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Madison Kipp Corporation

DRAFT Work Plan - Building Interior Polychlorinated Biphenyl Supplemental Sampling

Madison-Kipp Corporation
Madison, Wisconsin

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DRAFT Work Plan - Polychlorinated Biphenyl Building Supplemental Sampling

Madison-Kipp Corporation
Madison, Wisconsin

Trenna J. Seilheimer
Project Scientist

Christopher D. Kubacki, PE
Senior Engineer

Jennine L. 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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Figures

Appendix

1. General

1.1 Introduction and Background

On behalf of Madison-Kipp Corporation (MKC), ARCADIS has been retained to conduct additional interior building wipe and indoor air sampling activities for polychlorinated biphenyls (PCBs) at its facility located at 201 Waubesa Street in Madison, Wisconsin (Site). This Work Plan has been prepared and presents the plan for completing wipe and indoor air sampling activities for PCBs in the manufacturing building as discussed during the April 23, 2015, meeting with the Wisconsin Department of Natural Resources (WDNR) and United Stated Environmental Protection Agency (U.S. EPA). In addition, this Work Plan presents the additional activities coordinated by MKC for employee awareness training and floor cleaning activities.

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, 2014a).

- 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 October 22, 2014, a *Technical Justification – Polychlorinated Biphenyl (PCB)-Impacted Soils Beneath the Main Manufacturing Building* (Technical Justification) was submitted to the WDNR (ARCADIS, 2014b). The Technical Justification included the *Supplemental Work Plan for Polychlorinated Biphenyl Building Subsurface Investigation* (Subsurface Work Plan) as an attachment.

- 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 (ARCADIS, 2014c). 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 the Technical Justification and Wipe Sampling Work Plan submittals. During this meeting, U.S. EPA requested continuous soil sampling during the additional soil investigation, PCB homolog analysis for select soil sample locations, and installation and sampling of one monitoring well within the building as part of the Subsurface Work Plan. In addition, U.S. EPA requested preparation and submittal of a Quality Assurance Project Plan (QAPP) for the Wipe Sampling Work Plan. On December 18, 2014, ARCADIS, WDNR, and U.S. EPA participated in a conference call to discuss the proposed QAPP requirements.

- Based on the December 17 and 18, 2014, communications, the Subsurface Work Plan was revised and submitted to the WDNR and U.S. EPA on January 22, 2015, and the *Quality Assurance Project Plan Building Interior Polychlorinated Biphenyl Wipe Sampling* (Wipe Sampling QAPP) was submitted to the WDNR and U.S. EPA on February 19, 2015 (ARCADIS, 2015a). The Subsurface Work Plan was approved by WDNR in electronic correspondence dated January 23, 2015. The Wipe Sampling QAPP was approved by U.S. EPA in electronic correspondence dated February 25, 2015.

- On April 21, 2015, a *Building Interior Polychlorinated Biphenyl Investigation Summary* (Summary Report) was submitted to the WDNR to provide details of the investigations completed in March and April 2015 (ARCADIS, 2015b).

- On April 23, 2015, MKC and ARCADIS met with the WDNR at the MKC facility and U.S. EPA (via telephone) to discuss the Summary Report. During this meeting, U.S. EPA recommended additional wipe and indoor air sampling activities.

This Work Plan has been prepared and divided into the following seven sections:

1. General

2. Objective

3. Schedule

4. PCB Awareness Program

5. Floor Cleaning Activities

6. Sampling Plan

7. 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. In addition, a 6,000-square foot building is currently being constructed on a portion of the northeast parking lot. 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

Laboratory Manager: Chelsea Farmer
Pace Analytical Services, Inc.
2190 Technology Drive
Schenectady, New York 12308
518-346-4592 (telephone)
chelsea.farmer@pacelabs.com

2. Objective

This Work Plan presents the means and methods for conducting additional interior building wipe and indoor air sampling activities at the Site as requested by U.S. EPA to evaluate whether potential residuals from historic activities at this facility could pose a risk to current workers through one of the following pathways: inhalation of or dermal contact from potential residuals that may from time to time be exposed by Site activities. Potential residuals will be measured by laboratory analysis of PCBs by Method 8082/8082A (seven Aroclor analyses: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260) for wipe samples, and Method TO-10A (seven Aroclor analyses: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260) for indoor air samples. As requested, the interior wipe samples will be collected within established grids as presented herein and two indoor air sampling events will be completed (summer/winter).

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. Environmental Chemistry Consulting Services (ECCS) detection limits for wipe sample laboratory analysis of PCBs by Method 8082/8082A are 0.5 micrograms per wipe (100 square centimeters [cm^2]) for Aroclors 1016, 1232, 1242, 1248, 1254, 1260, and total PCBs and 1 microgram per wipe (100 cm^2) for Aroclor 1221. Laboratory analytical results will be compared to the 10 micrograms per 100 cm^2 cleanup level in accordance with 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. If analytical results of the wipe samples are above the cleanup level, a plan will be developed to confirm the analytical results, delineate the extent of exceedances, and/or remediate, if necessary. If analytical results are below the cleanup level, then no further actions are required.

Results of the indoor air sampling activities will be evaluated per the National Institute of Occupational Safety and Health (NIOSH) Recommended Exposure Limit (REL) for PCBs. Pace Analytical Service, Inc. (Pace) reporting limits for indoor air sample laboratory analysis of PCBs by EPA Method TO-10A are 0.1 micrograms per polyurethane foam (PUF) for Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260 and total PCBs. Laboratory analytical results will be compared to the 1 microgram per

cubic meter ($\mu g/m^3$) cleanup level for total PCBs in accordance with the NIOSH REL. If analytical results of the wipe samples are above the NIOSH REL, a plan will be developed to confirm the analytical results, delineate the extent of exceedances, and/or remediate, if necessary. If analytical results are below the NIOSH REL, then no further actions are required.

3. 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.

3.1 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.

3.2 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, additional floor samples, some of which may be porous surfaces, will be collected. 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 80/20 iso-octane/acetone solution, and sealed in a glass vial until it is used for the wipe test[2]. The Environmental Chemistry Consulting Services *PCB and Pesticide Wipe Analysis Supplemental Sample Collection Guidance* is attached for reference as Appendix A.

Per the request of U.S. EPA, the additional floor wipe sampling activities will use a 33- by 33-ft grid pattern which will be within the original 100- by 100-ft grid pattern used during the March 2015 sampling activities. Floor samples will be collected from each 33- by 33-ft grid with the exception of where floor samples have already been collected

[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

during previous sampling activities (i.e.; Grids 1e, 2a, 2e, 3a, 4d, 5f, 6a, 7c, 8d, 9c, and 10e). In addition, floor sample collection will be limited to the manufacturing portion of the building and will not be conducted within the delineated double wash/double rinse/double paint floor area as shown on Figure 3-1.

Sixty-seven wipe samples will be collected from the floor surface in the building. The proposed approximate locations of these wipe samples are depicted on Figure 3-1; however, these are subject to change based on visual observations. Wipe samples will be collected by ARCADIS field staff and submitted to ECCS (a state of Wisconsin certified laboratory) for laboratory analysis of PCBs by Method 8082/8082A (seven Aroclor analyses: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260). Sampling will be completed as follows:

- Collect one floor wipe sample from each 33- by 33-ft grid, within the original grid layout of Grids 2, 4, and 6-10, with the exception of where floor samples have already been collected during previous sampling activities, for a total of 55 floor wipe samples.

- Collect one floor wipe sample from each 33- by 33-ft grid, within the original grid layout of Grids 1, 3, and 5, with the exception of the delineated double wash/double rinse/double paint floor area, for a total of 9 floor wipe samples.

- Collect three 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 will be collected in the same manner as the original wipe sample and will be clearly labeled as the “double-wipe” for the investigative location[3]. The location of the duplicate samples will not be labeled on the chain of custody for the laboratory, but will be identified in the letter report.

[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

- 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.

- The sampling supplies provided by the laboratory include a prepared sterile gauze pad with 80/20 iso-octane/acetone 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 the laboratory-provided sample collection guidance in Appendix A.

3.3 Indoor Air Sampling and Analysis Plan

Per the request of U.S. EPA, additional indoor air sampling activities will be conducted within the manufacturing building. Three indoor air samples will be collected during each of the two additional sampling events. The first sampling event will be conducted when outside temperatures are greater than 85 degrees Fahrenheit. The second sampling event will be conducted when outside temperatures are less than 10 degrees Fahrenheit. The samples will be collected from the same three locations identified during the April 2015 sampling activities and are shown on Figure 3-1.

Indoor air samples will be collected by ARCADIS field staff and packaged, put on ice, and submitted to Pace for laboratory analysis of PCBs by EPA Method TO-10A (seven

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[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

[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

Aroclor analyses: Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260). Sampling will be completed as follows:

- Collect indoor air samples via low-volume air sampler and polyurethane foam (PUF) sorbent cartridge.
- Collect indoor air samples over 8 hours during the first shift of the workday, estimated to be from 0800 to 1600 hours.
- Standard Operating Practices will be based on the U.S. EPA Compendium Method TO-10A Determination of Pesticides and Polychlorinated Biphenyls in Ambient Air using Low Volume Polyurethane Foam (PUF) Sampling Followed by Gas Chromatographic/Multi-Detector Detection (GC/MD)[6] and the laboratory-provided standard operating procedure in Appendix B.

3.4 Management of Investigative-Derived Wastes

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

[6] EPA/625/R-96/010b January 1999 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition, Compendium Method TO-10A Determination of Pesticides and Polychlorinated Biphenyls in Ambient Air using Low Volume Polyerethane Foam (PUF) Sampling Followed by Gas Chromatographic/Multi-Detector Detection (GC/MD)"; http://www.epa.gov/ttnamti1/files/ambient/airtox/to-10ar.pdf

4. PCB Awareness Program

A PCB awareness program is currently being implemented for MKC employees and contractors by MKC. The training session includes an overview of PCBs, the regulatory considerations surrounding their use, and the nature and extent of PCB concentrations detected at the Site. The training session will also cover the personal protective equipment and waste management standard operating procedures for MKC. Training sessions will be held for new employees and annual refresher training will be provided.

PCB markers will also be installed to inform personnel that there are PCBs present that require special handling and disposal in accordance with 40 CFR 761. MKC personnel will inspect the PCB markers on a monthly basis to verify markers are intact, in good condition, and that information is visible.

5. Floor Cleaning Activities

Routine interior floor cleaning activities are currently being implemented by MKC. The floor cleaning will be conducted by 40 hour HAZWOPER trained personnel with dedicated floor scrubbers and accessories. All waste streams generated from the floor cleaning activities will be disposed of with a licensed disposal facility.

MKC will also be conducting the double wash/double rinse/double paint of select floor areas within Grids 1, 3, and 5, as shown on Figure 3-1, and in accordance with 40 CFR 761.30(p) for continued use of the area.

6. Schedule

Following approval of this Work Plan by U.S. EPA and WDNR, it is planned that the activities will be initiated in stages over the coming months. The PCB awareness program and floor cleaning activities (including double wash/double rinse/double paint of select floor areas) are currently being implemented at the MKC facility. 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. The indoor air sampling activities will be performed over the course of one day for each event in the summer and winter months, 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 7.0 Reporting.

7. Reporting

Following receipt of the wipe and indoor air sample analytical results (summer event), ARCADIS will prepare a letter report. The letter report will include a summary of the activities completed and the analytical results, and provide recommendations. Copies of the laboratory analytical reports will be included as attachments to the summary letter. The indoor air sample analytical results for the winter event will be provided upon receipt.

8. 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. 2014a. Supplemental Building Interior Polychlorinated Biphenyl Work Plan Subsurface Investigation Summary. April 2014.

ARCADIS. 2014b. Technical Justification – Polychlorinated Biphenyl (PCB)-Impacted Soils Beneath the Main Manufacturing Building. October 2014.

ARCADIS. 2014c. Work Plan for Polychlorinated Biphenyl Building Wipe Sampling. November 2014.

ARCADIS. 2015a. Quality Assurance Project Plan Building Interior Polychlorinated Biphenyl Wipe Sampling. February 2015.

ARCADIS. 2015b. Building Interior Polychlorinated Biphenyl Investigation Summary. April 2015.

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.

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Figures

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Appendix A

Environmental Chemistry Consulting Services PCB and Pesticide Wipe Analysis Supplemental Sample Collection Guidance

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Appendix B

Pace Analytical Services, Inc. Standard Operating Procedures (S-NY-O-241-rev.05 and S-NY-O-341-rev.02)