McMAHON
ENGINEERS ARCHITECTS

December 1, 2021

Adam Kilgas
176 Grand Street
Little Chute, WI 54140

Re: Wetland Delineation
Parcel 0400810801 & Parcel 040082400
Town of Center
Outagamie County, WI
McM. No. K1054 09-21-00741.00

Dear Mr. Kilgas,

On November 3, 2021 McMAHON Associates, Inc. completed a wetland delineation in the Town of Center, Outagamie County on a portion of parcel 0400810801 and a portion of parcel 040082400, located on Quarry Road. The review was completed by Stacey Caplan, Environmental Scientist of McMAHON. Mrs. Caplan has completed wetland delineation training that was sponsored by various regulatory agencies, including the Wisconsin Department of Natural Resources (DNR) and U.S. Army Corps of Engineers. Kyle Ziolek, Environmental Scientist of McMAHON, assisted with the delineation.

Figure 1 shows the Outagamie County Soil Survey and Wisconsin Department of Natural Resources Wetland Inventory Map. Figure 2 shows the project area, the wetland delineation sampling points, DNR floodplain, and the topography of the project area. The wetland delineation boundary is shown in red hatching. 11,866 S.F. of wetland was mapped within the 1.67-acre review area. The wetlands extend out of the project area to the review area. The wetland can be classified as a floodplain forest.

Four sampling points were completed to define the wetland boundary. The Wetland Determination Data Forms are attached, along with photos of the wetland area. Sampling points T1P1 and T2P2 did not meet the criteria for wetland hydrology, or wetland soil. Sampling points T1P2 and T2P1 met the criteria for wetland vegetation, wetland hydrology, and wetland soil. Therefore, sampling points T1P2 and T2P1 are within a wetland area. The wetland area is dominated in the tree stratum *Populus tremuloides* (quaking aspen), *Fraxinus pennsylvanica* (green ash), *Acer saccharinum* (silver maple), *Quercus macrocarpa* (bur oak), and *Ulmus americana* (American elm). *Rhamnus cathartica* (common buckthorn) dominates the shrub stratum. *Rhamnus cathartica* (common buckthorn), and *Phalaris arundinacea* (reed canary grass) dominate the herb stratum. Wetland hydrology indicators observed within the wetland area included Geomorphic Position (D2), and a positive FAC-Neutral test (D5). The hydric soil indicators Depleted Below Dark Surface (A11), Depleted Matrix (F3), and Redox Dark Surface (F6) were observed within the wetland area.

While the determination was performed using methods recognized by the WDNR and U.S. Army Corps of Engineers, it is our understanding that these findings have not been submitted for agency concurrence. The final authorities for the wetland area are the appropriate State and Federal authorities. McMahon Associates, Inc. is not liable for the discharge of a wetland by any entity without a permit.

If you have any questions, please contact me.

Respectfully,

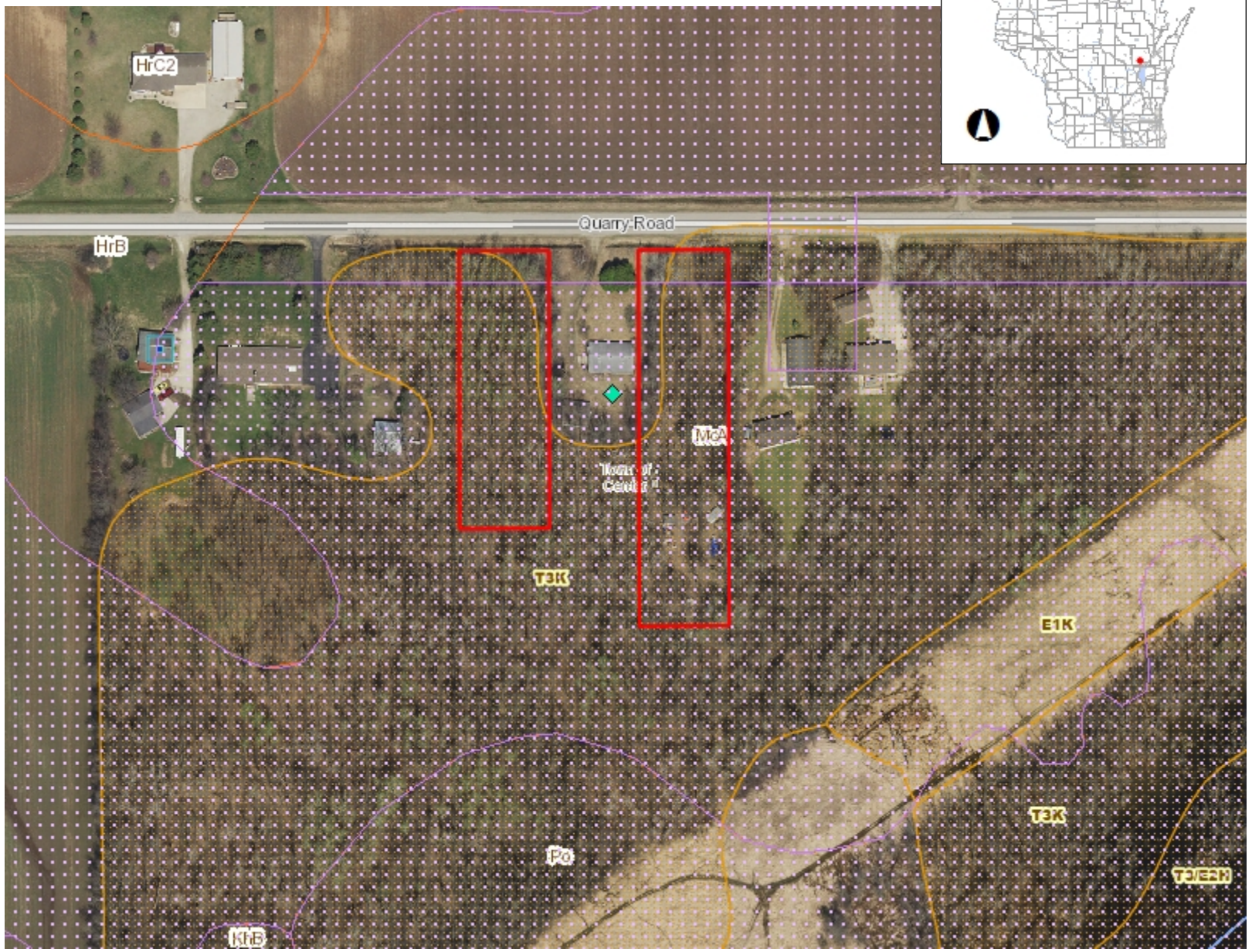
McMAHON Associates, Inc.

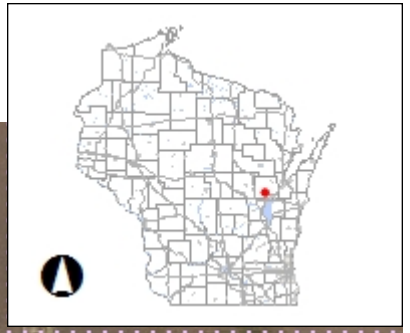
Stacey Caplan

Environmental Scientist

Enclosure: Figure 1, Figure 2, Wetland Determination Data Forms, Site Photographs

Figure 1: Outagamie County Soil Survey & Wetland Inventory





Legend

- Wetland Indicators
- Wetland Class Areas
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
  - Filled excavated pond
- Filled Points
- Wetland Class Areas
- Filled Areas
- Wetland Identifications and Confirmations
- NRCS Wetspots
- NRCS Wisconsin Soils
  - Soil Mapping Unit
  - Water
- Index to EN_Image_Basemap_Leaf_Off

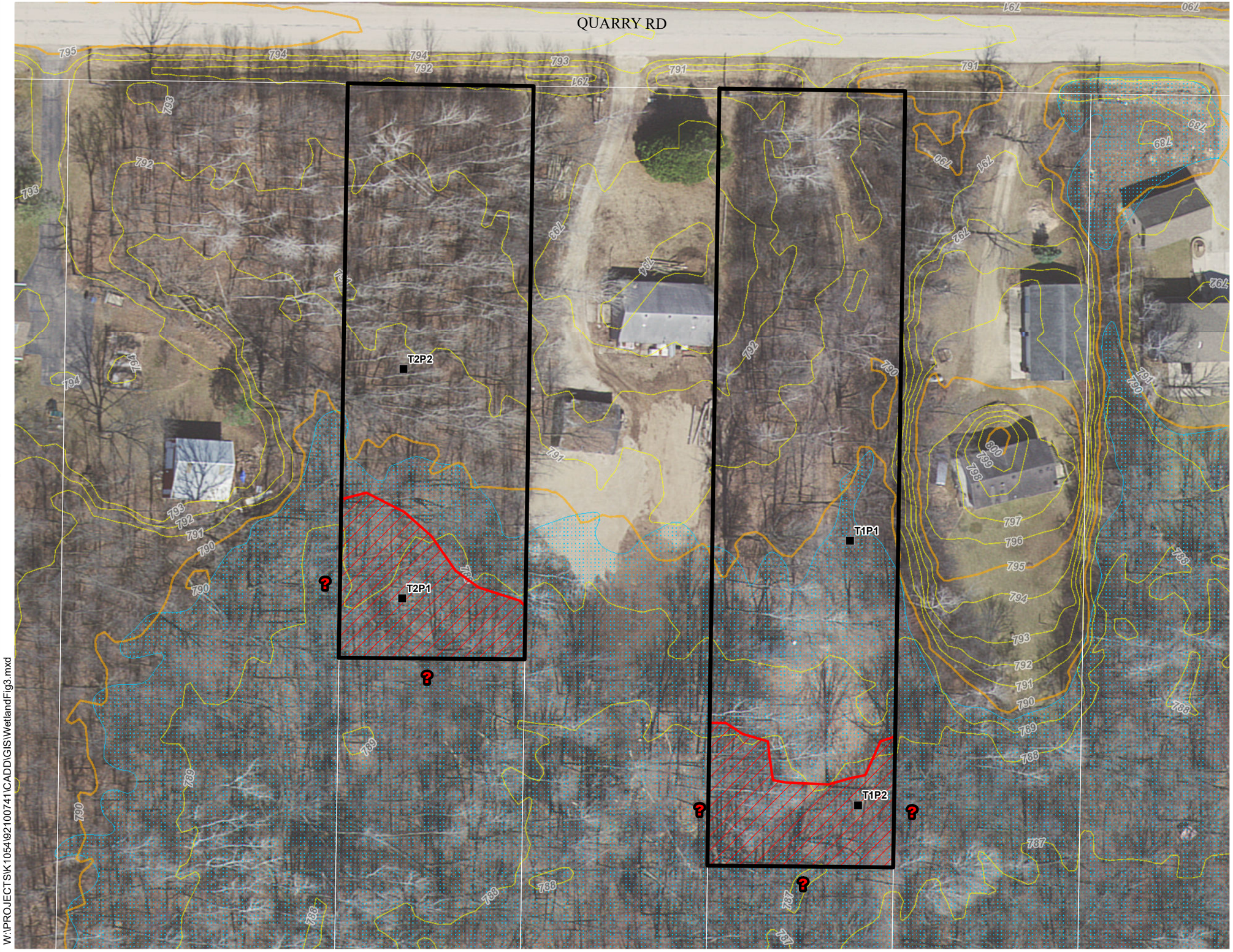
0.1 0 0.03 0.1 Miles

NAD_1983_HARN_Wisconsin_TM

1: 1,980

Notes

Figure 1: Outagamie County Soil Survey & WDNR Wetland Inventory Map, Town of Center, Outagamie County, WI



Mapped Features

- Review Area (1.67 acres)
- T1P1 — Transect Line Number & Sample Point Number
- Wetland Area (11,866 S.F. within review area)
- Wetlands Extend Beyond Review Area
- Floodplain (WDNR)
- Parcel Boundary

Source: Outagamie County, 2018 (Contours)
Outagamie County, 2021 (Imagery, Parcels)

Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMAHON ASSOCIATES, INC does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.

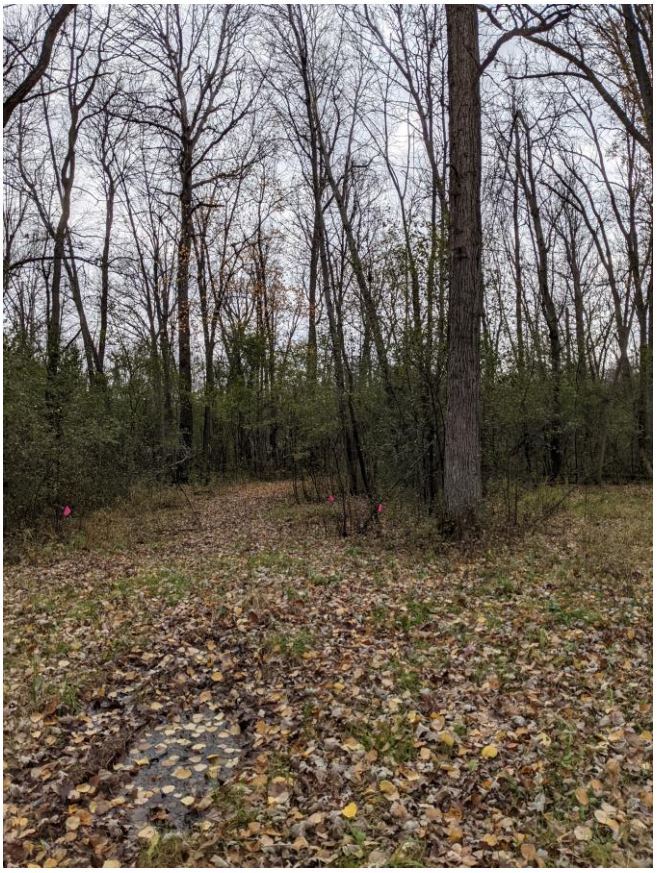
0 50 100 Feet

(at original document size 11x17)

McMAHON ENGINEERS ARCHITECTS
McMAHON ASSOCIATES, INC.

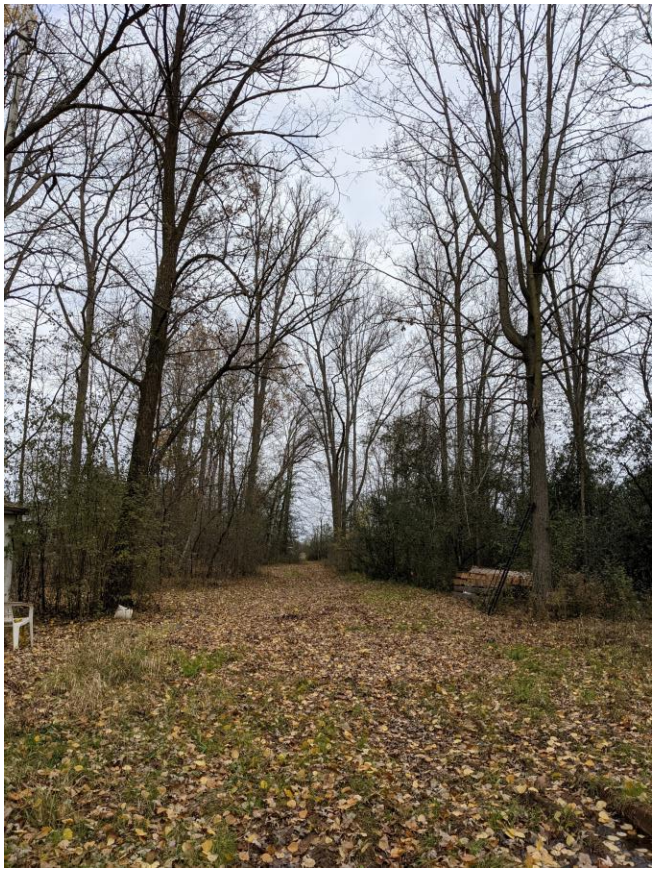
FIGURE 2
WETLAND DELINEATION MAP
PARCEL 0400810801 & PARCEL 040082400
TOWN OF CENTER
OUTAGAMIE COUNTY, WISCONSIN

W:\PROJECTS\K105492100741\CADD\GIS\WetlandFig3.mxd



1. Viewing south at wetland and T1P2.

2. Viewing south at wetland and T2P1.



3. Viewing north towards T1P1.

4. Viewing north towards T2P2.

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Quarry Road City/County: Center/Outagamie Sampling Date: 11/3/2021
Applicant/Owner: Adam Kilgas State: WI Sampling Point: T1P1
Investigator(s): Stacey Caplan, Kyle Ziolek Section, Township, Range: T22N R17E S31
Landform (hillslope, terrace, etc.): Backslope Local relief (concave, convex, none): Convex
Slope (%): 1-2 Lat.: Long.: Datum:
Soil Map Unit Name: McA NWI Classification:
Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal
Are vegetation ____, soil ____, or hydrology ____ naturally problematic? circumstances" present? Yes
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	Y	**Is the sampled area within a wetland?**	N
Hydric soil present?	N		
Indicators of wetland hydrology present?	N	If yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface water present?	Yes	____	No	X	Depth (inches):	____
Water table present?	Yes	____	No	X	Depth (inches):	____
Saturation present? (includes capillary fringe)	Yes	____	No	X	Depth (inches):	____

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Area slopes towards the south.

VEGETATION - Use scientific names of plants

Sampling Point: T1P1

Tree Stratum	Plot Size (30)	Absolute % Cover	Dominant Species	Indicator Status
1	*Tilia americana*	30	Y	FACU
2	*Quercus alba*	10	Y	FACU
3				
4				
5				
6				
7				
8				
9				
10				
		40	= Total Cover	

Sapling/Shrub Stratum	Plot Size (15)	Absolute % Cover	Dominant Species	Indicator Status
1	*Rhamnus cathartica*	35	Y	FAC
2	*Ulmus americana*	3	N	FACW
3				
4				
5				
6				
7				
8				
9				
10				
		38	= Total Cover	

Herb Stratum	Plot Size (5)	Absolute % Cover	Dominant Species	Indicator Status
1	*Carex blanda*	25	Y	FAC
2	*Geum aleppicum*	20	Y	FAC
3	*Solidago gigantea*	5	N	FACW
4	*Fragaria virginiana*	3	N	FACU
5	*Symphyotrichum lateriflorum*	2	N	FAC
6	*Epilobium ciliatum*	1	N	FACW
7				
8				
9				
10				
11				
12				
13				
14				
15				
		56	= Total Cover	

Woody Vine Stratum	Plot Size (30)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	8	20
Shrub Stratum	8	19
Herb Stratum	11	28
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species that are OBL, FACW, or FAC: 60.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	9	x 2 =	18	
FAC species	82	x 3 =	246	
FACU species	43	x 4 =	172	
UPL species	0	x 5 =	0	
Column totals	134	(A)	436	(B)

Prevalence Index = B/A = 3.25

Hydrophytic Vegetation Indicators:

___ Rapid test for hydrophytic vegetation

_X_ Dominance test is >50%

___ Prevalence index is ≤3.0*

___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)

___ Problematic 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. (7.6 cm) 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 (1 m) 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? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** T1P1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-8	7.5YR 3/2	100					L	
8-20	2.5YR 5/4	100					C	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Suface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

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

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? N

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Quarry Road City/County: Center/Outagamie Sampling Date: 11/3/2021
Applicant/Owner: Adam Kilgas State: WI Sampling Point: T1P2
Investigator(s): Stacey Caplan, Kyle Ziolek Section, Township, Range: T22N R17E S31
Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): None
Slope (%): 0-1 Lat.: Long.: Datum:
Soil Map Unit Name: McA NWI Classification:
Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal
Are vegetation ____, soil ____, or hydrology ____ naturally problematic? circumstances" present? Yes
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	Y	**Is the sampled area within a wetland?**	Y
Hydric soil present?	Y		
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface water present?	Yes	____	No	X	Depth (inches):	____
Water table present?	Yes	____	No	X	Depth (inches):	____
Saturation present? (includes capillary fringe)	Yes	____	No	X	Depth (inches):	____

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: T1P2

Tree Stratum	Plot Size (30)	Absolute % Cover	Dominant Species	Indicator Status
1	*Populus tremuloides*	50	Y	FAC
2	*Fraxinus pennsylvanica*	15	N	FACW
3	*Acer saccharinum*	10	N	FACW
4	*Quercus macrocarpa*	10	N	FACU
5	*Ulmus americana*	3	N	FACW
6				
7				
8				
9				
10				
		88	= Total Cover	

Sapling/Shrub Stratum	Plot Size (15)	Absolute % Cover	Dominant Species	Indicator Status
1	*Rhamnus cathartica*	8	Y	FAC
2				
3				
4				
5				
6				
7				
8				
9				
10				
		8	= Total Cover	

Herb Stratum	Plot Size (5)	Absolute % Cover	Dominant Species	Indicator Status
1	*Phalaris arundinacea*	50	Y	FACW
2	*Carex lupulina*	8	N	OBL
3	*Symphyotrichum lateriflorum*	5	N	FAC
4	*Geum aleppicum*	3	N	FAC
5	*Eupatorium perfoliatum*	1	N	FACW
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		67	= Total Cover	

Woody Vine Stratum	Plot Size (30)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	18	44
PC 27W	2	4
Herb Stratum	13	34
Woody Vine Stratum	0	0

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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	8	x 1 =	8	
FACW species	79	x 2 =	158	
FAC species	66	x 3 =	198	
FACU species	10	x 4 =	40	
UPL species	0	x 5 =	0	
Column totals	163	(A)	404	(B)

Prevalence Index = B/A = 2.48

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic 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. (7.6 cm) 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 (1 m) 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? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** T1P2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-8	7.5YR 2.5/1	97	7.5YR 6/6	3	C	M	CL	
8-14	7.5YR 4/1	90	7.5YR 7/6	10	C	M	C	
14-20	5YR 5/4	85	5YR 6/6	10	C	M	C	
			5YR 5/1	5	C	M		

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Suface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

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

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? Y

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Quarry Road City/County: Center/Outagamie Sampling Date: 11/3/2021
Applicant/Owner: Adam Kilgas State: WI Sampling Point: T2P1
Investigator(s): Stacey Caplan, Kyle Ziolek Section, Township, Range: T22N R17E S31
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None
Slope (%): 0-1 Lat.: Long.: Datum:
Soil Map Unit Name: McA NWI Classification:
Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal
Are vegetation ____, soil ____, or hydrology ____ naturally problematic? circumstances" present? Yes
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	Y	**Is the sampled area within a wetland?**	Y
Hydric soil present?	Y		
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface water present?	Yes	____	No	X	Depth (inches):	____
Water table present?	Yes	____	No	X	Depth (inches):	____
Saturation present? (includes capillary fringe)	Yes	____	No	X	Depth (inches):	____

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: T2P1

Tree Stratum	Plot Size (30)	Absolute % Cover	Dominant Species	Indicator Status
1	*Acer saccharinum*	50	Y	FACW
2	*Ulmus americana*	15	Y	FACW
3	*Quercus bicolor*	3	N	FACW
4				
5				
6				
7				
8				
9				
10				
		68	= Total Cover	

Sapling/Shrub Stratum	Plot Size (15)	Absolute % Cover	Dominant Species	Indicator Status
1	*Rhamnus cathartica*	25	Y	FAC
2				
3				
4				
5				
6				
7				
8				
9				
10				
		25	= Total Cover	

Herb Stratum	Plot Size (5)	Absolute % Cover	Dominant Species	Indicator Status
1	*Rhamnus cathartica*	5	Y	FAC
2	*Carex muskingumensis*	3	Y	OBL
3	*Galium spp.*	2	N	
4	*Geum aleppicum*	1	N	FAC
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		11	= Total Cover	

Woody Vine Stratum	Plot Size (30)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	14	34
PC 27W	5	13
Herb Stratum	2	6
Woody Vine Stratum	0	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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	3	x 1 =	3	
FACW species	68	x 2 =	136	
FAC species	31	x 3 =	93	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column totals	102	(A)	232	(B)

Prevalence Index = B/A = 2.27

Hydrophytic Vegetation Indicators:

- ___ Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- ___ Problematic 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. (7.6 cm) 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 (1 m) 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? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** T2P1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-7	7.5YR 2.5/1	100					SCL	
7-15	10YR 5/1	85	7.5YR 6/6	15	C	M	C	
15-20	2.5YR 5/4	90	5YR 6/6	10	C	M	C	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Suface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

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

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? ___Y___

Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Quarry Road City/County: Center/Outagamie Sampling Date: 11/3/2021
Applicant/Owner: Adam Kilgas State: WI Sampling Point: T2P2
Investigator(s): Stacey Caplan, Kyle Ziolek Section, Township, Range: T22N R17E S31
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None
Slope (%): 0-1 Lat.: Long.: Datum:
Soil Map Unit Name: McA NWI Classification:
Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
Are vegetation ____, soil ____, or hydrology ____ significantly disturbed? Are "normal
Are vegetation ____, soil ____, or hydrology ____ naturally problematic? circumstances" present? Yes
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	Y	**Is the sampled area within a wetland?**	N
Hydric soil present?	N		
Indicators of wetland hydrology present?	N	If yes, optional wetland site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface water present?	Yes	____	No	X	Depth (inches):	____
Water table present?	Yes	____	No	X	Depth (inches):	____
Saturation present? (includes capillary fringe)	Yes	____	No	X	Depth (inches):	____

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: T2P2

Tree Stratum	Plot Size (30)	Absolute % Cover	Dominant Species	Indicator Status
1	*Populus tremuloides*	60	Y	FAC
2	*Quercus macrocarpa*	10	N	FACU
3	*Acer saccharinum*	5	N	FACW
4	*Ulmus americana*	2	N	FACW
5				
6				
7				
8				
9				
10				
		77	= Total Cover	

Sapling/Shrub Stratum	Plot Size (15)	Absolute % Cover	Dominant Species	Indicator Status
1	*Rhamnus cathartica*	5	Y	FAC
2	*Carpinus caroliniana*	5	Y	FAC
3	*Fraxinus pennsylvanica*	1	N	FACW
4				
5				
6				
7				
8				
9				
10				
		11	= Total Cover	

Herb Stratum	Plot Size (5)	Absolute % Cover	Dominant Species	Indicator Status
1	*Rhamnus cathartica*	3	Y	FAC
2	*Fragaria virginiana*	2	Y	FACU
3	*Geum aleppicum*	1	N	FAC
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		6	= Total Cover	

Woody Vine Stratum	Plot Size (30)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0	= Total Cover	

50/20 Thresholds

	20%	50%
Tree Stratum	15	39
Shrub Stratum	2	6
Herb Stratum	1	3
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species that are OBL, FACW, or FAC: 80.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	8	x 2 =	16	
FAC species	74	x 3 =	222	
FACU species	12	x 4 =	48	
UPL species	0	x 5 =	0	
Column totals	94	(A)	286	(B)

Prevalence Index = B/A = 3.04

Hydrophytic Vegetation Indicators:

___ Rapid test for hydrophytic vegetation

_X_ Dominance test is >50%

___ Prevalence index is ≤3.0*

___ Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)

___ Problematic 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. (7.6 cm) 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 (1 m) 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? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL **Sampling Point:** T2P2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-6	7.5YR 3/2	100					L	
6-20	5YR 4/4	100					C	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains
**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Suface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (**LRR R, MLRA 149B**)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

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

*Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
Type: _____
Depth (inches): _____

Hydric soil present? N

Remarks: