



**Supplemental Building Interior
Polychlorinated Biphenyl
Investigation Work Plan**

**Madison-Kipp Corporation
Madison, Wisconsin**

BRRTS No. 02-13-558625

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August 2013



Toni L. Schoen

Toni Schoen
Senior Geologist

Jennine Trask

Jennine Trask, PE
Project Manager

**Supplemental Work Plan for
Polychlorinated Biphenyl
Building Subsurface
Investigation**

Madison-Kipp Corporation
Madison, Wisconsin

Prepared for:
Madison-Kipp Corporation

Prepared by:
ARCADIS U.S., Inc.
126 North Jefferson Street
Suite 400
Milwaukee
Wisconsin 53202
Tel 414 276 7742
Fax 414 276 7603

Our Ref.:
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1. Introduction

On behalf of Madison-Kipp Corporation, ARCADIS has been retained to conduct supplement interior building investigation activities at its facility located at 201 Waubesa Street in Madison, Wisconsin (Site). Below is a chronology of work plans, reports, meetings, and responses from the Wisconsin Department of Natural Resources (WDNR) and United States Environmental Protection Agency (U.S. EPA).

- On May 31, 2012, a *Site Investigation Work Plan (Work Plan)* was submitted to the (WDNR) for approval to complete site investigation activities at the Site (ARCADIS, 2012a). The WDNR provided a *Conditional Approval* letter dated June 25, 2012, for this Work Plan (WDNR, 2012a).
- On September 28, 2012, a *Site Investigation Work Plan Addendum, Building Subsurface Investigation (Addendum)* was submitted to the WDNR (ARCADIS, 2012b). The Addendum was approved by WDNR in a letter dated October 17, 2012 (WDNR, 2012b).
- On February 14, 2013, a *Building Subsurface Investigation Summary* was submitted to the WDNR to summarize the investigation activities and results (ARCADIS, 2013a).
- On March 15, 2013, a *Site Investigation and Interim Actions Report, February 2012 – January 2013 (SI Report)* was submitted to the WDNR to summarize investigation activities and results for the reporting period (ARCADIS, 2013b). On May 29, 2013, a *Supplemental Site Information/Addendum 1* was submitted to the WDNR to provide further information regarding the Site (SI Addendum 1) (ARCADIS, 2013c). The SI Report was reviewed by the WDNR and a response letter dated June 20, 2013 was prepared that requested a work plan to address "sampling for degree and extent of PCB [polychlorinated biphenyls] and VOC [volatile organic compounds] soil contamination beneath the MKC manufacturing buildings."
- On July 8, 2013, ARCADIS met with the WDNR to discuss the agency's June 20, 2013 response letter and requested a joint meeting with the WDNR and U.S. EPA to clarify the investigation expectations for beneath the manufacturing building.

- On July 23, 2013, ARCADIS met with the WDNR and U.S. EPA to discuss the investigation results completed to date, conduct a site walk, and discuss the objective of additional investigation activities.

This report presents a work plan for completing additional delineation of VOCs and PCBs beneath the manufacturing building as discussed during the July 23, 2013 meeting with the WDNR and U.S. EPA. The information provided herein is based on the requirements of NR 716 Wis. Admin. Code. An NR 712.09 submittal certification is included in Appendix A.

2. Project Background

2.1 Site Location, Contacts, and Description

The Site is located at 201 Waubesa Street in Madison, Wisconsin. The Site is located in the southwest quarter of Section 5, Township 7 North, Range 10 East in Dane County. The location of the site is illustrated on a topographic quadrangle presented as Figure 2-1.

The following contact information is provided for the facility and environmental consultant:

Facility Representative: Mark W. Meunier, SPHR
Madison-Kipp Corporation
201 Waubesa Street
Madison, Wisconsin 53704
608-244-3511 (telephone)
608-770-9401 (fax)
mmeunier@madison-kipp.com

Environmental Attorney: David A. Crass
Michael Best & Friedrich, LLP
One South Pinckney Street, Suite 700
Madison, Wisconsin 53703
608-283-2267 (telephone)
608-283-2275 (fax)
dacrass@michaelbest.com

Environmental Consultant: Jennine L. Trask, PE
ARCADIS US, Inc.
126 North Jefferson Street, Suite 400
Milwaukee, Wisconsin 53202
414-276-7742 (telephone)
414-277-6203 (fax)
jennine.trask@arcadis-us.com

The Site is approximately 7.5 acres in size. A 130,000-square foot building occupies much of the Site. Asphalt parking lots are located in the northeastern, southwestern and southeastern portions of the Site. The building has a 25,000-square foot second floor and a 25,000-square foot basement. Figure 2-2 depicts the layout of the Site. The Site is zoned M-1 (industrial/manufacturing). The Site is currently used as a metals casting facility.

The Site is located in the eastern portion of Madison, in a mixed use area of commercial, industrial and residential land use. The Site is bounded by a bicycle trail (Capital City Trail) to the north, Atwood Avenue to the south, and Waubesa Street to the west. Residences are located adjacent to the east and west sides of the Site, and further west (across Waubesa Street) and east (across Marquette Street). Commercial properties are located to the south (across Atwood Street) and further east. The Goodman Community Center is located to the north (across the Capital City Trail).

The Site is also located at the northeast end of the Madison isthmus, approximately 1,500 feet north of Lake Monona and approximately 6,800 feet east of Lake Mendota. The topography of the Site is relatively flat, with an elevation ranging from approximately 870 to 880 feet above mean sea level. The Site and surrounding area is serviced by municipal water supply and sewerage systems.

2.2 Surface Soil Geologic and Hydrogeologic Conditions

The geology under the building consisted of 6 to 8 inches of concrete overlaying 4 to 8 feet of dark yellowish brown (10YR 4/4 to 10YR 4/6) clay with little to some silt, trace fine sand or gravel. The clay is generally stiff with low to moderate plasticity. Underlying the clay is brownish yellow (10YR 6/6), very fine to fine sand with trace to little gravel. Sandstone bedrock was encountered at approximately 36 feet. Groundwater was encountered at approximately 29.5 feet.

3. Investigation Objectives

The WDNR requested a work plan to delineate PCBs and VOCs beneath the building in a letter dated June 20, 2013. On July 23, 2013, ARCADIS met with the WDNR and U.S. EPA to discuss the building subsurface soil investigation results to date, conduct a site walk, and discuss the objectives of additional investigation activities for beneath the building. The U.S. EPA requested a soil boring work plan be developed to understand the degree of PCB impacts beyond the limits of the current dataset and to delineate soil PCB impacts both laterally and vertically to 50 milligrams per kilogram (mg/kg). This work plan presents the means and methods for conducting investigation activities at the Site to further evaluate soil conditions for PCBs and VOCs.

4. Investigation Work Plan

The following sections present a description of the work to be completed during the investigation. The contents of this section were prepared in accordance with NR 716.09 Wis. Admin. Code.

4.1 Health and Safety

Utility marking arrangements will be made through Digger's Hotline (the State of Wisconsin Public Utility clearance service), a ground penetrating radar survey, a private utility locator, and/or discussions with property owners. Prior to beginning work each day, a "tailgate" health and safety briefing will be held to discuss the activities and identify ways to ensure the health and safety of Site workers. If conditions are encountered during Site investigation activities that differ from those outlined in the health and safety plan, the Site activities will be reevaluated to determine the appropriate actions that will ensure the health and well-being of the workers.

4.2 Direct-Push Soil Boring Sampling and Analysis Plan

A direct-push hand cart will be used to advance soil borings for collecting soil samples. Twenty-two soil borings will be advanced to the water table estimated at approximately 29 feet or refusal. The locations of these borings are depicted on Figure 4-1. Below is a summary of the proposed drilling and soil sampling activities.

4.2.1 Drilling and Soil Sampling

The direct-push soil borings will be advanced using a sampling hand cart equipped with a Geoprobe Large Bore Soil Sampler (or comparable equipment). Soil samples will be collected by driving a steel sampling rod (sampler) with acetate liners to the desired sampling depth using the hydraulic ram and hammer on the Geoprobe rig. Once the sampler reaches the desired depth, the sampler will be opened by removing a stop pin in the sampler. The sampler will be driven an additional 4 feet to push a soil sample into the sampler, preserving the sample in a 1-inch by 4-foot acetate liner inside the sampler. The acetate sleeves will allow continuous collection of soil samples from each boring.

Companion sampling will be completed by collecting two aliquots of soil from each sampling interval and placing each aliquot into a separate resealable plastic bag. One of the companion samples from each interval will be used for field screening for the presence of total ionizable VOC vapors with a calibrated photoionization detector (PID). The screening samples will be warmed and the headspace PID reading of the soil will be taken by inserting the probe end of the PID into the plastic bag through the seal. After field screening, the soil may be tested in the field for PCBs using Clor-N-Soil test kits made by Dexsil®. The Clor-N-Soil test kits are self-contained kits that allow field personnel to perform an in-field test to verify if PCB concentrations exceed 50 mg/kg. The Clor-N-Soil test method determines PCB content by chlorine associated with the PCB molecule. The amount of chlorine is directly proportional to the amount of PCB in a sample. The Clor-N-Soil test kits may only serve as a guide to assist with determining if PCB delineation may be met and is not in lieu of laboratory analytical data. The remainder of the screened samples will be discarded. The unscreened companion samples will be used for preparing samples for analytical testing.

An ARCADIS scientist will oversee the drilling activities and visually screen and describe the condition and engineering properties of the soil. Soil descriptions and field screening PID results will be recorded on Soil Boring Logs (WDNR Form 4400-122) in accordance with WDNR requirements.

Twenty-two soil borings will be advanced beneath the building. The locations of these borings are depicted on Figure 4-1. Soil samples will be collected and submitted to TestAmerica in University Park, Illinois for laboratory analysis of PCBs by Method 8082 and VOCs by Method 8260B. Sampling will be completed as follows:

- Six soil borings will be advanced adjacent to the locations of Soil Borings B-136, B-148, B-149, B-150, B-158, and B-160, where PCB concentrations were detected above 50 mg/kg. The soil borings will be advanced to delineate the soil PCB impacts in the unconsolidated soils. The soil borings will be advanced to the water table or where refusal is encountered. Two soil samples per soil boring will be collected from the soil borings including one from the 2-foot interval with the highest PID reading below the previously collected soil sample depth and one from the 2-foot interval located above the water table or where refusal is encountered. Up to two Clor-N-Soil test kits may be collected per soil boring to assist with determining which interval to submit for laboratory analysis.

- Sixteen soil borings will be advanced to determine PCB concentrations in surface soils (0 to 4 feet below land surface [bls]) and delineate the soil PCB impacts both laterally and vertically around Soil Borings B-136, B-148, B-149, B-150, B-158, and B-160. Three soil samples will be collected from the 16 proposed locations, based on staining, odors, and/or PID readings. Sampling will be completed as follows:
 - One soil sample will be collected from a 2-foot interval located from 0 to 4 feet bls.
 - One soil sample will be collected from the 2-foot interval located directly above the water table or where refusal is encountered.
 - One soil sample will be collected from a 2-foot interval located between 4 feet bls and the sample collected above the water table or where refusal is encountered.
 - Up to three Clor-N-Soil test kits may be collected per soil boring to assist with determining which interval to submit for laboratory analysis and if additional delineation soil borings may be necessary.

4.3 Surveying

A Wisconsin-licensed surveyor will locate the horizontal location of each boring to Wisconsin state plane coordinates and vertical elevation. Ground elevations will be surveyed to an accuracy of +/-1 foot.

4.4 Management of Investigative-Derived Wastes

Soil cuttings, used Clor-N-Soil test kits, and decontamination water from cleaning down-hole equipment generated during the investigation will be containerized in appropriate steel 55-gallon drums. Arrangements will be made with a licensed disposal facility for the transportation and disposal of the wastes.

4.5 Investigation Reporting

Following receipt of the soil analytical results, ARCADIS will prepare a letter report. The letter report will include a summary of the activities completed, summary of the field screening, Clor-N-Soil test kits, and analytical results, and provide



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Madison-Kipp Corporation
Madison, Wisconsin

recommendations. Copies of all boring logs, borehole abandonment forms, and analytical reports will be included as attachments to the summary letter.

5. References

ARCADIS. 2012a. Site Investigation Work Plan. May 2012.

ARCADIS. 2012b. Site Investigation Work Plan Addendum, Building Subsurface Investigation. September 2012.

ARCADIS. 2013a. Building Subsurface Investigation Summary. February 2013.

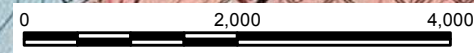
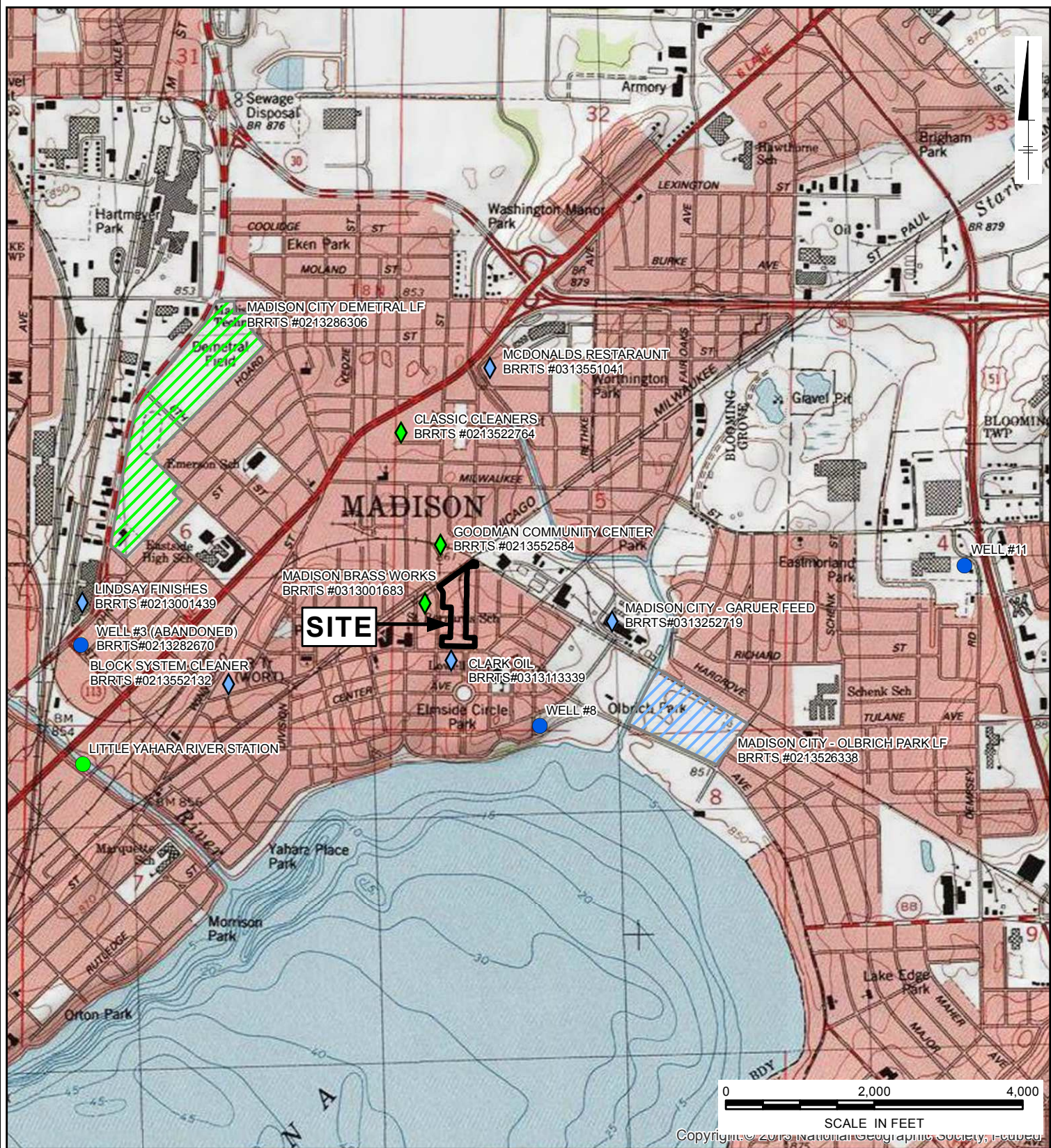
ARCADIS. 2013b. Site Investigation and Interim Actions Report February 2012-January 2013. March 2013.

ARCADIS. 2013c. Supplemental Site Information/Addendum 1. May 2013.

WDNR. 2012a. Conditional Approval: May 2012 Site Investigation Workplan. June 2012.

WDNR. 2012b. September 28, 2012 Site Investigation Work Plan Addendum: Building Subsurface Investigation. October 2012.

WDNR. 2013b. Review of March 2013 Madison Kipp Site Investigation and Interim Actions Report February 2012 – January 2013.



SCALE IN FEET
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LEGEND

- ◆ OPEN SITE (ONGOING CLEANUP)
- ▭ OPEN SITE - SITE BOUNDARIES
- ◆ CLOSED SITE (COMPLETED CLEANUP)
- ▭ CLOSED SITE - SITE BOUNDARIES
- GAUGING STATION
- MUNICIPAL WATER SUPPLY WELL
- ▭ PROJECT BOUNDARY



SITE LOCATION

MADISON-KIPP CORPORATION
201 WAUBESA STREET
MADISON, WISCONSIN
SUPPLEMENTAL BUILDING INTERIOR POLYCHLORINATED
BIPHENYL INVESTIGATION WORK PLAN




SITE LOCATION MAP

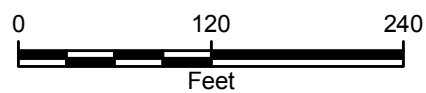


FIGURE
2-1



LEGEND

-  PARCELS
-  BUILDING FOOTPRINTS
-  SITE



MADISON-KIPP CORPORATION
 201 WAUBESA STREET
 MADISON, WISCONSIN
**SUPPLEMENTAL BUILDING INTERIOR POLYCHLORINATED
 BIPHENYL INVESTIGATION WORK PLAN**

SITE LAYOUT MAP

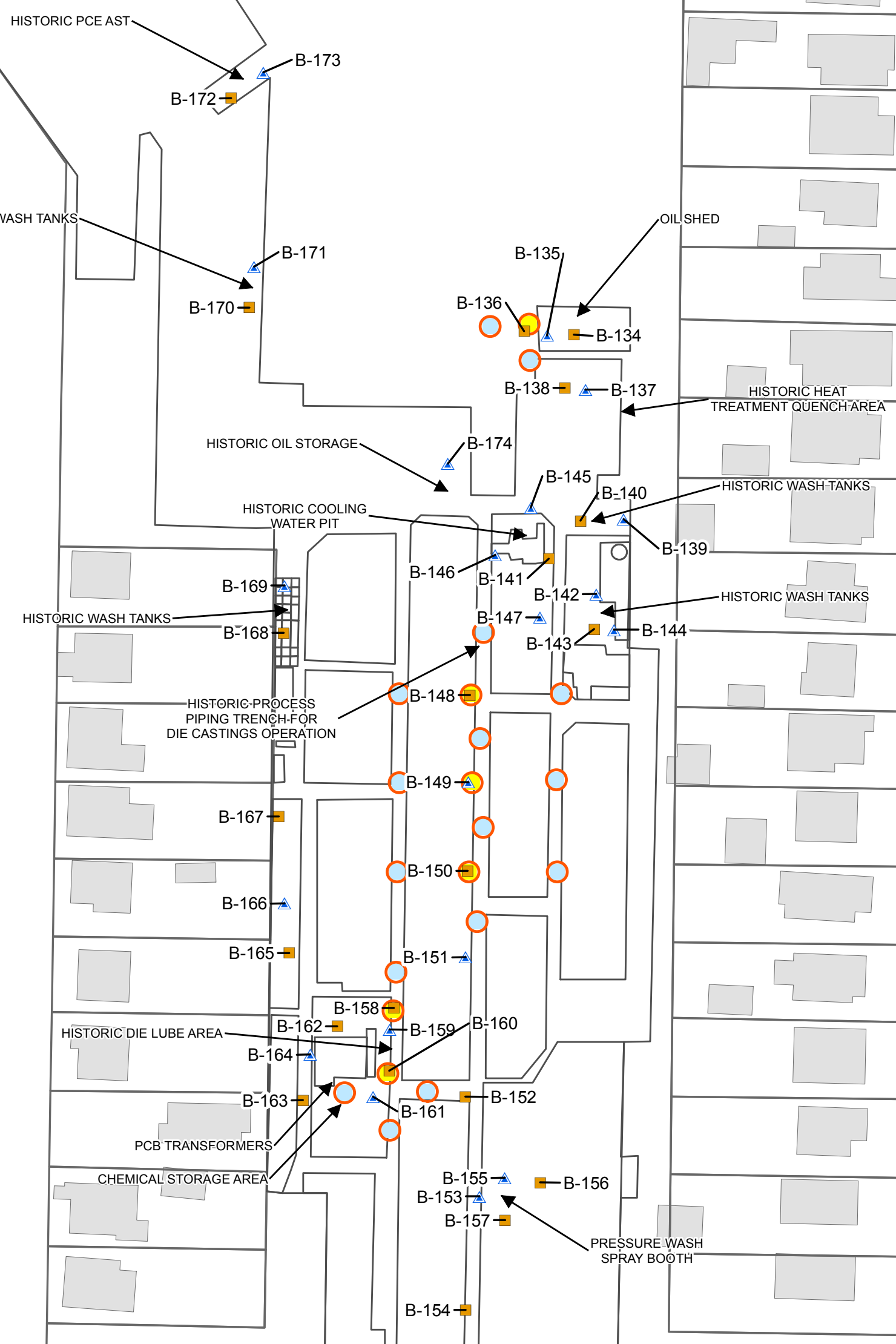


**FIGURE
 2-2**



Marquette St

Waubesa St



LEGEND

- PROPOSED VERTICAL DELINEATION SOIL BORING
 - PROPOSED LATERAL AND VERTICAL DELINEATION SOIL BORING
 - SHALLOW SOIL BORING
 - DEEP SOIL BORING
 - PARCELS
 - BUILDING FOOTPRINTS
- 0 60 120
Feet

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 201 WAUBESA STREET
 MADISON, WISCONSIN
**SUPPLEMENTAL BUILDING INTERIOR POLYCHLORINATED
 BIPHENYL INVESTIGATION WORK PLAN**

PROPOSED SOIL BORING LOCATIONS



FIGURE
4-1

CITY: MKE DIV/GROUP: IM_DB_GM_LD: CK MADISON-KIPP
I:\Madison_Kipp\Madison_Kipp\2013\Fig4-1_ProposedSBLocations.mxd

Appendix A

Submittal Certification

Submittal Certification

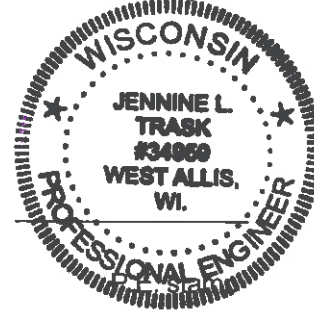
This attachment was prepared to satisfy the requirements of Wisconsin Administrative Code Chapter NR 712.09 and is applicable to the following document.

**Supplemental Building Interior Polychlorinated Biphenyl Investigation Work Plan
Madison-Kipp Corporation
201 Waubesa Street
Madison, Wisconsin**

I, Jennine Trask, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

Jennine Trask Project Manager #34959

Signature, title and P.E. number



I, Toni Schoen, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

Toni Schoen, hydrogeologist

Signature and title

8-1-13

Date