary Sewer System under the conditions provided in a temporary discharge permit that will be obtained by AECOM, on behalf of the COPWD. The discharge points for the groundwater (from the aboveground storage tank) will be noted in the permit.

AECOM will be on site to observe and identify the excavation areas containing impacted groundwater requiring disposal. No free phase product is anticipated to be encountered in the groundwater during construction. If free product is encountered, the Contractor shall containerize it in 55-gallon drums until disposal arrangements can be made.

2.5 Documentation

The Contractor must maintain a record of the amount of contaminated soil excavated and transported off site for disposal and groundwater discharged into the sanitary sewer system, and inform the Project Engineer and AECOM, on a daily basis, of the amounts by providing copies of the transportation manifests, as applicable. In addition, AECOM will keep a daily log of the monitoring activities (**Appendix B**), and the amount of contaminated soil and groundwater removed during construction work. When construction is complete, AECOM will prepare and submit a letter report summarizing the environmental activities to the COPWD.

Figures

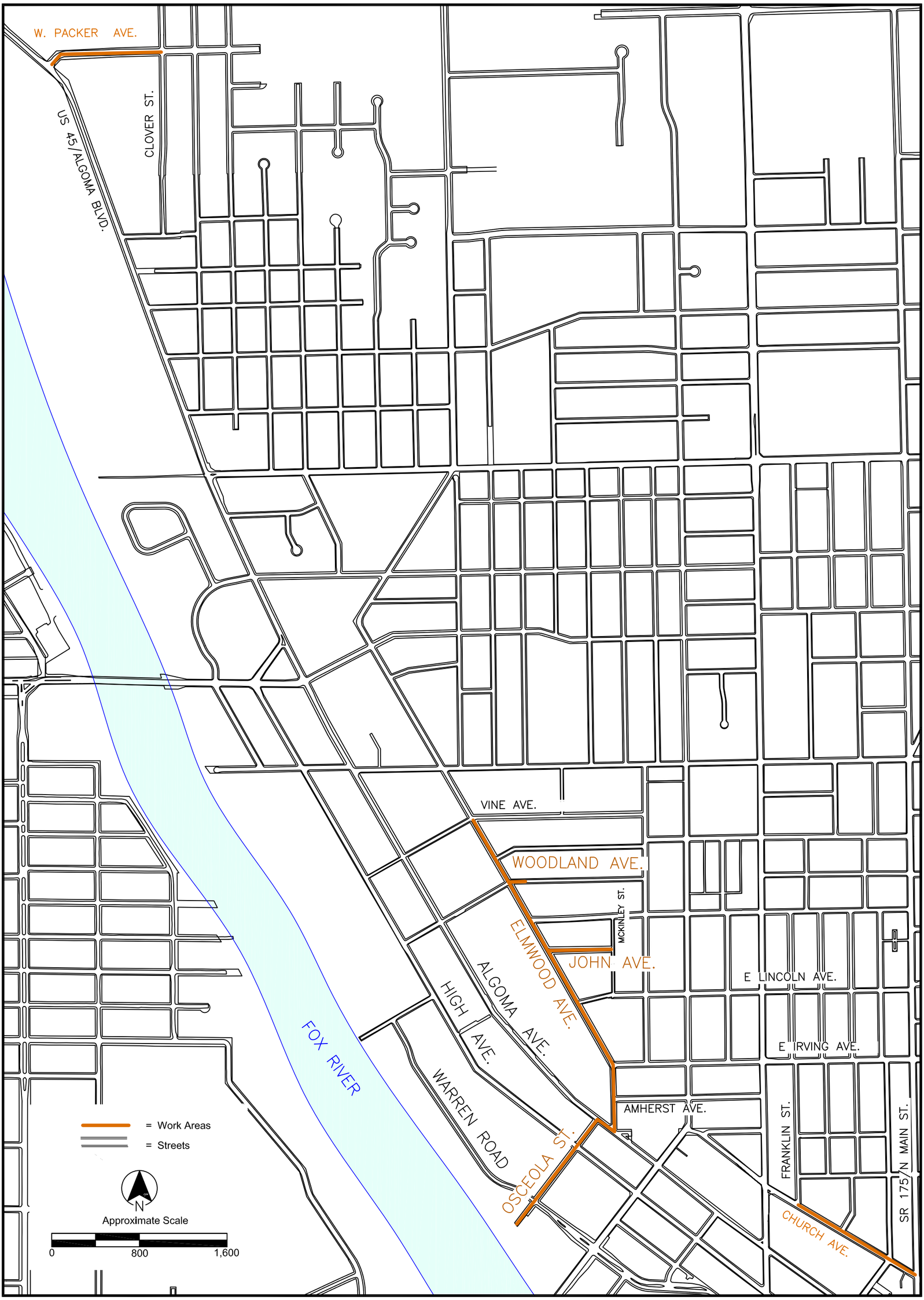


Figure
1

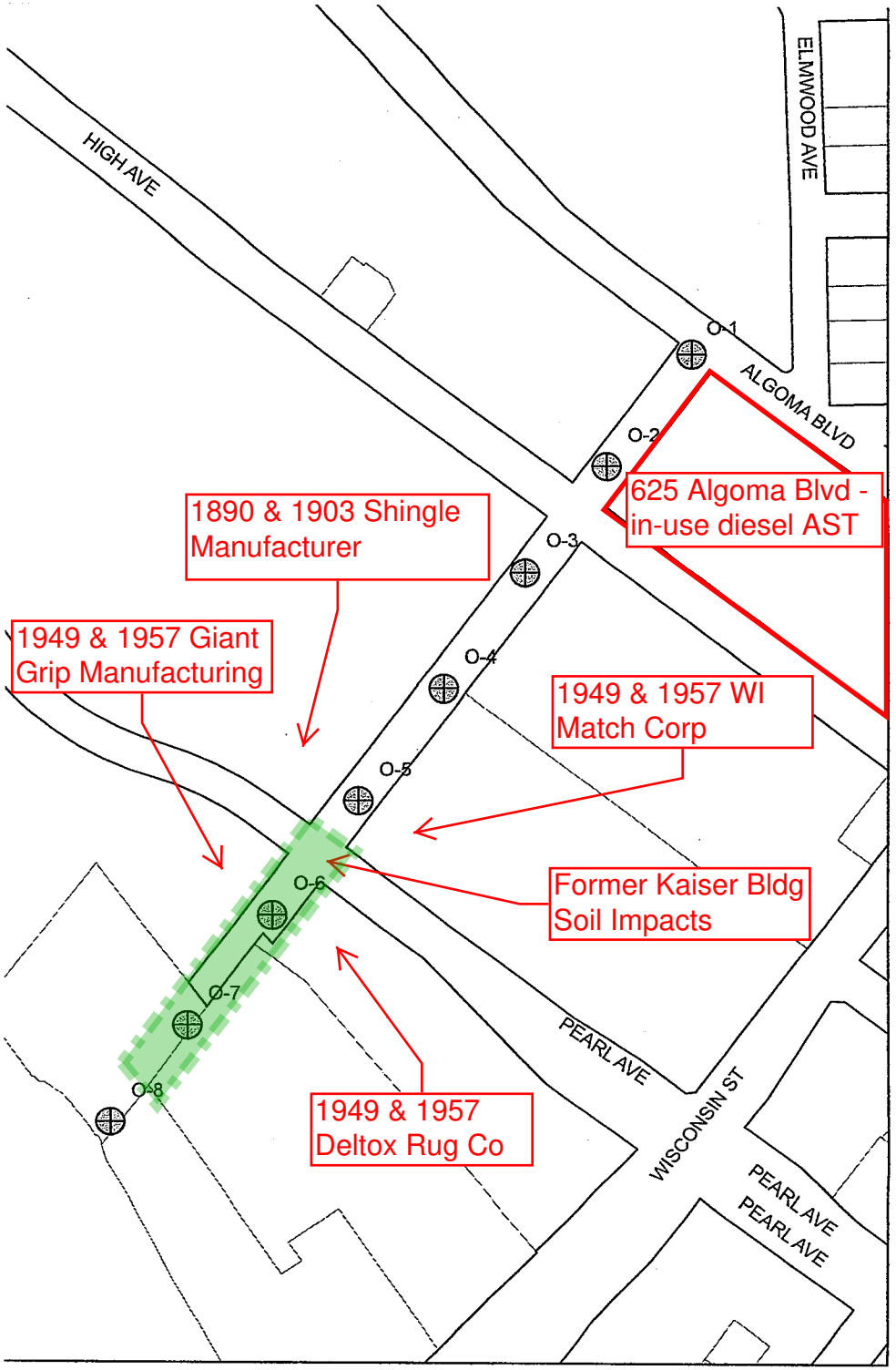
PROJECT LOCATION MAP
2011 CIP CONTRACT 11-04
(CENTRAL STREETS)
City of Oshkosh
Oshkosh, Wisconsin

SCALE:	DATE:	PROJECT NUMBER:
AS NOTED	03/04/11	60190330

AECOM
AECOM Environment
558 North Main Street
Oshkosh, WI 54901
Phone: (920) 235-0270
Fax: (920) 235-0321
WEB: HTTP://WWW.AECOM.COM

	NO.:	DESCRIPTION:	DATE:	BY:
DRAWN BY:	1	Project Map	3/4/11	rpm
MAS/rpm				
CHECKED BY:				
MF				
APPROVED BY:				
MF				

Proposed Soil Borings
Contract 11-04
Concrete Paving &
Utilities Central - Osceola Street



Legend

Soil Boring (Proposed Depth)

- O-1 (15')
- O-2 (15')
- O-3 (15')
- O-4 (15')
- O-5 (15')
- O-6 (15')
- O-7 (15')
- O-8 (10')

Estimated Area of Potential Soil & Groundwater Contamination

N

0 210 420 Feet

City of Oshkosh
Engineering Division

This map is neither a legally recorded map nor a survey and it is not intended to be used as one. Mapped soil borings do not reflect exact locations in field. This drawing is a compilation of records, data and information located in various city, county and state offices and other sources affecting the area shown and it is to be used for reference purposes only.
The City of Oshkosh is not responsible for any inaccuracies herein contained. If discrepancies are found, please contact the City of Oshkosh.

I:\Engineering\Soil Borings\2011 Projects\Osceola

FIGURE 2

Appendix A

Waste Management Waste Profile (Blank)

WASTE MANAGEMENT

Requested Disposal Facility: _____ Profile Number: _____

❑ Renewal for Profile Number: _____ Waste Approval Expiration Date: _____

❑ Check here if there are multiple generating locations for this waste. Attach additional locations.

A. Waste Generator Facility Information (must reflect location of waste generation/origin)

1. Generator Name: _____
2. Site Address: _____ 7. Email Address: _____
3. City/ZIP: _____ 8. Phone: _____ 9. FAX: _____
4. State: _____ 10. NAICS Code: _____
5. County: _____ 11. Generator USEPA ID #: _____
6. Contact Name/Title: _____ 12. State ID# (if applicable): _____

B. Customer Information ❑ same as above

P. O. Number: _____

1. Customer Name: _____ 6. Phone: _____ FAX: _____
2. Billing Address: _____ 7. Transporter Name: _____
3. City, State and ZIP: _____ 8. Transporter ID # (if appl.): _____
4. Contact Name: _____ 9. Transporter Address: _____
5. Contact Email: _____ 10. City, State and ZIP: _____

C. Waste Stream Information

1. DESCRIPTION

a. Common Waste Name: _____

State Waste Code(s): _____

b. Describe Process Generating Waste or Source of Contamination:

c. Typical Color(s): _____

d. Strong Odor? ❑ Yes ❑ No Describe: _____

e. Physical State at 70°F: ❑ Solid ❑ Liquid ❑ Powder ❑ Semi-Solid or Sludge ❑ Other: _____

f. Layers? ❑ Single layer ❑ Multi- layer ❑ NA

g. Water Reactive? ❑ Yes ❑ No If Yes, Describe: _____

h. Free Liquid Range (%): _____ to _____ ❑ NA(solid)

i. pH Range: _____ to _____ ❑ NA(solid)

j. Liquid Flash Point: ❑ < 140°F ❑ 140°- 199°F ❑ ≥ 200°F ❑ NA(solid)

k. Flammable Solid: ❑ Yes ❑ No

l. Physical Constituents: List all constituents of waste stream - (e.g. Soil 0-80%, Wood 0-20%): ❑ (See Attached)

Constituents (Total Composition Must be ≥ 100%)	Lower Range	Unit of Measure	Upper Range	Unit of Measure
1.				
2.				
3.				
4.				
5.				
6.				

2. ESTIMATED QUANTITY OF WASTE AND SHIPPING INFORMATION

a. ❑ One Time Event ❑ Base ❑ Repeat Event

b. Estimated Annual Quantity: _____ ❑ Tons ❑ Cubic Yards ❑ Drums ❑ Gallons ❑ Other (specify): _____

c. Shipping Frequency: _____ Units per ❑ Month ❑ Quarter ❑ Year ❑ One Time ❑ Other

d. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If yes, answer e.) ❑ Yes ❑ No

e. USDOT Shipping Description (if applicable): _____

3. SAFETY REQUIREMENTS (Handling, PPE, etc.): _____

WASTE MANAGEMENT

D. Regulatory Status (Please check appropriate responses)

1. Waste Identification:
   a. Does the waste meet the definition of a USEPA listed or characteristic hazardous waste as defined by 40 CFR Part 261? ❑ Yes ❑ No
      1. If yes, please complete a hazardous waste profile.
   b. Does the waste meet the definition of a state hazardous waste other than identified in D.1.a? ❑ Yes ❑ No
      1. If yes, please complete a hazardous waste profile.
2. Is this waste included in one or more of categories below (Check all that apply)? If yes, attach supporting documentation. ❑ Yes ❑ No
   ❑ Delisted Hazardous Waste ❑ Excluded Wastes Under 40CFR 261.4
   ❑ Treated Hazardous Waste Debris ❑ Treated Characteristic Hazardous Waste
3. Is the waste from a Federal (40 CFR 300, Appendix B) or state mandated clean-up? If yes, see instructions. ❑ Yes ❑ No
4. Does the waste represented by this waste profile sheet contain radioactive material? ❑ Yes ❑ No
   a. If yes, is disposal regulated by the Nuclear Regulatory Commission? ❑ Yes ❑ No
   b. If yes, is disposal regulated by a State Agency for radioactive waste/NORM? ❑ Yes ❑ No
5. Does the waste represented by this waste profile sheet contain Polychlorinated Biphenyls (PCBs)? ❑ Yes ❑ No
   (If yes, list in Chemical Composition - C.1.l)
   a. If yes, are the PCBs regulated by 40 CFR 761? ❑ Yes ❑ No
   b. If yes, is it remediation waste from a project being performed under the Self-Implementing option provided in 40 CFR 761.61(a)? ❑ Yes ❑ No
   c. If yes, were the PCBs imported into the US? ❑ Yes ❑ No
6. Does the waste contain untreated, regulated medical or infectious waste? ❑ Yes ❑ No
7. Does the waste contain asbestos? ❑ Yes ❑ No
   a. If Yes, ❑ Friable ❑ Non Friable
8. Is this profile for remediation waste from a facility that is a major source of Hazardous Air Pollutants (Site Remediation NESHAP, 40 CFR 63 subpart GGGGG)? ❑ Yes ❑ No
   a. If yes, does the waste contain <500 ppmw VOHAPs at the point of determination? ❑ Yes ❑ No

E. Generator Certifcation (Please read and certify by signature below)

By signing this Generator's Waste Profile Sheet, I hereby certify that all:

1. Information submitted in this profile and all attached documents contain true and accurate descriptions of the waste material;
2. Relevant information within the possession of the Generator regarding known or suspected hazards pertaining to this waste has been disclosed to WM/the Contractor;
3. Analytical data attached pertaining to the profiled waste was derived from testing a representative sample in accordance with 40 CFR 261.20(c) or equivalent rules; and
4. Changes that occur in the character of the waste (i.e. changes in the process or new analytical) will be identified by the Generator and disclosed to WM (and the Contractor if applicable) prior to providing the waste to WM (and the contractor if applicable).
5. Check all that apply:
   ❑ a. Attached analytical pertains to the waste. Identify laboratory & sample ID #'s and parameters tested: _____ # Pages: _____
   ❑ b. Only the analysis identified on the attachment pertain to the waste (identify by laboratory & sample ID #'s and parameters tested). Attachment #: _____
   ❑ c. Additional information necessary to characterize the profiled waste has been attached (other then analytical, such as MSDS). Indicate the number of attached pages: _____
   ❑ d. I am an agent signing on behalf of the Generator, and the delegation of authority to me from the Generator for this signature is available upon request.

Certification Signature: _____ Title: _____

Company Name: _____ Name (Print): _____

Date: _____

Appendix B

Soil Screening Log

AECOM

SOIL SCREENING LOG

Project Name: ______________________________

Project Location: ______________________________

AECOM Project: ______________________________

Field Screening Instrument Type: ______________________________

____

____

Sample Location (station or address)	Depth (feet below grade)	Material Type	Instrument Reading	Manifest No.	Date/Time