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126 North Jefferson Street
Suite 400
Milwaukee
Wisconsin 53202
Tel 414 276 7742
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www.arcadis-us.com

ENVIRONMENT

Michael Schmoller
Wisconsin Department of Natural Resources
South Central Region
3911 Fish Hatchery Road
Fitchburg, WI 53711

Subject:
Rain Garden Investigation and Remedial Strategy,
Madison-Kipp Corporation, 201 Waubesa Street, Madison, Wisconsin.
Facility ID No. 113125320, BRRTS No. 02-13-001569

Date:
August 1, 2013

Contact:
Jennine Trask

Phone:
414.276.7603

Email:
Jennine.trask@arcadis-us.com

Our ref:
WI001283.0006

Dear Mr. Schmoller:

On behalf of the Madison-Kipp Corporation, a *Site Investigation and Interim Actions Report, February 2012 – January 2013* (SI Report) was submitted to the Wisconsin Department of Natural Resources (WDNR) on March 15, 2013, for the facility located at 201 Waubesa Street (Site) (ARCADIS, 2013). The WDNR prepared a response letter to the SI Report dated June 20, 2013 (WDNR, 2013). On July 8, ARCADIS met with you to discuss the response letter and clarify the expected deliverable related to the rain garden. As requested by you at the July 8 meeting, this letter has been prepared in lieu of an investigatory work plan and provides a summary of rain garden location and description, soil investigation activities and soil analytical results from the rain garden, as well as the recommended approach to address residual soil impacts.

Rain Garden Location and Description

The city of Madison constructed a “rain garden” in 2006 on city property near the northeast corner of the Site (Figure 1). The parcel is currently zoned by the city of Madison as limited manufacturing. The rain garden was a demonstration project completed by the city of Madison to illustrate how runoff of precipitation in an urban setting can be reduced through the use of vegetated areas. The rain garden captures precipitation runoff from the adjoining bike path and from the Site’s north parking lot. A topographic survey of the rain garden was completed on May 6, 2013, by North Shore Engineering located in Mequon, Wisconsin. The rain garden is approximately 2 feet deep based on the topographic contours presented on Figure 1.

In 2005, CGC, Inc. of Madison, Wisconsin was contracted by the city of Madison to complete a geotechnical exploration program in preparation for the “Kipp Rain Garden” (CGC, 2005). The geotechnical exploration program included the advancement of three direct push soil borings (B-1 through B-3) to 12 feet below land

surface (bls) at the location of the proposed rain garden and an estimate of infiltration potentials. Clayey soils were observed in the soil borings with estimated infiltration potentials ranging from 0.24 to 0.5 inches per hour. Groundwater was encountered between 9 to 10 feet bls. According to the Geotechnical Exploration Report prepared by CGC, the area at the time of the investigation was a grassy ditch or drainage way with a few small trees. Construction of the rain garden was to include the excavation of approximately 2 to 4 feet of the existing soils and backfilling with soil consisting of sand, topsoil, and compost. A copy of the CGC report is presented in Appendix A.

The city of Madison did not prepare a construction report to document the final construction of the rain garden.

Soil Investigation

On June 1, 2013, ARCADIS advanced one hand auger soil boring (B-23) to 4 feet bls through the base of the rain garden (Figure 2). The soil was described as clay with little silt and sand. Soil samples were collected and submitted for laboratory analyses, including volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), Resource Conservation Recovery Act metals, and total cyanide from samples collected 0 to 1 and 2 to 4 feet bls. Soil analytical results are summarized in Table 1 and presented on Figure 2. Below is a brief summary of the soil analytical results.

- VOC concentrations were reported below laboratory detection limits.

- PCB concentrations were reported above the industrial residual contaminant level (RCL) of 0.744 milligrams per kilogram (mg/kg) from 0 to 1 foot bls (0.82 mg/kg) and from 2 to 4 feet bls (2.5 mg/kg) for Aroclor 1248. Total detected PCBs were reported above the U.S. Environmental Protection Agency high occupancy cleanup level of 1 mg/kg from 2 to 4 feet.

- PAH concentrations were reported below the industrial RCLs.

- Arsenic concentrations were reported above the industrial RCL of 1.59 mg/kg from 0 to 1 foot bls (3.8 mg/kg) and from 2 to 4 feet bls (8.7 mg/kg). However, as presented in the SI Report, arsenic concentrations were found widespread on and off Site within a narrow range of concentrations. The presence of arsenic in the rain garden appears to represent naturally occurring background conditions.

- Total cyanide concentrations were reported below the industrial RCL.

Recommendations

As discussed with you during the July 8 meeting, the residual PCB-impacted soil in the rain garden will be managed in accordance with an approved Materials Handling Plan, and placed on the WDNR's Soil Geographic Information System Registry. A copy of the Materials Handling Plan is presented in Appendix B for review. A copy of the Materials Handling Plan will be provided to the city of Madison following review by the WDNR.

References

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

CGC, Inc. November 2005. Geotechnical Exploration Report.

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

ARCADIS U.S., Inc.

Toni L. Schoen

Toni Schoen
Senior Scientist

Jennine Trask, PE
Project Manager

Copies:
David Crass - Michael, Best, & Friedrich LLP
Mark Meunier - Madison-Kipp Corporation
Robert J. Nauta - RJN Environmental Services LLC (electronic)
Steve Tinker - Wisconsin Department of Justice (electronic)

Table 1. Rain Garden Soil Analytical Results, Madison-Kipp Corporation, 201 Waubesa Street, Madison, Wisconsin.

Boring ID	Soil to	Non-Industrial	Industrial	EPA High	TSCA	B-23	
Sample Interval (feet bls)	Groundwater	Direct Contact	Direct Contact	Occupancy	Disposal	0-1	2-4
Sample Date	Pathway RCL	RCL	RCL	Cleanup Level	Limit	6/21/2012	6/21/2012
VOCs (mg/kg)							
1,1-Dichloroethene	0.00502	342	1,190	NE	NE	<0.023	<0.02
1,2,3-Trichlorobenzene	NE	48.9	151	NE	NE	<0.026 *	<0.023 *
1,2,4-Trichlorobenzene	0.408	22.1	98.7	NE	NE	<0.028 *	<0.025
1,2,4-Trimethylbenzene	NE	89.8	219	NE	NE	<0.016	<0.014
1,2-Dichlorobenzene	1.168	376	376	NE	NE	<0.015	<0.013
1,3,5-Trimethylbenzene	NE	182	182	NE	NE	<0.016	<0.014
Benzene	0.00512	1.49	7.41	NE	NE	<0.0056	<0.0049
Carbon tetrachloride	0.00388	0.854	4.25	NE	NE	<0.019	<0.017
cis-1,2-Dichloroethene	0.0412	156	2,040	NE	NE	<0.0093	<0.0081
Ethylbenzene	1.57	7.47	37	NE	NE	<0.0095	<0.0083
Isopropylbenzene	NE	268	268	NE	NE	<0.019	<0.016
Naphthalene	0.6587	5.15	26	NE	NE	<0.037	<0.032 *
n-Butylbenzene	NE	108	108	NE	NE	<0.0097	<0.0085
N-Propylbenzene	NE	264	264	NE	NE	<0.013	<0.011
p-Isopropyltoluene	NE	162	162	NE	NE	<0.014	<0.012
sec-Butylbenzene	NE	145	145	NE	NE	<0.012	<0.01
tert-Butylbenzene	NE	183	183	NE	NE	<0.01	<0.0089
Tetrachloroethene	0.00454	30.7	153	NE	NE	<0.013	<0.011
Toluene	1.1072	818	818	NE	NE	<0.0087	<0.0076
trans-1,2-Dichloroethene	0.0588	211	976	NE	NE	<0.019	<0.016
Trichloroethene	0.00358	0.644	8.81	NE	NE	<0.014	<0.012
Vinyl chloride	0.000138	0.0671	2.03	NE	NE	<0.0078	<0.0068
Xylenes, Total	3.94	258	258	NE	NE	<0.0052	<0.0045
PAHs (mg/kg)							
1-Methylnaphthalene	NE	NE	NE	NE	NE	<0.12	<0.021
2-Methylnaphthalene	NE	229	368	NE	NE	<0.31	<0.054
Acenaphthene	NE	3,440	33,000	NE	NE	<0.071	<0.013
Acenaphthylene	NE	487	487	NE	NE	<0.054	<0.0096
Anthracene	196.74	17,200	100,000	NE	NE	<0.055	0.017 J
Benzo(a)anthracene	NE	0.148	2.11	NE	NE	0.1 J	0.072
Benzo(a)pyrene	0.47	0.0148	0.211	NE	NE	**0.18 J**	**0.061**

Footnotes on Page 3.

Table 1. Rain Garden Soil Analytical Results, Madison-Kipp Corporation, 201 Waubesa Street, Madison, Wisconsin.

Boring ID	Soil to	Non-Industrial	Industrial	EPA High	TSCA	B-23	
Sample Interval (feet bls)	Groundwater	Direct Contact	Direct Contact	Occupancy	Disposal	0-1	2-4
Sample Date	Pathway RCL	RCL	RCL	Cleanup Level	Limit	6/21/2012	6/21/2012
PAHs (mg/kg) (continued)							
Benzo(b)fluoranthene	0.48	0.148	2.11	NE	NE	**0.31**	0.085
Benzo(g,h,i)perylene	NE	NE	NE	NE	NE	0.15 J	0.038 J
Benzo(k)fluoranthene	NE	1.48	21.1	NE	NE	<0.056	0.033 J
Chrysene	0.1451	14.8	211	NE	NE	0.17 J	0.073
Dibenz(a,h)anthracene	NE	0.0148	0.211	NE	NE	<0.066	<0.012
Fluoranthene	88.82	2,290	22,000	NE	NE	0.18 J	0.14
Fluorene	14.81	2,290	22,000	NE	NE	<0.054	<0.0095
Indeno(1,2,3-cd)pyrene	NE	0.148	2.11	NE	NE	0.11 J	0.032 J
Naphthalene	0.6587	5.15	26	NE	NE	<0.045	<0.0081
Phenanthrene	NE	115	115	NE	NE	0.13 J	0.085
Pyrene	54.47	1,720	16,500	NE	NE	0.19 J	0.11
PCBs (mg/kg)							
Aroclor-1242	NE	0.222	0.744	NE	NE	<0.039	<0.07
Aroclor-1248	NE	0.222	0.744	NE	NE	**0.82**	**2.5**
Aroclor-1254	NE	0.222	0.744	NE	NE	<0.026	<0.046
Aroclor-1260	NE	0.222	0.744	NE	NE	<0.059	<0.1
Total Detected PCBs	NE	NE	NE	1	50	0.82	2.5
RCRA Metals (mg/kg)							
Arsenic	0.584	0.39	1.59	NE	NE	**3.8**	**8.7**
Barium	164.8	15,300	100,000	NE	NE	90	96
Cadmium	0.752	70.2	803	NE	NE	0.85	<0.06

Footnotes on Page 3.

Table 1. Rain Garden Soil Analytical Results, Madison-Kipp Corporation, 201 Waubesa Street, Madison, Wisconsin.

Boring ID	Soil to	Non-Industrial	Industrial	EPA High	TSCA	B-23	
Sample Interval (feet bls)	Groundwater	Direct Contact	Direct Contact	Occupancy	Disposal	0-1	2-4
Sample Date	Pathway RCL	RCL	RCL	Cleanup Level	Limit	6/21/2012	6/21/2012
RCRA Metals (mg/kg) (continued)							
Chromium	360,000	NE	NE	NE	NE	15	24
Lead	27	400	800	NE	NE	24	22
Mercury	0.208	3.13	3.13	NE	NE	0.052	0.056
Selenium	0.52	391	5,110	NE	NE	<0.41	0.80 J
Silver	0.8497	391	5,110	NE	NE	<0.086	<0.073
Cyanide, Total (mg/kg)	4.04	46.9	613	NE	NE	0.47 J B ^	<0.21

Only detected constituents are noted. Please refer to laboratory reports for a complete list of constituents and results.

100 Exceeds the WDNR's non-industrial direct contact residual contaminant level.

100 Exceeds the WDNR's industrial direct contact residual contaminant level.

100 Exceeds the WDNR's soil to groundwater pathway residual contaminant level.

100 Exceeds the EPA's self-implementing high-occupancy cleanup level with no site restrictions.

* Laboratory control spike or laboratory control spike duplicate exceeds the control limits.

< Constituent not detected above noted laboratory detection limit.

^ Laboratory instrument related quality control limits exceeded.

J Constituent concentration is an approximate value.

B Compound was found in the blank and sample.

bls Below land surface.

mg/kg Milligrams per kilogram.

NA Not analyzed.

NE Criteria not established.

PAHs Polycyclic Aromatic Hydrocarbons.

PCBs Polychlorinated Biphenyls

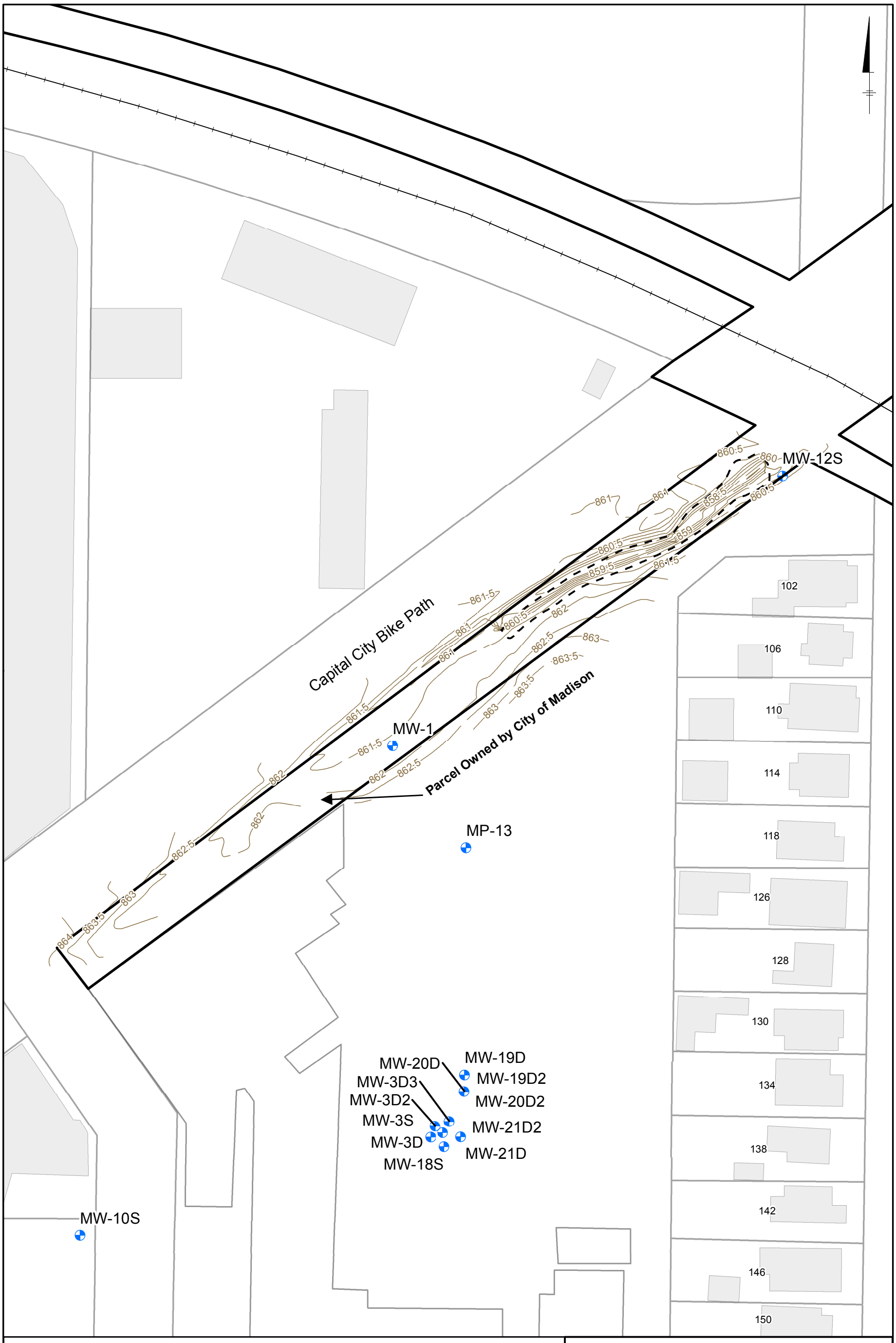
RCL Residual contaminant level.

RCRA Resource Conservation Recovery Act.

TSCA Toxic Substance Control Act.

EPA United States Environmental Protection Agency.

VOCs Volatile Organic Compounds.



LEGEND

- MONITORING WELL
- 860:5 TOPOGRAPHIC CONTOUR
- ESTIMATED EXTENT OF RAIN GARDEN
- PARCELS
- BUILDING FOOTPRINTS

ALL LOCATIONS ARE APPROXIMATE.

0 60 120
Feet

MADISON-KIPP CORPORATION
201 WAUBESA STREET
MADISON, WISCONSIN

LOCATION OF RAIN GARDEN

ARCADIS

FIGURE 1

CITY: MKE DIV/GROUP: IM DB: GM LD: CK MADISON-KIPP
I:\Madison_Kipp\Madison_Kipp\2013Fig1_RainGardenBoringLocations_2.mxd

B-23		
Sample Interval (feet bls)	**0-1**	**2-4**
Sample Date	**6/21/2012**	**6/21/2012**
Tetrachloroethene	<0.013	<0.011
Trichloroethene	<0.014	<0.012
Benzo(a)pyrene	**0.18 J**	**0.061**
Benzo(b)fluoranthene	**0.31**	0.085
Chrysene	0.17 J	0.073
Aroclor-1248	**0.82**	**2.5**
Arsenic	**3.8**	**8.7**
Cadmium	0.85	<0.06
Selenium	<0.41	0.80 J

MW-12S

Capital City Bike Path

Parcel Owned by City of Madison

102

106

110

114

0 20 40

Feet

100	Exceeds the WDNR's non-industrial direct contact residual contaminant level.
100	Exceeds the WDNR's industrial direct contact residual contaminant level.
100	Exceeds the WDNR's soil to groundwater pathway residual contaminant level.
^	Laboratory instrument related quality control limits exceeded.
J	Constituent concentration is an approximate value.
mg/kg	All concentrations posted are in milligrams per kilogram.
bls	Below land surface

LEGEND

- SOIL BORING LOCATION
- MONITORING WELL
- PARCELS
- BUILDING FOOTPRINTS

ALL LOCATIONS ARE APPROXIMATE.

MADISON-KIPP CORPORATION
201 WAUBESA STREET
MADISON, WISCONSIN

RAIN GARDEN SOIL ANALYTICAL RESULTS

ARCADIS

FIGURE
2

CITY: MKE DIV/GROUP: IM DB: GM LD: CK MADISON-KIPP
I:\Madison_Kipp\Madison_Kipp\2013\Fig2_RainGardenBoringLocations.mxd

Appendix A

Geotechnical Exploration Report

CGC, Inc.

Construction • Geotechnical
Consulting Engineering/Testing

November 11, 2005
C05041-12

Ms. Genesis Bichanich
Water Resources Specialist I
City of Madison
Dept. of Engineering
City-County Building, Room 115
210 Martin Luther King, Jr. Boulevard
Madison, WI 53705

Re: Geotechnical Exploration Report
Kipp Rain Gardens
Madison, Wisconsin

Dear Ms. Bichanich:

Construction • Geotechnical Consultants, Inc. (CGC) has completed the geotechnical exploration program for the project referenced above. The purpose of this exploration program was to evaluate the subsurface conditions within the proposed rain gardens and to provide geotechnical recommendations regarding infiltration potential. Two copies of this report are provided for your use, and additional copies can be provided upon request.

PROJECT DESCRIPTION

We understand that rain gardens are proposed for a piece of land at the north end of South Marquette Street and southeast of the Capital City Bike Path. We understand that the rain gardens will be constructed by excavating approximately 2 to 4 ft of the existing soils and backfilling with a blended soil consisting of sand, topsoil and compost.

SITE CONDITIONS

The site is located north of the Kipp Company factory between South Marquette and Waubesa Streets. As mentioned above, the rain gardens are proposed on small parcel of land on the southeast side of the Capital City Bike Path and west of private residences. The existing site appears to be a ditch or drainageway and is primarily covered in long grass with a few small trees.

SUBSURFACE CONDITIONS

Subsurface conditions on site were explored by drilling a total of three geoprobe soil borings to depths of 12 ft below existing site grades at locations selected and located in the field by CGC using a map provided by the City of Madison. The area of the proposed rain gardens was marked in the field by others prior to locating the borings. The borings were drilled on September 30, 2005 by Kitson Environmental Services (under subcontract to CGC) using a truck-mounted geoprobe drill rig. The boring locations are shown in plan on the Soil Boring Location Map attached in Appendix B.

The subsurface profile at the boring locations is quite uniform and can generally be described by the following layers (in descending order):

- 1.8 to 2.5 ft of ***topsoil***; over
- 4.5 to 7.2 ft of very soft to stiff ***silty to lean clay***; followed by
- ***Silty sand***, ***sandy silt***, and ***sand*** with significant amounts of silt and various amounts of gravel to the maximum depth explored.

Exceptions to the above profile include a 2-ft thick silty clay layer between sand layers in Boring 2 and a 1-ft thick silty to lean clay layer below the sandy silt layer and above the sand layer in Boring 3.

Groundwater was encountered in the borings at depths below the ground surface ranging from 9 to 10 ft during or shortly after drilling. Groundwater levels are expected to fluctuate with seasonal variations in precipitation, infiltration, evapotranspiration and other factors. A more detailed description of the site soil and groundwater conditions is presented on the Soil Boring Logs attached in Appendix B.

INFILTRATION POTENTIAL - DISCUSSION AND RECOMMENDATIONS

As mentioned above, we understand that rain gardens are planned for this development. The exact locations and sizes of rain gardens have yet to be finalized. Clayey soils were generally observed in the infiltration areas below the topsoil with scattered sand and silt layers also encountered at greater depths. The clayey soils were generally classified as silty clay loam, and the sand and silt soils were generally classified as sandy loam and loam according to the United States Department of Agriculture (USDA) classification system. The following parameters should be considered as basin development progresses:

Infiltration Potential: The following infiltration parameters were estimated using Table 2 of the WDNR Conservation Practice Standard 1002, *Site Evaluation for Storm Water Infiltration*. The estimated infiltration potentials are as follow:

- Loam to sandy loam 0.24 - 0.5 in. /hr.
- Silty clay loam 0.04 in. /hr.

Note that the infiltration rates should be considered very approximate.

Groundwater: Groundwater was encountered in the borings at depths of 9 to 10 ft below the ground surface during or shortly after drilling. Seasonal fluctuations in the groundwater level should be expected, as previously discussed.

Bedrock: Bedrock was not detected in the borings to the maximum depth explored.

Based on the relatively thick layer of low permeability clay encountered in the borings, this site does not appear suitable to infiltrate significant quantities of stormwater.

* * * * *

It has been a pleasure to serve you on this project. If you have any questions or need additional consultation, please contact us.

Sincerely,

CGC, Inc.

David Staab

David A. Staab, E.I.T.
Geotechnical Engineer

William W. Wuellner/DAS

William W. Wuellner, P.E.
Senior Geotechnical Engineer

Encl.: Appendix A - Field Exploration
Appendix B - Soil Boring Location Map
Logs of Test Borings (3)
Log of Test Boring-General Notes
Unified Soil Classification System
Appendix C - Document Qualifications

APPENDIX A

FIELD EXPLORATION

APPENDIX A

FIELD EXPLORATION

Subsurface conditions on site were explored by drilling a total of three geoprobe soil borings to depths of 12 ft below existing site grades at locations selected and located in the field by CGC using a map provided by the City of Madison. The borings were drilled on September 30, 2005 by Kitson Environmental Services (under subcontract to CGC) using a geoprobe drill rig. The boring locations are shown in plan on the Soil Boring Location Map attached in Appendix B. The specific procedures used for drilling and sampling are described below.

Continuous soil sample are collected by pushing a 2-1/2 in. diameter, 4-ft long plastic casing. The sampler is advanced to the end of the 4-ft increment, the first sleeve is removed, and a new plastic sleeve is inserted prior to advancing a subsequent increments. The ends of the plastic tube samples are sealed and delivered to CGC's geotechnical laboratory.

During the field exploration, the driller visually classified the soil and prepared a field log. *Field screening of the soil samples for possible environmental contaminants was not conducted by the drillers as environmental site assessment activities were not part of CGC's work scope.* Water level observations were made in each boring during and after drilling and are shown at the top of each boring log. Upon completion of drilling, the borings were backfilled with bentonite (where required) to satisfy WDNR regulations and the soil samples were delivered to our laboratory for visual classification and laboratory testing. The soils were visually classified by a geotechnical engineer using the Unified Soil Classification System. The final logs were prepared by the engineer and a description of the Unified Soil Classification System are presented in Appendix B.

APPENDIX B

SOIL BORING LOCATION MAP
LOGS OF TEST BORINGS (3)
LOG OF TEST BORING-GENERAL NOTES
UNIFIED SOIL CLASSIFICATION SYSTEM

Legend

Denotes Boring Location and Number

Scale: Reduced

Notes

1. Soil borings drilled by Kitson Environmental Services in September 2005.
2. Base map provided by the City of Madison.
3. Boring locations are approximate.

Date: 11/05	CGC, Inc.	**SOIL BORING LOCATION MAP** **Kipp Rain Gardens** **Madison, Wisconsin**
Job No. C05041-12		

Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Kipp St. Rain Gardens	1	B-1

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Greg Kitson/ Dustin Harvey Kitson Env. Services	9/30/2005	9/30/2005	Direct Push

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		B-1	9.0 Feet MSL		2.50 inches

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
1/4 of 1/4 of Section , T N, R
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N Feet ☐ S ☐ E Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Dane	13	City of Madison

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 20		1	Dark Gray Slight Organic Sandy SILT (ML - Topsoil)	ML									Qp = 1.75
			2	Very Soft to Stiff, Brown to Gray Silty to Lean CLAY, Trace to Little Sand USDA: 7.5YR 4/4 to 5YR 5/1 Silty Clay Loam										
2 GP	48 48		3 4 5 6 7		CL-ML /CL									Qp = 1.0
			8	Scattered Silty Fine Sand Seams near 8 ft	CL-ML									
3 GP	48 48		9	Brown Silty Fine SAND to Sandy SILT USDA: 7.5YR 4/4 Sandy Loam to Loam	SM/ML		▼							Qp = 0.25
			10 11 12	Brown Fine to Medium SAND, Some Silt, Little to Some Gravel USDA 7.5YR 4/4 Sandy Loam	SM									
				End Boring at 12 ft Borehole backfilled with bentonite chips										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	Tel:
	CGC, Inc. 2921 Perry Street Madison, WI 53713	Tel: 608/288-4100 Fax: 608/288-7887

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form m result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed fo should be sent.

Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Kipp St. Rain Gardens	1	B-2

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Greg Kitson/ Dustin Harvey Kitson Env. Services	9/30/2005	9/30/2005	Direct Push

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		B-2	10.0 Feet MSL		2.50 inches

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
1/4 of 1/4 of Section , T N, R
Lat ___ ° ___ ' ___ "
Long ___ ° ___ ' ___ "
Local Grid Location ☐ N ☐ E
Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Dane	13	City of Madison

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 36		1	Dark Gray Slight Organic Sandy SILT (ML - Topsoil)	ML									
			2	Medium Stiff to Stiff, Brown to Brownish Gray Silty to Lean CLAY USDA: 7.5YR 4/4 Silty Clay Loam										Qp = 1.75
2 GP	48 48		3 4 5 6 7		CL-ML /CL									Qp = 0.75
			8	Brown Fine to Medium SAND, Some Silt, Little to Some Gravel USDA: 7.5YR 4/4 Sandy Loam	SM									
3 GP	48 34		9 10	Very Soft, Brown Silty CLAY, Little to Some Sand USDA: 7.5YR 4/4 Silty Clay Loam	CL-ML		▼							Qp = 0.25
			11	Brown Fine to Medium SAND, Some Silt, Little Gravel USDA: 7.5YR 4/4 Sandy Loam	SM									
			12	End Boring at 12 ft Borehole backfilled with bentonite chips										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	Tel: 608/288-4100
	CGC, Inc. 2921 Perry Street Madison, WI 53713	Fax: 608/288-7887

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form m result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed fo should be sent.

Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☐

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Kipp St. Rain Gardens	1	B-3

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
Greg Kitson/ Dustin Harvey Kitson Env. Services	9/30/2005	9/30/2005	Direct Push

WI Unique Well No.	DNR Well ID No.	Common Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
		B-3	10.0 Feet		2.50 inches

Local Grid Origin ☒ (estimated: ☐) or Boring Location ☐
State Plane N, E S/C/N
1/4 of 1/4 of Section , T N, R
Lat ___° ___' ___"
Long ___° ___' ___"
Local Grid Location ☐ N ☐ E Feet ☐ S Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
	Dane	13	City of Madison

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1 GP	48 / 38		1–2	Dark Gray Slight Organic Sandy SILT (ML - Topsoil)	ML									
			3–7	Stiff, Brown Silty to Lean CLAY USDA: 7.5YR 4/4 Silty Clay Loam	CL-ML /CL									
2 GP	48 / 48		4–5											Qp = 1.75
			7–8	Brown Sandy SILT (ML) USDA: 7.5YR 4/4 Loam to Silt Loam	ML									
3 GP	48 / 38		8–9	Stiff, Brown Silty to Lean CLAY USDA: 7.5YR 4/4 Silty Clay Loam	CL-ML /CL									Qp = 1.0
			9–12	Brown Fine to Medium SAND, Some Silt, Little to Some Gravel USDA: 7.5YR 4/4 Sandy Loam	SM		▼							
			12	End Boring at 12 ft Borehole backfilled with bentonite chips										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm	Tel:
	CGC, Inc. 2921 Perry Street Madison, WI 53713	608/288-4100 Fax: 608/288-7887

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form m result in forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be be used for any other purpose. NOTE: See instructions for more information, including where the completed fo should be sent.

CGC, Inc.

LOG OF TEST BORING

General Notes

Descriptive Soil Classification

GRAIN SIZE TERMINOLOGY

Soil Fraction	Particle Size	U.S. Standard Sieve Size
Boulders	Larger than 12"	Larger than 12"
Cobbles	3" to 12"	3" to 12"
Gravel: Coarse	3/4" to 3"	3/4" to 3"
Fine	4.76 mm to 3/4"	#4 to 3/4"
Sand: Coarse	2.00 mm to 4.76 mm	#10 to #4
Medium	0.42 to mm to 2.00 mm	#40 to #10
Fine	0.074 mm to 0.42 mm	#200 to #40
Silt	0.005 mm to 0.074 mm	Smaller than #200
Clay	Smaller than 0.005 mm	Smaller than #200

Plasticity characteristics differentiate between silt and clay.

GENERAL TERMINOLOGY

Physical Characteristics
Color, moisture, grain shape, fineness, etc.
Major Constituents
Clay, silt, sand, gravel
Structure
Laminated, varved, fibrous, stratified, cemented, fissured, etc.
Geologic Origin
Glacial, alluvial, eolian, residual, etc.

RELATIVE DENSITY

Term	"N" Value
Very Loose	0-4
Loose	4-10
Medium Dense	10-30
Dense	30-50
Very Dense	Over 50

RELATIVE PROPORTIONS OF OF COHESIONLESS SOILS

Proportional Term	Defining Range by Percentage of Weight
Trace	0%-5%
Little	5%-12%
Some	12%-35%
And	35%-50%

CONSISTENCY

Term	q_u-tons/sq. ft.
Very Soft	0.0 to 0.25
Soft	0.25 to 0.50
Medium	0.50 to 1.0
Stiff	1.0 to 2.0
Very Stiff	2.0 to 4.0
Hard	Over 4.0

ORGANIC CONTENT BY COMBUSTION METHOD

Soil Description	Loss on Ignition
Non Organic	Less than 4%
Organic Silt/Clay	4-12%
Sedimentary Peat	12-50%
Fibrous and Woody Peat	More than 50%

PLASTICITY

Term	Plastic Index
None to Slight	0-4
Slight	5-7
Medium	8-22
High to Very High	Over 22

The penetration resistance, N, is the summation of the number of blows required to effect two successive 6" penetrations of the 2" split-barrel sampler. The sampler is driven with a 140 lb. weight falling 30" and is seated to a depth of 6" before commencing the standard penetration test.

SYMBOLS

DRILLING AND SAMPLING

CS--Continuous Sampling
RC--Rock Coring: Size AW, BW, NW, 2"W
RQD--Rock Quality Designator
RB--Rock Bit
FT--Fish Tail
DC--Drove Casing
C--Casing: Size 2 1/2", NW, 4", HW
CW--Clear Water
DM--Drilling Mud
HSA--Hollow Stem Auger
FA--Flight Auger
HA--Hand Auger
COA--Clean-Out Auger
SS--2" Diameter Split-Barrel Sample
2ST--2" Diameter Thin-Walled Tube Sample
3ST--3" Diameter Thin-Walled Tube Sample
PT--3" Diameter Piston Tube Sample
AS--Auger Sample
WS--Wash Sample
PTS--Peat Sample
PS--Pitcher Sample
NR--No Recovery
S--Sounding
PMT--Borehole Pressuremeter Test
VS--Vane Shear Test
WPT--Water Pressure Test

LABORATORY TESTS

q_a--Penetrometer Reading, tons/sq. ft.
q_u--Unconfined Strength, tons/sq. ft.
W--Moisture Content, %
LL--Liquid Limit, %
PL--Plastic Limit, %
SL--Shrinkage Limit, %
LI--Loss on Ignition, %
D--Dry Unit Weight, lbs/cu. ft.
pH--Measure of Soil Alkalinity or Acidity
FS--Free Swell, %

WATER LEVEL MEASUREMENT

∇ --Water Level at time shown
NW--No Water Encountered
WD--While Drilling
BCR--Before Casing Removal
ACR--After Casing Removal
CW--Caved and Wet
CM--Caved and Moist

Note: Water level measurements shown on the boring logs represent conditions at the time indicated and may not reflect static levels, especially in cohesive soils.

UNIFIED SOIL CLASSIFICATION SYSTEM

COARSE-GRAINED SOILS

(More than half of material is larger than No. 200 seive size.)

GRAVELS More than half of coarse fraction larger than No. 4 sieve size	**Clean Gravels** (Little or no fines)	
	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
	GP	Poorly graded gravels, gravel-sand mixtures, little or no fines
	Gravels with Fines (Appreciable amount of fines)	
	GM^{d}_{u}	Silty gravels, gravel-sand-silt mixtures
	GC	Clayey gravels, gravel-sand-clay mixtures
SANDS More than half of coarse fraction smaller than No. 4 sieve size	**Clean Sands** (Little or no fines)	
	SW	Well-graded sands, gravelly sands, little or no fines
	SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with Fines (Appreciable amount of fines)	
	SM^{d}_{u}	Silty sands, sand-silt mixtures
	SC	Clayey sands, sand-clay mixtures

FINE-GRAINED SOILS

(More than half of material is smaller than No. 200 sieve.)

SILTS AND CLAYS Liquid limit less than 50%	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit greater than 50%	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
	CH	Inorganic clays of high plasticity, fat clays
	OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS	PT	Peat and other highly organic soils

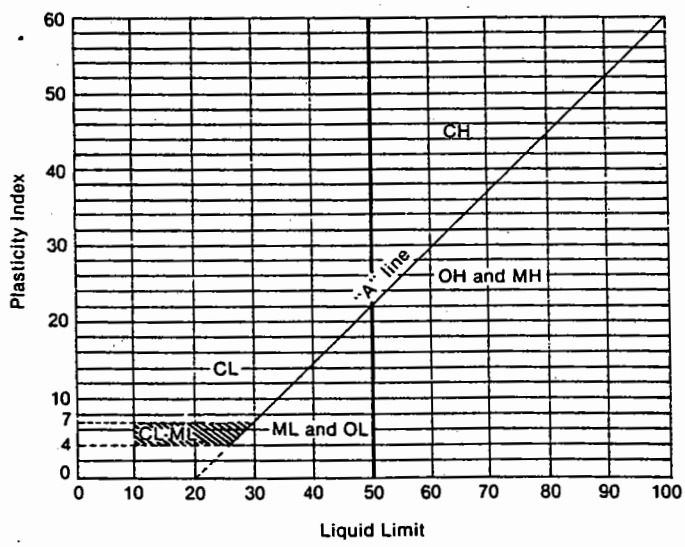
LABORATORY CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	
GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
GC	Atterberg limits above "A" line with P.I. greater than 7	
SW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 6; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 and 3	
SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" line or P.I. less than 4	Limits plotting in hatched zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" line with P.I. greater than 7	

Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:

Less than 5 per cent ..... GW, GP, SW, SP
More than 12 per cent ..... GM, GC, SM, SC
5 to 12 per cent ..... Borderline cases requiring dual symbols

PLASTICITY CHART



For classification of fine-grained soils and fine fraction of coarse-grained soils.

Atterberg Limits plotting in hatched area are borderline classifications requiring use of dual symbols.

Equation of A-line: PI = 0.73 (LL - 20)

APPENDIX C

DOCUMENT QUALIFICATIONS

APPENDIX C
DOCUMENT QUALIFICATIONS

I. GENERAL RECOMMENDATIONS/LIMITATIONS

CGC, Inc. should be provided the opportunity for a general review of the final design and specifications to confirm that earthwork and foundation requirements have been properly interpreted in the design and specifications. CGC should be retained to provide soil engineering services during excavation and subgrade preparation. This will allow us to observe that construction proceeds in compliance with the design concepts, specifications and recommendations, and also will allow design changes to be made in the event that subsurface conditions differ from those anticipated prior to the start of construction. CGC does not assume responsibility for compliance with the recommendations in this report unless we are retained to provide construction testing and observation services.

This report has been prepared in accordance with generally accepted soil and foundation engineering practices and no other warranties are expressed or implied. The opinions and recommendations submitted in this report are based on interpretation of the subsurface information revealed by the test borings indicated on the location plan. The report does not reflect potential variations in subsurface conditions between or beyond these borings. Therefore, variations in soil conditions can be expected between the boring locations and fluctuations of groundwater levels may occur with time. The nature and extent of the variations may not become evident until construction.

II. IMPORTANT INFORMATION
ABOUT YOUR
GEOTECHNICAL ENGINEERING REPORT

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. *No one except you* should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one - not even you* - should apply the report for any purpose or project except the one originally contemplated.

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A GEOTECHNICAL ENGINEERING REPORT IS BASED ON A UNIQUE SET OF PROJECT-SPECIFIC FACTORS

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, *do not rely on a geotechnical engineering report* that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes - even minor ones - and request an assessment of their impact. *CGC cannot accept responsibility or liability for problems that occur because our reports do not consider developments of which we were not informed.*

SUBSURFACE CONDITIONS CAN CHANGE

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

MOST GEOTECHNICAL FINDINGS ARE PROFESSIONAL OPINIONS

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are

taken. Geotechnical engineers review field and laboratory data and then apply their professional judgement to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ - sometimes significantly - from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A REPORT'S RECOMMENDATIONS ARE NOT FINAL

Do not over-rely on the construction recommendations included in your report. *Those recommendations are not final,* because geotechnical engineers develop them principally from judgement and opinion. Geotechnical engineers can finalize their recommendations only by observing actual subsurface conditions revealed during construction. *CGC cannot assume responsibility or liability for the report's recommendations if we do not perform construction observation.*

A GEOTECHNICAL ENGINEERING REPORT IS SUBJECT TO MISINTERPRETATION

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having CGC participate in prebid and preconstruction conferences, and by providing construction observation.

DO NOT REDRAW THE ENGINEER'S LOGS

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

GIVE CONTRACTORS A COMPLETE REPORT AND GUIDANCE

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time* to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

READ RESPONSIBILITY PROVISIONS CLOSELY

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce such risks, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineer's responsibilities begin and end, to help others recognize their own responsibilities and risks. Read these provisions closely. Ask questions. Your geotechnical engineer should respond fully and frankly.

GEOENVIRONMENTAL CONCERNS ARE NOT COVERED

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

RELY ON YOUR GEOTECHNICAL ENGINEER FOR ADDITIONAL ASSISTANCE

Membership in ASFE exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with CGC, a member of ASFE, for more information.

Modified and reprinted with permission from:

ASFE
8811 Colesville Road, Suite G 106
Silver Spring, MD 20910

Appendix B

Materials Handling Plan

ARCADIS
Infrastructure · Water · Environment · Buildings

Imagine the result

MATERIALS HANDLING PLAN

City of Madison
Walkways and Bike Paths
Parcel No. 0710-053-0503-4
Madison, Wisconsin

August 2013

ARCADIS

Table of Contents

Figures

Materials Handling Plan

City of Madison
Walkways and Bike Paths
Parcel No. 0710-053-0503-4
Madison, Wisconsin

Introduction

ARCADIS has prepared this Materials Handling Plan (Plan) for a portion of Parcel Number 0710-053-0503-4, in Madison, Wisconsin (Site). The Site is currently owned by the City of Madison Walkways and Bike Paths (Owner). The Site is located south of the Goodman Community Center and north of Madison-Kipp Corporation. Figure 1 is a Site Location Map and Figure 2 is a Site Layout Map. Figure 3 presents the portion of Parcel Number 0710-053-0503-4 where this Plan is applicable. This Plan describes the future measures to be followed when encountering impacted soil, surface water, and groundwater at the Site.

Investigation activities have been completed at the Site. Residual impacts are present in the soil and groundwater underlying the Site. Due to the residual impacts, precautions will need to be taken if work on the Site will require disturbing underlying soil or groundwater.

A copy of this Plan shall at all times be kept on file in the offices of: (1) the Wisconsin Department of Natural Resources (WDNR); (2) the Owner; and (3) others, as necessary. A copy of this Plan shall be made available by the Owner to contractors, utilities and maintenance personnel, and any other public or private persons or entities authorized to perform work on the parcel.

Environmental Condition Summary

This section presents a brief overview of the Site conditions. An environmental investigation was completed at the Site. Based on the investigation results, the environmental conditions can be summarized as follows:

- Soils underlying the Site consist of brown clay with little silt and sand.
- The depth to groundwater ranges from approximately 6 to 18 feet below land surface (bls).
- The primary contaminants of concern in soil reported above the industrial direct contact residual contaminant levels are polychlorinated biphenyls (PCBs). The PCBs are primarily located in surface soils from a depth of 0 to 4 feet bls. Arsenic was detected but determined to represent naturally occurring background conditions.

- The primary contaminants of concern in groundwater are chlorinated volatile organic compounds (VOCs) including tetrachloroethene and trichloroethene. The groundwater impacts are present below the base of the rain garden at a depth greater than 6 feet bls.

Health and Safety

To address the materials of concern in the soil, surface water, and groundwater at the Site, the following general actions shall be taken. All requirements under this section, both financial and appropriate execution, are the responsibility of the Owner and/or the subcontractors directly hired by the Owner, unless otherwise indicated.

- All consultants, contractors, employees, and others that may disturb or come in contact with any soils, surface water, or groundwater on the Parcel shall have their own health and safety plan to deal with contingencies which may arise. These plans shall reflect applicable standards of care recognized in the trades for performing work in environmentally impacted materials.

- If any soil is excavated below grade and/or below the groundwater table on the Site, personnel shall wear appropriate personal protective equipment to limit exposure to the contaminants and shall follow these guidelines.

    - Personnel shall wear disposable latex or nitrile gloves when contacting soil, surface water, and groundwater. Optionally, a tyvek suit or rubber boots may be worn to minimize contact to clothing and footwear with impacted soils.

    - Boots shall be washed off prior to leaving the parcel for any purpose.

    - Personnel shall refrain from eating, drinking, and smoking while working in the areas of impacted soils or water.

- Control of airborne dust from impacted soil shall be maintained at all times by appropriate methods (e.g., covering of stockpiles, wetting).

- Construction equipment or tools that come in contact with the soils shall be decontaminated prior to leaving the parcel to remove soil through the use of high-powered, hot water pressure washers, steam cleaners or detergents or other method. All wash water shall be contained, tested, managed, and disposed in accordance with all applicable regulations.

Material Handling Plan

The Material Handling Plan specifies the requirements to be followed when performing earth work, surface water, or groundwater management. These activities are generally associated with construction or maintenance of the rain garden.

Activities Requiring WDNR Approval

The WDNR must be notified and approval obtained from WDNR prior to conducting the following activities:

Construction or Installation of Buildings, Structures or Other Improvements

Buildings, structures or other improvements may be constructed or installed on the Site using footings or other foundations that are placed into the area of residual impacts in the following manner:

- The contractor performing the work shall be provided with a copy of this Plan by Owner and shall prepare their own health and safety plan, appropriate to the work being performed.

- Any excavation of soil shall be conducted in accordance with this Plan and the contactor's health and safety plan. All excavated soil shall be, at a minimum, placed onto plastic sheeting and covered, or placed into a watertight container such as a covered rolloff box.

- Upon completion of the work, previously excavated soil may be used as backfill, provided, however, that the backfilled soil maintains the compaction characteristics of the surrounding soil and is placed above the water table. The soil, as well as any additional clean soil or granular fill material necessary to backfill to grade, shall be backfilled in such a manner as to maintain the original depth of the impacted soil. The backfill area shall be restored in a manner consistent with the original grade. If surface water and/or groundwater are encountered, it shall be collected, sampled, and disposed of in accordance with state and federal requirements.

- A memorandum or report shall be prepared describing the work performed, identifying the person(s) performing the work and the date of the work, and confirming that the Plan was adhered to in completion of the work. A copy of the report shall be kept on file by the Owner and shall be submitted to the WDNR.

Utility Installations or Repairs.

A fiber optic line is currently installed at the Site. No utility repairs or installation of new or replacement utilities shall be conducted on the Site until after the utility and any contractor(s) for the utility have acknowledged receipt of a copy of this Plan. The utility repairs or installation(s) shall be conducted in strict conformance with the standards set forth below with respect to excavations be undertaken in the following manner:

- The contractor performing the work shall be provided with a copy of this Plan by Owner and shall prepare their own health and safety plan, appropriate to the work being performed.

- Any excavation of soil shall be conducted in accordance with this Plan and the contactor's health and safety plan. All excavated soil shall be, at a minimum, placed onto plastic sheeting and covered, or placed into a watertight container such as a covered rolloff box.

- Upon completion of such work, the excavated soil may be placed back into the excavation, provided, however, that any excavated soil placed back into the excavation shall maintain the compaction characteristics of the surrounding soil and placed above the water table. The area of the excavation shall be restored in a manner consistent with the original grade. If surface water and/or groundwater are encountered, it shall be collected, sampled, and disposed of in accordance with state and federal requirements.

- A memorandum report shall be prepared describing the work performed, identifying the person(s) performing the work and the date of the work, and confirming that the Plan was adhered to in completion of the work. A copy of the report shall be kept on file with the utility, on file by the Owner and shall be submitted to the WDNR.

Emergency Repairs to Underground Utilities

In emergency instances, utility repairs may be made without prior approval from the WDNR. However, the employee/worker notifications, material management procedures, and reporting requirements shall follow those given in the Material Handling Plan.

Off-Site Disposal of Excavated Soils and Water

If it becomes necessary or desirable to dispose of excavated soils, surface water, or groundwater from the allowed construction, repair, and installation activities, the excavation and resulting soils and waters shall be managed in accordance with state and federal requirements.

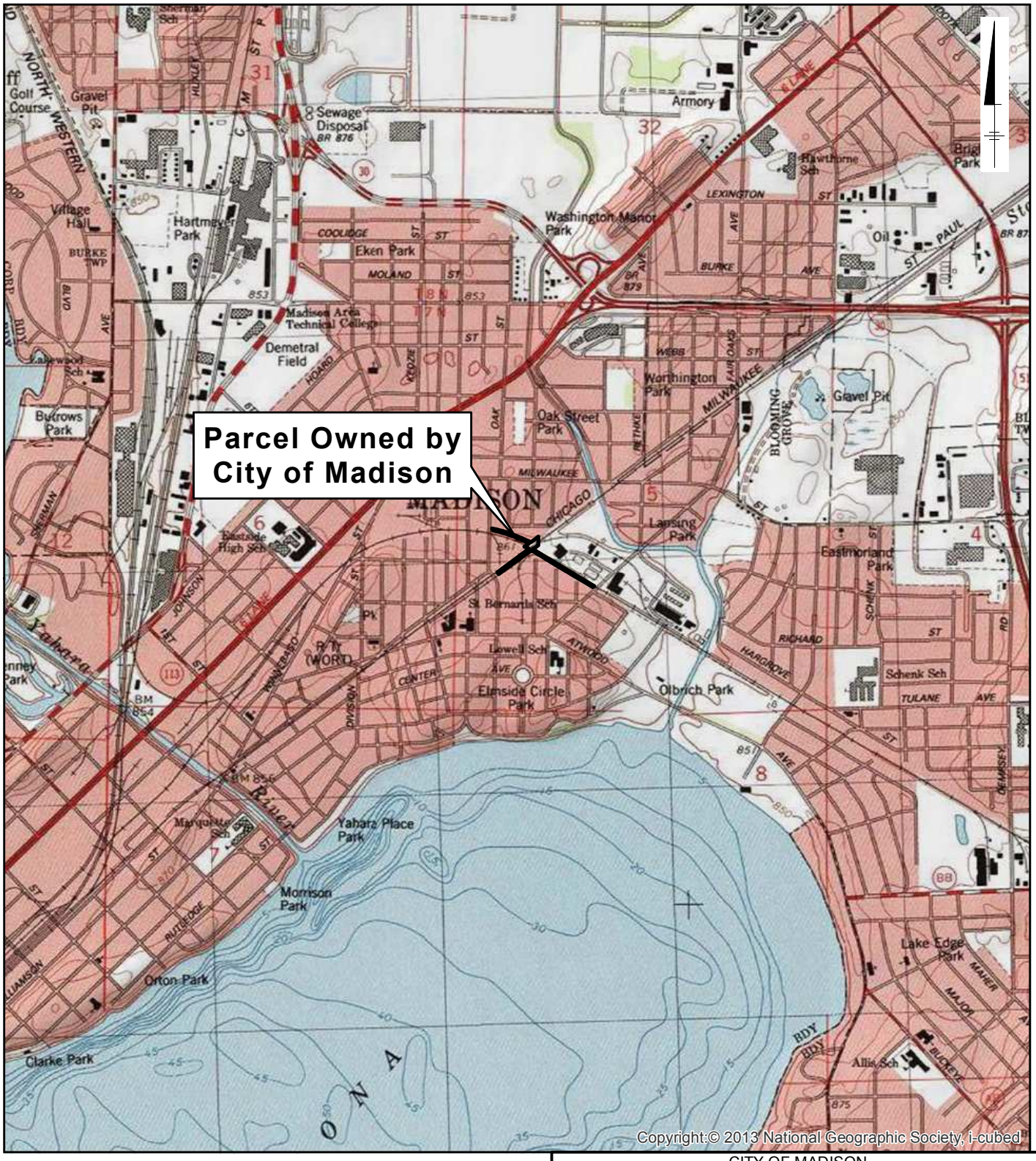
Request for WDNR Approval

The WDNR shall be notified at least five business days prior to completing work activities that require approval. The WDNR Project Manager at the time of this submittal is Mr. Michael Schmoller. Mr. Schmoller shall be notified by telephone, mail or email. Mr. Schmoller's contact information follows:

Mr. Michael Schmoller
Wisconsin Department of Natural Resources
South Central Region
3911 Fish Hatchery Road
Fitchburg, WI 53711
Telephone: (608) 275-3303
Fax: (608) 273-5610
email: michael.schmoller@wisconsin.gov

Request for Deviations

Owner shall not conduct any activities at the Site that are not in compliance with this Plan, unless written approval to do so is obtained from the WDNR.



NOTE:
TOPO BASE MAP OBTAINED FROM ESRI ONLINE MAPPING, USING ARCMAP 10 ACCESSED 7/24/2013

0 2,000 4,000 Feet
GRAPHIC SCALE

CITY OF MADISON
WALKWAYS AND BIKEPATHS
PARCEL NO. 0710-053-0503-4
MADISON, WISCONSIN
MATERIALS HANDLING PLAN

SITE LOCATION MAP

ARCADIS

FIGURE 1

CITY: MPLS DIV/GROUP: IM DB: MG LD: CK
MADISON-KIPP PATH: I:\Madison_Kipp\Madison_Kipp\2013\MadisonWalkwaysBikepathsMHP\Fig1_SiteLocation.mxd

Railroad

MW-12S

MW-1

Capital City Bike Path

City of Madison Walkways and Bikepaths,
Parcel No. 0710-053-0503-4

Waubesa St

t Paul Ave

Marquette St

Fairview

102
106
110
114
118
126
128
130
134
138
142
146
150
154
162
166
109

230
234
238
233
237

LEGEND

- MONITORING WELL
- ESTIMATED EXTENT OF RAIN GARDEN
- BUILDING FOOTPRINTS
- PARCELS

ALL LOCATIONS ARE APPROXIMATE.

0 60 120
Feet

City of Madison
Walkways and Bikepaths
Parcel No. 0710-053-0503-4
Madison, Wisconsin

MATERIALS HANDLING PLAN

LOCATION OF RAIN GARDEN

ARCADIS

FIGURE
2

CITY: MKE DIV/GROUP: IM DB: GM LD: CK MADISON-KIPP
I:\Madison_Kipp\Madison_Kipp\2013\MadisonWalkwaysBikepathsMHP\Fig2_RainGardenBoringLocations.mxd

Wirth Ct

Saint Paul Ave

Marquette St

Railroad

Waubesa St

MW-12S

Capital City Bike Path

MW-1

Portion of Parcel for Materials Handling Plan

102

106

110

114

118

126

128

130

134

138

142

146

150

154

162

166

109

Saint Paul Ave

Waubesa St

Marquette St

Fairview St

230

234

238

233

237

CITY: MKE DIV/GROUP: IM DB: GM LD: CK MADISON-KIPP
I:\Madison_Kipp\Madison_Kipp\2013\MadisonWalkwaysBikepathsMHP\Fig3_RainGardenBoringLocations.mxd

LEGEND

- MONITORING WELL
- ESTIMATED EXTENT OF RAIN GARDEN
- PORTION OF PARCEL FOR MATERIALS HANDLING PLAN
- BUILDING FOOTPRINTS
- PARCELS

ALL LOCATIONS ARE APPROXIMATE.

0 60 120
Feet

City of Madison
Walkways and Bikepaths
Parcel No. 0710-053-0503-4
Madison, Wisconsin

MATERIALS HANDLING PLAN

PORTION OF PARCEL FOR MATERIALS HANDLING PLAN

ARCADIS

FIGURE
3