Appendix C

Soil Information

Wetland Delineation Report

Olynick Quarry
Town of Delmar, Chippewa, Wisconsin
Stantec Project #: 193703721
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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 the Olynick Quarry Property on behalf of Design 45. The wetland delineation was led by Jake Fahrenkrog of Stantec, a Wetland Professional in Training, Certified November 13 2013 (See Appendix G for Delineator Qualifications).

The Property is approximately 60 acres in size and located in Section 16, Township 29 North, Range 5 West, Town of Delmar, Chippewa County, Wisconsin. Specifically, the Study Area is located southeast of the intersection of 105th Ave and 330th St (Figure 1). The purpose and objective of the wetland determination and delineation was to identify the extent and spatial arrangement of wetlands, within the Property. An active quarry is located in the center on the Property and was not survey since the area is currently being quarried and the any features discovered within would not be jurisdictional. Five wetland areas 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.

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 the Northcentral Northeast Regional Supplement 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 the Northcentral Northeast Regional Supplement. According to procedures described in the 1987 Manual and the Northcentral Northeast 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

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. The wetland boundaries were subsequently flagged with pink "WETLAND DELINEATION" pin flags.

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.

3.0 RESULTS

3.1 SITE DESCRIPTION

The Property is comprised of active agricultural fields, two large wetland complexes, three small wetlands, an active e quarry, and upland oak forests. The Property is situated around an active quarry. Large agricultural fields lie along the eastern portion of the quarry extending north to two other smaller fields, all fields were under corn production the previous year (2014) and were recently tilled. The Study Area is relatively flat, the property slopes radially from the center of the agricultural field to the Coldwater Creek drainage ultimately exiting the site in the northwest from topographic highs of approximately 1130 feet mean sea level (msl) in the center of the site to topographic lows in the northwestern portion of approximately 1095 feet msl. The Property is bordered by agricultural lands to the north; and a large wetland complex associated with Coldwater Creek to the east, south and west.

Soil present within the Property and their hydric status are summarized in Table 1. Wetlands identified during the field investigation are located primarily within areas mapped as hydric soils (Appendix A, Figures 2 and 3).

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
AgB: Almena silt loam, 1 to 6 percent slope	Almena	100	Ground Moraines	No
	Auburndale		Depressions	Yes
AlC: Amery sandy loam, 6 to 12 percent slope	Amery	100	Moraines	No
	Cable		Depressions	Yes
Ba: Barronett silt loam, 0 to 2 percent slopes	Barronett	100	Drainageways on Lake Plains, Depressions on Lake Plains	Yes
CkD2: Chetek-Mahtomedi complex, 12 to 25 percent slopes, eroded	Chetek	55	End Moraines, Outwash Plains	No
	Mahtomedi	45	End Moraines, Outwash Plains	No

Cm: Comstock silt loam, 0 to 2 percent slope	Comstock	100	Lake Plains	No
	Barronett		Depressions	Yes
SaC2: Santiago silt loam, 6 to 12 percent slope, eroded	Santiago	100	Ground Moraines	No
SrB: Spencer silt loam, 2 to 6 percent slope	Spencer	100	Ground Moraines	No

The Wisconsin Wetland Inventory (WWI) map identifies two wetland areas located within the entire western and northeastern sections of the Property (Appendix A, Figure 4). The western wetland indicated by the WWI extends to the south across 100th Ave and north across 105th Ave. The field delineated northern portion of wetland (W-1) and all of wetland (W-2) are both located within the same vicinity as wetlands identified on the WWI maps. The field delineated wetlands W-3, W-4 and W-5 were located in the northwestern portion of the property and were not identified on the WWI map (Appendix A, Figure 5).

Average precipitation for the investigation area was obtained from the Stanley, WI National Weather Service (NWS) weather station (NWS station #0047811) and used for the WETS analysis. A total of 3.79 inches of precipitation occurred from February through April in 2015 compared to the average of 5.06 inches. Based on the WETS analysis, conditions were drier than normal (Appendix D), although the month leading up to the delineation (April) was determined to be normal.

3.2 WETLANDS

Five wetlands were identified and delineated within the Property. Wetland determination data forms were completed for 19 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.

Table 2. Summary of Wetland Identified within the Study Area

Wetland	Wetland Type	Adjacent Surface Waters	Acreage (on-site)
Wetland 1 (W-1)	Wet meadow (E1K)	Surface water enters from the north and outlet through a culvert to W-2 via an intermittent agricultural drainageway (Clearwater Creek).	10.42 acres
Wetland 2 (W-2)	Wet meadow (E1Kg), Shrub Carr (S3/E1Kg), and Forested (T3/E1Kg)	Surface water enters from culverts under 100th Ave and from W-1. Wetland is associated with Clearwater Creek	17.29 acres
Wetland 3 (W-3)	Shrub Carr	Isolated	0.13 acres

Wetland 4 (W-4)	Hardwood Swamp	Isolated	0.10 acres
Wetland 5 (W-5)	Wet meadow	Isolated	0.03 acres

3.2.1 Wetland 1

Wetland 1 (W-1) is a wet meadow wetland community that begins in the northeastern portion of the property extending south and west acting as the eastern Property boundary. W-1 extends north off the property and west connecting to W-2 via a culvert under the active quarry access road. W-1 is associated with the intermittent Coldwater Creek identified on the 24k hydro layer mapped by USGS (Appendix A, Figure 1) and visible in the WDNR 24k hydrography layer (Appendix A, Figure 4). Coldwater Creek flows south and west through W-1 and northwest though W-2. A review of historic aerial imagery indicated 2 areas where a wetland signature was observed in an agricultural field in 1 out of 9 normal years (Appendix E). The areas where the wetness signatures were observed did not show any signatures during the field visit.

Vegetation

The dominant plant species identified at sample points completed within W-1 consist of reed canary grass (*Phalaris arundinacea*, FACW). The northeastern portion of the wetland contains a few sporadic box elder (Acer negundo, FAC) trees. Other common species identified in the wetland are listed on the data forms contained in Appendix B. The dominant species within the wetland are comprised entirely 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. High water table (A2) and Saturation within the upper 12 inches (A3) were observed as a primary indicators of wetland hydrology. Secondary indicators of wetland hydrology observed included Geomorphic Position (D2) and a positive FAC-Neutral Test (D5). Therefore, the wetland hydrology criterion was met.

Soils

Soils within the wetland are mapped by the NRCS as Almena silt loam (Appendix A, Figure 2). The soils observed at the sample points were generally consistent with the Almena series characteristics since the wetland existed in low areas. Field indicators of hydric soil identified at sample point W1-1w consisted of NRCS field Indicators F3-Depleted Matrix and A12-Thick dark surface at W1-2w. 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 to an upland prairie community dominated by smooth brome (Bromus inermis)or active upland agricultural field without stressed crop; 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 drained hydric soils to well drained non-hydric soils; and 4) location of crop stress 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 slight topographic break.

3.2.2 Wetland 2

Wetland 2 (W-2) is associated with a large wetland complex to the west. W-2 consists of wet meadow, shrub-carr, alder thicket, and shallow marsh wetland communities within the Property. The wetland appears to continue off-site to the south and west. W-2 is associated with Coldwater Creek which enters W-2 from W-1 via a culvert under the active quarry access, the intermittent waterway is identified on the 24k hydro layer mapped by USGS (Appendix A, Figure 1) and visible in the WDNR 24k hydrography layer (Appendix A, Figure 4).

Vegetation

Dominant plant species identified at sample points completed within the shrub-carr/alder thicket portion of W-2 consist of quaking aspen (Populus tremuloides, FAC), box elder, speckled alder (Alnus incana, FACW), Bebb's willow (Salix bebbiana, FACW), red osier dogwood (cornus alba, FACW), chokecherry (Prunus virginiana, FACW), reed canary grass, lake sedge (Carex lacustris, OBL), and tussock sedge (Carex stricta, OBL). The wet meadow communities of the W-2 were dominated by reed canary grass, blue-joint grass (Calamagrostis canadensis, OBL), and fowl meadow grass (Poa palustris, FACW). Other common species identified in the wetland are listed on the data forms contained in Appendix B. The dominant species within the wetland are comprised entirely 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. High water table (A2), Saturation within the upper 12 inches (A3), Water-stained leaves (B9) were observed as a primary indicators of wetland hydrology. Secondary indicators of wetland hydrology observed included Geomorphic Position (D2) and a positive FAC-Neutral Test (D5). Therefore, the wetland hydrology criterion was met.

Soils

Soils within the wetland are mapped by the NRCS as Barronett silt loam and Comstock silt loam (Appendix A, Figure 2). The soils observed at the sample points were generally consistent with the Barronett series. Field indicators of hydric soil identified at sample points consisted of NRCS field Indicators A-11 Depleted below dark surface, A12-Thick dark surface and F3-Depleted Matrix. Therefore, the hydric soil criterion was satisfied.

Wetland Boundary

The wetland boundary was determined based on moderate to 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, tussock sedge and lake sedge to an upland meadow community dominated by smooth brome or shrub-carr/alder thicket wetland community dominated by speckled alder, bebb's willow, red osier dogwood, reed canary grass and sedges to upland mesic forest; 2) Transition from an area exhibiting wetland hydrology indicators within the wetland to a lack of wetland hydrology indicators within the adjacent upland; and 3) Transition from poorly drained hydric soils to moderately well poorly

drained non-hydric soils. The transition from wetland to upland characteristics generally correlated with a well-defined topographic break.

3.2.3 Wetland 3

Wetland 3 (W-3) is a disturbed shrub-carr wetland community in the old quarry located in the northwestern portion of the Property. The wetland is a low area in the previously abandoned quarry; large garbage piles are located in and around the eastern portion of W-3. The southwestern portion of W-3 has been impacted by vehicle traffic, large tire ruts existing throughout. W-3 is isolated from other water features and is surrounded by disturbed upland forest.

Vegetation

Dominant plant species identified at sample points completed within W-3 consist of reed canary grass, speckled alder, pussy willow (Salix discolor, FACW), sandbar willow (Salix interior, FACW), and quaking aspen. Other common species identified in the wetland are listed on the data forms contained in Appendix B. The dominant species within the wetland are comprised entirely 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. Surface water, 2 inches deep, (A1), High water table (A2), Saturation within the upper 12 inches (A3), Water Marks (B1), and Water-stained leaves (B9) were observed as a primary indicators of wetland hydrology. Secondary indicators of wetland hydrology observed included Geomorphic Position (D2) and a positive FAC-Neutral Test (D5). Therefore, the wetland hydrology criterion was met.

Soils

Soils within the wetland are mapped by the NRCS as Chetek-Mahtomedi complex (Appendix A, Figure 2). Due to disturbed nature of the area soils observed at the sample point soils were not consistent with either the Chetek or Mahtomedi series characteristics. Field indicators of hydric soil identified at sample point W3-1w consisted of NRCS field Indicator F3-Depleted Matrix. 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 disturbed shrub-carr wetland community dominated by reed canary grass (*Phalaris arundinacea*), speckled alder (*Alnus incana*), willow, and quaking aspen (*Populus tremuloidies*)to a mesic forest upland community dominated by white pine (Pinus strobus), quaking aspen (*Populus tremuloidies*), paper birch (Betula papyrifera), green ash (Fraxinus americana), and Pennsylvania sedge (Carex pensylvanica); 2) Transition from an area exhibiting wetland hydrology indicators within the wetland to a lack of wetland hydrology indicators within the adjacent upland; and 3) Transition from poorly drained hydric soils to excessively drained non-hydric soils. The transition from wetland to upland characteristics generally correlated with a well-defined topographic break (2 foot topographic rise).

3.2.4 Wetland 4

Wetland 4 (W-4) is disturbed a hardwood swamp community in the old quarry located in the northwestern portion of the Property. The wetland is a low area in the previously abandoned quarry; the western portion of W-4 has been impacted by vehicle traffic, large tire ruts existing on the wetland boundary. W-4 is isolated from other water features and is surrounded by disturbed upland forest.

Vegetation

Dominant plant species identified at sample points completed within W-4 consist of reed canary grass (*Phalaris arundinacea,* FACW), river bulrush (Schoenoplectus fluviatilis, OBL), pussy willow (*Salix discolor,* OBL), black willow (Salix nigra, OBL), and American elm (Ulmus americana, FACW). Other common species identified in the wetland are listed on the data forms contained in Appendix B. The dominant species within the wetland are comprised entirely 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. Surface water, 2 inches deep, (A1), High water table (A2), Saturation within the upper 12 inches (A3), and Water-stained leaves (B9) were observed as a primary indicators of wetland hydrology. Secondary indicators of wetland hydrology observed included Drainage Patterns (B10), Geomorphic Position (D2) and a positive FAC-Neutral Test (D5). Therefore, the wetland hydrology criterion was met.

Soils

Soils within the wetland are mapped by the NRCS as Chetek-Mahtomedi complex (Appendix A, Figure 2). Due to disturbed nature of the area soils observed at the sample point soils were not consistent with either the Chetek or Mahtomedi series characteristics. Field indicators of hydric soil identified at sample point W4-1w consisted of NRCS field Indicator F3-Depleted Matrix. 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 disturbed hardwood swamp wetland community dominated by reed canary grass, river bulrush, willows, and American elm to a mesic forest upland community dominated by paper birch (*Betula papyrifera*), staghorn sumac (Rhus typhina), American red raspberry (Rubus idaeus var. idaeus), and smooth brome (*Bromus inermis*); 2) Transition from an area exhibiting wetland hydrology indicators within the wetland to a lack of wetland hydrology indicators within the adjacent upland; and 3) Transition from poorly drained hydric soils to excessively non-hydric soils. The transition from wetland to upland characteristics generally correlated with a well-defined topographic break (4 foot topographic rise).

3.2.5 Wetland 5

Wetland 5 (W-5) is a small pocket wet meadow community in the old quarry located in the northwestern portion of the Property. The wetland is a low area in the previously abandoned quarry; small garbage piles are located in and around W-5. W-5 is isolated from other water features and is surrounded by disturbed upland forest.

Vegetation

Dominant plant species identified at sample point completed within W-5 consist of reed canary grass, American elm, pussy willow, hybrid bush honeysuckle (Lonicera X bella, FACU) . Other common species identified in 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. Water-stained leaves (B9) was observed as a primary indicator of wetland hydrology. Secondary indicators of wetland hydrology observed included Geomorphic Position (D2) and a positive FAC-Neutral Test (D5). Therefore, the wetland hydrology criterion was met.

Soils

Soils within the wetland are mapped by the NRCS as Chetek-Mahtomedi complex (Appendix A, Figure 2). Due to the disturbed nature of the area, soils observed at the sample point soils were not consistent with either the Chetek or Mahtomedi series characteristics. Field indicators of hydric soil identified at sample point W5-1w consisted of NRCS field Indicators A11-Depleted Below Dark Surface and F3-Depleted Matrix. 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, willow, Hybrid bush honeysuckle and American elm to a mesic forest upland community dominated by an oak forest community; 2) Transition from an area exhibiting wetland hydrology indicators within the wetland to a lack of wetland hydrology indicators within the adjacent upland; and 3) Transition from poorly drained hydric soils to somewhat poorly drained non-hydric soils. The transition from wetland to upland characteristics generally correlated with a well-defined topographic break (1/2 - 1 foot topographic rise).

3.3 UPLAND

Upland within the Property consisted of the active quarry, hardwood mesic forest, agricultural land, upland meadow and an old quarry. The active quarry in the center of the property lacking vegetation and consisted of various piles of gravel, cobble, sub soil a top soil piles. Harwood mesic forests were typically located on slopes 5% to 25% and were primarily consisted of white oak (Quercus alba), red oak (Quercus rubra), black cherry (Prunus serotina), Pennsylvania sedge (Carex pensylvanica) and John's-cabbage (Hydrophyllum virginianum). Agricultural fields were recently tilled removing vegetation, although stressed crop signatures were not observed throughout the entire farmed area, soils were dry and non-hydric throughout. Upland meadows were typically located between a wetland and a mesic forest or agricultural land. Meadows contained non-hydric dry soils and were typically dominated by Kentucky bluegrass (Poa pratensis) and smooth brome. The old quarry was under construction in the early 1990's and was abandoned by 1996 allowing the area to be repopulated by early successional native species. The old quarry is located in the northwestern portion of the property, primarily around W-3 and W-4. Embankments from past excavation, soil waste piles and garbage heaps are located throughout this partially wooded area off of 330th St. Overall uplands on the site were located on 3% to 15% slopes and had dry bright colored silt loams throughout.

3.4 WATERWAYS

One waterway was identified within the Property. The waterway correlates with a mapped intermittent stream on the WDNR 24K hydrography layer and is identified as Clearwater Creek. The waterway is immediately adjacent to W-1 and W-2 and flows south through W-1 turns west to W-2 and runs north through W-2 beyond the Property. Eventually the waterway connects to the Yellow River. While onsite, a defined bed and bank was not observed, although topographically hydrology would be conveyed in the areas associated with the creek.

3.5 OTHER ENVIRONMENTAL CONSIDERATIONS

This report is limited to the identification of state and/or federally regulated wetlands and waterways within the Property. However, there may be other regulated environmental features within the Property, 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 wetland identified within the Study Area is dominated by invasive plant species, specifically reed canary grass. Therefore, based on the "protective buffer" standards provided by NR 151.12, it is Stantec's professional opinion that the wetland meets the criteria for less susceptible wetlands and the buffer from the wetland boundary would be 10 to 30 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.

4.0 CONCLUSION

Stantec performed a wetland determination and delineation of the Olynick Quarry Property on behalf of Design 45. The Property is approximately 60 acres in size and located in Section 16, Township 29 North, Range 5 West, Town of Delmar, Chippewa 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, if present, within the Property.

Five wetlands were identified and delineated within the Property in accordance with state and federal guidelines and were subsequently flagged, surveyed with GPS, and mapped using GIS software. There were a combined total of 27.97 acres of wetlands within the Property. Wetlands were mostly composed of wet meadow, shrub-carr, and shallow Marsh. Adjacent uplands were composed of agricultural lands, mesic woods and an active quarry.

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 Property 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 Property 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 Property.

5.0 REFERENCES

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Appendix A – Figures

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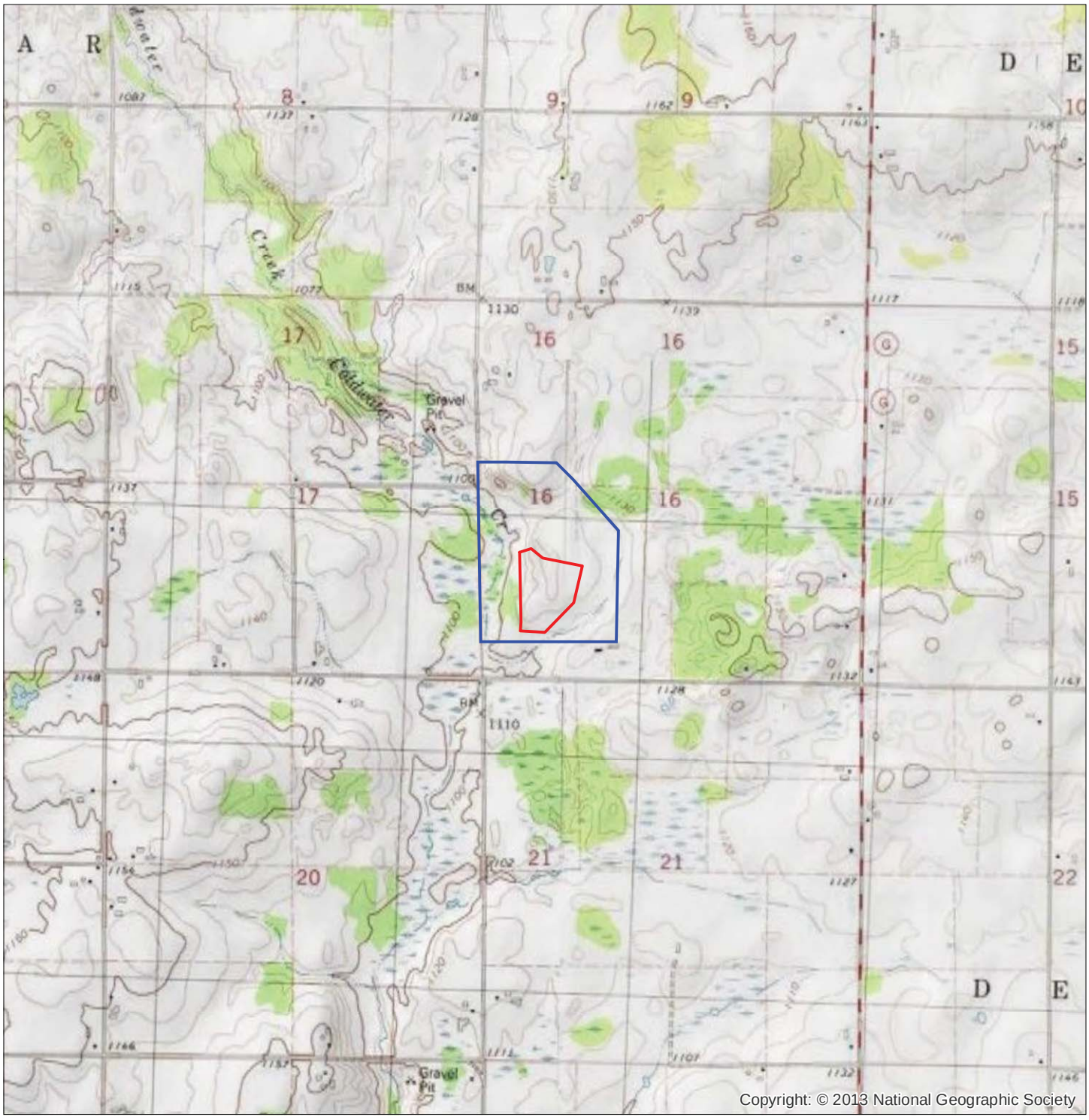

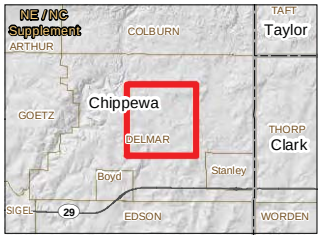

Notes

1. Coordinate System: NAD 1983 StatePlane Wisconsin Central FIPS 4802 Feet
2. Data Sources Include: Stantec and USGS
3. Background: 7.5' Topographic Quadrangle - Boyd and Stanley

Legend

- Survey Area
- Active Quarry

Figure No.
1

Title
Project Location and Topography

Client/Project
Olynick
Wetland Delineation at Olynick Mine Site

Project Location
T29N, R5W, S16
T. of Delmar,
Chippewa Co., WI

19370xxxx
Prepared by SF on 2015-04-29
Technical Review by DG on 2015-05-01
Independent Review by JS on 2015-05-01

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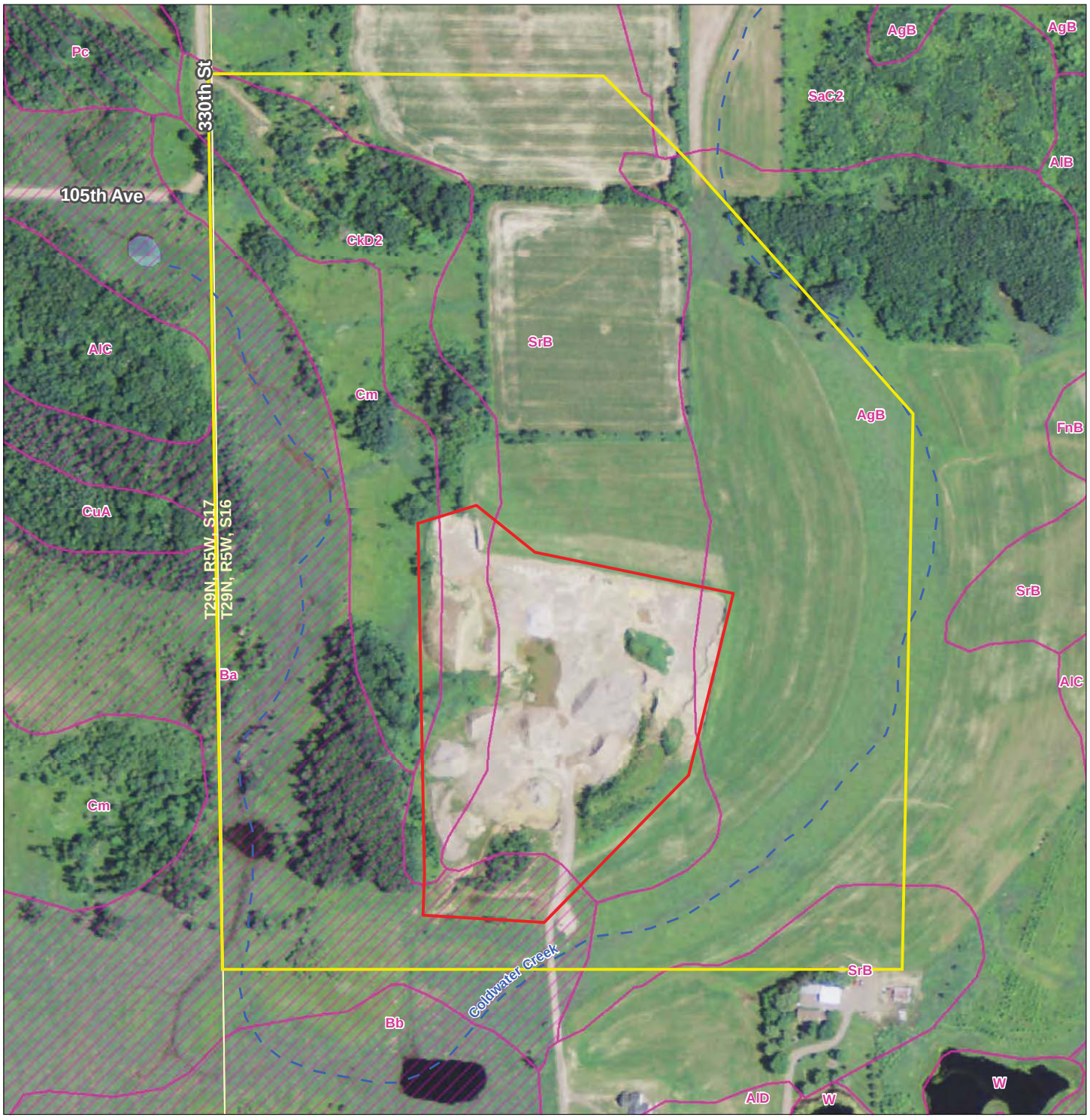
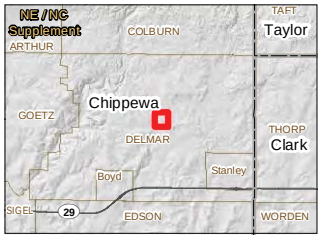
Stantec





Notes

1. Coordinate System: NAD 1983 StatePlane Wisconsin Central FIPS 4802 Feet
2. Data Sources Include: Stantec, WDNR, NRCS and WDOT
3. Orthophotography: 2013 NAIP

Legend

- Survey Area
- Active Quarry

NRCS Soil Survey Data

Hydric Ratings

- 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

Olynick
Wetland Delineation at Olynick Mine Site

Project Location
T29N, R5W, S16
T. of Delmar,
Chippewa Co., WI

19370xxxx
Prepared by SF on 2015-04-29
Technical Review by DG on 2015-05-01
Independent Review by JS on 2015-05-01

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Stantec

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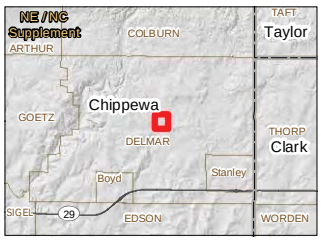

Notes

1. Coordinate System: NAD 1983 StatePlane Wisconsin Central FIPS 4802 Feet
2. Data Sources Include: Stantec, WDNR, and WDOT
3. Orthophotography: 2013 NAIP

Legend

- Survey Area
- Active Quarry

NRCS Soil Survey Data

Wetland Indicator Soils

- Very Poorly Drained
- Poorly Drained
- Somewhat Poorly Drained

DNR 24k Hydrography

- Perennial Stream
- Intermittent Stream
- Waterbody

Figure No.

3

Title

NRCS Soil Survey Data
Wetland Indicator Soils

Client/Project

Olynick
Wetland Delineation at Olynick Mine Site

Project Location
T29N, R5W, S16
T. of Delmar,
Chippewa Co., WI

19370xxxx
Prepared by SF on 2015-04-29
Technical Review by DG on 2015-05-01
Independent Review by JS on 2015-05-01

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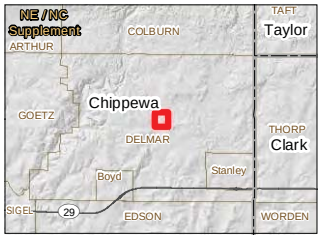

Notes
1. Coordinate System: NAD 1983 StatePlane Wisconsin Central FIPS 4802 Feet
2. Data Sources Include: Stantec, WDNR, and WDOT
3. Orthophotography: 2013 NAIP

Legend
- Survey Area
- Active Quarry
- Wisconsin Wetland Inventory

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

Figure No.
4

Title
Wisconsin Wetland Inventory

Client/Project
Olynick
Wetland Delineation at Olynick Mine Site

Project Location
T29N, R5W, S16
T. of Delmar,
Chippewa Co., WI

19370xxxx
Prepared by SF on 2015-04-29
Technical Review by DG on 2015-05-01
Independent Review by JS on 2015-05-01

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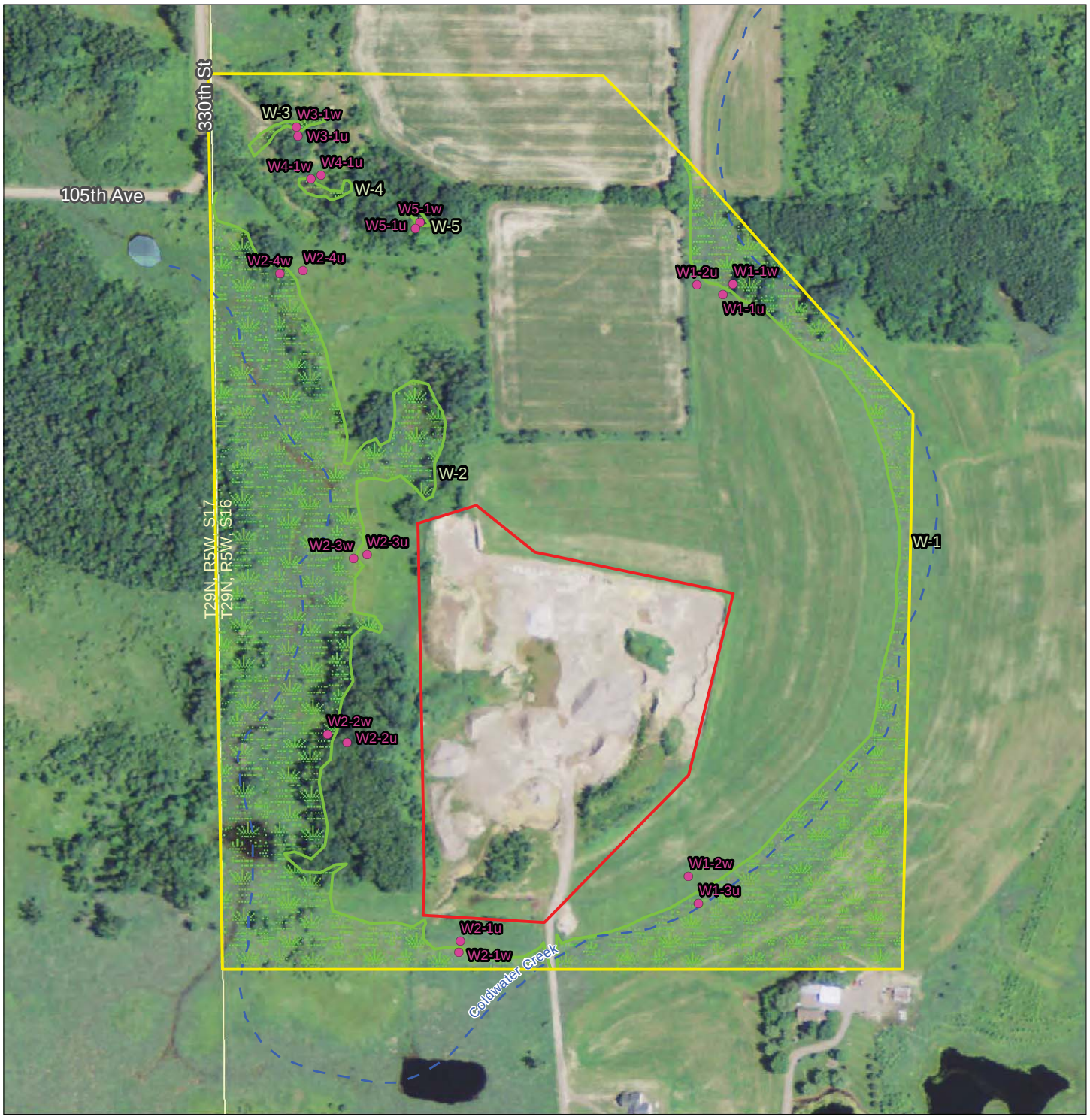

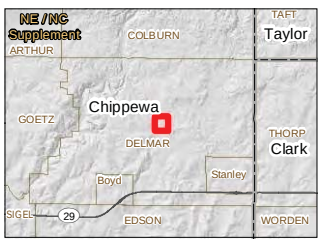

Notes

1. Coordinate System: NAD 1983 StatePlane Wisconsin Central FIPS 4802 Feet
2. Data Sources Include: Stantec, WDNR, and WDOT
3. Orthophotography: 2013 NAIP

Legend

- Survey Area
- Active Quarry
- Sample Point
- Field Delineated Wetland Boundary
- Field Delineated Wetland Area

DNR 24k Hydrography

- Perennial Stream
- Intermittent Stream
- Waterbody

Figure No.
5

Title
Field Collected Data

Client/Project
Olynick
Wetland Delineation at Olynick Mine Site

Project Location
T29N, R5W, S16
T. of Delmar,
Chippewa Co., WI

19370xxxx
Prepared by SF on 2015-04-29
Technical Review by DG on 2015-05-01
Independent Review by JS on 2015-05-01

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Stantec

Appendix B– Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Olynick	Stantec Project #:	193703721
Applicant:	Design 45		
Investigator #1:	Jake Fahrenkrog	Investigator #2:	
Soil Unit:	Almena silt loam	NWI/WWI Classification:	N/A
Landform:	Footslope	Local Relief:	Concave
Slope (%):	0-4	Latitude: N/A	Longitude: N/A Datum: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☑, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	04/28/15
County:	Chippewa
State:	Wisconsin
Wetland ID:	W1
Sample Point:	W1-1u
Community ID:	Agricultural Field
Section:	16
Township:	29 N
Range:	5 W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks: Hydrologic conditions present during the site visit were determined to be dry, the site was evaluated with this known. Vegetation is significantly disturbed due to the total removal/alteration of crop due to farming practices.

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? ☐ Yes ☑ No Depth: (in.)
Water Table Present? ☐ Yes ☑ No Depth: (in.)
Saturation Present? ☐ Yes ☑ No Depth: (in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks: Sample point located approximately 1 foot topographically above the wetland boundary. Historic areal imagery indicated this area to be free of crop stress and hydrologic signatures in most normal precipitation years.

SOILS

Map Unit Name: Almena silt loam Series Drainage Class: somewhat poorly
Taxonomy (Subgroup): Aquic Glossudalfs
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 Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	6	1	10YR 3/3	100	--	--	--	--	silt loam
6	12	2	10YR 3/3	60	--	--	--	--	silt loam
	--	--	10YR 4/3	40	--	--	--	--	silt loam
12	24	3	10YR 5/4	100	--	--	--	--	silt 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: Soil profile is consistent with the Almena series soil, although soils were well drained and dry throughout at the sample point. Soils were recently tilled although significant impacts to the soil profile were not observed.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Olynick | Wetland ID: W1 | Sample Point: W1-1u

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.	--	--	--	--
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:

☐ 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: The field was planted in 2014 with Corn (Zea mays), and removed in the fall of that year. No signs of crop stress was observed from the remaining plant material.

Additional Remarks:

Although vegetation was significantly disturbed due farming practices the area remains upland. In normal circumstances the area would be dominated by upland meadow vegetation and should be considered upland.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Olynick	Stantec Project #:	193703721
Applicant:	Design 45		
Investigator #1:	Jake Fahrenkrog	Investigator #2:	
Soil Unit:	Almena silt loam	NWI/WWI Classification:	N/A
Landform:	Depression	Local Relief:	Concave
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) ☐ Yes ☑ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	04/28/15
County:	Chippewa
State:	Wisconsin
Wetland ID:	W1
Sample Point:	W1-1w
Community ID:	Wet Meadow
Section:	16
Township:	29 N
Range:	5 W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks: Hydrologic conditions present during the site visit were determined to be dry, the site was evaluated with this known.

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?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth:	(in.)
Saturation Present?	☑ Yes	☐ No	Depth:	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks: Sample point located approximately 1 foot topographically below the wetland boundary.

SOILS

Map Unit Name: Almena silt loam — Series Drainage Class: somewhat poorly

Taxonomy (Subgroup): Aquic Glossudalfs

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 Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	4	1	10YR 3/1	90	5YR 3/4	10	C	M	loam
4	12	2	10YR 4/1	90	5YR 3/4	10	C	M	silt loam
12	24	3	10YR 5/1	85	7.5YR 4/4	10	C	M	silt loam
--	--	3	--	--	5YR 3/4	5	C	M	silt 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: Soil profile is consistent with the Almena series soil.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Olynick | Wetland ID: W1 | Sample Point: W1-1w

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

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Acer negundo*	15	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	15		

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.	*Solidago canadensis*	5	N	FACU
3.	*Solidago gigantea*	2	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	107		

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.	102	x 2 =	204
FAC spp.	15	x 3 =	45
FACU spp.	5	x 4 =	20
UPL spp.	0	x 5 =	0
Total	122 (A)		269 (B)

Prevalence Index = B/A = ***2.205***

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: Wetland dominated primarily by invasive/weedy wetland plant species.

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Olynick	Stantec Project #:	193703721
Applicant:	Design 45		
Investigator #1:	Jake Fahrenkrog	Investigator #2:	
Soil Unit:	Almena silt loam	NWI/WWI Classification:	N/A
Landform:	Side slope	Local Relief:	Linear
Slope (%):	2-4	Latitude: N/A	Longitude: N/A
Datum:	N/A		

Date:	04/28/15
County:	Chippewa
State:	Wisconsin
Wetland ID:	W1
Sample Point:	W1-2u
Community ID:	Upland Meadow
Section:	16
Township:	29 N
Range:	5 W

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks: Hydrologic conditions present during the site visit were determined to be dry, the site was evaluated with this known. Sample Point is located in an upland meadow buffer between W1 and an 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? ☐ Yes ☑ No Depth: (in.)
Water Table Present? ☐ Yes ☑ No Depth: (in.)
Saturation Present? ☐ Yes ☑ No Depth: (in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks: Sample point located approximately 1/2 foot topographically above the wetland boundary. Historic areal imagery indicated this area to be free of crop stress and hydrologic signatures all most normal precipitation years.

SOILS

Map Unit Name: Almena silt loam
Series Drainage Class: somewhat poorly
Taxonomy (Subgroup): Aquic Glossudalfs

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 Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	4	1	10YR 3/3	100	--	--	--	--	silt loam
4	12	2	10YR 4/4	60	--	--	--	--	silt loam
	--	--	10YR 3/3	40	--	--	--	--	silt loam
12	24	3	10YR 5/4	100	--	--	--	--	silt
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

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: Soil profile is consistent with the Almena series soil, although soils were well drained and dry throughout.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Olynick | Wetland ID: W1 | Sample Point: W1-2u

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.	*R US INER IS*	40	Y	UPL
2.	*P A PRA ENSIS*	15	N	FACU
3.	*PHLEU PRA ENSE*	15	N	FACU
4.	*ARA ACU ICINALE*	10	N	FACU
5.	*PHALARIS ARUNDINACEA*	10	N	FACW
6	*Solidago canadensis*	10	N	FACU
7.	*Asclepias s riaca*	5	N	UPL
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	105		

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: 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.	10	x 2 =	20
FAC spp.	0	x 3 =	0
FACU spp.	50	x 4 =	200
UPL spp.	45	x 5 =	225
Total	105 (A)		445 (B)

Prevalence Index = B/A = *.2*

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 dominated by a natural upland meadow community

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Olynick	Stantec Project #:	193703721
Applicant:	Design 45		
Investigator #1:	Jake Fahrenkrog	Investigator #2:	
Soil Unit:	Almena silt loam	NWI/WWI Classification:	N/A
Landform:	Toeslope	Local Relief:	Concave
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) ☐ Yes ☑ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	04/28/15
County:	Chippewa
State:	Wisconsin
Wetland ID:	W1
Sample Point:	W1-2w
Community ID:	Wet Meadow
Section:	16
Township:	29 N
Range:	5 W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks: Hydrologic conditions present during the site visit were determined to be dry, the site was evaluated with this known. Sample point is located adjacent to an agricultural ditch labeled as Coldwater creek, no channel was observed.

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?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 14	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 10	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks: Sample point located approximately 1/2 foot topographically below the wetland boundary.

SOILS

Map Unit Name: Almena silt loam — Series Drainage Class: somewhat poorly

Taxonomy (Subgroup): Aquic Glossudalfs

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 Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	15	1	10YR 2/2	95	5YR 3/4	5	C	M	silt loam
15	24	2	10YR 4/1	90	5YR 3/4	10	C	M	silt 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: Soil profile is consistent with the Almena series soil.

Stantec

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Olynick | Wetland ID: W1 | Sample Point: W1-2w

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*	90	Y	FACW
2.	*Scirpus c perinus*	5	N	OBL
3.	*Solidago gigantea*	2	N	FACW
4.	*Solidago canadensis*	2	N	FACU
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	99		

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: 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.	5	x 1 =	5
FACW spp.	92	x 2 =	184
FAC spp.	0	x 3 =	0
FACU spp.	2	x 4 =	8
UPL spp.	0	x 5 =	0
Total	99 (A)		197 (B)

Prevalence Index = B/A = ***1. 0***

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: Wetland dominated primarily by invasive/weedy wetland plant species.

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Olynick	Stantec Project #:	193703721
Applicant:	Design 45		
Investigator #1:	Jake Fahrenkrog	Investigator #2:	
Soil Unit:	Almena silt loam	NWI/WWI Classification:	N/A
Landform:	Side slope	Local Relief:	Linear
Slope (%):	2-4	Latitude: N/A	Longitude: N/A
Datum:	N/A		

Date:	04/28/15
County:	Chippewa
State:	Wisconsin
Wetland ID:	W1
Sample Point:	W1-3u
Community ID:	Upland Meadow
Section:	16
Township:	29 N
Range:	5 W

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	☐ Yes ☑ No	Hydric Soils Present?	☐ Yes ☑ No
Wetland Hydrology Present?	☐ Yes ☑ No	Is This Sampling Point Within A Wetland?	☐ Yes ☑ No

Remarks: Hydrologic conditions present during the site visit were determined to be dry, the site was evaluated with this known. Sample Point is located in an upland meadow buffer between W1 and an 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?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks: Sample point located approximately 1/2 foot topographically above the wetland boundary. Historic areal imagery indicated this area to be free of crop stress and hydrologic signatures all most normal precipitation years.

SOILS

Map Unit Name: Almena silt loam — Series Drainage Class: somewhat poorly

Taxonomy (Subgroup): Aquic Glossudalfs

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 Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	12	1	10YR	2/2	100	--	--	--	silt loam
12	24	2	10YR	3/2	100	--	--	--	silt 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: Soil profile is consistent with the Almena series soil, although soils were well drained and dry throughout.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Olynick | Wetland ID: W1 | Sample Point: W1-3u

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.	*R US INER IS*	70	Y	UPL
2.	*P A PRA ENSIS*	15	N	FACU
3.	*DAUCUS CAR A*	5	N	UPL
4.	*Solidago canadensis*	5	N	FACU
5.	*PHALARIS ARUNDINACEA*	5	N	FACW
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		

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.	5	x 2 =	10
FAC spp.	0	x 3 =	0
FACU spp.	20	x 4 =	80
UPL spp.	75	x 5 =	375
Total	100 (A)		465 (B)

Prevalence Index = B/A = .50

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 dominated by a natural upland meadow community

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Olynick	Stantec Project #:	193703721
Applicant:	Design 45		
Investigator #1:	Jake Fahrenkrog	Investigator #2:	
Soil Unit:	Almena silt loam	NWI/WWI Classification:	N/A
Landform:	Side slope	Local Relief:	Linear
Slope (%):	2-4	Latitude: N/A	Longitude: N/A Datum: N/A

Date:	04/28/15
County:	Chippewa
State:	Wisconsin
Wetland ID:	W2
Sample Point:	W2-1u
Community ID:	Upland Meadow
Section:	16
Township:	29 N
Range:	5 W

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	☐ Yes ☑ No	Hydric Soils Present?	☐ Yes ☑ No
Wetland Hydrology Present?	☐ Yes ☑ No	Is This Sampling Point Within A Wetland?	☐ Yes ☑ No

Remarks: Hydrologic conditions present during the site visit were determined to be dry, the site was evaluated with this known. Sample Point located adjacent to the active quarry in a natuve upland meadow.

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?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks: Sample point located approximately 1 foot topographically above the wetland boundary.

SOILS

Map Unit Name: Almena silt loam — Series Drainage Class: somewhat poorly

Taxonomy (Subgroup): Aquic Glossudalfs

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 Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	14	1	10YR	2/2	100 --	--	--	--	silt loam
14	24	2	10YR	3/2	100 --	--	--	--	silt 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: Soil profile is consistent with the Almena series soil, although soils were well drained and dry throughout.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Olynick | Wetland ID: W2 | Sample Point: W2-1u

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.	*R US INER IS*	55	Y	UPL
2.	*P A PRA ENSIS*	15	N	FACU
3.	*DAUCUS CAR A*	10	N	UPL
4.	*Solidago canadensis*	5	N	FACU
5.	*PHALARIS ARUNDINACEA*	5	N	FACW
6	*Asclepias s riaca*	5	N	UPL
7.	*ARA ACU ICINALE*	5	N	FACU
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		

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.	5	x 2 =	10
FAC spp.	0	x 3 =	0
FACU spp.	25	x 4 =	100
UPL spp.	70	x 5 =	350
Total	100 (A)		460 (B)

Prevalence Index = B/A = *. 00*

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 dominated by a natural upland meadow community

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Olynick	Stantec Project #:	193703721
Applicant:	Design 45		
Investigator #1:	Jake Fahrenkrog	Investigator #2:	
Soil Unit:	Barronett silt loam	NWI/WWI Classification:	N/A
Landform:	Toeslope	Local Relief:	Concave
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) ☐ Yes ☑ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	04/28/15
County:	Chippewa
State:	Wisconsin
Wetland ID:	W2
Sample Point:	W2-1w
Community ID:	Wet Meadow
Section:	16
Township:	29 N
Range:	5 W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks: Hydrologic conditions present during the site visit were determined to be dry, the site was evaluated with this known. Sample point is located in a large Wet Meadow and Shallow Marsh wetland complex associated with Coldwater Creek.

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?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 14	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 10	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks: Sample point located approximately 1/2 foot topographically below the wetland boundary.

SOILS

Map Unit Name: Barronett silt loam Series Drainage Class: poorly

Taxonomy (Subgroup): Mollic Epiaqualfs

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 Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	15	1	10YR 2/2	95	5YR 3/4	5	C	M	silt loam
15	24	2	10YR 4/1	90	5YR 3/4	10	C	M	silt 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: Soil profile is consistent with the Barronett series soil.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Olynick | Wetland ID: W2 | Sample Point: W2-1w

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*	85	Y	FACW
2.	*Scirpus c perinus*	15	N	OBL
3.	*Solidago gigantea*	2	N	FACW
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		

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.	15	x 1 =	15
FACW spp.	87	x 2 =	174
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	102 (A)		189 (B)

Prevalence Index = B/A = ***1. 5***

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: Wetland dominated primarily by invasive/weedy wetland plant species.

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Olynick	Stantec Project #:	193703721
Applicant:	Design 45		
Investigator #1:	Jake Fahrenkrog	Investigator #2:	
Soil Unit:	Barronett silt loam	NWI/WWI Classification:	N/A
Landform:	Side slope	Local Relief:	Linear
Slope (%):	2-6	Latitude: N/A	Longitude: N/A Datum: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	04/28/15
County:	Chippewa
State:	Wisconsin
Wetland ID:	W2
Sample Point:	W2-2u
Community ID:	Upland Forest
Section:	16
Township:	29 N
Range:	5 W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks: Hydrologic conditions present during the site visit were determined to be dry, the site was evaluated with this known. Sample Point located in a upland hardwood foest dominated by large Oaks.

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? ☐ Yes ☑ No Depth: (in.)
Water Table Present? ☐ Yes ☑ No Depth: (in.)
Saturation Present? ☐ Yes ☑ No Depth: (in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks: Sample point located approximately 1 foot topographically above the wetland boundary.

SOILS

Map Unit Name: Barronett silt loam Series Drainage Class: poorly
Taxonomy (Subgroup): Mollic Epiaqualfs

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 Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	16	1	10YR 2/2	100	--	--	--	--	loam
16	22	2	10YR 3/2	100	--	--	--	--	loam
22	24	3	10YR 4/3	100	--	--	--	--	silt 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: Soil profile is consistent with the Barronett series soil. Although soils were dry throughout.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Olynick | Wetland ID: W2 | Sample Point: W2-2u

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

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*uercus al a*	60	Y	FACU
2.	*uercus ru ra*	15	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	75		

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

1.	*Prunus serotina*	15	Y	FACU
2.	*Prunus irginiana*	15	Y	FACU
3.	*uercus al a*	15	Y	FACU
4.	*uercus ru ra*	5	N	FACU
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1.	*H drop llum irginianum*	50	Y	FAC
2.	*Care pens l anica*	25	Y	UPL
3.	*eranium maculatum*	15	N	FACU
4.	*aiant emum racemosum*	10	N	FACU
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 dominated by an upland hardwood forest.

Dominance Test Worksheet

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 1 % (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	50	x 3 =	150
FACU spp.	150	x 4 =	600
UPL spp.	25	x 5 =	125
Total	225 (A)		875 (B)

Prevalence Index = B/A = .

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

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Olynick	Stantec Project #:	193703721
Applicant:	Design 45		
Investigator #1:	Jake Fahrenkrog	Investigator #2:	
Soil Unit:	Barronett silt loam	NWI/WWI Classification:	E1Kg
Landform:	Toeslope	Local Relief:	Concave
Slope (%):	0-4	Latitude: N/A	Longitude: N/A Datum: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	04/28/15
County:	Chippewa
State:	Wisconsin
Wetland ID:	W2
Sample Point:	W2-2w
Community ID:	Shrub Carr
Section:	16
Township:	29 N
Range:	5 W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks: Hydrologic conditions present during the site visit were determined to be dry, the site was evaluated with this known. Sample point is located in a Shrub Carr community of the greater Wet Meadow and Shallow Marsh Community associated with Coldwater Creek.

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? ☐ Yes ☑ No Depth: (in.)
Water Table Present? ☐ Yes ☑ No Depth: (in.)
Saturation Present? ☑ Yes ☐ No Depth: 14 (in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks: Sample point located approximately 1 foot topographically below the wetland boundary.

SOILS

Map Unit Name: Barronett silt loam Series Drainage Class: poorly
Taxonomy (Subgroup): Mollic Epiaqualfs

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 Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	8	1	10YR	2/1	100	--	--	--	--	--	silt loam
8	22	2	10YR	4/1	90	7.5YR	4/4	10	C	M	silt loam
22	24	3	10YR	5/1	90	7.5YR	4/6	10	C	M	silt 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: Soil profile is consistent with the Barronett series soil.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Olynick | Wetland ID: W2 | Sample Point: W2-2w

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

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Populus tremuloides*	15	Y	FAC
2.	*Acer negundo*	5	Y	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	20		

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

1.	*Alnus incana*	15	Y	FACW
2.	*Sali e iana*	15	Y	FACW
3.	*Prunus irginiana*	15	Y	FACU
4.	*Cornus al a*	10	N	FACW
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	55		

Herb Stratum (Plot size: 2 meter radius)

1.	*Care lacustris*	30	Y	OBL
2.	*Care stricta*	30	Y	OBL
3.	*noclea sensi ilis*	15	N	FACW
4.	*Scirpus c perinus*	10	N	OBL
5.	*PHALARIS ARUNDINACEA*	10	N	FACW
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	95		

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: 6 (A)

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	70	x 1 =	70
FACW spp.	65	x 2 =	130
FAC spp.	20	x 3 =	60
FACU spp.	15	x 4 =	60
UPL spp.	0	x 5 =	0
Total	170 (A)		320 (B)

Prevalence Index = B/A = 1. 2

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:

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Olynick	Stantec Project #:	193703721
Applicant:	Design 45		
Investigator #1:	Jake Fahrenkrog	Investigator #2:	
Soil Unit:	Comstock silt loam	NWI/WWI Classification:	N/A
Landform:	Side slope	Local Relief:	Linear
Slope (%):	2-4	Latitude: N/A	Longitude: N/A Datum: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☑, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	04/28/15
County:	Chippewa
State:	Wisconsin
Wetland ID:	W2
Sample Point:	W2-3u
Community ID:	Upland Meadow
Section:	16
Township:	29 N
Range:	5 W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks: Hydrologic conditions present during the site visit were determined to be dry, the site was evaluated with this known. Sample Point located between the active quarry and W2 in a native upland meadow.

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? ☐ Yes ☑ No Depth: (in.)
Water Table Present? ☐ Yes ☑ No Depth: (in.)
Saturation Present? ☐ Yes ☑ No Depth: (in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks: Sample point located approximately 1 foot topographically above the wetland boundary.

SOILS

Map Unit Name: Comstock silt loam
Series Drainage Class: somewhat poorly
Taxonomy (Subgroup): Aquic Glossudalfs

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 Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	8	1	10YR 3/2	100	--	--	--	--	silt loam
8	12	2	10YR 4/2	95	2.5Y 4/4	5	C	M	silt loam
12	24	3	10YR 4/3	90	2.5Y 4/6	10	C	M	silt 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: Soil profile is consistent with the Comstock series soil. Although soils were dry throughout a hydric soil indicator was observed.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Olynick | Wetland ID: W2 | Sample Point: W2-3u

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.	*P A PRA ENSIS*	40	Y	FACU
2.	*ES UCA RU RA*	15	N	FACU
3.	*Solidago canadensis*	15	N	FACU
4.	*ragaria irginiana*	10	N	FACU
5.	*R US INER IS*	10	N	UPL
6	*E uisetum ar ense*	5	N	FAC
7.	*ARA ACU ICINALE*	5	N	FACU
8.	*DAUCUS CAR A*	5	N	UPL
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	105		

Woody Vine Stratum (Plot size: 10 meter radius)

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

Remarks: Sample Point dominated by a natural upland meadow community

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.	5	x 3 =	15
FACU spp.	85	x 4 =	340
UPL spp.	15	x 5 =	75
Total	105 (A)		430 (B)

Prevalence Index = B/A = *.0 5*

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

Additional Remarks:

Although hydric soil was observed at the sample point the location remains upland due to lack of hydrology and hydrophytic vegetation as well as the topographic features of a 10% slope.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Olynick	Stantec Project #:	193703721
Applicant:	Design 45		
Investigator #1:	Jake Fahrenkrog	Investigator #2:	
Soil Unit:	Barronett silt loam	NWI/WWI Classification:	E1Hg
Landform:	Toeslope	Local Relief:	Concave
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) ☐ Yes ☑ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	04/28/15
County:	Chippewa
State:	Wisconsin
Wetland ID:	W2
Sample Point:	W2-3w
Community ID:	Wet Meadow
Section:	16
Township:	29 N
Range:	5 W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks: Hydrologic conditions present during the site visit were determined to be dry, the site was evaluated with this known. Sample point is located in a large Wet Meadow and Shallow Marsh wetland complex associated with Coldwater Creek.

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?	☐ Yes	☑ No	Depth:	(in.)
Water Table Present?	☑ Yes	☐ No	Depth: 4	(in.)
Saturation Present?	☑ Yes	☐ No	Depth: 0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks: Sample point located approximately 1 foot topographically below the wetland boundary.

SOILS

Map Unit Name: Barronett silt loam — Series Drainage Class: poorly

Taxonomy (Subgroup): Mollic Epiaqualfs

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 Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	6	1	10YR 2/1	100	--	--	--	--	muck
6	12	2	10YR 2/1	100	--	--	--	--	silt loam
12	18	3	10YR 4/1	100	--	--	--	--	silt loam
18	24	4	10YR 5/1	90	5YR 4/4	10	C	M	silt 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: Soil profile is consistent with the Barronett series soil.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Olynick | Wetland ID: W2 | Sample Point: W2-3w

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.	*Poa palustris*	30	Y	FACW
2.	*PHALARIS ARUNDINACEA*	20	Y	FACW
3.	*Calamagrostis canadensis*	20	Y	OBL
4.	*E uisetum ar ense*	15	N	FAC
5.	*Care lacustris*	10	N	OBL
6	*Solidago canadensis*	5	N	FACU
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: 3 (A)

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	30	x 1 =	30
FACW spp.	50	x 2 =	100
FAC spp.	15	x 3 =	45
FACU spp.	5	x 4 =	20
UPL spp.	0	x 5 =	0
Total	100 (A)		195 (B)

Prevalence Index = B/A = ***1. 50***

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

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Olynick	Stantec Project #:	193703721
Applicant:	Design 45		
Investigator #1:	Jake Fahrenkrog	Investigator #2:	
Soil Unit:	Comstock silt loam	NWI/WWI Classification:	N/A
Landform:	Side slope	Local Relief:	Convex
Slope (%):	2-4	Latitude: N/A	Longitude: N/A Datum: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	04/28/15
County:	Chippewa
State:	Wisconsin
Wetland ID:	W2
Sample Point:	W2-4u
Community ID:	Upland Meadow
Section:	16
Township:	29 N
Range:	5 W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks: Hydrologic conditions present during the site visit were determined to be dry, the site was evaluated with this known. Sample Point located in a native upland meadow.

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? ☐ Yes ☑ No Depth: (in.)
Water Table Present? ☐ Yes ☑ No Depth: (in.)
Saturation Present? ☐ Yes ☑ No Depth: (in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks: Sample point located approximately 1 foot topographically above the wetland boundary.

SOILS

Map Unit Name: Comstock silt loam Series Drainage Class: somewhat poorly

Taxonomy (Subgroup): Aquic Glossudalfs

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 Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	12	1	10YR	4/4	100	--	--	--	--	silt loam
12	24	2	10YR	5/3	90	2.5Y	4/4	10	C	M	silt 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: Soil profile is consistent with the Comstock series soil. Although soils were dry throughout.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Olynick | Wetland ID: W2 | Sample Point: W2-4u

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.	*P A PRA ENSIS*	70	Y	FACU
2.	*HIERACIU AURAN IACU*	15	N	UPL
3.	*DAUCUS CAR A*	15	N	UPL
4.	*ES UCA RU RA*	5	N	FACU
5.	*ARA ACU ICINALE*	5	N	FACU
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	110		

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: 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.	30	x 5 =	150
Total	110 (A)		470 (B)

Prevalence Index = B/A = *.2*

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 dominated by a natural upland meadow community

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Olynick	Stantec Project #:	193703721
Applicant:	Design 45		
Investigator #1:	Jake Fahrenkrog	Investigator #2:	
Soil Unit:	Comstock silt loam	NWI/WWI Classification:	E1Hg
Landform:	Depression	Local Relief:	Concave
Slope (%):	0-4	Latitude: N/A	Longitude: N/A
Datum:	N/A		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	04/28/15
County:	Chippewa
State:	Wisconsin
Wetland ID:	W2
Sample Point:	W2-4w
Community ID:	Shrub Carr/Alder Thick
Section:	16
Township:	29 N
Range:	5 W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks: Hydrologic conditions present during the site visit were determined to be dry, the site was evaluated with this known. Sample point is located in a Shrub Carr/Alder Thicket community of the greater Wet Meadow and Shallow Marsh Community associated with Coldwater Creek.

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? ☐ Yes ☑ No Depth: (in.)
Water Table Present? ☐ Yes ☑ No Depth: (in.)
Saturation Present? ☐ Yes ☑ No Depth: (in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks: Sample point located approximately 1 foot topographically below the wetland boundary.

SOILS

Map Unit Name: Comstock silt loam
Series Drainage Class: somewhat poorly
Taxonomy (Subgroup): Aquic Glossudalfs

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 Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	3	1	10YR	2/1	100	--	--	--	--	--	muck
3	6	2	10YR	3/1	100	--	--	--	--	--	silt loam
6	12	3	10YR	4/1	95	7.5YR	4/4	5	C	M	silt loam
12	24	4	10YR	3/2	90	7.5YR	4/6	10	C	M	silt 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: Soil profile is consistent with the Comstock series soil.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Olynick | Wetland ID: W2 | Sample Point: W2-4w

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

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Populus tremuloides*	5	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	5		

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

1.	*Alnus incana*	70	Y	FACW
2.	*Cornus al a*	15	N	FACW
3.	*Sali e iana*	5	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	90		

Herb Stratum (Plot size: 2 meter radius)

1.	*Care lacustris*	25	Y	OBL
2.	*PHALARIS ARUNDINACEA*	20	Y	FACW
3.	*noclea sensi ilis*	10	N	FACW
4.	*smundastrum cinnamomeum*	5	N	FACW
5.	*ragaria irginiana*	5	N	FACU
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	65		

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: 4 (A)

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

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	25	x 1 =	25
FACW spp.	125	x 2 =	250
FAC spp.	5	x 3 =	15
FACU spp.	5	x 4 =	20
UPL spp.	0	x 5 =	0
Total	160 (A)		310 (B)

Prevalence Index = B/A = ***1.***

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:

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Olynick	Stantec Project #:	193703721
Applicant:	Design 45		
Investigator #1:	Jake Fahrenkrog	Investigator #2:	
Soil Unit:	Chetek-Mahtomedi complex	NWI/WWI Classification:	N/A
Landform:	Shoulder	Local Relief:	Convex
Slope (%):	2-10	Latitude: N/A	Longitude: N/A Datum: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	04/28/15
County:	Chippewa
State:	Wisconsin
Wetland ID:	W3
Sample Point:	W3-1u
Community ID:	Upland Forest
Section:	16
Township:	29 N
Range:	5 W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks: Hydrologic conditions present during the site visit were determined to be dry, the site was evaluated with this known. Sample Point located in a upland hardwood forest on the edge of the impacted area associated with the old quarry (20 years since last impacts).

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? ☐ Yes ☑ No Depth: (in.)
Water Table Present? ☐ Yes ☑ No Depth: (in.)
Saturation Present? ☐ Yes ☑ No Depth: (in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks: Sample point located approximately 1 foot topographically above the wetland boundary.

SOILS

Map Unit Name: Chetek-Mahtomedi complex Series Drainage Class: somewhat excessively
Taxonomy (Subgroup): NA
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 Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	10	1	5YR 4/4	100	--	--	--	--	silt 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: Soil profile is consistent with the Chetek-Mahtomedi series soil. Soils were dry throughout.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Olynick | Wetland ID: W3 | Sample Point: W3-1u

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

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Populus tremuloides*	25	Y	FAC
2.	*Pinus stro us*	20	Y	FACU
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

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

1.	*Populus tremuloides*	20	Y	FAC
2.	*etula pap ri era*	15	Y	FACU
3.	*ra inus americana*	10	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	45		

Herb Stratum (Plot size: 2 meter radius)

1.	*Care pens l anica*	30	Y	UPL
2.	*R US INER IS*	25	Y	UPL
3.	*RU US IDAEUS AR IDAEUS*	15	N	FAC
4.	*RI LIU PRA ENSE*	10	N	FACU
5.	*ragaria irginiana*	10	N	FACU
6	*ARA ACU ICINALE*	5	N	FACU
7.	*Cornus al a*	5	N	FACW
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		

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: *2 %* (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	5	x 2 =	10
FAC spp.	60	x 3 =	180
FACU spp.	70	x 4 =	280
UPL spp.	55	x 5 =	275
Total	190 (A)		745 (B)

Prevalence Index = B/A = *. 21*

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 dominated by an upland mixed forest. Sample point is located adjacent to the historical quarry location, upland meadow grasses have moved into the upland forest community due to increased light availability.

Additional Remarks:

Although previously disturbed by quarry activities this location has entered a new normal circumstance.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Olynick	Stantec Project #:	193703721
Applicant:	Design 45		
Investigator #1:	Jake Fahrenkrog	Investigator #2:	
Soil Unit:	Chetek-Mahtomedi complex	NWI/WWI Classification:	N/A
Landform:	Depression	Local Relief:	Concave
Slope (%):	0-4	Latitude: N/A	Longitude: N/A Datum: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☑, Soil ☑, or Hydrology ☐ significantly disturbed?
Are Vegetation ☑, Soil ☑, or Hydrology ☑ naturally problematic?

Are normal circumstances present? ☐ Yes ☑ No

Date:	04/28/15
County:	Chippewa
State:	Wisconsin
Wetland ID:	W3
Sample Point:	W3-1w
Community ID:	Shrub Carr
Section:	16
Township:	29 N
Range:	5 W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks: Hydrologic conditions present during the site visit were determined to be dry, the site was evaluated with this known. Wetland W5 is located in a low area of an old quarry (inactive approximately 20 years). The area had undergone major alterations, although due to time the since last impact the site has taken a new normal state. Garbage piles are located in the eastern portions of W3 and major rutting on the western portion of W3 from recent vehicle impacts.

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?	☑ Yes ☐ No	Depth:	2	(in.)
Water Table Present?	☑ Yes ☐ No	Depth:	0	(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks: Sample point located approximately 1/2 foot topographically below the wetland boundary.

SOILS

Map Unit Name: Chetek-Mahtomedi complex Series Drainage Class: somewhat excessively

Taxonomy (Subgroup): NA

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 Color (Moist)		Matrix %	Redox Features Color (Moist)		Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	3	1	10YR	2/2	100	--	--	--	--	--	muck
3	24	2	2.5Y	5/2	80	2.5Y	5/4	20	C	M	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: Soil profile is not consistent with the Chetek-Mahtomedi series soil, this assumed to be a result of historical alterations made by the quarry.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Olynick | Wetland ID: W3 | Sample Point: W3-1w

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

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Populus tremuloides*	10	Y	FAC
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

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

1.	*Alnus incana*	25	Y	FACW
2.	*Sali interior*	15	Y	FACW
3.	*Sali discolor*	10	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	50		

Herb Stratum (Plot size: 2 meter radius)

1.	*PHALARIS ARUNDINACEA*	60	Y	FACW
2.	*Care lacustris*	10	N	OBL
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	70		

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: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	10	x 1 =	10
FACW spp.	110	x 2 =	220
FAC spp.	10	x 3 =	30
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	130 (A)		260 (B)

Prevalence Index = B/A = ***2.000***

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 was taken on the eastern portion of W3, while the western portion of W3 had shrub layer partially removed leaving the area disturbed.

Additional Remarks:

Although western portion of W3 was disturbed; soil disturbed by recent rutting and vegetation disturbed by partial removal of shrub layer, the area was still identifiable as wetland.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Olynick	Stantec Project #:	193703721
Applicant:	Design 45		
Investigator #1:	Jake Fahrenkrog	Investigator #2:	
Soil Unit:	Chetek-Mahtomedi complex	NWI/WWI Classification:	N/A
Landform:	Summit	Local Relief:	Convex
Slope (%):	0-4	Latitude: N/A	Longitude: N/A Datum: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	04/28/15
County:	Chippewa
State:	Wisconsin
Wetland ID:	W4
Sample Point:	W4-1u
Community ID:	Upland Meadow
Section:	16
Township:	29 N
Range:	5 W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks: Hydrologic conditions present during the site visit were determined to be dry, the site was evaluated with this known. Sample Point located in a upland hardwood forest on the edge of the impacted area associated with the old quarry (20 years since last impacts).

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? ☐ Yes ☑ No Depth: (in.)
Water Table Present? ☐ Yes ☑ No Depth: (in.)
Saturation Present? ☐ Yes ☑ No Depth: (in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks: Sample point located approximately 4 foot topographically above the wetland boundary.

SOILS

Map Unit Name: Chetek-Mahtomedi complex Series Drainage Class: somewhat excessively
Taxonomy (Subgroup): NA

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 Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	24	1	5YR 4/4	100	--	--	--	--	silt 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: Soil profile is consistent with the Chetek-Mahtomedi series soil. Soils were dry throughout and contained approximately 15% gravel throughout.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Olynick | Wetland ID: W4 | Sample Point: W4-1u

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

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*etula pap ri era*	10	Y	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

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

1.	*R us t p ina*	15	Y	UPL
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	15		

Herb Stratum (Plot size: 2 meter radius)

1.	*R US INER IS*	30	Y	UPL
2.	*RU US IDAEUS AR IDAEUS*	20	Y	FAC
3.	*Solidago canadensis*	15	N	FACU
4.	*RI LIU PRA ENSE*	12	N	FACU
5.	*HIERACIU AURAN IACU*	10	N	UPL
6	*ragaria irginiana*	10	N	FACU
7.	*ARA ACU ICINALE*	3	N	FACU
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		

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.	0	x 2 =	0
FAC spp.	20	x 3 =	60
FACU spp.	50	x 4 =	200
UPL spp.	55	x 5 =	275
Total	125 (A)		535 (B)

Prevalence Index = B/A = ***.2 0***

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:

Additional Remarks:

Although previously disturbed by quarry activities this location has entered a new normal circumstance.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Olynick	Stantec Project #:	193703721
Applicant:	Design 45		
Investigator #1:	Jake Fahrenkrog	Investigator #2:	
Soil Unit:	Chetek-Mahtomedi complex	NWI/WWI Classification:	N/A
Landform:	Depression	Local Relief:	Concave
Slope (%):	0-4	Latitude: N/A	Longitude: N/A
Datum:	N/A		

Date:	04/28/15
County:	Chippewa
State:	Wisconsin
Wetland ID:	W4
Sample Point:	W4-1w
Community ID:	Hardwood Swamp
Section:	16
Township:	29 N
Range:	5 W

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☑, or Hydrology ☑ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	☑ Yes ☐ No	Hydric Soils Present?	☑ Yes ☐ No
Wetland Hydrology Present?	☑ Yes ☐ No	Is This Sampling Point Within A Wetland?	☑ Yes ☐ No

Remarks: Hydrologic conditions present during the site visit were determined to be dry, the site was evaluated with this known. Wetland W4 is located in a low area of an old quarry (inactive approximately 20 years). The area had undergone major alterations, although due to the since last impact the site has taken a new normal state.

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?	☑ Yes ☐ No	Depth:	2	(in.)
Water Table Present?	☑ Yes ☐ No	Depth:	0	(in.)
Saturation Present?	☑ Yes ☐ No	Depth:	0	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks: Sample point located approximately 1 foot topographically below the wetland boundary. The center of W4 has water depths of 3 feet surrounded by wooded wetland vegetation.

SOILS

Map Unit Name: Chetek-Mahtomedi complex — Series Drainage Class: somewhat excessively

Taxonomy (Subgroup): NA

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 Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	6	1	10YR 2/2	100	--	--	--	--	muck
6	24	2	7.5YR 5/2	70	7.5YR 5/4	30	C	M	silt 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: Soil profile is not consistent with the Chetek-Mahtomedi series soil, this assumed to be a result of historical alterations made by the quarry.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Olynick | Wetland ID: W4 | Sample Point: W4-1w

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

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Sali nigra*	10	Y	OBL
2.	*Ulmus americana*	5	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	15		

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

1.	*Sali discolor*	15	Y	FACW
2.	--	-	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	15		

Herb Stratum (Plot size: 2 meter radius)

1.	*PHALARIS ARUNDINACEA*	30	Y	FACW
2.	*Sc oenoplectus lu iatilis*	15	Y	OBL
3.	*Care stricta*	10	N	OBL
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	55		

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: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

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

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	35	x 1 =	35
FACW spp.	50	x 2 =	100
FAC spp.	0	x 3 =	0
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	85 (A)		135 (B)

Prevalence Index = B/A = ***1.5***

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: Wetland 4 contains shallow marsh wetland community characteristic in the center surrounded by wet meadow and wooded wetland characteristics.

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Olynick	Stantec Project #:	193703721
Applicant:	Design 45		
Investigator #1:	Jake Fahrenkrog	Investigator #2:	
Soil Unit:	Chetek-Mahtomedi complex	NWI/WWI Classification:	N/A
Landform:	Shoulder	Local Relief:	Convex
Slope (%):	2-6	Latitude: N/A	Longitude: N/A
Datum:	N/A		

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	04/28/15
County:	Chippewa
State:	Wisconsin
Wetland ID:	W5
Sample Point:	W5-1u
Community ID:	Upland Forest
Section:	16
Township:	29 N
Range:	5 W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks: Hydrologic conditions present during the site visit were determined to be dry, the site was evaluated with this known. Sample Point located in a upland hardwood forest dominated by large Oaks.

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? ☐ Yes ☑ No Depth: (in.)
Water Table Present? ☐ Yes ☑ No Depth: (in.)
Saturation Present? ☐ Yes ☑ No Depth: (in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks: Sample point located approximately 1 foot topographically above the wetland boundary.

SOILS

Map Unit Name: Chetek-Mahtomedi complex Series Drainage Class: somewhat excessively
Taxonomy (Subgroup): NA
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 Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	10	1	10YR	3/2	100	--	--	--	--	--	sandy loam
10	16	2	10YR	3/3	100	--	--	--	--	--	silt loam
16	24	3	2.5YR	4/4	100	--	--	--	--	--	silt 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: Soil profile is consistent with the Chetek-Mahtomedi series soil. Soils were dry throughout.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Olynick | Wetland ID: W5 | Sample Point: W5-1u

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

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*uercus al a*	30	Y	FACU
2.	*uercus ru ra*	25	Y	FACU
3.	*ra inus americana*	15	Y	FACU
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	70		

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

1.	*Prunus serotina*	20	Y	FACU
2.	*Prunus irginiana*	15	Y	FACU
3.	*uercus al a*	10	Y	FACU
4.	*uercus ru ra*	10	N	FACU
5.	*ra inus americana*	5	N	FACU
6.	*etula pap ri era*	5	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	65		

Herb Stratum (Plot size: 2 meter radius)

1.	*H drop llum irginianum*	25	Y	FAC
2.	*Care pens l anica*	20	Y	UPL
3.	*Prunus serotina*	15	N	FACU
4.	*ragaria irginiana*	10	N	FACU
5.	*HIERACIU AURAN IACU*	10	N	UPL
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		

Dominance Test Worksheet

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

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: *1 %* (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	25	x 3 =	75
FACU spp.	160	x 4 =	640
UPL spp.	30	x 5 =	150
Total	215 (A)		865 (B)

Prevalence Index = B/A = *.02*

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 dominated by an upland hardwood forest. Approximately 20 % of the herbaceous layer was bare soil and leaf litter.

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site:	Olynick	Stantec Project #:	193703721
Applicant:	Design 45		
Investigator #1:	Jake Fahrenkrog	Investigator #2:	
Soil Unit:	Chetek-Mahtomedi complex	NWI/WWI Classification:	N/A
Landform:	Depression	Local Relief:	Concave
Slope (%):	0-4	Latitude: N/A	Longitude: N/A Datum: N/A

Date:	04/28/15
County:	Chippewa
State:	Wisconsin
Wetland ID:	W5
Sample Point:	W5-1w
Community ID:	Wet Meadow
Section:	16
Township:	29 N
Range:	5 W

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☐ Yes ☑ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☑, or Hydrology ☑ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	☑ Yes ☐ No	Hydric Soils Present?	☑ Yes ☐ No
Wetland Hydrology Present?	☑ Yes ☐ No	Is This Sampling Point Within A Wetland?	☑ Yes ☐ No

Remarks: Hydrologic conditions present during the site visit were determined to be dry, the site was evaluated with this known. Wetland W5 is located in a low area of an old quarry (inactive approximately 20 years). The area had undergone major alterations, although due to time the since last impact the site has taken a new normal state.

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?	☐ Yes ☑ No	Depth:	(in.)
Water Table Present?	☐ Yes ☑ No	Depth:	(in.)
Saturation Present?	☐ Yes ☑ No	Depth:	(in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks: Sample point located approximately 1/2 foot topographically below the wetland boundary.

SOILS

Map Unit Name: Chetek-Mahtomedi complex Series Drainage Class: somewhat excessively

Taxonomy (Subgroup): NA

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 Color (Moist)	Matrix %	Redox Features Color (Moist)	Redox Features %	Redox Features Type	Redox Features Location	Texture (e.g. clay, sand, loam)
0	16	1	10YR 2/1	100	--	--	--	--	silt loam
16	24	2	10YR 4/1	70	10YR 4/4	10	C	M	silt 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: Soil profile is not consistent with the Chetek-Mahtomedi series soil, this assumed to be a result of historical alterations made by the quarry.

WETLAND DETERMINATION DATA FORM
Northeast and Northcentral Region

Project/Site: Olynick | Wetland ID: W5 | Sample Point: W5-1w

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

Tree Stratum (Plot size: 10 meter radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Ulmus americana*	10	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	10		

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

1.	*L NICERA ELLA*	10	Y	FACU
2.	*Sali discolor*	5	Y	FACW
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	15		

Herb Stratum (Plot size: 2 meter radius)

1.	*PHALARIS ARUNDINACEA*	60	Y	FACW
2.	*Ri es c nos ati*	5	N	FACU
3.	*noclea sensi ilis*	5	N	FACW
4.	--	--	--	--
5.	--	--	--	--
6	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	70		

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: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: ***5%*** (A/B)

Prevalence Index Worksheet

Total % Cover of:		Multiply by:	
OBL spp.	0	x 1 =	0
FACW spp.	80	x 2 =	160
FAC spp.	0	x 3 =	0
FACU spp.	15	x 4 =	60
UPL spp.	0	x 5 =	0
Total	95 (A)		220 (B)

Prevalence Index = B/A = ***2. 1***

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: Wetland 5 contains wet meadow wetland community characteristic surrounded by upland hardwood species.

Additional Remarks:

Appendix C – Site Photographs

Photo 1. Sample Point W1-1w, view east

Photo 2. Sample Point W1-1u, view north

Photo 3. Sample Point W1-2u, view east

Photo 4. Sample Point W1-2w (right) and Sample Point W1-3u (left), view northeast

Photo 5. Sample Point W2-1u, view east

Photo 6. Sample Point W2-1w, view southwest

Photo 7. Sample Point W2-2w, view north

Photo 8. Sample Point W2-2u, view east

Photo 9. Sample Point W2-3w, view south

Photo 10. Sample Point W2-3u, view south

Photo 11. Sample Point W2-4w, view west

Photo 12. Sample Point W2-4u, view south

Photo 13. Sample Point W3-1w, view northeast

Photo 14. Significantly impacted portion of W3 (rutting within olf quarry)

Photo 15. Sample Point W4-1w, view southeast

Photo 16. Sample Point W4-1u, view northeast

Photo 17. Sample Point W5-1w, view northwest

Photo 18. Sample Point W5-1u, view south

Photo 19. Freshly tilled agricultural field (foreground) active Quarry (background), view southwest

Photo 20. Active quarry, view west

Photo 21. Wetland W4, view south

Photo 22. Agricultural drainage associated with W1 and Coldwater Creek, view southwest

Appendix D – WETS Analysis

WETS Analysis Worksheet

Project Name: Olynick uarry
Project Number: 193703721
Period of interest: February-April
Station: STANLEY WWTP, WI8110
County: Chippewa, 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	1.84	2.65	3.15
2nd month prior:	March	0.82	1.61	1.97
3rd month prior:	Feburary	0.41	0.8	0.97
		Sum =	5.06	

Site determination

Site Rainfall (in)	Condition Dry/Normal*/Wet	Condition** Value	Month Weight	Product
2.97	Normal	2	3	6
0.62	Dry	1	2	2
0.20	Dry	1	1	1
Sum = 3.79			Sum*** =	9

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

Determination:

	Wet
X	Dry
	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: Cornell 4.1W, Midwestern Regional Climate Center

Reference: Donald E.Woodward, ed. 1997. *H drolog ools or etland Determination*, Chapter 19. Engineering Field Handbook. U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, T .

Appendix E– Off-Site Aerial Imagery Analysis

Off-Site Aerial Photography Review[1]

Olynick Quarry-Chippewa County, WI

Project Location: Section , Township 16N, Range 5W, Chippewa County

Year	Monthly Rainfall in Inches [2]			Relative Wetness	Cropped[3]?	Wetness Signature[4,5]?	Interpretation
	April	May	June				
1990	3.86	6.86	8.70	Wet	Y	N	No wetland signitures observed
1991	2.77	5.56	4.42	Normal	Y	6b-	Southwestern portion of W-1 contains minor light green color inidcating crop stress due to wet conditions
1992	3.94	0.91	2.30	Dry	Y	N	No wetland signitures observed
1993	3.29	6.61	7.35	Wet			No Aerial Images Available
1994	5.18	0.99	2.47	Dry			No Aerial Images Available
1995	1.91	2.59	0.93	Dry	Y	3-	W1-1u location contains a bare spot assumed to be from crop stress from wet conditions
1996	1.32	2.66	5.03	Normal	Y	3-	W1-1u location contains a bare spot assumed to be from crop stress from wet conditions
1997	0.41	2.93	4.49	Normal	Y	N	No wetland signitures observed
1998	1.62	2.66	5.33	Normal	Y	N	No wetland signitures observed
1999	3.83	4.86	2.21	Normal	Y	N	No wetland signitures observed
2000	2.51	3.45	8.57	Wet			No Aerial Images Available
2001	5.76	4.67	5.27	Wet			No Aerial Images Available
2002	4.55	2.89	6.60	Wet			No Aerial Images Available
2004	1.65	6.83	2.78	Normal			No Aerial Images Available
2005	2.34	2.10	5.02	Normal	Y	N	Differning coloring in cropped areas coming from site topography and soil variations, No wetland signitures observed
2006	1.74	3.10	2.10	Dry	Y	N	No wetland signitures observed
2008	4.60	3.50	4.68	Normal	Y	N	No wetland signitures observed
2010	1.97	2.59	5.32	Wet	Y	N	No wetland signitures observed
2012	2.45	3.93	3.75	Normal	Y	N	No wetland signitures observed
2013	5.31	7.39	4.72	Wet	Y	N	No wetland signitures observed
30% chance less than	1.84	2.10	2.64				
30 Year Average	2.65	3.49	4.21				
30% chance more than	3.15	4.23	5.08				

Does slide/aerial photo analysis indicate the site is a wetland? NO

Southwestern W-1 1 out of 9 most the recent "normal" precipitation years had wetland signatures present.

W1-1u Location 1 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 noted. Assumption is made that FSA slides are taken in July; as a result, precipitation analysis focuses on three mont

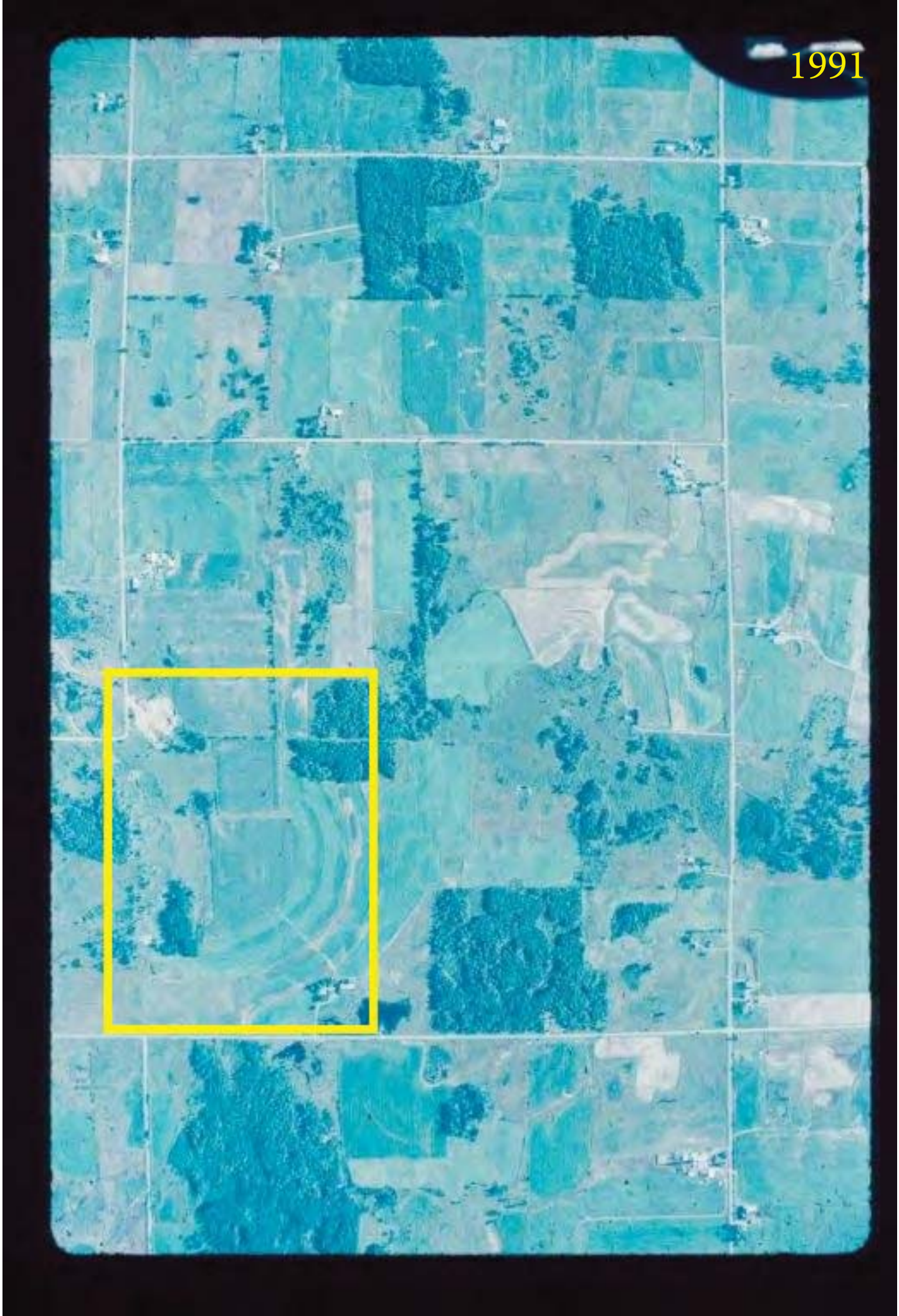
[2] Precipitation data from NWS weather station #STANLEY WWTP (WI) USC00478110

[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


1990


1991


1992


1995


2006


1998


1999
80th-St


2005


2006

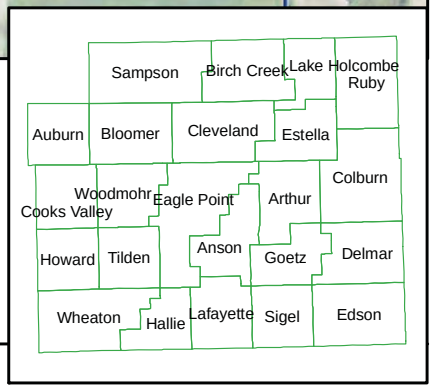

2008
Image USDA Farm Service Ager


2010
Image © 2015 DigitalGlobe


2012

USDA Farm Service Agency

Chippewa, Wisconsin



T29 R5W S16

Delmar

Section lines

2013 NAIP Ortho Imagery

Date 9/2017

Appendix F– Delineator Qualifications

Society of Wetland Scientists
Professional Certification Program, Inc.

grants the designation

Wetland Professional In Training

to

Jake Fahrenkrog

In recognition of all the professional requirements approved by the Society of Wetland Scientists Certification Program, Inc. and verified by the Society's Certification Review Panel on **11/18/2013**.

Leandra Cleveland, PWS
President

Robert D. Shannon, PhD, PWS
Review Panel Chair

The University of Wisconsin-La Crosse
Continuing Education and Extension
In Partnership with UW-Extension

Certify that:

Jake Fahrenkrog

has completed

Critical Methods in Wetland Delineation
March 12, 2014
Madison, Wisconsin

CEUs: 0.65 **Contact Hours: 6.5**

Sponsored by
UW-La Crosse River Studies Center and
UW-La Crosse Continuing Education/Extension

in cooperation with
State of Wisconsin Department of Administration, Wisconsin Coastal Management Program
Southeastern Wisconsin Regional Planning Commission
United States Geological Survey
USDA-Natural Resources Conservation Service
Wisconsin Department of Natural Resources
U.S. Army Corps of Engineers

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Certify that:

Jake Fahrenkrog

has completed

Advanced Wetland Delineation Training Workshop
July 17-18, 2014
La Crosse, Wisconsin

CEU's: 1.6 Contact Hours: 16

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Wisconsin Department of Natural Resources
U.S. Army Corps of Engineers