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Quality Assurance Project Plan - Building Interior Polychlorinated Biphenyl Wipe Sampling

Madison-Kipp Corporation
Madison, Wisconsin

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Quality Assurance Project Plan - Polychlorinated Biphenyl Building Wipe Sampling

Madison-Kipp Corporation
Madison, Wisconsin

Trenna Seilheimer
Project Scientist

Chris Kubacki, PE
Senior Engineer

Jennine Trask, PE
Project Manager

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

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1. General

1.1 Introduction and Background

On behalf of Madison-Kipp Corporation, ARCADIS has been retained to conduct interior building wipe sampling activities for polychlorinated biphenyls (PCBs) at its facility located at 201 Waubesa Street in Madison, Wisconsin (Site). This Quality Assurance Project Plan (QAPP) has been prepared at the request of the United States Environmental Protection Agency (U.S. EPA) and presents the plan for completing wipe sampling activities for PCBs in the manufacturing building as discussed during the August 27, 2014 and December 17 through 18, 2014 meetings with the Wisconsin Department of Natural Resources (WDNR) and U.S. EPA.

Below is a chronology of work plans, reports, meetings, and responses from the WDNR and U.S. EPA regarding the investigation and remediation of PCBs.

- 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.

- On August 1, 2013, a *Supplemental Work Plan for Polychlorinated Biphenyl Building Subsurface Investigation* (Work Plan) was submitted to the WDNR (ARCADIS, 2013d). The Work Plan was approved by WDNR in the *Madison Kipp Corporation (MKC) Work Plan Reviews* letter dated October 9, 2013 (WDNR, 2013b).

- On April 22, 2014, a *Supplemental Building Interior Polychlorinated Biphenyl Work Plan Subsurface Investigation Summary* (SI Report) was submitted to the WDNR to provide details of the investigation completed from December 2013 through February 2014 (ARCADIS, 2014).

- On August 27, 2014, ARCADIS met with the WDNR and U.S. EPA to discuss the next steps for addressing the soils containing PCBs beneath the building. At this meeting U.S. EPA requested the completion of indoor air and surface wipe sampling activities, a technical justification submittal for management of PCB contaminated soils beneath the building, and additional soil investigation activities for beneath the building.

- On November 4, 2014, a *Work Plan for Polychlorinated Biphenyl Building Wipe Sampling* (Wipe Sampling Work Plan) was submitted to the WDNR and U.S. EPA for approval. The WDNR approved the Wipe Sampling Work Plan in electronic correspondence dated December 8, 2014.

- On December 17, 2014, MKC met with the WDNR and U.S. EPA (via telephone) to discuss, in part, the Wipe Sampling Work Plan. At this meeting, U.S. EPA

verbally approved the scope of the Wipe Sampling Work Plan; however, requested preparation and submittal of a QAPP prior to granting formal approval of the plan. On December 18, 2014, ARCADIS, WDNR, and U.S. EPA participated in a conference call to discuss the proposed QAPP requirements.

This QAPP has been prepared at the request of the U.S. EPA., and has been divided into five sections per the direction of U.S. EPA during the December 18, 2014 conference call:

1. General
2. Objective
3. Schedule
4. Sampling Plan
5. Reporting

1.2 Site Location 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 1-1.

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 1-2 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 (ft) north of Lake Monona and approximately 6,800 ft east of Lake Mendota. The topography of the Site is relatively flat, with an elevation ranging from approximately 870 to 880 ft above mean sea level. The Site and surrounding area is serviced by municipal water supply and sewerage systems.

1.3 Project Contacts

The following project contact information is provided for this QAPP:

Facility Representative:	Alina Satkoski Madison-Kipp Corporation 201 Waubesa Street Madison, Wisconsin 53704 608-242-5200 (telephone) asatkoski@madison-kipp.com
WDNR Project Manager:	Michael Schmoller Wisconsin Department of Natural Resources South Central Region 3911 Fish Hatchery Rd Fitchburg WI 53711 608-275-3303 (telephone) Michael.Schmoller@wisconsin.gov
U.S. EPA Representative:	Kenneth Zolnierczyk United States Environmental Protection Agency Region 5 77 West Jackson Boulevard Chicago, Illinois 60604 312-353-9687 (telephone) Zolnierczyk.Kenneth@epamail.epa.gov

Environmental Attorney:	David A. Crass Michael Best & Friedrich, LLP One South Pinckney Street, Suite 700 Madison, Wisconsin 53703 608-283-2267 (telephone) 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) jennine.trask@arcadis-us.com
Laboratory Manager:	Nick Nigro Environmental Chemistry Consulting Services 2525 Advance Road Madison, Wisconsin 53718 608-221-8700 (telephone) nkn@eccsmobilelab.com Wisconsin certified laboratory

2. Objective

This QAPP presents the means and methods for conducting wipe sampling activities at the Site to evaluate whether potential residuals from historic activities at this facility in the form of dust, on “high-contact” or horizontal work surfaces and “low-contact” or remote seldom touched work surfaces, could pose a risk to current workers through one of the following pathways: inhalation of or dermal contact with dust or atmospheric transport from potential residuals that may from time to time be exposed by Site activities.

Results of the wipe sampling activities will be evaluated per the requirements of the U.S. EPA’s *Wipe Sampling and Double Wash/Rinse Cleanup as recommended by the Environmental Protection Agency PCB Spill Cleanup Policy* dated June 23, 1987, revised and clarified April 18, 1991.

3. Schedule

Following approval of this QAPP by U.S. EPA and WDNR, it is planned that the wipe sampling activities will be initiated within three weeks. The wipe sampling activities will be performed over the course of approximately two days, following which samples will be submitted for laboratory analysis. Laboratory analytical results are expected two weeks following sample submittal. Results will be evaluated and reported to the WDNR and U.S. EPA as presented in Section 5.0 Reporting.

- QAPP Approval
- Wipe Sampling Planning & Coordination – 3 weeks
- Wipe Sampling Activities – 2 to 3 days
- Sample Shipment – 1 day
- Laboratory Analysis – 2 weeks
- Evaluation & Reporting – 4 weeks.

4. Sampling 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

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 revaluated to determine the appropriate actions that will ensure the health and well-being of the workers.

4.2 Wipe Sampling and Analysis Plan

A standard wipe test is conducted on a non-porous surface (e.g., unpainted metal surface) and uses a 10 by 10 centimeter template which outlines the sampling area[1]. Per the request of U.S. EPA, walls, floors, and columns, some of which may be porous surfaces, will be sampled. It is recommended by U.S. EPA that the wipe medium (e.g., gauze pad or glass wool) be of a known size, prepared with hexane in the laboratory, and sealed in a glass vial until it is used for the wipe test[2].

A 100- by 100-ft grid pattern will be used for the manufacturing footprint of the building, to identify wall, floor, and column wipe sampling activities. Samples (wall, floor, and column) will be collected from each 100- by 100-ft grid with actual sample locations being determined in the field based on visual observations. Wall and column samples will be taken from a breathing/working-zone height. In addition, wipe samples will be collected from a breathing/working-zone height on the surfaces of machines within the

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[1] How to Test for PCBs and Characterize Suspect Materials; http://www.epa.gov/pcbsincaulk/guide/guide-sect3.htm

[2] Title 40: Protection of Environment, PART 761-Polychlorinated Biphenyls Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions, Subpart G-PCB Spill Cleanup Policy, 40 CFR 761.123; http://www.ecfr.gov/cgi-bin/text-idx?SID=2df8d68ef63d748da0318d2bd636ee18&node=se40.31.761_1123&rgn=div8

manufacturing building with an installation date prior to 1980 (Machine Number 1, 2, 3, and 21 – Figure 4-1).

Forty wipe samples will be collected from various surfaces in the building. The proposed approximate locations of these wipe samples are depicted on Figure 4-1; however, these are subject to change based on visual observations. Wipe samples will be collected and submitted to Environmental Chemistry Consulting Services (a state of Wisconsin certified laboratory) for laboratory analysis of PCBs by Method 8082/8082A (seven Aroclor analysis). Sampling will be completed as follows:

- Collect two wipe samples (horizontal surface and vertical surface) from a breathing/working-zone height of each of the four machines listed above, for a total of eight machine wipe samples.

- Collect one wall, one floor, and one column wipe sample from a breathing/working-zone height from each 100- by 100-ft grid, for a total of 10 wall wipe samples, 10 floor wipe samples, and 10 column wipe samples.

- Collect two duplicate wipe samples which will consist of a "double-wipe" of the investigative location. A separate wipe medium will be used for the duplicate sample. The duplicate sample should be clearly labeled as the "double-wipe" for the investigative location[3].

- The sample area will be wiped in a serpentine pattern both horizontally and vertically[4]. The goal for this type of pattern is to thoroughly wipe the entire sample area twice in a different direction and orientation[3].

- All wipe samples will be analyzed immediately upon submittal to the laboratory and produce results in units of micrograms per centimeters squared.

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[3] June 1987 "Wipe Sampling and Double Wash/Rinse Cleanup as recommended by the Environmental Protection Agency PCB Spill Cleanup Policy";
http://www.epa.gov/epawaste/hazard/tsd/pcbs/pubs/wipe-samp.pdf

[4] EPA/600/R-12/051 September 2012 "Polychlorinated Biphenyls (PCBs) in School Buildings: Sources, Environmental Levels, and Exposures";
http://www.epa.gov/pcbsincaulk/pdf/pcb_EPA600R12051_final.pdf

- The sampling supplies provided by the laboratory include a prepared sterile gauze pad with hexane solution and sample jar. The sampler uses the prepared gauze pad and wipes the sample area as described above. The gauze pad is then folded and placed in the sample jar for transport to the laboratory. Although standard methods are not available for wipe sampling, Standard Operating Practices will be based on the relevant U.S. EPA and Occupational Safety & Health Administration documents[5] and/or laboratory-provided sample collection guidance.

4.3 Management of Investigative-Derived Wastes

Investigative-derived wastes are not expected to be generated during the investigation activities.

[5] EPA/600/R-07/004 January 2007 "A Literature Review of Wipe Sampling Methods for Chemical Warfare Agents and Toxic Industrial Chemicals and OSHA Evaluation Guidelines for Surface Sampling Methods";
http://www.osha.gov/dts/sltc/methods/surfacesampling/surfacesampling.html

5. Reporting

Following receipt of the wipe sample analytical results, ARCADIS will prepare a letter report. The letter report will include a summary of the activities completed and the analytical results, and provide recommendations. A copy of the laboratory analytical report will be included as an attachment to the summary letter.

6. 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.

ARCADIS. 2013d. Supplemental Work Plan for Polychlorinated Biphenyl Building Subsurface Investigation. August 2013.

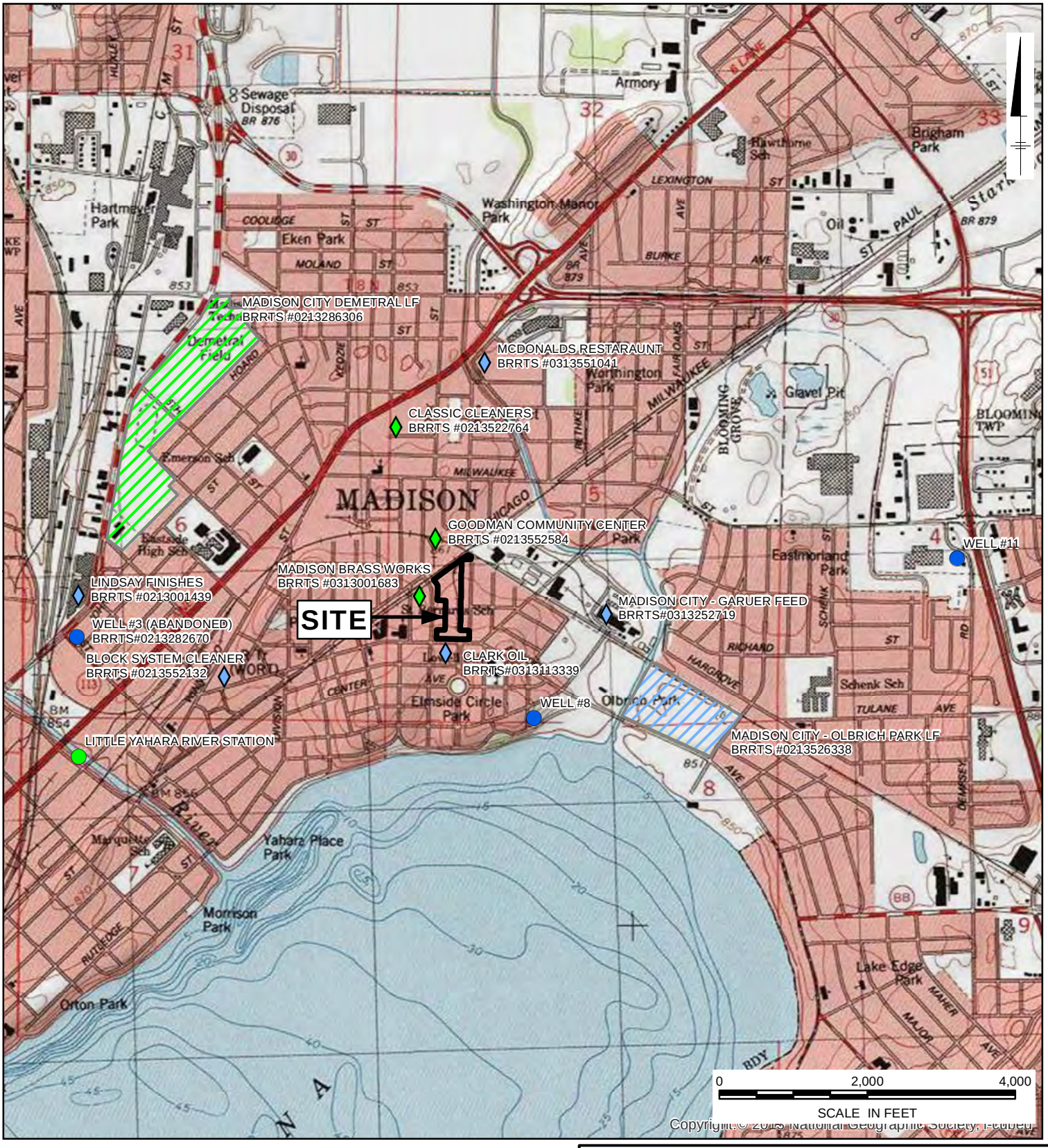
ARCADIS. 2014. Supplemental Building Interior Polychlorinated Biphenyl Work Plan Subsurface Investigation Summary. April 2014.

WDNR. 2012a. Conditional Approval: May 2012 Site Investigation Work Plan. June 2012.

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

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

WDNR. 2013b. Madison Kipp Corporation (MKC) Work Plan Reviews. October 2013.



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

MADISON-KIPP CORPORATION
201 WAUBESA STREET
MADISON, WISCONSIN

QUALITY ASSURANCE PROJECT PLAN

SITE LOCATION MAP

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FIGURE
1-1

CITY: MPLS DIV/GROUP: IM DB: MG LD: CK MADISON-KIPP
Z:\GISPROJECTS_ENV\MadisonKipp\ArcMap\2015-01\Fig1_1_Site_Location_Map_QAPP.mxd

Wirth Ct
Marquette St
Dixon St
Saint Paul Ave
Railroad
Waubesa St
Bike Path
La Follette Ave
Saint Paul Ave
Corry St
Waubesa St
Marquette St
Dixon St
Fairview St
Fair Oaks Ave
Atwood Ave

102
106
110
114
118
126
128
130
134
138
142
146
150
154
162
166
202
206
210
214
218
222
226
230

109
113
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145
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151
2902
174

201
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221
225

230
234
238
242
246
250
254
256
262
266
270
274

233
237
241
245
249
253
257
261
265
269

LEGEND

PARCELS

BUILDING FOOTPRINTS

SITE

0 120 240

Feet

MADISON-KIPP CORPORATION
201 WAUBESA STREET
MADISON, WISCONSIN

QUALITY ASSURANCE PROJECT PLAN

SITE LAYOUT MAP

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FIGURE 1-2

CITY: MPLS DIV/GROUP: IM DB: MG LD: CK MADISON-KIPP
Z:\GISPROJECTS_ENV\MadisonKipp\ArcMap\2015-01\Fig1-2_SITE_LAYOUT_QAPP.mxd

Waubesa St

Bike Path

Marquette St

Waubesa St

Fairview St

Marquette St

0 80 160

Feet

Atwood Ave

LEGEND

MACHINE WIPE SAMPLE
(LOCATION OF HORIZONTAL SURFACE SAMPLE AND VERTICAL SURFACE SAMPLE)

GRID WIPE SAMPLE
(LOCATION OF WALL, COLUMN, AND FLOOR SAMPLE)

PLANT LAYOUT

BUILDING FOOTPRINTS

PARCELS

100' GRID

ACTUAL LOCATIONS OF WIPE SAMPLES WILL BE DETERMINED IN THE FIELD BASED ON VISUAL OBSERVATIONS

MADISON-KIPP CORPORATION
201 WAUBESA STREET
MADISON, WISCONSIN

QUALITY ASSURANCE PROJECT PLAN

PROPOSED WIPE SAMPLING LOCATIONS

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FIGURE 4-1

CITY: MKE DIV/GROUP: IM DB: GM LD: CK MADISON-KIPP
Z:\GISPROJECTS_ENV\MadisonKipp\ArcMap\2015-01\Proposed_Wipe_Samples_20150129.mxd