

Wetland Delineation Report

North Mendota Energy and
Technology Park
Town of Westport, Dane County,
Wisconsin
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Sign-off Sheet

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1.0 INTRODUCTION

Stantec Consulting Services Inc. (Stantec) performed a wetland determination and delineation of an approximately 60 acre parcel proposed for development into the North Mendota Energy and Technology Park (the "Study Area") on behalf of Ruedebusch Development & Construction, Inc. The wetland delineation was led by Kate Remus of Stantec on April 17 and 23, 2015 (See Appendix F for Delineator Qualifications).

The Study Area is located in Section 22, Township 8 North, Range 9 East, in the Town of Westport, Dane County, Wisconsin. Specifically, the Study Area is located west of State Highway (STH) 113 between Kennedy Drive and River Road. The purpose and objective of the wetland determination and delineation was to identify the extent and spatial arrangement of wetlands, as well as to identify potentially jurisdictional waterways, within the Study Area. Two wetland areas and three waterways were identified within the Study Area.

Wetlands and waterways that are considered waters of the U.S. are subject to regulation under Section 404 of the Clean Water Act (CWA) and the jurisdictional regulatory authority lies with the U.S. Army Corps of Engineers (USACE). Additionally, the Wisconsin Department of Natural Resources (WDNR) has regulatory authority over wetlands, navigable waters, and adjacent lands under Chapters 30 and 281 Wisconsin State Statutes, and Wisconsin Administrative Codes NR 103, 299, 350 and 353. Finally counties, townships and municipalities may have local zoning authority over certain types of wetlands and waterways. Stantec recommends this report be submitted to local authorities, the WDNR and USACE for final jurisdictional review and concurrence.

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2.0 METHODS

2.1 WETLANDS

Wetland determinations were based on the criteria and methods outlined in the *U.S. Army Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1 (1987) and subsequent guidance documents, and applicable Regional Supplements to the *Corps of Engineers Wetland Delineation Manual*.

The wetland determination involved the use of available resources to assist in the assessment such as U.S. Geological Survey (USGS) topographic maps, U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) soil survey, WDNR Wisconsin Wetland Inventory (WWI) mapping, and aerial photography.

On-site wetland determinations were made using the three criteria (vegetation, soil, and hydrology) and technical approach defined in the USACE 1987 Manual and applicable Regional Supplement. According to procedures described in the 1987 Manual and applicable Regional Supplement, areas that under normal circumstances reflect a predominance of hydrophytic vegetation, hydric soils, and wetland hydrology (e.g., inundated or saturated soils) are considered wetlands.

Additionally, as climate plays an important role in the formation and identification of wetlands, the antecedent precipitation in the months leading up to the field investigations was reviewed. The current year's precipitation data was compared to long-term (30-year) precipitation averages and standard deviation to determine if precipitation was normal, wet, or dry for the area using a WETS analysis as developed by the NRCS.

A review of U.S. Department of Agriculture Farm Service Agency (FSA) annual aerial slides and other available aerial imagery was conducted for the Study Area to assist in the wetland determination because farmed areas with mapped poorly drained or somewhat poorly drained soils are present within the Study Area. The aerial imagery was reviewed for the appearance of wetland signatures. A wetland signature is field evidence, recorded by aerial imagery, of ponding, flooding, or impacts of saturation for sufficient duration, which meets wetland hydrology and possibly wetland vegetation criteria. Wetland signatures may vary based on the type and seasonal date of the aerial imagery. Signatures visible on FSA annual aerial slides in cropland for Wisconsin have been categorized as follows (USDA, NRCS 1998):

1. Hydrophytic vegetation (seen as a different color of green)
2. Surface water (usually black or white)
3. Drowned-out crops (bare soil or mud flats)
4. Differences in color due to different planting dates or isolated areas not farmed with the rest of the field
5. Inclusions of wet areas in set-aside program
6. Patches of greener color in "dry" years

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7. Crop stress (yellow) or sparse canopy (light green)
8. Saturated soil visible on infrared (IR) slides or photos

The antecedent precipitation in the months leading up to each aerial image was reviewed and compared to long-term (30-year) precipitation averages and standard deviation to determine if each year was normal, wet, or dry using a WETS analysis (Appendix D).

Mapped poorly and somewhat poorly drained soils were identified within the Study Area and available aerial imagery was analyzed for signatures of wetness consistency in these areas (Off-Site Aerial Imagery Analysis in Appendix E). Areas within agricultural fields are typically identified as wetland if they contain hydric soils and 50% or more of the aerial images taken in the five (or more) most recent normal precipitation years show any of the wetland signatures listed above. However, while the focus of the analysis is on wetland signatures visible in normal precipitation years, years considered wet or dry for received precipitation were also analyzed. Wetland determinations and wetland boundaries are identified based on the aerial image having the largest wetland boundary during a "normal" rainfall year if signatures were apparent in at least 50% of the years (USDA, NRCS 1998).

The uppermost wetland boundary and sampling points were identified and surveyed with a Global Positioning System (GPS) capable of sub-meter accuracy and mapped using Geographical Information System (GIS) software.

2.2 WATERWAYS

Review of waterway characteristics and determination of navigability and jurisdiction was beyond the scope of the investigation. However, if observed, waterways, waterbodies, culverts, and/or other connections to off-site wetland or aquatic features that may be under federal or state authority were surveyed using a GPS and mapped using GIS software.

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3.0 RESULTS

3.1 SITE DESCRIPTION

The Study Area is comprised of active agricultural fields, wetlands, tree lines, an abandoned farmstead in the northeast corner, and a grassed waterway through the western half. The Study Area has gentle rolling topography, sloping to the southwest from topographic highs of approximately 870 feet mean sea level (msl) on the northern area of the site to topographic lows in the southwestern portion of approximately 860 feet msl. The Study Area is bordered by River Road with a quarry and commercial development to the south, railroad tracks and agricultural land, wetland, and commercial development to the west, Kennedy Drive, a few residential properties, and agricultural land to the north, and STH 113 with wetland and agricultural lands to the east.

Soils present within the Study Area and their hydric status are summarized in Table 1. The large wetland (W1) identified during the field investigation is located primarily within an area mapped as hydric soils.

Table 1. Summary of Soils Identified within the Study Area

Soil symbol: Soil Unit Name	Soil Unit Component	Soil Unit Component Percentage	Landform	Hydric status
DnB: Dodge silt loam, 2 to 6 percent slopes	Dodge	100	Moraines	No
Mc: Marshan silt loam	Marshan	100	Depressions on stream terraces	Yes
MdC2: McHenry silt loam, 6 to 12 percent slopes, eroded	McHenry	100	Moraines	No
Pa: Palms muck, 0 to 2 percent slopes	Palms	75-95	Depressions on interdrumlins	Yes
	Houghton	3-15	Depressions on interdrumlins	Yes
	Adrian	2-10	Depressions on interdrumlins	Yes
SaA: Sable silty clay loam, 0 to 2 percent slopes	Sable	85-100	Swales	Yes
	Ipava	0-7	Ground moraines	No
	Muscatune	0-6	Ground moraines	No
	Buckhart	0-4	Knolls	No
	Elburn	0-3	Outwash plains	No

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Soil symbol: Soil Unit Name	Soil Unit Component	Soil Unit Component Percentage	Landform	Hydric status
ScB: St. Charles silt loam, 2 to 6 percent slopes	St. Charles	80-90	Till plains	No
	St. Charles-Moderately well drained	5-10	Till plains	No
	Virgil	3-5	Till plains	No
	Pella	2-5	Drainageways, ground moraines, depressions	Yes
VrB: Virgil silt loam, 1 to 4 percent slopes	Virgil	100	Till plains	No
	Wetter soils		Depressions	Yes

The Wisconsin Wetland Inventory (WWI) map identifies one wetland area within the southeast section of the Study Area (Appendix A, Figure 4). Three additional wetland areas are present outside the Study Area to the north, south, east, and west, separated from the Study Area by roads or railroad. The field delineated eastern wetland (W-1; Appendix A, Figure 5) is associated with the WWI-mapped wetland area within the Study Area. The field delineated western wetland (W-2) is not mapped by the WWI, but is associated with a mapped intermittent stream running between WWI-mapped wetland areas located off-site to the north and southwest.

Average precipitation for the investigation area was obtained from the Dane County Regional Airport National Weather Service (NWS) weather station (NWS station #WI837) in Madison, WI and used for the WETS analysis (Appendix D). A total of 5.44 inches of precipitation occurred in February, March, and from April 1 - 23, compared to the average of 6.13 inches. From April 1 – April 17, 2015 3.42 inches of precipitation were received and April 1 – April 23, 2015, a total of 4.14 inches was received, compared to the long-term average precipitation for April of 3.35 inches. Based on the WETS analysis, conditions were drier than normal in February and March, but wetter in April, resulting in an overall rank of normal for site conditions at the time of the field investigations.

3.2 WETLANDS

Two wetlands were identified and delineated within the Study Area (Figure 5, Appendix A). The wetland determination data forms completed for 22 sample points along transects through the wetlands and adjacent uplands and are contained in Appendix B. Photographs of the wetlands and adjacent lands are contained in Appendix C. The wetland boundary and sample point locations are shown on Figure 5 (Appendix A). The wetlands are summarized in Table 2 below and described in detail in the following sections.

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Table 2. Summary of Wetlands Identified within the Study Area

Wetland	Wetland Type	Adjacent Surface Waters	Acreage (on-site)
Wetland 1 (W-1)	Wet meadow / Shallow Marsh / Hardwood Swamp - Shrub Carr – partially farmed (E1K, T3K, T3/S3K)	Immediately adjacent to two waterways (S1 and S2)	12.05 acres
Wetland 2 (W-2)	Wet meadow (grass waterway)	Immediately adjacent to an intermittent agricultural waterway (S3)	0.59 acre

3.2.1 Wetland 1

Wetland 1 (W-1) is a wetland complex of wet meadow, shallow marsh, hardwood swamp communities with a narrow border of farmed wetland along its western edge. W-1 is adjacent to the eastern and southern boundaries of the Study Area and is directly connected to two unnamed waterways, S1 and S2, which flow through the wetland. Waterway S1 is mapped as an intermittent stream on the 24k hydro layer mapped by USGS (Appendix A, Figures 1) and visible in the WDNR 24k hydrography layer (Appendix A, Figures 2-4). Waterway S2 is not mapped by USGS or WDNR, but appeared to be intermittent and eventually dispersed into the emergent marsh community of W-1. The unnamed waterways associated with W-1 flow south, passing under River Road via a culvert and eventually discharge into Lake Mendota.

Vegetation

Dominant plant species identified at sample points completed within W-1 consist of reed canary grass (*Phalaris arundinacea*, FACW), path rush (*Juncus tenuis*, FAC), and stunted corn (*Zea mays*) stubble from 2014 within the farmed wetland portion (Photo 6, Appendix C). The central and southeastern portion of the wetland is comprised of shallow marsh and hardwood swamp communities which were observed to be dominated by narrow-leaf cattail (*Typha angustifolia*, OBL) and cottonwood (*Populus deltoides*, FAC) among others. Other common species identified at sample points completed within the wetland are listed on the data forms contained in Appendix B. The dominant species within the wetland are comprised mostly of hydrophytic vegetation (OBL, FACW, and/or FAC) and meet the hydrophytic vegetation criterion.

Hydrology

The wetland appears to have a seasonally inundated/saturated hydroperiod within the central portion and a seasonally saturated hydroperiod along the outer margin. Primary indicators of wetland hydrology were not observed at sample points P3, P4, P6, or P8. However, secondary indicators of wetland hydrology observed included Stunted or Stressed Plants (D1), Geomorphic Position (D2), a positive FAC-Neutral Test (D5), and also Saturation Visible on Aerial Imagery (C9) in farmed portions of W-1. Therefore, the wetland hydrology criterion was met.

Soils

Soils within the wetland are mapped by the NRCS as Palms muck (Pa), Sable silty clay loam (SaA), and Virgil silt loam (VrB) (Appendix A, Figure 2). The soils observed at the sample points were generally consistent with the Sable series characteristics. Field indicators of hydric soil

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identified at sample points P3, P4, P6, and P8 consisted of NRCS field Indicators A11-Depleted Below Dark Surface, A12-Thick Dark Surface, and F6-Redox Dark surface. Therefore, the hydric soil criterion was satisfied.

Wetland Boundary

The wetland boundary was determined based on distinct differences in vegetation, hydrology, soils and topography consisting of the following: 1) Transition from a wet meadow wetland community dominated by reed canary grass or farmed wetland community with weedy agricultural species present and evidence of crop stress in the form of stunted corn stubble to upland crop land with few agricultural weedy species present and robust corn stubble; 2) Transition from an area exhibiting wetland hydrology indicators within the wetland to a lack of wetland hydrology indicators within the adjacent upland; 3) Transition from poorly and somewhat poorly drained soils exhibiting field indicators of hydric soil to somewhat poorly drained soils with various levels of disturbance or deposition over native soils lacking wetland indicators; and 4) within farmed portions, location of wetness signatures from the off-site aerial imagery analysis in normal precipitation years consistent with observations made in the field. The transition from wetland to upland characteristics generally correlated with a subtle topographic break.

3.2.2 Wetland 2

Wetland 2 (W-2) is a wet meadow community associated with a grassed waterway (S3) as is located in the western portion of the Study Area. A small portion of farmed wetland is present along the wet meadow community, primarily near the southern extent of W-2. The grassed waterway S3 is mapped as an unnamed intermittent stream on the 24k hydro layer mapped by USGS (Appendix A, Figure 1) and visible in the WDNR 24k hydrography layer (Appendix A, Figures 2-4). S3 flows south, passing under a railroad track and associated embankment via a box culvert and eventually discharges into a system of drainageways which flow into Lake Mendota.

Vegetation

Dominant plant species identified at sample points completed within W-1 consist of reed canary grass and stunted corn crop within the farmed wetland fringe portions. Other common species identified at sample points completed within the wetland are listed on the data forms contained in Appendix B. The dominant species within the wetland are comprised mostly of hydrophytic vegetation (OBL, FACW, and/or FAC) and meet the hydrophytic vegetation criterion.

Hydrology

The wetland appears to have a seasonally saturated hydroperiod. Primary indicators of wetland hydrology were not observed at sample points P12, P16, P18, or P20. However, secondary indicators of wetland hydrology observed included Geomorphic Position (D2), a positive FAC-Neutral Test (D5), and also Saturation Visible on Aerial Imagery (C9) in farmed portions of W-2. Therefore, the wetland hydrology criterion was met.

Soils

Soils within the wetland are mapped by the NRCS as Sable silty clay loam (SaA) and Virgil silt loam (VrB) (Appendix A, Figure 2). The Virgil series is considered a non-hydric soil by NRCS, but can contain inclusions of wetter hydric soils within depressions. The soils observed at the sample points were generally consistent with the wetter soils of the Virgil series that can be found within depressional areas. Field indicators of hydric soil identified at sample points P12, P16, P18, and

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P20 consisted of NRCS field Indicators A12-Thick Dark Surface and F6-Redox Dark surface. Therefore, the hydric soil criterion was satisfied.

Wetland Boundary

The wetland boundary was determined based on distinct differences in vegetation, hydrology, soils and topography consisting of the following: 1) Transition from a wet meadow wetland community dominated by reed canary grass or farmed wetland fringe area with weedy agricultural species present and evidence of crop stress in the form of stunted corn stubble to upland crop land with few agricultural weedy species present and robust corn stubble; 2) Transition from an area exhibiting wetland hydrology indicators within the wetland to a lack of wetland hydrology indicators within the adjacent upland; 3) Transition from somewhat poorly drained soils within a depressional area exhibiting field indicators of hydric soil to somewhat poorly drained soils lacking hydric soil indicators; and 4) within the farmed portions, location of wetness signatures from the off-site aerial imagery analysis in normal precipitation years consistent with observations made in the field. The transition from wetland to upland characteristics generally correlated with a subtle topographic break.

3.3 UPLAND

Upland within the Study Area consisted of agricultural fields, tree lines, and an abandoned farmstead. As the majority of Study Area is agricultural land, a review of historic aerial imagery was conducted to evaluate the presence of wetland signatures. Sample points P10, P11, P14, P21, and P22 were completed in areas associated with mapped poorly drained or somewhat poorly drained soils or that appeared to be darker in color on recent aerial imagery, indicating potential wetland areas, during the aerial imagery review and were therefore field reviewed. A few of the upland sample points placed in the active agricultural fields did exhibit some hydrologic impact (native soils with hydric indicators overlain by many inches of depositional soils from upslope runoff) in the soils, but overall, conditions are not wet enough for a long enough duration to support wetland establishment. Evidence of soil deposition over native soil horizons was commonly seen throughout the Study Area and sample points P8, P9, P14, P16, P19, and P20 showed various levels of disturbance to the soils. Additionally, an active sump pump for an established draitile network was observed discharging water into S3. The established draitile network has influenced hydrology successfully for a long enough period of time to limit wetland establishment beyond the extent of W-2 as observed during field investigations.

The tree lines, present along a high topographic ridge in the west half of the Study Area and railroad embankment along the southwest boundary, and the abandoned farmstead in the northeastern corner of the Study Area, were dominated by common disturbance-driven species including box elder (*Acer negundo*, FAC), black cherry (*Prunus serotina*, FACU), hackberry (*Celtis occidentalis*, FAC), cottonwood, Bell's honeysuckle (*Lonicera X bella*, FACU), staghorn sumac (*Rhus typhina*, UPL), common burdock (*Arctium minus*, FACU), smooth brome (*Bromus inermis*, UPL), and Queen Anne's-lace (*Daucus carota*, UPL). Overall, upland areas were determined to be non-wetland based on a combination of the lack of hydrophytic vegetation, wetland hydrology, hydric soils, topographic position, non-stunted corn stubble, and/or the lack of observed wetland signatures during the aerial imagery review.

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3.4 WATERWAYS

Three waterways were identified within the Study Area and mapped, as they may be considered navigable and subject to federal and/or state authority. Two of the waterways, S1 and S3, appeared to have defined bed and banks, correlate with mapped intermittent streams on the USGS and WDNR 24K hydrography layers, and are identified as unnamed tributaries with Waterbody Identification Codes (WIBC) 806100 and 3000316, respectively. Waterway S2 is not associated with a mapped perennial or intermittent stream and did not appear to have defined bed and banks. Waterway S2 appeared to convey stormwater flow from culverts under STH 19 and eventually dissipated into W-1. Waterways S1 and S2 are immediately adjacent to W-1 and S3 is immediately adjacent to W-2; all three waterways flow south where they eventually connect to Lake Mendota.

3.5 OTHER ENVIRONMENTAL CONSIDERATIONS

This report is limited to the identification of state and/or federally regulated wetlands and waterways within the Study Area. However, there may be other regulated environmental features within the Study Area, including, but not limited to, historical or archeological features, endangered or threatened species, navigable waters, and/or floodplains, etc. Federal, state, and local units of government and regional planning organizations may have regulatory authority to control or restrict land uses within or in close proximity to these features. Stantec can assist with identification and/or assessment of additional regulated resources at your request, to the extent that the work is within our range of expertise.

Specifically, in the state of Wisconsin, Wis. Adm. Code NR 151.12 requires that a "protective area" or buffer be determined from the top of the channel of lakes, streams and rivers, or at the delineated boundary of wetlands. In accordance with NR 151.12, the width of the "protective area" for less susceptible wetlands is determined by using 10% of the average wetland width, no less than 10 feet or more than 30 feet. Moderately susceptible wetlands, lakes, and perennial and intermittent streams identified on USGS topographic maps or NRCS county soil survey maps (whichever is more current) require a protective buffer of 50 feet, and outstanding or exceptional resource waters, highly susceptible wetlands, and wetlands in areas of special natural resource interest require protective buffers of 75 feet. The wetlands identified within the Study Area are dominated by invasive plant species, specifically reed canary grass and narrow-leaf cattail, but are immediately adjacent to waterways mapped as intermittent streams by USGS. Therefore, based on the "protective buffer" standards provided by NR 151.12, it is Stantec's professional opinion that the wetlands meet the criteria for moderately susceptible wetlands and the buffer from the wetland boundary would be 50 feet. However, the jurisdictional authority on wetland buffers rests with the WDNR. Local zoning authorities and/or a regional planning organization may have more restrictive buffers from wetlands than that imposed under NR 151.

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4.0 CONCLUSION

Stantec performed a wetland determination and delineation of the proposed site of the North Mendota Energy and Technology Park on behalf of Ruedebusch Development & Construction, Inc. The approximately 60-acre Study Area is located in Section 22, Township 8 North, Range 9 East, in the Town of Westport, Dane County, Wisconsin. The purpose and objective of the wetland determination and delineation was to identify the extent and spatial arrangement of wetlands and potentially jurisdictional waterways within the Study Area.

Two wetlands were identified and delineated within the Study Area in accordance with state and federal guidelines and were subsequently surveyed with GPS and mapped using GIS software. There were a combined total of 12.64 acres of wetlands within the Study Area. Wetlands were mostly composed of wet meadow, shallow marsh, hardwood swamp, and farmed wetland. Adjacent uplands were composed of agricultural lands, mesic tree lines, and an abandoned farmstead. Additionally, three waterways were identified and were surveyed with GPS and mapped using GIS software. Two of the waterways are associated with intermittent streams mapped by USGS and WDNR, and all three waterways flow off-site and eventually discharge into Lake Mendota.

The USACE has regulatory authority over Waters of the U.S. including adjacent wetlands, and the WDNR has regulatory authority over wetlands, navigable waters, and adjacent lands under Chapters 30 and 281 Wisconsin State Statutes, and Wisconsin Administrative Codes NR 103, 299, 350 and 353. Finally, counties, townships and municipalities may have local zoning authority over certain types of wetlands and waterways.

Prior to beginning work at this site or disturbing or altering wetlands, waterways, or adjacent lands in any way, Stantec recommends that the owner obtain the necessary permits or other agency regulatory review and concurrence with regard to the proposed work to comply with applicable regulations. Stantec can assist with identification and/or assessment of additional regulated resources at your request, to the extent that the work is within our range of expertise.

The information provided by Stantec regarding wetland boundaries is a scientific-based analysis of the wetland and upland conditions present within the Study Area at the time of the fieldwork. The delineation was performed by experienced and qualified professionals using standard practices and sound professional judgment. The ultimate decision on wetland boundaries rests with the USACE and, in some cases, the WDNR or a local unit of government. As a result, there may be adjustments to boundaries based upon review by a regulatory agency. An agency determination can vary from time to time depending on various factors including, but not limited to recent precipitation patterns and the season of the year. In addition, the physical characteristics of the Study Area can change over time, depending on the weather, vegetation patterns, drainage activities on adjacent parcels, or other events. Any of these factors can change the nature and extent of wetlands within the Study Area.

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5.0 REFERENCES

Environmental Laboratory. (1987). "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

Lichvar, R.W., M. Butterwick, N.C. Melvin, and W. N. Kirchner. 2014. *The National Wetland Plant List: 2014 Update of Wetland Ratings*. Phytoneuron 2013-41: 1-4.
<http://rsgisias.crrel.usace.army.mil/NWPL/>.

Midwestern Regional Climate Center. (2014). *cli-MATE* [climate data access tool]. Retrieved from <http://mrcc.isws.illinois.edu/CLIMATE/>.

National Oceanic and Atmospheric Administration. (2015) Regional Climate Centers Applied Climate Information System . (2015). *WETS table*. Retrieved from <http://agacis.rcc-acis.org>.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Soil Survey Geographic (SSURGO) Database. Available online at <http://websoilsurvey.nrcs.usda.gov/> or <http://datagateway.nrcs.usda.gov/>. Accessed [3/9/2015].

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/>. Accessed [4/24/2015].

U.S. Army Corps of Engineers (USACE) and Wisconsin Department of Natural Resources (WDNR). "Guidance for Submittal of Delineation Reports to the St. Paul District Army Corps of Engineers and the Wisconsin Department of Natural Resources", Issued March 4, 2015. Available online at <http://dnr.wi.gov/topic/wetlands/documents/FinalWisconsinDelineationGuidance.pdf>.

USACE. 2014. National Wetland Plant List, version 3.2. USACE Engineer Research and Development Center, Cold Water Regions Research and Engineering Laboratory, Hanover, N.H. Retrieved from http://wetland_plants.usace.army.mil/.

USACE. 2011. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)*, ed. J.S. Wakely, R.W. Lichvar, C.V. Nobel, and J. F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

United States Department of Agriculture, Farm Service Agency (USDA, FSA). (1985, 1987-1995, 1997-2002, 2005, 2006, 2008, 2010, 2013) [Dane County, State aerial photographs]. National Agriculture Imagery Program (NAIP). Salt Lake City, UT: Aerial Photography Field Office.

U.S. Department of Agriculture, Natural Resource Conservation Service (USDA, NRCS). 2010. *Field Indicators of Hydric Soils in the United States*, Version 7.0. L.M. Vasilas, G.W. Hurt, and C.V. Noble (eds.). USDA, NRCS in cooperation with the National Technical Committee for Hydric Soils.

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USDA, NRCS. 1998. *Wisconsin Wetland Mapping Conventions – WI513.30(c) Off-site wetland identification tools*. (WI-180-V-NFSAM). (3rd ed.) (Amendment WI21).

United States Geological Survey (USGS). *Wisconsin 7.5 Minute Series (Topographic) Maps*. 1:24,000. Reston, VA: United States Department of the Interior, USGS.

Wetland Training Institute, Inc. (2010). *Pocket guide to hydric soil field indicators*. (Robert J. Pierce, Ed.). (7th ed.). Glenwood, NM: Wetland Training Institute, Inc.

Wisconsin Department of Natural Resources (WDNR), Bureau of Watershed Management. (2010). [Digital inventory of Wisconsin wetlands]. *Wisconsin Wetland Inventory*.

WDNR, Division of Water. (2010). [24k hydrography geospatial data layer]. Available online: ftp://dnrftp01.wi.gov/geodata/hydro_24k/.

WETLAND DELINEATION REPORT

North Mendota Energy and Technology Park
Appendix A– Figures
May 18, 2015

Appendix A – Figures

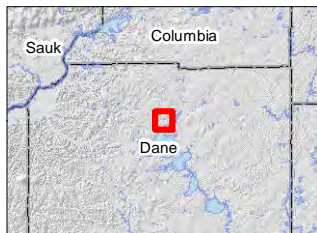
Figure 1. Project Location and Topography

Figure 2. NRCS Soil Survey Data – Hydric Ratings

Figure 3. NRCS Soil Survey Data – Wetland Indicator Soils

Figure 4. Wisconsin Wetland Inventory

Figure 5. Field Collected Data



Legend

Approximate Project Boundary

Notes

1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Data Sources Include: Stantec, WisDOT, WDNR
3. Background: USGS 7.5' Topographic Quadrangles

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Figure No.

1

Title

Project Location and Topography

Client/Project

North Mendota Energy and Technology Park
Ruedebusch Development & Construction, Inc.

Project Location

108N, R09E, S22
T. of Westport
Dane Co., WI

193703573

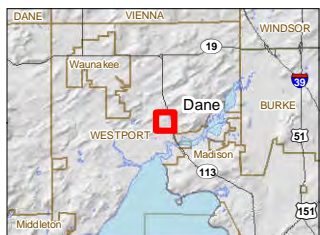
Prepared by KAS on 2015-03-09

Technical Review by MCP on 2015-03-09

Independent Review by KR on 2015-03-31

0 1,000 2,000
Feet
1:24,000 (at original document size of 8.5x11)





- Notes
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Data Sources Include: Stantec, NRCS, WDNR, and WsDOT
 3. Orthophotography: 2010 WROC

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Legend

- Approximate Project Boundary
- NRCS Soil Survey Data
- Hydric Rating
 - Predominantly Hydric Soils
 - Partially Hydric Soils
 - Non-Hydric Soils

- DNR 24k Hydrography
 - ~ Perennial Stream
 - - - Intermittent Stream
 - Waterbody

Figure No.
2

Title

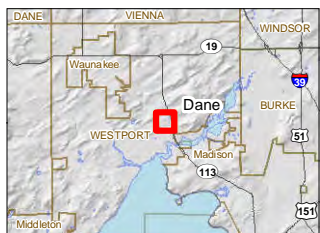
NRCS Soil Survey Data Hydric Ratings

Client/Project
North Mendota Energy and Technology Park
Ruedebsch Development & Construction, Inc.

Project Location 193703573
T8N, R9E, S22 Prepared by KAS on 2015-03-09
T. of Westport Technical Review by MCP on 2015-03-09
Dane Co., WI Independent Review by KR on 2015-05-15

0 200 400 Feet
1:4,800 (at original document size of 8.5x11)





Legend

- Approximate Project Boundary
- NRCS Soil Survey Data
- Wetland Indicator Soils
- Very Poorly Drained
- Poorly Drained
- Somewhat Poorly Drained

- DNR 24k Hydrography
- Perennial Stream
- Intermittent Stream
- Waterbody

Notes

1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Data Sources Include: Stantec, NRCS, WDNR, and WSDOT
3. Orthophotography: 2010 WROC

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Figure No.
3

Title
NRCS Soil Survey Data
Wetland Indicator Soils

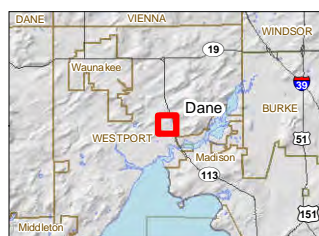
Client/Project
North Mendota Energy and Technology Park
Ruedebsch Development & Construction, Inc.

Project Location
T08N, R09E, S22
T. of Westport
Dane Co., WI



193703573
Prepared by KAS on 2015-03-09
Technical Review by MCP on 2015-03-09
Independent Review by KR on 2015-05-15




0 200 400
Feet
1:4,800 (at original document size of 8.5x11)





Legend

-  Approximate Project Boundary
- WWI Wetland Class Areas
-  Wetland

- DNR 24k Hydrography
-  Perennial Stream
 -  Intermittent Stream
 -  Waterbody

- Notes
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Data Sources Include: Stantec, WWI, WDNR, and WisDOT
 3. Orthophotography: 2010 WROC

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Figure No.

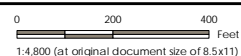
4

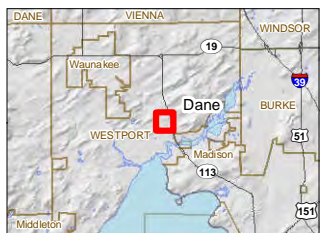
Title

Wisconsin Wetland Inventory









Client/Project
North Mendota Energy and Technology Park
Ruedeusch Development & Construction, Inc.

Project Location	193703573
T08N, R09E, S22	Prepared by KAS on 2015-03-09
T. of Westport	Technical Review by MCP on 2015-03-09
Dane Co., WI	Independent Review by KR on 2015-05-15





Legend

-  Approximate Project Boundary
 Sample Points
 Field Delineated Waterway
 Field Delineated Wetland
 DNR 24k Hydrography
 Perennial Stream
 Intermittent Stream
 Waterbody

Notes

1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Data Sources Include: Stantec, WDNR, and WisDOT
3. Orthophotography: 2010 WROC

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Figure No.

5

Title

Field Collected Data

Client/Project
North Mendota Energy and Technology Park
Ruedebsch Development & Construction, Inc.

Project Location	193703573
T08N, R09E, S22	Prepared by JD on 2015-04-24
T. of Westport	Technical Review by CP on 2015-04-24
Dane Co., WI	Independent Review by KR on 2015-05-15

0 200 400 Feet
1:4,800 (at original document size of 8.5x11)



WETLAND DELINEATION REPORT

North Mendota Energy and Technology Park
Appendix B– Wetland Determination Data Forms
May 18, 2015

Appendix B– Wetland Determination Data Forms

Project/Site: North Mendota Energy and Technology Park		Stantec Project #: 193703573		Date: 04/17/15
Applicant: Ruedebsch Development & Construction, Inc.				County: Dane
Investigator #1: K. Remus		Investigator #2: ---		State: Wisconsin
Soil Unit: Sable silty clay loam	NWI/WWI Classification: ---			Wetland ID: W-1
Landform: Backslope	Local Relief: Linear			Sample Point: P1
Slope (%): 0-2	Latitude: N/A	Longitude: N/A	Datum: N/A	Community ID: Ag Field
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Section: 22
Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present?		Township: 8N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Range: 9 Dir: E

SUMMARY OF FINDINGS			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Remarks: Based on a WETS analysis, conditions were normal; however, 3.42 inches of rain were received in the area from April 1 - April 17. Sample point located within active agricultural field.			

HYDROLOGY			
Wetland Hydrology Indicators (Check here if indicators are not present <input checked="" type="checkbox"/>): <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <u>Primary:</u> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface </div> <div style="width: 30%;"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) </div> <div style="width: 30%;"> <u>Secondary:</u> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test </div> </div>			
Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)		Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Aerial Imagery Review			
Remarks:			

SOILS											
Map Unit Name: Sable silty clay loam						Series Drainage Class: poorly					
Taxonomy (Subgroup): Typic 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)											
Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)		%	Color (Moist)	%	Type	Location		
0	10	1	7.5YR	3/1	100	--	--	--	--	--	loam
10	18	2	10YR	5/4	65	--	--	--	--	--	clay loam
--	--	--	10YR	5/8	30	--	--	--	--	--	clay loam
--	--	--	10YR	3/2	5	--	--	--	--	--	clay loam
18	24	3	2.5Y	6/3	90	10YR	5/8	10	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present <input checked="" type="checkbox"/>): <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) </div> <div style="width: 30%;"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions </div> <div style="width: 30%;"> Indicators for Problematic Soils ¹ <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) </div> </div>					
<div style="display: flex; justify-content: space-between;"> <div> Restrictive Layer (If Observed) Type: N/A Depth: N/A </div> <div style="background-color: #f0f0f0;"> Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No </div> </div>					
Remarks: Second horizon mixed.					

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Project/Site: **North Mendota Energy and Technology Park** Wetland ID: **W-1** Sample Point: **P1**
VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

 Total Cover = **0**

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

 Total Cover = **0**

Herb Stratum (Plot size: 2 meter radius)

1.	TARAXACUM OFFICINALE	2	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--

 Total Cover = **2**

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--

 Total Cover = **0**

 Remarks: **Sample point located in active ag field planted to corn in 2014. Based on corn stubble present, no crop stress observed. Few weedy species present.**
Dominance Test Worksheet

 Number of Dominant Species that are OBL, FACW, or FAC: **0** (A)

 Total Number of Dominant Species Across All Strata: **1** (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	2	x 4 =	8
UPL spp.	0	x 5 =	0

 Total **2** (A) **8** (B)

 Prevalence Index = B/A = **4.000**
Hydrophytic Vegetation Indicators:

- | | | |
|------------------------------|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Dominance Test is > 50% |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☒ No

Additional Remarks:
Sample point located in active agricultural field planted to corn in 2014. Corn stubble appeared to be full size/not stressed and only sparse weedy species were observed. The upland determination is supported by the lack of wetland hydrology indicators, hydric soil indicators, and hydrophytic vegetation.

Project/Site:	North Mendota Energy and Technology Park	Stantec Project #:	193703573	Date:	04/17/15
Applicant:	Ruedebusch Development & Construction, Inc.			County:	Dane
Investigator #1:	K. Remus	Investigator #2:	---	State:	Wisconsin
Soil Unit:	Sable silty clay loam	NWI/WWI Classification:	---	Wetland ID:	W-1
Landform:	Backslope	Local Relief:	Linear	Sample Point:	P2
Slope (%):	0-2	Latitude:	N/A	Community ID:	Field Edge
		Longitude:	N/A	Datum:	N/A
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks)				<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present?		Section:	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township:	
				Range:	9 Dir: E

SUMMARY OF FINDINGS					
Hydrophytic Vegetation Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland?		
			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Remarks: Based on a WETS analysis, conditions were normal; 3.42 inches of rain were received in the area from April 1 - April 17. Sample point located in uncropped field edge.					

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present <input checked="" type="checkbox"/>):		
<u>Primary:</u>		<u>Secondary:</u>
<input type="checkbox"/> A1 - Surface Water	<input type="checkbox"/> B9 - Water-Stained Leaves	<input type="checkbox"/> B6 - Surface Soil Cracks
<input type="checkbox"/> A2 - High Water Table	<input type="checkbox"/> B13 - Aquatic Fauna	<input type="checkbox"/> B10 - Drainage Patterns
<input type="checkbox"/> A3 - Saturation	<input type="checkbox"/> B15 - Marl Deposits	<input type="checkbox"/> B16 - Moss Trim Lines
<input type="checkbox"/> B1 - Water Marks	<input type="checkbox"/> C1 - Hydrogen Sulfide Odor	<input type="checkbox"/> C2 - Dry-Season Water Table
<input type="checkbox"/> B2 - Sediment Deposits	<input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots	<input type="checkbox"/> C8 - Crayfish Burrows
<input type="checkbox"/> B3 - Drift Deposits	<input type="checkbox"/> C4 - Presence of Reduced Iron	<input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery
<input type="checkbox"/> B4 - Algal Mat or Crust	<input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils	<input type="checkbox"/> D1 - Stunted or Stressed Plants
<input type="checkbox"/> B5 - Iron Deposits	<input type="checkbox"/> C7 - Thin Muck Surface	<input type="checkbox"/> D2 - Geomorphic Position
<input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> D3 - Shallow Aquitard
<input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface		<input type="checkbox"/> D4 - Microtopographic Relief
		<input type="checkbox"/> D5 - FAC-Neutral Test

Field Observations:	
Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Depth: (in.)	
Depth: (in.)	
Depth: (in.)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Aerial Imagery Review
--	-----------------------

Remarks:

SOILS

Map Unit Name:	Sable silty clay loam	Series Drainage Class:	poorly
Taxonomy (Subgroup):	Typic 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)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features					Texture (e.g. clay, sand, loam)
			Color (Moist)		%	Color (Moist)		%	Type	Location	
0	8	1	10YR	2/1	100	--	--	--	--	--	silt loam
8	10	2	10YR	2/1	98	10YR	2/2	2	C	M	silt loam
10	17	3	10YR	4/3	90	10YR	5/6	10	C	M	clay loam
17	22	4	10YR	5/3	85	10YR	6/8	15	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present <input checked="" type="checkbox"/>):			Indicators for Problematic Soils ¹		
<input type="checkbox"/> A1- Histosol	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B)	<input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B)			
<input type="checkbox"/> A2 - Histic Epipedon	<input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R)			
<input type="checkbox"/> A3 - Black Histic	<input type="checkbox"/> S11 - High Chroma Sands	<input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R)			
<input type="checkbox"/> A4 - Hydrogen Sulfide	<input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L)	<input type="checkbox"/> S7 - Dark Surface (LRR K, L, M)			
<input type="checkbox"/> A5 - Stratified Layers	<input type="checkbox"/> F2 - Loamy Gleyed Matrix	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L)			
<input type="checkbox"/> A11 - Depleted Below Dark Surface	<input type="checkbox"/> F3 - Depleted Matrix	<input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L)			
<input type="checkbox"/> A12 - Thick Dark Surface	<input type="checkbox"/> F6 - Redox Dark Surface	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R)			
<input type="checkbox"/> S1 - Sandy Muck Mineral	<input type="checkbox"/> F7 - Depleted Dark Surface	<input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B)			
<input type="checkbox"/> S4 - Sandy Gleyed Matrix	<input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F21 - Red Parent Material			
<input type="checkbox"/> S5 - Sandy Redox		<input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B)			
<input type="checkbox"/> S6 - Stripped Matrix		<input type="checkbox"/> TF12 - Very Shallow Dark Surface			
<input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed)	Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	-----------	------------	---

Remarks:	Only faint redox features in second layer = does not meet a hydric soil indicator. Lower soils have redox features, but do not meet a hydric soil indicator.
----------	--

Project/Site: **North Mendota Energy and Technology Park** Wetland ID: **W-1** Sample Point: **P2**
VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	<i>Quercus macrocarpa</i>	40	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = 40

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	<i>LONICERA X BELLA</i>	15	Y	FACU
2.	<i>Acer negundo</i>	5	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = 20

Herb Stratum (Plot size: 2 meter radius)

1.	<i>ARCTIUM MINUS</i>	3	Y	FACU
2.	<i>PHALARIS ARUNDINACEA</i>	3	Y	FACW
3.	<i>Rubus occidentalis</i>	2	Y	UPL
4.	<i>TARAXACUM OFFICINALE</i>	2	Y	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--

Total Cover = 10

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--

Total Cover = 0

 Remarks: **Weedy field edge - not cropped.**
Dominance Test Worksheet

 Number of Dominant Species that are OBL, FACW, or FAC: **2** (A)

 Total Number of Dominant Species Across All Strata: **7** (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: **29%** (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	3	x 2 =	6
FAC spp.	5	x 3 =	15
FACU spp.	60	x 4 =	240
UPL spp.	2	x 5 =	10

 Total **70** (A) **271** (B)

 Prevalence Index = B/A = **3.871**
Hydrophytic Vegetation Indicators:

- | | | |
|------------------------------|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Dominance Test is > 50% |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☒ No

Additional Remarks:

Project/Site: North Mendota Energy and Technology Park		Stantec Project #: 193703573	Date: 04/17/15
Applicant: Ruedeusch Development & Construction, Inc.			County: Dane
Investigator #1: K. Remus	Investigator #2: ---		State: Wisconsin
Soil Unit: Sable silty clay loam	NWI/WWI Classification: E1K		Wetland ID: W-1
Landform: Toeslope	Local Relief: Linear		Sample Point: P3
Slope (%): 0-2	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) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Community ID: Wet Meadow
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Section: 22	
		Township: 8N	
		Range: 9 Dir: E	

SUMMARY OF FINDINGS	
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks: Based on a WETS analysis, conditions were normal; 3.42 inches of rain were received in the area from April 1 - April 17.	

HYDROLOGY		
Wetland Hydrology Indicators (Check here if indicators are not present <input type="checkbox"/>): <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <u>Primary:</u> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface </div> <div style="width: 30%;"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) </div> <div style="width: 30%;"> <u>Secondary:</u> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test </div> </div>		

Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Aerial Imagery Review
Remarks:

SOILS											
Map Unit Name: Sable silty clay loam						Series Drainage Class: poorly					
Taxonomy (Subgroup): Typic 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)											
Top Depth	Bottom Depth	Horizon	Matrix			Redox Features					Texture (e.g. clay, sand, loam)
			Color (Moist)		%	Color (Moist)			%	Type	
0	14	1	10YR	2/1	100	--	--	--	--	--	silt loam
14	18	2	10YR	3/1	95	10YR	4/6	5	C	M	silty clay loam
18	28	3	2.5Y	6/2	90	10YR	6/8	10	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>): <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) </div> <div style="width: 30%;"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions </div> <div style="width: 30%;"> Indicators for Problematic Soils ¹ <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) </div> </div>		
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¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A Depth: N/A	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks:	

Project/Site: North Mendota Energy and Technology Park

Wetland ID: W-1

Sample Point: P3

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = 0

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = 0

Herb Stratum (Plot size: 2 meter radius)

1.	PHALARIS ARUNDINACEA	100	Y	FACW
2.	ARCTIUM MINUS	2	N	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--

Total Cover = 102

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--

Total Cover = 0

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	100	x 2 =	200
FAC spp.	0	x 3 =	0
FACU spp.	2	x 4 =	8
UPL spp.	0	x 5 =	0

Total 102 (A) 208 (B)

Prevalence Index = B/A = 2.039

Hydrophytic Vegetation Indicators:

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Dominance Test is > 50% |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.**Woody Vines** - All woody vines greater than 3.28 ft. in height.**Hydrophytic Vegetation Present** ☒ Yes ☐ No

Project/Site:	North Mendota Energy and Technology Park	Stantec Project #:	193703573	Date:	04/17/15						
Applicant:	Ruedebusch Development & Construction, Inc.			County:	Dane						
Investigator #1:	K. Remus	Investigator #2:	---	State:	Wisconsin						
Soil Unit:	Sable silty clay loam	NWI/WWI Classification:	---	Wetland ID:	W-1						
Landform:	Terrace	Local Relief:	Concave	Sample Point:	P4						
Slope (%):	0-2	Latitude:	N/A	Longitude:	N/A	Datum:	N/A	Community ID:	Farmed Wetland		
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks)								<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Section:	22
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?				Are normal circumstances present?				Township:			8N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				Range:			9 Dir: E

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Remarks: Based on a WETS analysis, conditions were normal; 3.42 inches of rain were received in the area from April 1 - April 17. Sample point located within active agricultural field at edge of uncropped wetland.			

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present <input type="checkbox"/>):			
<u>Primary:</u>		<u>Secondary:</u>	
<input type="checkbox"/> A1 - Surface Water	<input type="checkbox"/> B9 - Water-Stained Leaves	<input type="checkbox"/> B6 - Surface Soil Cracks	
<input type="checkbox"/> A2 - High Water Table	<input type="checkbox"/> B13 - Aquatic Fauna	<input type="checkbox"/> B10 - Drainage Patterns	
<input type="checkbox"/> A3 - Saturation	<input type="checkbox"/> B15 - Marl Deposits	<input type="checkbox"/> B16 - Moss Trim Lines	
<input type="checkbox"/> B1 - Water Marks	<input type="checkbox"/> C1 - Hydrogen Sulfide Odor	<input type="checkbox"/> C2 - Dry-Season Water Table	
<input type="checkbox"/> B2 - Sediment Deposits	<input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots	<input type="checkbox"/> C8 - Crayfish Burrows	
<input type="checkbox"/> B3 - Drift Deposits	<input type="checkbox"/> C4 - Presence of Reduced Iron	<input checked="" type="checkbox"/> C9 - Saturation Visible on Aerial Imagery	
<input type="checkbox"/> B4 - Algal Mat or Crust	<input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils	<input checked="" type="checkbox"/> D1 - Stunted or Stressed Plants	
<input type="checkbox"/> B5 - Iron Deposits	<input type="checkbox"/> C7 - Thin Muck Surface	<input checked="" type="checkbox"/> D2 - Geomorphic Position	
<input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> D3 - Shallow Aquitard	
<input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface		<input type="checkbox"/> D4 - Microtopographic Relief	
		<input type="checkbox"/> D5 - FAC-Neutral Test	
Field Observations:			
Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth:	(in.)
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth:	(in.)
Saturation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth:	(in.)
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Aerial Imagery Review			
Remarks: Evidence of saturation observed in review of historic aerial imagery.			

SOILS

Map Unit Name:	Sable silty clay loam	Series Drainage Class:	poorly								
Taxonomy (Subgroup):	Typic 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)											
Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)		%	Color (Moist)		%	Type	Location	
0	12	1	10YR	2/1	100	--	--	--	--	--	silt loam
12	22	2	10YR	4/1	90	10YR	5/6	10	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):				Indicators for Problematic Soils ¹			
<input type="checkbox"/> A1- Histosol	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B)	<input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B)					
<input type="checkbox"/> A2 - Histic Epipedon	<input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R)					
<input type="checkbox"/> A3 - Black Histic	<input type="checkbox"/> S11 - High Chroma Sands	<input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R)					
<input type="checkbox"/> A4 - Hydrogen Sulfide	<input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L)	<input type="checkbox"/> S7 - Dark Surface (LRR K, L, M)					
<input type="checkbox"/> A5 - Stratified Layers	<input type="checkbox"/> F2 - Loamy Gleyed Matrix	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L)					
<input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface	<input type="checkbox"/> F3 - Depleted Matrix	<input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L)					
<input type="checkbox"/> A12 - Thick Dark Surface	<input type="checkbox"/> F6 - Redox Dark Surface	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R)					
<input type="checkbox"/> S1 - Sandy Muck Mineral	<input type="checkbox"/> F7 - Depleted Dark Surface	<input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B)					
<input type="checkbox"/> S4 - Sandy Gleyed Matrix	<input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F21 - Red Parent Material					
<input type="checkbox"/> S5 - Sandy Redox		<input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B)					
<input type="checkbox"/> S6 - Stripped Matrix		<input type="checkbox"/> TF12 - Very Shallow Dark Surface					
<input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)					
¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.							
Restrictive Layer (If Observed)	Type: N/A	Depth: N/A	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
Remarks:							

Project/Site: North Mendota Energy and Technology Park

Wetland ID: W-1

Sample Point: P4

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind.Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = 0

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = 0

Herb Stratum (Plot size: 2 meter radius)

1.	PHALARIS ARUNDINACEA	20	Y	FACW
2.	AGROSTIS GIGANTEA	5	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--

Total Cover = 25

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--

Total Cover = 0

Remarks: Sample point located in active agricultural field planted to corn in 2014. Crop stress observed in the form of stunted corn stubble. Also, P. arundinacea and A. gigantea remnants and some new growth observed, where weedy species are essentially absent in rest of field.

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	25	x 2 =	50
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0

Total 25 (A) 50 (B)

Prevalence Index = B/A = 2.000

Hydrophytic Vegetation Indicators:

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Dominance Test is > 50% |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.**Woody Vines** - All woody vines greater than 3.28 ft. in height.**Hydrophytic Vegetation Present** ☒ Yes ☐ No**Additional Remarks:**

Sample point located in active agricultural field on terrace/toeslope between edge of uncropped wetland area and upland knoll in ag field. Crop stress observed in the form of stunted corn stubble compared to stubble in non-wetland ag field; sample point location also correlates with area commonly exhibiting wetland signatures in an aerial imagery review.

Project/Site: North Mendota Energy and Technology Park		Stantec Project #: 193703573		Date: 04/17/15
Applicant: Ruedebsch Development & Construction, Inc.				County: Dane
Investigator #1: K. Remus	Investigator #2: ---			State: Wisconsin
Soil Unit: Sable silty clay loam	NWI/WWI Classification: ---		Wetland ID: W-1	
Landform: Backslope	Local Relief: Linear			Sample Point: P5
Slope (%): 0-2	Latitude: N/A	Longitude: N/A	Datum: N/A	Community ID: Ag Field
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Section: 22
Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present?		Township: 8N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Range: 9 Dir: E

SUMMARY OF FINDINGS			
Hydrophytic Vegetation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Remarks: Based on a WETS analysis, conditions were normal; 3.42 inches of rain were received in the area from April 1 - April 17. Sample point located within active agricultural field.			

HYDROLOGY			
Wetland Hydrology Indicators (Check here if indicators are not present <input checked="" type="checkbox"/>): <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <u>Primary:</u> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface </div> <div style="width: 30%;"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) </div> <div style="width: 30%;"> <u>Secondary:</u> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test </div> </div>			
Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)		Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Aerial Imagery Review			
Remarks:			

SOILS											
Map Unit Name: Sable silty clay loam						Series Drainage Class: poorly					
Taxonomy (Subgroup): Typic 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)											
Top Depth	Bottom Depth	Horizon	Matrix			Redox Features					Texture (e.g. clay, sand, loam)
			Color (Moist)		%	Color (Moist)		%	Type	Location	
0	15	1	10YR	3/2	100	--	--	--	--	--	loam
15	26	2	10YR	2/1	95	10YR	4/2	5	D	M	silt loam
26	29	3	10YR	4/1	95	10YR	5/6	5	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present <input checked="" type="checkbox"/>): <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) </div> <div style="width: 30%;"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions </div> <div style="width: 30%;"> Indicators for Problematic Soils ¹ <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) </div> </div>					
<div style="font-size: small;"> ¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. </div>					
Restrictive Layer (If Observed)		Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Remarks: Deposition of upslope soils over original soils.					

Project/Site: **North Mendota Energy and Technology Park** Wetland ID: **W-1** Sample Point: **P5**
VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

 Total Cover = **0**

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

 Total Cover = **0**

Herb Stratum (Plot size: 2 meter radius)

1.	TARAXACUM OFFICINALE	1	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--

 Total Cover = **1**

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--

 Total Cover = **0**

 Remarks: **Sample point located within ag field planted to corn in 2014. No stunted/stress indicators observed in corn stubble. Very minimal weedy species**
Dominance Test Worksheet

 Number of Dominant Species that are OBL, FACW, or FAC: **0** (A)

 Total Number of Dominant Species Across All Strata: **1** (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	1	x 4 =	4
UPL spp.	0	x 5 =	0

 Total **1** (A) **4** (B)

 Prevalence Index = B/A = **4.000**
Hydrophytic Vegetation Indicators:

- | | | |
|------------------------------|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Dominance Test is > 50% |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☒ No

Additional Remarks:

Sample point located in active agricultural field upslope from P4, on backside of upland knoll. Corn stubble more robust/not stressed compared to P4. While this area correlated with potential wetland signatures in the aerial imagery review, the approximate 1 foot of depositional soil over native soils eliminates wetland hydrology impacts.

Project/Site: North Mendota Energy and Technology Park	Stantec Project #: 193703573	Date: 04/17/15
Applicant: Ruedeusch Development & Construction, Inc.		County: Dane
Investigator #1: K. Remus	Investigator #2: ---	State: Wisconsin
Soil Unit: Virgil silt loam	NWI/WWI Classification: ---	Wetland ID: W-1
Landform: Toeslope	Local Relief: Concave	Sample Point: P6
Slope (%): 0-2	Latitude: N/A	Community ID: Farmed Wetland
	Longitude: N/A	Datum: N/A
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section: 22
Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present?	Township: 8N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Range: 9 Dir: E

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks: Based on a WETS analysis, conditions were normal; 3.42 inches of rain were received in the area from April 1 - April 17. Sample point located within active agricultural field.	

HYDROLOGY**Wetland Hydrology Indicators** (Check here if indicators are not present ☐):Primary:

- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface

- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:

- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☒ C9 - Saturation Visible on Aerial Imagery
- ☒ D1 - Stunted or Stressed Plants
- ☒ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth:	(in.)
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth:	(in.)
Saturation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth:	(in.)

Wetland Hydrology Present? ☒ Yes ☐ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Aerial Imagery Review

Remarks:

SOILS

Map Unit Name: Virgil silt loam	Series Drainage Class: somewhat poorly
Taxonomy (Subgroup): Udolic Endoaqualfs	

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)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features					Texture (e.g. clay, sand, loam)
			Color (Moist)		%	Color (Moist)		%	Type	Location	
0	14	1	10YR	2/1	100	--	--	--	--	--	silt loam
14	18	2	10YR	4/2	93	10YR	5/6	7	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐):

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☒ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)

- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ S11 - High Chroma Sands
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils ¹

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ F21 - Red Parent Material
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed)	Type: N/A	Depth: N/A
---------------------------------	------------------	-------------------

Hydric Soil Present? ☒ Yes ☐ No

Remarks:

Project/Site: **North Mendota Energy and Technology Park**

 Wetland ID: **W-1**

 Sample Point: **P6**
VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Herb Stratum (Plot size: 2 meter radius)				
1.	DAUCUS CAROTA	1	Y	UPL
2.	PHALARIS ARUNDINACEA	1	Y	FACW
3.	Salix interior	1	Y	FACW
4.	TARAXACUM OFFICINALE	1	Y	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		4		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

 Number of Dominant Species that are OBL, FACW, or FAC: **2** (A)

 Total Number of Dominant Species Across All Strata: **4** (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	2	x 2 =	4
FAC spp.	0	x 3 =	0
FACU spp.	1	x 4 =	4
UPL spp.	1	x 5 =	5

 Total **4** (A) **13** (B)

 Prevalence Index = B/A = **3.250**
Hydrophytic Vegetation Indicators:

- | | | |
|---|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Dominance Test is > 50% |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☒ Yes ☐ No

 Remarks: **Sample point located in active agricultural field planted to corn in 2014. Corn stubble appeared stunted, more weedy species present compared to adjacent upland**
Additional Remarks:
Sample point located in active agricultural field on terrace/toeslope between edge of uncropped wetland area and upland knoll in ag field. Crop stress observed in the form of stunted corn stubble compared to stubble in non-wetland ag field; sample point location also correlates with area commonly exhibiting wetland signatures in an aerial imagery review.

Project/Site: North Mendota Energy and Technology Park	Stantec Project #: 193703573	Date: 04/17/15
Applicant: Ruedebusch Development & Construction, Inc.		County: Dane
Investigator #1: K. Remus	Investigator #2: ---	State: Wisconsin
Soil Unit: Virgil silt loam	NWI/WWI Classification: ---	Wetland ID: W-1
Landform: Backslope	Local Relief: Linear	Sample Point: P7
Slope (%): 0-2	Latitude: N/A	Community ID: Ag Field
	Longitude: N/A	Datum: N/A
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section: 22
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present?	Township: 8N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Range: 9 Dir: E

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks: Based on a WETS analysis, conditions were normal; 3.42 inches of rain were received in the area from April 1 - April 17. Sample point located in active ag field.	

HYDROLOGY**Wetland Hydrology Indicators** (Check here if indicators are not present ☒):Primary:

- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface

- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:

- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth:	(in.)
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth:	(in.)
Saturation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☒ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Aerial Imagery Review

Remarks:

SOILS

Map Unit Name: Virgil silt loam	Series Drainage Class: somewhat poorly
Taxonomy (Subgroup): Udollic Endoaqualfs	

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)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features					Texture (e.g. clay, sand, loam)
			Color (Moist)		%	Color (Moist)		%	Type	Location	
0	14	1	10YR	3/1	100	--	--	--	--	--	silt loam
14	16	2	10YR	4/2	97	10YR	5/8	3	C	M	silty clay loam
16	22	3	10YR	5/4	90	10YR	6/6	10	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☒):

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)

- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ S11 - High Chroma Sands
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils¹

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ F21 - Red Parent Material
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed)	Type: N/A	Depth: N/A
---------------------------------	------------------	-------------------

Hydric Soil Present? ☐ Yes ☒ No

Remarks:

Project/Site: **North Mendota Energy and Technology Park**Wetland ID: **W-1**Sample Point: **P7****VEGETATION** (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = **0**

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = **0**

Herb Stratum (Plot size: 2 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--

Total Cover = **0**

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--

Total Cover = **0****Dominance Test Worksheet**Number of Dominant Species that are OBL, FACW, or FAC: **0** (A)Total Number of Dominant Species Across All Strata: **0** (B)Percent of Dominant Species That Are OBL, FACW, or FAC: **NA** (A/B)**Prevalence Index Worksheet**

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0

Total **0** (A) **0** (B)Prevalence Index = B/A = **NA****Hydrophytic Vegetation Indicators:**

- | | | |
|------------------------------|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Dominance Test is > 50% |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.**Woody Vines** - All woody vines greater than 3.28 ft. in height.**Hydrophytic Vegetation Present** ☐ Yes ☒ NoRemarks: **Sample point located in active agricultural field planted to corn in 2014. No stunted corn stubble observed; no weedy species observed.****Additional Remarks:****Sample point located in ag field at slightly higher topography than P6. While associated with an area that appeared to exhibit wetland signatures, the lack of observable hydrology indicators, hydric soil, and hydrophytic weedy species supports the upland determination.**

Project/Site: North Mendota Energy and Technology Park		Stantec Project #: 193703573	Date: 04/17/15
Applicant: Ruedebsch Development & Construction, Inc.			County: Dane
Investigator #1: K. Remus	Investigator #2: ---		State: Wisconsin
Soil Unit: Virgil silt loam	NWI/WWI Classification: ---		Wetland ID: W-1
Landform: Depression	Local Relief: Concave		Sample Point: P8
Slope (%): 0-2	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) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Community ID: Plowed Wet Meadow
Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Section: 22	
		Township: 8N	
		Range: 9 Dir: E	

SUMMARY OF FINDINGS	
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks: Based on a WETS analysis, conditions were normal; 3.42 inches of rain were received in the area from April 1 - April 17. Sample point located in area not cropped in 2014, but plowed in fall of 2014. Soils disturbed from past installation of nearby sewer infrastructure.	

HYDROLOGY	
Wetland Hydrology Indicators (Check here if indicators are not present <input type="checkbox"/>): <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <u>Primary:</u> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface </div> <div style="width: 30%;"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) </div> <div style="width: 30%;"> <u>Secondary:</u> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input checked="" type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test </div> </div>	
Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Aerial Imagery Review	
Remarks:	

SOILS											
Map Unit Name: Virgil silt loam	Series Drainage Class: somewhat poorly										
Taxonomy (Subgroup): Udolic Endoaqualfs											
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)											
Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)		%	Color (Moist)		%	Type	Location	
0	12	1	10YR	2/1	94	10YR	4/2	4	D	M	sandy clay loam
--	--	--	--	--	--	5YR	4/6	2	C	PL	--
12	18	2	10YR	4/2	92	7.5YR	4/6	8	C	M	sandy clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):		Indicators for Problematic Soils ¹
<input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input checked="" type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed)	Type: Gravel	Depth: 18 inches	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks: Soils disturbed - potential fill materials from adjacent sewer infrastructure. However, hydric indicators still observed/present in soils. Horizon 2 with 5-10% gravel/sand throughout profile.			

Project/Site: **North Mendota Energy and Technology Park** Wetland ID: **W-1** Sample Point: **P8**
VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind.Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>Juncus tenuis</i>	20	Y	FAC
2.	<i>PHALARIS ARUNDINACEA</i>	15	Y	FACW
3.	<i>Salix interior</i>	5	N	FACW
4.	<i>RUMEX CRISPUS</i>	1	N	FAC
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		41		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

 Number of Dominant Species that are OBL, FACW, or FAC: **2** (A)

 Total Number of Dominant Species Across All Strata: **2** (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	20	x 2 =	40
FAC spp.	21	x 3 =	63
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0

 Total **41** (A) **103** (B)

 Prevalence Index = B/A = **2.512**
Hydrophytic Vegetation Indicators:

- | | | |
|---|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Dominance Test is > 50% |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☒ Yes ☐ No

 Remarks: **This portion of the field was not cropped in 2014. However, area appears to have been plowed under in the fall of 2014. Large clumps of plant materials visible in tilled soils, new spring growth also observed.**
Additional Remarks:
Sample point exhibits wetland characteristics despite recent disturbance/plowing of vegetation and disturbed/fill soil materials. Sample point location also correlates with area commonly exhibiting wetland signatures in an aerial imagery review.

Project/Site: North Mendota Energy and Technology Park		Stantec Project #: 193703573		Date: 04/17/15
Applicant: Ruedebsch Development & Construction, Inc.				County: Dane
Investigator #1: K. Remus		Investigator #2: ---		State: Wisconsin
Soil Unit: Virgil silt loam	NWII/WWI Classification: ---			Wetland ID: W-1
Landform: Backslope	Local Relief: Linear			Sample Point: P9
Slope (%): 0-2	Latitude: N/A	Longitude: N/A	Datum: N/A	Community ID: Ag Field
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Section: 22
Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present?		Township: 8N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Range: 9 Dir: E

SUMMARY OF FINDINGS			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Remarks: Based on a WETS analysis, conditions were normal; 3.42 inches of rain were received in the area from April 1 - April 17. Sample point located in active ag field; soils disturbed from past sewer infrastructure installation.			

HYDROLOGY			
Wetland Hydrology Indicators (Check here if indicators are not present <input checked="" type="checkbox"/>):			
<u>Primary:</u>		<u>Secondary:</u>	
<input type="checkbox"/> A1 - Surface Water	<input type="checkbox"/> B9 - Water-Stained Leaves	<input type="checkbox"/> B6 - Surface Soil Cracks	
<input type="checkbox"/> A2 - High Water Table	<input type="checkbox"/> B13 - Aquatic Fauna	<input type="checkbox"/> B10 - Drainage Patterns	
<input type="checkbox"/> A3 - Saturation	<input type="checkbox"/> B15 - Marl Deposits	<input type="checkbox"/> B16 - Moss Trim Lines	
<input type="checkbox"/> B1 - Water Marks	<input type="checkbox"/> C1 - Hydrogen Sulfide Odor	<input type="checkbox"/> C2 - Dry-Season Water Table	
<input type="checkbox"/> B2 - Sediment Deposits	<input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots	<input type="checkbox"/> C8 - Crayfish Burrows	
<input type="checkbox"/> B3 - Drift Deposits	<input type="checkbox"/> C4 - Presence of Reduced Iron	<input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery	
<input type="checkbox"/> B4 - Algal Mat or Crust	<input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils	<input type="checkbox"/> D1 - Stunted or Stressed Plants	
<input type="checkbox"/> B5 - Iron Deposits	<input type="checkbox"/> C7 - Thin Muck Surface	<input type="checkbox"/> D2 - Geomorphic Position	
<input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> D3 - Shallow Aquitard	
<input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface		<input type="checkbox"/> D4 - Microtopographic Relief	
		<input type="checkbox"/> D5 - FAC-Neutral Test	
Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)		Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Aerial Imagery Review			
Remarks:			

SOILS											
Map Unit Name: Virgil silt loam						Series Drainage Class: somewhat poorly					
Taxonomy (Subgroup): Udolic Endoaqualfs											
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)											
Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)		%	Color (Moist)		%	Type		Location
0	8	1	10YR	3/2	100	--	--	--	--	--	silt loam
8	19	2	10YR	5/4	100	--	--	--	--	--	sandy clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present <input checked="" type="checkbox"/>):						Indicators for Problematic Soils ¹					
<input type="checkbox"/> A1- Histosol	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B)	<input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B)									
<input type="checkbox"/> A2 - Histic Epipedon	<input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R)									
<input type="checkbox"/> A3 - Black Histic	<input type="checkbox"/> S11 - High Chroma Sands	<input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R)									
<input type="checkbox"/> A4 - Hydrogen Sulfide	<input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L)	<input type="checkbox"/> S7 - Dark Surface (LRR K, L, M)									
<input type="checkbox"/> A5 - Stratified Layers	<input type="checkbox"/> F2 - Loamy Gleyed Matrix	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L)									
<input type="checkbox"/> A11 - Depleted Below Dark Surface	<input type="checkbox"/> F3 - Depleted Matrix	<input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L)									
<input type="checkbox"/> A12 - Thick Dark Surface	<input type="checkbox"/> F6 - Redox Dark Surface	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R)									
<input type="checkbox"/> S1 - Sandy Muck Mineral	<input type="checkbox"/> F7 - Depleted Dark Surface	<input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B)									
<input type="checkbox"/> S4 - Sandy Gleyed Matrix	<input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F21 - Red Parent Material									
<input type="checkbox"/> S5 - Sandy Redox		<input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B)									
<input type="checkbox"/> S6 - Stripped Matrix		<input type="checkbox"/> TF12 - Very Shallow Dark Surface									
<input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)									

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Gravel		Depth: 19 inches		Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Remarks: Horizon 2 coarse sandy clay loam with 15-20% gravel/sand inclusions throughout. Soils disturbed - past fill material for adjacent sewer infrastructure					

Project/Site: **North Mendota Energy and Technology Park**

 Wetland ID: **W-1**

 Sample Point: **P9**
VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind.Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

 Total Cover = **0**

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

 Total Cover = **0**

Herb Stratum (Plot size: 2 meter radius)

1.	TARAXACUM OFFICINALE	1	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--

 Total Cover = **1**

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--

 Total Cover = **0**

 Remarks: **Sample point located in active ag field planted to corn in 2014 - no evidence of stunting/stress observed in stubble. Very few weedy species.**
Dominance Test Worksheet

 Number of Dominant Species that are OBL, FACW, or FAC: **0** (A)

 Total Number of Dominant Species Across All Strata: **1** (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	1	x 4 =	4
UPL spp.	0	x 5 =	0

 Total **1** (A) **4** (B)

 Prevalence Index = B/A = **4.000**
Hydrophytic Vegetation Indicators:

- | | | |
|------------------------------|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Dominance Test is > 50% |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☒ No

Additional Remarks:
Sample point located in ag field at slightly higher topography than P8. While associated with an area that appeared to exhibit wetland signatures, the lack of observable hydrology indicators, hydric soil, and hydrophytic weedy species supports the upland determination.

Project/Site: North Mendota Energy and Technology Park	Stantec Project #: 193703573	Date: 04/17/15
Applicant: Ruedeusch Development & Construction, Inc.		County: Dane
Investigator #1: K. Remus	Investigator #2: ---	State: Wisconsin
Soil Unit: Virgil silt loam	NWI/WWI Classification: ---	Wetland ID: n/a
Landform: Summit	Local Relief: Convex	Sample Point: P10
Slope (%): 2-4	Latitude: N/A	Community ID: Ag Field
	Longitude: N/A	Datum: N/A
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section: 22
Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present?	Township: 8N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Range: 9 Dir: E

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks: Based on a WETS analysis, conditions were normal; 3.42 inches of rain were received in the area from April 1 - April 17. Sample point located within active ag field.	

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present <input checked="" type="checkbox"/>):	
<u>Primary:</u> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<u>Secondary:</u> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test
Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Aerial Imagery Review	
Remarks: Sample point located at top of upland knoll.	

SOILS

Map Unit Name: Virgil silt loam	Series Drainage Class: somewhat poorly										
Taxonomy (Subgroup): Udollic Endoaqualfs											
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)											
Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)		%	Color (Moist)		%	Type	Location	
0	10	1	10YR	3/2	100	--	--	--	--	--	silt loam
10	16	2	7.5YR	4/4	100	--	--	--	--	--	sandy clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present <input checked="" type="checkbox"/>):		Indicators for Problematic Soils ¹
<input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)
Restrictive Layer (If Observed) Type: N/A Depth: N/A		Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks:		

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Project/Site: North Mendota Energy and Technology Park

Wetland ID: n/a

Sample Point: P10

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = 0

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = 0

Herb Stratum (Plot size: 2 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--

Total Cover = 0

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--

Total Cover = 0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: NA (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0

Total 0 (A) 0 (B)

Prevalence Index = B/A = NA

Hydrophytic Vegetation Indicators:

- | | | |
|------------------------------|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Dominance Test is > 50% |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.**Woody Vines** - All woody vines greater than 3.28 ft. in height.**Hydrophytic Vegetation Present** ☐ Yes ☒ No

Remarks: Sample point located within active ag field planted to corn in 2014. No stunted/stressed crop observed in stubble; no weedy species observed.

Additional Remarks:

Sample point located at high point within ag field that was not associated with wetland signatures observed in aerial imagery review, but is within an area of mapped "somewhat poorly drained soils".

Project/Site: North Mendota Energy and Technology Park		Stantec Project #: 193703573	Date: 04/17/15
Applicant: Ruedeusch Development & Construction, Inc.			County: Dane
Investigator #1: K. Remus	Investigator #2: ---		State: Wisconsin
Soil Unit: Virgil silt loam	NWI/WWI Classification: ---		Wetland ID: n/a
Landform: Summit	Local Relief: Convex		Sample Point: P11
Slope (%): NA	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) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Community ID: Ag Field
Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		Section: 22	
		Township: 8N	
		Range: 9 Dir: E	

SUMMARY OF FINDINGS			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Remarks: Based on a WETS analysis, conditions were normal; 3.42 inches of rain were received in the area from April 1 - April 17. Sample point located within active ag field.			

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present <input checked="" type="checkbox"/>):		
<u>Primary:</u> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<u>Secondary:</u> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test

Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **Aerial Imagery Review**

Remarks: **Sample point located downslope from upland knoll (P10), but higher in topography than W-1.**

SOILS

Map Unit Name: Virgil silt loam	Series Drainage Class: somewhat poorly
Taxonomy (Subgroup): Udolic Endoaqualfs	

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)											
Top Depth	Bottom Depth	Horizon	Matrix			Redox Features					Texture (e.g. clay, sand, loam)
			Color (Moist)		%	Color (Moist)		%	Type	Location	
0	16	1	10YR	2/1	100	--	--	--	--	--	silty clay loam
16	19	2	10YR	4/2	97	2.5Y	5/4	3	C	M	silty clay loam
19	24	3	2.5Y	5/3	95	10YR	6/8	5	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present <input checked="" type="checkbox"/>):			Indicators for Problematic Soils ¹		
<input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)			

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	-------------------	---

Remarks:

Project/Site: **North Mendota Energy and Technology Park**Wetland ID: **n/a**Sample Point: **P11****VEGETATION** (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = **0**

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = **0**

Herb Stratum (Plot size: 2 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--

Total Cover = **0**

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--

Total Cover = **0****Dominance Test Worksheet**Number of Dominant Species that are OBL, FACW, or FAC: **0** (A)Total Number of Dominant Species Across All Strata: **0** (B)Percent of Dominant Species That Are OBL, FACW, or FAC: **NA** (A/B)**Prevalence Index Worksheet**

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0

Total **0** (A) **0** (B)Prevalence Index = B/A = **NA****Hydrophytic Vegetation Indicators:**

- | | | |
|------------------------------|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Dominance Test is > 50% |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.**Woody Vines** - All woody vines greater than 3.28 ft. in height.**Hydrophytic Vegetation Present** ☐ Yes ☒ NoRemarks: **Sample point located within active ag field planted to corn in 2014. No stunted/stressed crop observed in stubble; no weedy species observed.****Additional Remarks:****P11 is located topographically lower than adjacent upland knoll (represented by P10) and soils are mapped "somewhat poorly drained". This area exhibits darker tones in the aerial imagery review that were interpreted in the field not to be wetland signatures due to a lack of: 1) observable hydrology indicators, 2) hydric soil indicators, 3) hydrophytic weed species, and 4) stunted corn stubble. Furthermore, the area represented by P11 has an overall higher landscape position compared to W-1, further supporting an upland determination.**

Project/Site: North Mendota Energy and Technology Park		Stantec Project #: 193703573		Date: 04/23/15
Applicant: Ruedeusch Development & Construction, Inc.				County: Dane
Investigator #1: K. Remus		Investigator #2: ---		State: Wisconsin
Soil Unit: St. Charles silt loam	NWI/WWI Classification: ---			Wetland ID: W-2
Landform: Toeslope	Local Relief: Concave			Sample Point: P12
Slope (%): 0-2	Latitude: N/A	Longitude: N/A	Datum: N/A	Community ID: Wet Meadow
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Section: 22
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present?		Township: 8N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Range: 9 Dir: E

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks: Based on a WETS analysis, conditions were normal; 4.14 inches of rain were received in the area from April 1 - April 23. Sample point located on edge of grassed waterway.	

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐):

<u>Primary:</u>	<u>Secondary:</u>
<input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input checked="" type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input checked="" type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test

Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input type="checkbox"/> No Depth: (in.) Water Table Present? <input type="checkbox"/> Yes <input type="checkbox"/> No Depth: (in.) Saturation Present? <input type="checkbox"/> Yes <input type="checkbox"/> No Depth: (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: **Aerial Imagery Review**

Remarks:

SOILS

Map Unit Name: St. Charles 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)	

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features					Texture (e.g. clay, sand, loam)
			Color (Moist)		%	Color (Moist)		%	Type	Location	
0	10	1	10YR	3/1	95	7.5YR	3/4	5	C	M	silt loam
10	20	2	10YR	2/1	95	10YR	3/4	5	C	M	silty clay loam
20	22	3	2.5Y	4/1	95	10YR	4/6	5	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):		Indicators for Problematic Soils ¹
<input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input checked="" type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input checked="" type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks: **Sample point located at toe of slope - depositional soils over native soils with redox present throughout.**

Project/Site: North Mendota Energy and Technology Park

Wetland ID: W-2

Sample Point: P12

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = 0

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = 0

Herb Stratum (Plot size: 2 meter radius)

1.	PHALARIS ARUNDINACEA	100	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--

Total Cover = 100

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--

Total Cover = 0

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	100	x 2 =	200
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0

Total 100 (A) 200 (B)

Prevalence Index = B/A = 2.000

Hydrophytic Vegetation Indicators:

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Dominance Test is > 50% |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.**Woody Vines** - All woody vines greater than 3.28 ft. in height.**Hydrophytic Vegetation Present** ☒ Yes ☐ No

Project/Site: North Mendota Energy and Technology Park		Stantec Project #: 193703573		Date: 04/23/15
Applicant: Ruedebsch Development & Construction, Inc.				County: Dane
Investigator #1: K. Remus		Investigator #2: ---		State: Wisconsin
Soil Unit: St. Charles silt loam	NWII/WWI Classification: ---			Wetland ID: W-2
Landform: Toeslope	Local Relief: Linear			Sample Point: P13
Slope (%): 0-2	Latitude: N/A	Longitude: N/A	Datum: N/A	Community ID: Ag Field
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Section: 22
Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present?		Township: 8N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Range: 9 Dir: E

SUMMARY OF FINDINGS			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Remarks: Based on a WETS analysis, conditions were normal; 4.14 inches of rain were received in the area from April 1 - April 23. Sample point located within active ag field.			

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present <input type="checkbox"/>):			
<u>Primary:</u> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface	<input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)	<u>Secondary:</u> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input checked="" type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test	

Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 28 (in.) Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 27 (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Aerial Imagery Review
--	------------------------------

Remarks: Toeslope, but higher in landscape than P12.	
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SOILS

Map Unit Name: St. Charles 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)

Top Depth	Bottom Depth	Horizon	Matrix			Redox Features					Texture (e.g. clay, sand, loam)
			Color (Moist)		%	Color (Moist)		%	Type	Location	
0	8	1	10YR	3/1	100	--	--	--	--	--	silt loam
8	11	2	10YR	2/1	100	--	--	--	--	--	silt loam
11	26	3	10YR	2/1	97	7.5YR	3/4	3	C	M	silty clay loam
26	30	4	10YR	4/1	80	10YR	3/6	10	C	M	silty clay loam
--	--	--	10YR	2/1	10	--	--	--	--	--	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present <input checked="" type="checkbox"/>):			Indicators for Problematic Soils ¹		
<input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)			

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed)	Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Remarks: Sample point located at toe of slope - depositional soils over native soils; would meet A12 and F6 without deposition.	
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Project/Site: **North Mendota Energy and Technology Park**

 Wetland ID: **W-2**

 Sample Point: **P13**
VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind.Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Herb Stratum (Plot size: 2 meter radius)

1.	Ambrosia artemisiifolia	1	Y	FACU
2.	PLANTAGO MAJOR	1	Y	FACU
3.	POA PRATENSIS	1	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		3		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		

 Remarks: **Sample point located within active ag field planted to corn in 2014; no evidence of crop stress observed in stubble. Few weedy species.**
Dominance Test Worksheet

 Number of Dominant Species that are OBL, FACW, or FAC: **0** (A)

 Total Number of Dominant Species Across All Strata: **3** (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	3	x 4 =	12
UPL spp.	0	x 5 =	0

 Total **3** (A) **12** (B)

 Prevalence Index = B/A = **4.000**
Hydrophytic Vegetation Indicators:

- | | | |
|------------------------------|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Dominance Test is > 50% |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☒ No

Additional Remarks:
Sample point located in ag field at slightly higher topography than P12. While associated with an area that appeared to exhibit wetland signatures, the lack of observable hydrology indicators, hydric soil, stunted crop stubble, and hydrophytic weedy species supports the upland determination.

Project/Site: North Mendota Energy and Technology Park	Stantec Project #: 193703573	Date: 04/23/15
Applicant: Ruedeusch Development & Construction, Inc.		County: Dane
Investigator #1: K. Remus	Investigator #2: ---	State: Wisconsin
Soil Unit: Virgil silt loam	NWI/WWI Classification: ---	Wetland ID: W-2
Landform: Talf	Local Relief: Linear	Sample Point: P14
Slope (%): 0-2	Latitude: N/A	Community ID: Ag Field
	Longitude: N/A	Datum: N/A
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section: 22
Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present?	Township: 8N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Range: 9 Dir: E

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks: Based on a WETS analysis, conditions were normal; 4.14 inches of rain were received in the area from April 1 - April 23. Sample point located within active ag field.	

HYDROLOGY**Wetland Hydrology Indicators** (Check here if indicators are not present ☐):Primary:

- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface

- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:

- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth:	(in.)
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth:	(in.)
Saturation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☒ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Aerial Imagery Review

Remarks:

SOILS

Map Unit Name: Virgil silt loam	Series Drainage Class: somewhat poorly
Taxonomy (Subgroup): Udolic Endoaqualfs	

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)

Form Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, F=Reduced matrix, G=Covered Coated Sand Grains, Location: F=Fire lining, M=Matrix)											
Top Depth	Bottom Depth	Horizon	Matrix			Redox Features					Texture (e.g. clay, sand, loam)
			Color (Moist)		%	Color (Moist)		%	Type	Location	
0	10	1	10YR	3/2	100	--	--	--	--	--	silty clay loam
10	18	2	10YR	5/4	60	--	--	--	--	--	silty clay loam
--	--	--	10YR	6/5	40	--	--	--	--	--	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☒):

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)

- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ S11 - High Chroma Sands
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils¹

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ F21 - Red Parent Material
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks:		

Project/Site: North Mendota Energy and Technology Park Wetland ID: W-2 Sample Point: P14

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		

Herb Stratum (Plot size: 2 meter radius)

1.	PHALARIS ARUNDINACEA	2	Y	FACW
2.	RUMEX CRISPUS	1	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		3		

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % Cover of: OBL spp. 0 FACW spp. 2 FAC spp. 1 FACU spp. 0 UPL spp. 0

Multiply by: x 1 = 0 x 2 = 4 x 3 = 3 x 4 = 0 x 5 = 0

Total 3 (A) 7 (B)

Prevalence Index = B/A = 2.333

Hydrophytic Vegetation Indicators:

☐ Yes ☒ No

Rapid Test for Hydrophytic Vegetation

☒ Yes ☐ No

Dominance Test is > 50%

☒ Yes ☐ No

Prevalence Index is ≤ 3.0 *

☐ Yes ☒ No

Morphological Adaptations (Explain) *

☐ Yes ☒ No

Problem Hydrophytic Vegetation (Explain) *

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☒ Yes ☐ No

Remarks: Sample point located within active ag field planted to corn in 2014; no evidence of crop stress observed in stubble. Few weedy species.

Additional Remarks:

Sample point within an area that did not exhibit wetland signatures. While hydrophytic weedy species are present, coverage was minimal and the lack of observable hydrology indicators and hydric soils supports the upland determination.

Project/Site: North Mendota Energy and Technology Park		Stantec Project #: 193703573		Date: 04/23/15
Applicant: Ruedebsch Development & Construction, Inc.				County: Dane
Investigator #1: K. Remus	Investigator #2: ---			State: Wisconsin
Soil Unit: Virgil silt loam	NWI/WWI Classification: ---		Wetland ID: W-2	
Landform: Talf	Local Relief: Linear			Sample Point: P15
Slope (%): 0-2	Latitude: N/A	Longitude: N/A	Datum: N/A	Community ID: Riparian Corridor
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Section: 22
Are Vegetation <input type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present?		Township: 8N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Range: 9 Dir: E

SUMMARY OF FINDINGS	
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks: Based on a WETS analysis, conditions were normal; 4.14 inches of rain were received in the area from April 1 - April 23. Sample point located along drainage swale. Soils appeared mixed/disturbed.	

HYDROLOGY	
Wetland Hydrology Indicators (Check here if indicators are not present <input type="checkbox"/>): <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <u>Primary:</u> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface </div> <div style="width: 30%;"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) </div> <div style="width: 30%;"> <u>Secondary:</u> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test </div> </div>	
Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)	Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Aerial Imagery Review	
Remarks:	

SOILS											
Map Unit Name:			Virgil silt loam			Series Drainage Class: somewhat poorly					
Taxonomy (Subgroup):			Udolic Endoaqualfs								
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)											
Top Depth	Bottom Depth	Horizon	Matrix			Redox Features					Texture (e.g. clay, sand, loam)
			Color (Moist)		%	Color (Moist)		%	Type	Location	
0	27	1	10YR	3/1	80	--	--	--	--	--	silt loam
--	--	--	10YR	5/6	10	--	--	--	--	--	sandy clay
--	--	--	10YR	5/3	5	--	--	--	--	--	silty clay loam
--	--	--	10YR	5/6	5	--	--	--	--	--	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present <input checked="" type="checkbox"/>): <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) </div> <div style="width: 30%;"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions </div> <div style="width: 30%;"> Indicators for Problematic Soils ¹ <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) </div> </div>		
---	--	--

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Remarks: Sample point adjacent to three wells/outflow pipe to waterway; disturbance from installation of infrastructure.		

Project/Site: **North Mendota Energy and Technology Park** Wetland ID: **W-2** Sample Point: **P15**
VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

 Total Cover = **0**

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

 Total Cover = **0**

Herb Stratum (Plot size: 2 meter radius)

1.	PHALARIS ARUNDINACEA	70	Y	FACW
2.	DAUCUS CAROTA	5	N	UPL
3.	PLANTAGO MAJOR	3	N	FACU
4.	RUMEX CRISPUS	3	N	FAC
5.	TARAXACUM OFFICINALE	2	N	FACU
6.	TRIFOLIUM PRATENSE	2	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--

 Total Cover = **85**

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--

 Total Cover = **0**

 Remarks: **Sample point located within area disturbed for municipal sewer/well/sump pump maintenance.**
Dominance Test Worksheet

 Number of Dominant Species that are OBL, FACW, or FAC: **1** (A)

 Total Number of Dominant Species Across All Strata: **1** (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	70	x 2 =	140
FAC spp.	3	x 3 =	9
FACU spp.	7	x 4 =	28
UPL spp.	5	x 5 =	25

 Total **85** (A) **202** (B)

 Prevalence Index = B/A = **2.376**
Hydrophytic Vegetation Indicators:

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Dominance Test is > 50% |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☒ Yes ☐ No

Additional Remarks:
Sample point adjacent to waterway, municipal sewer line, and sump pump and tanks associated with draitile network. Presence of reed canary grass likely due to disturbance and presences of species in seed bank and not because of established wetland conditions.

Project/Site:	North Mendota Energy and Technology Park	Stantec Project #:	193703573	Date:	04/23/15						
Applicant:	Ruedebsch Development & Construction, Inc.			County:	Dane						
Investigator #1:	K. Remus	Investigator #2:	---	State:	Wisconsin						
Soil Unit:	Virgil silt loam	NWI/WWI Classification:	---	Wetland ID:	W-2						
Landform:	Depression	Local Relief:	Concave	Sample Point:	P16						
Slope (%):	0-2	Latitude:	N/A	Longitude:	N/A	Datum:	N/A	Community ID:	Wet Meadow		
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks)								<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Section:	22
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?				Are normal circumstances present?				Township:			8N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Range:			9 Dir: E

SUMMARY OF FINDINGS			
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Remarks:	Based on a WETS analysis, conditions were normal; 4.14 inches of rain were received in the area from April 1 - April 23. Sample point located within drainage swale at edge of waterway channel.		

HYDROLOGY		
Wetland Hydrology Indicators (Check here if indicators are not present <input type="checkbox"/>):		
Primary:		Secondary:
<input type="checkbox"/> A1 - Surface Water	<input type="checkbox"/> B9 - Water-Stained Leaves	<input type="checkbox"/> B6 - Surface Soil Cracks
<input type="checkbox"/> A2 - High Water Table	<input type="checkbox"/> B13 - Aquatic Fauna	<input type="checkbox"/> B10 - Drainage Patterns
<input type="checkbox"/> A3 - Saturation	<input type="checkbox"/> B15 - Marl Deposits	<input type="checkbox"/> B16 - Moss Trim Lines
<input type="checkbox"/> B1 - Water Marks	<input type="checkbox"/> C1 - Hydrogen Sulfide Odor	<input type="checkbox"/> C2 - Dry-Season Water Table
<input type="checkbox"/> B2 - Sediment Deposits	<input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots	<input type="checkbox"/> C8 - Crayfish Burrows
<input type="checkbox"/> B3 - Drift Deposits	<input type="checkbox"/> C4 - Presence of Reduced Iron	<input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery
<input type="checkbox"/> B4 - Algal Mat or Crust	<input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils	<input type="checkbox"/> D1 - Stunted or Stressed Plants
<input type="checkbox"/> B5 - Iron Deposits	<input type="checkbox"/> C7 - Thin Muck Surface	<input checked="" type="checkbox"/> D2 - Geomorphic Position
<input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> D3 - Shallow Aquitard
<input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface		<input type="checkbox"/> D4 - Microtopographic Relief
		<input checked="" type="checkbox"/> D5 - FAC-Neutral Test

Field Observations:	
Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth: (in.)
Water Table Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 26 (in.)
Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Depth: 25 (in.)
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Aerial Imagery Review	
Remarks:	

SOILS											
Map Unit Name: Virgil silt loam						Series Drainage Class: somewhat poorly					
Taxonomy (Subgroup): Udollic Endoaqualfs											
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)											
Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)		%	Color (Moist)		%	Type	Location	
0	22	1	10YR	2/1	95	10YR	3/4	5	C	M	silt loam
22	27	2	2.5Y	5/1	93	10YR	5/6	7	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
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NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):			Indicators for Problematic Soils ¹		
<input type="checkbox"/> A1- Histosol	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B)	<input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B)			
<input type="checkbox"/> A2 - Histic Epipedon	<input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R)			
<input type="checkbox"/> A3 - Black Histic	<input type="checkbox"/> S11 - High Chroma Sands	<input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R)			
<input type="checkbox"/> A4 - Hydrogen Sulfide	<input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L)	<input type="checkbox"/> S7 - Dark Surface (LRR K, L, M)			
<input type="checkbox"/> A5 - Stratified Layers	<input type="checkbox"/> F2 - Loamy Gleyed Matrix	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L)			
<input type="checkbox"/> A11 - Depleted Below Dark Surface	<input type="checkbox"/> F3 - Depleted Matrix	<input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L)			
<input checked="" type="checkbox"/> A12 - Thick Dark Surface	<input checked="" type="checkbox"/> F6 - Redox Dark Surface	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R)			
<input type="checkbox"/> S1 - Sandy Muck Mineral	<input type="checkbox"/> F7 - Depleted Dark Surface	<input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B)			
<input type="checkbox"/> S4 - Sandy Gleyed Matrix	<input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F21 - Red Parent Material			
<input type="checkbox"/> S5 - Sandy Redox		<input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B)			
<input type="checkbox"/> S6 - Stripped Matrix		<input type="checkbox"/> TF12 - Very Shallow Dark Surface			
<input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed)	Type: N/A	Depth: N/A	Hydric Soil Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks:				

Project/Site: North Mendota Energy and Technology Park

Wetland ID: W-2

Sample Point: P16

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = 0

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = 0

Herb Stratum (Plot size: 2 meter radius)

1.	PHALARIS ARUNDINACEA	100	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--

Total Cover = 100

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--

Total Cover = 0

Remarks: No other weedy species observed.

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	100	x 2 =	200
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0

Total 100 (A) 200 (B)

Prevalence Index = B/A = 2.000

Hydrophytic Vegetation Indicators:

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Dominance Test is > 50% |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.**Woody Vines** - All woody vines greater than 3.28 ft. in height.**Hydrophytic Vegetation Present** ☒ Yes ☐ No

Project/Site: North Mendota Energy and Technology Park	Stantec Project #: 193703573	Date: 04/23/15
Applicant: Ruedeusch Development & Construction, Inc.		County: Dane
Investigator #1: K. Remus	Investigator #2: ---	State: Wisconsin
Soil Unit: Virgil silt loam	NWI/WWI Classification: ---	Wetland ID: W-2
Landform: Toeslope	Local Relief: Linear	Sample Point: P17
Slope (%): 0-2	Latitude: N/A	Community ID: Ag Field
	Longitude: N/A	Datum: N/A
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Section: 22
Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?	Are normal circumstances present?	Township: 8N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Range: 9 Dir: E

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks: Based on a WETS analysis, conditions were normal; 4.14 inches of rain were received in the area from April 1 - April 23. Sample point located within active ag field.	

HYDROLOGY**Wetland Hydrology Indicators** (Check here if indicators are not present ☒):Primary:

- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B8 - Sparsely Vegetated Concave Surface

- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B15 - Marl Deposits
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:

- ☐ B6 - Surface Soil Cracks
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry-Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☐ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☐ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth:	(in.)
Water Table Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth:	(in.)
Saturation Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☒ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Aerial Imagery Review

Remarks:

SOILS

Map Unit Name: Virgil silt loam	Series Drainage Class: somewhat poorly
Taxonomy (Subgroup): Udolic Endoaqualfs	

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)

Form Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, R=Reduced matrix, SO=Covered Soils, Sand Grains, Location: F=Fire Emission, M=Mucky)											
Top Depth	Bottom Depth	Horizon	Matrix			Redox Features					Texture (e.g. clay, sand, loam)
			Color (Moist)		%	Color (Moist)		%	Type	Location	
0	13	1	10YR	3/2	100	--	--	--	--	--	silt loam
13	28	2	10YR	2/1	100	--	--	--	--	--	silty clay loam
28	32	3	10YR	4/1	100	--	--	--	--	--	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
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--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☒):

- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface (LRR R, MLRA 149B)

- ☐ S8 - Polyvalue Below Surface (LRR R, MLRA 149B)
- ☐ S9 - Thin Dark Surface (LRR R, MLRA 149B)
- ☐ S11 - High Chroma Sands
- ☐ F1 - Loamy Mucky Mineral (LRR K, L)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matrix
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions

Indicators for Problematic Soils¹

- ☐ A10 - 2 cm Muck (LRR K, L, MLRA 149B)
- ☐ A16 - Coast Prairie Redox (LRR K, L, R)
- ☐ S3 - 5cm Mucky Peat of Peat (LRR K, L, R)
- ☐ S7 - Dark Surface (LRR K, L, M)
- ☐ S8 - Polyvalue Below Surface (LRR K, L)
- ☐ S9 - Thin Dark Surface (LRR K, L)
- ☐ F12 - Iron-Manganese Masses (LRR K, L, R)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 149B)
- ☐ F21 - Red Parent Material
- ☐ TA6 - Mesic Spodic (MLRA 144A, 145, 149B)
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	-------------------	---

Remarks: **Sample point located along toe of slope - depositional soils over native soils.**

Project/Site: North Mendota Energy and Technology Park

Wetland ID: W-2

Sample Point: P17

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = 0

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = 0

Herb Stratum (Plot size: 2 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--

Total Cover = 0

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--

Total Cover = 0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: NA (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0

Total 0 (A) 0 (B)

Prevalence Index = B/A = NA

Hydrophytic Vegetation Indicators:

- | | | |
|------------------------------|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Dominance Test is > 50% |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.**Woody Vines** - All woody vines greater than 3.28 ft. in height.**Hydrophytic Vegetation Present** ☐ Yes ☒ No

Remarks: Sample point located within active ag field planted to corn in 2014. No evidence of stress/stunting observed in corn stubble; no weedy species observed.

Additional Remarks:

Project/Site: North Mendota Energy and Technology Park		Stantec Project #: 193703573		Date: 04/23/15
Applicant: Ruedebsch Development & Construction, Inc.				County: Dane
Investigator #1: K. Remus	Investigator #2: ---			State: Wisconsin
Soil Unit: Virgil silt loam	NWI/WWI Classification: ---		Wetland ID: W-2	
Landform: Toeslope	Local Relief: Concave			Sample Point: P18
Slope (%): 0-2	Latitude: N/A	Longitude: N/A	Datum: N/A	Community ID: Farmed Wetland
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Section: 22
Are Vegetation <input checked="" type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present?		Township: 8N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Range: 9 Dir: E

SUMMARY OF FINDINGS			
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Remarks: Based on a WETS analysis, conditions were normal; 4.14 inches of rain were received in the area from April 1 - April 23. Sample point located within active ag field.			

HYDROLOGY			
Wetland Hydrology Indicators (Check here if indicators are not present <input checked="" type="checkbox"/>):			
<u>Primary:</u>		<u>Secondary:</u>	
<input type="checkbox"/> A1 - Surface Water	<input type="checkbox"/> B9 - Water-Stained Leaves	<input type="checkbox"/> B6 - Surface Soil Cracks	
<input type="checkbox"/> A2 - High Water Table	<input type="checkbox"/> B13 - Aquatic Fauna	<input type="checkbox"/> B10 - Drainage Patterns	
<input type="checkbox"/> A3 - Saturation	<input type="checkbox"/> B15 - Marl Deposits	<input type="checkbox"/> B16 - Moss Trim Lines	
<input type="checkbox"/> B1 - Water Marks	<input type="checkbox"/> C1 - Hydrogen Sulfide Odor	<input type="checkbox"/> C2 - Dry-Season Water Table	
<input type="checkbox"/> B2 - Sediment Deposits	<input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots	<input type="checkbox"/> C8 - Crayfish Burrows	
<input type="checkbox"/> B3 - Drift Deposits	<input type="checkbox"/> C4 - Presence of Reduced Iron	<input checked="" type="checkbox"/> C9 - Saturation Visible on Aerial Imagery	
<input type="checkbox"/> B4 - Algal Mat or Crust	<input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils	<input type="checkbox"/> D1 - Stunted or Stressed Plants	
<input type="checkbox"/> B5 - Iron Deposits	<input type="checkbox"/> C7 - Thin Muck Surface	<input checked="" type="checkbox"/> D2 - Geomorphic Position	
<input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> D3 - Shallow Aquitard	
<input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface		<input type="checkbox"/> D4 - Microtopographic Relief	
		<input type="checkbox"/> D5 - FAC-Neutral Test	
Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)		Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Aerial Imagery Review			
Remarks:			

SOILS											
Map Unit Name: Virgil silt loam						Series Drainage Class: somewhat poorly					
Taxonomy (Subgroup): Udollic Endoaqualfs											
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)											
Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)		%	Color (Moist)		%	Type		Location
0	8	1	10YR	3/1	97	7.5YR	3/3	3	C	M	silt loam
8	21	2	10YR	2/1	97	7.5YR	3/3	3	C	M	silty clay loam
21	25	3	10YR	4/1	97	7.5YR	5/8	3	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):						Indicators for Problematic Soils ¹					
<input type="checkbox"/> A1- Histosol	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B)	<input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B)									
<input type="checkbox"/> A2 - Histic Epipedon	<input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R)									
<input type="checkbox"/> A3 - Black Histic	<input type="checkbox"/> S11 - High Chroma Sands	<input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R)									
<input type="checkbox"/> A4 - Hydrogen Sulfide	<input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L)	<input type="checkbox"/> S7 - Dark Surface (LRR K, L, M)									
<input type="checkbox"/> A5 - Stratified Layers	<input type="checkbox"/> F2 - Loamy Gleyed Matrix	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L)									
<input type="checkbox"/> A11 - Depleted Below Dark Surface	<input type="checkbox"/> F3 - Depleted Matrix	<input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L)									
<input type="checkbox"/> A12 - Thick Dark Surface	<input checked="" type="checkbox"/> F6 - Redox Dark Surface	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R)									
<input type="checkbox"/> S1 - Sandy Muck Mineral	<input type="checkbox"/> F7 - Depleted Dark Surface	<input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B)									
<input type="checkbox"/> S4 - Sandy Gleyed Matrix	<input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F21 - Red Parent Material									
<input type="checkbox"/> S5 - Sandy Redox		<input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B)									
<input type="checkbox"/> S6 - Stripped Matrix		<input type="checkbox"/> TF12 - Very Shallow Dark Surface									
<input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)									
¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.											
Restrictive Layer (If Observed) Type: N/A Depth: N/A		Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No									
Remarks: Sample point located along toe of slope - depositional soils over native soils with redox present throughout.											

Project/Site: **North Mendota Energy and Technology Park** Wetland ID: **W-2** Sample Point: **P18**
VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Herb Stratum (Plot size: 2 meter radius)				
1.	<i>PHALARIS ARUNDINACEA</i>	2	Y	FACW
2.	<i>Plantago rugelii</i>	1	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		3		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

 Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)

 Total Number of Dominant Species Across All Strata: 2 (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	<u>0</u>	x 1 =	<u>0</u>
FACW spp.	<u>2</u>	x 2 =	<u>4</u>
FAC spp.	<u>1</u>	x 3 =	<u>3</u>
FACU spp.	<u>0</u>	x 4 =	<u>0</u>
UPL spp.	<u>0</u>	x 5 =	<u>0</u>

 Total 3 (A) 7 (B)

 Prevalence Index = B/A = 2.333
Hydrophytic Vegetation Indicators:

- | | | |
|---|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Dominance Test is > 50% |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☒ Yes ☐ No

 Remarks: **Sample point located within active ag field planted to corn in 2014. No observable evidence of stress/stunting observed in corn stubble, but significant amount of P. arundinacea remnant plowed up with corn - coverage based on 2015 spring growth.**
Additional Remarks:
Sample point located in active agricultural field on toeslope between edge of uncropped drainage swale and upland knoll in ag field. Sample point location correlates with area commonly exhibiting wetland signatures in an aerial imagery review and significant amount of hydrophytic weed species present.

Project/Site: North Mendota Energy and Technology Park		Stantec Project #: 193703573		Date: 04/23/15
Applicant: Ruedebsch Development & Construction, Inc.				County: Dane
Investigator #1: K. Remus	Investigator #2: ---			State: Wisconsin
Soil Unit: Virgil silt loam	NWI/WWI Classification: ---		Wetland ID: W-2	
Landform: Backslope	Local Relief: Linear			Sample Point: P19
Slope (%): 0-2	Latitude: N/A	Longitude: N/A	Datum: N/A	Community ID: Ag Field
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Section: 22
Are Vegetation <input checked="" type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present?		Township: 8N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Range: 9 Dir: E

SUMMARY OF FINDINGS			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Remarks: Based on a WETS analysis, conditions were normal; 4.14 inches of rain were received in the area from April 1 - April 23. Sample point located within active ag field; soils mixed fill material from adjacent sewer line.			

HYDROLOGY			
Wetland Hydrology Indicators (Check here if indicators are not present <input type="checkbox"/>): <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <u>Primary:</u> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface </div> <div style="width: 30%;"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) </div> <div style="width: 30%;"> <u>Secondary:</u> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input checked="" type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test </div> </div>			
Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)		Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Aerial Imagery Review			
Remarks:			

SOILS											
Map Unit Name: Virgil silt loam						Series Drainage Class: somewhat poorly					
Taxonomy (Subgroup): Udollic Endoaqualfs											
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)											
Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)		%	Color (Moist)		%	Type		Location
0	14	1	10YR	3/2	100	--	--	--	--	--	silt loam
14	22	2	10YR	3/2	75	--	--	--	--	--	silt loam
--	--	--	2.5Y	5/3	20	--	--	--	--	--	silty clay loam
--	--	--	10YR	5/6	5	--	--	--	--	--	sandy clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present <input checked="" type="checkbox"/>): <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) </div> <div style="width: 30%;"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions </div> <div style="width: 30%;"> Indicators for Problematic Soils ¹ <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) </div> </div>					
¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.					
Restrictive Layer (If Observed)		Type: N/A	Depth: N/A	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Remarks: Horizon 2 comprised of mixed fill material with sand and gravel present throughout; fill materials likely from adjacent sewer line installation.					

Project/Site: **North Mendota Energy and Technology Park** Wetland ID: **W-2** Sample Point: **P19**
VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)				
	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind.Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Sapling/Shrub Stratum (Plot size: 5 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
Total Cover =		0		
Herb Stratum (Plot size: 2 meter radius)				
1.	PHALARIS ARUNDINACEA	1	Y	FACW
2.	TARAXACUM OFFICINALE	1	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
Total Cover =		2		
Woody Vine Stratum (Plot size: 10 meter radius)				
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
Total Cover =		0		

Dominance Test Worksheet

 Number of Dominant Species that are OBL, FACW, or FAC: **1** (A)

 Total Number of Dominant Species Across All Strata: **2** (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	1	x 2 =	2
FAC spp.	0	x 3 =	0
FACU spp.	1	x 4 =	4
UPL spp.	0	x 5 =	0

 Total **2** (A) **6** (B)

 Prevalence Index = B/A = **3.000**
Hydrophytic Vegetation Indicators:

- | | | |
|---|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Dominance Test is > 50% |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☒ No

 Remarks: **Sample point located within active ag field planted to corn in 2014. No observable evidence of stress/stunting observed in corn stubble; few weedy species.**
Additional Remarks:
Sample point located in ag field at slightly higher topography than P20. While associated with an area that appeared to exhibit wetland signatures, the lack of observable hydrology indicators, hydric soil, and hydrophytic weedy species supports the upland determination.

Project/Site:	North Mendota Energy and Technology Park	Stantec Project #:	193703573	Date:	04/23/15						
Applicant:	Ruedebsch Development & Construction, Inc.			County:	Dane						
Investigator #1:	K. Remus	Investigator #2:	---	State:	Wisconsin						
Soil Unit:	Virgil silt loam	NWI/WWI Classification:	---	Wetland ID:	W-2						
Landform:	Backslope	Local Relief:	Linear	Sample Point:	P20						
Slope (%):	0-2	Latitude:	N/A	Longitude:	N/A	Datum:	N/A	Community ID:	Wet Meadow		
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks)								<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Section:	22
Are Vegetation <input type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?				Are normal circumstances present?				Township:			8N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?				<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				Range:			9 Dir: E

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks: Based on a WETS analysis, conditions were normal; 4.14 inches of rain were received in the area from April 1 - April 23. Sample point located at edge of grassed waterway; soils mixed fill material from adjacent sewer line.			

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present <input type="checkbox"/>):		
<u>Primary:</u>	<u>Secondary:</u>	
<input type="checkbox"/> A1 - Surface Water	<input type="checkbox"/> B9 - Water-Stained Leaves	<input type="checkbox"/> B6 - Surface Soil Cracks
<input type="checkbox"/> A2 - High Water Table	<input type="checkbox"/> B13 - Aquatic Fauna	<input type="checkbox"/> B10 - Drainage Patterns
<input type="checkbox"/> A3 - Saturation	<input type="checkbox"/> B15 - Marl Deposits	<input type="checkbox"/> B16 - Moss Trim Lines
<input type="checkbox"/> B1 - Water Marks	<input type="checkbox"/> C1 - Hydrogen Sulfide Odor	<input type="checkbox"/> C2 - Dry-Season Water Table
<input type="checkbox"/> B2 - Sediment Deposits	<input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots	<input type="checkbox"/> C8 - Crayfish Burrows
<input type="checkbox"/> B3 - Drift Deposits	<input type="checkbox"/> C4 - Presence of Reduced Iron	<input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery
<input type="checkbox"/> B4 - Algal Mat or Crust	<input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils	<input type="checkbox"/> D1 - Stunted or Stressed Plants
<input type="checkbox"/> B5 - Iron Deposits	<input type="checkbox"/> C7 - Thin Muck Surface	<input checked="" type="checkbox"/> D2 - Geomorphic Position
<input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> D3 - Shallow Aquitard
<input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface		<input type="checkbox"/> D4 - Microtopographic Relief
		<input checked="" type="checkbox"/> D5 - FAC-Neutral Test

Field Observations:	
Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Depth: (in.)	
Depth: (in.)	
Depth: (in.)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Aerial Imagery Review
--	-----------------------

Remarks:

SOILS

Map Unit Name:	Virgil silt loam	Series Drainage Class:	somewhat poorly
Taxonomy (Subgroup):	Udollic Endoaqualfs		

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)											
Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)		%	Color (Moist)		%	Type	Location	
0	12	1	10YR	2/1	95	7.5YR	3/3	5	C	M	silty clay loam
12	18	2	10YR	2/1	60	7.5YR	3/2	5	C	M	silty clay loam
--	--	--	7.5YR	3/4	30	--	--	--	--	--	loamy sand
--	--	--	10YR	5/2	5	--	--	--	--	--	silty clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):			Indicators for Problematic Soils ¹		
<input type="checkbox"/> A1- Histosol	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B)	<input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B)			
<input type="checkbox"/> A2 - Histic Epipedon	<input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B)	<input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R)			
<input type="checkbox"/> A3 - Black Histic	<input type="checkbox"/> S11 - High Chroma Sands	<input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R)			
<input type="checkbox"/> A4 - Hydrogen Sulfide	<input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L)	<input type="checkbox"/> S7 - Dark Surface (LRR K, L, M)			
<input type="checkbox"/> A5 - Stratified Layers	<input type="checkbox"/> F2 - Loamy Gleyed Matrix	<input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L)			
<input type="checkbox"/> A11 - Depleted Below Dark Surface	<input type="checkbox"/> F3 - Depleted Matrix	<input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L)			
<input type="checkbox"/> A12 - Thick Dark Surface	<input checked="" type="checkbox"/> F6 - Redox Dark Surface	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R)			
<input type="checkbox"/> S1 - Sandy Muck Mineral	<input type="checkbox"/> F7 - Depleted Dark Surface	<input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B)			
<input type="checkbox"/> S4 - Sandy Gleyed Matrix	<input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F21 - Red Parent Material			
<input type="checkbox"/> S5 - Sandy Redox		<input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B)			
<input type="checkbox"/> S6 - Stripped Matrix		<input type="checkbox"/> TF12 - Very Shallow Dark Surface			
<input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B)		<input type="checkbox"/> Other (Explain in Remarks)			

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed)	Type: N/A	Depth: N/A	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
---------------------------------	-----------	------------	---

Remarks:	Horizon 2 comprised of mixed fill material; fill materials likely from adjacent sewer line installation. Soils disturbed, but redox features still present in upper horizon and observable in darker soil of horizon 2 matrix.
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Project/Site: North Mendota Energy and Technology Park

Wetland ID: W-2

Sample Point: P20

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = 0

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = 0

Herb Stratum (Plot size: 2 meter radius)

1.	PHALARIS ARUNDINACEA	100	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--

Total Cover = 100

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--

Total Cover = 0

Remarks: Sample point located at edge of grassed waterway

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	100	x 2 =	200
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0

Total 100 (A) 200 (B)

Prevalence Index = B/A = 2.000

Hydrophytic Vegetation Indicators:

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Dominance Test is > 50% |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.**Woody Vines** - All woody vines greater than 3.28 ft. in height.**Hydrophytic Vegetation Present** ☒ Yes ☐ No

Project/Site: North Mendota Energy and Technology Park		Stantec Project #: 193703573		Date: 04/23/15
Applicant: Ruedebsch Development & Construction, Inc.				County: Dane
Investigator #1: K. Remus	Investigator #2: ---			State: Wisconsin
Soil Unit: Sable silty clay loam	NWI/WWI Classification: ---		Wetland ID: n/a	
Landform: Talf	Local Relief: Linear			Sample Point: P21
Slope (%): 0-2	Latitude: N/A	Longitude: N/A	Datum: N/A	Community ID: Road ROW
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Section: 22
Are Vegetation <input type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present?		Township: 8N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Range: 9 Dir: E

SUMMARY OF FINDINGS			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Remarks: Based on a WETS analysis, conditions were normal; 4.14 inches of rain were received in the area from April 1 - April 23. Sample point located within maintained road ROW.			

HYDROLOGY			
Wetland Hydrology Indicators (Check here if indicators are not present <input checked="" type="checkbox"/>): <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <u>Primary:</u> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface </div> <div style="width: 30%;"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) </div> <div style="width: 30%;"> <u>Secondary:</u> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test </div> </div>			
Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)		Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Aerial Imagery Review			
Remarks:			

SOILS											
Map Unit Name: Sable silty clay loam						Series Drainage Class: poorly					
Taxonomy (Subgroup): Typic 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)											
Top Depth	Bottom Depth	Horizon	Matrix			Redox Features				Texture (e.g. clay, sand, loam)	
			Color (Moist)		%	Color (Moist)		%	Type		Location
0	14	1	10YR	3/2	100	--	--	--	--	--	sandy clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present <input checked="" type="checkbox"/>): <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) </div> <div style="width: 30%;"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions </div> <div style="width: 30%;"> Indicators for Problematic Soils ¹ <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) </div> </div>					
¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.					
Restrictive Layer (If Observed) Type: Gravel Depth: 14 inches		Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
Remarks: Disturbed fill materials from road; 20% gravel/sand materials throughout profile					

Project/Site: **North Mendota Energy and Technology Park** Wetland ID: **n/a** Sample Point: **P21**
VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

 Total Cover = **0**

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

 Total Cover = **0**

Herb Stratum (Plot size: 2 meter radius)

1.	POA PRATENSIS	65	Y	FACU
2.	TRIFOLIUM PRATENSE	10	N	FACU
3.	PLANTAGO MAJOR	5	N	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--

 Total Cover = **80**

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--

 Total Cover = **0**

 Remarks: **Maintained road ROW; gravel/compact soils comprising remainder of "coverage".**
Dominance Test Worksheet

 Number of Dominant Species that are OBL, FACW, or FAC: **0** (A)

 Total Number of Dominant Species Across All Strata: **1** (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: **0%** (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	0	x 3 =	0
FACU spp.	80	x 4 =	320
UPL spp.	0	x 5 =	0

 Total **80** (A) **320** (B)

 Prevalence Index = B/A = **4.000**
Hydrophytic Vegetation Indicators:

- | | | |
|------------------------------|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Dominance Test is > 50% |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:
Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☒ No

Additional Remarks:
No wetland signatures observed at this location, but poorly drained/predominantly hydric soil mapped in this location.

Project/Site: North Mendota Energy and Technology Park		Stantec Project #: 193703573		Date: 04/23/15
Applicant: Ruedeusch Development & Construction, Inc.				County: Dane
Investigator #1: K. Remus		Investigator #2: ---		State: Wisconsin
Soil Unit: Sable silty clay loam	NWI/WWI Classification: ---			Wetland ID: n/a
Landform: Toeslope	Local Relief: Linear			Sample Point: P22
Slope (%): 0-2	Latitude: N/A	Longitude: N/A	Datum: N/A	Community ID: Ag Field
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Section: 22
Are Vegetation <input type="checkbox"/> , Soil <input checked="" type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present?		Township: 8N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Range: 9 Dir: E

SUMMARY OF FINDINGS			
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Remarks: Based on a WETS analysis, conditions were normal; 4.14 inches of rain were received in the area from April 1 - April 23. Sample point located in ag field; soils disturbed from adjacent sewer line and culvert infrastructure.			

HYDROLOGY			
Wetland Hydrology Indicators (Check here if indicators are not present <input checked="" type="checkbox"/>): <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <u>Primary:</u> <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface </div> <div style="width: 30%;"> <input type="checkbox"/> B9 - Water-Stained Leaves <input type="checkbox"/> B13 - Aquatic Fauna <input type="checkbox"/> B15 - Marl Deposits <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks) </div> <div style="width: 30%;"> <u>Secondary:</u> <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry-Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input type="checkbox"/> D5 - FAC-Neutral Test </div> </div>			
Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.)		Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Aerial Imagery Review			
Remarks:			

SOILS											
Map Unit Name: Sable silty clay loam						Series Drainage Class: poorly					
Taxonomy (Subgroup): Typic 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)											
Top Depth	Bottom Depth	Horizon	Matrix			Redox Features					Texture (e.g. clay, sand, loam)
			Color (Moist)		%	Color (Moist)	%	Type	Location		
0	14	1	10YR	3/2	100	--	--	--	--	--	silt loam
14	18	2	10YR	3/2	70	--	--	--	--	--	silt loam
--	--	--	2.5Y	5/3	20	--	--	--	--	--	silty clay loam
--	--	--	10YR	5/6	10	--	--	--	--	--	sandy clay loam
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present <input checked="" type="checkbox"/>): <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <input type="checkbox"/> A1- Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral <input type="checkbox"/> S4 - Sandy Gleyed Matrix <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface (LRR R, MLRA 149B) </div> <div style="width: 30%;"> <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR R, MLRA 149B) <input type="checkbox"/> S9 - Thin Dark Surface (LRR R, MLRA 149B) <input type="checkbox"/> S11 - High Chroma Sands <input type="checkbox"/> F1 - Loamy Mucky Mineral (LRR K, L) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions </div> <div style="width: 30%;"> Indicators for Problematic Soils ¹ <input type="checkbox"/> A10 - 2 cm Muck (LRR K, L, MLRA 149B) <input type="checkbox"/> A16 - Coast Prairie Redox (LRR K, L, R) <input type="checkbox"/> S3 - 5cm Mucky Peat of Peat (LRR K, L, R) <input type="checkbox"/> S7 - Dark Surface (LRR K, L, M) <input type="checkbox"/> S8 - Polyvalue Below Surface (LRR K, L) <input type="checkbox"/> S9 - Thin Dark Surface (LRR K, L) <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR K, L, R) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 149B) <input type="checkbox"/> F21 - Red Parent Material <input type="checkbox"/> TA6 - Mesic Spodic (MLRA 144A, 145, 149B) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) </div> </div>					
¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.					

Restrictive Layer (If Observed) Type: Gravel		Depth: 18 inches		Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Remarks: Horizon 2 comprised of mixed fill materials - historic fill from adjacent sewer line and road culvert infrastructure.					

Project/Site: **North Mendota Energy and Technology Park**Wetland ID: **n/a**Sample Point: **P22****VEGETATION** (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 10 meter radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind.Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = **0**

Sapling/Shrub Stratum (Plot size: 5 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = **0**

Herb Stratum (Plot size: 2 meter radius)

1.	ABUTILON THEOPHRASTI	1	Y	FACU
2.	BROMUS INERMIS	1	Y	UPL
3.	PHALARIS ARUNDINACEA	1	Y	FACW
4.	TARAXACUM OFFICINALE	1	Y	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--

Total Cover = **4**

Woody Vine Stratum (Plot size: 10 meter radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--

Total Cover = **0**Remarks: **Sample point located within active ag field planted to corn in 2014; predominantly non-hydrophytic weedy species observed.****Dominance Test Worksheet**Number of Dominant Species that are OBL, FACW, or FAC: **1** (A)Total Number of Dominant Species Across All Strata: **4** (B)Percent of Dominant Species That Are OBL, FACW, or FAC: **25%** (A/B)**Prevalence Index Worksheet**

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	1	x 2 =	2
FAC spp.	0	x 3 =	0
FACU spp.	2	x 4 =	8
UPL spp.	1	x 5 =	5

Total **4** (A) **15** (B)Prevalence Index = B/A = **3.750****Hydrophytic Vegetation Indicators:**

- | | | |
|------------------------------|--|--|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Dominance Test is > 50% |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:**Tree** - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.**Sapling/Shrub** - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.**Herb** - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.**Woody Vines** - All woody vines greater than 3.28 ft. in height.**Hydrophytic Vegetation Present** ☐ Yes ☒ No**Additional Remarks:****Sample point within area mapped as poorly drained/predominantly hydric soils. The area also appeared to exhibit wetland signatures, but the lack of observable hydrology indicators, hydric soil, and hydrophytic weedy species supports the upland determination.**

WETLAND DELINEATION REPORT

North Mendota Energy and Technology Park
Appendix C– Site Photographs
May 18, 2015

Appendix C – Site Photographs



Photo 1. Sample Point P1; View south



Photo 2. Sample Point P2; view east



Photo 3. Sample Point P3 and north end of W-1, view east



Photo 4. Sample Point P4; view northwest



Photo 5. Sample Point P5, view southeast towards P4



Photo 6. Representative photo of stunted corn stubble (right two stalks) observed within farmed wetland areas vs. healthy corn stubble (left stalk)



Photo 7. Sample point P6; view east



Photo 8. Sample point P7; view east



Photo 9. Sample Point P8 with sewer manhole (blue) visible in background; view east



Photo 10. Sample point P9 looking towards P8; view east



Photo 11. Sample Point P10 – corn stubble appeared non-stressed; view west



Photo 12. Sample Point P11 looking towards P10 – corn stubble appeared non-stressed; view southeast



Photo 13. Sample Point P12; view east



Photo 14. Sample Point P13; view south



Photo 15. Sample Point P14; view east



Photo 16. Sample Point P15; view northeast



Photo 17. Sample Point P16 with sewer outfall to S3 in the background; view northeast



Photo 18. Sample Point P17; view west



Photo 19. Sample point P18; view southeast



Photo 20. Sample point P19; view south



Photo 21. Sample Point P20; view southeast



Photo 22. Sample point P21 within road ROW; view northeast



Photo 23. Sample Point P22; view north



Photo 24. Representative photo of W-1 at southern boundary; view east



Photo 25. Representative photo of waterway S1; view south



Photo 26. View of culvert at south boundary and end of S1; view west



Photo 27. View of culvert at east boundary and beginning of S2; view east



Photo 28. Representative photo of waterway S2; view northeast



Photo 29. Representative photo of waterway S3 near north boundary; view south



Photo 30. Representative view of S3 near southwestern boundary; view northeast



Photo 31. Overview of W-1 from near P10; view southeast



Photo 32. View of W-1 from near P6; view southeast



Photo 33. View of W-2 and S3 looking towards southwestern boundary; view southwest



Photo 34. View of W-2 and S3 looking towards northern boundary; view northwest



Photo 35. Overview of eastern field with W-1 in the distance; view east

WETLAND DELINEATION REPORT

North Mendota Energy and Technology Park
Appendix D– WETS Analysis
May 18, 2015

Appendix D – WETS Analysis

WETS Analysis Worksheet

Project Name: North Mendota Energy and Technology Park
 Project Number: 193703573
 Period of interest: February - April
 Station: Madison Dane County Regional Airport (WI837)
 County: Dane County, WI

Long-term rainfall records (from WETS table)

	Month	3 years in 10 less than	Normal	3 years in 10 greater than
1st month prior:	April ¹	1.95	2.57	3.00
2nd month prior:	March	1.22	2.28	2.78
3rd month prior:	February	0.66	1.28	1.56
Sum =		6.13		

Sum =

Site determination

Site Rainfall (in)	Condition Dry/Normal*/Wet	Condition** Value	Month Weight	Product
4.14	Wet	3	3	9
0.76	Dry	1	2	2
0.54	Dry	1	1	1
Sum =		5.44	Sum*** =	12

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

Determination: Wet
 Dry
 X Normal

**Condition value:

Dry = 1
 Normal = 2
 Wet = 3

***If sum is:

6 to 9 then period has been drier than normal
 10 to 14 then period has been normal
 15 to 18 then period has been wetter than normal

Precipitation data source: 2015 data: Midwest Regional Climate Center - <http://mrcc.isws.illinois.edu/CLIMATE>; Long-term data: USDA Field Office Climate Data - <http://agacis.rcc-acis.org/55025/wets/results>

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.

¹: Long-term precipitation for April is pro-rated by 0.767 (23/30) to account for April 2015 precipitation and field work dates. At the time of field observations, 3.42 inches of rain had fallen from April - 17, and 4.14 from April 1 - 23. Average precipitation for April is 3.35 inches.

Monthly Data between Specific Months
MADISON DANE RGNL AP (WI)
USW00014837

Monthly Sum/Averages	
Precipitation	
Date	(in)
Jan-2015	0.66
Feb-2015	0.54
Mar-2015	0.76
Sum:	1.96
Count:	3
Average:	0.65
Median:	0.66
Low Value:	0.54
High Value:	0.76

M = Missing

T = Trace

Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
Generated at: 4/22/2015 3:28:11 PM CDT

Daily Data Between Two Dates
MADISON DANE RGNL AP (WI)
USW00014837

Date	Precipitation (in)
2015-04-01	0.00
2015-04-02	0.02
2015-04-03	0.00
2015-04-04	0.00
2015-04-05	0.00
2015-04-06	0.17
2015-04-07	0.82
2015-04-08	0.40
2015-04-09	1.80
2015-04-10	0.10
2015-04-11	0.00
2015-04-12	T
2015-04-13	0.11
2015-04-14	0.00
2015-04-15	0.00
2015-04-16	0.00
2015-04-17	0.00
Sum:	3.42
Count:	17
Average:	0.20
Median:	0.00
Low Value:	0.00
High Value:	1.80

M = Missing
T = Trace

Time of observation may vary by station, date, and/or variable

Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
Generated at: 4/22/2015 3:31:14 PM CDT

Daily Data Between Two Dates
MADISON DANE RGNL AP (WI)
USW00014837

Date	Precipitation (in)
2015-04-01	0.00
2015-04-02	0.02
2015-04-03	0.00
2015-04-04	0.00
2015-04-05	0.00
2015-04-06	0.17
2015-04-07	0.82
2015-04-08	0.40
2015-04-09	1.80
2015-04-10	0.10
2015-04-11	0.00
2015-04-12	T
2015-04-13	0.11
2015-04-14	0.00
2015-04-15	0.00
2015-04-16	0.00
2015-04-17	0.00
2015-04-18	0.00
2015-04-19	0.32
2015-04-20	0.37
2015-04-21	0.02
2015-04-22	0.01
2015-04-23	0.00
Sum:	4.14
Count:	23
Average:	0.18
Median:	T
Low Value:	0.00
High Value:	1.80

M = Missing

T = Trace

Time of observation may vary by station, date, and/or variable

Midwestern Regional Climate Center

cli-MATE: MRCC Application Tools Environment

Generated at: 4/24/2015 10:52:38 AM CDT

USDA Field Office Climate Data

WETS Station : MADISON DANE RGNL AP, WI837 Creation Date: 03/16/2015
 Latitude: 4308 Longitude: 08921 Elevation: 00866
 State FIPS/County(FIPS): 55025 County Name: Dane
 Start yr. - 1971 End yr. - 2000

Month	Temperature (Degrees F.)			Precipitation (Inches)				
	avg daily max	avg daily min	avg	avg	30% chance will have		avg # of days w/.1 or more	avg total snow fall
					less than	more than		
January	25.2	9.3	17.3	1.25	0.78	1.51	4	13.0
February	30.8	14.3	22.6	1.28	0.66	1.56	4	8.6
March	42.8	24.6	33.7	2.28	1.22	2.78	5	7.1
April	56.6	35.2	45.9	3.35	2.54	3.91	7	3.5
May	69.4	46.0	57.7	3.25	2.05	3.92	7	0.1
June	78.3	55.7	67.0	4.05	2.36	4.92	7	0.0
July	82.1	61.0	71.6	3.93	2.88	4.62	6	0.0
August	79.4	58.7	69.1	4.33	3.07	5.12	7	0.0
September	71.4	49.9	60.7	3.08	1.58	3.77	6	0.0
October	59.6	38.9	49.3	2.18	1.33	2.64	5	0.4
November	43.3	27.7	35.5	2.31	1.40	2.80	5	4.5
December	30.2	15.8	23.0	1.66	0.89	2.02	4	12.5
Annual	-----	-----	-----	-----	29.96	35.52	--	-----
Average	55.8	36.4	46.1	-----	-----	-----	--	-----
Average	-----	-----	-----	32.95	-----	-----	66	49.7

GROWING SEASON DATES

Probability	Temperature		
	24 F or higher	28 F or higher	32 F or higher
	Beginning and Ending Dates Growing Season Length		
50 percent *	4/14 to 10/25 193 days	4/24 to 10/ 9 167 days	5/ 9 to 9/30 143 days
70 percent *	4/10 to 10/29 202 days	4/19 to 10/14 177 days	5/ 5 to 10/ 4 151 days

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

total 1939-2015 prcp

Station : WI837, MADISON DANE RGNL AP
 ----- Unit = inches

yr	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec	annl
39										1.67	0.24	0.29	2.20
40	0.91	0.76	1.07	2.40	2.70	5.04	2.88	6.76	0.81	2.39	2.49	1.21	29.42
41	2.72	0.78	1.82	1.93	3.03	3.42	2.93	1.29	9.87	2.86	0.93	1.29	32.87
42	1.16	0.50	1.46	0.81	4.49	4.26	3.58	4.14	3.43	2.44	3.27	2.55	32.09
43	2.15	0.76	2.48	0.99	2.88	2.33	1.54	2.31	0.37	0.83	3.15	0.99	20.78
44	1.40	1.69	2.46	3.74	2.33	3.42	2.77	1.54	3.05	0.29	1.54	1.14	25.37
45	0.31	1.40	1.40	2.89	5.27	2.81	2.65	4.07	6.27	0.78	2.34	1.47	31.66
46	1.97	0.88	2.88	0.94	2.14	2.81	0.95	1.63	1.28	1.79	2.08	1.54	20.89
47	2.26	0.29	1.73	3.68	4.35	3.98	2.17	1.58	6.03	1.85	2.82	1.72	32.46
48	0.49	2.13	2.85	2.97	2.90	2.55	2.55	0.70	1.87	1.29	3.56	1.75	25.61

WETS Table

49	1.97	1.26	2.35	1.10	2.22	6.43	5.76	2.20	1.12	1.86	1.04	1.70	29.01
50	2.43	1.65	2.34	2.67	3.43	6.24	10.93	2.69	2.09	1.23	1.04	1.97	38.71
51	1.44	1.70	2.13	4.42	3.00	2.55	3.08	3.08	1.56	5.37	2.17	1.47	31.97
52	2.21	0.60	2.92	1.21	3.18	4.08	7.60	4.73	0.49	0.06	2.94	1.67	31.69
53	0.64	2.77	2.58	3.12	1.02	5.15	4.28	3.49	2.11	1.81	0.52	2.17	29.66
54	0.76	0.63	1.19	4.09	2.98	7.36	5.73	2.78	3.82	3.72	0.81	1.20	35.07
55	0.65	1.67	0.96	3.65	2.10	2.78	3.93	1.55	0.80	3.24	0.57	0.59	22.49
56	0.43	1.00	2.53	3.54	5.11	3.24	4.50	5.64	1.42	0.31	2.78	1.01	31.51
57	0.41	0.38	1.19	2.40	5.80	6.41	4.00	4.86	0.95	2.14	2.91	1.41	32.86
58	0.52	0.08	0.38	2.73	3.93	2.16	1.69	2.06	2.44	2.50	2.29	0.31	21.09
59	1.40	1.58	2.90	4.01	3.06	3.86	4.12	5.68	3.44	5.55	2.29	2.45	40.34
60	2.19	1.14	1.93	4.02	6.26	2.09	6.04	6.18	3.90	3.32	1.47	0.25	38.79
61	0.19	1.01	3.42	1.33	1.17	1.84	3.67	1.78	7.92	3.75	3.94	1.02	31.04
62	1.12	1.39	1.73	1.43	3.01	2.09	4.39	2.04	1.31	1.68	0.34	0.90	21.43
63	0.76	0.39	2.33	1.67	1.82	8.15	2.29	3.23	2.30	0.64	1.96	0.65	26.19
64	0.93	0.26	2.12	3.15	3.87	2.28	4.28	2.52	1.85	0.08	1.94	0.34	23.62
65	1.80	0.74	2.51	2.94	1.86	2.31	3.30	6.77	9.22	1.69	1.96	2.50	37.60
66	1.07	1.36	2.11	1.54	4.31	2.91	3.24	3.83	0.51	1.65	1.28	2.62	26.43
67	1.63	1.17	1.49	2.57	3.53	6.46	2.51	2.71	2.68	5.52	1.83	1.89	33.99
68	0.56	0.49	0.59	4.18	2.02	7.82	2.54	2.58	4.45	0.85	1.74	2.89	30.71
69	2.26	0.18	1.47	2.72	3.45	7.96	4.28	0.96	1.35	2.65	0.70	1.66	29.64
70	0.44	0.16	1.17	2.53	6.09	2.26	2.42	0.97	8.82	2.65	1.06	2.12	30.69
71	1.48	2.59	1.52	2.42	0.98	2.27	1.65	3.96	1.87	1.30	3.48	3.64	27.16
72	0.40	0.42	2.23	2.02	2.83	1.65	3.49	7.47	5.26	2.42	0.86	1.91	30.96
73	1.54	1.20	5.04	7.11	5.27	0.81	2.68	2.53	3.59	2.30	1.48	1.98	35.53
74	2.45	1.17	3.43	4.24	5.77	3.86	2.69	4.60	1.08	3.18	1.79	1.80	36.06
75	0.98	1.54	3.09	4.19	4.57	4.30	6.05	5.25	0.84	0.64	2.79	0.29	34.53
76	0.56	1.72	4.75	4.80	1.95	1.38	1.46	1.99	0.50	1.49	0.11	0.37	21.08
77	0.53	1.44	3.03	2.59	2.52	2.63	6.63	5.19	2.84	1.41	2.12	1.60	32.53
78	1.03	0.24	0.28	3.50	3.96	9.95	4.54	1.63	5.44	1.11	3.05	1.71	36.44
79	1.69	0.90	2.67	2.46	2.70	2.53	2.80	4.96	0.11	3.10	2.27	1.93	28.12
80	1.11	0.64	0.68	2.36	2.08	3.43	2.67	9.49	7.84	1.13	1.33	1.62	34.38
81	0.14	2.47	0.33	3.42	0.64	4.99	4.81	7.06	3.10	2.68	1.71	0.75	32.10
82	1.42	0.17	2.11	3.26	4.34	3.40	3.47	2.67	1.42	1.46	4.21	3.65	31.58
83	0.53	2.26	2.70	2.23	4.21	1.85	1.92	5.05	2.85	2.59	3.18	2.30	31.67
84	0.36	1.26	1.15	3.86	3.32	7.01	1.96	1.89	2.79	5.63	1.83	2.66	33.72
85	1.43	1.89	3.13	1.52	3.35	3.06	4.48	2.98	5.00	4.58	5.13	2.39	38.94
86	1.02	2.72	1.55	2.27	1.97	3.24	4.31	4.38	6.82	1.85	1.03	0.69	31.85
87	0.68	0.62	1.99	2.46	3.90	1.17	3.26	7.16	3.61	1.24	3.24	4.09	33.42
88	1.82	0.46	1.20	2.65	0.92	2.06	2.44	2.95	3.33	1.60	3.58	1.56	24.57
89	0.61	0.57	1.69	1.69	1.72	1.67	4.97	6.46	0.89	1.88	0.98	0.26	23.39
90	1.60	0.99	4.18	1.90	5.35	4.88	2.61	6.03	1.64	2.25	1.65	3.46	36.54
91	1.17	0.44	4.24	4.89	2.20	3.75	5.18	2.34	3.96	5.35	3.86	1.71	39.09
92	0.78	1.34	1.90	3.17	1.12	1.53	5.54	2.48	5.99	1.06	4.83	2.39	32.13
93	1.60	1.18	3.29	5.33	3.81	6.67	9.34	5.57	3.74	0.91	1.55	0.35	43.34
94	1.46	2.76	0.46	2.57	1.33	5.66	4.10	4.56	6.14	0.65	2.77	1.08	33.54
95	2.12	0.06	2.17	4.14	3.92	1.22	4.36	5.58	1.78	4.29	3.17	0.77	33.58
96	2.53	0.53	0.82	2.76	2.95	9.69	4.08	1.84	1.07	3.14	1.01	1.27	31.69
97	1.24	2.52	1.54	2.50	1.94	5.23	6.23	2.33	1.38	1.23	1.25	1.25	28.64
98	2.24	1.44	5.46	4.10	4.58	7.46	2.50	4.24	2.48	3.20	1.95	0.29	39.94
99	2.10	0.91	0.47	6.91	3.72	5.57	4.49	3.26	1.55	0.88	1.21	0.86	31.93
0	0.91	1.95	1.17	3.18	9.63	8.63	3.27	3.94	3.59	0.68	2.00	1.39	40.34
1	0.99	2.64	0.59	3.07	4.16	5.40	3.09	7.64	5.53	2.62	1.59	1.13	38.45
2	0.63	2.17	1.70	3.45	2.92	3.70	2.06	3.04	2.74	2.10	1.01	0.67	26.19
3	0.36	0.50	1.72	2.95	3.67	2.10	4.24	0.87	4.24	1.60	7.49	2.00	31.74
4	0.62	1.44	3.61	1.76	10.84	3.93	6.05	3.96	1.00	3.20	1.51	1.46	39.38
5	2.20	1.45	1.56	1.68	3.96	1.65	3.92	1.22	1.95	0.76	3.36	0.99	24.70
6	1.96	0.81	2.34	5.04	4.61	2.29	4.45	5.43	3.33	2.87	2.24	1.36	36.73
7	0.84	1.59	3.39	4.68	1.40	4.82	2.69	15.18	2.45	3.35	0.39	3.63	44.41
8	2.17	3.30	2.47	6.43	2.55	10.93	5.62	1.41	2.23	2.20	1.46	3.29	44.06
9	0.54	1.91	6.19	4.43	3.68	4.17	1.94	2.49	4.68	3.80	1.32	3.20	38.35
10	0.88	1.02	0.71	3.65	3.79	8.38	7.98	3.92	2.65	2.30	1.09	1.49	37.86
11	1.28	1.59	2.96	3.61	2.40	3.55	1.85	3.06	3.31	1.35	3.35	2.23	30.54
12	1.40	1.03	2.61	2.85	3.19	0.31	4.00	1.58	1.33	4.56	0.90	2.60	26.36
13	2.87	2.41	2.41	5.83	6.57	10.86	4.00	1.53	3.19	1.89	2.20	1.62	45.38
14	0.65	1.24	1.26	5.13	3.47	9.55	1.08	5.43	1.84	3.09	1.54	1.03	35.31
15	0.66	0.54	M0.11										1.31

Product generated by ACIS - NOAA Regional Climate Centers.

WETLAND DELINEATION REPORT

North Mendota Energy and Technology Park
Appendix E– Off-Site Aerial Imagery Analysis
May 18, 2015

Appendix E– Off-Site Aerial Imagery Analysis

Off-Site Aerial Photography Review ¹							
North Mendota Energy and Technology Park - Town of Westport							
Project Location: Section 22, Township 08N, Range 09E, Dane County County							
Year	Monthly Rainfall in Inches ²			Relative Wetness	Cropped ³ ?	Wetness Signature ^{4,5} ?	Interpretation
	April	May	June				
1985	1.52	3.35	3.06	Normal	CR	N	No wetland sinatures observed. Drainage swale evident in westernmost field; fields appear uniform.
1987	2.46	3.90	1.17	Dry	CR	N	No wetland sinatures observed. Drainage swale evident in westernmost field; fields appear uniform.
1988	2.65	0.92	2.06	Dry	CR	Y-; 6a	Area of dark green vegetation near center of main ag field; drainage swale evident in westernmost ag field
1989	1.69	1.72	1.67	Dry	CR	N	No wetness signatures apparent - fields uniform.
1990	1.90	5.35	4.88	Normal	CR	Y+; 6d	Area of dark soils near center of main ag field; drainage swale evident in western ag field. Crop appears uniform.
1991	4.89	2.20	3.75	Normal	CR	Y-; 6a	Greener veg associated with area of dark soils seen in 1990 slide
1992	3.17	1.12	1.53	Dry	CR	N	No wetland sinatures observed. Drainage swale evident in westernmost field; fields appear uniform.
1993	5.33	3.81	6.67	Wet	CR	Y+; 4, 6a, 6d	Drainage swale evident in westernmost field with potential drwoned crop; no readily apparent wetness signature in main ag field
1994	2.57	1.33	5.66	Normal	CR	Y-; 6d	Area of dark soils near center of main ag field; drainage swale evident in western ag field. Crop appears uniform.
1995	4.14	3.92	1.22	Normal	CR	N	No wetland sinatures observed. Drainage swale evident in westernmost field; fields appear uniform.
1997	2.50	1.94	5.23	Normal	CR	N	No wetland sinatures observed. Drainage swale evident in westernmost field; fields appear uniform.
1998	4.10	4.58	7.46	Wet	CR	Y-; 6a, 6d	Dark green veg along drainage swale in westernmost ag field; area of darker brown soils near center of main ag field
1999	6.91	3.72	5.57	Wet	CR	Y-; 6a	Greener veg associated with area of dark soils seen in 1998 slide; drainage swale evident
2000	3.18	9.63	8.63	Wet	CR	N	Drainage swale evident in westernmost ag field; no readily apparent wetness signature in main ag field
2001	3.07	4.16	5.40	Wet	CR	Y-; 6d	Area of dark soils near center of main ag field; drainage swale evident in western ag field. Crop appears uniform.
2002	3.45	2.92	3.70	Normal	CR	Y-; 6d	Area of dark soils near center of main ag field; drainage swale evident in western ag field. Crop appears uniform.
2005	1.68	3.96	1.65	Normal	CR	N	Drainage swale evident in westernmost ag field; no readily apparent wetness signature in main ag field
2006	5.04	4.61	2.29	Normal	CR	N	Drainage swale evident in westernmost ag field; no readily apparent wetness signature in main ag field
2008	6.43	2.55	10.93	Wet	CR	N	Drainage swale evident in westernmost ag field; no readily apparent wetness signature in main ag field
2010	3.65	3.79	8.38	Wet	CR	N	Drainage swale evident in westernmost ag field; no readily apparent wetness signature in main ag field
2013	5.83	6.57	10.86	Wet	CR	Y-; 3, 6a, 6b	Drainage swale evident in westernmost ag field with areas of bare/saturated soil and crop stress bordering drainage swale; areas of crop stress randomly in main ag field with area of bare/saturated soil near south boundary at east edge of non-cropped wetland area
30% chance less than	2.54	2.05	2.36				
30 Year Average	3.35	3.25	4.05				
30% chance more than	3.91	3.92	4.92				

Does slide/aerial photo analysis indicate the farmed areas contain wetland?Wetlands may be present within farmed areas along exsiting wetland areas and drainage swale.

4 out of 9 most the recent "normal" precipitation years had wetland signatures present.

DRY
NORMAL
WET

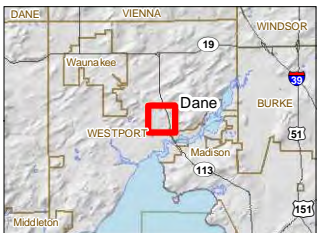
¹ Farm Service Agency (FSA) slides are used for this review unless otherwise notedAssumption is made that FSA slides are taken in July; as a result, precipitation analysis focuses on three months prior to July.


² Precipitation data from NWS weather station #W1837 - Dane County Regional Airpoty, Madison, WI

³ CR = cropped (row crop or tilled), NC = not cropped (hay, pasture, fallow, etc.)

⁴ Y = wetness signature present (+ = strong, - = weak); N = No wetness signature

⁵ Interpretation Codes - Feature: 1=water, 2=mud flat, 3=bare spot, 4=drowned crop, 5=planted late; Color: 6a=dark green, 6b=light green, 6c=yellow, 6d=brown, 6e=black; Manipulation: 7a=ditched, 7b=tiled, 7c=filled, 7d=tree/brush removal, 8=plowed/tilled; Other: write explanation as needed



Legend
 Approximate Project Boundary

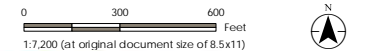
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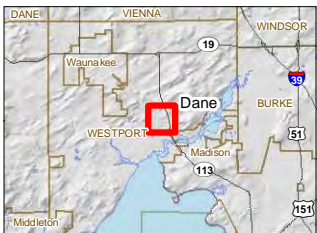
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Figure No. **X** **DRAFT**

Title
**Historic Orthophotography
1985 FSA**
Client/Project
**North Mendota Energy and Technology Park
Ruedebsch Development & Construction, Inc.**

Project Location 193703573
T08N, R09E, S22 Prepared by KAS on 2015-03-09
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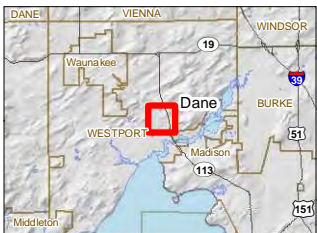
Title
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1987 FSA**

Client/Project
North Mendota Energy and Technology Park
Ruedebsch Development & Construction, Inc.

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Figure No.

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Title

**Historic Orthophotography
1988 FSA**

Client/Project

**North Mendota Energy and Technology Park
Ruedebsch Development & Construction, Inc.**

Project Location

**T08N, R09E, S22
T. of Westport
Dane Co., WI**

193703573

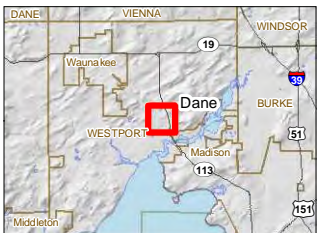
Prepared by KAS on 2015-03-09

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Title

Historic Orthophotography
1989 FSA

Client/Project

North Mendota Energy and Technology Park
Ruedebsch Development & Construction, Inc.

Project Location

T08N, R09E, S22
T. of Westport
Dane Co., WI

193703573

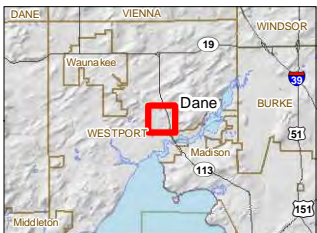
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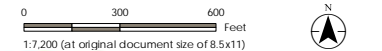
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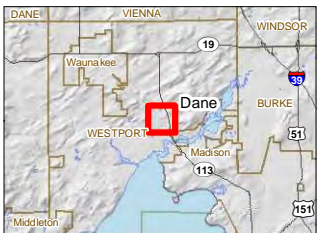
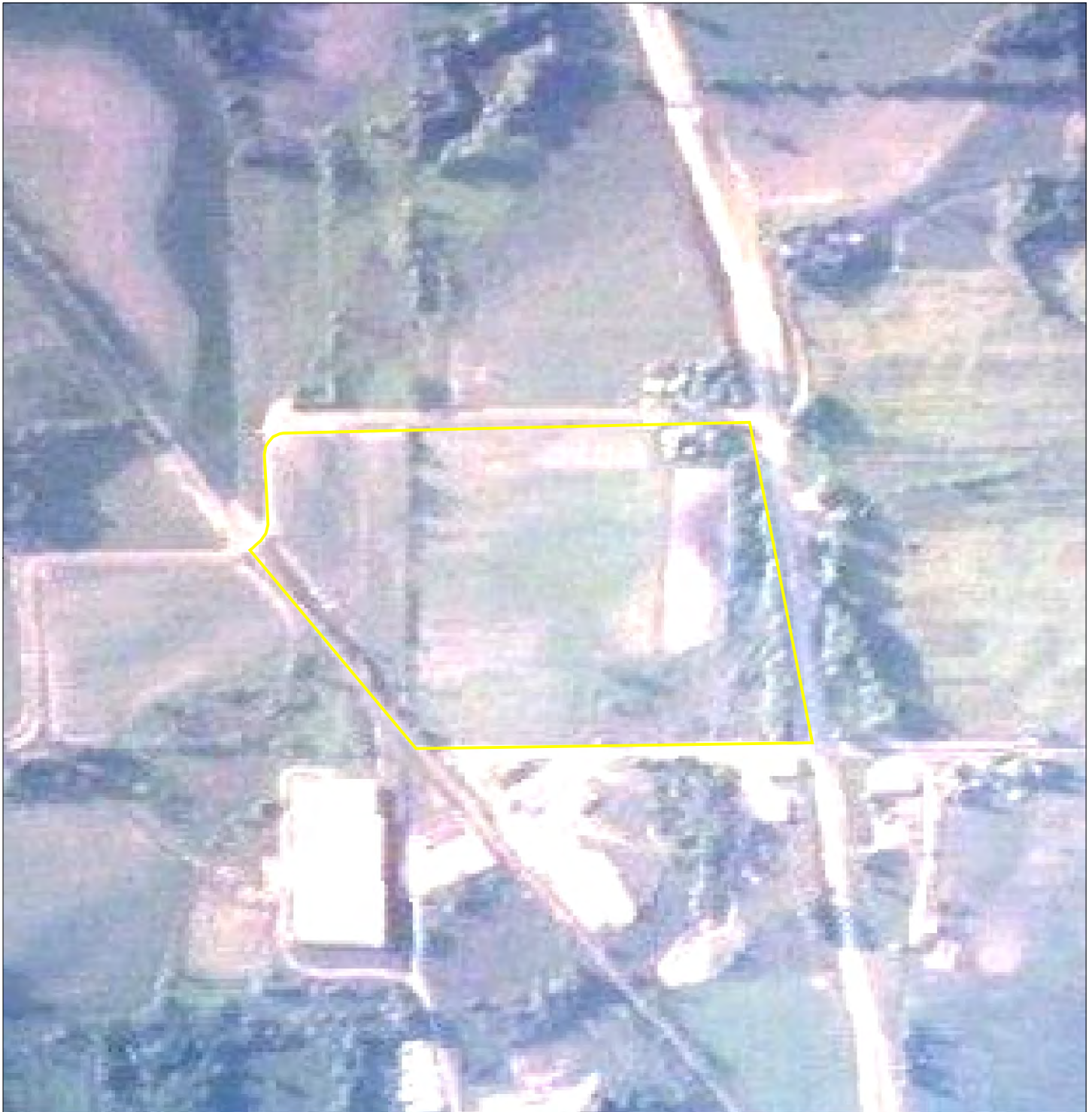
Figure No. **X** **DRAFT**


Title
**Historic Orthophotography
1990 FSA**

Client/Project
**North Mendota Energy and Technology Park
Ruedebsch Development & Construction, Inc.**

Project Location **193703573**
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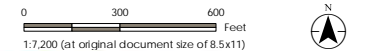
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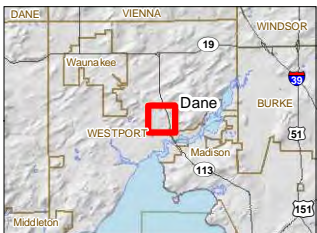
Figure No. **X** DRAFT

Title
**Historic Orthophotography
1991 FSA**

Client/Project
North Mendota Energy and Technology Park
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Project Location 193703573
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Title

Historic Orthophotography
1992 FSA

Client/Project

North Mendota Energy and Technology Park
Ruedebsch Development & Construction, Inc.

Project Location

108N, R09E, S22
T. of Westport
Dane Co., WI

193703573

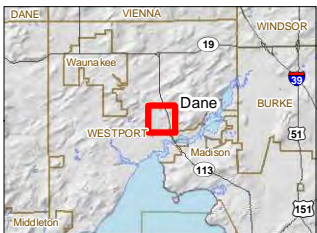
Prepared by KAS on 2015-03-09


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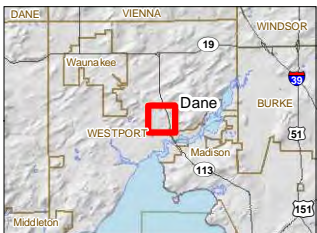
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**Historic Orthophotography
1993 FSA**


Client/Project
**North Mendota Energy and Technology Park
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Project Location 193703573
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Figure No.
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Title
**Historic Orthophotography
1994 FSA**

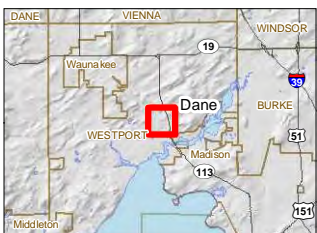
Client/Project
**North Mendota Energy and Technology Park
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Project Location
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193703573
Prepared by KAS on 2015-03-09
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Title
**Historic Orthophotography
1995 FSA**

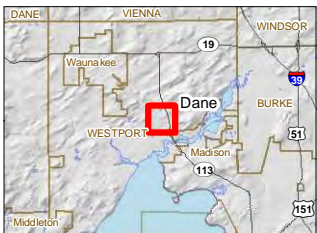
Client/Project
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Figure No.
X **DRAFT**

Title
**Historic Orthophotography
1997 FSA**

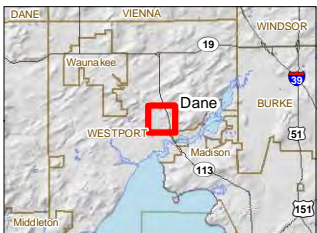
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Project Location
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Title
Historic Orthophotography
1998 FSA

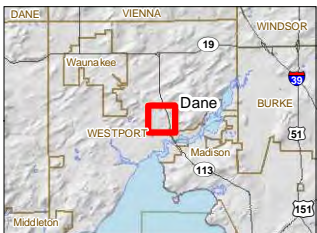
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Figure No.
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Title
**Historic Orthophotography
1999 FSA**

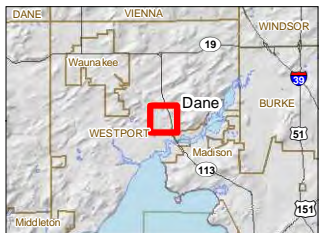
Client/Project
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Title
**Historic Orthophotography
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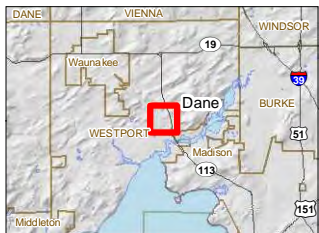
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Project Location
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Title
**Historic Orthophotography
2001 FSA**

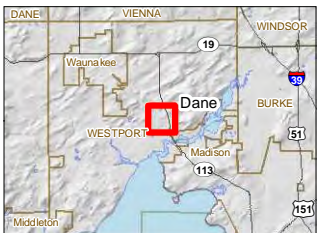
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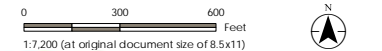
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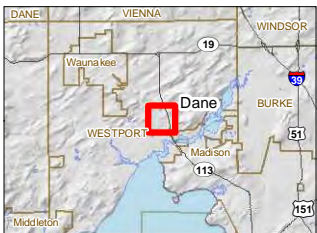
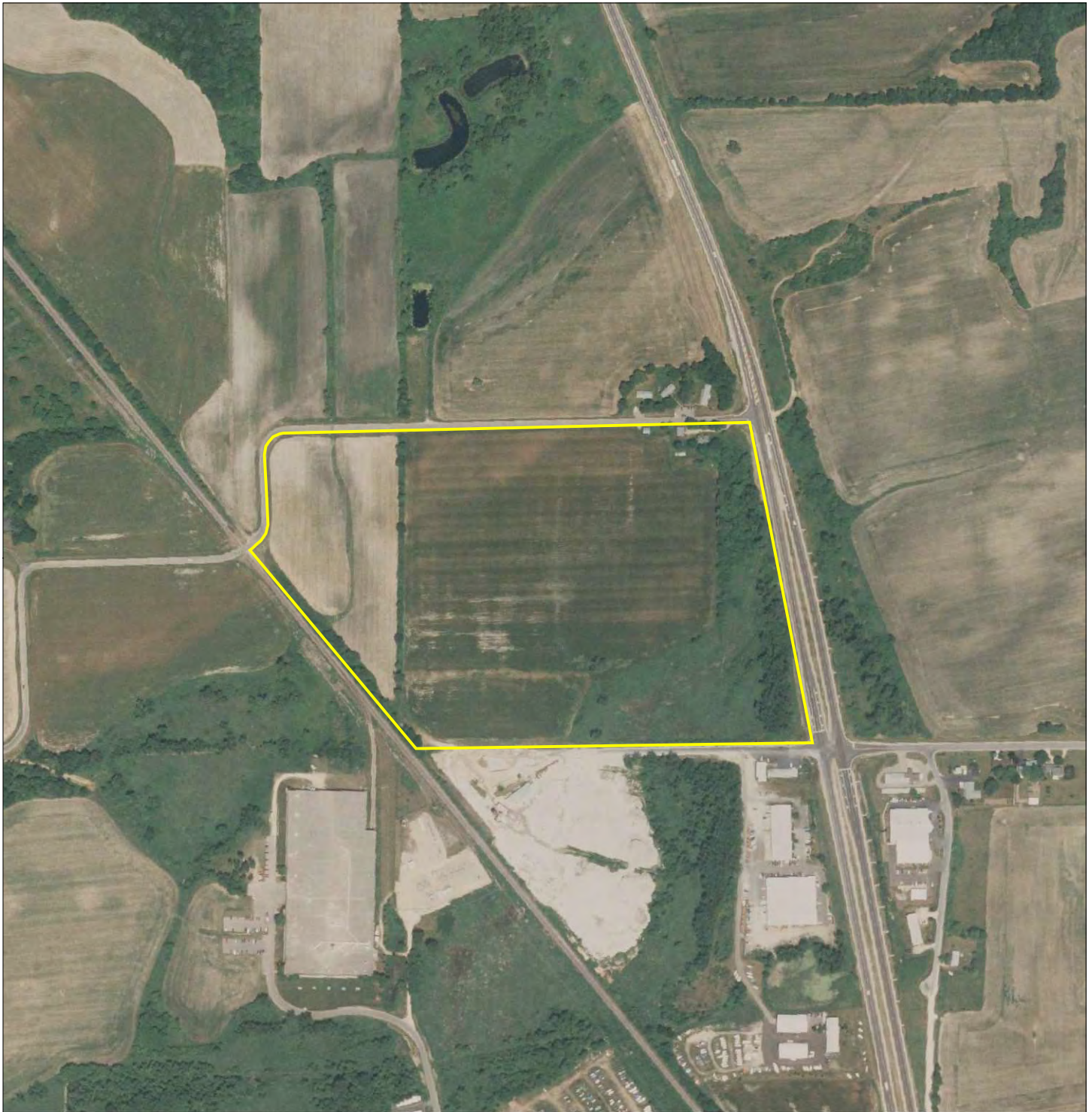
Figure No. **X** **DRAFT**


Title
**Historic Orthophotography
2002 FSA**

Client/Project
**North Mendota Energy and Technology Park
Ruedebsch Development & Construction, Inc.**

Project Location 193703573
T08N, R09E, S22 Prepared by KAS on 2015-03-09
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Dane Co., WI Independent Review by XXX on 2015-XX-XX





Legend
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 3. Orthophotography: USDA

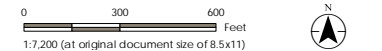
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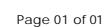
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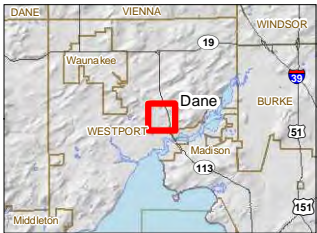
Title
**Historic Orthophotography
2005 NAIP**


Client/Project
North Mendota Energy and Technology Park
Ruedebsch Development & Construction, Inc.

Project Location 193703573
T08N, R09E, S22 Prepared by KAS on 2015-03-09
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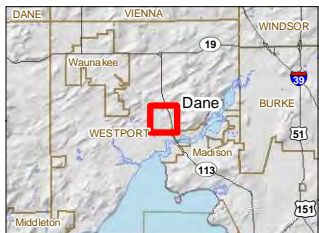
Title
**Historic Orthophotography
2008 NAIP**

Client/Project
North Mendota Energy and Technology Park
Ruedebsch Development & Construction, Inc.

Project Location 193703573
T08N, R09E, S22 Prepared by KAS on 2015-03-09
T. of Westport Technical Review by XXX on 2015-XX-XX
Dane Co., WI Independent Review by XXX on 2015-XX-XX

0 300 600
Feet
1:7,200 (at original document size of 8.5x11)





Legend

 Approximate Project Boundary

- Notes
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Data Sources Include: Stantec, WDNR, and WisDOT
 3. Orthophotography: USDA

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Figure No.

X

DRAFT

Title

Historic Orthophotography
2010 NAIP

Client/Project

North Mendota Energy and Technology Park
Ruedebsch Development & Construction, Inc.

Project Location

T08N, R09E, S22
T. of Westport
Dane Co., WI

193703573

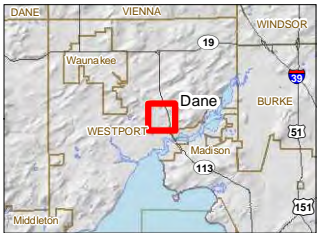
Prepared by KAS on 2015-03-09


Technical Review by XXX on 2015-XX-XX

Independent Review by XXX on 2015-XX-XX

0 300 600
Feet
1:7,200 (at original document size of 8.5x11)





Legend
 Approximate Project Boundary

Notes
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
2. Data Sources Include: Stantec, WDNR, and WisDOT
3. Orthophotography: USDA

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Figure No. **X** **DRAFT**

Title
Historic Orthophotography
2013 NAIP

Client/Project
North Mendota Energy and Technology Park
Ruedebsch Development & Construction, Inc.

Project Location 193703573
T08N, R09E, S22 Prepared by KAS on 2015-03-09
T. of Westport Technical Review by XXX on 2015-XX-XX
Dane Co., WI Independent Review by XXX on 2015-XX-XX

0 300 600 Feet
1:7,200 (at original document size of 8.5x11)



WETLAND DELINEATION REPORT

North Mendota Energy and Technology Park
Appendix F– Delineator Qualifications
May 18, 2015

Appendix F– Delineator Qualifications

Ms. Remus is a project environmental scientist, with a background in wetlands and biological inventory work. Kate's experience includes wetland delineations, habitat assessments, flora and fauna surveys, endangered resources reviews, watershed assessments, invasive species inventory and management, ecological restoration, NEPA/Section 106 compliance documentation, and GIS data manipulation. She has experience working with a variety of clients across the private, government, and tribal sectors on multiple projects from small scale to major, linear utility projects.

EDUCATION

Master of Science, Water Resource Management,
University of Wisconsin, Madison, Wisconsin, 2010

Bachelor of Science, Forestry Major (Ecosystem
Restoration & Management), Soil Science Minor,
University of Wisconsin, Stevens Point, Wisconsin,
2006

Critical Methods in Wetland Delineation, UW-La
Crosse Extension, Madison, Wisconsin, 2014

Sedges: Identification and Ecology, UW-Milwaukee
Field Station, Cedarburg, Wisconsin, 2014

Advanced Wetland Delineation, UW-La Crosse
Extension, La Crosse, Wisconsin, 2012

Karner Blue Butterfly HCP Monitoring, Department
of Natural Resources, Wisconsin, 2011

Wetland Plant Identification, Wetland Training
Institute, Wisconsin, 2011

NHPA Section 106, National Preservation Institute,
Wisconsin, 2011

NHI Endangered Resources Reviewer, Wisconsin
Department of Natural Resources, Wisconsin, 2011

Wetland Delineation Training, Wetland Training
Institute, Wisconsin, 2010

Certified S130/S190 Wildland Fire, Stevens Point,
Wisconsin, 2006

PROJECT EXPERIENCE

Environmental Assessments

We Energies, Various Locations, Wisconsin

Perform environmental management services for small-scale utility projects and larger utility expansions. Conduct review of project areas/corridors for environmentally sensitive natural features, perform field assessments to identify and map sensitive natural features, and track projects in WE STORMS database.

Gogebic Taconite, LLC, Gogebic Taconite
Proposed Iron Mine, Ashland and Iron Counties,
Wisconsin

Conducted landscape-scale waterway and wetland determination and delineation surveys for proposed mining site and conducted preliminary threatened and endangered species resources review.

WisDOT STH 23 Corridor Preservation Plan,
Sheboygan County, Wisconsin

Led wetland and waterway determination and delineation survey, and limited studies for wetland mitigation sites and potential T&E species habitat to identify natural resource impacts considered likely to result from alternative long-term transportation improvements along a 12.6 mile stretch of STH 23. Reviewed field collected data and prepared technical memorandum.

Metra Rail Wetland Investigation, Cook and Kane
Counties, Illinois

Conducted two wetland determination and delineation surveys in support of proposed embankment stabilization and bridge repairs at two separate rail line properties. Led the data collection and survey of the wetland boundaries and sample points, including the review of GIS representation and preparation of the final report.

Kate Remus

Environmental Scientist

Confidential Client, Wetland Investigation, Jackson County, Wisconsin

Assisted in the completion of a wetland delineation survey for a proposed sand mine on a 178 acre parcel, including a wetland field-review and mapping based on readily visible wetland indicators on an adjacent secondary area of interest. Led one of two teams in the data collection and survey of the wetland boundaries present within the project area and prepared the final report.

WisDOT I-39 Central Segment Design: CTH O to Rock County Line, Rock County, Wisconsin

Completed wetland and waterway delineation and floristic T/E species surveys along a 13 mile stretch of Interstate 39. Led the data collection and survey of the wetland and waterway boundaries present within the project area and prepared the final report.

Alliant Energy/WPL, Friesland Gas Main Extension, Columbia County, Wisconsin

Led wetland and waterway determination and delineation survey and GPS-based survey of environmental features along a three mile stretch of county road through the Village of Friesland. Led the data collection and survey of the wetland boundaries and waterways present within the project area and prepared the final report.

Wetland and Waterway Investigation, AllEnergy, Trempealeau County, Wisconsin

Conducted wetland delineation survey for proposed frac sand mine railroad spur and associated facilities and utilized GPS to map identified features. Also conducted visual assessment of wetlands and waterways within proposed mine footprint to identify potential resources under USACE jurisdiction. Assisted with preparation of final report.

Wetland Investigation, John's Disposal, Jefferson County, Wisconsin

Conducted wetland delineation within agricultural lands for proposed expansion of waste disposal facilities. This investigation included Farm Service Agency aerial slide review and GPS-based survey of environmental features. Prepared the final report.

Telecommunications Compliance Assessments*, Various locations across Wisconsin, Minnesota, and Michigan

Facilitated NEPA/Section 106 compliance for over 500 telecommunications projects, including a large scale 4G LTE antenna upgrade for the primary client. Performed wetland delineations and determinations with accompanying reports, utilizing the Corps of Engineers Midwest and Northeast/Northcentral Regional supplements. Coordinated investigations and completed reliable reports for NEPA/Section 106 compliance submittals, based on consultation with various state historic preservation offices, Native tribes, US Fish and Wildlife Service, state natural resource departments, and local governments and newspapers for a variety of clients.

US Hwy 151 Wetland Investigation, Columbia, Dane, and Dodge Counties, Wisconsin

Led wetland determination and delineation survey and GPS-based survey of environmental features within a 30-mile stretch of US Hwy 151 at eight locations requiring guardrail repair and maintenance. Reviewed field collected data and prepared final report.

Door Creek Watershed Assessment*, Madison, Wisconsin

Developed land management strategies for water quality improvement for the larger Yahara Lakes Watershed through analysis of land use and water quality within the Door Creek Watershed. Collected water quality samples in accordance with Wisconsin State Lab of Hygiene procedures in order to identify and assess nutrient concentrations. Compiled research and written analysis of urban and construction site runoff regulations and management practices to develop sound recommendations for watershed scale water quality improvement. Performed project management for groups of 2-4 people to coordinate writing and editing of major chapters for project report. Presented final recommendations and conclusions of study in both public and academic forums.

* denotes projects completed with other firms

Kate Remus

Environmental Scientist

Pipeline Services & Management

Enbridge – Southern Access Expansion Pipeline*,
Douglas to Rock Counties, Wisconsin

Conducted post-construction wetland and waterway restoration monitoring, including vegetation surveys, wetland boundary determinations, and evaluation of disturbance areas along the 340+ miles of pipeline corridor. Assisted in office review of field collected data, including data analysis, compilation, QA/QC, and preparation of final report.

Enbridge, Sandpiper Pipeline, Cass, Crow Wing,
and Aitkin Counties, Minnesota

Led wetland and waterway investigations and GPS-based survey of environmental features along a proposed new pipeline corridor in sensitive resource region of northern Minnesota. Assisted with QA/QC efforts of wetland delineation data and GIS mapping.

Power Transmission & Distribution

Re-build projects, American Transmission Company,
Various Counties, Wisconsin

Led wetland and waterway determination and delineation surveys and GPS-based survey of environmental features along multiple existing transmission line ROWs and within potential construction laydown yards for transmission line re-build projects. Identified and assessed adjacent land use, habitats, and invasive species presence. Assisted with preparation of, or prepared, final wetland report for Wisconsin CPCN application.

American Transmission Company, Bay Lake, Delta,
and Menomonee Counties, Michigan

Conducted wetland and waterway determination and delineation surveys along portions of an existing 33-mile 138kV transmission line ROW. Identified and assessed adjacent land use, habitats, and invasive species presence, as well of extent of wetlands off-ROW for proposed new transmission ROW.

American Transmission Company Waukesha-
Concord-St. Lawrence Rebuild, Multiple Counties,
Wisconsin

Led wetland and waterway determination and delineation surveys and GPS-based mapping of environmental features along existing transmission line. Identified and assessed adjacent land use, habitats, and invasive species presence. Prepared final wetland report for Wisconsin CPCN application.

American Transmission Company, Badger-Coulee,
Dane to La Crosse Counties, Wisconsin

Conducted wetland and waterway determination and delineation surveys within, and adjacent to, Interstate 39/90/94 right-of-way. Identified and assessed adjacent land use, habitats, and invasive species presence. Provided support for wetland, waterway, and upland habitat assessments for Wisconsin CPCN application and led QA/QC efforts of wetland delineation data.

* denotes projects completed with other firms