Wetland Delineation Report City of Muskego, Waukesha County, Wisconsin Stantec Project # 193702557

APPENDIX D WETS ANALYSIS

WETS Analysis Worksheet

Project Name: Emerald Park
Project Number: 193702557
Period of interest: July - September 2013
County: Waukesha, WI

Long-term rainfall records (from WETS table)

Long-term raiman records (nom WE13 table)									
		3 years in 10		3 years in 10					
	Month	less than	Normal	greater than					
1st month prior:	September	1.82	3.74	4.63					
2nd month prior:	August	3.12	4.53	5.28					
3rd month prior:	July	3.07	4.27	5.15					
	-	Sum =	12.54						

Site determination Site Condition Condition** Month Rainfall (in) Dry/Normal*/Wet Value Weight Product 1.55 Dry 1 3 3 3.27 Normal 4 1.54 Dry 1 1 6.36 Sum** 8

*Normal precipitation with 30% to 70% probability of occurrence

Determination: Wet Dry Normal

Condition value: *If sum is:

Dry = 1 6 to 9 then period has been drier than normal Normal = 2 10 to 14 then period has been normal

Wet = 3 15 to 18 then period has been wetter than normal

Historical Precipitation data source: National Water and Climate Center Monthly Data Summary

Station: WI6200, OCONOMOWOC 1 SW

Reference: Donald E.Woodward, ed. 1997. Hydrology Tools for Wetland Determination , Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources

Sum

Conservation Service, Fort Worth, TX.

Monthly Data Summary

Station: WI6200, OCONOMOWOC 1 SW

Precipitaion Data source: http://weathersource.com/past-weather/official-weather

WETS Analysis Worksheet

Project Name: Emerald Park - Muskego, WI

Project Number: 193702557

Period of interest: August - October 17, 2014

County: Waukesha, WI

Long-term rainfall records (from WETS table)										
		3 years in 10		3 years in 10						
	Month	less than	Normal	greater than						
1st month prior:	October	0.87	1.44	1.74						
2nd month prior:	September	2.00	3.52	4.34						
3rd month prior:	August	3.28	4.77	5.69						
	-	Sum =	9.73							

Sum =

Site	Condition	Condition**	Month	
Rainfall (in)	Dry/Normal*/Wet	Value	Weight	Product
2.32	Wet	3	3	9
1.22	Dry	1	2	2
5.23	Normal	2	1	2
8.77			Sum*** =	13

*Normal precipitation with 30% to 70% probability of occurrence Determination: Wet Dry **Condition value: ***If sum is: Normal

6 to 9 then period has been drier than normal Dry = Normal = 10 to 14 then period has been normal 2

Wet = 3 15 to 18 then period has been wetter than normal

Monthly Data Summary Historical Precipitation data source: National Water and Climate Center

Station: WI8937, WAUKESHA WI

Reference: Donald E.Woodward, ed. 1997. Hydrology Tools for Wetland Determination, Chapter 19. Engineering Field Handbook, U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

*WETS table precipitation numbers were modified for October to reflect the reduced number of days for precip data collected in the month of October, 2014. Numbers were multiplied by a factor of 0.548

Daily Data Between Two Dates WAUKESHA (WI) USC00478937

Date	Precipitation	Date	Precipitation	Date	Precipitation
	(in)		(in)		(in)
8/1/2014	0	9/1/2014	0	10/1/2014	0
8/2/2014	1	9/2/2014	0.03	10/2/2014	0.15
8/3/2014	0	9/3/2014	0	10/3/2014	0.57
8/4/2014	0.03	9/4/2014	0.2	10/4/2014	0.02
8/5/2014	1	9/5/2014	0.02	10/5/2014	0.03
8/6/2014	0	9/6/2014	0	10/6/2014	0
8/7/2014	0	9/7/2014	0	10/7/2014	0
8/8/2014	0	9/8/2014	0	10/8/2014	0
8/9/2014	0	9/9/2014	0	10/9/2014	0
8/10/2014	0	9/10/2014	0.22	10/10/2014	0
8/11/2014	0	9/11/2014	0.08	10/11/2014	0
8/12/2014	0.75	9/12/2014	0	10/12/2014	0
8/13/2014	0.18	9/13/2014	0.3	10/13/2014	0.02
8/14/2014	0	9/14/2014	0	10/14/2014	1.1
8/15/2014	0	9/15/2014	0	10/15/2014	0.3
8/16/2014	0	9/16/2014	0.07	10/16/2014	0.1
8/17/2014	0.15	9/17/2014	0	10/17/2014	0.03
8/18/2014	0	9/18/2014	0		2.32
8/19/2014	0.55	9/19/2014	0		
8/20/2014	0	9/20/2014	0.03		
8/21/2014	0	9/21/2014	0.25		
8/22/2014	0.27	9/22/2014	0.02		
8/23/2014	0	9/23/2014	0		
8/24/2014	0.72	9/24/2014	0		
8/25/2014	0	9/25/2014	0		
8/26/2014	0.2	9/26/2014	0		
8/27/2014	0.05	9/27/2014	0		
8/28/2014	0	9/28/2014	0		
8/29/2014	0	9/29/2014	0		
8/30/2014	0.03	9/30/2014	0	Midwestern Re	gional Climate Center
8/31/2014	0.3			cli-MATE: MRC	CC Application Tools Environment
Total	5.23	Total	1.22	Generated at:	10/25/2014 5:05:46 PM CDT

WETS Table Page 1 of 4

USDA Field Office Climate Data

WETS Station: WAUKESHA, WI8937 Creation Date: 1 Latitude: 4300 Longitude: 08815 Elevation: 00830 State FIPS/County(FIPS): 55133 County Name: Waukesha Start yr. - 1971 End yr. - 2000 Creation Date: 10/25/2014

		Temperatu (Degrees		Precipitation (Inches)							
	 				30% chance will have			avg total			
Month	avg daily max	avg daily min	avg 	avg	less than	more than	days w/.1 or more	snow fall			
January February March April May June July August September October November December	27.5 32.8 43.9 57.0 70.1 80.0 84.2 81.5 73.4 61.0 45.4 32.6	11.4 16.5 26.6 37.5 48.5 58.1 63.4 61.8 53.0 41.8 29.8 17.8	19.5 24.7 35.3 47.3 59.3 69.1 73.8 71.7 63.2 51.4 37.6 25.2	1.48 1.31 2.28 3.53 3.02 3.78 3.83 4.77 3.52 2.62 2.63 1.87	0.87 0.74 1.34 2.46 2.03 2.46 2.82 3.28 2.00 1.59 1.64 1.13	1.79 1.62 2.77 4.20 3.61 4.54 4.49 5.69 4.34 3.17 3.18 2.26	5 4 5 7 7 7 8 6 5 5	13.0 7.9 6.9 2.9 0.0 0.0 0.0 0.0 0.1 2.9 9.8			
Annual				 	 32.36	36.66	 				
Average	57.5	 38.9 	48.2	 	' 	 					
Average	 	'		34.64	 	 	59	44.9			

GROWING SEASON DATES

	Temperature
Probability	 24 F or higher
	Beginning and Ending Dates Growing Season Length
50 percent *	4/6 to 11/2 4/13 to 10/24 4/25 to 10/12 209 days 194 days 169 days
70 percent *	4/3 to 11/5 4/8 to 10/29 4/20 to 10/17 216 days 203 days 179 days

WETS Table Page 2 of 4

* Percent chance of the growing season occurring between the Beginning and Ending dates.

total 1893-2014 prcp

Station : WI8937, WAUKESHA
----- Unit = inches

93M1.52	yr jan	feb	mar	apr	may	jun	jul 	aug	sep	oct	nov	dec	annl
95 1.55 0.42 0.53 0.78 5.01 2.29 1.79 2.61 1.56 0.67 2.11 1.82 21.14 96 0.43 0.89 M1.82 M4.11 4.01 3.14 3.20 3.02 1.35 1.11 1.25 1.58 26.84 98 2.34 1.60 M3.24 2.05 1.92 1.54 2.81 4.08 1.55 4.10 0.98 0.50 26.71 99 0.64 0.77 1.47 M1.19 3.92 3.99 2.14 2.50 3.18 1.21 2.20 1.82 2.99 0.64 0.77 1.47 M1.19 3.92 3.99 2.14 2.50 3.18 1.21 2.20 1.82 2.99 0.64 3.95 1.39 1.33 1.11 5.96 4.53 8.82 0.64 3.95 1.73 2.39 2.31 34.45 3M0.48 0.72 M2.86 2.51 4.57 3.30 6.93 7.39 5.04 2.50 1.01 0.99 8.30 4.45 3M0.48 0.72 M2.86 2.51 4.57 3.30 6.93 7.39 5.04 2.50 1.01 0.99 8.30 4M0.81 0.86 3.54 M1.97 3.70 2.07 4.67 M1.20 2.50 1.01 0.99 83.30 4M0.81 0.86 3.54 M1.97 3.70 2.05 3.18 1.24 2.20 2.24 1.36 6.45 28.34 1.23 1.23 2.20 2.24 1.25 0.15 2.50 1.49 6.71 5.69 2.77 4.33 1.44 3.19 2.19 M1.02 33.40 6M3.54 1.23 1.61 1.69 2.08 3.47 4.29 2.40 2.84 2.36 2.54 M1.31 2.36 7.21 1.25 1.26 1.45 35.44 8 1.03 1.20 M2.61 4.24 4.86 3.11 1.08 1.85 0.48 2.36 2.54 M1.31 2.36 7.24 1.00 1.03 1.20 M2.61 4.24 4.86 3.11 1.08 1.85 0.81 0.82 2.03 1.15 2.47 9 2.44 M0.93 0.75 6.94 2.28 2.63 0.46 3.73 3.33 4.78 M2.24 1.92 2.90 1.01 1.30 3.36 3.22 3.81 1.57 1.34 3.27 2.58 1.02 M2.63 M0.26 22.47 10.29 2.50 0.42 3.08 1.80 2.73 3.30 4.8 2.90 2.30 1.15 2.47 9 2.44 M0.81 0.36 3.36 3.26 M0.26 22.47 11.25 1.26 1.49 3.64 1.10 3.36 3.26 0.26 2.89 4.33 3.11 5.05 3.09 M1.03 3.20 3.52 3.3 1.11 1.08 M1.66 1.38 2.26 8.24 0.92 4.93 3.11 5.05 3.09 M1.03 2.20 35.23 1.31 1.00 1.10 3.36 3.29 7.06 5.21 5.40 5.37 4.92 5.00 1.90 M0.49 3.07 5.69 4.29 6.00 6.41 1.32 1.80 6.15 4.43 M0.33 1.98 37.18 1.51 1.57 1.34 8.00 1.00 1.67 3.67 3.94 7.44 3.51 1.04 4.91 6.00 0.38 0.55 3.43 1.11 1.08 M1.66 1.38 2.26 8.24 0.92 4.93 3.11 5.05 5.02 1.42 2.34 0.34 4.14 1.02 1.80 6.15 4.43 M0.33 1.98 3.74 1.51 1.51 1.51 1.51 1.51 1.51 1.51 1.5													
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31 1.25 0.48 M1.89 1.24 2.65 2.68 1.30 2.79 4.16 3.11 4.95 0.77 27.27 32 1.94 1.00 1.67 0.21 1.16 1.82 1.80 1.86 0.53 3.50 2.65 1.38 19.52 33 0.99 1.36 2.81 2.37 8.74 3.27 4.43 2.73 3.46 1.61 1.01 0.83 33.61 34 0.50 0.65 2.21 1.49 5.60 2.26 1.75 0.66 4.23 1.75 6.47 0.88 28.45 35 1.55 1.97 1.55 3.12 2.25 3.58 2.67 3.69 1.73 1.57 3.66 1.16 28.50 36M1.32 1.19 0.47 1.19 1.82 2.73 M0.72 6.32 4.40 3.12 0.48 2.57 26.33 37 3.27 1.99 1.17 3.90 1.47 3.33 2.72 1.75 1.19 2.59 0.45 2.10 25.93 38 3.91 2.82 2.43 1.36 3.91 5.11 4.58 7.30 7.77 1.52 1.97 0.89 43.57 39 2.05 1.88 M1.52 2.71 2.35 3.87 3.87 3.56 1.30 2.53 0.38 0.35 22.50 40 1.75 1.66 1.44 2.37 5.01 7.11 1.79 6.15 0.77 1.53 2.89 1.07 33.54 41 2.53 0.56 1.90 1.33 3.75 1.92 2.66 0.91 9.20 3.15 0.88 1.26 30.05													
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34 0.50 0.65 2.21 1.49 5.60 2.26 1.75 0.66 4.23 1.75 6.47 0.88 28.45 35 1.55 1.97 1.55 3.12 2.25 3.58 2.67 3.69 1.73 1.57 3.66 1.16 28.50 36M1.32 1.19 0.47 1.19 1.82 2.73 M0.72 6.32 4.40 3.12 0.48 2.57 26.33 37 3.27 1.99 1.17 3.90 1.47 3.33 2.72 1.75 1.19 2.59 0.45 2.10 25.93 38 3.91 2.82 2.43 1.36 3.91 5.11 4.58 7.30 7.77 1.52 1.97 0.89 43.57 39 2.05 1.88 M1.52 2.71 2.35 3.87 3.56 1.30 2.53 0.38 0.35 22.50 40 1.75 1.66 1.44 2.37 5.01 7.11 1.79 6.15 0.77 1.53 2.89 1.07 33	32 1.94	1.00	1.67	0.21	1.16	1.82	1.80	1.86	0.53	3.50	2.65	1.38	19.52
35 1.55 1.97 1.55 3.12 2.25 3.58 2.67 3.69 1.73 1.57 3.66 1.16 28.50 36M1.32 1.19 0.47 1.19 1.82 2.73 M0.72 6.32 4.40 3.12 0.48 2.57 26.33 37 3.27 1.99 1.17 3.90 1.47 3.33 2.72 1.75 1.19 2.59 0.45 2.10 25.93 38 3.91 2.82 2.43 1.36 3.91 5.11 4.58 7.30 7.77 1.52 1.97 0.89 43.57 39 2.05 1.88 M1.52 2.71 2.35 3.87 3.56 1.30 2.53 0.38 0.35 22.50 40 1.75 1.66 1.44 2.37 5.01 7.11 1.79 6.15 0.77 1.53 2.89 1.07 33.54 41 2.53 0.56 1.90 1.33 3.75 1.92 2.66 0.91 9.20 3.15 0.88 1.26 30.05	33 0.99	1.36											
36M1.32 1.19 0.47 1.19 1.82 2.73 M0.72 6.32 4.40 3.12 0.48 2.57 26.33 37 3.27 1.99 1.17 3.90 1.47 3.33 2.72 1.75 1.19 2.59 0.45 2.10 25.93 38 3.91 2.82 2.43 1.36 3.91 5.11 4.58 7.30 7.77 1.52 1.97 0.89 43.57 39 2.05 1.88 M1.52 2.71 2.35 3.87 3.56 1.30 2.53 0.38 0.35 22.50 40 1.75 1.66 1.44 2.37 5.01 7.11 1.79 6.15 0.77 1.53 2.89 1.07 33.54 41 2.53 0.56 1.90 1.33 3.75 1.92 2.66 0.91 9.20 3.15 0.88 1.26 30.05													
37 3.27 1.99 1.17 3.90 1.47 3.33 2.72 1.75 1.19 2.59 0.45 2.10 25.93 38 3.91 2.82 2.43 1.36 3.91 5.11 4.58 7.30 7.77 1.52 1.97 0.89 43.57 39 2.05 1.88 M1.52 2.71 2.35 3.87 3.56 1.30 2.53 0.38 0.35 22.50 40 1.75 1.66 1.44 2.37 5.01 7.11 1.79 6.15 0.77 1.53 2.89 1.07 33.54 41 2.53 0.56 1.90 1.33 3.75 1.92 2.66 0.91 9.20 3.15 0.88 1.26 30.05													
38 3.91 2.82 2.43 1.36 3.91 5.11 4.58 7.30 7.77 1.52 1.97 0.89 43.57 39 2.05 1.88 M1.52 2.71 2.35 3.87 3.56 1.30 2.53 0.38 0.35 22.50 40 1.75 1.66 1.44 2.37 5.01 7.11 1.79 6.15 0.77 1.53 2.89 1.07 33.54 41 2.53 0.56 1.90 1.33 3.75 1.92 2.66 0.91 9.20 3.15 0.88 1.26 30.05													
39 2.05 1.88 M1.52 2.71 2.35 3.87 3.56 1.30 2.53 0.38 0.35 22.50 40 1.75 1.66 1.44 2.37 5.01 7.11 1.79 6.15 0.77 1.53 2.89 1.07 33.54 41 2.53 0.56 1.90 1.33 3.75 1.92 2.66 0.91 9.20 3.15 0.88 1.26 30.05													
40 1.75 1.66 1.44 2.37 5.01 7.11 1.79 6.15 0.77 1.53 2.89 1.07 33.54 41 2.53 0.56 1.90 1.33 3.75 1.92 2.66 0.91 9.20 3.15 0.88 1.26 30.05							4.00						
41 2.53 0.56 1.90 1.33 3.75 1.92 2.66 0.91 9.20 3.15 0.88 1.26 30.05							1.79						
	42 1.31	0.55	1.74	0.71	4.65	4.45	3.20	3.82	3.73	M2.38	4.50	3.40	34.44

WETS Table Page 3 of 4

43 2.21	0.68	3.18	1.58	4.86	4.28	3.50	3.29	0.51	0.91	2.27	0 66	27.93
44 1.33		2.40	3.23	2.34	3.80	2.84	2.35	2.16	0.41			26.42
45 0.42		1.42	2.86	6.09	2.80	2.58	3.75	5.97	0.75	2.94		31.87
46 2.63		2.81	1.40	2.24	3.61	1.10	2.00	2.67	1.78	2.24		25.87
47 3.27 48 1.52		1.43 3.48	3.68 2.75	6.07 3.47	4.30	2.73 2.68	3.26 0.89	4.74 1.17	2.93			37.24 26.85
49 2.12		1.90	1.59	3.01	5.72	4.60	1.24	1.59	1.72			27.93
50 2.59		2.68	3.77	2.09	4.74	5.68	2.14	2.81	0.65		2.83	32.08
51 1.76		4.02	5.00	2.68	3.18	3.37	3.13	2.68	5.68			39.68
52 2.17 53 1.35		4.22	2.09	3.50 2.94		11.41 4.12	3.10	0.90	0.12			38.00
54 1.30		1.51 1.63	3.46 3.80	2.94	2.81 7.52	7.13	4.00 5.18	3.39	2.87	0.47 1.47		27.14 40.73
55 0.84		1.21	3.49	2.81		M1.82	1.08	1.68	3.12			24.36
56 0.39		M2.00	3.99	4.04	2.50	6.80	3.75	0.30	0.51			28.38
57 1.06		1.63	2.94	4.87	5.45	1.89		M0.52	1.53			28.13
58 0.99 59 1.35		0.40 4.38	1.92 3.44	2.71	1.63 2.90	1.58 4.38	4.04 3.91	4.55 5.15	2.38 5.32			24.77 37.47
60 2.32		2.27	3.95	4.74	1.59	4.60	6.39	3.10	3.51			37.07
61 0.22		3.43	3.45	1.70	2.57	2.13		10.21	3.32		1.15	33.83
62 2.08		1.73	1.50	2.63	1.80	3.65	2.17	1.68	1.81			22.29
63 0.94		1.99	2.57	1.70	2.93	1.33	3.75	2.79	0.51	1.79		21.36 28.09
64 1.33 65 3.14		2.41 3.86	4.81 3.17	3.82 2.24	2.74 1.54	4.74 3.03	2.43	1.91 6.88	3.42	2.74 1.58		40.96
66 1.59		2.95	2.87	2.28	1.14	2.18	2.68	0.60	1.48	2.46		23.88
67 1.30		1.21	1.98	3.21	5.23	1.65	2.55	1.29	3.73			26.10
68 0.76		0.19	4.15	3.15	6.92	4.14	3.96	3.58	1.32			33.50
69 1.82 70 0.46		1.03 1.43	3.35 2.14	2.89 6.63	7.94 3.84	4.29 3.62	0.56	2.22 5.78	5.07 2.13			31.45 32.17
71 1.50		1.65	1.68	1.91	3.57	2.71	3.98	1.21	2.13			31.57
72 0.61	0.55	2.35	2.23	3.13	3.54	4.58	6.31	8.40	2.80	1.07	2.84	38.41
73 0.92		2.69	7.88	4.60	2.95	1.86	1.10	4.50	3.39			36.09
74 3.23 75 2.06		3.81 3.56	3.98 3.69	3.63 1.73	2.52 4.64	2.55	4.12 5.45	1.85 0.95	2.37			34.01 31.95
76 1.13		5.54	5.42	4.02	2.40	2.14	2.08	1.07	2.25			29.33
77 0.51		4.44	1.92	1.02	4.22	5.55	5.78	3.00	2.27			35.23
78 1.18	0.24	0.64	4.27	3.92	4.84	4.80	2.55	6.34	2.08			35.84
79 2.50 80 1.22		3.74	4.50	1.86 1.81	2.77	2.74	8.14 7.95	0.00 5.92	2.38			33.66 34.25
80 1.22 81 0.23		0.46 M0.43	3.82	1.37	3.62 2.67	3.54 3.02	7.93	5.10	1.43 3.09	1.38 2.41		28.50
82 2.79		2.03	3.27	3.11	2.62	3.60	3.04	0.57		5.41		33.43
83 0.48		M4.49		M3.80	1.76	2.46	4.34		M3.25	3.84		35.18
84 0.56		1.56	4.26	4.83	4.28	2.97		M2.74	5.43			37.50
85 1.35 86 0.80		2.89 1.63	1.52 2.19	1.84	2.46 6.30	1.95 5.18	2.81 5.16		M5.79 M1.69			34.30 36.44
87	M0.00	2.31	4.09	4.23	3.08	6.19	8.17		1.01		0.74	34.04
88												
89												
90 91						1 10	1 07	ME 70	ME CO	M2 07	1 17	22 00
91 92M0.64	1.28	M1.88	2.25	M1.20	M1.87				1.81	M3.07 4.53		22.08
93 2.15		M1.39	6.45	1.97	7.33	5.64	4.34	4.28	0.60			37.08
94 1.95		0.64	1.60	0.99	3.52	6.64	5.10	1.43	0.63			29.81
95 1.52		2.00	3.83	3.29	0.53		10.83	0.93	4.26			34.11
96 1.71 97 1.78	0.82	0.52 0.92	3.19 2.46	2.78 2.38	7.83 6.78	3.88 4.04	2.54 5.53	2.23	5.02 1.43		M1.24	32.89
98 2.92		3.55	3.57	4.16	3.92	1.40	6.41	2.32	3.39			37.15
99 4.27		0.83	5.45	3.82	6.14	6.48	1.86	3.87	0.77			37.26
0 1.01	1.26	1.34	2.97	8.05	4.15	7.54	5.78	7.00			M2.30	
1 1.28 2 0.87		0.35 1.73	4.75 3.96	5.42 2.89	4.62 3.30	1.87 3.32	4.82 8.50	4.66 3.32	2.76		M1.30 0.69	
2 0.07	1.00	±•/J	0.70	2.00	3.30	J.JL	3.30	0.02	2.70	J. / J	5.05	55.05

WETS Table Page 4 of 4

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3 0.22 M0.11 1.49 1.35 5.67 2.22 3.33 0.51 1.90 1.64 M4.12 2.35 24.91 4 0.76 M0.72 2.84 2.31 9.44 5.11 2.02 M4.35 0.13 2.39 2.26 M1.35 33.68 5M2.33 1.57 0.69 1.03 2.86 M2.19 M2.69 1.18 M3.64 0.43 M3.23 M0.87 22.71 6 0.97 0.68 1.55 3.22 M4.63 M2.18 M3.74 4.49 M2.98 M2.89 M2.56 M2.48 32.37 7M0.97 M1.42 1.65 M3.88 2.05 4.01 M2.95 9.62 1.51 2.41 0.21 3.11 33.79 8 0.96 M2.08 2.38 5.58 2.23 10.27 4.08 1.04 4.07 2.97 1.03 4.12 40.81 9 1.05 2.11 3.89 5.51 3.39 7.31 0.87 3.67 1.82 4.98 1.80 3.53 39.93 10 0.86 0.99 0.49 3.86 3.75 11.11 9.23 1.48 2.70 1.81 1.09 0.96 38.33 11 0.85 2.26 2.69 3.38 2.44 5.29 2.98 3.16 4.27 1.49 2.59 1.59 32.99 12 1.74 0.98 3.42 2.37 5.03 0.58 3.06 2.10 2.33 4.00 0.62 3.70 29.93 13 2.71 3.84 1.64 7.57 7.24 7.29 2.29 3.54 2.38 2.73 2.85 1.09 45.17 14 1.24 1.50 1.21 4.04 5.20 5.80 3.21 5.23 1.22 M2.48
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Wetland Delineation Report City of Muskego, Waukesha County, Wisconsin Stantec Project # 193702557

APPENDIX E WETLAND DETERMINATION DATA FORMS



Emerald Park Landfill Expansion Stantec Project #: 193702557 Date: 10/14/13 Applicant: County: Waukesha ADS Investigator #1: DP Investigator #2: MC State: Wisconsin Adj. to W1 Soil Unit: Saylesville silt loam NWI/WWI Classification: N/A Wetland ID: Landform: Rise Local Relief: Convex Sample Point: 1u 0-2 Datum: N/A Community ID: Upland (Ag) Slope (%): Latitude: N/A Longitude: N/A Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No 36 Section: Are Vegetation ☑ , Soil □, or Hydrology □ significantly disturbed? Are normal circumstances present? 5N Township: Are Vegetation □, Soil □, or Hydrology □ naturally problematic? ☐ Yes ☑No 20 Ε Range: Dir: SUMMARY OF FINDINGS Hydrophytic Vegetation Present? ☐ Yes ☑ No Hydric Soils Present? ☐ Yes ☑ No Wetland Hydrology Present? Is This Sampling Point Within A Wetland? 🔲 Yes 🔟 No ☐ Yes ☑ No The sample plot is located in an upland agricultural field, so not normal circumstances. WETS analysis indicates antecedent moisture conditions in Remarks: the drier than normal range. **HYDROLOGY** Wetland Hydrology Indicators (Check here if indicators are not present ☑): Primary: Secondary: ☐ A1 - Surface Water B6 - Surface Soil Cracks □ B9 - Water-Stained Leaves A2 - High Water Table ☐ B13 - Aquatic Fauna ☐ B10 - Drainage Patterns A3 - Saturation B14 - True Aquatic Plants ☐ C2 - Dry-Season Water Table П B1 - Water Marks C1 - Hydrogen Sulfide Odor C8 - Crayfish Burrows П C3 - Oxidized Rhizospheres on Living Roots C9 - Saturation Visible on Aerial Imagery **B2** - Sediment Deposits C4 - Presence of Reduced Iron □ D1 - Stunted or Stressed Plants B3 - Drift Deposits B4 - Algal Mat or Crust C6 - Recent Iron Reduction in Tilled Soils D2 - Geomorphic Position B5 - Iron Deposits C7 - Thin Muck Surface ☐ D5 - FAC-Neutral Test B7 - Inundation Visible on Aerial Imagery ■ D9 - Gauge or Well Data □ B8 - Sparsely Vegetated Concave Surface ☐ Other (Explain) Field Observations: Surface Water Present? ☐ Yes ☑ No Depth: (in.) Wetland Hydrology Present? ☐ Yes ☑ No Water Table Present? ☐ Yes ✓ No Depth: (in.) Saturation Present? ☐ Yes ☑ No Depth: (in.) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence; FSA Slides No evidence of wetland hydrology was observed at the sample plot. FSA slide review indicates the boundary is nearby to the northwest, but not Remarks: within this sample point. SOILS Map Unit Name: Saylesville silt Ioam Series Drainage Class: moderately well to well Taxonomy (Subgroup): Typic Hapludalfs Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix) Texture Top Bottom Matrix Mottles (e.g. clay, sand, loam) Depth Depth Horizon Color (Moist) % Color (Moist) % Туре Location 10YR 100 silt loam 0 8 3/2 10 10YR 100 8 2 4/3 __ __ __ __ __ silt loam 10 20 3 10YR 4/4 100 silty clay loam NRCS Hydric Soil Field Indicators (check here if indicators are not present 🗵): Indicators for Problematic Soils 1 \$4 - Sandy Gleyed Matrix ☐ A16 - Coast Prairie Redox A1- Histosol \$5 - Sandy Redox A2 - Histic Epipedon F12 - Iron-Manganese Masses \$6 - Stripped Matrix A3 - Black Histic Other (Explain in Remarks) П A4 - Hydrogen Sulfide F1 - Loamy Muck Mineral П A5 - Stratified Layers F2 - Loamy Gleyed Matrix F3 - Depleted Matrix A10 - 2 cm Muck A11 - Depleted Below Dark Surface F6 - Redox Dark Surface A12 - Thick Dark Surface F7 - Depleted Dark Surface П \$1 - Sandy Muck Mineral F8 - Redox Depressions \$3 - 5 cm Mucky Peat or Peat 1 Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problemation Restrictive Layer (If Observed) **Hydric Soil Present?** ☐ Yes ☑ No Type: N/A Depth: N/A Remarks: No O² roots. No stress to upland grasses.

1u

Wetland ID: Adj. to W1 Sample Point



Project/Site:

Emerald Park Landfill Expansion

WETLAND DETERMINATION DATA FORM Midwest Region

VEGETATION (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius % Cover Dominant Ind, Status Dominance Test Worksheet Species Name 2. Number of Dominant Species that are OBL, FACW, or FAC: 0 (A) 3. 4. Total Number of Dominant Species Across All Strata: 1 (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B) 6. **Prevalence Index Worksheet** 8. 9. Total % Cover of: Multiply by: 10. OBL spp. x 1 = Total Cover = 0 FACW spp. 0 x 2 = 0 x 3 = FAC spp. 0 0 Sapling/Shrub Stratum (Plot size: 15 ft radius) x 4 = FACU spp. 100 400 1. UPL spp. 10 x 5= 2. 3. Total 110 (A) 450 4. 5. Prevalence Index = B/A = 4.091 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9. Rapid Test for Hydrophytic Vegetation ☐ Yes ✓ No 10. ----☐ Yes ✓ No Dominance Test is > 50% Total Cover = ☐ Yes ✓ No 0 Prevalence Index is ≤ 3.0 * ☑ No ☐ Yes Morphological Adaptations (Explain) * Herb Stratum (Plot size: 5 ft radius) ☐ Yes ✓ No Problem Hydrophytic Vegetation (Explain) * MEDICAGO SATIVA 20 FACU 1. Ν * Indicators of hydric soil and wetland hydrology must be 2. TRIFOLIUM PRATENSE 10 Ν **FACU** present, unless disturbed or problematic. CIRSIUM ARVENSE **FACU** 3. 5 Ν 4. **BROMUS INERMIS** 10 Ν UPL **Definitions of Vegetation Strata: ELYMUS REPENS** 60 FACU 5. FACU TARAXACUM OFFICINALE Tree - Woody plants 3 in. (7.6cm) or more in diameter at 6 5 N breast height (DBH), regardless of height. 7. ---8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12. and woody plants less than 3,28 ft. tall. 13. 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15. Total Cover = 110 Woody Vine Stratum (Plot size: 30 ft radius) 1. 3. Hydrophytic Vegetation Present ☐ Yes ☑ No 5. 4. Total Cover = 0 Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic. Remarks:

Additional	Remarks:
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Additional Notice Control of the Con
Agricultural field currently used for hay production.



Project/Site:	Emorald Da	ark Landfill Expansion	nn.				Stantec Project #:	193702557	•	Date:	10/14/13									
Applicant:	ADS	ark Landilli Expansio	JII				Stanted Froject #.	190702557		County:	Waukesha									
Investigator #1:				Invocti	gator #2:	MC				State:	Wisconsin									
		ni olitir olori loom		mvesu	yatui #2.		/I/WWI Classification:	TO/EOV.		-1										
Soil Unit:		ry silty clay loam			- I D - I'- 6			13/EZNa		Wetland ID:	W1									
Landform:	Depression		N1/A		al Relief:		9	Б. 1		Sample Point:										
Slope (%):	0-2	Latitude:	N/A		ongitude:			Datum:		-1	Wet Meadow									
	litions on the site ty		☐ Yes ☑		Section:	36														
Are Vegetation □ , Soil □, or Hydrology □ significantly disturbed? Are normal cir									t?	Township:	5N									
Are Vegetation	☐ , Soil ☐,	or Hydrology 🛭 nat	turally pro	ob l emati	c?			□No		Range:	20 Dir:	E								
SUMMARY OF	FINDINGS																			
Hydrophytic Ve	getation Pres	sent?		Yes	□ No			Hydric Soils	Present?			□ No								
Wetland Hydrol	ogy Present	?		☑ Yes				Is This Sam	p l ing Point '	Within A Wetla	and? Yes	■ No								
Remarks:			wet mea	dow. W	ETS anal	lysis indi	cates antecedent mois													
		•				•					Ü									
HYDROLOGY																				
		4 (0) 11 :6																		
		itors (Check here if	indicato	rs are no	t present	□)1			0											
Primary:	_	\A/otor			DO Moto	r Ctainad	00000		Secondary:		il Crooks									
	A1 - Surface A2 - High Wa				B9 - Wate B13 - Aqu					B6 - Surface So B10 - Drainage										
	A3 - Saturation				B14 - True					C2 - Dry-Season										
	B1 - Water M				C1 - Hydro					C8 - Crayfish Bu										
	B2 - Sedimer						spheres on Living Roots				Visible on Aerial	magery								
	B3 - Drift Der						duced Iron			D1 - Stunted or										
	B4 - Algal Ma						duction in Tilled Soils			D2 - Geomorphi										
	B5 - Iron Dep				C7 - Thin				~	D5 - FAC-Neutra	al Test									
		on Visible on Aerial Ima Vegetated Concave S			D9 - Gaug Other (Exp		Data													
	po - oparsers	vegetated concave o	diracc		Outor (EX	Jiaiii)														
Field Observat	ionoi																			
		=			C 1															
Surface Water I		☐ Yes ☑ No	Depth:		(in.)			Wetland Hy	drology Pr	esent?	Yes □ No									
Water Table Pro		☐ Yes ☑ No	Depth:		(in.)			•												
Saturation Pres	ent?	☐ Yes ☑ No	Depth:		(in.)															
Describe Record	led Data (stre	eam gauge, monitorir	ng well, a	erial phot	os, previo	us inspec	tions), if available:		2007 NRC E	Delineation; 2009	concurrence; FS	A Slides								
Dama adira:	The present										Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence; FSA Slides									
Remarks: The presence of 2 secondary indicators at the sample plot provides evidence of wetland hydrology. FSA slide review indicates this point is wetlands,																				
Remarks:		ice of 2 secondary ii e wetlands stop whe					es evidence of wetland	d hydrology. I	FSA s l ide re	eview indicates	s this point is w	etlands,								
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1w

Sample Point



Project/Site:

Emerald Park Landfill Expansion

WETLAND DETERMINATION DATA FORM Midwest Region

Wetland ID:

W1

VEGETATION (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius % Cover Dominant Ind, Status Dominance Test Worksheet Species Name 2. Number of Dominant Species that are OBL, FACW, or FAC: (A) 3. 4. Total Number of Dominant Species Across All Strata: 1 (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B) 6. **Prevalence Index Worksheet** 8. 9. Total % Cover of: Multiply by: 10. x 1 = OBL spp. Total Cover = 0 FACW spp. 100 x 2 = 200 x 3 = FAC spp. 0 0 Sapling/Shrub Stratum (Plot size: 15 ft radius) x 4 = FACU spp. 1. UPL spp. 0 x 5= 2. 3. Total 101 (A) 204 4. 5. Prevalence Index = B/A = 2.020 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9. ✓ Yes Rapid Test for Hydrophytic Vegetation □ No 10. ----✓ Yes ☐ No Dominance Test is > 50% Total Cover = 0 ✓ Yes □ No Prevalence Index is ≤ 3.0 * ☑ No ☐ Yes Morphological Adaptations (Explain) * Herb Stratum (Plot size: 5 ft radius) ☐ Yes ✓ No Problem Hydrophytic Vegetation (Explain) * PHALARIS ARUNDINACEA 100 FACW 1. * Indicators of hydric soil and wetland hydrology must be 2. CIRSIUM ARVENSE Ν **FACU** 1 present, unless disturbed or problematic. 3. --4. **Definitions of Vegetation Strata:** --5. Tree - Woody plants 3 in. (7.6cm) or more in diameter at 6 breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12. and woody plants less than 3.28 ft. tall. 13. 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15. Total Cover = 101 Woody Vine Stratum (Plot size: 30 ft radius) 1. 3. Hydrophytic Vegetation Present ☑ Yes ☐ No 5. 4. Total Cover = 0 Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic. Remarks:

Additional Remarks:

Additional Nomania.	
Depressional wet meadow community dominated by reed canary grasss.	



Emerald Park Landfill Expansion Stantec Project #: 193702557 Date: 10/14/13 Applicant: County: Waukesha ADS Investigator #1: DP Investigator #2: MC State: Wisconsin Adj. to W1 Saylesville silt loam NWI/WWI Classification: N/A Wetland ID: Soil Unit: Landform: Rise Local Relief: Convex Sample Point: 2u 0-2 Slope (%): Latitude: N/A Longitude: N/A Datum: N/A Community ID: Upland hayfield Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No 36 Section: Are Vegetation ☑ , Soil □, or Hydrology □ significantly disturbed? Are normal circumstances present? 5N Township: Are Vegetation □, Soil □, or Hydrology □ naturally problematic? ☐ Yes ☑No 20 Ε Range: Dir: Hydrophytic Vegetation Present? Hydric Soils Present? ☐ Yes ☑ No ☐ Yes ☑ No Wetland Hydrology Present? ☐ Yes ☑ No Is This Sampling Point Within A Wetland? 🔲 Yes 🔟 No The sample plot is located in an upland hayfield, so no normal circumstances. WETS analysis indicates antecedent moisture conditions in the drier Remarks: than normal range. Possible problematic seasonal wetland. **HYDROLOGY** Wetland Hydrology Indicators (Check here if indicators are not present ☑): Primary: Secondary: ☐ A1 - Surface Water B6 - Surface Soil Cracks □ B9 - Water-Stained Leaves A2 - High Water Table ☐ B13 - Aquatic Fauna ☐ B10 - Drainage Patterns A3 - Saturation B14 - True Aquatic Plants ☐ C2 - Dry-Season Water Table C1 - Hydrogen Sulfide Odor П B1 - Water Marks C8 - Crayfish Burrows П **B2** - Sediment Deposits C3 - Oxidized Rhizospheres on Living Roots C9 - Saturation Visible on Aerial Imagery D1 - Stunted or Stressed Plants B3 - Drift Deposits C4 - Presence of Reduced Iron B4 - Algal Mat or Crust C6 - Recent Iron Reduction in Tilled Soils D2 - Geomorphic Position B5 - Iron Deposits C7 - Thin Muck Surface ☐ D5 - FAC-Neutral Test B7 - Inundation Visible on Aerial Imagery ■ D9 - Gauge or Well Data □ B8 - Sparsely Vegetated Concave Surface □ Other (Explain) Field Observations: Surface Water Present? ☐ Yes Depth: (in.) ✓ No Wetland Hydrology Present? ☐ Yes ☑ No Water Table Present? ☐ Yes ☑ No Depth: (in.) Saturation Present? ☐ Yes ☑ No Depth: (in.) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence; FSA Slides Remarks: No evidence of wetland hydrology was observed at the sample plot. Contrast with adjacent sample point in W-1, as well as non-hydric soils and nonhydrphytic vegetation at this point provide evidence this point is not subjected to problematic seasonal wetland hydrology SOILS Map Unit Name: Saylesville silt loam Series Drainage Class: moderately well to well Taxonomy (Subgroup): Typic Hapludalfs Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix) Texture Top Bottom Matrix Mottles Туре (e.g. clay, sand, loam) Depth Depth Horizon Color (Moist) % Color (Moist) % Location 10 10YR 100 silt loam 0 3/2 20 10YR 100 10 2 4/3 --__ __ --__ silty clay loam NRCS Hydric Soil Field Indicators (check here if indicators are not present 🗵): Indicators for Problematic Soils 1 \$4 - Sandy Gleyed Matrix ☐ A16 - Coast Prairie Redox A1- Histosol \$5 - Sandy Redox A2 - Histic Epipedon F12 - Iron-Manganese Masses A3 - Black Histic \$6 - Stripped Matrix Other (Explain in Remarks) П A4 - Hydrogen Sulfide F1 - Loamy Muck Mineral П A5 - Stratified Layers F2 - Loamy Gleyed Matrix F3 - Depleted Matrix A10 - 2 cm Muck A11 - Depleted Below Dark Surface F6 - Redox Dark Surface A12 - Thick Dark Surface F7 - Depleted Dark Surface П \$1 - Sandy Muck Mineral F8 - Redox Depressions \$3 - 5 cm Mucky Peat or Peat 1 Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problemation Restrictive Layer (If Observed) Type: N/A **Hydric Soil Present?** ☐ Yes ☑ No Depth: N/A Remarks: The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.



Project/Site: Emerald Park Landfill Expansion Wetland ID: Adj. to W1 Sample Point 2u **VEGETATION** (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius % Cover Dominant Ind, Status Dominance Test Worksheet Species Name 2. Number of Dominant Species that are OBL, FACW, or FAC: 0 (A) 3. 4. Total Number of Dominant Species Across All Strata: 3 (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B) 6. **Prevalence Index Worksheet** 8. 9. Total % Cover of: Multiply by: 10. x 1 = OBL spp. Total Cover = 0 FACW spp. 0 x 2 = 0 x 3 = FAC spp. 0 0 Sapling/Shrub Stratum (Plot size: 15 ft radius) x 4 = FACU spp. 100 1. UPL spp. 0 x 5= 2. 3. 400 Total 100 (A) 4. 5. Prevalence Index = B/A = 4.000 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9. ☐ Yes Rapid Test for Hydrophytic Vegetation ✓ No 10. ----☐ Yes ✓ No Dominance Test is > 50% Total Cover = ☐ Yes 0 ✓ No Prevalence Index is ≤ 3.0 * ☑ No ☐ Yes Morphological Adaptations (Explain) * Herb Stratum (Plot size: 5 ft radius) ☐ Yes ✓ No Problem Hydrophytic Vegetation (Explain) * TARAXACUM OFFICINALE 30 FACU 1. * Indicators of hydric soil and wetland hydrology must be 2. TRIFOLIUM PRATENSE 15 Ν **FACU** present, unless disturbed or problematic. MEDICAGO SATIVA 25 **FACU** 3. 4. **ELYMUS REPENS** 30 FACU **Definitions of Vegetation Strata:** 5. Tree - Woody plants 3 in. (7.6cm) or more in diameter at 6 breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12. and woody plants less than 3,28 ft. tall. 13. 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15. Total Cover = 100 Woody Vine Stratum (Plot size: 30 ft radius) 1. 3. Hydrophytic Vegetation Present ☐ Yes ☑ No 5. 4. Total Cover = 0 Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic. Remarks:

Additional Remarks:		



Stantec											
Project/Site:	Emerald Pa	ark Landfill Expansion	on				Stantec Project #:	193702557		Date:	10/14/13
Applicant:	ADS	•					-			County:	Waukesha
Investigator #1:				Investi	igator #2:	MC				State:	Wisconsin
Soil Unit:		ry silty clay loam		mvcou	igatol #2.		VI/WWI Classification	TO/EOVo		Wetland ID:	W1
								1. 13/EZNa			
Landform:	Depression				al Relief:		9			Sample Point:	
Slope (%):	0-2	Latitude:			ongitude:			Datum:		Community ID:	Wet Meadow
Are climatic/hyd	drologic cond	litions on the site typ	pical for	this time	of year?	(If no, expla	in in remarks)	☐ Yes ☑	No	Section:	36
		or Hydrology 🛚 sig					Are normal circumst	ances present	t?	Township:	5N
		or Hydrology ☐ nat						□No	• .	Range:	20 Dir: E
		or riyurology Linat	urany pr	obleman	C!		<u> </u>			Range.	ZO DII. L
SUMMARY OF											
Hydrophytic Ve	getation Pre	sent?		Yes	□ No			Hydric Soils	Present?		
Wetland Hydrol	logy Present	?		Yes	□ No			Is This Samp	oling Point \	Nithin A Wetla	and? 🔟 Yes 🔳 No
Remarks:	The sample	e plot is located in a	wet mea	adow. W	/ETS ana	lvsis indi	cates drier than norma				
						,					
LIV/DD01-00V/											
HYDROLOGY											
Wetland Hydro	ology Indica	itors (Check here if	indicato	rs are no	ot present	□):					
Primary					л р. ооо				Secondary:		
	A1 - Surface	Water		П	B9 - Wate	r_Stained	Leaves			B6 - Surface So	il Cracks
	A2 - High Wa				B13 - Aqu				-	B10 - Drainage	
	A3 - Saturation				B14 - True					C2 - Dry-Season	
lä					C1 - Hydr					C8 - Crayfish Bu	
lä							spheres on Living Roots				Visible on Aerial Imagery
lä							educed Iron			D1 - Stunted or	
lä	, ,						duction in Tilled Soils			D2 - Geomorphi	
					C7 - Thin					D5 - FAC-Neutra	
		on Visible on Aerial Ima	agery		D9 - Gaug				_		
		Vegetated Concave S			Other (Ex						
	F F	3									
Field Observed											
Field Observat											
Surface Water	Present?	☐ Yes ☑ No	Depth:		(in.)			Wetland Hy	drology Pr	ocont?	Yes □ No
Water Table Pr	esent?	☐ Yes ☑ No	Depth:		(in.)			welland ny	urology Fi	esent: 🖸	ires 🗆 110
Saturation Pres	ent?	☐ Yes ☑ No	Depth:		(in.)						
					. ,						
Describe Record	ded Data (str	eam gauge, monitorir	ng well, a	erial phot	os, previo	us insped	tions), if available:		2007 NRC D	elineation: 2009	concurrence; FSA Slides
I Remarks:	The presen	ice of 2 secondary in	ndicators	at the s	ample plo	ot provid		d hydrology.		,	
Remarks:	The presen	ice of 2 secondary ii	ndicators	s at the s	ample plo	ot provid	es evidence of wetlan	d hydrology.		,	
	The preser	ice of 2 secondary ii	ndicators	s at the s	ample plo	ot provide		d hydrology.		,	
SOILS	•	,			ample plo		es evidence of wetlan	, ,,		,	
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SOILS Map Unit Name Taxonomy (Sub	e: ogroup):	Montgomery silty cl Vertic Endoaquolls	ay l oam			5	es evidence of wetlanders	: very poorly			
SOILS Map Unit Name Taxonomy (Sub	e: ogroup): otion (Describe to the	Montgomery silty cl Vertic Endoaquolls	ay l oam	the absence of ir		5	es evidence of wetlan	:: very poorly S=Covered/Coated Sand G			
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SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth	e: ogroup): otion (Describe to the Bottom Depth	Montgomery silty cl Vertic Endoaquolls ne depth needed to document the indic Horizon	ay loam cator or confirm Color	the absence of ir Matrix (Moist)	ndicators.) (Type:	C=Concentratio	es evidence of wetlander evidence of wetland	: very poorly S=Covered/Coated Sand G Mottles %	Grains; Location: PL=	Pore Lining, M=Matrix) Location	Texture (e.g. clay, sand, loam)
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SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 12 NRCS Hydric	Bottom Depth 12 20 Soil Field In A1- Histosol A2 - Histic Eq. A3 - Black His A4 - Hydroge	Montgomery silty cl Vertic Endoaquolls te depth needed to document the indice Horizon 1 2 dicators (check here bipedon stic en Sulfide	cator or confirm: Color 10YR 2.5Y	Matrix (Moist) 2/1 5/2 cators are	% 100 90 e not pres \$4 - Sand \$5 - Sand \$6 - Stripp F1 - Loan	c=Concentratio	Series Drainage Class n. D=Depletion, RM=Reduced Matrix, CS Color (Moist) 5/6 11 Matrix	S=Covered/Coated Sand G Mottles % 10 Indicators	Type C s for Problem F12 - Iron-M	Pore Lining, M=Matrix) Location M natic Soils 1 Prizirie Redox anganese Masse	Texture (e.g. clay, sand, loam) silt loam silty clay loam
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SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 12 NRCS Hydric	Bottom Depth 12 20 Soil Field In A1- Histosol A2 - Histic Eq. A3 - Black His A4 - Hydroge A5 - Stratifier A10 - 2 cm M A11 - Deplete A12 - Thick E	Montgomery silty cl Vertic Endoaquolls re depth needed to document the indic Horizon 1 2 dicators (check her bipedon stic n Sulfide d Layers luck ad Below Dark Surface bark Surface	cator or confirm: Color 10YR 2.5Y	Matrix ((Moist) 2/1 5/2	% 100 90 e not pres \$4 - Sand \$5 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	c=Concentration 2.5Y sent y Gleyed y Redox oed Matrix yy Muck Matrix yy Muck Matrix yy Muck Matrix yy Gleyed teted Matrix xy Dark Su seted Dark	Series Drainage Class In, D=Depletion, RM=Reduced Matrix, CS Color (Moist) 5/6 Matrix Ineral Matrix Crace Surface Surface	S=Covered/Coated Sand G Mottles % 10 Indicators	Type C s for Problem F12 - Iron-M	Pore Lining, M=Matrix) Location M natic Soils 1 Prizirie Redox anganese Masse	Texture (e.g. clay, sand, loam) silt loam silty clay loam
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 12 NRCS Hydric	Soli Field In A1- Histosol A2 - Histic E; A3 - Black Hi A4 - Hydroge A5 - Stratifier A10 - 2 cm M A11 - Depleth A12 - Depleth A13 - Black Hi A14 - Hydroge A5 - Stratifier A10 - 2 cm M A11 - Depleth A12 - Thick E A12 - Thick E A12 - Sandy M	Montgomery silty cl Vertic Endoaquolls re depth needed to document the indic Horizon 1 2 dicators (check her sitic in Sulfide d Layers luck ed Below Dark Surface Park Surface Park Surface luck Mineral	cator or confirm: Color 10YR 2.5Y	Matrix ((Moist) 2/1 5/2	% 100 90 e not pres \$4 - Sand \$5 - Sand \$6 - Strip F1 - Loam F3 - Dep F6 - Redo	c=Concentration 2.5Y sent y Gleyed y Redox oed Matrix yy Muck Matrix yy Muck Matrix yy Muck Matrix yy Gleyed teted Matrix xy Dark Su seted Dark	Series Drainage Class In, D=Depletion, RM=Reduced Matrix, CS Color (Moist) 5/6 Matrix Ineral Matrix Crace Surface Surface	S=Covered/Costed Sand G Mottles % 10 Indicators	Type C 5 for Problem A16 - Coast F12 - Iron-M Other (Expla	Location Location M	Texture (e.g. clay, sand, loam) silt loam silty clay loam
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 12 NRCS Hydric	Soli Field In A1- Histosol A2 - Histic E; A3 - Black Hi A4 - Hydroge A5 - Stratifier A10 - 2 cm M A11 - Depleth A12 - Depleth A13 - Black Hi A14 - Hydroge A5 - Stratifier A10 - 2 cm M A11 - Depleth A12 - Thick E A12 - Thick E A12 - Sandy M	Montgomery silty cl Vertic Endoaquolls re depth needed to document the indic Horizon 1 2 dicators (check her bipedon stic n Sulfide d Layers luck ad Below Dark Surface bark Surface	cator or confirm: Color 10YR 2.5Y	Matrix ((Moist) 2/1 5/2 cators are	% 100 90 e not pres \$4 - Sand \$5 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	c=Concentration 2.5Y sent y Gleyed y Redox oed Matrix yy Muck Matrix yy Muck Matrix yy Muck Matrix yy Gleyed teted Matrix xy Dark Su seted Dark	Series Drainage Class In, D=Depletion, RM=Reduced Matrix, CS Color (Moist) 5/6 Matrix Ineral Matrix Crace Surface Surface	S=Covered/Costed Sand G Mottles % 10 Indicators	Type C 5 for Problem A16 - Coast F12 - Iron-M Other (Expla	Location Location M	Texture (e.g. clay, sand, loam) silt loam silty clay loam
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 12 NRCS Hydric	Sition (Describe to III) Bottom Depth 12 20 Soil Field In A1- Histosol A2 - Histic Eq. A3- Black Hi A4 - Hydroge A5- Stratified A10 - 2 cm M A11 - Deplett A12 - Thick E \$1 - Sandy M \$3 - 5 cm ML	Montgomery silty cl Vertic Endoaquolls re depth needed to document the indic Horizon 1 2 dicators (check her bipedon stic stic sh Sulfide t Layers luck ded Below Dark Surface bark Surface fluck Mineral lucky Peat or Peat	cator or confirm: Color 10YR 2.5Y	Matrix ((Moist) 2/1 5/2	96 100 90 e not pres \$4 - Sand \$5 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redo	c=Concentration 2.5Y sent y Gleyed y Redox oed Matrix yy Muck Matrix yy Muck Matrix yy Muck Matrix yy Gleyed teted Matrix xy Dark Su seted Dark	Series Drainage Class In, D=Depletion, RM=Reduced Matrix, CS Color (Moist) 5/6 Matrix Ineral Matrix Crace Surface Surface	S=Covered/Coated Sand G Mottles % 10 Indicators of hydrophy	Type Type C C 5 for Problem A16 - Coast F12 - Iron-M Other (Expla	Location Location M	Texture (e.g. clay, sand, loam) silt loam silty clay loam es
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 12 NRCS Hydric	Soli Field In A1- Histosol A2 - Histic E; A3 - Black Hi A4 - Hydroge A5 - Stratifier A10 - 2 cm M A11 - Depleth A12 - Depleth A13 - Black Hi A14 - Hydroge A5 - Stratifier A10 - 2 cm M A11 - Depleth A12 - Thick E A12 - Thick E A12 - Sandy M	Montgomery silty cl Vertic Endoaquolls re depth needed to document the indic Horizon 1 2 dicators (check her bipedon stic stic sh Sulfide t Layers luck ded Below Dark Surface bark Surface fluck Mineral lucky Peat or Peat	cator or confirm: Color 10YR 2.5Y	Matrix ((Moist) 2/1 5/2 cators are	96 100 90 e not pres \$4 - Sand \$5 - Strip F1 - Loam F2 - Loam F3 - Deple F6 - Redo	c=Concentration 2.5Y sent y Gleyed y Redox oed Matrix yy Muck Matrix yy Muck Matrix yy Muck Matrix yy Gleyed teted Matrix xy Dark Su seted Dark	Series Drainage Class In, D=Depletion, RM=Reduced Matrix, CS Color (Moist) 5/6 Matrix Ineral Matrix Crace Surface Surface	S=Covered/Costed Sand G Mottles % 10 Indicators	Type Type C C 5 for Problem A16 - Coast F12 - Iron-M Other (Expla	Location Location M	Texture (e.g. clay, sand, loam) silt loam silty clay loam
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 12 NRCS Hydric Restrictive Layer (If Observed)	Soli Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M S3 - 5 cm M Type:	Montgomery silty cl Vertic Endoaquolls ne depth needed to document the indic Horizon 1 2 dicators (check here bipedon stic en Sulfide dat Layers luck ed Below Dark Surface bark Surface fluck Mineral lucky Peat or Peat	Color 10YR 2.5Y re if indic	Matrix (Moist) 2/1 5/2 cators are	% 100 90 e not pres \$4 - Sand \$5 - Sand \$6 - Stripi F1 - Loarr F2 - Loarr F3 - Deple F6 - Redo F7 - Deple F8 - Redo	2.5Y 2.5Y seent y Gleyed y Redox oed Matrix y Muck M yy Gleyed ated Matrix x Dark Su ated Dark x Depress	Series Drainage Class Geries Drainage Class In D=Depletion, RM=Reduced Matrix, CS Color (Moist) 5/6	S=Covered/Coated Sand G Mottles % 10 Indicators of hydrophy Hydric Soil	Type Type C s for Problem F12 - Iron-M Other (Expla	Pore Lining, M=Matrix) Location M natic Soils 1 Prairie Redox anganese Masse ani in Remarks)	Texture (e.g. clay, sand, loam) silt loam silty clay loam es
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 12 NRCS Hydric	Soli Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M S3 - 5 cm M Type:	Montgomery silty cl Vertic Endoaquolls ne depth needed to document the indic Horizon 1 2 dicators (check here bipedon stic en Sulfide dat Layers luck ed Below Dark Surface bark Surface fluck Mineral lucky Peat or Peat	Color 10YR 2.5Y re if indic	Matrix (Moist) 2/1 5/2 cators are	% 100 90 e not pres \$4 - Sand \$5 - Sand \$6 - Stripi F1 - Loarr F2 - Loarr F3 - Deple F6 - Redo F7 - Deple F8 - Redo	2.5Y 2.5Y seent y Gleyed y Redox oed Matrix y Muck M yy Gleyed ated Matrix x Dark Su ated Dark x Depress	Series Drainage Class In, D=Depletion, RM=Reduced Matrix, CS Color (Moist) 5/6 Matrix Ineral Matrix Crace Surface Surface	S=Covered/Coated Sand G Mottles % 10 Indicators of hydrophy Hydric Soil	Type Type C s for Problem F12 - Iron-M Other (Expla	Pore Lining, M=Matrix) Location M natic Soils 1 Prairie Redox anganese Masse ani in Remarks)	Texture (e.g. clay, sand, loam) silt loam silty clay loam es
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 12 NRCS Hydric Restrictive Layer (If Observed)	Soli Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A10 - 2 cm M A11 - Deplete A12 - Thick E S1 - Sandy M S3 - 5 cm M Type:	Montgomery silty cl Vertic Endoaquolls ne depth needed to document the indic Horizon 1 2 dicators (check here bipedon stic en Sulfide dat Layers luck ed Below Dark Surface bark Surface fluck Mineral lucky Peat or Peat	Color 10YR 2.5Y re if indic	Matrix (Moist) 2/1 5/2 cators are	% 100 90 e not pres \$4 - Sand \$5 - Sand \$6 - Stripi F1 - Loarr F2 - Loarr F3 - Deple F6 - Redo F7 - Deple F8 - Redo	2.5Y 2.5Y seent y Gleyed y Redox oed Matrix y Muck M yy Gleyed ated Matrix x Dark Su ated Dark x Depress	Series Drainage Class Geries Drainage Class In D=Depletion, RM=Reduced Matrix, CS Color (Moist) 5/6	S=Covered/Coated Sand G Mottles % 10 Indicators of hydrophy Hydric Soil	Type Type C s for Problem F12 - Iron-M Other (Expla	Pore Lining, M=Matrix) Location M natic Soils 1 Prairie Redox anganese Masse ani in Remarks)	Texture (e.g. clay, sand, loam) silt loam silty clay loam es

2w



WETLAND DETERMINATION DATA FORM Midwest Region

Wetland ID:

W1

Project/Site: Emerald Park Landfill Expansion Sample Point **VEGETATION** (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius % Cover Dominant Ind Status Dominance Test Worksheet Species Name Salix nigra 20 OBL 2. Number of Dominant Species that are OBL, FACW, or FAC: 3 (A) 3. 4. Total Number of Dominant Species Across All Strata: 3 (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B) 6. **Prevalence Index Worksheet** 8. 9. Total % Cover of: Multiply by: 10. x 1 = OBL spp. x 2 = Total Cover = 20 FACW spp. 80 160 x 3 = FAC spp. 0 0 Sapling/Shrub Stratum (Plot size: 15 ft radius) x 4 = FACU spp. 20 80 1. UPL spp. 0 x 5 = 2. 3. Total 120 (A) 260 4. 5. Prevalence Index = B/A = 2.167 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9. ✓ Yes Rapid Test for Hydrophytic Vegetation □ No 10. ----✓ Yes ☐ No Dominance Test is > 50% ✓ Yes Total Cover = ☐ No Prevalence Index is ≤ 3.0 * ☑ No ☐ Yes Morphological Adaptations (Explain) * Herb Stratum (Plot size: 5 ft radius) ☐ Yes ✓ No Problem Hydrophytic Vegetation (Explain) * PHALARIS ARUNDINACEA FACW 1. 60 * Indicators of hydric soil and wetland hydrology must be 2. Helianthus giganteus 20 Υ **FACW** present, unless disturbed or problematic. Solidago canadensis Ν **FACU** 3. 15 4. CIRSIUM ARVENSE 5 Ν FACU **Definitions of Vegetation Strata:** 5. Tree - Woody plants 3 in. (7.6cm) or more in diameter at 6 breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12. and woody plants less than 3,28 ft. tall. 13. 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15. Total Cover = 100 Woody Vine Stratum (Plot size: 30 ft radius) 1. 3. Hydrophytic Vegetation Present ☑ Yes ☐ No 5. 4. Total Cover = 0 Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic. Remarks: Additional Remarks:



Emerald Park Landfill Expansion Stantec Project #: 193702557 Date: 10/14/13 Applicant: County: Waukesha ADS Investigator #1: DP Investigator #2: MC State: Wisconsin Adj. to W1 Saylesville silt loam NWI/WWI Classification: N/A Wetland ID: Soil Unit: Landform: Rise Local Relief: Convex Sample Point: 3u Slope (%): 2-4 Latitude: N/A Longitude: N/A Datum: N/A Community ID: Upland soybean field Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No 36 Section: Are Vegetation ☑ , Soil □, or Hydrology □ significantly disturbed? Are normal circumstances present? 5N Township: Are Vegetation □, Soil □, or Hydrology □ naturally problematic? ☐ Yes ☑No 20 Ε Range: Dir: Hydrophytic Vegetation Present? Hydric Soils Present? ☑ Yes □ No ☐ Yes ☑ No Wetland Hydrology Present? ☐ Yes ☑ No Is This Sampling Point Within A Wetland? 🔲 Yes 🔟 No WETS analysis indicates drier than normal antecedent moisture conditions. Potential problematic seasonal wetland hydrology. Although hydrophytic Remarks: vegetation present, the lack of hydric soils and wetland hydrology indicate upland cropland. **HYDROLOGY** Wetland Hydrology Indicators (Check here if indicators are not present ☑): Primary: Secondary: ☐ A1 - Surface Water B6 - Surface Soil Cracks □ B9 - Water-Stained Leaves A2 - High Water Table ☐ B13 - Aquatic Fauna ☐ B10 - Drainage Patterns A3 - Saturation B14 - True Aquatic Plants ☐ C2 - Dry-Season Water Table C1 - Hydrogen Sulfide Odor П B1 - Water Marks C8 - Crayfish Burrows П **B2** - Sediment Deposits C3 - Oxidized Rhizospheres on Living Roots C9 - Saturation Visible on Aerial Imagery D1 - Stunted or Stressed Plants B3 - Drift Deposits C4 - Presence of Reduced Iron B4 - Algal Mat or Crust C6 - Recent Iron Reduction in Tilled Soils D2 - Geomorphic Position B5 - Iron Deposits C7 - Thin Muck Surface ☐ D5 - FAC-Neutral Test B7 - Inundation Visible on Aerial Imagery ■ D9 - Gauge or Well Data □ B8 - Sparsely Vegetated Concave Surface □ Other (Explain) Field Observations: Surface Water Present? ☐ Yes ☑ No Depth: (in.) Wetland Hydrology Present? ☐ Yes ☑ No Water Table Present? ☐ Yes ✓ No Depth: (in.) Saturation Present? ☐ Yes ☑ No Depth: (in.) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence; FSA Slides Sample point 1ft higher than adjacent wetland sample plot. No evidence of wetland hydrology was observed at the sample plot. Contrasting with Remarks: adjacent W1-3w. FSA slide review indicates non-wetlands at approximately this location. SOILS Map Unit Name: Saylesville silt loam Series Drainage Class: moderately well to well Taxonomy (Subgroup): Typic Hapludalfs Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix) Texture Top Bottom Matrix Mottles Туре (e.g. clay, sand, loam) Depth Depth Horizon Color (Moist) % Color (Moist) % Location 10YR 100 silt loam 0 14 3/2 10YR 4/2 50 --__ __ __ __ silty clay 2 14 20 10YR 4/3 50 NRCS Hydric Soil Field Indicators (check here if indicators are not present 🗵): Indicators for Problematic Soils 1 \$4 - Sandy Gleyed Matrix ☐ A16 - Coast Prairie Redox A1- Histosol \$5 - Sandy Redox A2 - Histic Epipedon F12 - Iron-Manganese Masses A3 - Black Histic \$6 - Stripped Matrix Other (Explain in Remarks) П A4 - Hydrogen Sulfide F1 - Loamy Muck Mineral П A5 - Stratified Layers F2 - Loamy Gleyed Matrix F3 - Depleted Matrix A10 - 2 cm Muck A11 - Depleted Below Dark Surface F6 - Redox Dark Surface A12 - Thick Dark Surface F7 - Depleted Dark Surface П \$1 - Sandy Muck Mineral F8 - Redox Depressions \$3 - 5 cm Mucky Peat or Peat 1 Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problemation Restrictive Layer (If Observed) Type: N/A **Hydric Soil Present?** ☐ Yes ☑ No Depth: N/A Remarks: No O² roots. The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.



Project/Site: Emerald Park Landfill Expansion Wetland ID: Adj. to W1 Sample Point 3u **VEGETATION** (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius % Cover Dominant Ind, Status Dominance Test Worksheet Species Name 2. Number of Dominant Species that are OBL, FACW, or FAC: 0 (A) 3. 4. Total Number of Dominant Species Across All Strata: 0 (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: NA (A/B) 6. 7. **Prevalence Index Worksheet** 8. 9. Total % Cover of: Multiply by: 10. OBL spp. x 1 = Total Cover = FACW spp. 2 x 2 = x 3 = 0 FAC spp. Sapling/Shrub Stratum (Plot size: 15 ft radius) x 4 = FACU spp. 1. UPL spp. 0 x 5= 2. 3. Total 3 (A) 4. 5. Prevalence Index = B/A = 2.667 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9. Rapid Test for Hydrophytic Vegetation ☐ Yes ✓ No 10. ----☐ Yes ✓ No Dominance Test is > 50% ✓ Yes Total Cover = □ No Prevalence Index is ≤ 3.0 * ☐ No ☐ Yes Morphological Adaptations (Explain) * Herb Stratum (Plot size: 5 ft radius) ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) * TARAXACUM OFFICINALE FACU Ν 1. * Indicators of hydric soil and wetland hydrology must be 2. Cyperus esculentus Ν **FACW** present, unless disturbed or problematic. RHAMNUS FRANGULA **FACW** 3. 1 Ν 4. **Definitions of Vegetation Strata:** --5. Tree - Woody plants 3 in. (7.6cm) or more in diameter at 6 breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12. and woody plants less than 3,28 ft. tall. 13. 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15. Total Cover = 3 Woody Vine Stratum (Plot size: 30 ft radius) 1.

Additional Remarks:

3.

5 4

Remarks:

Soybean stubble present within the plowed agricultural field. FSA slide review indicates wetland boundary in this vicinity.

Vegetation at the sample plot is hydrophytic based on PI because percent cover was not high enough to determine dominants via 50-20 rule.

Total Cover =

0

Hydrophytic Vegetation Present ☑ Yes ☐ No



Emerald Park Landfill Expansion Stantec Project #: 193702557 Date: 10/14/13 Applicant: County: Waukesha ADS Investigator #1: DP Investigator #2: MC State: Wisconsin Saylesville silt loam Soil Unit: NWI/WWI Classification: T3/E2Ka Wetland ID: W1 Landform: Depression Local Relief: Concave Sample Point: 3w Community ID: Forest wetland Slope (%): Latitude: N/A Longitude: N/A Datum: N/A Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No 36 Section: Are Vegetation □ , Soil □, or Hydrology □ significantly disturbed? Are normal circumstances present? 5N Township: Are Vegetation □, Soil □, or Hydrology □ naturally problematic? ☑ Yes □No 20 Ε Range: Dir: SUMMARY OF FINDINGS Hydrophytic Vegetation Present? Hydric Soils Present? ☑ Yes □ No Yes □ No Wetland Hydrology Present? Is This Sampling Point Within A Wetland? ☑ Yes □ No The sample plot is located in a forested wetland. WETS analysis indicates antecedent moisture conditions in the drier than normal range. Remarks: **HYDROLOGY** Wetland Hydrology Indicators (Check here if indicators are not present □): Primary: Secondary: B6 - Surface Soil Cracks A1 - Surface Water □ B9 - Water-Stained Leaves A2 - High Water Table ☐ B13 - Aquatic Fauna ☐ B10 - Drainage Patterns A3 - Saturation B14 - True Aquatic Plants ☐ C2 - Dry-Season Water Table C1 - Hydrogen Sulfide Odor П B1 - Water Marks C8 - Crayfish Burrows П **B2** - Sediment Deposits C3 - Oxidized Rhizospheres on Living Roots C9 - Saturation Visible on Aerial Imagery C4 - Presence of Reduced Iron □ D1 - Stunted or Stressed Plants B3 - Drift Deposits B4 - Algal Mat or Crust C6 - Recent Iron Reduction in Tilled Soils D2 - Geomorphic Position B5 - Iron Deposits C7 - Thin Muck Surface ☑ D5 - FAC-Neutral Test B7 - Inundation Visible on Aerial Imagery ■ D9 - Gauge or Well Data □ B8 - Sparsely Vegetated Concave Surface □ Other (Explain) Field Observations: Surface Water Present? ☐ Yes ☑ No Depth: (in.) Wetland Hydrology Present? ☑ Yes □ No Water Table Present? ☐ Yes ✓ No Depth: (in.) Saturation Present? ☐ Yes ✓ No Depth: (in.) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No O² roots. The presence of 2 secondary indicators at the sample plot provides evidence of wetland hydrology. SOILS Map Unit Name: Saylesville silt loam Series Drainage Class: moderately well to well Taxonomy (Subgroup): Typic Hapludalfs Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix) Texture Top Bottom Matrix Mottles (e.g. clay, sand, loam) Depth Depth Horizon Color (Moist) % Color (Moist) % Туре Location 14 **10YR** 100 silt loam 0 3/1 10YR М 20 5Y 90 4/6 10 С 14 2 4/1 silty clay NRCS Hydric Soil Field Indicators (check here if indicators are not present): Indicators for Problematic Soils 1 \$4 - Sandy Gleyed Matrix A1- Histosol □ A16 - Coast Prairie Redox \$5 - Sandy Redox A2 - Histic Epipedon F12 - Iron-Manganese Masses \$6 - Stripped Matrix A3 - Black Histic Other (Explain in Remarks) П A4 - Hydrogen Sulfide F1 - Loamy Muck Mineral П A5 - Stratified Layers F2 - Loamy Gleyed Matrix F3 - Depleted Matrix A10 - 2 cm Muck A11 - Depleted Below Dark Surface F6 - Redox Dark Surface A12 - Thick Dark Surface F7 - Depleted Dark Surface П \$1 - Sandy Muck Mineral F8 - Redox Depressions \$3 - 5 cm Mucky Peat or Peat 1 Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problemation Restrictive Layer (If Observed) Type: N/A **Hydric Soil Present?** ☑ Yes □ No Depth: N/A Remarks: The soil at the sample plot does not meets the A12 Indicator because the value is 0.5 too high in the 1st horizon. However, this soil is judged to be hydric based on the other parameters.

3w

Sample Point



Project/Site:

Emerald Park Landfill Expansion

WETLAND DETERMINATION DATA FORM Midwest Region

Wetland ID:

W1

VEGETATION (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius **Dominance Test Worksheet** Species Name % Cover Dominant Ind Status ROBINIA PSEUDOACACIA 30 **FACU** 2. Salix nigra 25 OBL Number of Dominant Species that are OBL, FACW, or FAC: 5 (A) 3. Acer negundo 10 Ν FAC 4. Total Number of Dominant Species Across All Strata: 9 (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: 55.6% (A/B) 6. **Prevalence Index Worksheet** 8. 9. Total % Cover of: Multiply by: 10. x 1 = OBL spp. Total Cover = 65 FACW spp. 110 x 2 = 220 x 3 = FAC spp. 15 45 Sapling/Shrub Stratum (Plot size: 15 ft radius) x 4 = FACU spp. 50 LONICERA X BELLA 10 FACU 1. UPL spp. 0 x 5 = 2. Sambucus canadensis 5 **FACW** 3. Viburnum lentago 5 FAC Total 200 (A) 490 Rubus idaeus **FACU** 4. 5 5. Prevalence Index = B/A = 2.450 ----6. 7. 8. **Hydrophytic Vegetation Indicators:** 9. ☐ Yes Rapid Test for Hydrophytic Vegetation ✓ No 10. ----✓ Yes ☐ No Dominance Test is > 50% ✓ Yes Total Cover = 25 ☐ No Prevalence Index is ≤ 3.0 * ☑ No ☐ Yes Morphological Adaptations (Explain) * Herb Stratum (Plot size: 5 ft radius) ☐ Yes ✓ No Problem Hydrophytic Vegetation (Explain) * PHALARIS ARUNDINACEA 100 **FACW** 1. * Indicators of hydric soil and wetland hydrology must be 2. present, unless disturbed or problematic. 3. **Definitions of Vegetation Strata:** 4. 5. Tree - Woody plants 3 in. (7.6cm) or more in diameter at 6 breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12. and woody plants less than 3,28 ft. tall. 13. 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15. Total Cover = 100 Woody Vine Stratum (Plot size: 30 ft radius) Parthenocissus quinquefolia 5 **FACU** 1. **FACW** Vitis riparia 5 3. Hydrophytic Vegetation Present ☑ Yes ☐ No 5. 4. Total Cover = 10 Remarks: Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.

Additional Remarks:

Sample plot is located in a seasonally wet forested wetland.



Emerald Park Landfill Expansion Stantec Project #: 193702557 Date: 10/14/13 Applicant: County: Waukesha ADS Investigator #1: DP Investigator #2: MC State: Wisconsin Adj. to W1 Montgomery silty clay loam NWI/WWI Classification: N/A Wetland ID: Soil Unit: Landform: Rise Local Relief: Convex Sample Point: 4u 0-2 Community ID: Agricultural field Slope (%): Latitude: N/A Longitude: N/A Datum: N/A Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No 36 Section: Are Vegetation ☑ , Soil □, or Hydrology □ significantly disturbed? Are normal circumstances present? 5N Township: Are Vegetation □, Soil □, or Hydrology ☑ naturally problematic? ☐ Yes ☑No 20 Range: Dir: Hydrophytic Vegetation Present? Hydric Soils Present? ☐ Yes ☑ No ☐ Yes ☑ No Wetland Hydrology Present? ☐ Yes ☑ No Is This Sampling Point Within A Wetland? 🔲 Yes 🔟 No WETS analysis indicates drier than normal antecedent moisture conditions. The sample point was planted to soybean during the 2013 growing Remarks: season, so no normal circumstances. Potential problematic seasonal wetland hydrology, **HYDROLOGY** Wetland Hydrology Indicators (Check here if indicators are not present ☑): Primary: Secondary: B6 - Surface Soil Cracks ☐ A1 - Surface Water □ B9 - Water-Stained Leaves A2 - High Water Table ☐ B13 - Aquatic Fauna ☐ B10 - Drainage Patterns A3 - Saturation B14 - True Aquatic Plants ☐ C2 - Dry-Season Water Table C1 - Hydrogen Sulfide Odor П B1 - Water Marks C8 - Crayfish Burrows П **B2** - Sediment Deposits C3 - Oxidized Rhizospheres on Living Roots C9 - Saturation Visible on Aerial Imagery D1 - Stunted or Stressed Plants B3 - Drift Deposits C4 - Presence of Reduced Iron B4 - Algal Mat or Crust C6 - Recent Iron Reduction in Tilled Soils D2 - Geomorphic Position B5 - Iron Deposits C7 - Thin Muck Surface ☐ D5 - FAC-Neutral Test B7 - Inundation Visible on Aerial Imagery ■ D9 - Gauge or Well Data □ B8 - Sparsely Vegetated Concave Surface □ Other (Explain) Field Observations: Surface Water Present? ☐ Yes Depth: (in.) ✓ No Wetland Hydrology Present? ☐ Yes ☑ No Water Table Present? ☐ Yes √ No Depth: (in.) Saturation Present? ☐ Yes ☑ No Depth: (in.) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence; FSA Slides Remarks: Soil pit dry to > 20" No evidence of wetland hydrology was observed at the sample plot. Soils and vegetation indicate non-wetlands, so potential problematic seasonal wetland lacking hydrology indicators judged to not be present at this point. See FSA interpretations at bottom of dataform. SOILS Map Unit Name: Montgomery silty clay loam Series Drainage Class: very poorly Taxonomy (Subgroup): Vertic Endoaquolls Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix) Texture Top Bottom Matrix Mottles (e.g. clay, sand, loam) Depth Depth Horizon Color (Moist) % Color (Moist) % Туре Location 10YR 100 silty clay loam 0 8 3/2 10YR 4/3 50 __ __ __ __ silty clay 2 8 20 silty clay 10YR 4/4 50 NRCS Hydric Soil Field Indicators (check here if indicators are not present 🗵): Indicators for Problematic Soils 1 \$4 - Sandy Gleyed Matrix ☐ A16 - Coast Prairie Redox A1- Histosol \$5 - Sandy Redox A2 - Histic Epipedon F12 - Iron-Manganese Masses A3 - Black Histic \$6 - Stripped Matrix Other (Explain in Remarks) П A4 - Hydrogen Sulfide F1 - Loamy Muck Mineral П A5 - Stratified Layers F2 - Loamy Gleyed Matrix F3 - Depleted Matrix A10 - 2 cm Muck A11 - Depleted Below Dark Surface F6 - Redox Dark Surface A12 - Thick Dark Surface F7 - Depleted Dark Surface П \$1 - Sandy Muck Mineral F8 - Redox Depressions \$3 - 5 cm Mucky Peat or Peat 1 Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problemation Restrictive Layer (If Observed) **Hydric Soil Present?** ☐ Yes ☑ No Type: N/A Depth: N/A Remarks: Not a problem mollisol as mapped. No O² roots. The soil at the sample plot does not have any field indicators of hydric soil, nor does it appear to be inundated or saturated to the surface for long periods of time during the growing season in most years.



Project/Site: Emerald Park Landfill Expansion Wetland ID: Adj. to W1 Sample Point 4u **VEGETATION** (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius % Cover Dominant Ind, Status Dominance Test Worksheet Species Name 2. Number of Dominant Species that are OBL, FACW, or FAC: 0 (A) 3. 4. Total Number of Dominant Species Across All Strata: 2 (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B) 6. **Prevalence Index Worksheet** 8. 9. Total % Cover of: Multiply by: 10. OBL spp. x 1 = Total Cover = 0 FACW spp. 1 x 2 = x 3 = FAC spp. 0 Sapling/Shrub Stratum (Plot size: 15 ft radius) x 4 = FACU spp. 15 1. UPL spp. 0 x 5= 2. 3. Total 16 (A) 62 4. 5. Prevalence Index = B/A = 3.875 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9. Rapid Test for Hydrophytic Vegetation ☐ Yes ✓ No 10. ----☐ Yes ✓ No Dominance Test is > 50% Total Cover = ☐ Yes ✓ No Prevalence Index is ≤ 3.0 * ☑ No ☐ Yes Morphological Adaptations (Explain) * Herb Stratum (Plot size: 5 ft radius) ☐ Yes ✓ No Problem Hydrophytic Vegetation (Explain) * 10 FACU CIRSIUM ARVENSE 1. * Indicators of hydric soil and wetland hydrology must be 2. TARAXACUM OFFICINALE 5 Υ **FACU** present, unless disturbed or problematic. **FACW** 3. Cyperus esculentus 1 Ν 4. **Definitions of Vegetation Strata:** --5. Tree - Woody plants 3 in. (7.6cm) or more in diameter at 6 breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12. and woody plants less than 3,28 ft. tall. 13. 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15. Total Cover = 16 Woody Vine Stratum (Plot size: 30 ft radius) 1. 3. Hydrophytic Vegetation Present ☐ Yes ☑ No

Additional Remarks:

5 4

Remarks:

Soybean stubble present. No crop stress evident. FSA slide review indicates non-wetlands by showing a boundary in this proximate location.

Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.

Total Cover =

0



Project/Site:											
	Emerald Pa	ark Landfill Expansio	n				Stantec Project #:	193702557		Date:	10/14/13
Applicant:	ADS									County:	Waukesha
Investigator #1:	DP			Investi	gator #2:	MC				State:	Wisconsin
Soil Unit:		y silty clay loam			gato: #2:		VI/WWI Classification:	T3/E2Ka		Wetland ID:	W1
				1	al Dallas			1 J/LZINA			
Landform:	Depression				al Relief:		е			Sample Point:	
Slope (%):	0-2	Latitude:			ongitude:			Datum:		Community ID:	
Are climatic/hyd	trologic cond	litions on the site typ	oical for t	this time	of year?	(If no, expla	in in remarks)	☐ Yes ☑	No	Section:	36
Are Vegetation	□ . Soil □.	or Hydrology 🔲 sigi	nificantly	disturbe	ed?		Are normal circumsta	ances present	t?	Township:	5N
		or Hydrology □ nat					☑ Yes	□No		Range:	20 Dir: E
		or riyurology Li nat	urany pro	bieman	G:					rvarige.	ZO DII. L
SUMMARY OF											
Hydrophytic Ve	getation Pres	sent?		Yes	□ No			Hydric Soils			
Wetland Hydrol	ogy Present	?		☑ Yes	☐ No			Is This Samp	oling Point	Within A Wetla	and? ZYes No
Remarks:	WETS ana	lvsis indicates drier	than nor	mal ante	cedent m	oisture c	onditions. The sample	e plot is locate	d in a shru	b-carr wetland	
<u>Primary</u> □			indicato		ot present B9 - Wate B13 - Aqu	r-Stained			-	B6 - Surface So B10 - Drainage	
	A3 - Saturation				B14 - True					C2 - Dry-Seaso	
	B1 - Water M				C1 - Hydro					C8 - Crayfish Bu	
	B2 - Sedimer						spheres on Living Roots				Visible on Aerial Imagery
	B3 - Drift Der						educed Iron			D1 - Stunted or	
	B4 - Algal Ma						duction in Tilled Soils			D2 - Geomorphi	
	B5 - Iron Dep				C7 - Thin					D5 - FAC-Neutr	
	B7 - Inundation	on Visible on Aerial Ima	igery		D9 - Gaug	e or Well	Data				
	β8 - Sparsely	Vegetated Concave S	urface		Other (Exp	olain)					
Field Observat	ions:										
Surface Water		□ Vee □ Ne	Donth		(in)						
		☐ Yes ☑ No	Depth:		(in.)			Wetland Hy	drology Pr	esent?	Yes □ No
Water Table Pr		☐ Yes ☑ No	Depth:		(in.)			•	0,		
Saturation Pres	ent?	☐ Yes ☑ No	Depth:		(in.)						
Describe Record	led Data (str	eam gauge, monitorin	n well a	arial nhot	os previo	us insper	tions) if available:		2007 NRC I	Delineation: 2009	concurrence; FSA Slides
		carri gauge, monitorii	ig well, a	criai priot	OS, PICVIO						
				4.44						<u> </u>	,
Remarks:		ce of 2 secondary ir	ndicators	at the s	ample plo			d hydrology. N		<u> </u>	and per the FSA slide
Remarks:	The presen review.	ce of 2 secondary in	ndicators	at the s	ample plo			d hydrology. N		<u> </u>	,
SOILS		ce of 2 secondary in	ndicators	at the s	ample plo			d hydrology. N		<u> </u>	,
SOILS	review.	•		at the s	ample plo	ot provide	es evidence of wetland			<u> </u>	,
SOILS Map Unit Name	review.	Montgomery silty cl	ay l oam	at the s	ample plo	ot provide				<u> </u>	,
SOILS Map Unit Name Taxonomy (Sub	review.	Montgomery silty cl Vertic Endoaquolls	ay l oam			ot provide	es evidence of wetland Geries Drainage Class:	: very poorly	learby farm	n field non-wetl	,
SOILS Map Unit Name Taxonomy (Sub Profile Descrip	review. :: ogroup): otion (Describe to the	Montgomery silty cl Vertic Endoaquolls	ay l oam	he absence of ir		ot provide	es evidence of wetland	: Very poorly S=Covered/Coated Sand G	learby farm	n field non-wetl	and per the FSA slide
SOILS Map Unit Name Taxonomy (Sub	review.	Montgomery silty cl Vertic Endoaquolls	ay l oam			ot provide	es evidence of wetland Geries Drainage Class:	: very poorly	learby farm	n field non-wetl	and per the FSA slide Texture
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SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth	review. e: ogroup): tion (Describe to the Bottom Depth	Montgomery silty cl Vertic Endoaquolls te depth needed to document the indic Horizon	ay loam	the absence of ir Matrix (Moist)	ndicators.) (Type:	ot provide	es evidence of wetland Geries Drainage Class:	: very poorly S=Covered/Coated Sand G Mottles	learby farm	field non-wet	and per the FSA slide Texture (e.g. clay, sand, loam)
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	review. e: ogroup): otion (Describe to the described to t	Montgomery silty of Vertic Endoaquolls to depth needed to document the indices Horizon	ay loam sator or confirm to Color 10YR	the absence of in Matrix (Moist)	midicators.) (Type:	C=Concentratio	Series Drainage Class: n, D=Depletion, RM=Reduced Matrix, CS Color (Moist)	Secovered/Coated Sand G Mottles %	Searby farm Searins; Location: PL= Type	Pore Lining, M=Matrix) Location	Texture (e.g. clay, sand, loam) clay loam
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 14	review. cogroup): tion (Describe to the Depth	Montgomery silty cl Vertic Endoaquolls the depth needed to document the indice Horizon 1 2	ay loam ator or confirm to Color 10YR 5Y	he absence of in Matrix (Moist) 2/1 4/2	% 100 95	C=Concentration	Series Drainage Class: n. D=Depletion, RM=Reduced Matrix, CS Color (Moist) 5/6	S=Covered/Coated Sand G Mottles % 5	Frains; Location: PL=	Pore Lining, M=Matrix) Location M	Texture (e.g. clay, sand, loam) clay loam silty clay
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 14	review. cogroup): tion (Describe to the Depth	Montgomery silty cl Vertic Endoaquolls te depth needed to document the indice Horizon 1 2	ay loam ator or confirm to Color 10YR 5Y	the absence of in Matrix (Moist) 2/1 4/2	% 100 95	C=Concentration 2.5Y	Series Drainage Class: n. D=Depletion, RM=Reduced Matrix, CS Color (Moist) 5/6	S=Covered/Coated Sand G Mottles % 5	Searby farm Frains; Location: PL= Type C	Pore Lining, M=Matrix) Location M	Texture (e.g. clay, sand, loam) clay loam silty clay
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SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 14	review. cogroup): btion (Describe to the Depth	Montgomery silty cl Vertic Endoaquolls te depth needed to document the indice Horizon 1 2	ay loam sator or confirm to Color 10YR 5Y	he absence of irr	% 100 95	C=Concentration	Series Drainage Class: n. D=Depletion, RM=Reduced Matrix, CS Color (Moist) 5/6	Secovered/Coated Sand G Mottles % 5	Frains; Location: PL= Type C	Pore Lining, M=Matrix) Location M	Texture (e.g. clay, sand, loam) clay loam silty clay
SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 14	review. coroup): btion (Describe to the Depth	Montgomery silty of Vertic Endoaquolls to depth needed to document the indices the depth needed to document the indices that	ay loam Color 10YR 5Y	Matrix (Moist) 2/1 4/2	% 100 95	C=Concentration	Series Drainage Class: n. D=Depletion, RM=Reduced Matrix, CS Color (Moist) 5/6	Secovered/Coated Sand G Mottles % 5	rains; Location: PL= Type C	Pore Lining, M=Matrix) Location M	Texture (e.g. clay, sand, loam) clay loam silty clay
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 14 NRCS Hydric	review. Egroup): Ition (Describe to IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Montgomery silty cl Vertic Endoaquolls Vertic Endoaquolls edepth needed to document the indice Horizon 1 2 dicators (check here bipedon stic in Sulfide d Layers luck ed Below Dark Surface bark Surface luck Mineral	ay loam Color 10YR 5Y	Matrix (Moist) 2/1 4/2	% 100 95	c=Concentratio	Series Drainage Class: On, DeDepletion, RM=Reduced Matrix, CS Color (Moist) 5/6 Matrix Ineral Matrix Crace Surface Surface	: very poorly S=Covered/Coated Sand G Mottles % 5 Indicators	Type C 5 for Probler A16 - Coast F12 - Iron-M Other (Expla	Pore Lining, M=Matrix) Location M	Texture (e.g. clay, sand, loam) clay loam silty clay es
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 14 NRCS Hydric	review. Egroup): Ition (Describe to IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Montgomery silty cl Vertic Endoaquolls Pedepth needed to document the indice Horizon 1 2 dicators (check here bipedon stic n Sulfide I Layers luck ad Below Dark Surface bark Surface	ay loam Color 10YR 5Y	Matrix (Moist) 2/1 4/2	% 100 95 e not pres \$4 - Sand \$5 - Sand \$6 - Strip F1 - Loam F2 - Loam F3 - Deple F3 - Deple F7 - Deple	c=Concentratio	Series Drainage Class: On, DeDepletion, RM=Reduced Matrix, CS Color (Moist) 5/6 Matrix Ineral Matrix Crace Surface Surface	: very poorly S=Covered/Coated Sand G Mottles % 5 Indicators	Type C 5 for Probler A16 - Coast F12 - Iron-M Other (Expla	Pore Lining, M=Matrix) Location M	Texture (e.g. clay, sand, loam) clay loam silty clay
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 14 NRCS Hydric	review. Egroup): Ition (Describe to IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Montgomery silty cl Vertic Endoaquolls edepth needed to document the indice Horizon 1 2 dicators (check here bipedon stic n Sulfide d Layers luck ad Below Dark Surface luck Mineral cky Peat or Peat	ay loam Color 10YR 5Y	Matrix (Moist) 2/1 4/2	96 100 95 e not pres \$4 - Sand \$5 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple F8 - Redo	c=Concentratio	Series Drainage Class: On, DeDepletion, RM=Reduced Matrix, CS Color (Moist) 5/6 Matrix Ineral Matrix Crace Surface Surface	: very poorly S=Covered/Coated Sand G Mottles % 5 Indicators	Type Type C Grains: Location: PL=	Pore Lining, M=Matrix) Location M	Texture (e.g. clay, sand, loam) clay loam silty clay es
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 14 NRCS Hydric	review. Example: Soli Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A1- Deplete A1- Deplete A1- Deplete A1- Sondy M A1- Sondy M A1- Sondy M A1- Sondy M A1- Type:	Montgomery silty cl Vertic Endoaquolls the depth needed to document the indice Horizon 1 2 dicators (check here bipedon stic n Sulfide d Layers luck ed Below Dark Surface bark Surface luck Mineral luck yPeat or Peat	ay loam Color 10YR 5Y re if indic	he absence of in Matrix (Moist) 2/1 4/2 cators are	9% 100 95	ct provided SC C=Concentration 2.5Y Sent y Gleyed I y Redox Ded Matrix y Muck Might Gleyed Steel Matrix x Dark Sueted Dark x Depress	Series Drainage Class: On, D=Depletion, RM=Reduced Matrix, CS Color (Moist) 5/6 Matrix Ineral Matrix Crace Surface Surface Surface Since Surface Surface Surface Surface Surface	Secovered/Costed Sand General Mottles Mottles % Indicators Indicators of hydrophy Hydric Soil	Type C s for Probler F12 - Iron-N Other (Expla	Pore Lining, M=Matrix) Location M	Texture (e.g. clay, sand, loam) clay loam silty clay es
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 14 NRCS Hydric	review. Example: Soli Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A1- Deplete A1- Deplete A1- Sond Mu Type: The soil at	Montgomery silty cl Vertic Endoaquolls the depth needed to document the indice Horizon 1 2 dicators (check here bipedon stic n Sulfide d Layers luck ed Below Dark Surface bark Surface luck Mineral luck yPeat or Peat	ay loam Color 10YR 5Y re if indic	he absence of in Matrix (Moist) 2/1 4/2 cators are	9% 100 95	ct provided SC C=Concentration 2.5Y Sent y Gleyed I y Redox Ded Matrix y Muck Might Gleyed Steel Matrix x Dark Sueted Dark x Depress	Series Drainage Class: On, DeDepletion, RM=Reduced Matrix, CS Color (Moist) 5/6 Matrix Ineral Matrix Crace Surface Surface	Secovered/Costed Sand General Mottles Mottles % Indicators Indicators of hydrophy Hydric Soil	Type C s for Probler F12 - Iron-N Other (Expla	Pore Lining, M=Matrix) Location M	Texture (e.g. clay, sand, loam) clay loam silty clay es
SOILS Map Unit Name Taxonomy (Sut Profile Descrip Top Depth 0 14 NRCS Hydric	review. Example: Soli Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A1- Deplete A1- Deplete A1- Deplete A1- Sondy M A1- Sondy M A1- Sondy M A1- Sondy M A1- Type:	Montgomery silty cl Vertic Endoaquolls the depth needed to document the indice Horizon 1 2 dicators (check here bipedon stic n Sulfide d Layers luck ed Below Dark Surface bark Surface luck Mineral luck yPeat or Peat	ay loam Color 10YR 5Y re if indic	he absence of in Matrix (Moist) 2/1 4/2 cators are	9% 100 95	ct provided SC C=Concentration 2.5Y Sent y Gleyed I y Redox Ded Matrix y Muck Might Gleyed Steel Matrix x Dark Sueted Dark x Depress	Series Drainage Class: On, D=Depletion, RM=Reduced Matrix, CS Color (Moist) 5/6 Matrix Ineral Matrix Crace Surface Surface Surface Since Surface Surface Surface Surface Surface	Secovered/Costed Sand General Mottles Mottles % Indicators Indicators of hydrophy Hydric Soil	Type C s for Probler F12 - Iron-N Other (Expla	Pore Lining, M=Matrix) Location M	Texture (e.g. clay, sand, loam) clay loam silty clay es

4w



WETLAND DETERMINATION DATA FORM Midwest Region

Wetland ID:

W1

Project/Site: Emerald Park Landfill Expansion Sample Point **VEGETATION** (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius % Cover Dominant Ind Status Dominance Test Worksheet Species Name 2. Number of Dominant Species that are OBL, FACW, or FAC: 5 (A) 3. 4. Total Number of Dominant Species Across All Strata: 6 (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B) 6. **Prevalence Index Worksheet** 8. 9. Total % Cover of: Multiply by: 10. x 1 = OBL spp. Total Cover = FACW spp. 105 x 2 = 210 x 3 = FAC spp. 30 90 Sapling/Shrub Stratum (Plot size: 15 ft radius) x 4 = FACU spp. 25 100 30 FAC 1. Cornus racemosa UPL spp. 10 x 5 = 50 2. Salix interior 20 **FACW** 3. Rubus occidentalis 10 Ν UPL Total 170 (A) 450 **FACW** 4. Cornus stolonifera 15 Ν 5. Fraxinus pennsylvanica 10 Ν FACW Prevalence Index = B/A = 2.647 6. LONICERA X BELLA 5 Ν **FACU** 20 7. Salix bebbiana **FACW** 8. ROBINIA PSEUDOACACIA 10 Ν FACU **Hydrophytic Vegetation Indicators:** 9. Rapid Test for Hydrophytic Vegetation ☐ Yes ✓ No 10. __ ----✓ Yes ☐ No Dominance Test is > 50% ✓ Yes Total Cover = 120 ☐ No Prevalence Index is ≤ 3.0 * ☑ No ☐ Yes Morphological Adaptations (Explain) * Herb Stratum (Plot size: 5 ft radius) ☐ Yes ✓ No Problem Hydrophytic Vegetation (Explain) * PHALARIS ARUNDINACEA 30 **FACW** 1. * Indicators of hydric soil and wetland hydrology must be 2. present, unless disturbed or problematic. 3. **Definitions of Vegetation Strata:** 4. 5. Tree - Woody plants 3 in. (7.6cm) or more in diameter at 6 breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12. and woody plants less than 3,28 ft. tall. 13. 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15. Total Cover = 30 Woody Vine Stratum (Plot size: 30 ft radius) Parthenocissus quinquefolia 10 **FACU** 1. **FACW** Vitis riparia 10 3. Hydrophytic Vegetation Present ☑ Yes ☐ No 5. 4. Total Cover = 20 Remarks: Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.

Additional Remarks:

The state of the s	
Dense shrub-carr located on the perimeter of a wet meadow community.	



Project/Site:	Emerald Pa	ark Landfill Expansion	on				Stantec Project #:	193702557		Date:	10/14/13
Applicant:	ADS						0.000			County:	Waukesha
Investigator #1:				Investi	gator #2:	MC				State:	Wisconsin
Soil Unit:	Martinton s	ilt loam			<u> </u>		VI/WWI Classification:	N/A			Adj. to W1
Landform:	Rise			Loc	al Relief:	Convex				Sample Point:	•
Slope (%):	0-2	Latitude:	N/A	Le	ongitude:	N/A		Datum:	N/A	Community ID:	
	Irologic cond	litions on the site typ	oical for				n in remarks)	☐ Yes ☑	No	Section:	36
		or Hydrology 🛘 sig					Are normal circumsta	ances present	t?	Township:	5N
		or Hydrology □ nat					☐ Yes	☑No		Range:	20 Dir: E
SUMMARY OF		, 0,	, ,							Ü	
Hydrophytic Veg		sent?		□ Yes	☑ No			Hydric Soils	Present?		☐ Yes ☑ No
Wetland Hydrol				☐ Yes						Nithin A Wet l a	
Remarks:	WETS anal	lvsis indicates condi	itions drie								problematic seasonal
		erpreted to be non-v									
HYDROLOGY											
	da ana la alia a	Anna (Obradalana if	to all a a to		4						
		tors (Check here if	indicato	rs are no	t present	☑)1			Casandanu		
Primary:	A1 - Surface	Water		П	B9 - Wate	r_Stained	Leaves		Secondary:	B6 - Surface So	il Cracks
	A2 - High Wa				B13 - Aqu					B10 - Drainage	
	A3 - Saturatio				B14 - True					C2 - Dry-Seasor	
	B1 - Water M				C1 - Hydro					C8 - Crayfish Bu	
	B2 - Sedimer						spheres on Living Roots				Visible on Aerial Imagery
	B3 - Drift Dep						duced Iron duction in Tilled Soils			D1 - Stunted or D2 - Geomorphi	
	B4 - Algal Ma B5 - Iron Dep				C7 - Thin					D5 - FAC-Neutra	
		on Visible on Aerial Ima	agery		D9 - Gaug					BO THO NOUL	ai root
		Vegetated Concave S			Other (Ex						
Field Observat	ions:										
Surface Water I	Present?	☐ Yes ☑ No	Depth:		(in.)						V = N
Water Table Pre	esent?	☐ Yes ☑ No	Depth:		(in.)			Wetland Hy	arology Pr	esent?	Yes ☑ No
Saturation Pres		☐ Yes ☑ No	Depth:		(in.)						
Dogariba Basard	ad Data (atre	eam gauge, monitorir			` '	ua inana	tions) if available:		2007 NDC F	Adinastian: 2000	concurrence; FSA Slides
								ECA alida as			· · · · · · · · · · · · · · · · · · ·
Remarks:				iana nya	irology wa	as observ	ed at the sample plot.	. FSA slide re	eview indica	ited the wetlan	nd boundary was in the
0011.0	violitity of o	amp l e points 5w and	d 5u.								
SOILS			d 5u.				Andre Declares Oleres				
Map Unit Name	:	Martinton silt loam	d 5u.			S	eries Drainage Class:	somewhat po	oorly		
Map Unit Name Taxonomy (Sub	: egroup):	Martinton silt Ioam Aquic Argiudolls									
Map Unit Name Taxonomy (Sub Profile Descrip	group):	Martinton silt Ioam Aquic Argiudolls			ndicators.) (Type:		Series Drainage Class:	=Covered/Coated Sand G		Pore Lining, M=Matrix)	Touture
Map Unit Name Taxonomy (Sub Profile Descrip Top	group): tion (Describe to the	Martinton silt Ioam Aquic Argiudolls ne depth needed to document the indice	cator or confirm t	Matrix			n, D=Depletion, RM=Reduced Matrix, CS=	=Covered/Coated Sand G	Grains; Location: PL=	<u> </u>	Texture
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth	: group): tion (Describe to the Bottom Depth	Martinton silt loam Aquic Argiudolls edepth needed to document the indice Horizon	cator or confirm t	Matrix (Moist)	%	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS=	=Covered/Coated Sand G Mottles %	Frains; Location: PL=	Location	(e.g. clay, sand, loam)
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to tr Bottom Depth 20	Martinton silt loam Aquic Argiudolls the depth needed to document the indice Horizon 1	Color 10YR	Matrix (Moist) 2/1	% 100	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS= Color (Moist)	=Covered/Coated Sand G Mottles %	Type	Location 	(e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth	: group): tion (Describe to the Bottom Depth	Martinton silt loam Aquic Argiudolls edepth needed to document the indice Horizon	cator or confirm t	Matrix (Moist)	% 100 100	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS=	=Covered/Coated Sand G Mottles %	Frains; Location: PL=	Location	(e.g. clay, sand, loam)
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	group): tion (Describe to tr Bottom Depth 20	Martinton silt loam Aquic Argiudolls the depth needed to document the indice Horizon	Color 10YR	Matrix (Moist) 2/1	% 100	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS= Color (Moist)	=Covered/Coated Sand G Mottles %	Type	Location 	(e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 20	group): tion (Describe to the Bottom Depth 20 24	Martinton silt loam Aquic Argiudolls te depth needed to document the indice Horizon 1 2	Color 10YR 5Y	Matrix (Moist) 2/1 4/2	% 100 100	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS= Color (Moist)	=Covered/Coated Sand G Mottles %	Type	Location 	(e.g. clay, sand, loam) silt loam
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 20	group): tion (Describe to the Bottom Depth 20 24	Martinton silt loam Aquic Argiudolls te depth needed to document the indice Horizon 1 2	Color 10YR 5Y	Matrix (Moist) 2/1 4/2 	% 100 100 	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS= Color (Moist)	=Covered/Coated Sand G Mottles %	Type	Location 	(e.g. clay, sand, loam) silt loam silty clay
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 20	group): tion (Describe to the Depth 20 24	Martinton silt loam Aquic Argiudolls the depth needed to document the indice Horizon 1 2	Color 10YR 5Y	Matrix (Moist) 2/1 4/2 	% 100 100 	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS= Color (Moist)	=Covered/Coated Sand G Mottles %	Type	Location	(e.g. clay, sand, loam) silt loam silty clay
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 20	group): tion (Describe to the Depth 20 24	Martinton silt loam Aquic Argiudolls ne depth needed to document the indice Horizon 1 2	Color 10YR 5Y	Matrix (Moist) 2/1 4/2 	% 100 100 	C=Concentratio	n. D=Depletion, RM=Reduced Matrix, CS= Color (Moist)	=Covered/Coated Sand G Mottles %	Type	Location	(e.g. clay, sand, loam) silt loam silty clay
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 20	group): tion (Describe to the Depth 20 24	Martinton silt loam Aquic Argiudolls ne depth needed to document the indice Horizon 1 2	Color 10YR 5Y	Matrix (Moist) 2/1 4/2 	% 100 100 	C=Concentratio	n. D=Depletion, RM=Reduced Matrix, CS= Color (Moist)	=Covered/Coated Sand G Mottles %	Type	Location	(e.g. clay, sand, loam) silt loam silty clay
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 20	group): tion (Describe to the Depth 20 24	Martinton silt loam Aquic Argiudolls ne depth needed to document the indice Horizon 1 2	Color 10YR 5Y	Matrix (Moist) 2/1 4/2 	% 100 100 	C=Concentratio	n. D=Depletion, RM=Reduced Matrix, CS= Color (Moist)	=Covered/Coated Sand G Mottles %	Type	Location	(e.g. clay, sand, loam) silt loam silty clay
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 20 NRCS Hydric S	group): tion (Describe to the Depth 20 24	Martinton silt loam Aquic Argiudolls ne depth needed to document the indice Horizon 1 2	Color 10YR 5Y	Matrix (Moist) 2/1 4/2 cators are	% 100 100 	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS= Color (Moist)	=Covered/Coated Sand G Mottles % Indicators	Type	Location	(e.g. clay, sand, loam) silt loam silty clay
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 20 NRCS Hydric S	group): tion (Describe to the Depth 20 24 Soil Field In	Martinton silt loam Aquic Argiudolls be depth needed to document the indice Horizon 1 2 dicators (check her	Color 10YR 5Y	Matrix (Moist) 2/1 4/2 cators are	% 100 100	C=Concentratio	n, D=Depletion, RM=Reduced Matrix, CS= Color (Moist)	-Covered/Coated Sand G Mottles % Indicators	Type 5 for Problen A16 - Coast	Location	(e.g. clay, sand, loam) silt loam silty clay
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 20 NRCS Hydric S	group): tion (Describe to the state of the	Martinton silt loam Aquic Argiudolls the depth needed to document the indice Horizon 1 2 dicators (check here)	Color 10YR 5Y	Matrix (Moist) 2/1 4/2	% 100 100 e not pres \$4 - Sand \$5 - Strip\$	C=Concentration	n. D=Depletion, RM=Reduced Matrix, CS= Color (Moist)	-Covered/Coated Sand G Mottles % Indicators	Type 5 for Problen A16 - Coast F12 - Iron-M	Location	(e.g. clay, sand, loam) silt loam silty clay
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 20 NRCS Hydric S	group): tion (Describe to It Bottom Depth 20 24 Soil Field In A1- Histosol A2 - Histic Eg. A3 - Black Hi A4 - Hydroge	Martinton silt Ioam Aquic Argiudolls e depth needed to document the indice Horizon 1 2 dicators (check here stic n Sulfide	Color 10YR 5Y	Matrix (Moist) 2/1 4/2 cators are	% 100 100 e not pres \$4 - Sand \$5 - Sand \$6 - Strip F1 - Loam	C=Concentration	n. D=Depletion, RM=Reduced Matrix, CS= Color (Moist)	-Covered/Coated Sand G Mottles % Indicators	Type 5 for Problen A16 - Coast F12 - Iron-M	Location	(e.g. clay, sand, loam) silt loam silty clay
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 20 NRCS Hydric S	group): tion (Describe to It Bottom Depth 20 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A5 - Stratified	Martinton silt loam Aquic Argiudolls be depth needed to document the indice Horizon 1 2 dicators (check here bipedon stic n Sulfide d Layers	Color 10YR 5Y	Matrix (Moist) 2/1 4/2	% 100 100	C=Concentration	n, D=Depletion, RM=Reduced Matrix, CS= Color (Moist) 1 Matrix ineral Matrix	-Covered/Coated Sand G Mottles % Indicators	Type 5 for Problen A16 - Coast F12 - Iron-M	Location	(e.g. clay, sand, loam) silt loam silty clay
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 20 NRCS Hydric S	group): tion (Describe to III Bottom Depth 20 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A10 - 2 cm M	Martinton silt loam Aquic Argiudolls te depth needed to document the indice Horizon 1 2 dicators (check here bipedon stic n Sulfide 1 Layers luck	Color 10YR 5Y	Matrix (Moist) 2/1 4/2 cators are	% 100 100	C=Concentration	n, D=Depletion, RM=Reduced Matrix, CS= Color (Moist)	-Covered/Coated Sand G Mottles % Indicators	Type 5 for Problen A16 - Coast F12 - Iron-M	Location	(e.g. clay, sand, loam) silt loam silty clay
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 20 NRCS Hydric S	group): tion (Describe to the first of the	Martinton silt loam Aquic Argiudolls de depth needed to document the indice Horizon 1 2 dicators (check here bipedon stic n Sulfide d Layers luck ded Below Dark Surface	Color 10YR 5Y	Matrix (Moist) 2/1 4/2	% 100 100	c=Concentration	n. D=Depletion, RM=Reduced Matrix, CS= Color (Moist)	-Covered/Coated Sand G Mottles % Indicators	Type 5 for Problen A16 - Coast F12 - Iron-M	Location	(e.g. clay, sand, loam) silt loam silty clay
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 20 NRCS Hydric S	group): tion (Describe to It Bottom Depth 20 24 Soil Field In A1- Histosol A2 - Histic Eg. A3 - Black Hi A4 - Hydroge A5 - Stratifiec A10 - 2 cm M A11 - Deplete A12 - Thick D	Martinton silt Ioam Aquic Argiudolls he depth needed to document the indice Horizon 1 2 dicators (check here bipedon stic n Sulfide I Layers luck ad Below Dark Surface bark Surface	Color 10YR 5Y	Matrix (Moist) 2/1 4/2	% 100 100	C=Concentration	n. D=Depletion, RM=Reduced Matrix, CS= Color (Moist) 1 Matrix ineral Matrix cface Surface	-Covered/Coated Sand G Mottles % Indicators	Type 5 for Problen A16 - Coast F12 - Iron-M	Location	(e.g. clay, sand, loam) silt loam silty clay
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 20 NRCS Hydric S	group): tion (Describe to It or Depth 20 24	Martinton silt Ioam Aquic Argiudolls he depth needed to document the indice Horizon 1 2 dicators (check here bipedon stic n Sulfide I Layers luck ad Below Dark Surface bark Surface	Color 10YR 5Y	Matrix (Moist) 2/1 4/2	% 100 100	C=Concentration	n. D=Depletion, RM=Reduced Matrix, CS= Color (Moist) 1 Matrix ineral Matrix cface Surface	-Covered/Coated Sand G Mottles	Type Type 5 for Problen A16 - Coast F12 - Iron-M Other (Expla	Location	(e.g. clay, sand, loam) silt loam silty clay
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 20 NRCS Hydric S	group): tion (Describe to It Bottom Depth 20 24	Martinton silt Ioam Aquic Argiudolls he depth needed to document the indice Horizon 1 2 dicators (check here bipedon stic n Sulfide I Layers luck ad Below Dark Surface luck Mineral luck Mineral luck Peat or Peat	Color 10YR 5Y	Matrix (Moist) 2/1 4/2	% 100 100	C=Concentration	n. D=Depletion, RM=Reduced Matrix, CS= Color (Moist) 1 Matrix ineral Matrix cface Surface	-Covered/Coated Sand G Mottles % Indicators Indicators of hydrophy	Type Type	Location	(e.g. clay, sand, loam) silt loam silty clay
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 20 NRCS Hydric S	group): tion (Describe to It or Depth 20 24	Martinton silt Ioam Aquic Argiudolls he depth needed to document the indice Horizon 1 2 dicators (check here bipedon stic n Sulfide I Layers luck ad Below Dark Surface luck Mineral luck Mineral luck Peat or Peat	Color 10YR 5Y	Matrix (Moist) 2/1 4/2	% 100 100	C=Concentration	n. D=Depletion, RM=Reduced Matrix, CS= Color (Moist) 1 Matrix ineral Matrix cface Surface	-Covered/Coated Sand G Mottles	Type Type	Location	(e.g. clay, sand, loam) silt loam silty clay
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 20 NRCS Hydric S	group): tion (Describe to it Bottom Depth 20 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A10 - 2 cm M A11 - Deplete A12 - Thick D \$1 - Sandy M \$3 - 5 cm Mu Type:	Martinton silt loam Aquic Argiudolls de depth needed to document the indice Horizon 1 2 dicators (check here bipedon stic n Sulfide di Layers luck ded Below Dark Surface bark Surface luck Mineral lucky Peat or Peat	Color 10YR 5Y re if indic	Matrix (Moist) 2/1 4/2 cators are	% 100 100	c=Concentration	n, D=Depletion, RM=Reduced Matrix, CS= Color (Moist) 1 Matrix Internal Matrix Internal Surface Surface Surface Surface Sinns	-Covered/Coated Sand G Mottles % Indicators Indicators of hydrophy Hydric Soil	Type	Location	(e.g. clay, sand, loam) silt loam silty clay
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 20 NRCS Hydric S	group): tion (Describe to it Bottom Depth 20 24 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black Hi A4 - Hydroge A10 - 2 cm M A11 - Deplete A12 - Thick D S1 - Sandy M S3 - 5 cm Mu Type: 2' above ac	Martinton silt loam Aquic Argiudolls de depth needed to document the indice Horizon 1 2 dicators (check here bipedon stic n Sulfide di Layers luck ded Below Dark Surface bark Surface luck Mineral locky Peat or Peat N/A	Color 10YR 5Y re if indic	Matrix (Moist) 2/1 4/2 cators are	% 100 100	c=Concentration	n, D=Depletion, RM=Reduced Matrix, CS= Color (Moist) 1 Matrix Internal Matrix Internal Surface Surface Surface Surface Sinns	-Covered/Coated Sand G Mottles % Indicators Indicators of hydrophy Hydric Soil	Type Type	Location	(e.g. clay, sand, loam) silt loam silty clay
Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 20 NRCS Hydric S	group): tion (Describe to It Bottom Depth 20 24 Soil Field In A1- Histosol A2 - Histic Eg. A3 - Black Hi A4 - Hydroge A5 - Stratifiec A10 - 2 cm Mu A11 - Deplete A12 - Thick Eg. S1 - Sandy M S3 - 5 cm Mu Type: 2' above ac of hydric so	Martinton silt Ioam Aquic Argiudolls e depth needed to document the indic Horizon 1 2 dicators (check her bipedon stic n Sulfide d Layers luck ad Below Dark Surface luck Mineral locky Peat or Peat N/A ljacent wetland surfacel, nor does it appea	Color 10YR 5Y re if indic	Matrix (Moist) 2/1 4/2 cators are	% 100 100	C=Concentration	Color (Moist)	Mottles % Indicators of hydrophy Hydric Soil at the iods of time do	Type Type	Location	(e.g. clay, sand, loam) silt loam silty clay



Project/Site: Emerald Park Landfill Expansion Wetland ID: Adj. to W1 Sample Point 5u **VEGETATION** (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius % Cover Dominant Ind, Status Dominance Test Worksheet Species Name 2. Number of Dominant Species that are OBL, FACW, or FAC: 0 (A) 3. 4. Total Number of Dominant Species Across All Strata: 1 (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B) 6. **Prevalence Index Worksheet** 8. 9. Total % Cover of: Multiply by: 10. OBL spp. x 1 = Total Cover = FACW spp. 0 x 2 = 0 x 3 = FAC spp. 1 Sapling/Shrub Stratum (Plot size: 15 ft radius) x 4 = FACU spp. 1. UPL spp. 0 x 5= 2. 3. Total 6 (A) 23 (B) 4. 5. Prevalence Index = B/A = 3.833 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9. Rapid Test for Hydrophytic Vegetation ☐ Yes ✓ No 10. ----☐ Yes ✓ No Dominance Test is > 50% ☐ Yes Total Cover = ✓ No Prevalence Index is ≤ 3.0 * ☑ No ☐ Yes Morphological Adaptations (Explain) * Herb Stratum (Plot size: 5 ft radius) ☐ Yes ✓ No Problem Hydrophytic Vegetation (Explain) * TARAXACUM OFFICINALE FACU 5 1. * Indicators of hydric soil and wetland hydrology must be 2. RHAMNUS CATHARTICA Ν FAC 1 present, unless disturbed or problematic. 3. --4. **Definitions of Vegetation Strata:** --5. Tree - Woody plants 3 in. (7.6cm) or more in diameter at 6 breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12. and woody plants less than 3,28 ft. tall. 13. 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15. Total Cover = 6 Woody Vine Stratum (Plot size: 30 ft radius) 1. 3. Hydrophytic Vegetation Present ☐ Yes ☑ No 5. 4. Total Cover = 0

Additional Remarks:

Remarks:

Soybean stubble, sparse herb layer. No crop stress to soybean evident. FSA slide review completed and in all years, the boundary appears to be in the vicinity of this

Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is not hydrophytic.



Emerald Park Landfill Expansion Stantec Project #: 193702557 Date: 10/14/13 Applicant: County: Waukesha ADS Investigator #1: DP Investigator #2: MC State: Wisconsin Soil Unit: Martinton silt loam NWI/WWI Classification: T3/E2Ka Wetland ID: W1 Landform: Depression Local Relief: Concave Sample Point: 5w Slope (%): Latitude: N/A Longitude: N/A Datum: N/A Community ID: wet meadow/shrub-carr Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No 36 Section: Are Vegetation □ , Soil □, or Hydrology □ significantly disturbed? Are normal circumstances present? 5N Township: Are Vegetation □, Soil □, or Hydrology □ naturally problematic? ☑ Yes □No 20 Ε Range: Dir: SUMMARY OF FINDINGS ☑ Yes □ No Hydrophytic Vegetation Present? Hydric Soils Present? ☑ Yes □ No Is This Sampling Point Within A Wetland? Wetland Hydrology Present? ☑ Yes □ No WETS analysis indicates drier than normal antecedent moisture conditions. The sample plot is located in a wet meadow/shrub-carr. Remarks: **HYDROLOGY** Wetland Hydrology Indicators (Check here if indicators are not present □): Primary: Secondary: B6 - Surface Soil Cracks A1 - Surface Water □ B9 - Water-Stained Leaves A2 - High Water Table ☐ B13 - Aquatic Fauna ☐ B10 - Drainage Patterns A3 - Saturation B14 - True Aquatic Plants ☐ C2 - Dry-Season Water Table C1 - Hydrogen Sulfide Odor П B1 - Water Marks C8 - Crayfish Burrows П **B2** - Sediment Deposits C3 - Oxidized Rhizospheres on Living Roots C9 - Saturation Visible on Aerial Imagery C4 - Presence of Reduced Iron □ D1 - Stunted or Stressed Plants B3 - Drift Deposits B4 - Algal Mat or Crust C6 - Recent Iron Reduction in Tilled Soils D2 - Geomorphic Position B5 - Iron Deposits C7 - Thin Muck Surface ☑ D5 - FAC-Neutral Test B7 - Inundation Visible on Aerial Imagery ☐ D9 - Gauge or Well Data □ B8 - Sparsely Vegetated Concave Surface ☐ Other (Explain) Field Observations: Surface Water Present? ☐ Yes ☑ No Depth: (in.) Wetland Hydrology Present? ☑ Yes □ No Water Table Present? ☐ Yes ✓ No Depth: (in.) Saturation Present? ☐ Yes ☑ No Depth: (in.) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation: 2009 concurrence Remarks: The presence of 2 secondary indicators at the sample plot provides evidence of wetland hydrology. SOILS Map Unit Name: Martinton silt loam Series Drainage Class: somewhat poorly Taxonomy (Subgroup): Aquic Argiudolls Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix) Texture Top Bottom Matrix Mottles Туре (e.g. clay, sand, loam) Depth Depth Horizon Color (Moist) % Color (Moist) % Location 10 10YR 98 **10YR** 2 silt loam 0 3/1 5/6 C M 20 10YR 5/1 85 5/6 15 M 10 2 2.5Y С clay loam NRCS Hydric Soil Field Indicators (check here if indicators are not present): Indicators for Problematic Soils 1 \$4 - Sandy Gleyed Matrix ■ A16 - Coast Prairie Redox A1- Histosol \$5 - Sandy Redox A2 - Histic Epipedon F12 - Iron-Manganese Masses \$6 - Stripped Matrix A3 - Black Histic Other (Explain in Remarks) П A4 - Hydrogen Sulfide F1 - Loamy Muck Mineral П A5 - Stratified Layers F2 - Loamy Gleyed Matrix F3 - Depleted Matrix A10 - 2 cm Muck $\overline{\mathbf{A}}$ A11 - Depleted Below Dark Surface F6 - Redox Dark Surface **V** A12 - Thick Dark Surface F7 - Depleted Dark Surface П \$1 - Sandy Muck Mineral F8 - Redox Depressions \$3 - 5 cm Mucky Peat or Peat 1 Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problemation Restrictive Layer (If Observed) **Hydric Soil Present?** ☑ Yes □ No Type: N/A Depth: N/A Remarks: The soil at the sample plot meets a F3 and F6 Indicators described in the NRCS publication Field Indicators of Hydric Soil in the United States version 7.0.

5w

Sample Point



Project/Site:

Emerald Park Landfill Expansion

WETLAND DETERMINATION DATA FORM Midwest Region

Wetland ID:

W1

VEGETATION (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius **Dominance Test Worksheet** Species Name % Cover Dominant Ind Status Quercus alba 5 **FACU** 2. Number of Dominant Species that are OBL, FACW, or FAC: 4 (A) 3. 4. Total Number of Dominant Species Across All Strata: 5 (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B) 6. **Prevalence Index Worksheet** 8. 9. Total % Cover of: Multiply by: 10. x 1 = OBL spp. Total Cover = FACW spp. 156 x 2 = 312 x 3 = FAC spp. 1 3 Sapling/Shrub Stratum (Plot size: 15 ft radius) x 4 = FACU spp. 10 30 FACW 1. Cornus stolonifera UPL spp. 0 x 5 = 2. Salix interior 20 **FACW** 3. Total 168 (A) 356 4. 5. Prevalence Index = B/A = 2.119 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9. ☐ Yes Rapid Test for Hydrophytic Vegetation ✓ No 10. ----✓ Yes ☐ No Dominance Test is > 50% ✓ Yes Total Cover = ☐ No Prevalence Index is ≤ 3.0 * ☑ No ☐ Yes Morphological Adaptations (Explain) * Herb Stratum (Plot size: 5 ft radius) ☐ Yes ✓ No Problem Hydrophytic Vegetation (Explain) * 95 FACW 1. PHALARIS ARUNDINACEA * Indicators of hydric soil and wetland hydrology must be 2. Amaranthus retroflexus 5 Ν **FACU** present, unless disturbed or problematic. **FACW** 3. Polygonum pensylvanicum 1 Ν 4. Bidens cernua Ν OBL **Definitions of Vegetation Strata:** Panicum capillare N 5. FAC Tree - Woody plants 3 in. (7.6cm) or more in diameter at 6 breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12. and woody plants less than 3,28 ft. tall. 13. 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15. Total Cover = 103 Woody Vine Stratum (Plot size: 30 ft radius) 10 **FACW** 1. Vitis riparia 3. Hydrophytic Vegetation Present ☑ Yes ☐ No 5. 4. Total Cover = 10 Remarks: Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample plot is hydrophytic.

Additional Remarks:	

	In wet meadow community on edge of shrub-carr community.
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Emerald Park Landfill Expansion Stantec Project #: 193702557 Date: 10/14/13 Applicant: County: Waukesha ADS Investigator #1: DP Investigator #2: MC State: Wisconsin Soil Unit: Martinton silt loam NWI/WWI Classification: N/A Wetland ID: W1 Landform: Depression Local Relief: Concave Sample Point: 6w Datum: N/A Community ID: farmed wetland Slope (%): Latitude: N/A Longitude: N/A Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No 36 Section: Are Vegetation □ , Soil □, or Hydrology □ significantly disturbed? Are normal circumstances present? 5N Township: Are Vegetation □, Soil □, or Hydrology □ naturally problematic? ☐ Yes ☑No 20 Ε Range: Dir: ☑ Yes □ No Hydrophytic Vegetation Present? Hydric Soils Present? Yes □ No Wetland Hydrology Present? Is This Sampling Point Within A Wetland? ☑ Yes □ No WETS analysis indicates site conditions drier than normal. Farmed wetland swale that extends into soybean field, so therefore not normal Remarks: circumstances, **HYDROLOGY** Wetland Hydrology Indicators (Check here if indicators are not present □): Secondary: B6 - Surface Soil Cracks ☐ A1 - Surface Water □ B9 - Water-Stained Leaves A2 - High Water Table ☐ B13 - Aquatic Fauna ☐ B10 - Drainage Patterns \Box A3 - Saturation B14 - True Aquatic Plants ☐ C2 - Dry-Season Water Table C1 - Hydrogen Sulfide Odor B1 - Water Marks C8 - Crayfish Burrows П **B2** - Sediment Deposits C3 - Oxidized Rhizospheres on Living Roots C9 - Saturation Visible on Aerial Imagery □ D1 - Stunted or Stressed Plants B3 - Drift Deposits C4 - Presence of Reduced Iron B4 - Algal Mat or Crust C6 - Recent Iron Reduction in Tilled Soils D2 - Geomorphic Position B5 - Iron Deposits C7 - Thin Muck Surface ☑ D5 - FAC-Neutral Test B7 - Inundation Visible on Aerial Imagery ■ D9 - Gauge or Well Data □ B8 - Sparsely Vegetated Concave Surface □ Other (Explain) Field Observations: Surface Water Present? ☐ Yes ☑ No Depth: (in.) Wetland Hydrology Present? ☑ Yes □ No Water Table Present? ☐ Yes ✓ No Depth: (in.) Saturation Present? ☐ Yes ☑ No Depth: (in.) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation; 2009 concurrence; FSA Slides Remarks: FSA slide review at bottom of data form. The presence of 1 primary and 3 secondary indicators at the sample plot provides evidence of wetland hydrology SOILS Map Unit Name: Martinton silt loam Series Drainage Class: somewhat poorly Taxonomy (Subgroup): Aquic Argiudolls Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix) Texture Top Bottom Matrix Mottles (e.g. clay, sand, loam) Depth Depth Horizon Color (Moist) % Color (Moist) % Туре Location 14 10YR 100 silt 0 2/1 10YR М 20 10YR 4/1 90 4/6 10 С 14 2 silty clay loam NRCS Hydric Soil Field Indicators (check here if indicators are not present): Indicators for Problematic Soils 1 \$4 - Sandy Gleyed Matrix ☐ A16 - Coast Prairie Redox A1- Histosol \$5 - Sandy Redox A2 - Histic Epipedon F12 - Iron-Manganese Masses \$6 - Stripped Matrix A3 - Black Histic Other (Explain in Remarks) П A4 - Hydrogen Sulfide F1 - Loamy Muck Mineral П A5 - Stratified Layers F2 - Loamy Gleyed Matrix F3 - Depleted Matrix A10 - 2 cm Muck A11 - Depleted Below Dark Surface F6 - Redox Dark Surface V A12 - Thick Dark Surface F7 - Depleted Dark Surface П \$1 - Sandy Muck Mineral F8 - Redox Depressions \$3 - 5 cm Mucky Peat or Peat 1 Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problemation Restrictive Layer (If Observed) **Hydric Soil Present?** ☑ Yes □ No Type: N/A Depth: N/A Remarks: The soil at the sample plot meets A12 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.



Project/Site: Emerald Park Landfill Expansion Wetland ID: Sample Point W1 6w **VEGETATION** (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius % Cover Dominant Ind Status Dominance Test Worksheet Species Name 2. Number of Dominant Species that are OBL, FACW, or FAC: 2 (A) 3. 4. Total Number of Dominant Species Across All Strata: 2 (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B) 6. 7. **Prevalence Index Worksheet** 8. 9. Total % Cover of: Multiply by: 10. OBL spp. x 1 = Total Cover = FACW spp. 80 x 2 = 160 x 3 = FAC spp. 15 45 Sapling/Shrub Stratum (Plot size: 15 ft radius) x 4 = FACU spp. 0 1. UPL spp. 5 x 5 = 2. 3. Total 100 (A) 230 4. 5. Prevalence Index = B/A = 2.300 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9. Rapid Test for Hydrophytic Vegetation ✓ Yes ☐ No 10. ----✓ Yes ☐ No Dominance Test is > 50% ✓ Yes Total Cover = ☐ No Prevalence Index is ≤ 3.0 * ☑ No ☐ Yes Morphological Adaptations (Explain) * Herb Stratum (Plot size: 5 ft radius) ☐ Yes ✓ No Problem Hydrophytic Vegetation (Explain) * PHALARIS ARUNDINACEA FACW 60 1. * Indicators of hydric soil and wetland hydrology must be 2. Bidens frondosa 20 Υ **FACW** present, unless disturbed or problematic. FAC Ν 3. Panicum capillare 10 4. SETARIA PUMILA 5 Ν FAC **Definitions of Vegetation Strata:** SETARIA VIRIDIS 5 N UPL 5. Tree - Woody plants 3 in. (7.6cm) or more in diameter at 6 breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12. and woody plants less than 3,28 ft. tall. 13. 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15. Total Cover = 100 Woody Vine Stratum (Plot size: 30 ft radius) 1. 3. Hydrophytic Vegetation Present ☑ Yes ☐ No 5. 4. Total Cover =

Additional Remarks:

Remarks:

FSA slide review does not indicate wetlands in this location with 4 out of 12 years (6 normal, 3 wet, 3 dry) having signatures. However field indicators of hydrology and soils in combination with hydrophytic vegetation provide evidence this area is wetland. No soybean production w/in this northerly-extending swale portion of W-1. Adjacent areas planted to soybean during 2013 growing season.



Emerald Park Landfill Expansion Stantec Project #: 193702557 Date: 10/14/13 Applicant: County: Waukesha ADS Investigator #1: DP Investigator #2: MC State: Wisconsin Adj. to W2 Montgomery silty clay loam NWI/WWI Classification: F0Kf Wetland ID: Soil Unit: Landform: Rise Local Relief: Convex Sample Point: 1u 0-2 Community ID: Agricultural field Slope (%): Latitude: N/A Longitude: N/A Datum: N/A Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No 36 Section: Are Vegetation ☑ , Soil □, or Hydrology □ significantly disturbed? Are normal circumstances present? 5N Township: Are Vegetation □, Soil □, or Hydrology □ naturally problematic? ☐ Yes ☑No 20 Ε Range: Dir: Hydrophytic Vegetation Present? Hydric Soils Present? ☐ Yes ☑ No Yes □ No Wetland Hydrology Present? Is This Sampling Point Within A Wetland? ☐ Yes ☑ No Soybean field, so no normal circumstances. WETS indicates drier than normal conditions. Although hydric soil is present at the sample plot, the lack Remarks: of hydrophytic vegetation and wetland hydrology indicate the sample plot is located in an upland agricultural field. **HYDROLOGY** Wetland Hydrology Indicators (Check here if indicators are not present ☑): Primary: Secondary: ☐ A1 - Surface Water B6 - Surface Soil Cracks □ B9 - Water-Stained Leaves A2 - High Water Table ☐ B13 - Aquatic Fauna ☐ B10 - Drainage Patterns A3 - Saturation B14 - True Aquatic Plants ☐ C2 - Dry-Season Water Table C1 - Hydrogen Sulfide Odor П B1 - Water Marks C8 - Crayfish Burrows П **B2** - Sediment Deposits C3 - Oxidized Rhizospheres on Living Roots C9 - Saturation Visible on Aerial Imagery □ D1 - Stunted or Stressed Plants B3 - Drift Deposits C4 - Presence of Reduced Iron B4 - Algal Mat or Crust C6 - Recent Iron Reduction in Tilled Soils D2 - Geomorphic Position B5 - Iron Deposits C7 - Thin Muck Surface ☐ D5 - FAC-Neutral Test B7 - Inundation Visible on Aerial Imagery ■ D9 - Gauge or Well Data □ B8 - Sparsely Vegetated Concave Surface □ Other (Explain) Field Observations: Surface Water Present? ☐ Yes ☑ No Depth: (in.) Wetland Hydrology Present? ☐ Yes ☑ No Water Table Present? ☐ Yes ☑ No Depth: (in.) Saturation Present? ☐ Yes ✓ No Depth: (in.) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation: 2009 concurrence: ESA Slides Remarks: Sample point located approx 2' above surface of wetland. No 02 roots. No evidence of wetland hydrology was observed at the sample plot. FSA slide review indicates wetland boundary is nearby and that this point is outside the wetland SOILS Map Unit Name: Montgomery silty clay loam Series Drainage Class: very poorly Taxonomy (Subgroup): Vertic Endoaquolls Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix) Texture Top Bottom Matrix Mottles (e.g. clay, sand, loam) Depth Depth Horizon Color (Moist) % Color (Moist) % Туре Location 18 **10YR** 100 silt loam 0 2/1 24 10YR М 18 95 5/6 5 С 2 5Y 4/1 clay loam NRCS Hydric Soil Field Indicators (check here if indicators are not present): Indicators for Problematic Soils 1 \$4 - Sandy Gleyed Matrix ☐ A16 - Coast Prairie Redox A1- Histosol \$5 - Sandy Redox A2 - Histic Epipedon F12 - Iron-Manganese Masses \$6 - Stripped Matrix A3 - Black Histic Other (Explain in Remarks) П A4 - Hydrogen Sulfide F1 - Loamy Muck Mineral П A5 - Stratified Layers F2 - Loamy Gleyed Matrix F3 - Depleted Matrix A10 - 2 cm Muck A11 - Depleted Below Dark Surface F6 - Redox Dark Surface V A12 - Thick Dark Surface F7 - Depleted Dark Surface П \$1 - Sandy Muck Mineral F8 - Redox Depressions \$3 - 5 cm Mucky Peat or Peat 1 Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problemation Restrictive Layer (If Observed) **Hydric Soil Present?** ☑ Yes □ No Type: N/A Depth: N/A Remarks: Soybean not exhibiting response to saturated soil conditions. The soil at the sample plot meets the A12 Indicator described in the NRCS publication Field Indicators of Hydric Soil in the United States - version 7.0.



Project/Site: Emerald Park Landfill Expansion Wetland ID: Adj. to W2 Sample Point 1u **VEGETATION** (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius % Cover Dominant Ind, Status Dominance Test Worksheet Species Name 2. Number of Dominant Species that are OBL, FACW, or FAC: 0 (A) 3. 4. Total Number of Dominant Species Across All Strata: 3 (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B) 6. **Prevalence Index Worksheet** 8. 9. Total % Cover of: Multiply by: 10. OBL spp. x 1 = Total Cover = 0 FACW spp. 0 x 2 = 0 x 3 = FAC spp. 0 Sapling/Shrub Stratum (Plot size: 15 ft radius) x 4 = FACU spp. 20 1. UPL spp. 0 x 5= 2. 3. Total 20 (A) 80 4. 5. Prevalence Index = B/A = 4.000 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9. ☐ Yes Rapid Test for Hydrophytic Vegetation ✓ No 10. ----☐ Yes ✓ No Dominance Test is > 50% Total Cover = ☐ Yes ✓ No Prevalence Index is ≤ 3.0 * ☐ No ☐ Yes Morphological Adaptations (Explain) * Herb Stratum (Plot size: 5 ft radius) ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) * TRIFOLIUM PRATENSE 10 FACU 1. * Indicators of hydric soil and wetland hydrology must be 2. CHENOPODIUM ALBUM 5 **FACU** present, unless disturbed or problematic. ABUTILON THEOPHRASTI **FACU** 3. 5 4. **Definitions of Vegetation Strata:** --5. Tree - Woody plants 3 in. (7.6cm) or more in diameter at 6 breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12. and woody plants less than 3,28 ft. tall. 13. 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15. 20 Total Cover = Woody Vine Stratum (Plot size: 30 ft radius) 1. 3. Hydrophytic Vegetation Present ☐ Yes ☑ No 5.

Additional Remarks:

plot is not hydrophytic.

4.

Remarks:

Topography is abrupt.		

Sparse herbaceous layer within upland soybean field. Dominant vegetation was determined through use of the 50/20 rule. Vegetation at the sample

Total Cover =

0



Stantec												
Project/Site:		ark Landfill Expansio	วท				Stantec Project #:	193702557		Date:	10/14/13	
Applicant:	ADS									County:	Waukesha	
Investigator #1:	DP			Investi	igator #2:	MC				State:	Wisconsin	
Soil Unit:	Ogden mud	rk			3		VI/WWI Classification:	FNKf		Wetland ID:	W2	
Landform:	Depression			Loc	al Relief:			. 1 010		Sample Point:		
Slope (%):	0-2		NI/A				e e	Dotum:	NI/A			
		Latitude:			ongitude:			Datum:		Community ID:		
		ditions on the site typ				(If no, expla		☐ Yes ☑		Section:	36	
		or Hydrology 🔲 sig					Are normal circumsta		t?	Township:	5N	
Are Vegetation	□, Soil □,	or Hydrology nat	urally pro	oblemati	c?		Yes	□No		Range:	20 Dir: E	
SUMMARY OF		<u> </u>					<u></u> _					
Hydrophytic Ve		cont?		Yes	□ No			Hydric Soils	Drecent?		Yes □	No
Wetland Hydrol				☑ Yes						Within A Wetla		
			0			1-4	trate	IS This Sain	oling Form	Willing A Avens	ma? 😐 res 🖃	NO
Remarks:	WE15 anai	lysis indicates drier	than non	mal ante	cedent m	ioisture d	conditions.					
HYDROLOGY												
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		ators (Check here if	indicator	rs are ric	ot present	□)1			2			
<u>Primary</u>	_	147			E10 14/ /				Secondary:			
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	A2 - High Wa				B13 - Aqu					B10 - Drainage		
	A3 - Saturation B1 - Water M				B14 - True					C2 - Dry-Season		
	B2 - Sedimer				C1 - Hydro		spheres on Living Roots			C8 - Crayfish Bu	irrows Visible on Aerial Imag	aon.
	B3 - Drift Dep						educed Iron			D1 - Stunted or		gery
							duction in Tilled Soils			D2 - Geomorphi		
	B5 - Iron Dep				C7 - Thin					D5 - FAC-Neutra		
		on Visible on Aerial Ima	agery		D9 - Gaug				ŭ	D3 - 1 AC-Neuti	ai 1 63t	
		Vegetated Concave S			Other (Exp		Data					
	po oparociy	vogetated compave o	unuoo		Othor (EX	piairi)						
Field Observat	tions:											
Surface Water	Present?	☐ Yes ☑ No	Depth:		(in.)			Matlend Ibe	dualam. Du		Van 🗆 Na	
Water Table Pr	esent?	☐ Yes ☑ No	Depth:		(in.)			Wetland Hy	arology Pr	esent?	Yes □ No	
Saturation Pres		☐ Yes ☑ No	Depth:		(in.)							
Gataration Fics	iciti:	L 163 E 110	Бериі.		(111.)							
Describe Record	ded Data (stre	eam gauge, monitorir	ng well, a	erial phot	os, previo	us inspec	ctions), if available:		2007 NRC E	Delineation; 2009	concurrence; FSA SI	lides
								ence of wetlan			concurrence; FSA SI	lides
Describe Record Remarks:							ctions), if available: ple plot provides evide	ence of wetlar			concurrence; FSA SI	lides
Remarks:								ence of wetlar			concurrence; FSA SI	lides
Remarks:	The presen	nce of 1 primary and				the sam	ple plot provides evide				concurrence; FSA SI	lides
Remarks: SOILS Map Unit Name	The presen					the sam					concurrence; FSA SI	lides
Remarks: SOILS Map Unit Name Taxonomy (Sub	The presen	Ogden muck Terric Medisaprists	2 secon	dary ind	icators at	the sam	ple plot provides evide	very poorly	nd hydrolog	y.	concurrence; FSA SI	lides
Remarks: SOILS Map Unit Name Taxonomy (Sub	The presen	Ogden muck Terric Medisaprists	2 secon	dary ind	icators at	the sam	ple plot provides evide	very poorly	nd hydrolog	y.	concurrence; FSA SI	lides
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip	The present: c: ogroup): otion (Describe to the	Ogden muck Terric Medisaprists	2 secon	dary ind	icators at	the sam	ple plot provides evide	very poorly	nd hydrolog	y.		lides
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top	The presen	Ogden muck Terric Medisaprists he depth needed to document the indice	2 secon	dary indi	ndicators) (Type:	the sam	ple plot provides evide Series Drainage Class: n, D=Depletion, RM=Reduced Matrix, CS	very poorly ==Covered/Coated Sand G Mottles	nd hydrolog	Y. Pore Lining, M=Matrix)	Texture	
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth	The presen	Ogden muck Terric Medisaprists ne depth needed to document the indice	2 secon	dary indi	icators at	the sam	ple plot provides evide Series Drainage Class: n, D=Depletion, RM=Reduced Matrix, CS Color (Moist)	very poorly =Covered/Coated Sand G Mottles %	nd hydrolog Brains; Location: PL=	Pore Lining, M=Matrix) Location	Texture (e.g. clay, sand, l	loam)
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	The present control of	Ogden muck Terric Medisaprists he depth needed to document the indice Horizon	2 secon	the absence of in Matrix (Moist)	ndicators) (Type:	C=Concentratio	ple plot provides evide Series Drainage Class: n, D=Depletion, RM=Reduced Matrix, CS Color (Moist)	wery poorly Covered/Coated Sand G Mottles %	ord hydrolog Frains; Location: PL= Type	Pore Lining, M=Matrix) Location	Texture	loam)
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth	The presen	Ogden muck Terric Medisaprists ne depth needed to document the indice	2 secon	dary indi	icators at	the sam	ple plot provides evide Series Drainage Class: n, D=Depletion, RM=Reduced Matrix, CS Color (Moist)	very poorly =Covered/Coated Sand G Mottles %	nd hydrolog Brains; Location: PL=	Pore Lining, M=Matrix) Location	Texture (e.g. clay, sand, l	loam)
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0	The present control of	Ogden muck Terric Medisaprists he depth needed to document the indice Horizon	2 secon Secon Color 10YR	the absence of in Matrix (Moist)	icators at	C=Concentratio	ple plot provides evide Series Drainage Class: n, D=Depletion, RM=Reduced Matrix, CS Color (Moist)	wery poorly Covered/Coated Sand G Mottles %	ord hydrolog Frains; Location: PL= Type	Pore Lining, M=Matrix) Location	Texture (e.g. clay, sand, l mucky loam	loam)
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16	The presents: Experiment of the presents of t	Ogden muck Terric Medisaprists ne depth needed to document the indice Horizon 1 2	Color 10YR 10YR	the absence of in Matrix (Moist) 2/1 4/2	Mail	C=Concentratio	ple plot provides evide Series Drainage Class: n, D=Depletion, RM=Reduced Matrix, CS Color (Moist) 5/6	-Covered/Coated Sand G Mottles % 15	ord hydrolog Praine; Location: PL= Type C	Pore Lining, M=Matrix) Location M	Texture (e.g. clay, sand, l mucky loam mucky clay loa 	loam)
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16	The presents: Exercise or continuous contin	Ogden muck Terric Medisaprists ne depth needed to document the indice Horizon 1 2	Color of 10YR 10YR	the absence of in Matrix (Moist) 2/1 4/2	micators,) (Type: % 100 85	the sam S C=Concentratio	ple plot provides evide Series Drainage Class: n, D=Depletion, RM=Reduced Matrix, CS Color (Moist) 5/6	-Covered/Coated Sand G Mottles % 15	raine; Location: PL= Type C	Pore Lining, M=Matrix) Location M	Texture (e.g. clay, sand, l mucky loam mucky clay loa 	loam)
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16	The presents: Experiment of the presents of t	Ogden muck Terric Medisaprists ne depth needed to document the indice Horizon 1 2	Color 10YR 10YR	the absence of in Matrix (Moist) 2/1 4/2	Mail	C=Concentratio	ple plot provides evide Series Drainage Class: n, D=Depletion, RM=Reduced Matrix, CS Color (Moist) 5/6	-Covered/Coated Sand G Mottles % 15	ord hydrolog Praine; Location: PL= Type C	Pore Lining, M=Matrix) Location M	Texture (e.g. clay, sand, l mucky loam mucky clay loa 	loam)
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16	The presents: Exercise or continuous contin	Ogden muck Terric Medisaprists ne depth needed to document the indice Horizon 1 2	Color of 10YR 10YR	the absence of in Matrix (Moist) 2/1 4/2	micators,) (Type: % 100 85	the sam S C=Concentratio	ple plot provides evide Series Drainage Class: n, D=Depletion, RM=Reduced Matrix, CS Color (Moist) 5/6	-Covered/Coated Sand G Mottles % 15	raine; Location: PL= Type C	Pore Lining, M=Matrix) Location M	Texture (e.g. clay, sand, l mucky loam mucky clay loa 	loam)
Remarks: SOILS Map Unit Name Taxonomy (Sub Profile Descrip Top Depth 0 16	The presents: Exercise or continuous contin	Ogden muck Terric Medisaprists the depth needed to document the indice Horizon 1 2	Color 10YR 10YR	the absence of in Matrix (Moist) 2/1 4/2	mdicators,) (Type: % 100 85	C=Concentratio	ple plot provides evide Series Drainage Class: n, D=Depletion, RM=Reduced Matrix, CS Color (Moist) 5/6	-Covered/Coated Sand G Mottles % 15	rains; Location: PL= Type C	Pore Lining, M=Matrix) Location M	Texture (e.g. clay, sand, lomucky loam mucky clay loam 	loam)
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1W

Sample Point



Project/Site:

Shrub-carr community.

Emerald Park Landfill Expansion

WETLAND DETERMINATION DATA FORM Midwest Region

Wetland ID:

W2

VEGETATION (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius % Cover Dominant Ind Status Dominance Test Worksheet Species Name 2. Number of Dominant Species that are OBL, FACW, or FAC: 2 (A) 3. 4. Total Number of Dominant Species Across All Strata: 2 (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B) 6. **Prevalence Index Worksheet** 8. 9. Total % Cover of: Multiply by: 10. x 1 = OBL spp. Total Cover = 0 FACW spp. 145 x 2 = 290 x 3 = FAC spp. 15 45 Sapling/Shrub Stratum (Plot size: 15 ft radius) x 4 = FACU spp. 0 40 FACW 1. Salix bebbiana UPL spp. 0 x 5 = 2. Salix interior 10 Ν **FACW** 3. Populus deltoides 10 Ν FAC Total 160 (A) 335 4. 5. 2.094 Prevalence Index = B/A = --6. 7. 8. **Hydrophytic Vegetation Indicators:** 9. ✓ Yes Rapid Test for Hydrophytic Vegetation □ No 10. --✓ Yes ☐ No Dominance Test is > 50% ✓ Yes Total Cover = 60 ☐ No Prevalence Index is ≤ 3.0 * ☐ No ☐ Yes Morphological Adaptations (Explain) * Herb Stratum (Plot size: 5 ft radius) ☐ Yes ☐ No Problem Hydrophytic Vegetation (Explain) * PHALARIS ARUNDINACEA 95 FACW 1. * Indicators of hydric soil and wetland hydrology must be 2. Aster lanceolatus 5 Ν FAC present, unless disturbed or problematic. 3. --4. **Definitions of Vegetation Strata:** --5. Tree - Woody plants 3 in. (7.6cm) or more in diameter at 6 breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10. 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12. and woody plants less than 3,28 ft. tall. 13. 14. Woody Vines - All woody vines greater than 3.28 ft. in height. 15. Total Cover = 100 Woody Vine Stratum (Plot size: 30 ft radius) 1. 3. Hydrophytic Vegetation Present ☑ Yes ☐ No 5. 4. Total Cover = 0 Dominant vegetation was determined through use of the 50/20 rule, Prevalence Index, and Rapid Test. Vegetation at the sample plot is hydrophytic. Remarks: Additional Remarks:



Emerald Park Landfill Expansion Stantec Project #: 193702557 Date: 10/14/13 Applicant: County: Waukesha ADS Investigator #1: DP Investigator #2: MC State: Wisconsin Soil Unit: Muskego muck NWI/WWI Classification: F0Kf Wetland ID: Adj. to W2 Landform: Rise Local Relief: Convex Sample Point: 2u 0-2 Community ID: Upland old field Slope (%): Latitude: N/A Longitude: N/A Datum: N/A Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No 36 Section: Are Vegetation □ , Soil □, or Hydrology □ significantly disturbed? Are normal circumstances present? 5N Township: Are Vegetation □, Soil □, or Hydrology □ naturally problematic? ☑ Yes □No 20 Ε Range: Dir: Hydrophytic Vegetation Present? Hydric Soils Present? ☐ Yes ☑ No Yes □ No Wetland Hydrology Present? ☐ Yes ☑ No Is This Sampling Point Within A Wetland? 🔲 Yes 🔟 No WETS analysis indicates drier than normal conditions. The sample plot is located on slight rise above wetland. Predominatly queen-Anne's lace, Remarks: Kentucky bluegrass mixed with reed canary grass, **HYDROLOGY** Wetland Hydrology Indicators (Check here if indicators are not present ☑): Primary: Secondary: A1 - Surface Water B6 - Surface Soil Cracks □ B9 - Water-Stained Leaves A2 - High Water Table ☐ B13 - Aquatic Fauna ☐ B10 - Drainage Patterns A3 - Saturation B14 - True Aquatic Plants C2 - Dry-Season Water Table П B1 - Water Marks C1 - Hydrogen Sulfide Odor C8 - Crayfish Burrows П C3 - Oxidized Rhizospheres on Living Roots C9 - Saturation Visible on Aerial Imagery **B2** - Sediment Deposits C4 - Presence of Reduced Iron □ D1 - Stunted or Stressed Plants B3 - Drift Deposits B4 - Algal Mat or Crust C6 - Recent Iron Reduction in Tilled Soils D2 - Geomorphic Position B5 - Iron Deposits C7 - Thin Muck Surface ☐ D5 - FAC-Neutral Test B7 - Inundation Visible on Aerial Imagery ■ D9 - Gauge or Well Data □ B8 - Sparsely Vegetated Concave Surface ☐ Other (Explain) Field Observations: Surface Water Present? ☐ Yes ☑ No Depth: (in.) Wetland Hydrology Present? ☐ Yes ☑ No Water Table Present? ☐ Yes ✓ No Depth: (in.) Saturation Present? ☐ Yes ✓ No Depth: (in.) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 2007 NRC Delineation: 2009 concurrence Remarks: No O² roots present. No stressed vegetation within meadow. No evidence of wetland hydrology was observed at the sample plot. SOILS Map Unit Name: Muskego muck Series Drainage Class: very poorly Taxonomy (Subgroup): Limnic Haplosaprists Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix) Texture Top Bottom Matrix Mottles (e.g. clay, sand, loam) Depth Depth Horizon Color (Moist) % Color (Moist) % Туре Location 10YR 100 silt loam 0 8 2/1 10YR М 20 2.5Y 5/1 90 4/6 10 С 8 2 clay NRCS Hydric Soil Field Indicators (check here if indicators are not present): Indicators for Problematic Soils 1 \$4 - Sandy Gleyed Matrix ☐ A16 - Coast Prairie Redox A1- Histosol \$5 - Sandy Redox A2 - Histic Epipedon F12 - Iron-Manganese Masses \$6 - Stripped Matrix A3 - Black Histic Other (Explain in Remarks) П A4 - Hydrogen Sulfide F1 - Loamy Muck Mineral П A5 - Stratified Layers F2 - Loamy Gleyed Matrix F3 - Depleted Matrix A10 - 2 cm Muck $\overline{\mathbf{A}}$ A11 - Depleted Below Dark Surface F6 - Redox Dark Surface 4 A12 - Thick Dark Surface F7 - Depleted Dark Surface П \$1 - Sandy Muck Mineral F8 - Redox Depressions \$3 - 5 cm Mucky Peat or Peat 1 Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problemation Restrictive Layer (If Observed) **Hydric Soil Present?** ☑ Yes □ No Type: N/A Depth: N/A Remarks: Does not match the mapped organic soil in this location.