

SOIL

Sampling Point P5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 8	10YR 3/2	100					Loamy/Clayey	Silt Loam
8 - 24	2.5Y 5/3	85	10YR 5/8	15	C	M	Loamy/Clayey	Silty Clay Loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:						Indicators for Problematic Hydric Soils³:									
☐ Histosol (A1)			☐	Polyvalue Below Surface (S8) (LRR R,		☐ 2 cm Muck (A10) (LRR K, L, MLRA 149B))									
☐ Histic Epipedon (A2)			☐	MLRA 149B)		☐ Coast Prairie Redox (A16) (LRR K, L, R)									
☐ Black Histic (A3)			☐	Thin Dark Surface (S9) (LRR R, MLRA 149B))		☐ 5 cm Mucky Peat or Peat (S3) (LRR K, L, R)									
☐ Hydrogen Sulfide (A4)			☐	High Chroma Sands (S11) (LRR K, L)		☐ Polyvalue Below Surface (S8) (LRR K, L)									
☐ Stratified Layers (A5)			☐	Loamy Mucky Mineral (F1) (LRR K, L)		☐ Thin Dark Surface (S9) (LRR K, L)									
☐ Depleted Below Dark Surface (A11)			☐	Loamy Gleyed Matrix (F2)		☐ Iron-Manganese Masses (F12) (LRR K, L, R)									
☐ Thick Dark Surface (A12)			☐	Depleted Matrix (F3)		☐ Piedmont Floodplain Soils (F19) (MLRA 149B))									
☐ Sandy Mucky Mineral (S1)			☐	Redox Dark Surface (F6)		☐ Mesic Spodic (TA6) (MLRA 144A, 145, 149B))									
☐ Sandy Gleyed Matrix (S4)			☐	Depleted Dark Surface (F7)		☐ Red Parent Material (F21)									
☐ Sandy Redox (S5)			☐	Redox Depressions (F8)		☐ Very Shallow Dark Surface (F22)									
☐ Stripped Matrix (S6)			☐	Marl (F10) (LRR K, L)		☐ Other (Explain in Remarks)									
☐ Dark Surface (S7)															

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):					
Type: _____					
Depth (inches): _____					
Remarks: No hydric soil indicators observed.			Hydric Soil Present? Yes ____ No __X__		

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

10/17/2018

Project/Site: Lower Yahara River Trail Extension City/County: T Dunn/Dane Co. Sampling Date: 11/14/2018
 Applicant/Owner: Matt Schuenke / Village of McFarland State: WI Sampling Point: P6
 Investigator(s): Jeff Kraemer, Scott Fuchs, Heartland Ecological Group Section, Township, Range: T6N, R10E, S11
 Landform (hillside, terrace, etc.): Subtle Depression Local relief (concave, convex, none): Concave Slope %: 1
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Virgil silt loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>W-1 Shrub Carr</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted to gauge wetness on site compared to a year of normal precipitation. The WETS analysis indicated that conditions are likely wetter than normal. This area received an abnormally high amount of rainfall during late summer and fall, with the months of October and August more than doubling their normal amounts of precipitation. Sample point recorded within subtle depression in oak woodlands.		

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <u>X</u> Surface Water (A1) _____ Water-Stained Leaves (B9) <u>X</u> High Water Table (A2) _____ Aquatic Fauna (B13) <u>X</u> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> _____ 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) <u>X</u> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>2</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>12</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>8</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Approximately 2-3 inches of standing water and ice within the depression.		

VEGETATION – Use scientific names of plants.

 Sampling Point: P6

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Rhamnus cathartica</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75.0%</u> (A/B) Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>x 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>42</u></td> <td>x 3 = <u>126</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>67</u> (A)</td> <td><u>196</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.93</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>15</u>	x 2 = <u>30</u>	FAC species <u>42</u>	x 3 = <u>126</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>67</u> (A)	<u>196</u> (B)	Prevalence Index = B/A = <u>2.93</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>15</u>	x 2 = <u>30</u>																			
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FACU species <u>10</u>	x 4 = <u>40</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>67</u> (A)	<u>196</u> (B)																			
Prevalence Index = B/A = <u>2.93</u>																				
2. <u>Carya ovata</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
<u>10</u> =Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)																				
1. <u>Cornus racemosa</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Rhamnus cathartica</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
<u>35</u> =Total Cover																				
Herb Stratum (Plot size: <u>5ft</u>)																				
1. <u>Rhamnus cathartica</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	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 or equal to 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? Yes <u>X</u> No _____																
2. <u>Cornus racemosa</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>																	
4. <u>Rosa multiflora</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>																	
5. <u>Carex blanda</u>	<u>2</u>	<u>No</u>	<u>FAC</u>																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
<u>22</u> =Total Cover																				
Woody Vine Stratum (Plot size: <u>30ft</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
_____ =Total Cover																				

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

Center of depression area has dead trees. Canopy comprised of upland trees rooted outside the wetland. No woody vines observed.

SOIL

Sampling Point P6

[illegible]

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

10/17/2018

Project/Site: Lower Yahara River Trail Extension City/County: T Dunn/Dane Co. Sampling Date: 11/14/2018
 Applicant/Owner: Matt Schuenke / Village of McFarland State: WI Sampling Point: P7
 Investigator(s): Jeff Kraemer, Scott Fuchs, Heartland Ecological Group Section, Township, Range: T6N, R10E, S11
 Landform (hillside, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope %: 1-2
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sable silty clay loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted to gauge wetness on site compared to a year of normal precipitation. The WETS analysis indicated that conditions are likely wetter than normal. This area received an abnormally high amount of rainfall during late summer and fall, with the months of October and August more than doubling their normal amounts of precipitation. Sample point P7 recorded south of a subtle drainageway connecting larger portions of the wetland area. Determined non-wetland based on a lack of wetland hydrology indicators and best professional judgment.		

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> _____ 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) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>18</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>16</u> (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No wetland hydrology indicators observed.		

VEGETATION – Use scientific names of plants.

 Sampling Point: P7

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Carya ovata</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>57.1%</u> (A/B)																
2. <u>Quercus macrocarpa</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>60</u>	=Total Cover																	
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)																				
1. <u>Cornus racemosa</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	Prevalence Index worksheet: <table style="width: 100%;"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>65</u></td> <td>x 3 = <u>195</u></td> </tr> <tr> <td>FACU species <u>85</u></td> <td>x 4 = <u>340</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>155</u> (A)</td> <td><u>545</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.52</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>65</u>	x 3 = <u>195</u>	FACU species <u>85</u>	x 4 = <u>340</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>155</u> (A)	<u>545</u> (B)	Prevalence Index = B/A = <u>3.52</u>	
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OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>5</u>	x 2 = <u>10</u>																			
FAC species <u>65</u>	x 3 = <u>195</u>																			
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UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>155</u> (A)	<u>545</u> (B)																			
Prevalence Index = B/A = <u>3.52</u>																				
2. <u>Rhamnus cathartica</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u>Lonicera X bella</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
4. <u>Acer negundo</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
5. <u>Carya ovata</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>35</u>	=Total Cover																	
Herb Stratum (Plot size: <u>5ft</u>)																				
1. <u>Geum canadense</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Agrimonia gryposepala</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
4. <u>Rhamnus cathartica</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
5. <u>Lonicera X bella</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
		<u>40</u>	=Total Cover																	
Woody Vine Stratum (Plot size: <u>30ft</u>)																				
1. <u>Vitis riparia</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>	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 or equal to 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.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		<u>20</u>	=Total Cover																	

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

SOIL

Sampling Point P7

[illegible]

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

10/17/2018

Project/Site: Lower Yahara River Trail Extension City/County: T Dunn/Dane Co. Sampling Date: 11/14/2018
 Applicant/Owner: Matt Schuenke / Village of McFarland State: WI Sampling Point: P8
 Investigator(s): Jeff Kraemer, Scott Fuchs, Heartland Ecological Group Section, Township, Range: T6N, R10E, S11
 Landform (hillside, terrace, etc.): Subtle Drainageway Local relief (concave, convex, none): Concave Slope %: 1
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sable silty clay loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>W-1 Hardwood swamp</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted to gauge wetness on site compared to a year of normal precipitation. The WETS analysis indicated that conditions are likely wetter than normal. This area received an abnormally high amount of rainfall during late summer and fall, with the months of October and August more than doubling their normal amounts of precipitation. Sample point recorded within a subtle drainageway that links larger areas of the wetland.		

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ☒ Surface Water (A1) _____ Water-Stained Leaves (B9) ☐ High Water Table (A2) _____ Aquatic Fauna (B13) ☐ Saturation (A3) _____ Marl Deposits (B15) ☐ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) ☐ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) ☐ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) ☐ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) ☐ Iron Deposits (B5) _____ Thin Muck Surface (C7) ☐ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) ☐ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> ☐ 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) ☐ Microtopographic Relief (D4) ☒ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>1</u> Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>20</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Some standing water within the subtle drainageway.		

VEGETATION – Use scientific names of plants.

 Sampling Point: P8

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Quercus rubra</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>71.4%</u> (A/B)																
2. <u>Fraxinus pennsylvanica</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>45</u>	=Total Cover																	
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)																				
1. <u>Fraxinus pennsylvanica</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>	Prevalence Index worksheet: <table style="width: 100%;"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>55</u></td> <td>x 2 = <u>110</u></td> </tr> <tr> <td>FAC species <u>18</u></td> <td>x 3 = <u>54</u></td> </tr> <tr> <td>FACU species <u>43</u></td> <td>x 4 = <u>172</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>116</u> (A)</td> <td><u>336</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.90</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>55</u>	x 2 = <u>110</u>	FAC species <u>18</u>	x 3 = <u>54</u>	FACU species <u>43</u>	x 4 = <u>172</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>116</u> (A)	<u>336</u> (B)	Prevalence Index = B/A = <u>2.90</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>55</u>	x 2 = <u>110</u>																			
FAC species <u>18</u>	x 3 = <u>54</u>																			
FACU species <u>43</u>	x 4 = <u>172</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>116</u> (A)	<u>336</u> (B)																			
Prevalence Index = B/A = <u>2.90</u>																				
2. <u>Rhamnus cathartica</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>25</u>	=Total Cover																	
Herb Stratum (Plot size: <u>5ft</u>)																				
1. <u>Fraxinus pennsylvanica</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Agrimonia gryposepala</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Geum canadense</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>																	
4. <u>Lonicera X bella</u>	<u>3</u>	<u>No</u>	<u>FACU</u>																	
5. <u>Cornus racemosa</u>	<u>3</u>	<u>No</u>	<u>FAC</u>																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
		<u>46</u>	=Total Cover																	
Woody Vine Stratum (Plot size: <u>30ft</u>)																				
1. _____	_____	_____	_____	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 or equal to 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.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		_____	=Total Cover																	

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

No woody vines observed. Vegetation in tree stratum tend to be rooted outside of the drainage channel.

SOIL

Sampling Point P8

[illegible]

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

10/17/2018

Project/Site: Lower Yahara River Trail Extension City/County: T Dunn/Dane Co. Sampling Date: 11/14/2018
 Applicant/Owner: Matt Schuenke / Village of McFarland State: WI Sampling Point: P9
 Investigator(s): Jeff Kraemer, Scott Fuchs, Heartland Ecological Group Section, Township, Range: T6N, R10E, S11
 Landform (hillside, terrace, etc.): Rise Local relief (concave, convex, none): Convex Slope %: 1-2
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sable silty clay loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted to gauge wetness on site compared to a year of normal precipitation. The WETS analysis indicated that conditions are likely wetter than normal. This area received an abnormally high amount of rainfall during late summer and fall, with the months of October and August more than doubling their normal amounts of precipitation. Sample point P9 recorded to the north of the subtle drainage swale that connects the larger portions of the wetland area.		

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> _____ 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) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>18</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>16</u> (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION – Use scientific names of plants.

 Sampling Point: P9

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Quercus macrocarpa</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)																
2. <u>Quercus velutina</u>	<u>20</u>	<u>Yes</u>	<u>UPL</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>50</u>	=Total Cover																	
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)																				
1. <u>Rhamnus cathartica</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>40</u></td> <td>x 3 = <u>120</u></td> </tr> <tr> <td>FACU species <u>55</u></td> <td>x 4 = <u>220</u></td> </tr> <tr> <td>UPL species <u>20</u></td> <td>x 5 = <u>100</u></td> </tr> <tr> <td>Column Totals: <u>115</u> (A)</td> <td><u>440</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.83</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>40</u>	x 3 = <u>120</u>	FACU species <u>55</u>	x 4 = <u>220</u>	UPL species <u>20</u>	x 5 = <u>100</u>	Column Totals: <u>115</u> (A)	<u>440</u> (B)	Prevalence Index = B/A = <u>3.83</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>40</u>	x 3 = <u>120</u>																			
FACU species <u>55</u>	x 4 = <u>220</u>																			
UPL species <u>20</u>	x 5 = <u>100</u>																			
Column Totals: <u>115</u> (A)	<u>440</u> (B)																			
Prevalence Index = B/A = <u>3.83</u>																				
2. <u>Cornus racemosa</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>20</u>	=Total Cover																	
Herb Stratum (Plot size: <u>5ft</u>)																				
1. <u>Agrimonia gryposepala</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Geum canadense</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u>Alliaria petiolata</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
4. <u>Hackelia virginiana</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
5. <u>Rhamnus cathartica</u>	<u>3</u>	<u>No</u>	<u>FAC</u>																	
6. <u>Symphyotrichum lateriflorum</u>	<u>2</u>	<u>No</u>	<u>FAC</u>																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
		<u>40</u>	=Total Cover																	
Woody Vine Stratum (Plot size: <u>30ft</u>)																				
1. <u>Vitis riparia</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	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 or equal to 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.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		<u>5</u>	=Total Cover																	

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

SOIL

Sampling Point P9

[illegible]

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

10/17/2018

Project/Site: Lower Yahara River Trail Extension City/County: T Dunn/Dane Co. Sampling Date: 11/14/2018
 Applicant/Owner: Matt Schuenke / Village of McFarland State: WI Sampling Point: P10
 Investigator(s): Jeff Kraemer, Scott Fuchs, Heartland Ecological Group Section, Township, Range: T6N, R10E, S11
 Landform (hillside, terrace, etc.): Gentle Slope Local relief (concave, convex, none): Convex Slope %: 1
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sable silty clay loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted to gauge wetness on site compared to a year of normal precipitation. The WETS analysis indicated that conditions are likely wetter than normal. This area received an abnormally high amount of rainfall during late summer and fall, with the months of October and August more than doubling their normal amounts of precipitation. Sample point P10 recorded in old field, unmanaged vegetation approximately 50 feet from wetland line.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> _____ 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) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No wetland hydrology indicators observed.		

VEGETATION – Use scientific names of plants.

 Sampling Point: P10

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Malus pumila</u>	<u>10</u>	<u>Yes</u>	<u>UPL</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
	<u>10</u>	<u>=Total Cover</u>																		
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>60</u></td> <td>x 4 = <u>240</u></td> </tr> <tr> <td>UPL species <u>95</u></td> <td>x 5 = <u>475</u></td> </tr> <tr> <td>Column Totals: <u>155</u> (A)</td> <td><u>715</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>4.61</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>60</u>	x 4 = <u>240</u>	UPL species <u>95</u>	x 5 = <u>475</u>	Column Totals: <u>155</u> (A)	<u>715</u> (B)	Prevalence Index = B/A = <u>4.61</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>60</u>	x 4 = <u>240</u>																			
UPL species <u>95</u>	x 5 = <u>475</u>																			
Column Totals: <u>155</u> (A)	<u>715</u> (B)																			
Prevalence Index = B/A = <u>4.61</u>																				
1. <u>Lonicera X bella</u>	<u>5</u>	<u>Yes</u>	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
	<u>5</u>	<u>=Total Cover</u>																		
Herb Stratum (Plot size: <u>5ft</u>)				Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>Problematic Hydrophytic Vegetation</u> ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Bromus inermis</u>	<u>75</u>	<u>Yes</u>	<u>UPL</u>																	
2. <u>Solidago canadensis</u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Daucus carota</u>	<u>10</u>	<u>No</u>	<u>UPL</u>																	
4. <u>Poa pratensis</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
5. <u>Achillea millefolium</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
6. <u>Symphyotrichum pilosum</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
	<u>145</u>	<u>=Total Cover</u>																		
Woody Vine Stratum (Plot size: <u>30ft</u>)				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 or equal to 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.																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
	_____	<u>=Total Cover</u>																		

 Remarks: (Include photo numbers here or on a separate sheet.)
 No trees or woody vines within sampling point plot.

SOIL

Sampling Point P10

[illegible]

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

10/17/2018

Project/Site: Lower Yahara River Trail Extension City/County: T Dunn/Dane Co. Sampling Date: 11/14/2018
 Applicant/Owner: Matt Schuenke / Village of McFarland State: WI Sampling Point: P11
 Investigator(s): Jeff Kraemer, Scott Fuchs, Heartland Ecological Group Section, Township, Range: T6N, R10E, S11
 Landform (hillside, terrace, etc.): Drainageway Local relief (concave, convex, none): Concave Slope %: 5
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sable silty clay loam NWI classification: PEM1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>W-1 Wet meadow</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted to gauge wetness on site compared to a year of normal precipitation. The WETS analysis indicated that conditions are likely wetter than normal. This area received an abnormally high amount of rainfall during late summer and fall, with the months of October and August more than doubling their normal amounts of precipitation. Sample point P11 recorded at the margins of an excavated drainageway running through the wetland.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) <u>X</u> 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) <u>X</u> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No primary wetland hydrology indicators observed despite being adjacent to a drainage channel. Channel is well incised, sample point recorded too high on embankment to hit groundwater/saturation.		

VEGETATION – Use scientific names of plants.

 Sampling Point: P11

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>102</u></td> <td>x 2 = <u>204</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>122</u> (A)</td> <td><u>284</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.33</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>102</u>	x 2 = <u>204</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>122</u> (A)	<u>284</u> (B)	Prevalence Index = B/A = <u>2.33</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>102</u>	x 2 = <u>204</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>20</u>	x 4 = <u>80</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>122</u> (A)	<u>284</u> (B)																			
Prevalence Index = B/A = <u>2.33</u>																				
=Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☐ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
=Total Cover																				
Herb Stratum (Plot size: <u>5ft</u>)																				
1. <u>Phalaris arundinacea</u>	<u>100</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Solidago canadensis</u>	<u>15</u>	<u>No</u>	<u>FACU</u>																	
3. <u>Symphyotrichum pilosum</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
4. <u>Vernonia fasciculata</u>	<u>2</u>	<u>No</u>	<u>FACW</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
<u>122</u> =Total Cover																				
Woody Vine Stratum (Plot size: <u>30ft</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
=Total Cover				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 or equal to 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.																
=Total Cover																				

 Remarks: (Include photo numbers here or on a separate sheet.)
 No trees, shrubs, or woody vines observed.

SOIL

Sampling Point P11

[illegible]

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

10/17/2018

Project/Site: Lower Yahara River Trail Extension City/County: T Dunn/Dane Co. Sampling Date: 11/14/2018
 Applicant/Owner: Matt Schuenke / Village of McFarland State: WI Sampling Point: P12
 Investigator(s): Jeff Kraemer, Scott Fuchs, Heartland Ecological Group Section, Township, Range: T6N, R10E, S11
 Landform (hillside, terrace, etc.): Graded/filled lands Local relief (concave, convex, none): Convex Slope %: 2-3
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Virgil silt loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted to gauge wetness on site compared to a year of normal precipitation. The WETS analysis indicated that conditions are likely wetter than normal. This area received an abnormally high amount of rainfall during late summer and fall, with the months of October and August more than doubling their normal amounts of precipitation. Sample point recorded within mowed turf vegetation at the edge of a gravel parking lot.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> _____ 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) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No wetland hydrology indicators observed.		

VEGETATION – Use scientific names of plants.

 Sampling Point: P12

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B) Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>155</u></td> <td>x 4 = <u>620</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>155</u> (A)</td> <td><u>620</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>4.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>155</u>	x 4 = <u>620</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>155</u> (A)	<u>620</u> (B)	Prevalence Index = B/A = <u>4.00</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>155</u>	x 4 = <u>620</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>155</u> (A)	<u>620</u> (B)																			
Prevalence Index = B/A = <u>4.00</u>																				
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		=Total Cover		Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>Problematic Hydrophytic Vegetation</u> ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
		=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		=Total Cover		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 or equal to 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? Yes <u> </u> No <u>X</u>																
Herb Stratum (Plot size: <u>5ft</u>)																				
1. <u>Poa pratensis</u>	<u>100</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Glechoma hederacea</u>	<u>40</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Plantago major</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
4. <u>Taraxacum officinale</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
		=Total Cover																		
Woody Vine Stratum (Plot size: <u>30ft</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		=Total Cover																		

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

No trees, shrubs, or woody vines observed. Sample point recorded within mowed turf vegetation.

SOIL

Sampling Point P12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 6	10YR 3/2	100					Loamy/Clayey	Loam
6 - 14	10YR 3/2	50					Loamy/Clayey	Loam (15% gravel)
	10YR 4/4	50						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Dark Surface (S7)

☐

Polyvalue Below Surface (S8) (**LRR R,**
 MLRA 149B)

☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B)**
☐ High Chroma Sands (S11) (**LRR K, L)**
☐ 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)
☐ Marl (F10) (**LRR K, L)**

Indicators for Problematic Hydric Soils³:

☐ 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)**
☐ 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 (F22)
☐ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: Compacted Gravel

Depth (inches): 14

Hydric Soil Present? Yes No ☒

Remarks:
No hydric soil indicators observed. Could not sample below 14 inches due to a layer of compacted gravel.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

10/17/2018

Project/Site: Lower Yahara River Trail Extension City/County: T Dunn/Dane Co. Sampling Date: 11/14/2018
 Applicant/Owner: Matt Schuenke / Village of McFarland State: WI Sampling Point: P13
 Investigator(s): Jeff Kraemer, Scott Fuchs, Heartland Ecological Group Section, Township, Range: T6N, R10E, S11
 Landform (hillside, terrace, etc.): Gentle slope Local relief (concave, convex, none): Concave Slope %: 2
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sable silty clay loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted to gauge wetness on site compared to a year of normal precipitation. The WETS analysis indicated that conditions are likely wetter than normal. This area received an abnormally high amount of rainfall during late summer and fall, with the months of October and August more than doubling their normal amounts of precipitation. Sample point recorded within oak woodlands near a transitional area of shrub carr / wet meadow vegetation.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> _____ 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) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No wetland hydrology indicators observed.		

VEGETATION – Use scientific names of plants.

 Sampling Point: P13

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Quercus macrocarpa</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)																
2. <u>Prunus serotina</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Malus X magdeburgensis</u>	<u>5</u>	<u>No</u>	<u>UPL</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>50</u>	=Total Cover	Prevalence Index worksheet: <table style="width: 100%;"> <thead> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>3</u></td> <td>x 2 = <u>6</u></td> </tr> <tr> <td>FAC species <u>55</u></td> <td>x 3 = <u>165</u></td> </tr> <tr> <td>FACU species <u>78</u></td> <td>x 4 = <u>312</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>141</u> (A)</td> <td><u>508</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.60</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>3</u>	x 2 = <u>6</u>	FAC species <u>55</u>	x 3 = <u>165</u>	FACU species <u>78</u>	x 4 = <u>312</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>141</u> (A)	<u>508</u> (B)	Prevalence Index = B/A = <u>3.60</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>3</u>	x 2 = <u>6</u>																			
FAC species <u>55</u>	x 3 = <u>165</u>																			
FACU species <u>78</u>	x 4 = <u>312</u>																			
UPL species <u>5</u>	x 5 = <u>25</u>																			
Column Totals: <u>141</u> (A)	<u>508</u> (B)																			
Prevalence Index = B/A = <u>3.60</u>																				
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)																				
1. <u>Cornus racemosa</u>	<u>40</u>	<u>Yes</u>	<u>FAC</u>																	
2. <u>Lonicera X bella</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
3. <u>Cornus alba</u>	<u>3</u>	<u>No</u>	<u>FACW</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>53</u>	=Total Cover	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
Herb Stratum (Plot size: <u>5ft</u>)																				
1. <u>Agrimonia gryposepala</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Solidago canadensis</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Geum canadense</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>																	
4. <u>Cornus racemosa</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
5. <u>Lonicera X bella</u>	<u>3</u>	<u>No</u>	<u>FACU</u>																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
		<u>38</u>	=Total Cover																	
Woody Vine Stratum (Plot size: <u>30ft</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		_____	=Total Cover																	

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 or equal to 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? Yes No X

 Remarks: (Include photo numbers here or on a separate sheet.)
 No woody vines observed. Transitional area between oak woodland and shrub carr.

SOIL

Sampling Point P13

[illegible]

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

10/17/2018

Project/Site: Lower Yahara River Trail Extension City/County: T Dunn/Dane Co. Sampling Date: 11/14/2018
 Applicant/Owner: Matt Schuenke / Village of McFarland State: WI Sampling Point: P14
 Investigator(s): Jeff Kraemer, Scott Fuchs, Heartland Ecological Group Section, Township, Range: T6N, R10E, S11
 Landform (hillside, terrace, etc.): Drainageway Local relief (concave, convex, none): Concave Slope %: 5
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Wacousta silty clay loam NWI classification: PEM1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>W-1 Wet meadow</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted to gauge wetness on site compared to a year of normal precipitation. The WETS analysis indicated that conditions are likely wetter than normal. This area received an abnormally high amount of rainfall during late summer and fall, with the months of October and August more than doubling their normal amounts of precipitation. Sample point recorded adjacent to an excavated drainageway running through the wetland area.		

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) <u>X</u> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) <u>X</u> 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) <u>X</u> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>16</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>12</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

VEGETATION – Use scientific names of plants.

 Sampling Point: P14

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>130</u></td> <td>x 2 = <u>260</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>15</u></td> <td>x 4 = <u>60</u></td> </tr> <tr> <td>UPL species <u>2</u></td> <td>x 5 = <u>10</u></td> </tr> <tr> <td>Column Totals: <u>147</u> (A)</td> <td><u>330</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.24</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>130</u>	x 2 = <u>260</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>15</u>	x 4 = <u>60</u>	UPL species <u>2</u>	x 5 = <u>10</u>	Column Totals: <u>147</u> (A)	<u>330</u> (B)	Prevalence Index = B/A = <u>2.24</u>	
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Column Totals: <u>147</u> (A)	<u>330</u> (B)																			
Prevalence Index = B/A = <u>2.24</u>																				
=Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
=Total Cover																				
Herb Stratum (Plot size: <u>5ft</u>)																				
1. <u>Phalaris arundinacea</u>	<u>100</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Agrostis stolonifera</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Solidago canadensis</u>	<u>15</u>	<u>No</u>	<u>FACU</u>																	
4. <u>Daucus carota</u>	<u>2</u>	<u>No</u>	<u>UPL</u>																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
<u>147</u> =Total Cover				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 or equal to 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.																
=Total Cover																				
Woody Vine Stratum (Plot size: <u>30ft</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
=Total Cover																				

 Remarks: (Include photo numbers here or on a separate sheet.)
 No trees, shrubs, or woody vines observed.

SOIL

Sampling Point P14

[illegible]

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

10/17/2018

Project/Site: Lower Yahara River Trail Extension City/County: T Dunn/Dane Co. Sampling Date: 11/14/2018
 Applicant/Owner: Matt Schuenke / Village of McFarland State: WI Sampling Point: P15
 Investigator(s): Jeff Kraemer, Scott Fuchs, Heartland Ecological Group Section, Township, Range: T6N, R10E, S11
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 2
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sable silty clay loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>W-1 Wet meadow</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted to gauge wetness on site compared to a year of normal precipitation. The WETS analysis indicated that conditions are likely wetter than normal. This area received an abnormally high amount of rainfall during late summer and fall, with the months of October and August more than doubling their normal amounts of precipitation. Sample point recorded within a subtle depression within an area of mowed reed canary grass.		

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) <u>X</u> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> _____ 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) <u>X</u> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>12</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Saturation observed at 14 inches is too deep to meet wetland hydrology indicator.		

VEGETATION – Use scientific names of plants.

 Sampling Point: P15

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>100</u></td> <td>x 2 = <u>200</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>110</u> (A)</td> <td><u>240</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.18</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>100</u>	x 2 = <u>200</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>110</u> (A)	<u>240</u> (B)	Prevalence Index = B/A = <u>2.18</u>	
Total % Cover of:	Multiply by:																			
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Column Totals: <u>110</u> (A)	<u>240</u> (B)																			
Prevalence Index = B/A = <u>2.18</u>																				
=Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
=Total Cover																				
Herb Stratum (Plot size: <u>5ft</u>)																				
1. <u>Phalaris arundinacea</u>	<u>100</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Poa pratensis</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
<u>110</u> =Total Cover				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 or equal to 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.																
=Total Cover																				
Woody Vine Stratum (Plot size: <u>30ft</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
=Total Cover																				
Remarks: (Include photo numbers here or on a separate sheet.) No shrubs or woody vines observed. Quercus macrocarpa dominating canopy but rooted in uplands outside of the wetland.																				

SOIL

Sampling Point P15

[illegible]

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

10/17/2018

Project/Site: Lower Yahara River Trail Extension City/County: T Dunn/Dane Co. Sampling Date: 11/14/2018
 Applicant/Owner: Matt Schuenke / Village of McFarland State: WI Sampling Point: P16
 Investigator(s): Jeff Kraemer, Scott Fuchs, Heartland Ecological Group Section, Township, Range: T6N, R10E, S11
 Landform (hillside, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear Slope %: 3-5
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sable silty clay loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted to gauge wetness on site compared to a year of normal precipitation. The WETS analysis indicated that conditions are likely wetter than normal. This area received an abnormally high amount of rainfall during late summer and fall, with the months of October and August more than doubling their normal amounts of precipitation. Sample point recorded within mowed uplands adjacent to a treeline composed of spruce trees.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> _____ 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) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No wetland hydrology indicators observed.		

VEGETATION – Use scientific names of plants.

 Sampling Point: P16

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																																									
1. <u>Picea glauca</u>	30	Yes	FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B) Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Total % Cover of:</th> <th style="width: 10%;"></th> <th style="width: 10%;">Multiply by:</th> <th style="width: 10%;"></th> <th style="width: 10%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;">0</td> <td>x 1 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">40</td> <td>x 2 =</td> <td style="text-align: center;">80</td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">0</td> <td>x 3 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">107</td> <td>x 4 =</td> <td style="text-align: center;">428</td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">2</td> <td>x 5 =</td> <td style="text-align: center;">10</td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">149</td> <td>(A)</td> <td style="text-align: center;">518</td> <td>(B)</td> </tr> <tr> <td colspan="5">Prevalence Index = B/A = <u>3.48</u></td> </tr> </tbody> </table>	Total % Cover of:		Multiply by:			OBL species	0	x 1 =	0		FACW species	40	x 2 =	80		FAC species	0	x 3 =	0		FACU species	107	x 4 =	428		UPL species	2	x 5 =	10		Column Totals:	149	(A)	518	(B)	Prevalence Index = B/A = <u>3.48</u>				
Total % Cover of:		Multiply by:																																										
OBL species	0	x 1 =	0																																									
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Column Totals:	149	(A)	518	(B)																																								
Prevalence Index = B/A = <u>3.48</u>																																												
2. _____																																												
3. _____																																												
4. _____																																												
5. _____																																												
6. _____																																												
7. _____																																												
	30	=Total Cover																																										
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)																																												
1. _____																																												
2. _____																																												
3. _____																																												
4. _____																																												
5. _____																																												
6. _____																																												
7. _____																																												
		=Total Cover																																										
Herb Stratum (Plot size: <u>5ft</u>)																																												
1. <u>Poa pratensis</u>	60	Yes	FACU	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																								
2. <u>Phalaris arundinacea</u>	40	Yes	FACW																																									
3. <u>Symphyotrichum pilosum</u>	10	No	FACU																																									
4. <u>Solidago canadensis</u>	5	No	FACU																																									
5. <u>Ageratina altissima</u>	2	No	FACU																																									
6. <u>Daucus carota</u>	2	No	UPL																																									
7. _____																																												
8. _____																																												
9. _____																																												
10. _____																																												
11. _____																																												
12. _____																																												
	119	=Total Cover																																										
Woody Vine Stratum (Plot size: <u>30ft</u>)																																												
1. _____				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 or equal to 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.																																								
2. _____																																												
3. _____																																												
4. _____																																												
		=Total Cover																																										

 Remarks: (Include photo numbers here or on a separate sheet.)
 No shrubs or woody vines observed.

SOIL

Sampling Point P16

[illegible]

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

10/17/2018

Project/Site: Lower Yahara River Trail Extension City/County: T Dunn/Dane Co. Sampling Date: 11/14/2018
 Applicant/Owner: Matt Schuenke / Village of McFarland State: WI Sampling Point: P17
 Investigator(s): Jeff Kraemer, Scott Fuchs, Heartland Ecological Group Section, Township, Range: T6N, R10E, S11
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 0
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sable silty clay loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>W-1 Wet meadow</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted to gauge wetness on site compared to a year of normal precipitation. The WETS analysis indicated that conditions are likely wetter than normal. This area received an abnormally high amount of rainfall during late summer and fall, with the months of October and August more than doubling their normal amounts of precipitation. Sample point recorded within a depression with wet meadow vegetation. A derelict apple orchard lies approximately 100 feet to the south.		

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> _____ 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) <u>X</u> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>18</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Observation of saturation is too deep to meet wetland hydrology indicator.		

VEGETATION – Use scientific names of plants.

 Sampling Point: P17

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>100</u></td> <td>x 2 = <u>200</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>2</u></td> <td>x 4 = <u>8</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>102</u> (A)</td> <td><u>208</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.04</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>100</u>	x 2 = <u>200</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>2</u>	x 4 = <u>8</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>102</u> (A)	<u>208</u> (B)	Prevalence Index = B/A = <u>2.04</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>100</u>	x 2 = <u>200</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>2</u>	x 4 = <u>8</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>102</u> (A)	<u>208</u> (B)																			
Prevalence Index = B/A = <u>2.04</u>																				
=Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				Hydrophytic Vegetation Indicators: ☒ 1 - Rapid Test for Hydrophytic Vegetation ☒ 2 - Dominance Test is >50% ☒ 3 - Prevalence Index is ≤3.0 ¹ ☐ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
=Total Cover																				
Herb Stratum (Plot size: <u>5ft</u>)																				
1. <u>Phalaris arundinacea</u>	<u>100</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Cirsium arvense</u>	<u>2</u>	<u>No</u>	<u>FACU</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
<u>102</u> =Total Cover				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 or equal to 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.																
=Total Cover																				
Woody Vine Stratum (Plot size: <u>30ft</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
=Total Cover																				
=Total Cover																				

 Remarks: (Include photo numbers here or on a separate sheet.)
 No trees, shrubs or woody vines observed. Monoculture of RCG.

SOIL

Sampling Point P17

[illegible]

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

10/17/2018

Project/Site: Lower Yahara River Trail Extension City/County: T Dunn/Dane Co. Sampling Date: 11/14/2018
 Applicant/Owner: Matt Schuenke / Village of McFarland State: WI Sampling Point: P18
 Investigator(s): Jeff Kraemer, Scott Fuchs, Heartland Ecological Group Section, Township, Range: T6N, R10E, S11
 Landform (hillside, terrace, etc.): Plain Local relief (concave, convex, none): Concave Slope %: 1-2
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: St. Charles silt loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted to gauge wetness on site compared to a year of normal precipitation. The WETS analysis indicated that conditions are likely wetter than normal. This area received an abnormally high amount of rainfall during late summer and fall, with the months of October and August more than doubling their normal amounts of precipitation. Sample point recorded within a derelict apple orchard approximately 100 feet south of the wetland area.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> _____ 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) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No wetland hydrology indicators observed.		

VEGETATION – Use scientific names of plants.

 Sampling Point: P18

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Malus pumila</u>	<u>50</u>	<u>Yes</u>	<u>UPL</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
	<u>50</u>	<u>=Total Cover</u>		Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 40%;">Total % Cover of:</th> <th style="width: 60%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>12</u></td> <td>x 3 = <u>36</u></td> </tr> <tr> <td>FACU species <u>32</u></td> <td>x 4 = <u>128</u></td> </tr> <tr> <td>UPL species <u>50</u></td> <td>x 5 = <u>250</u></td> </tr> <tr> <td>Column Totals: <u>104</u></td> <td>(A) <u>434</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>4.17</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>12</u>	x 3 = <u>36</u>	FACU species <u>32</u>	x 4 = <u>128</u>	UPL species <u>50</u>	x 5 = <u>250</u>	Column Totals: <u>104</u>	(A) <u>434</u> (B)	Prevalence Index = B/A = <u>4.17</u>	
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OBL species <u>0</u>	x 1 = <u>0</u>																			
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Prevalence Index = B/A = <u>4.17</u>																				
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		<u>=Total Cover</u>																		
Herb Stratum (Plot size: <u>5ft</u>)																				
1. <u>Phalaris arundinacea</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>Problematic Hydrophytic Vegetation¹ (Explain)</u> ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Geum canadense</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u>Alliaria petiolata</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
4. <u>Symphyotrichum pilosum</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>																	
5. <u>Ageratina altissima</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
6. <u>Glechoma hederacea</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
7. <u>Rumex crispus</u>	<u>2</u>	<u>No</u>	<u>FAC</u>																	
8. <u>Hackelia virginiana</u>	<u>2</u>	<u>No</u>	<u>FACU</u>																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
	<u>54</u>	<u>=Total Cover</u>																		
Woody Vine Stratum (Plot size: <u>30ft</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		<u>=Total Cover</u>																		

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 or equal to 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? Yes No X

 Remarks: (Include photo numbers here or on a separate sheet.)
 No shrubs or woody vines observed.

SOIL

Sampling Point P18

[illegible]

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

10/17/2018

Project/Site: Lower Yahara River Trail Extension City/County: T Dunn/Dane Co. Sampling Date: 11/14/2018
 Applicant/Owner: Matt Schuenke / Village of McFarland State: WI Sampling Point: P19
 Investigator(s): Jeff Kraemer, Scott Fuchs, Heartland Ecological Group Section, Township, Range: T6N, R10E, S11
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 1
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sable silty clay loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: <u>W-1 Wet meadow</u>
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted to gauge wetness on site compared to a year of normal precipitation. The WETS analysis indicated that conditions are likely wetter than normal. This area received an abnormally high amount of rainfall during late summer and fall, with the months of October and August more than doubling their normal amounts of precipitation. Sample point recorded within a wet meadow / shallow marsh with a drainage channel running through it approximately 50 feet east of the road to the west.		

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) <u>X</u> Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> _____ Surface Soil Cracks (B6) <u>X</u> 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) <u>X</u> Geomorphic Position (D2) _____ Shallow Aquitard (D3) _____ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>12</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: There is a drainage channel running through the wetland that drains through a culvert underneath the road to the west.		

VEGETATION – Use scientific names of plants.

 Sampling Point: P19

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>55</u></td> <td>x 1 = <u>55</u></td> </tr> <tr> <td>FACW species <u>50</u></td> <td>x 2 = <u>100</u></td> </tr> <tr> <td>FAC species <u>18</u></td> <td>x 3 = <u>54</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>123</u> (A)</td> <td><u>209</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>1.70</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>55</u>	x 1 = <u>55</u>	FACW species <u>50</u>	x 2 = <u>100</u>	FAC species <u>18</u>	x 3 = <u>54</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>123</u> (A)	<u>209</u> (B)	Prevalence Index = B/A = <u>1.70</u>	
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Column Totals: <u>123</u> (A)	<u>209</u> (B)																			
Prevalence Index = B/A = <u>1.70</u>																				
=Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)																				
1. <u>Cornus racemosa</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover																				
Herb Stratum (Plot size: <u>5ft</u>)																				
1. <u>Phalaris arundinacea</u>	<u>50</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Carex stricta</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>																	
3. <u>Calamagrostis canadensis</u>	<u>15</u>	<u>No</u>	<u>OBL</u>																	
4. <u>Typha angustifolia</u>	<u>15</u>	<u>No</u>	<u>OBL</u>																	
5. <u>Symphyotrichum puniceum</u>	<u>5</u>	<u>No</u>	<u>OBL</u>																	
6. <u>Symphyotrichum lateriflorum</u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
=Total Cover																				
Woody Vine Stratum (Plot size: <u>30ft</u>)																				
1. <u>Vitis riparia</u>	<u>3</u>	<u>No</u>	<u>FAC</u>																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
=Total Cover																				

Hydrophytic Vegetation Indicators:
1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
X 3 - Prevalence Index is ≤3.0¹
4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators 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 or equal to 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? Yes X No

 Remarks: (Include photo numbers here or on a separate sheet.)
 No trees observed. Shallow marsh vegetation present.

SOIL

Sampling Point P19

[illegible]

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

10/17/2018

Project/Site: Lower Yahara River Trail Extension City/County: T Dunn/Dane Co. Sampling Date: 11/14/2018
 Applicant/Owner: Matt Schuenke / Village of McFarland State: WI Sampling Point: P20
 Investigator(s): Jeff Kraemer, Scott Fuchs, Heartland Ecological Group Section, Township, Range: T6N, R10E, S11
 Landform (hillside, terrace, etc.): Gentle slope Local relief (concave, convex, none): Concave Slope %: 2
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sable silty clay loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted to gauge wetness on site compared to a year of normal precipitation. The WETS analysis indicated that conditions are likely wetter than normal. This area received an abnormally high amount of rainfall during late summer and fall, with the months of October and August more than doubling their normal amounts of precipitation. Sample point recorded within old field / shrub-scrub vegetation approximately 50 feet from P19.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> _____ 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) _____ Microtopographic Relief (D4) _____ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No wetland hydrology indicators observed.		

VEGETATION – Use scientific names of plants.

 Sampling Point: P20

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>35</u></td> <td>x 3 = <u>105</u></td> </tr> <tr> <td>FACU species <u>131</u></td> <td>x 4 = <u>524</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>171</u> (A)</td> <td><u>654</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>3.82</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>35</u>	x 3 = <u>105</u>	FACU species <u>131</u>	x 4 = <u>524</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>171</u> (A)	<u>654</u> (B)	Prevalence Index = B/A = <u>3.82</u>	
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UPL species <u>5</u>	x 5 = <u>25</u>																			
Column Totals: <u>171</u> (A)	<u>654</u> (B)																			
Prevalence Index = B/A = <u>3.82</u>																				
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)																				
1. <u>Cornus racemosa</u>	<u>30</u>	<u>Yes</u>	<u>FAC</u>																	
2. <u>Lonicera X bella</u>	<u>20</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Elaeagnus umbellata</u>	<u>5</u>	<u>No</u>	<u>UPL</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
=Total Cover																				
Herb Stratum (Plot size: <u>5ft</u>)																				
1. <u>Festuca rubra</u>	<u>75</u>	<u>Yes</u>	<u>FACU</u>																	
2. <u>Solidago canadensis</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
3. <u>Symphyotrichum pilosum</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
4. <u>Symphyotrichum ericoides</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
5. <u>Taraxacum officinale</u>	<u>3</u>	<u>No</u>	<u>FACU</u>																	
6. <u>Achillea millefolium</u>	<u>2</u>	<u>No</u>	<u>FACU</u>																	
7. <u>Cirsium arvense</u>	<u>1</u>	<u>No</u>	<u>FACU</u>																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
=Total Cover																				
Woody Vine Stratum (Plot size: <u>30ft</u>)																				
1. <u>Vitis riparia</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
=Total Cover																				

Hydrophytic Vegetation Indicators:
1 - Rapid Test for Hydrophytic Vegetation
2 - Dominance Test is >50%
3 - Prevalence Index is ≤3.0¹
4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)
¹Indicators 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 or equal to 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? Yes No X

 Remarks: (Include photo numbers here or on a separate sheet.)
 No trees observed. Mix of shrub-scrub and old field vegetation.

SOIL

Sampling Point P20

[illegible]

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

10/17/2018

Project/Site: Lower Yahara River Trail Extension City/County: T Dunn/Dane Co. Sampling Date: 11/14/2018
 Applicant/Owner: Matt Schuenke / Village of McFarland State: WI Sampling Point: P21
 Investigator(s): Jeff Kraemer, Scott Fuchs, Heartland Ecological Group Section, Township, Range: T6N, R10E, S11
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 1
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sable silty clay loam NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No X (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted to gauge wetness on site compared to a year of normal precipitation. The WETS analysis indicated that conditions are likely wetter than normal. This area received an abnormally high amount of rainfall during late summer and fall, with the months of October and August more than doubling their normal amounts of precipitation. Sample point recorded in a depression within an old apple orchard.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> _____ 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) _____ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No wetland hydrology indicators observed other than Fac Neutral.		

VEGETATION – Use scientific names of plants.

 Sampling Point: P21

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B) Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>100</u></td> <td>x 2 = <u>200</u></td> </tr> <tr> <td>FAC species <u>1</u></td> <td>x 3 = <u>3</u></td> </tr> <tr> <td>FACU species <u>3</u></td> <td>x 4 = <u>12</u></td> </tr> <tr> <td>UPL species <u>3</u></td> <td>x 5 = <u>15</u></td> </tr> <tr> <td>Column Totals: <u>107</u> (A)</td> <td><u>230</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.15</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>100</u>	x 2 = <u>200</u>	FAC species <u>1</u>	x 3 = <u>3</u>	FACU species <u>3</u>	x 4 = <u>12</u>	UPL species <u>3</u>	x 5 = <u>15</u>	Column Totals: <u>107</u> (A)	<u>230</u> (B)	Prevalence Index = B/A = <u>2.15</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
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Column Totals: <u>107</u> (A)	<u>230</u> (B)																			
Prevalence Index = B/A = <u>2.15</u>																				
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)																				
1. <u>Rosa multiflora</u>	<u>1</u>	<u>No</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		=Total Cover																		
Herb Stratum (Plot size: <u>5ft</u>)																				
1. <u>Phalaris arundinacea</u>	<u>100</u>	<u>Yes</u>	<u>FACW</u>	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 or equal to 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? Yes <u>X</u> No _____																
2. <u>Pastinaca sativa</u>	<u>2</u>	<u>No</u>	<u>UPL</u>																	
3. <u>Solidago canadensis</u>	<u>2</u>	<u>No</u>	<u>FACU</u>																	
4. <u>Urtica dioica</u>	<u>1</u>	<u>No</u>	<u>FAC</u>																	
5. <u>Rubus occidentalis</u>	<u>1</u>	<u>No</u>	<u>UPL</u>																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
		=Total Cover																		
Woody Vine Stratum (Plot size: <u>30ft</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		=Total Cover																		

 Remarks: (Include photo numbers here or on a separate sheet.)
 No trees or woody vines observed.

SOIL

Sampling Point P21

[illegible]



Village of McFarland
Lower Yahara River Trail Extension
Project #: 20180124
March 13, 2019

Appendix D | Site Photographs



Photo #1 Sample point P3



Photo #2 Sample point P3



Photo #3 Sample point P3



Photo #4 Sample point P3



Photo #5 Sample point P4



Photo #6 Sample point P4



Photo #7 Sample point P4



Photo #8 Sample point P4



Photo #9 Sample point P5



Photo #10 Sample point P5



Photo #11 Sample point P5



Photo #12 Sample point P5



Photo #13 Sample point P6



Photo #14 Sample point P6

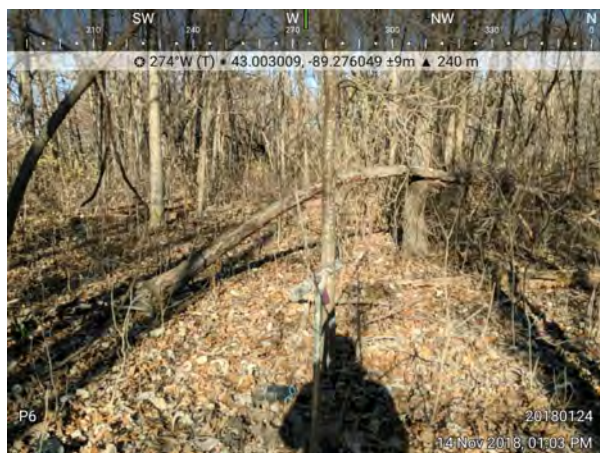


Photo #15 Sample point P6



Photo #16 Sample point P6



Photo #17 Sample point P7



Photo #18 Sample point P7



Photo #19 Sample point P7



Photo #20 Sample point P7



Photo #21 Sample point P8



Photo #22 Sample point P8

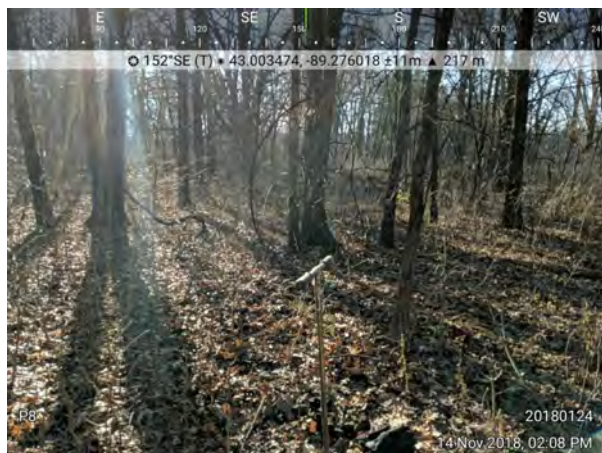


Photo #23 Sample point P8



Photo #24 Sample point P8



Photo #25 Sample point P9



Photo #26 Sample point P9



Photo #27 Sample point P9



Photo #28 Sample point P9



Photo #29 Sample point P10



Photo #30 Sample point P10



Photo #31 Sample point P10



Photo #32 Sample point P10



Photo #33 Sample point P11



Photo #34 Sample point P11



Photo #35 Sample point P11



Photo #36 Sample point P11



Photo #37 Sample point P12



Photo #38 Sample point P12



Photo #39 Sample point P12



Photo #40 Sample point P12



Photo #41 Sample point P13



Photo #42 Sample point P13



Photo #43 Sample point P13



Photo #44 Sample point P13



Photo #45 Sample point P14



Photo #46 Sample point P14



Photo #47 Sample point P14



Photo #48 Sample point P14



Photo #49 Sample point P15



Photo #50 Sample point P15



Photo #51 Sample point P15



Photo #52 Sample point P15



Photo #53 Sample point P16



Photo #54 Sample point P16



Photo #55 Sample point P16



Photo #56 Sample point P16



Photo #57 Sample point P17



Photo #58 Sample point P17



Photo #59 Sample point P17



Photo #60 Sample point P17



Photo #61 Sample point P18



Photo #62 Sample point P18



Photo #63 Sample point P18



Photo #64 Sample point P18



Photo #65 Sample point P19



Photo #66 Sample point P19



Photo #67 Sample point P19

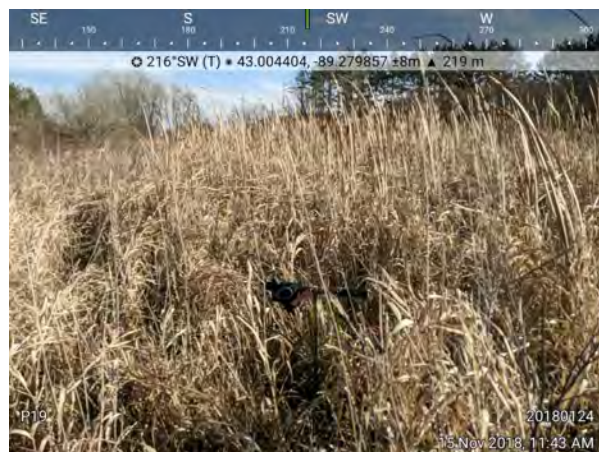


Photo #68 Sample point P19

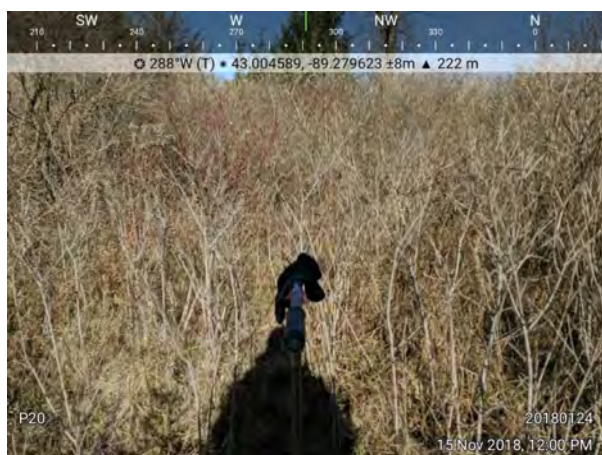


Photo #69 Sample point P20



Photo #70 Sample point P20



Photo #71 Sample point P20



Photo #72 Sample point P20



Photo #73 Sample point P21



Photo #74 Sample point P21

Note: Compass directions as seen in these photos have been found to be inaccurate; however, the four photos at each sample point were recorded at roughly 90 degree angles to each other.



Village of McFarland
Lower Yahara River Trail Extension
Project #: 20180124
March 13, 2019

Appendix E | Delineator Qualifications



Jeff Kraemer

Principal Scientist
506 Springdale Street
Mount Horeb, WI 53572
jeff@heartlandecological.com
(608) 433-9864

Jeff is the founder of Heartland Ecological Group, Inc. With over 16 years' experience as an environmental consultant, ecological and regulatory policy practitioner, and managing business leader, Jeff provides proven value to clients with his vast experience guiding often complex projects through environmental regulatory and technical challenges applied throughout a diversity of industry sectors. Jeff is recognized by the Wisconsin Department of Natural Resources Wetland Delineation Assurance Program and is the longest standing assured wetland delineator in the state of Wisconsin.

Jeff is a recognized expert in the field of wetland ecology and delineation; wetland restoration and mitigation banking; and regulatory policy and permitting associated with wetlands and waterways. His experience includes: Wetland Determination, Delineation & Functional Assessment; Wetland Restoration, Mitigation, Banking & Monitoring; Botanical / Biological Surveys & Natural Resource Inventories; Rare Species Surveys, Conservation Plans & Monitoring; Habitat Restoration, Wildlife Surveys, SCAT surveys, Environmental Assessments; Local, state, federal permit applications; Expert Witness testimony; and Regulatory permit compliance.

Education

MS, Biological Sciences (Emphasis in Wetland Ecology), University of Wisconsin – Milwaukee, WI, 2003

BS, Biological Sciences (Emphasis in Aquatic Biology) University of Wisconsin – La Crosse, WI 1999

Regional Supplement Field Practicum
Wetland Training Institute (WTI)
Portage, WI, 2017

Basic and Advanced Wetland Delineation
Training, Continuing Education and Extension,
UW-La Crosse, WI, 2001

Identification of Sedges Workshop, UW-
Milwaukee, Saukville, WI 2001

Vegetation of Wisconsin Workshop, UW-
Milwaukee, Saukville, WI 2000

Environmental Corridor Delineation Workshop,
Southeastern Wisconsin Regional Planning
Commission (SEWRPC), 2004

Wetland Soils and Hydrology Workshop,
Wetland Training Institute, Toledo, OH, 2003

Critical Methods in Wetland Delineation
University of Wisconsin - La Crosse Continuing
Education and Extension
Madison, WI, 2006 - 2018

Federal Wetland Regulatory Policy Course
Wetlands Training Institute (WTI)
Cottage Grove, WI, 2010

Registrations

Professionally Assured Wetland Delineator,
Wisconsin Department of Natural Resources
(2005-Present)

Wetland Professional in Training (WPIT),
Society of Wetland Scientists Certification
Programs



Scott Fuchs

Environmental Technician
506 Springdale Street
Mount Horeb, WI 53572
scott@heartlandecological.com
(608) 433-9864

Scott is a natural resource professional with expertise in botany, wetland assessment, natural plant communities of Wisconsin, and geographic information systems (GIS). Scott has been involved in the field of ecological restoration and conservation for over five years working as a field restoration ecologist and crew leader, and ecology research assistant for both non-profit and private sector employers. Since joining Heartland, Scott has provided support for completion of hundreds of wetland delineations and determinations, data collection, and served as lead delineator on many delineations that were subsequently confirmed by WI DNR wetland regulatory staff. Scott also provides technical support by assisting with natural areas restoration planning, monitoring, and management, developing GIS based project mapping and planning, collecting and interpreting historic aerial imagery, and performing analysis of GIS data sets.

His experience includes: wetland determination and delineation, collecting and processing monitoring well hydrology data, wetland mitigation bank viability analysis and planning, preparing state artificial wetland exemption requests, compiling wetland delineation reports, long-term vegetation and wildlife monitoring, rare species surveys, invasive species control, conducting prescribed burns, and invasive brush and tree removal.

Education

BS, Biology (Emphasis in Ecology), University of Wisconsin – Whitewater, Whitewater, WI, 2015

Basic Wetland Delineation Training, Continuing Education and Extension, UW-La Crosse, La Crosse WI, (To Complete June 2019)

Critical Methods in Wetland Delineation, Continuing Education and Extension, UW-La Crosse, Madison WI, 2019

Certifications and Training

Wildland Fire Fighter Type 2, National Wildfire Coordinating Group, Incident Management Specialists, LLC, Madison WI, 2017

Level One Chainsaw Safety Training, Forest Industry Safety & Training Alliance, Eau Claire WI, 2016

Certified Pesticide Applicator (Category 6), Wisconsin Department of Trade and Consumer Protection, Madison WI, 2016



Project Experience

Wetland Determinations and Delineations

Nuemann Development: Port Washington Road Subdivision, Ozaukee Co., WI

Performed a wetland determination and delineation within a 50-acre agricultural field. Compiled historic information to support an approved WI Act 183 artificial wetland exemption for wetlands located on site.

1520 LLC: Port Washington Road Commercial Development, Ozaukee Co., WI

Performed a wetland determination and delineation within a highly disturbed 3-acre parcel that was subsequently confirmed by WI DNR wetland regulatory staff. Compiled historic information to support an approved WI Act 183 artificial wetland exemption for wetlands located on site.

Hydrology Monitoring Well Data Analysis

Bear Development: Barnes Prairie Mitigation Bank Site, Kenosha Co., WI

Performed collection and processing of data from 46 hydrology monitoring wells located throughout a 230-acre agricultural field. Analyzed data to determine if wetland hydrology was present in the location of the sampling wells. Produced graphical representations of precipitation and ground water level data.

Vegetation, Wildlife, and Rare Species Monitoring

Nantucket Conservation Foundation: Head of the Plains, Nantucket County, MA

Conducted vegetation monitoring, small mammal live-trapping, and insect pitfall trapping to collect data that is being used in a longitudinal study exploring the viability of different ecological management techniques in sandplain grassland habitat, a globally rare ecological community.

Nantucket Conservation Foundation: Head of the Plains, Nantucket County, MA

Installed acoustic bat monitoring devices and regularly downloaded the recorded data to determine the presence of different bat species. Assisted in mist-netting and radio telemetry tracking of federally threatened northern long-eared bats. Performed emergence counts of bat roosting locations discovered via radio telemetry tracking.

Nantucket Conservation Foundation: Coatue, Nantucket County, MA

Conducted vegetation monitoring for a graduate level study investigating the effects of cormorant nesting on plant communities in remote sand dune/shoal habitats.

Ecological Restoration and Invasive Species Management

Good Oak Ecological Services, Numerous Locations Throughout Dane County, WI

Performed invasive species management and ecological restoration activities in prairie, oak savanna, and oak woodland habitats throughout Dane County. Activities included chemical and mechanical control of invasive species, invasive brush and tree removal with chainsaws and brush cutters, prescribed burns on small to medium (1-15 acres) sized prairies and oak woodlands, native plant seeding, and erosion control installation.



UW-Madison, UW-Madison Lakeshore Preserve, Dane County, WI

Performed invasive species management on thistle, garlic mustard, dame's rocket, and porcelain berry via chemical spraying and cut-and-treat methods.

Nantucket Conservation Foundation: Head of the Plains, Sanford Farm / Ram Pasture, Madequecham Valley, Nantucket County, MA

Performed cut-and-treat management of invasive Phragmites in salt marsh habitats.

Nantucket Conservation Foundation: Tupancy Links, Nantucket County, MA

Performed seed collection, propagation, and plug planting of native sandplain grassland species.



Assured Wetland Delineation Report

Utterback Property North

Town of Dunn, Dane County, Wisconsin

December 20, 2019

Project Number: 20190239

Utterback Property North

Town of Bucky, Dane County, Wisconsin

December 20, 2019

Prepared for:

Mr. Chris Ehlers

VH Acquisitions LLC

6801 South Towne Drive

Madison, WI 53713

Prepared by:

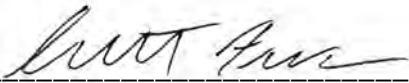
Heartland Ecological Group, Inc.

506 Springdale Street

Mount Horeb, WI 53572

608-490-2450

www.heartlandecological.com



Scott Fuchs, Environmental Technician



Jeff Kraemer, Principal

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Appendix C | Wetland Determination Data Sheets

Appendix D | Site Photographs

Appendix E | Delineator Qualifications

Appendix F | NAIP Aerial Imagery



1.0 Introduction

Heartland Ecological Group, Inc. (“Heartland”) completed an assured wetland determination and delineation on the Utterback Property North site on September 16, 2019 at the request of VH Acquisitions LLC. Fieldwork was completed by Jeff Kraemer, an assured delineator qualified via the Wisconsin Department of Natural Resources (WDNR) Wetland Delineation Assurance Program (Appendix E, Qualifications). The 39.80-acre site (the “Study Area”) is east of the ends of Tuscobia Trail and Prairie Wood Drive, and west of County Highway AB, in the southeast $\frac{1}{4}$ of Section 2, T6N, R10E, Town of Dunn, Dane County, WI (Figure 1, Appendix A). The purpose of the wetland delineation was to determine the location and extent of wetlands within the Study Area.

One (1) wetland area totaling approximately 1.20 acres was delineated and mapped within the Study Area (Figure 6, Appendix A). Wetlands discussed in this report may be subject to federal regulation under the jurisdiction of the U.S. Army Corps of Engineers (USACE), state regulation under the jurisdiction of the WDNR, and local zoning authorities. Heartland recommends this report be submitted to local authorities, the WDNR, and USACE for final jurisdictional review and concurrence.



2.0 Methods

2.1 Wetlands

Wetlands were determined and delineated using the criteria and methods described in the USACE Wetlands Delineation Manual, T.R. Y-87-1 ("1987 Corps Manual") and the applicable *Regional Supplement to the Corps of Engineers Wetland Delineation Manual*. In addition, the *Guidance for Submittal of Delineation Reports to the St. Paul District USACE and the WDNR* (WDNR, 2015) was followed in completing the wetland delineation and report.

Determinations and delineations utilized available resources including the U.S. Geological Survey's (USGS) *WI 7.5 Minute Series (Topographic) Map* (Figure 2, Appendix A), the Natural Resource Conservation Service's (NRCS) Soil Survey Geographic Database (SSURGO), U.S. Department of Agriculture's (USDA) *Web Soil Survey* (Figure 3, Appendix A), the Wisconsin Department of Natural Resources' *Surface Water Data Viewer's* wetland indicator data layer (Figure 4, Appendix A), the WDNR's *Wisconsin Wetland Inventory* data layer (Figure 5, Appendix A), and aerial imagery available through the USDA Farm Service Agency's (FSA) National Agriculture Imagery Program (NAIP), Google Earth™, and Dane County's interactive mapping. The USGS *National Hydrography Dataset* is included on Figures 2 and 5, Appendix A.

Wetland determinations were completed on-site at sample points, often along transects, using the three (3) criteria (vegetation, soil, and hydrology) approach per the 1987 Corps Manual and the Regional Supplement. Procedures in these sources were followed to demonstrate that, under normal circumstances, wetlands were present or not present based on a predominance of hydrophytic vegetation, hydric soils, and wetland hydrology.

Atypical conditions were encountered within the Study Area due to the presence of agricultural fields including row-cropping and hay fields. Therefore, procedures for managed plant communities in the *Problematic hydrophytic vegetation* section described in Chapter 5 (Difficult Wetland Situations) of the Regional Supplement were used. NAIP imagery were reviewed for evidence of crop stress, saturation, or inundation signatures. Sample point placements for the wetland delineation were partially determined based on such signatures.



Recent weather conditions influence the visibility or presence of certain wetland hydrology indicators. An assessment of recent precipitation patterns helps to determine if climatic/hydrologic conditions were typical when the field investigation was completed. Therefore, a review of the antecedent precipitation in the three (3) months leading up to the field investigation was completed. Using a WETS analysis developed by the NRCS, the amounts of precipitation in these three (3) months were compared to averages and standard deviation thresholds over the past 30 years to generally represent if conditions encountered during the investigation were normal, wet, or dry. Recent precipitation events in the week prior to the investigation were considered while interpreting wetland hydrology indicators. In some cases, the Palmer Drought Index was checked for long-term drought or moist conditions (NOAA, 2018).

The uppermost wetland boundary and sample points were identified and marked with wetland flagging and located with a Global Positioning System (GPS) capable of sub-meter accuracy. In some cases, wetland flagging was not utilized to mark the boundary and the location was only recorded with a GPS unit, particularly in active agricultural areas. The GPS data was then used to map the wetlands using ESRI ArcMap™ 10.6 software.

3.0 Results and Discussion

3.1 Desktop Review

Climatic Conditions

According to the WETS analysis using the previous three (3) months of precipitation data, conditions encountered at the time of the fieldwork were expected to be normal for the time of year (Appendix B). The Palmer Drought Index was checked on line and the long-term conditions at the time of the fieldwork were in the extremely moist range. Fieldwork was completed at the end of the dry-season based on long-term regional hydrology data utilized in the WebWIMP Climatic Water Balance web site.

General Topography and Land Use

The topography within the Study Area was rolling, with various hills, depressions, and slopes, but generally was sloping towards the railway which makes up the southern boundary of the site. A topographic high of approximately 895 feet above mean sea level



(msl) is present along the northern boundary of the site, and a topographic low of approximately 865 feet above msl is present within the depression in the southeast corner of the site (Figures 2 and 6, Appendix A). Land use within the Study Area consists of agricultural row cropping. Surrounding areas are primarily agricultural row cropping and residential homes. General drainage is to the south and east.

Soil Mapping

Soils mapped by the NRCS Soil Survey within the Study Area and their hydric status are summarized in Table 1. Wetlands identified during the field investigation are located primarily within areas mapped as hydric or partially hydric soils including wetland indicator soils (Figures 3 and 4, Appendix A).

Table 1. Summary of NRCS Mapped Soils within the Study Area

Soil symbol: Soil Unit Name	Soil Unit Component	Soil Unit Component Percentage	Landform	Hydric status
Co: Colwood silt loam, 0 to 2 percent slopes	Colwood	80-90	Lakebeds (relict)	Yes
	Pella	5-10	Drainageways	Yes
	Palms	5-10	Depressions	Yes
DnB: Dodge silt loam, 2 to 6 percent slopes	Dodge	80-95	Drumlins	No
	St. Charles	3-10	Drumlins	No
	Mayville	2-7	Drumlins	No
	Lamartine	0-3	Drumlins	No
EgA: Elburn silt loam, gravelly substratum, 0 to 3 percent slopes	Elburn-Gravelly substratum	85-95	Till plains	No
	Sable	2-5	Drainageways	Yes
	Drummer	2-5	Drainageways	Yes
	Mahalasville	2-5	Drainageways	Yes
GsB: Grays silt loam, 2 to 6 percent slopes	Grays	100	Lake plains	No
KeB: Kegonsa silt loam, 2 to 6 percent slopes	Kegonsa	100	Outwash plains	No
KrD2: Kidder soils, 10 to 20 percent slopes, eroded	Kidder-Loam	60	Recessional moraines, terminal moraines, drumlins	No



Soil symbol: Soil Unit Name	Soil Unit Component	Soil Unit Component Percentage	Landform	Hydric status
	Kidder-Sandy loam	30	Recessional moraines, terminal moraines, drumlins	No
PoB: Plano silt loam, gravelly substratum, 2 to 6 percent slopes	Plano-Gravelly substratum	80-90	Outwash plains	No
	Warsaw	5-10	Outwash plains	No
	Plano-Moderately wet gravelly substratum	5-10	Outwash plains	No
SaA: Sable silty clay loam, 0 to 2 percent slopes	Sable	85-100	Swales	Yes
	Muscature	0-6	Ground moraines	No
	Ipava	0-7	Ground moraines	No
	Buckhart	0-4	Knolls	No
	Elburn	0-3	Outwash plains	No

Wetland Mapping

The Wisconsin Wetlands Inventory (WWI) mapping (Figure 5, Appendix A) does not depict any wetlands within the Study Area.

Aerial Photography

A formal off-site analysis was not completed due to a lack of mapped hydric soils within the Study Area, however available NAIP imagery from 2004 through 2018 (Appendix F) were reviewed to assist in understanding the recent history of the Study Area and to evaluate for general wetland signatures. This imagery showed a consistent use of agricultural row cropping within the Study Area. A depression in the southeast corner of the Study Area featured consistent wetland signatures in the reviewed imagery.

3.2 Field Review

One (1) wetland was identified and delineated within the Study Area based on both the desktop review, including a review of aerial imagery, and a field reconnaissance. Wetland determination data sheets (Appendix C) were completed at two (2) sample points that were



representative of the wetland and upland conditions near the boundary and where potential wetlands may be present based on the desktop review and field reconnaissance. Appendix D provides photographs, typically at the sample point locations of the wetlands and adjacent uplands. The wetland boundary and sample point locations are shown on Figure 6 (Appendix A) and the wetlands are summarized in Table 2 and detailed in the following sections.

Table 2. Summary of Wetlands Identified within the Study Area

Wetland ID	Wetland Description	*Surface Water Connections	*NR151 Protective Area	Acreage (on-site)
W-1	Farmed Wet Meadow	Potentially Isolated	Less susceptible, 10-30 feet	1.20
<i>*Classification based on Heartland's professional opinion. Jurisdictional authority of wetland and waterway protective areas under NR 151 lies with the WDNR. Local zoning authorities may have additional restrictions. USACE has authority for determining federal jurisdiction of wetlands and waterways.</i>				1.20

Wetland 1 (W-1)

Wetland 1 (W-1) is a 1.20-acre wet meadow with a history of being farmed and is located within a depression in the southeastern corner of the Study Area.

Dominant vegetation observed in W-1 included fall panic grass (*Panicum dichotomiflorum*, FACW) and reed canary grass (*Phalaris arundinacea*, FACW).

The Depleted Matrix (F3) hydric soil indicator was observed within W-1, which is inconsistent with the NRCS-mapped Kegonsa silt loam soil type.

The primary wetland hydrology indicators of Surface Water (A1) and High Water Table (A2) were observed within W-1, while secondary indicators included Geomorphic Position (D2) and a positive FAC-Neutral Test (D5).

Wetland W-1 appears to be an isolated depression and its boundaries follow a moderately-defined topographic break. The boundaries were partially determined by the wetland signatures observed during the review of NAIP aerial imagery and located in the field.



3.3 Other Considerations

This report is limited to the identification and delineation of wetlands within the Study Area. Other regulated environmental resources that result in land use restrictions may be present within the Study Area that were not evaluated by Heartland (e.g. navigable waterways, floodplains, cultural resources, and threatened or endangered species).

Wisconsin Act 183 provides exemptions to permitting requirements for certain nonfederal wetlands. Nonfederal wetlands are wetlands that are not subject to federal jurisdiction. Exemptions apply to projects in urban areas with wetland impacts up to 1-acre per parcel. An urban area is defined as an incorporated area; an area within ½ mile of an incorporated area; or an area served by a sewerage system. Exemptions for nonfederal wetlands also apply to projects in rural areas with wetland impacts up to three (3) acres per parcel. Exemptions in rural areas only apply to structures with an agricultural purpose such as buildings, roads, and driveways. The determination of federal and nonfederal wetlands MUST be made by the USACE through an Approved Jurisdictional Determination (AJD). This report may be submitted to the USACE to assist with their determination.

Wis. Adm. Code NR 151 ("NR 151") requires that a "protective area" (buffer) be determined from the Ordinary High-Water Mark (OHWM) of lakes, streams and rivers, or at the delineated boundary of wetlands. Per NR 151.12, the protective area width 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 recent mapping require a protective area width of 50 feet; while "highly susceptible wetlands" are associated with outstanding or exceptional resource waters in areas of special natural resource interest and require protective area width of 75 feet. Table 2 above lists the potential wetland buffers per NR 151 for each wetland identified based on Heartland's professional opinion. Please note that jurisdictional authority on wetland and waterway protective areas under NR 151 lies with the WDNR. Local zoning authorities and regional planning organizations may have additional land use restrictions within or adjacent to wetlands.



4.0 Conclusion

Heartland completed an assured wetland determination and delineation within the Utterback Property North site on September 16, 2019 at the request of VH Acquisitions LLC. Fieldwork was completed by Jeff Kraemer, an assured delineator qualified via the WDNR Wetland Delineation Assurance Program. The Study Area lies in Section 2, T6N, R10E, Town of Dunn, Dane County, WI.

One (1) wetland area was delineated and mapped within the 39.80-acre Study Area. The wetland, which may be classified as a farmed wet meadow, totals approximately 1.20 acres within the Study Area.

Wetlands and waterways discussed in this report may be subject to federal regulation under the jurisdiction of the U.S. Army Corps of Engineers (USACE), state regulation under the jurisdiction of the WDNR, and the local zoning authority. Heartland recommends this report be submitted to the USACE for final jurisdictional review and concurrence. Review by local authorities may be necessary for determination of any applicable zoning and setback restrictions.

Heartland recommends that all applicable regulatory agency reviews and permits are obtained prior to beginning work within the Study Area or within or adjacent to wetlands or waterways. Heartland can assist with evaluating the need for additional environmental reviews, surveys, or regulatory agency coordination in consideration of the proposed activity and land use as requested but is outside of the scope of the wetland delineation.

Experienced and qualified professionals completed the wetland determination and delineation using standard practices and professional judgment. Wetland boundaries may be affected by conditions present within the Study Area at the time of the fieldwork. All final decisions on wetlands and their boundaries are made by the USACE, the WDNR, and/or sometimes a local unit of government. Wetland determination and boundary reviews by regulatory agencies may result in modifications to the findings presented to the Client. These modifications may result from varying conditions between the time the wetland delineation was completed and the time of the review. Factors that may influence the findings may include but not limited to precipitation patterns, drainage modifications, changes or modification to vegetation, and the time of year.



5.0 References

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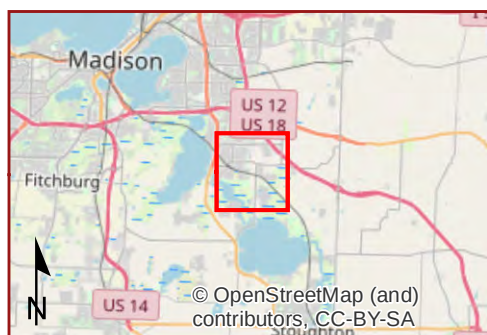
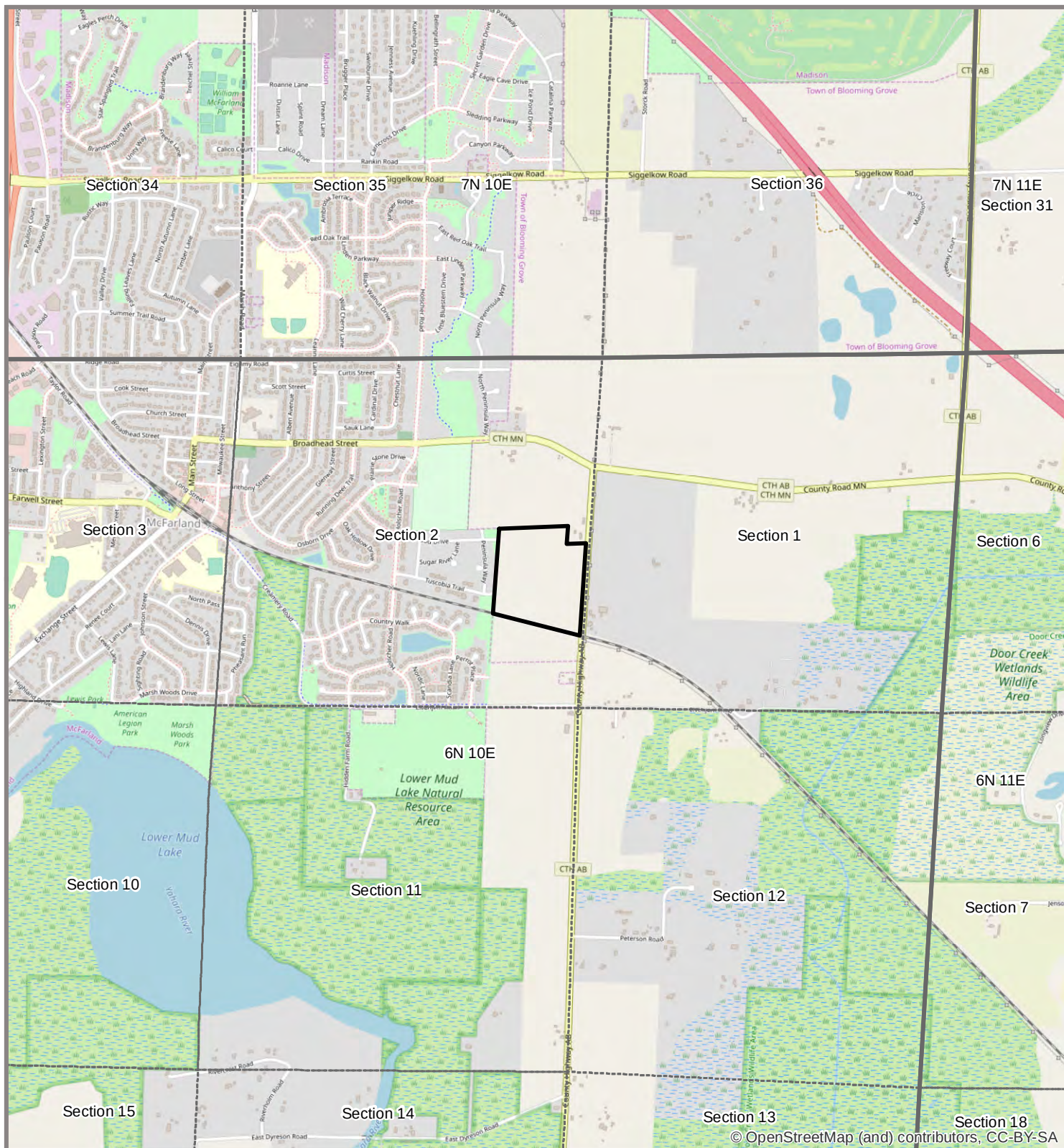
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VH Acquisitions LLC
Utterback Property North
Project #: 20190239
December 20, 2019

Appendix A | Figures



- Study Area (39.80 ac)
- Township
- Section

0 1,000 2,000
Ft

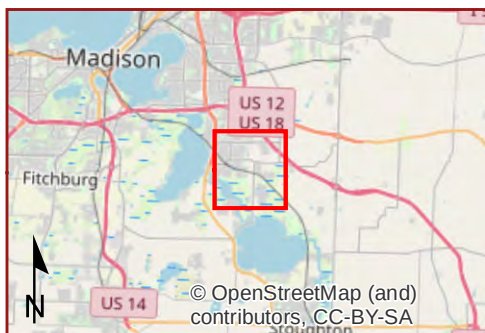
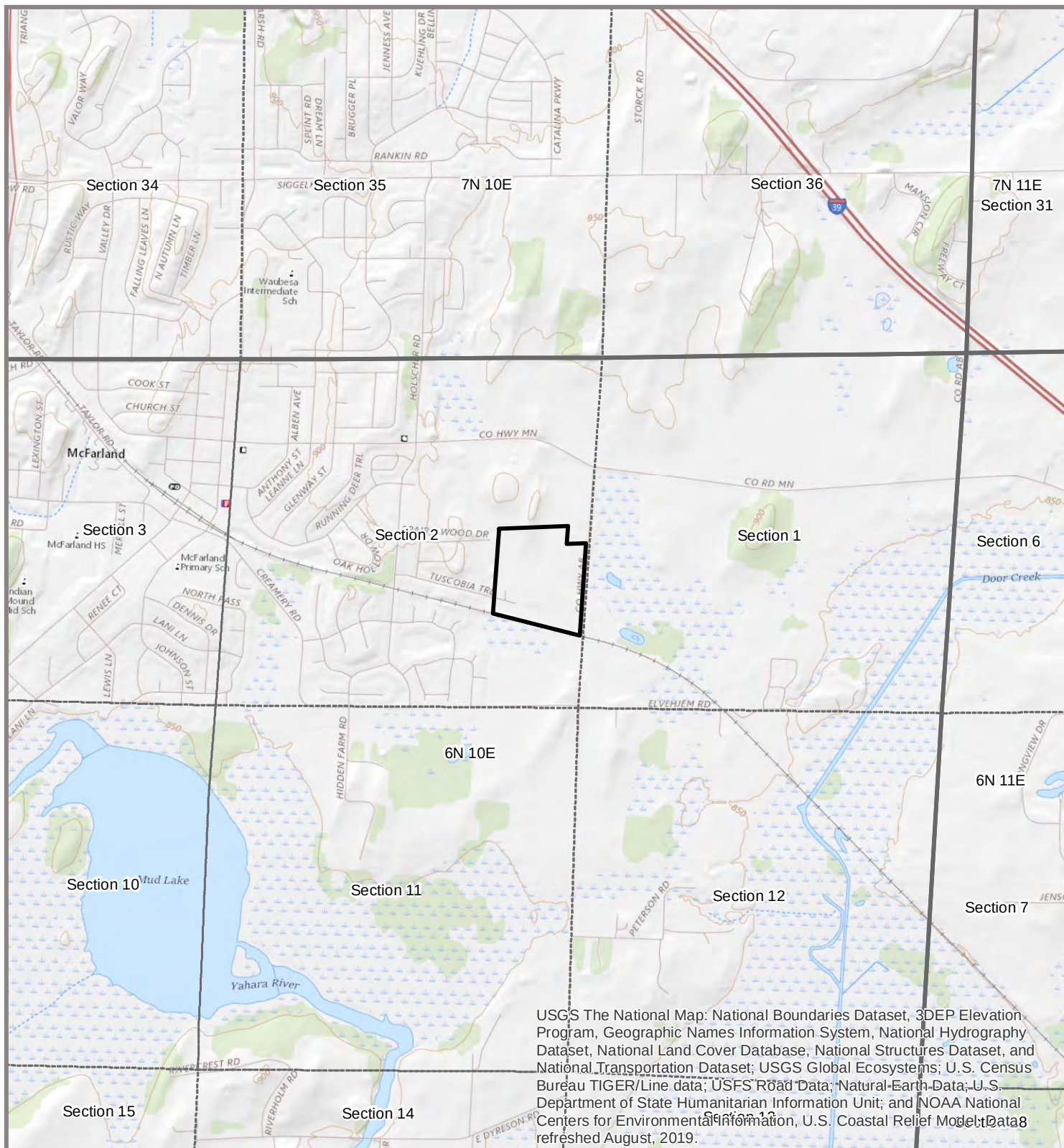
Heartland
ECOLOGICAL GROUP INC

Figure 1. Project Location

Utterback Property North
Project #20190239
T6N, R10E, S02
T Dunn, Dane Co, WI

OpenStreetMap
Data: ESRI

12/17/2019



- Study Area (39.80 ac)
- Township
- Section

0 1,000 2,000
Ft

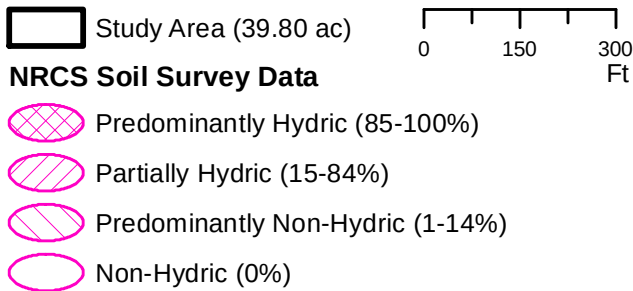
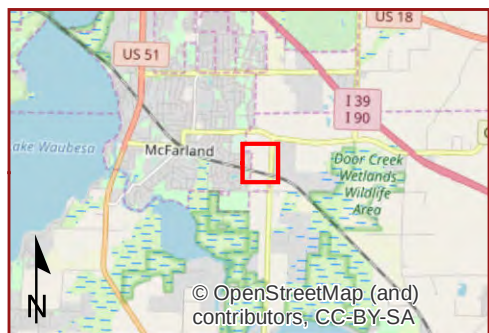
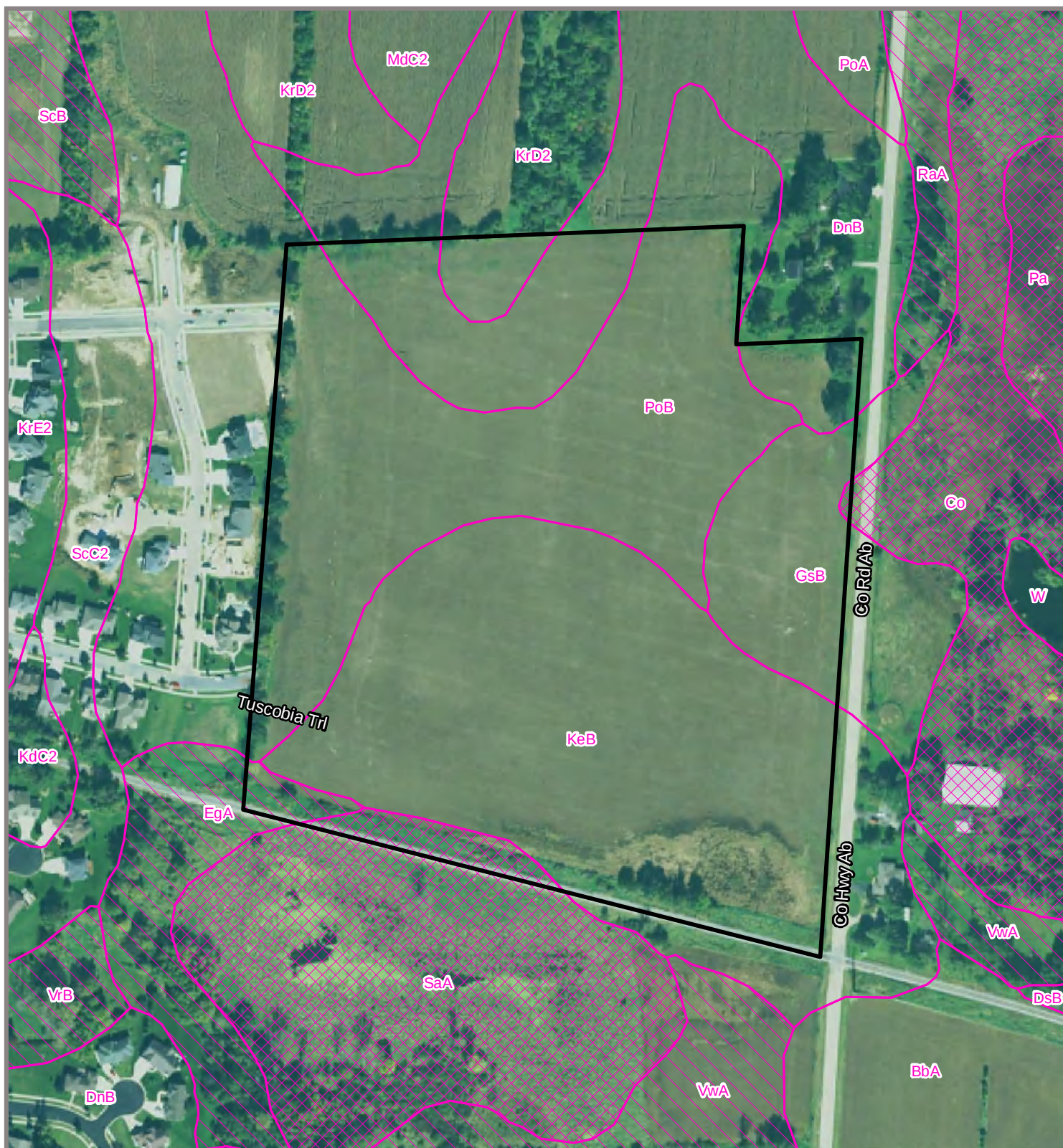
Heartland
ECOLOGICAL GROUP INC

Figure 2. USGS Topography

Utterback Property North
Project #20190239
T6N, R10E, S02
T Dunn, Dane Co, WI

USGS Topo
Data: USGS

12/17/2019



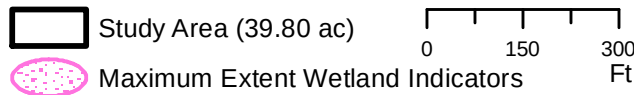
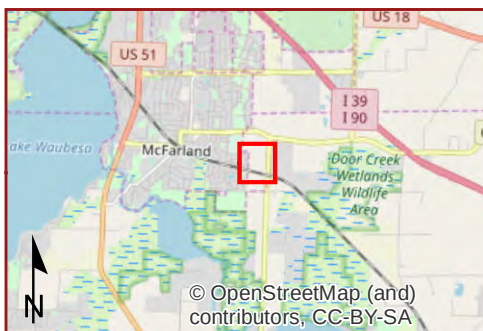
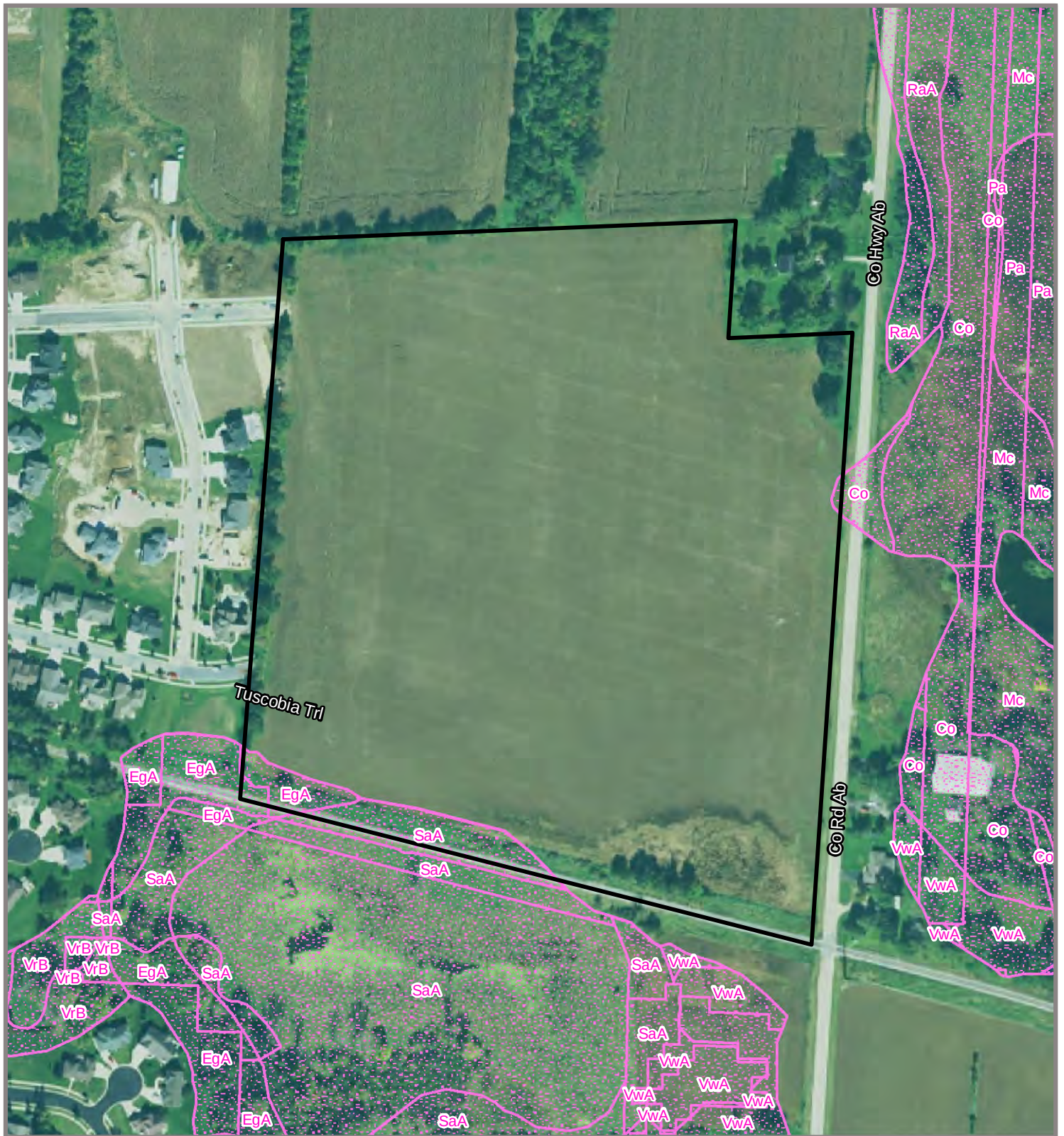
Heartland
ECOLOGICAL GROUP INC

**Figure 3. NRCS
Hydric Soils**

Utterback Property North
Project #20190239
T6N, R10E, S02
T Dunn, Dane Co, WI

2018 NAIP
Data: NRCS

12/17/2019



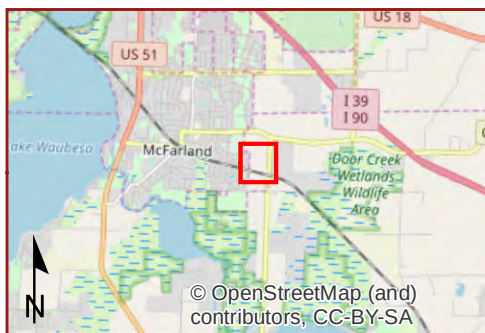
Heartland
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**Figure 4. SWDV
Wetland Indicators**

Utterback Property North
Project #20190239
T6N, R10E, S02
T Dunn, Dane Co, WI

2018 NAIP
Data: WDNR

12/17/2019



- Study Area (39.80 ac)
- WWI Wetlands
- NHD Waterway
- NHD Waterbody

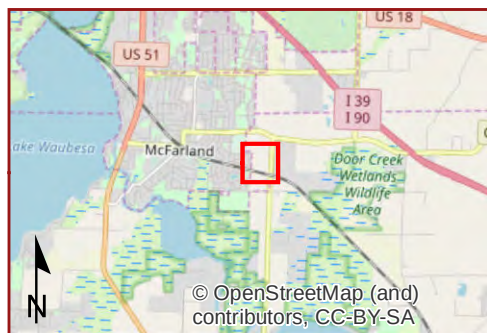
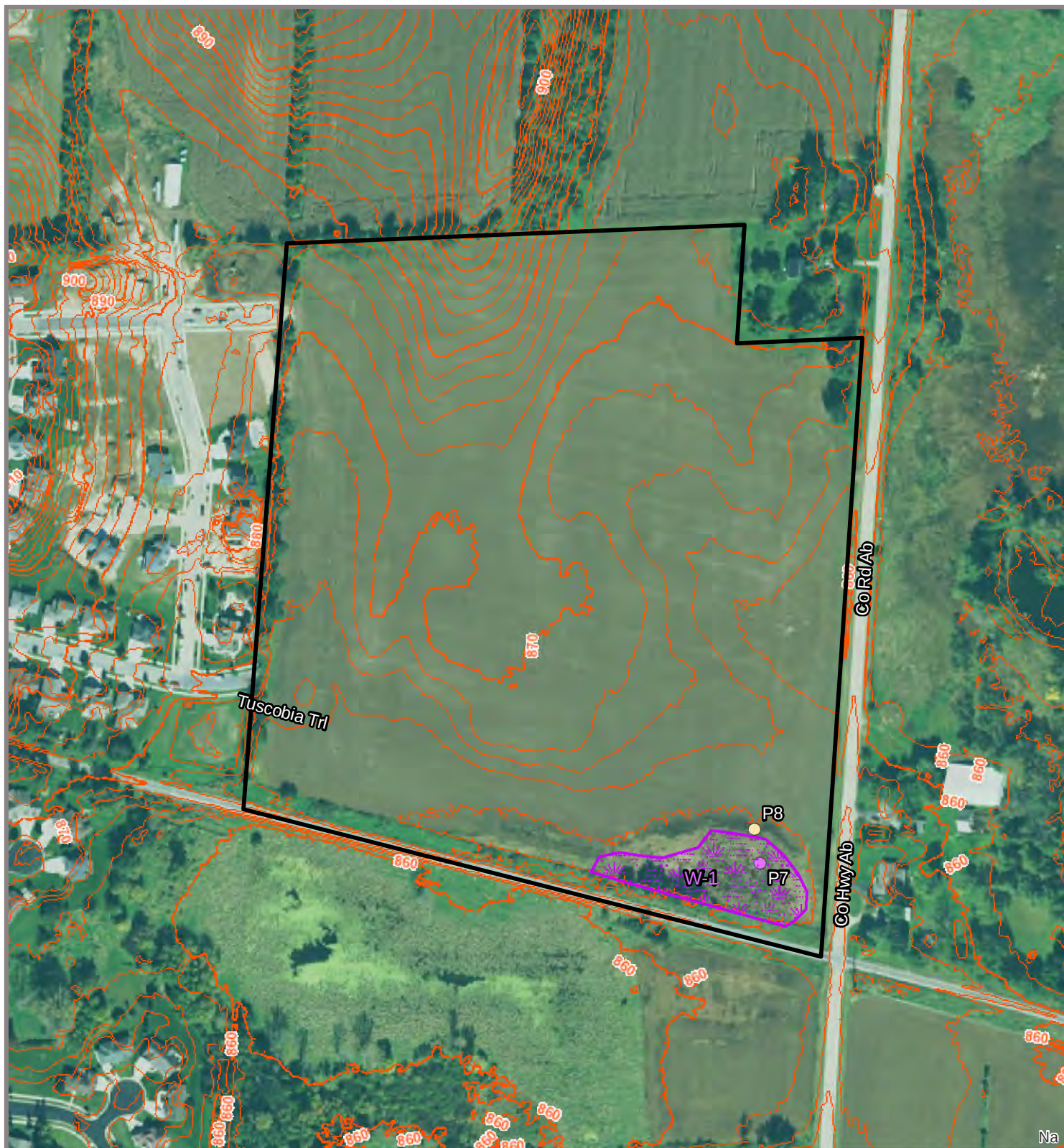
0 150 300
Ft

Heartland
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Figure 5. Wisconsin Wetland Inventory

Utterback Property North
Project #20190239
T6N, R10E, S02
T Dunn, Dane Co, WI

2018 NAIP
Data: USGS, WDNR 12/17/2019



- Study Area (39.80 ac)**
- Field Delineated Wetlands (1.20 ac)**
- Sample Points**
- Upland
 - Wetland

Heartland
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Figure 6. Field Delineated Wetlands

Utterback Property North
Project #20190239
T6N, R10E, S02
T Dunn, Dane Co, WI

2018 NAIP
Data: Dane Co

12/17/2019



VH Acquisitions LLC
Utterback Property North
Project #: 20190239
December 20, 2019

Appendix B | WETS Analysis

WETS Analysis Worksheet

Project Name: Utterback Parcel
Project Number: 20190239
Period of interest: June - August 2019
Station: Dane County Regional Airport
County: Dane County

Long-term rainfall records (from WETS table)

	Month	3 years in 10 less than	Normal	3 years in 10 greater than
1st month prior:	August	2.61	4.27	5.17
2nd month prior:	July	3.20	4.34	5.10
3rd month prior:	June	3.21	5.27	6.38
Sum =		13.88		

Site determination

Site Rainfall (in)	Condition Dry/Normal*/Wet	Condition** Value	Month Weight	Product
2.85	Normal	2	3	6
5.77	Wet	3	2	6
5.16	Normal	2	1	2
Sum =	13.78		Sum*** =	14

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

Determination: _____ Wet
Dry
X Normal

**Condition value:

Dry = 1
Normal = 2
Wet = 3

***If sum is:

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

Precipitation data source: Midwest Regional Climate Center, cli-MATE: MRCC Application Tools Environment

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



VH Acquisitions LLC
Utterback Property North
Project #: 20190239
December 20, 2019

Appendix C | Wetland Determination Data Sheets

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Utterback Property City/County: T Dunn/Dane Co Sampling Date: 9/16/2019
 Applicant/Owner: VH Acquisitions LLC State: WI Sampling Point: P7
 Investigator(s): Jeff Kraemer, Heartland Ecological Group Section, Township, Range: T6N, R10E, S02
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope %: 1 - 3
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Kegonsa silt loam (KeB) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____ If yes, optional Wetland Site ID: _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted and indicates that climate conditions were normal at the time of the field investigation. Sample point recorded within a farmed wetland depression north of the railway that traverses the Study Area.		

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ☒ Surface Water (A1) ☐ Water-Stained Leaves (B9) ☒ High Water Table (A2) ☐ Aquatic Fauna (B13) ☐ Saturation (A3) ☐ Marl Deposits (B15) ☐ Water Marks (B1) ☐ Hydrogen Sulfide Odor (C1) ☐ Sediment Deposits (B2) ☐ Oxidized Rhizospheres on Living Roots (C3) ☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4) ☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ Iron Deposits (B5) ☐ Thin Muck Surface (C7) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> ☐ 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) ☐ Microtopographic Relief (D4) ☒ FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>1</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>0</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Depression is mostly inundated with 1-6 inches of water throughout.		

VEGETATION – Use scientific names of plants.

 Sampling Point: P7

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B) Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>90</u></td> <td>x 2 = <u>180</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>95</u> (A)</td> <td><u>205</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.16</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>90</u>	x 2 = <u>180</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>95</u> (A)	<u>205</u> (B)	Prevalence Index = B/A = <u>2.16</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>90</u>	x 2 = <u>180</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>5</u>	x 5 = <u>25</u>																			
Column Totals: <u>95</u> (A)	<u>205</u> (B)																			
Prevalence Index = B/A = <u>2.16</u>																				
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)																				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		=Total Cover																		
Herb Stratum (Plot size: <u>5ft</u>)																				
1. <u>Panicum dichotomiflorum</u>	<u>65</u>	<u>Yes</u>	<u>FACW</u>	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 or equal to 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? Yes <u>X</u> No <u> </u>																
2. <u>Phalaris arundinacea</u>	<u>25</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u>Zea mays</u>	<u>5</u>	<u>No</u>	<u>UPL</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
		95 =Total Cover																		
Woody Vine Stratum (Plot size: <u>30ft</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		=Total Cover																		

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

No crops present / crops not planted this year. The depression appears to not have been farmed for a few years and reed canary grass has become established.

SOIL

Sampling Point P7

[illegible]

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Utterback Property City/County: T Dunn/Dane Co Sampling Date: 9/16/2019
 Applicant/Owner: VH Acquisitions LLC State: WI Sampling Point: P8
 Investigator(s): Jeff Kraemer, Heartland Ecological Group Section, Township, Range: T6N, R10E, S02
 Landform (hillside, terrace, etc.): Sideslope Local relief (concave, convex, none): None Slope %: 1 - 3
 Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Kegonsa silt loam (KeB) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u> If yes, optional Wetland Site ID: _____
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: (Explain alternative procedures here or in a separate report.) A WETS analysis was conducted and indicates that climate conditions were normal at the time of the field investigation. Sample point recorded within an upland agricultural field planted to corn - not normal circumstances.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> _____ Surface Water (A1) _____ Water-Stained Leaves (B9) _____ High Water Table (A2) _____ Aquatic Fauna (B13) _____ Saturation (A3) _____ Marl Deposits (B15) _____ Water Marks (B1) _____ Hydrogen Sulfide Odor (C1) _____ Sediment Deposits (B2) _____ Oxidized Rhizospheres on Living Roots (C3) _____ Drift Deposits (B3) _____ Presence of Reduced Iron (C4) _____ Algal Mat or Crust (B4) _____ Recent Iron Reduction in Tilled Soils (C6) _____ Iron Deposits (B5) _____ Thin Muck Surface (C7) _____ Inundation Visible on Aerial Imagery (B7) _____ Other (Explain in Remarks) _____ Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators (minimum of two required)</u> _____ 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) _____ Microtopographic Relief (D4) <u>X</u> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No wetland hydrology indicators observed.		

VEGETATION – Use scientific names of plants.

 Sampling Point: P8

Tree Stratum (Plot size: <u>30ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B) Prevalence Index worksheet: <table style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>3</u></td> <td>x 2 = <u>6</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>3</u> (A)</td> <td><u>6</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>3</u>	x 2 = <u>6</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>3</u> (A)	<u>6</u> (B)	Prevalence Index = B/A = <u>2.00</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>3</u>	x 2 = <u>6</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>3</u> (A)	<u>6</u> (B)																			
Prevalence Index = B/A = <u>2.00</u>																				
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15ft</u>)																				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
		=Total Cover																		
Herb Stratum (Plot size: <u>5ft</u>)																				
1. <u>Panicum dichotomiflorum</u>	<u>3</u>	<u>Yes</u>	<u>FACW</u>	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 or equal to 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? Yes <u>X</u> No <u> </u>																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
		=Total Cover																		
Woody Vine Stratum (Plot size: <u>30ft</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
		=Total Cover																		

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

The agricultural field is planted with corn, no apparent stress, 85% cover. Few to no agricultural weeds present.

SOIL

Sampling Point P8

[illegible]



VH Acquisitions LLC
Utterback Property North
Project #: 20190239
December 20, 2019

Appendix D | Site Photographs



Photo #1 Sample Point P7



Photo #2 Sample Point P7



Photo #3 Sample Point P7



Photo #4 Sample Point P7



Photo #5 Sample Point P8



Photo #6 Sample Point P8



Photo #7 Sample Point P8



VH Acquisitions LLC
Utterback Property North
Project #: 20190239
December 20, 2019

Appendix E | Delineator Qualifications



Jeff Kraemer

Principal Scientist

506 Springdale Street

Mount Horeb, WI 53572

jeff@heartlandecological.com

(608) 490-2450

Jeff is the founder of Heartland Ecological Group, Inc. With over 16 years of experience as an environmental consultant, ecological and regulatory policy practitioner, and managing business leader, Jeff provides proven value to clients with his vast experience guiding often complex projects through environmental regulatory and technical challenges applied throughout a diversity of industry sectors. Jeff is recognized by the Wisconsin Department of Natural Resources Wetland Delineation Assurance Program and is the longest standing assured wetland delineator in the state of Wisconsin.

Jeff is a recognized expert in the field of wetland ecology and delineation; wetland restoration and mitigation banking; and regulatory policy and permitting associated with wetlands and waterways. His experience includes: Wetland Determination, Delineation & Functional Assessment; Wetland Restoration, Mitigation, Banking & Monitoring; Botanical / Biological Surveys & Natural Resource Inventories; Rare Species Surveys, Conservation Plans & Monitoring; Habitat Restoration, Wildlife Surveys, SCAT surveys, Environmental Assessments; Local, state, federal permit applications; Expert Witness testimony; and Regulatory permit compliance.

Education

MS, Biological Sciences (Emphasis in Wetland Ecology), University of Wisconsin – Milwaukee, WI, 2003

BS, Biological Sciences (Emphasis in Aquatic Biology) University of Wisconsin – La Crosse, WI, 1999

Regional Supplement Field Practicum
Wetland Training Institute (WTI)
Portage, WI, 2017

Basic and Advanced Wetland Delineation
Training, Continuing Education and Extension,
UW-La Crosse, WI, 2001

Identification of Sedges Workshop,
UW-Milwaukee, Saukville, WI, 2001

Vegetation of Wisconsin Workshop,
UW-Milwaukee, Saukville, WI 2000

Environmental Corridor Delineation Workshop,
Southeastern Wisconsin Regional Planning
Commission (SEWRPC), 2004

Wetland Soils and Hydrology Workshop,
Wetland Training Institute, Toledo, OH, 2003

Critical Methods in Wetland Delineation
University of Wisconsin - La Crosse Continuing
Education and Extension
Madison, WI, 2006 - 2018

Federal Wetland Regulatory Policy Course
Wetlands Training Institute (WTI)
Cottage Grove, WI, 2010

Registrations

Professionally Assured Wetland Delineator,
Wisconsin Department of Natural Resources
(2005-Present)

Wetland Professional in Training (WPIT),
Society of Wetland Scientists Certification
Programs



Project Experience

Energy

Ameren Corporation Transmission Line Projects: LaSalle-Ottawa, LaSalle Co., IL; Wood River Refinery, Madison Co., IL; Rockwood-Big River, Jefferson Co., MO; Saddle Creek 73, Franklin Co., MO.; Havana Rebuild, Mason Co., IL*

Managed support for environmental and GIS services to gain regulatory approvals for various new transmission lines. Provided project support for: transmission line siting; critical issues analysis; route matrices; GIS data acquisition and mapping services, coordination of regulatory agency meetings, completion of field wetland delineations; threatened and endangered species; biological assessment and Section 404 permitting, CPCN approvals; community advisory and public workshop support, and expert witness testimony.

Alliant Energy, Nelson Dewey Power Generation Facility Expansion Project, Cassville, WI

Completed field evaluations and delineations of wetlands in preparation of the National Environmental Policy Act (NEPA) documentation for a proposed expansion of the facility.

Enbridge, Inc., Southern Access Expansion Project, Crude Petroleum Pipeline Project, WI

Completed wetland delineations and habitat assessments along a 343-mile proposed crude petroleum pipeline corridor through Wisconsin as part of Enbridge Energy's Southern Access Expansion Program.

American Transmission Company, Arrowhead to Weston, WI, 345 kV Transmission Line Project

Completed wetland delineations, threatened and endangered plant surveys, and habitat assessments along a 208-mile proposed new electric transmission line.

Midwest Generation, Waukegan Power Generation Facility Expansion Project, Lake County, IL

Completed field evaluations of wetlands and threatened and endangered species in coordination with Section 404 permitting requirements for expansion of the power generation facility.

Commonwealth Edison Co. (ComEd), Prairie Program, Greater Chicago Area, IL

Managed ComEd's Prairie Program for over 10 years that involved nearly 200 acres of prairie restoration and management within their transmission line rights-of-way throughout the greater Chicago area.

Alliant Energy, Hydroelectric Dam, Prairie Du Sac, WI

Conducted purple loosestrife surveys on Lake Wisconsin shorelines and wetlands to develop a purple loosestrife management plan in support of the hydroelectric facility FERC licensing.

Alliant Energy, Edgewater Generation Facility, Sheboygan, WI

Managed and coordinated environmental regulatory process for expansion of existing fly ash disposal facility which required approvals from the USACE and WDNR for wetland impacts associated with the project.

Guardian, Pipeline Wetland Mitigation, Winnebago County, WI

Managed and lead the site selection, design, construction oversight, and long-term monitoring and management of a 30-acre wetland mitigation project consisting of prairie, wetland, and forested wetland restoration. The mitigation successfully compensated for wetland impacts associated with the Guardian gas pipeline construction.



Transportation

Canadian National Railroad, Stanberry Subdivision, Douglas County, WI

Supported CN with gaining approval to construct an approximate 2.5-mile new railroad siding track in Douglas County, WI. Completed wetland delineations and threatened and endangered resources assessments. Completed permit applications and gained approval for approximately 2-acres of wetland impacts and construction of bridges over navigable waterways.

Canadian National Railroad, Hawthorne Hill Phase 2, Douglas County, WI

Supported CN with gaining approval to construct new railroad siding track in Douglas County, WI. Completed assured wetland delineations along six miles of existing track. Completed permit applications for wetland impacts.

Canadian National Railroad, Stone Lake to Big Foot, Washburn County, WI

Completed assured wetland delineations along three miles of existing track and associate wetland delineation reports.

Canadian National Railroad, Nestle to Burlington, Racine County, WI

Completed assured wetland delineations along three miles of existing track and associate wetland delineation reports.

Wisconsin Department of Transportation (WisDOT), Neptune Wetland Mitigation Monitoring, Richland County WI

Completed annual comprehensive vegetation surveys, mapping, performance evaluations, and reporting of a 50-acre wetland mitigation site.

WisDOT, Threatened Plant Species Consultation, Port Wing, WI

Completed comprehensive study of a threatened plant species population in support of STH 13 Reconstruction project including preparation of relocation and monitoring plan, physical relocation of plants, and follow-up annual monitoring.

WisDOT, Wildcat Mountain Wetland Mitigation Monitoring, Vernon County, WI

Completed comprehensive vegetation surveys, mapping, performance evaluations, and reporting of 38-acre wetland mitigation site.

WisDOT, World Dairy Center Wetland Mitigation Bank, Madison, WI

Led the baseline studies, design and approval of an approximate 200-acre compensatory wetland mitigation bank on behalf of the WisDOT. The project involved lengthy stakeholder coordination, detailed hydrology evaluations and assessments, complex wetland determinations. The mitigation plan consisted of restoration of farmed and drained organic soils utilizing drain tile valves to wet meadow, sedge meadow, shallow marsh and mesic prairie.

City of Stoughton, Academy Street Reconstruction, Stoughton, WI

Completed wetland assessments and delineations within the study area of the Academy Street reconstruction project.

City of Tomah, Gopher Avenue Reconstruction, Tomah, WI

Completed wetland assessments and delineations within the project area of the Gopher Avenue reconstruction project.

Residential & Commercial Development

Veridian Homes, Smiths Crossing, Sun Prairie, WI

Completed wetland delineations on the approximate 50-acre portion of the proposed residential development project. Completed wetland permit applications and gained approval for impacts to jurisdictional wetlands. Completed and gained approval for artificial wetland exemptions per WI Act 183.



Hovde Properties, Sprecher Road Property, Madison, WI

Completed wetland delineations on the approximate 100-acre property proposed for residential and commercial development. Completed and gained approval for artificial wetland exemptions per WI Act 183.

Ruedeusch Development and Construction, Packers Avenue Parcel, Madison, WI

Completed wetland delineations on the approximate 30-acre property proposed for development. Completed and gained approval for artificial wetland exemptions per WI Act 183.

Newport Development Corp., Briarwoods Condominiums, Caledonia, WI

Completed wetland delineations on the approximate 10-acre property proposed for development. Completed and gained approval for artificial wetland exemptions per WI Act 183.

William Ryan Homes, West Prairie Village, Sun Prairie, WI

Completed wetland delineations throughout the approximate 80-acre property proposed for development. Completed and gained approval for artificial wetland exemptions per WI Act 183 and NR103.06.

Bielinski Homes, Chapman Property, Mukwonago, WI

Completed wetland delineations throughout the approximate 65-acre property proposed for residential development.

Logistics Property Company, Nelson-Heckel Properties, Kenosha County, WI

Completed wetland delineations throughout the approximate 105-acre property proposed for commercial development.

Country View Estates Development Project, DeForest, WI

Completed wetland delineation/evaluation, wetland permitting, and mitigation planning in support of a 400-acre mixed residential/commercial/recreational development project.

Industrial, Manufacturing & Institutional Facilities

Berlon Industries Expansion Project, Hustisford, WI

Completed wetland delineation/evaluation, wetland permitting, and wetland mitigation planning in support of the expansion of the industrial facility.

Ashley Furniture Industries Expansion Project, Arcadia, WI

Developed and gained WDNR/USACE approval for 35-acre wetland mitigation plan in support of wetland impact application for expansion of the manufacturing facility; Managed the construction of the wetland bank and completed over 10 years of monitoring and management through project close-out.

AllEnergy Proposed Sand Mine, Trempealeau County, WI

Completed wetland delineations, wetland permitting support, and wetland mitigation support for a proposed sand mine in Trempealeau County. The project consisted of over 500 acres of wetland delineation and wetland and waterway permitting associated with a rail spur expansion. Supported community engagement through presentations at various town hall meetings.

Conway Central Express Expansion Wetland Permitting, Franklin, WI

Completed wetland delineation/evaluation, wetland permitting, and wetland mitigation design for expansion of the trucking facility.

Morrison Creek Cranberry Company, Wetland Mitigation Bank Monitoring and Remediation, Oakdale, WI

Completed annual mitigation site monitoring, vegetation surveys, and performance evaluations of 60-



acre mitigation bank site. Completed mitigation remediation management plan for compliance with USACE performance standards.

Northwestern Mutual Campus Facility, Native Landscape Management, Franklin, WI

Managed and coordinated the development of a native landscape plan for the 50 acres of open space surrounding Northwestern Mutual's campus facility. The plan consisted of wetland, woodland, and prairie restoration. Managed and coordinate the implementation of the native landscape installation and long-term management.

Daybreak Foods, Proposed Facility Expansion, Lake Mills, WI

Completed wetland assessment and delineations on over 175 acres of various properties of DayBreak Foods. Provided wetland regulatory guidance to support the expansion of the egg production and processing facilities.

Sinsinawa Dominican Sisters, Grant County, WI

Completed wetland delineations on the 57-acre Sinsinawa Dominican Sisters property in support of a land use planning study.

Government & Non-Government Organizations

City of Fitchburg, Fitchburg Northeast Neighborhood Plan, Fitchburg, WI

Completed wetland mapping and assessment and developed wetland protection standards for the City of Fitchburg's NE Neighborhood Plan.

Lake Koshkonong Wetlands Association, Lake Koshkonong Water Level and Wetland Studies, Lake Koshkonong, WI

Developed and conducted various scientific wetland studies for development of a water level management plan: E. prairie fringed orchid hydrology study; Floodplain forest/hydrology study; Floristic quality assessment/vegetation mapping within 4000 acres of wetlands on behalf of the Lake Koshkonong Wetlands Association.

Richland Center Utilities, New Force Main Project, Richland Center, WI

Supported the planning and approval of a new force main utility corridor on behalf of Richland Center Utilities. Completed wetland delineations and threatened and endangered species assessments along the approximate 3.5-mile project corridor. Completed wetland and waterway permit applications, wetland restoration plans, and completed annual monitoring of restored wetland areas.

Portage Parks Department, Samuelson Fen Restoration, Portage, IN

Developed a restoration plan to restore a degraded 30-acre fen, conducted vegetation surveys, floristic quality assessments and hydrology monitoring.

Badger Prairie Health Care Center Expansion, Verona, WI

Completed wetland delineation/evaluations and wetland permitting in support of the expansion of the healthcare facility.

City of Fitchburg, Native Restoration Support, Fitchburg, WI

Assisted the City of Fitchburg with restoration activities on multiple projects involving incorporating native restoration within various regional stormwater and outlot facilities.

City of Tomah, Proposed Bike Trail Project, Tomah, WI

Completed wetland delineations along an approximate 1-mile proposed bike trail path on behalf of the City of Tomah.

City of Sun Prairie, Sheehan Park, Sun Prairie, WI

Completed wetland delineations throughout the 50-acre Sheehan Park on behalf of the City of Sun Prairie.



City of Madison, Various Projects, Madison, WI

Completed numerous wetland delineations on behalf the City of Madison in support of stormwater improvement and other facility improvement projects.

Private Landowners & Recreational Properties

Erin Hills Golf Course, Washington County, WI

Completed wetland delineations throughout the approximate 200-acre golf course property. Provided wetland regulatory guidance in support of the renovation of Erin Hills in preparation for hosting the 2017 U.S. Open championships.

La Belle Golf Course, The Prestwick Group, Inc., Lac La Belle, WI

Completed wetland delineations throughout the approximate 250-acre golf course property. Provided wetland regulatory guidance in support of the renovation of the La Belle Golf Course.

Big Hollow Wetland Mitigation Bank, Spring Green, WI

Completed wetland delineations on the approximate 200-acre property and evaluated the potential for developing a private wetland mitigation bank. Coordinated detailed hydrology monitoring and modeling to address potential off-site water impacts and support the development of the hydrology restoration plan. Completed the prospectus documents and submittals to the Interagency Review Team. Organized and led public informational meetings, and various stakeholder meetings to address local concerns.

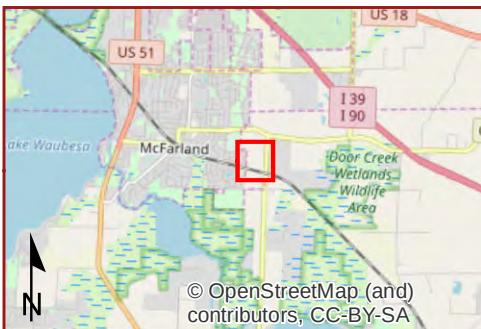
The Farm Golf Course, Cottage Grove, WI

Completed wetland delineations throughout the approximate 100-acre golf course property. Provided wetland regulatory guidance in support of residential development adjacent to the golf course.



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Utterback Property North
Project #: 20190239
December 20, 2019

Appendix F | NAIP Aerial Imagery



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 Study Area (39.80 ac)

0 150 300
Ft

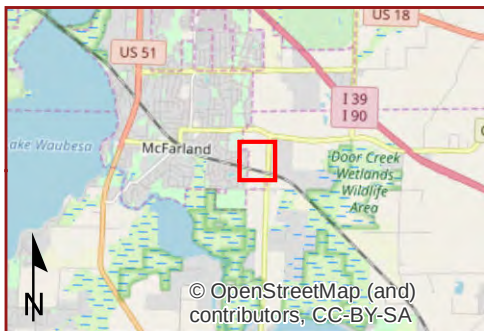
Heartland
ECOLOGICAL GROUP INC

**Appendix: 2004-06-22
NAIP Aerial Imagery**

Utterback Property North
Project #20190239
T6N, R10E, S02
T Dunn, Dane Co, WI

2004 NAIP
Data: USDA

12/17/2019



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contributors, CC-BY-SA

 Study Area (39.80 ac)

0 150 300
Ft

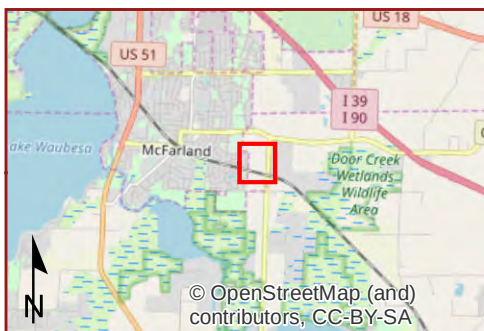
Heartland
ECOLOGICAL GROUP INC

**Appendix: 2005-06-20
NAIP Aerial Imagery**

Utterback Property North
Project #20190239
T6N, R10E, S02
T Dunn, Dane Co, WI

2005 NAIP
Data: USDA

12/17/2019



 Study Area (39.80 ac)

0 150 300
Ft

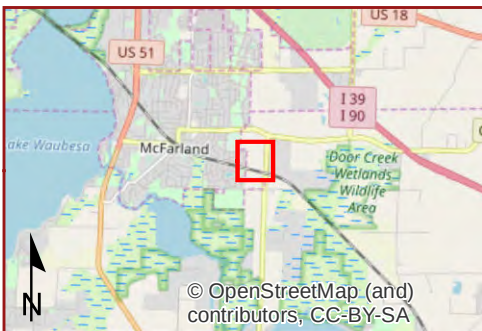
Heartland
ECOLOGICAL GROUP INC

**Appendix: 2006-07-31
NAIP Aerial Imagery**

Utterback Property North
Project #20190239
T6N, R10E, S02
T Dunn, Dane Co, WI

2006 NAIP
Data: USDA

12/17/2019



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 Study Area (39.80 ac)

0 150 300
Ft

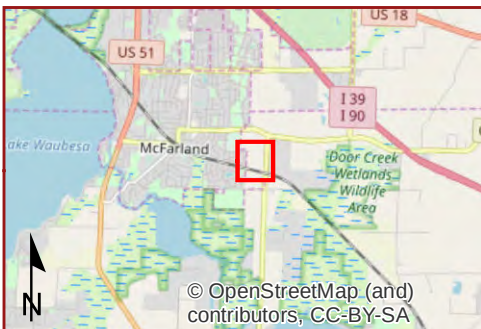
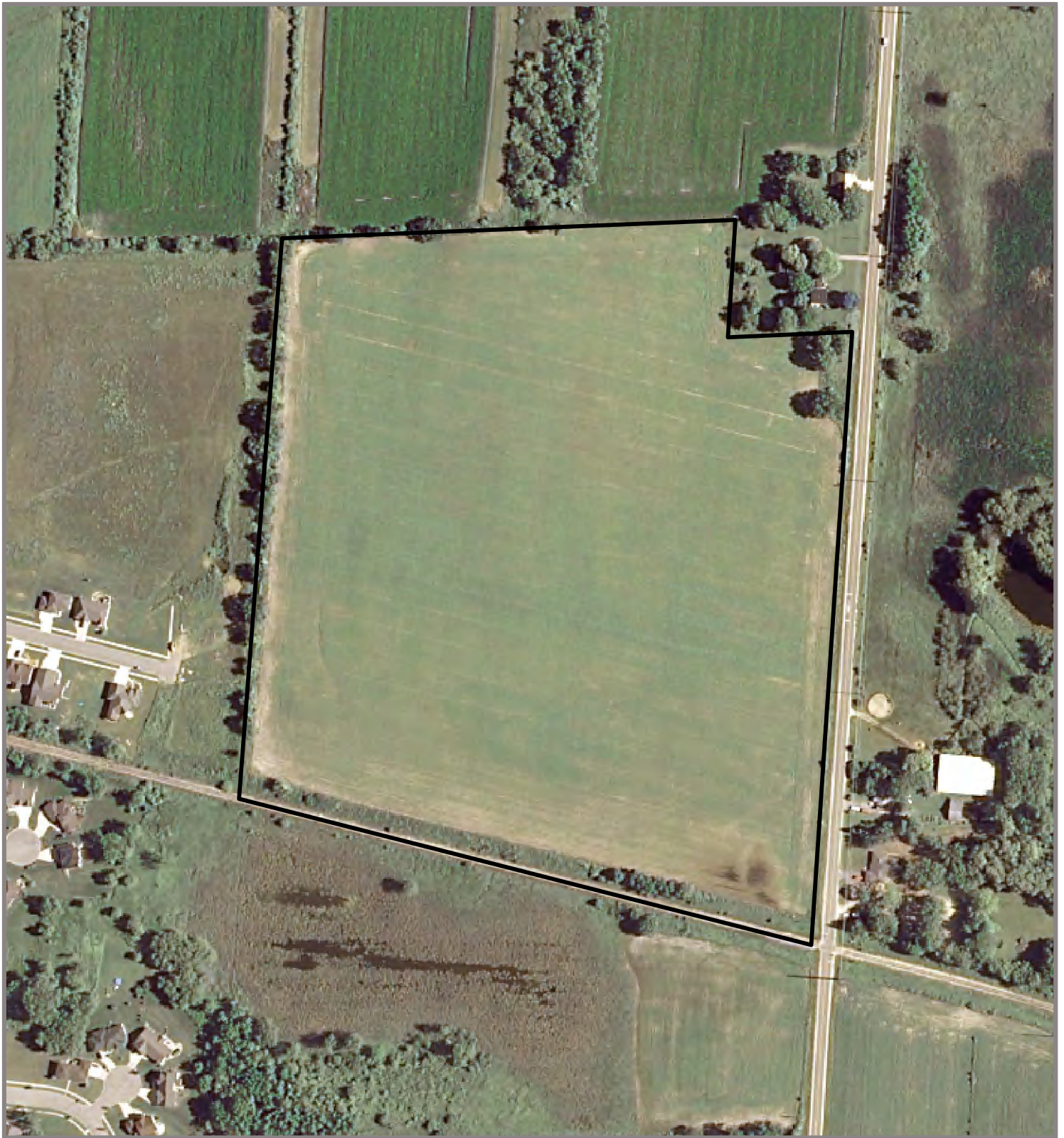
Heartland
ECOLOGICAL GROUP INC

**Appendix: 2008-08-10
NAIP Aerial Imagery**

Utterback Property North
Project #20190239
T6N, R10E, S02
T Dunn, Dane Co, WI

2008 NAIP
Data: USDA

12/17/2019



 Study Area (39.80 ac)

0 150 300
Ft

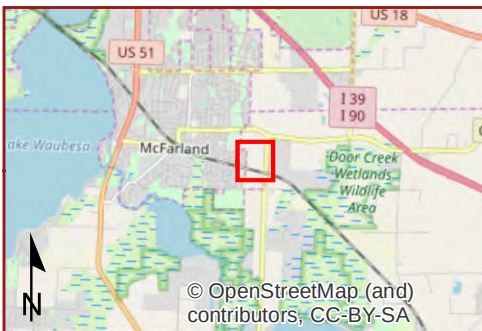
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**Appendix: 2010-07-02
NAIP Aerial Imagery**

Utterback Property North
Project #20190239
T6N, R10E, S02
T Dunn, Dane Co, WI

2010 NAIP
Data: USDA

12/17/2019



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 Study Area (39.80 ac)

0 150 300
Ft

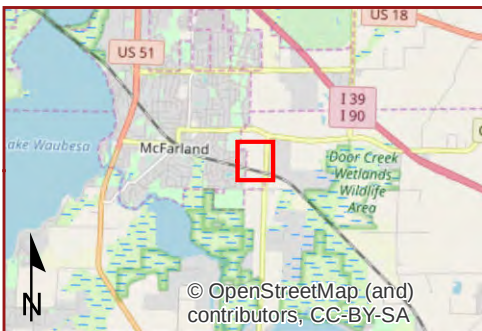
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**Appendix: 2013-06-19
NAIP Aerial Imagery**

Utterback Property North
Project #20190239
T6N, R10E, S02
T Dunn, Dane Co, WI

2013 NAIP
Data: USDA

12/17/2019



 Study Area (39.80 ac)

0 150 300
Ft

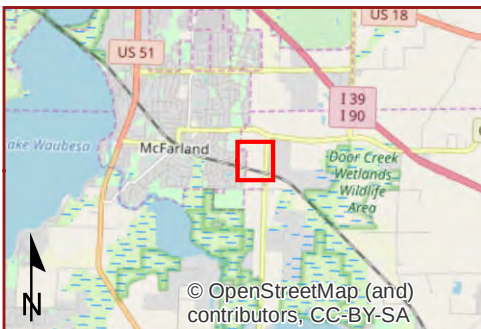
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**Appendix: 2015-10-11
NAIP Aerial Imagery**

Utterback Property North
Project #20190239
T6N, R10E, S02
T Dunn, Dane Co, WI

2015 NAIP
Data: USDA

12/17/2019



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 Study Area (39.80 ac)

0 150 300
Ft

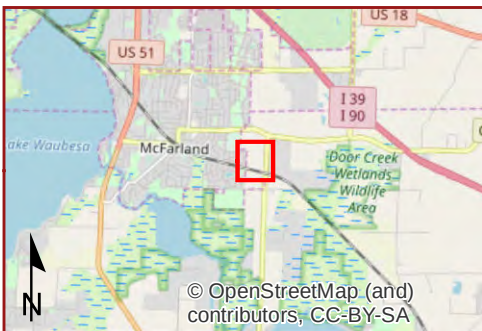
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**Appendix: 2017-09-03
NAIP Aerial Imagery**

Utterback Property North
Project #20190239
T6N, R10E, S02
T Dunn, Dane Co, WI

2017 NAIP
Data: USDA

12/17/2019



 Study Area (39.80 ac)

0 150 300
Ft

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**Appendix: 2018-10-04
NAIP Aerial Imagery**

Utterback Property North
Project #20190239
T6N, R10E, S02
T Dunn, Dane Co, WI

2018 NAIP
Data: USDA

12/17/2019