

Appendix O. Wetland Rapid Assessment Methodology Reports



Consulting
Engineers and
Scientists

Wetland Rapid Assessment Methodology
US 151/High Crossing Interchange
WisDOT Project ID: 1015-05-00
Dane County, Wisconsin

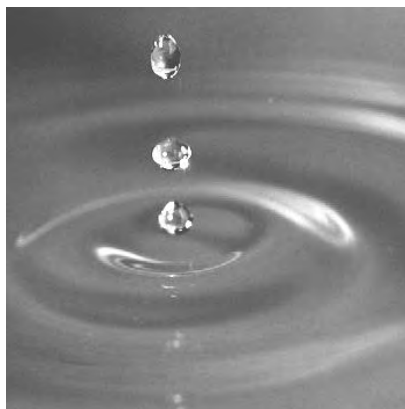
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May 30, 2024
Project 2404021



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Appendix D Floristic Quality Calculator by Wetland Community Type

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1. Introduction

1.1 Purpose

The Wisconsin Department of Transportation (WisDOT) retained GEI Consultants, Inc. (GEI) to complete a Wisconsin Department of Natural Resources (WDNR) Wetland Rapid Assessment Methodology (WRAM) for the Wisconsin (WIS) 33 and Interstate (I) 90/94 interchange located in part of Sections 22 and 27, Township 8 North, Range 10 East in the Town of Burke and Madison, Dane County, Wisconsin (Figure 1 – Site Location & USGS Topographic Map).

The purpose of the WRAM was to quantify wetland functional values. According to the WDNR, *“This methodology is intended as a rapid method for assessing wetland condition and functional values based upon observable characteristics and using best professional judgment to interpret those observations.”*

No new site visits were completed as part of this WRAM assessment. Prior site visits and previously collected data were utilized in place of new site visits. Other resources such as Google Street View were referenced.

1.2 Site Description

This section includes information found within the Site Description section of the WRAM Data Form (Appendix A).

The assessment area is 176.07 acres in size and consists of one contiguous area as shown on Figure 1.

1.2.1 Project Name

The project name is USH 151/High Crossing Interchange. This WRAM is part of the WisDOT 1015-05-00 I-39/90/94 project.

1.2.2 Evaluator(s)

Wetland Rapid Assessment Methodology form was completed by GEI personnel Kyle Bretl, Rachel Schmid, Bryce Kohler, Kyle Ayers, and Brynn Olsen.

1.2.3 File Reference

No WDNR file reference number has been assigned yet.

1.2.4 Ecoregion

The project area is located within the Southeast Glacial Plains ecoregion.

1.2.5 Watershed (HUC12)

This Assessment area is located within the 070900020701 (Starkweather Creek) HUC12 Watershed.

1.2.6 Soils

A total of 18 soil series were found within the project area, including Water. A summary of the soil map units present within the assessment area are listed in Table 2. The USDA NRCS Soil Map is also included as Figure 4.

1.2.7 WWI Classification and 24K Hydrography

A total of two wetlands are mapped within the assessment area. A summary of the WWI features present within the assessment area can be found in Table 1. The WDNR WWI, Wetland Indicators, and 24K Hydrography Map is included as Figure 3

1.2.8 Wetland Types(s)

The WisDOT Wetland Classification System was used to classify wetland communities encountered in the assessment area. Wetland communities were classified as “degraded” if they had *“been exposed to deleterious activities such as excessive use as pasture, agricultural cultivation, over exposure to urban effects or storm water runoff to the extent that its natural characteristics have been severely compromised and where wetland function has been substantially reduced”* (WisDOT Wetland Mitigation Banking Technical Guideline).

Wetland communities were determined during the wetland delineation fieldwork that was previously completed. Wetlands were not re-classified to the Eggers and Reed or the Natural Heritage Inventory (NHI) classification systems.

1.2.9 Wetland Size

A total of 78 wetlands were delineated within the assessment area summing to a total of 4.89 acres. More detailed information regarding wetlands is included in Table 3 and Figure 5.

1.2.10 Wetland Area Impacted

A total of 4.89 acres of wetland will be impacted. It is currently assumed that all wetlands will be impacted as part of the project. See Table 3 for more detailed information.

1.2.11 Vegetation (Dominant Species)

Previously completed wetland delineation data forms were utilized to extract vegetation data for wetland community type. If data forms were not completed within a specific wetland community type, then no dominant vegetation was recorded for that wetland community type. Appendix C contains the data forms by wetland community type.

1.2.12 Site Maps

The following figures have been generated and are attached to this report.

- Figure 1 Site Location and USGS Topographic Map
- Figure 2 2-Foot Contour Map
- Figure 3 Wisconsin Wetland Inventory, Wetland Indicators, & 24K Hydrography Map
- Figure 4 USDA NRCS Soils Map
- Figure 5 Wetland Communities Map
- Figure 6 FEMA Flood Map, Special Wetland Planning Waters and Critical Habitat Area Map
- Figure 7 100 Meter Buffer & Land Use Map

2. Section 1: Functional Value Assessment

The functional value assessment was recorded on the WRAM form.

2.1 Section 1 Comments

For Storm and Floodwater Storage, it was assumed that the wetlands within the assessment area have the potential to hold greater than 10% of the runoff from contributing area from a 2-year 24-hour storm event.

According to WDNR Natural Heritage Inventory (NHI) data, no element of occurrences are located within the sections that overlap the assessment area.

2.2 Wildlife Habitat and Species Observations

No field verified wildlife surveys were conducted as part of this WRAM. GEI drafted a list of potential bird, mammal, reptile, and amphibian species that may inhabit the area based on GEI staff's professional opinion. A summary of the wildlife species potentially present within the assessment area are listed in Table 4.

2.3 Fish and Aquatic Life Habitat and Species Observations

No field verified fish and aquatic life habitat and species surveys were conducted as part of this WRAM. Within the 100 m buffer, there is an unnamed waterway. This unnamed waterway is a cool-warm headwater that likely supports communities of macroinvertebrates but is unlikely to provide habitat for fish or other aquatic organisms. No other waterways or waterbodies or wetlands within the assessment area or 100-meter buffer that would support fish and aquatic life.

3. Section 2: Floristic Integrity

This section provides a general overview of wetland plant communities. All plant species observed within each wetland community type were summarized and included on a floristic calculator data sheet. If no plant species data was available because no wetland delineation data form was completed within a certain plant community, then that plant community was not included in the floristic integrity scoring section. All wetland community type floristic calculators are included as Appendix D.

3.1 Floristic Integrity

Each wetland community was scored independently. Please see below for floristic integrity ranking by wetland community

3.1.1 Aquatic Bed

No wetland delineation data form data was collected within the aquatic bed community.

3.1.2 Riparian Wooded (D)

The degraded riparian wooded community was ranked low for four categories and medium for two categories.

Section 2: Floristic Integrity				
	☒ Low	☐ Medium	☐ High	☐ Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

*Note: separate plant communities are described independently, check single box based on summary of ratings

3.1.3 Shallow Marsh (D)

The degraded shallow marsh community was ranked low for five categories and medium for one category.

Section 2: Floristic Integrity				
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

**Note: separate plant communities are described independently, check single box based on summary of ratings*

3.1.4 Scrub Shrub (D)

The degraded scrub shrub community was ranked low for all categories.

Section 2: Floristic Integrity				
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

**Note: separate plant communities are described independently, check single box based on summary of ratings*

3.1.5 Wet Meadow (D)

The degraded wet meadow community was ranked low for five categories and medium for one category.

Section 2: Floristic Integrity				
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

**Note: separate plant communities are described independently, check single box based on summary of ratings*

3.1.6 Summary of Floristic Integrity

The wetland plant communities ranked above all scored low overall. Disturbances such as mowing, polluted runoff, and high concentrations of invasive species all contribute to the lack of floristic integrity within the assessment area. Dominant species observed within the wetlands include invasive/and or non-native species such as reed canary grass (*Phalaris arundinacea*), and hybrid cattail (*Typha x glauca*). Disturbances such as right-of-way mowing and stormwater runoff from adjacent roads and commercial businesses are present and contribute to the lack of floristic integrity within the assessment area. No rare plant species were observed or recorded within the assessment area or buffer area during the wetland delineations.

4. Section 3 Condition of Wetland Assessment Area and 100-meter Buffer Area

This section assesses the condition of the wetland based upon past and current land use stressors.

4.1 Summary of Condition Assessment

Stressors and associated score and frequency are discussed in the below sections. Stressors are grouped together based on common impact level score.

4.1.1 *Low Impact Level Stressors*

Eight of the twenty-seven stressors scored as low impact. Soil subsidence and loss of soil structure was scored as low. It likely occurs and/or has occurred but was determined to not be significant impact at this time. Paved and unpaved human trails were determined to be low impact since sidewalks do not account for the majority of the paved surfaces within the assessment area and 100-meter buffer. Removal of large woody debris was scored as low impact. Large woody debris was historically removed from the area, which may have historically provided habitat for macroinvertebrates and other wildlife. Golf course was scored low since they are not present within the assessment area or buffer. Gravel pits were likely present, as the soil map does include a gravel pit soil map unit within the assessment area but were determined to be low impact since they are no longer active. Recreational use is common within the watershed but ranked low within the assessment area and 100-meter buffer since no recreational opportunities exists in those areas. Excavation and soil grading were ranked low, it is assumed that occasion excavation and grading occur and would be associated with development within an already very urbanized environment.

4.1.2 *Medium Impact Level Stressors*

Eight of the twenty-seven stressors scored as medium impact. Removal of herbaceous stratum scored medium since the right-of-way area is mowed and likely impacted by earthworms and historic grading which removed or replaced the native seed bank. Removal of tree or shrub strata was ranked medium since trees/shrubs have been removed from the area and continue to be removed as needed. All three agricultural field categories (row crops, hay, and pasture) were ranked as a medium impact level since there are still two agricultural fields present within the 100-meter buffer and because of the impact that agriculture has within the watershed. Utility corridors are located along the interstate and require maintenance such as woody species removal and other disturbance related to maintenance. Sediment input was rated medium since it is assumed that some sediment loading occurs within the watershed from agricultural areas and other areas such as construction related to development which would eventually affect the

assessment area. Residential land use was rated as a medium impact since some is present, but majority of area is more commercial/industrial.

4.1.3 High Impact Level Stressors

Eleven of the twenty-seven stressors scored as high impact. Hydrologic changes were rated as high impact since the network of roads and commercial/industrial land use has altered hydrology in the area. Point source or stormwater discharge was rated high due to the amount of runoff from impervious surfaces. Polluted runoff was rated high because of possibility that potentially polluted water, such as runoff from impervious surfaces (parking lots, buildings, roads, etc.) is flowing into the wetlands. Pond construction was rated as a high impact since there are a variety of ponds present within the area which may have been historically constructed within wetlands and may cause water quality issues such as algal blooms. Roads and railroads cause increased runoff into the wetlands and possibility of pollutants to be discharged into the wetlands, such as vehicular fluids and road salt. Dams, dikes, levees were rated as high since features like roads or spillways act as dams and at times may restrict flow of water and change cool or cold-water waterways to warm water waterways which are more susceptible to nutrient sinking and algal blooms. Drainage tiles and ditches were rated as high impact because they allow direct discharge of nutrient loaded water into waterways and wetlands. Drainage swales and ditches are present along roads and commercial businesses and drain tiles are likely present within the agricultural fields. Invasive and non-native plant species are present and widespread within the area and are the dominant plant species encountered within different plant communities and have a high impact since they typically form monocultures and support less macroinvertebrates and other species which disrupts the food chain. Urban, commercial, or industrial use and parking lots both ranked high because they contribute to increased runoff and potential for pollutants to be carried downstream to the wetlands and waterways within the project area. They also increase volume of water that reaches the wetlands and contribute to flashy hydrology which is detrimental for numerous reasons such as erosive flows.

4.2 Rationale

The below sections provide rationale for rankings in the summary of functional values section of the WRAM data from.

When ranking each question, the potential of a wetland to “support, partially support, or could support that use or functional value” is almost always yes. There is always a potential for something to occur. However, the reality is that most of these potential questions are unfeasible and chance of occurring is very small. There is always a potential for any given event to occur, but the reality and feasibility of that happening should be taken into consideration and included as a scoring column when conducting this assessment. Thus, this section either ignores or briefly addresses the potential of these features to “*support, partially support, or could support that use or functional value.*”

4.2.1 Floristic Integrity

The floristic integrity is ranked as low for the wetlands due to the cover of invasive/nonnative species. In general, the wetland plant communities are dominated by non-native and/or invasive species. Most areas of the wetland are monocultures of nonnative and/or invasive species, while few areas have multiple strata and a variety of native species. All adjacent upland areas located within the road right-of-way are planted in a typical DOT roadside mix which typically consists of cool season grass species such as fescue species (*Festuca spp.*), bluegrass species (*Poa spp.*), and other cool season grass species. These adjacent upland areas are routinely mowed which is a repeated disturbance that may contribute to the spread of nonnative and/or invasive species. Floristic integrity was ranked as low.

4.2.2 Human Use Values

One of the seven questions were answered yes, all were answered yes for potential. The wetland within the assessment area is visible from surrounding roadways, and accessible to the public. Activities such as bird watching could be possible along the roadways. In general, the wetlands are constructed drainage ditches, swales, and stormwater basins. Human use values were ranked as low.

4.2.3 Wildlife Habitat

None of the twelve questions were answered as yes, all were answered yes for potential. A list of potential bird and wildlife that may be present was compiled based on professional experience and based on commonly recorded species on the eBird website for Columbia and Dane counties. Wildlife habitat was ranked as low.

4.2.4 Fish and Aquatic Life Habitat

One of the four questions were answered as yes, all were answered yes for potential. Some of the wetlands may have vegetation that is seasonally inundated in the spring and thus might support populations of macroinvertebrates or amphibians. The WDNR 24K hydrography indicates an intermittent stream within the northern portion of the site but no waterway was identified on the wetland delineation map. Fish and aquatic life habitat was ranked as low.

4.2.5 Shoreline Protection

None of the three questions were answered as yes, all were answered yes for potential. Shoreline protection was ranked as low since none of the wetlands are adjacent to a delineated waterway.

4.2.6 Flood and Stormwater Storage

Seven of the eight questions were answered as yes, all were answered yes for potential. The wetlands do not provide substantial storage of storm and floodwaters. One of the wetlands

within the interchange area is a basin wetland with a constricted outlet. Water flow is channelized through most of the wetlands. There is persistent, dense vegetation within some of the wetlands. There is evidence of flashy hydrology and sources of point and non-point source inflow due to increased runoff from surrounding urban environment. Impervious surfaces cover greater than 10% of the land surface within the watershed and less than 10% of the watershed consists of wetlands. Due to the large assessment areas, stormwater calculations were not conducted, and it was assumed that they would be able to hold greater than 10% of the runoff from contributing area from a 2-year 24-hour storm event. Flood and stormwater storage was ranked low.

4.2.7 Water Quality Protection

Six of the nine questions were answered as yes. The wetlands do not provide substantial storage of stormwater. One of the wetlands within the interchange area is a basin wetland with a constricted outlet. Water flow is channelized through most of the wetlands. None of the wetlands are associated with a lake or stream and vegetation is persistent, dense vegetation within some of the wetlands. There is evidence of excessive nutrient and heavy macrophyte growth. Stormwater or surface runoff from agricultural land is a major hydrology source. No discharge to surface waters occurs. Natural land cover is less than 50% in the buffer area. Water quality protection was ranked low.

4.2.8 Groundwater Process

None of the five questions were answered as yes. No springs or seeps or other indicators of groundwater are present. The wetland is not located near a divide or a headwater wetland. Wetlands do not remain saturated for extended time periods. None of the wetlands have organic soils. The wetlands are not located within a wellhead protection area. Groundwater process was ranked as low.

5. Section 4: Project Impact Assessment

Section 4 of the WRAM is for evaluating project impacts resulting from a project which may affect a wetland.

5.1 Project Description

The proposed transportation project consists of reconstructing a portion of I-39/90/94 between US 12/18 in Madison and Dees Road in Wisconsin Dells. The reconstruction serves to improve the safety and reliability of travel infrastructure within the Project corridor. The Project corridor is 67 miles long and travels through Dane, Columbia, Sauk, and Juneau Counties. The purpose of the Project is to address existing and future traffic demands, safety issues, aging and outdated corridor infrastructure, and corridor resiliency.

Proposed construction activities for the I-39/90/94 corridor will include removal of existing structures and roadways, bridge construction and widening, earthwork, utility relocations, drainage improvements, traffic control, traffic signals, barrier installation, lighting, and paving. Lane expansions are proposed for the entire length of the corridor. Modification to and/or expansion of 13 existing interchanges, as well as construction of two new interchanges will address a range of design deficiencies.

Many factors influence actual construction. Proposed construction activities are expected to occur over several years. Like most major transportation projects, construction details cannot be fully defined until design advances past the conceptual stage.

For the purposes of this assessment, we have assumed the preferred alternative will be selected, and have assumed that all wetlands located within the assessment area will be impacted.

5.1.1 Expected Project Impacts (Direct Impacts)

The project will directly impact 176.07 acres of land and 4.89 acres of wetland within the assessment area.

5.1.1.1 Permanence/Reversibility

Permanent upland and wetland loss will occur due to the road construction. Reversibility would not be feasible. A portion of the impacted areas would be reconstructed. For instance, swales and ditches would be constructed along the extent of the reconstructed roads.

5.1.1.2 Significance (Low, Medium, High)

The interstate corridor is present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. Therefore, significance is rated as low.

5.1.2 Secondary Impacts (including impacts which are indirectly attributable to the project)

Secondary impacts are defined by the WDNR as impacts that “*are closely linked or causally related to the activity but may occur over a longer period of time.*” Various secondary impacts could occur due to the wetland disturbance. A few examples of those are listed below.

- Potential disruption of wildlife use (breeding and nesting) and movement
- Potential for polluted runoff and/or sediment to reach portions of wetland which were previously acting as buffer strips.
- Potential for invasive species populations to reach portions of wetlands which were buffered (edge effect).

5.1.2.1 Permanence/Reversibility

Permanent upland and wetland loss will occur to road construction. Reversibility would not be feasible. A portion of the impacted areas would be reconstructed. For instance, swales and ditches would be constructed along the extent of the reconstructed roads. Since many of the wetlands being impacted are ditches/swales that were originally constructed to provide drainage of the road network, the reconstructed area would likely provide similar ecosystem functions and wildlife habitat as the impacted wetland areas.

5.1.2.2 Significance (Low, Medium, High)

The interstate corridor is present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. Therefore, significance is rated as low.

5.1.3 Cumulative Impacts

No cumulative impacts are anticipated. Cumulative impacts are defined by the WDNR as “*impacts attributable to the proposed activity which may occur, based upon past or reasonably anticipated impacts on wetland functional values of similar activities in the affected area.*” Development and adjacent road networks are already established. This construction should not cause any new cumulative impact to wetlands that were not already present prior to the expansion.

5.1.3.1 Permanence/Reversibility

Permanent upland and wetland loss will occur due to road construction, reversing these effects would not be feasible. A portion of the impacted areas would be reconstructed. For instance, swales and ditches would be constructed along the extent of the reconstructed roads.

5.1.3.2 Significance (Low, Medium, High)

The interstate corridor is present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. No new cumulative impacts are anticipated. Therefore, significance is rated as low.

5.1.4 Spatial/Habitat Integrity

Spatial/habitat integrity is defined by the WDNR as “*the loss of wetlands within an area where these wetlands may be critical habitat components to a species or assemblage of species..*” The area is highly fragmented and urbanized environment. The wetlands within this area are not considered critical habitat components to any species.

5.1.4.1 Permanence/Reversibility

Reversing the impacts of the highway expansion would not be feasible once road construction is complete. A portion of the impacted areas would be reconstructed. For instance, swales and ditches would be constructed along the extent of the reconstructed roads.

5.1.4.2 Significance (Low, Medium, High)

The interstate corridor is already present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. Therefore, significance is rated as low.

5.1.5 Rare Plant/Animal Communities/Natural Areas

This section refers to any impacts that may occur to state and/or federal threatened, endangered, and special concern species (rare species).

According to WDNR NHI data, no element of occurrences are located within the sections that overlap the assessment area. The probability that state and/or federal threatened, endangered, and special concern species are present within the disturbance areas is unlikely. Furthermore, the project will be required to follow state and federal threatened and endangered species regulations and enact measures to ensure that rare species are protected from construction.

5.1.5.1 Permanence/Reversibility

Reversing the impacts of the highway expansion would not be feasible once road construction is complete. A portion of the impacted areas would be reconstructed. For instance, swales and ditches would be constructed along the extent of the reconstructed roads. These newly constructed swale and ditches could serve as habitat for various wildlife in the area.

5.1.5.2 Significance (Low, Medium, High)

The interstate corridor is present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. Therefore, significance is rated as low.

Tables

Table 1 Summary of WWI and 24K features

Table 2 Summary of Soil Map Units

Table 3 Wetland Summary

Table 4 Wildlife Species Observations

Table 1: Summary of WWI and 24 K Hydrography Features

WWI/24K Mapped Feature	WWI Code, Class, Subclass and Modifier or 24K Hydrography
Wetland	E2/W0H (Emergent/wet Meadow, Open Water, narrowed-leaved persistent, standing water, palustrine)
Wetland	Wetland too small to delineate
Waterway	Unnamed stream/river

Table 2: Summary of Soil Map Units

Map Unit Name and Symbol	Hydric Components, Percent, & Location*	Hydric Rating by Map Unit	Drainage Class	Percent Composition in Area of Investigation**
Cut and fill land (Cu)	-	Nonhydric	Moderatly Well Drained	21.7%
Dodge silt loam, 2 to 6 percent slopes (DnB)	-	Nonhydric	Well drained	3.1%
Elburn silt loam, 0 to 3 percent slopes (EfB)	Pella (4%, Drainageways) Mahallasville (3%, Drainageways) Sable (2%, Drainageways) Plano (1%, Till plains)	Nonhydric	Somewhat poorly drained	0.2%
Edmund Silt Loam, 12 to 20 percent slopes, eroded (EdD2)	-	Predominatntly nonhydric	Well Drained	5.9%
Gravel Pit (GP)	Aquents (1%, Depressions)	Predominatntly nonhydric	-	2.2%
Griswold loam, 6 to 12 percent slopes (GwC)	-	Nonhydric	Well drained	2.2%
Griswold loam, 12 to 20 percent slopes, eroded (GwD2)	-	Nonhydric	Well Drained	0.6%
Plano silt loam, till substratum, 2-6% slopes (PnB)	-	Nonhydric	Well Drained	10.9%
Plano silt loam, till substratum, 6 to 12 percent slopes, eroded (PnC2)	-	Nonhydric	Well Drained	1.7%
Plano silt loam, gravelly substratum, 2 to 6 percent slopes (PoB)	-	Nonhydric	Well drained	3.8%
Radford silt loam, 0 to 3 percent slopes (RaA)	Otter (4%, Drainageways, flood plains) Sable (3%, Depressions) Sebewa (2%, Depressions) Drummer (1%, Depressions)	Predominantly Nonhydric (10%)	Somewhat Poorly Drained	0.6%

Table 2: Summary of Soil Map Units

Map Unit Name and Symbol	Hydric Components, Percent, & Location*	Hydric Rating by Map Unit	Drainage Class	Percent Composition in Area of Investigation**
Ringwood silt loam, 2-6% slopes (RnB)	-	Nonhydric	Well Drained	27.2%
Ringwood silt loam, 6-12% slopes, eroded (RnC2)	-	Nonhydric	Well Drained	14.1%
Rockton silt loam, 2 to 6 percent slopes (RoB)	-	Nonhydric	Well Drained	0.0%
Rockton silt loam, 6 to 12 percent slopes, eroded (RoC2)	-	Nonhydric	Well Drained	1.2%
Sogn silt loam, 2 to 20 percent slopes (SoD)	-	Nonhydric	Somewhat excessively drained	0.2%
Troxel silt loam, 0-3% slopes (TrB)	-	Nonhydric	Moderately Well Drained	4.1%
Water	-	Nonhydric	-	0.2%

* NRCS Hydric Soil List (2024)

** Calculated Using NRCS Web Soil Survey (2024)

Table 3: Wetland Summary Table

Delineated Wetland ID	Wetland Community Type (WisDOT Classification)	Size (Acres)	Size (Square Feet)
DW14	Shrub Scrub (D)	0.034	1,488
DW15	Wet Meadow (D)	0.162	7,050
DW152	Shallow Marsh (D)	0.003	123
DW152	Wet Meadow (D)	0.001	35
DW153	Shallow Marsh (D)	0.007	292
DW153	Wet Meadow (D)	0.005	224
W120	Wet Meadow (D)	0.017	745
W121	Shallow Marsh (D)	0.026	1,154
W121	Wet Meadow (D)	0.036	1,568
W121	Wet Meadow (D)	0.024	1,061
W122	Wet Meadow (D)	0.164	7,155
W123	Wet Meadow (D)	0.002	83
W124	Shallow Marsh (D)	0.024	1,049
W124	Wet Meadow (D)	0.031	1,338
W125	Shallow Marsh (D)	0.003	117
W126	Shallow Marsh (D)	0.049	2,142
W126	Shallow Marsh (D)	0.013	562
W126	Shallow Marsh (D)	0.057	2,500
W126	Wet Meadow (D)	0.054	2,350
W126	Wet Meadow (D)	0.042	1,847
W127	Wet Meadow (D)	0.007	326
W128	Wet Meadow (D)	0.004	193
W129	Shallow Marsh (D)	0.035	1,538
W129	Shallow Marsh (D)	0.043	1,856
W129	Shallow Marsh (D)	0.012	517
W129	Wet Meadow (D)	0.005	232
W129	Wet Meadow (D)	0.050	2,168
W130	Shallow Marsh (D)	0.028	1,218
W131	Wet Meadow (D)	0.004	182
W132	Wet Meadow (D)	0.024	1,038
W133	Wet Meadow (D)	0.036	1,566
W134	Wet Meadow (D)	0.039	1,681
W135	Wet Meadow (D)	0.004	170
W136	Wet Meadow (D)	0.018	786
W137	Shallow Marsh (D)	0.028	1,201
W137	Wet Meadow (D)	0.126	5,481
W138	Wet Meadow (D)	0.014	596
W139	Shallow Marsh (D)	0.069	3,001
W139	Shallow Marsh (D)	0.073	3,195
W139	Wet Meadow (D)	0.014	592
W140	Shallow Marsh (D)	0.012	502
W141	Wet Meadow (D)	0.061	2,647
W142	Shallow Marsh (D)	0.068	2,964
W143	Wet Meadow (D)	0.026	1,132

Table 3: Wetland Summary Table

Delineated Wetland ID	Wetland Community Type (WisDOT Classification)	Size (Acres)	Size (Square Feet)
W144	Wet Meadow (D)	0.002	87
W145	Shallow Marsh (D)	0.063	2,734
W146	Wet Meadow (D)	0.002	99
W147	Shrub Scrub (D)	0.024	1,050
W147	Shrub Scrub (D)	0.034	1,492
W147	Wet Meadow (D)	0.015	654
W147	Wet Meadow (D)	0.074	3,237
W148	Shallow Marsh (D)	0.039	1,685
W148	Wet Meadow (D)	0.002	90
W149	Wet Meadow (D)	0.078	3,396
W150	Wet Meadow (D)	0.038	1,647
W151	Wet Meadow (D)	0.006	249
W153	Aquatic Bed	0.004	187
W153	Riparian Wooded (D)	0.182	7,920
W153	Shallow Marsh (D)	1.269	55,260
W153	Shallow Marsh (D)	0.107	4,677
W153	Shallow Marsh (D)	0.139	6,036
W153	Shrub Scrub (D)	0.068	2,957
W153	Wet Meadow (D)	0.042	1,833
W153	Wet Meadow (D)	0.115	5,007
W153	Wet Meadow (D)	0.195	8,485
W153	Wet Meadow (D)	0.260	11,318
W153	Wet Meadow (D)	0.082	3,551
W154	Shallow Marsh (D)	0.037	1,607
W154	Wet Meadow (D)	0.012	502
W155	Wet Meadow (D)	0.030	1,291
W156	Aquatic Bed	0.030	1,290
W156	Shallow Marsh (D)	0.007	294
W157	Shallow Marsh (D)	0.080	3,466
W157	Wet Meadow (D)	0.007	292
W158	Wet Meadow (D)	0.017	746
W159	Shallow Marsh (D)	0.004	169
W160	Shallow Marsh (D)	0.014	631
W161	Wet Meadow (D)	0.060	2,632
W162	Wet Meadow (D)	0.204	8,899
		4.893	213,136

Table 4: Wildlife Species Observations

Category	Scientific Name	Common Name	Present/Potential
Amphibians	<i>Bufo americanus</i>	American Toad	Potential
Amphibians	<i>Hyla versicolor</i>	Eastern Gray Treefrog	Potential
Amphibians	<i>Pseudacris triseriata</i>	Western Chrous Frog	Potential
Amphibians	<i>Rana clamitans</i>	Green Frog	Potential
Aves	<i>Anser albifrons</i>	Greater White-fronted Goose	Potential
Aves	<i>Aythya affinis</i>	Lesser Scaup	Potential
Aves	<i>Fulica americana</i>	American Coot	Potential
Aves	<i>Larus delawarensis</i>	Ring-billed Gull	Potential
Aves	<i>Spatula discors</i>	Blue-Winged Teal	Potential
Aves	<i>Zenaida macroura</i>	Mourning Dove	Potential
Aves	<i>Agelaius phoeniceus</i>	Red-winged Blackbird	Potential
Aves	<i>Aix sponsa</i>	Wood Duck	Potential
Aves	<i>Anas crecca</i>	Green-winged Teal	Potential
Aves	<i>Anas platyrhynchos</i>	Mallard	Potential
Aves	<i>Anser albifrons</i>	Snow Goose	Potential
Aves	<i>Anthus rubescens</i>	American pipit	Potential
Aves	<i>Antigone canadensis</i>	Sandhill Crane	Potential
Aves	<i>Ardea herodias</i>	Great Blue Heron	Potential
Aves	<i>Aythya americana</i>	Redhead	Potential
Aves	<i>Aythya collaris</i>	Ring-necked Duck	Potential
Aves	<i>Bombycilla cedrorum</i>	Cedar Waxwing	Potential
Aves	<i>Branta canadensis</i>	Canada Goose	Potential
Aves	<i>Branta hutchinsii</i>	Cackling Goose	Potential
Aves	<i>Bucephala albeola</i>	Bufflehead	Potential
Aves	<i>Bucephala clangula</i>	Common Goldeneye	Potential
Aves	<i>Buteo platypterus</i>	Broad-winged Hawk	Potential
Aves	<i>Calcarius lapponicus</i>	Lapland Longspur	Potential
Aves	<i>Calidris alpina</i>	Dunlin	Potential
Aves	<i>Calidris melanotos</i>	Pectoral Sandpiper	Potential
Aves	<i>Calidris minutilla</i>	Least Sandpiper	Potential
Aves	<i>Chaetura pelagica</i>	Chimney Swift	Potential
Aves	<i>Charadrius vociferus</i>	Killdeer	Potential
Aves	<i>Chordeiles minor</i>	Common Nighthawk	Potential
Aves	<i>Chroicocephalus philadelphia</i>	Bonaparte' s Gull	Potential
Aves	<i>Columba livia</i>	Rock Pigeon	Potential
Aves	<i>Corvus brachyrhynchos</i>	American Crow	Potential
Aves	<i>Cygnus columbianus</i>	Tundra Swan	Potential
Aves	<i>Euphagus carolinus</i>	Rusty Blackbird	Potential
Aves	<i>Hirundo rustica</i>	Barn Swallow	Potential
Aves	<i>Junco hyemalis</i>	Dark-eyed Junco	Potential
Aves	<i>Larus argentatus</i>	Herring Gull	Potential
Aves	<i>Mareca strepera</i>	Gadwall	Potential
Aves	<i>Meleagris gallopavo</i>	Wild Turkey	Potential
Aves	<i>Mergus merganser</i>	Common Merganser	Potential
Aves	<i>Molothrus ater</i>	Brown-headed Cowbird	Potential

Table 4: Wildlife Species Observations

Category	Scientific Name	Common Name	Present/Potential
Aves	<i>Oxyura jamaicensis</i>	Ruddy Duck	Potential
Aves	<i>Passer domesticus</i>	House Sparrow	Potential
Aves	<i>Pelecanus erythrorhynchos</i>	American White Pelican	Potential
Aves	<i>Petrochelidon pyrrhonota</i>	Cliff Swallow	Potential
Aves	<i>Progne subis</i>	Purple Martin	Potential
Aves	<i>Quiscalus quiscula</i>	Common Grackle	Potential
Aves	<i>Riparia riparia</i>	Bank Swallow	Potential
Aves	<i>Setophaga coronata</i>	Yellow-rumped Warbler	Potential
Aves	<i>Setophaga palmarum</i>	Palm Warbler	Potential
Aves	<i>Spatula clypeata</i>	Northern Shoveler	Potential
Aves	<i>Spinus pinus</i>	Pine Siskin	Potential
Aves	<i>Spinus tristis</i>	American Goldfinch	Potential
Aves	<i>Spizelloides arborea</i>	American Tree Sparrow	Potential
Aves	<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow	Potential
Aves	<i>Sturnus vulgaris</i>	European Starling	Potential
Aves	<i>Tachycineta bicolor</i>	Tree Swallow	Potential
Aves	<i>Tringa flavipes</i>	Lesser Yellowlegs	Potential
Aves	<i>Turdus migratorius</i>	American Robin	Potential
Aves	<i>Zonotrichia albicollis</i>	White-Throated Sparrow	Potential
Mammals	<i>Canis latrans</i>	Coyote	Potential
Mammals	<i>Lontra canadensis</i>	River Otter	Potential
Mammals	<i>Mephitis mephitis</i>	Striped skunk	Potential
Mammals	<i>Odocoileus virginianus</i>	White-tailed Deer	Potential
Mammals	<i>Ondatra zibethicus</i>	Muskrat	Potential
Mammals	<i>Procyon lotor</i>	Raccoon	Potential
Mammals	<i>Sciurus carolinensis</i>	Gray Squirrel	Potential
Mammals	<i>Tamias striatus</i>	Eastern Chipmunk	Potential
Mammals	<i>Vulpes vulpes</i>	Red Fox	Potential
Marsupials	<i>Didelphis virginiana</i>	Opossum	Potential
Reptiles	<i>Chelydra serpentina</i>	Snapping Turtle	Potential
Reptiles	<i>Chrysemys picta</i>	Painted Turtle	Potential
Reptiles	<i>Glyptemys insculpta</i>	Wood Turtle	Potential
Reptiles	<i>Nerodia sipedon</i>	Northern Water Snake	Potential

Figures

Figure 1 Site Location and USGS Topographic Map

Figure 2 2-Foot Contour Map

Figure 3 Wisconsin Wetland Inventory, Wetland Indicators, & 24K Hydrography Map

Figure 4 USDA NRCS Soils Map

Figure 5 Wetland Communities Map

Figure 6 FEMA Flood Map, Special Wetland Planning Waters and Critical Habitat Area Map

Figure 7 100 Meter Buffer & Land Use Map

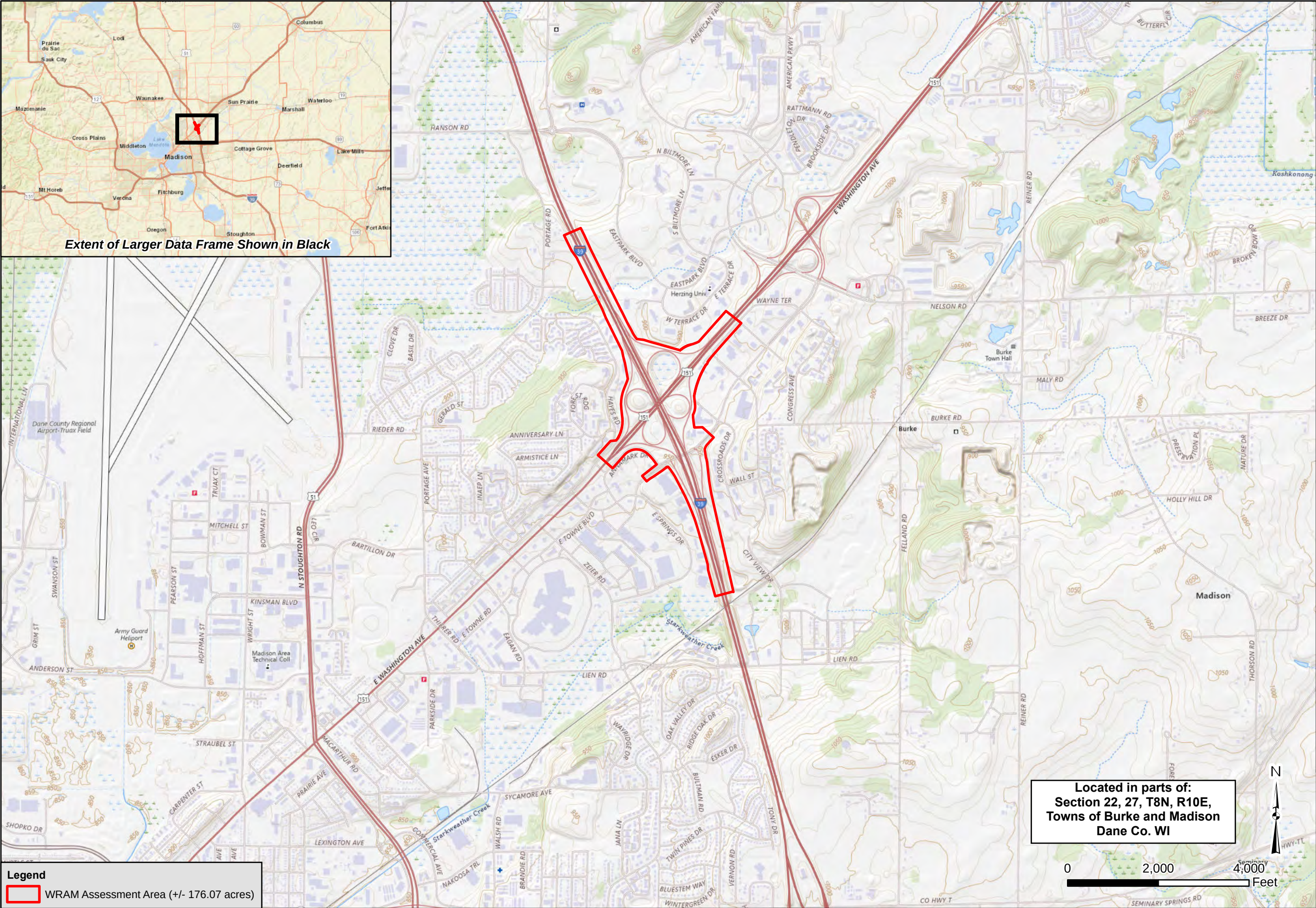


FIGURE 1
SITE LOCATION AND USGS TOPOGRAPHIC MAP
WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
USH 151/HIGH CROSSING INTERCHANGE
TOWNS OF BURKE AND MADISON
DANE COUNTY, WISCONSIN

Drawn: BWK 5/15/2024
Approved: KTB 5/15/2024
Scale: As Shown
Project Number: 2404021
Page 1 of 1

Legend

WRAM Assessment Area (+/- 176.07 acres)

Located in parts of:
Section 22, 27, T8N, R10E,
Towns of Burke and Madison
Dane Co. WI



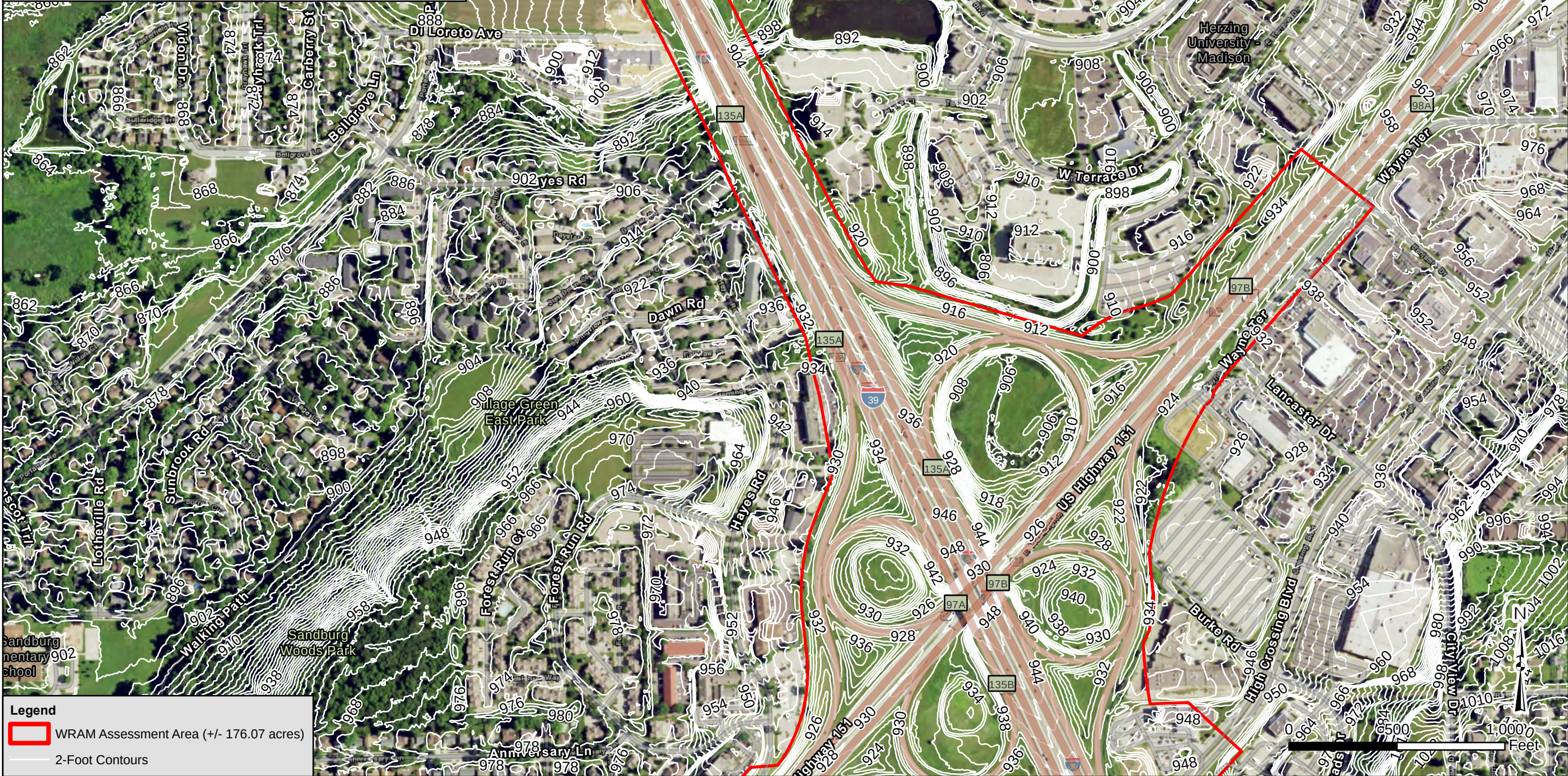
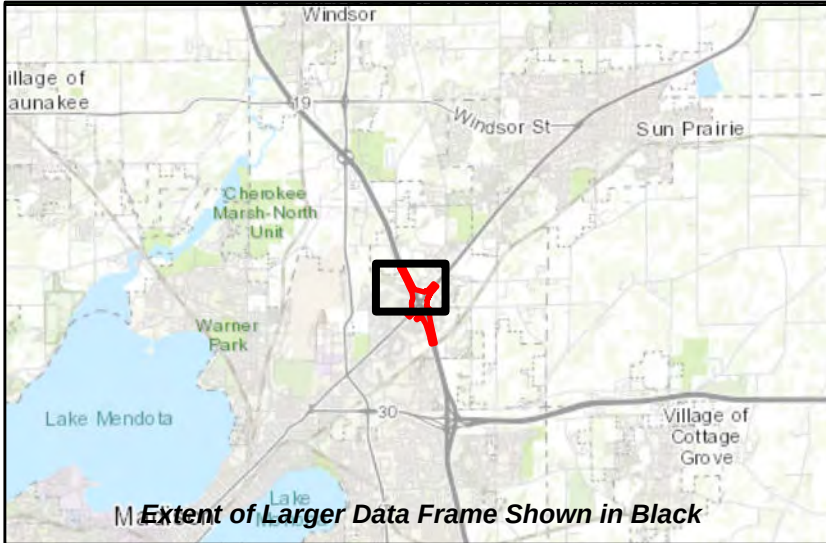


FIGURE 2
2-FOOT CONTOUR MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
USH 151 / HIGH CROSSING INTERCHANGE
TOWNS OF BURKE AND MADISON
DANE COUNTY, WISCONSIN

Drawn: BWK 5/15/2024
Approved: KTB 5/15/2024
Scale: As Shown
Project Number: 2404021
Page 1 of 2

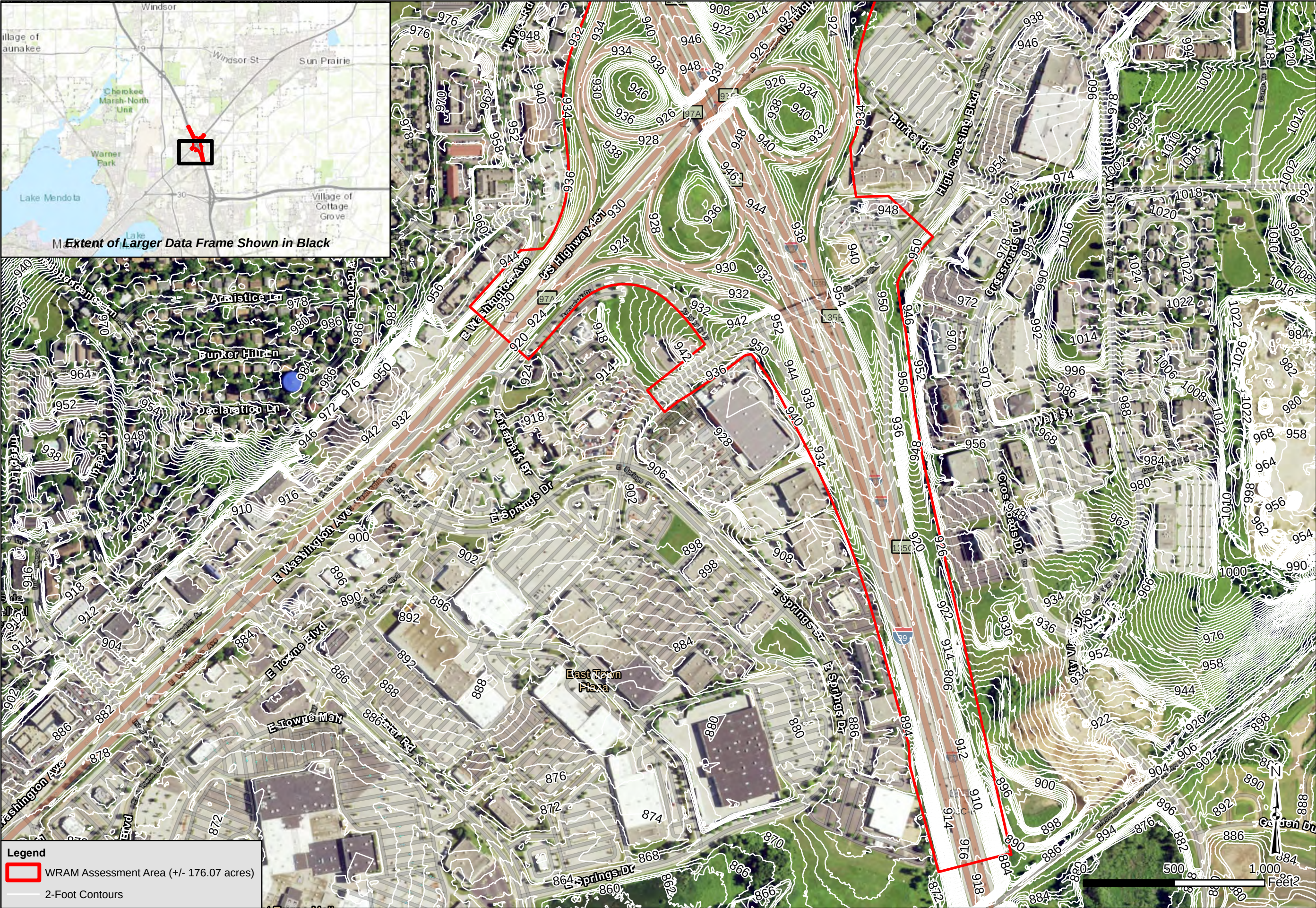


FIGURE 2
2-FOOT CONTOUR MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
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USH 151 / HIGH CROSSING INTERCHANGE
TOWNS OF BURKE AND MADISON
DANE COUNTY, WISCONSIN

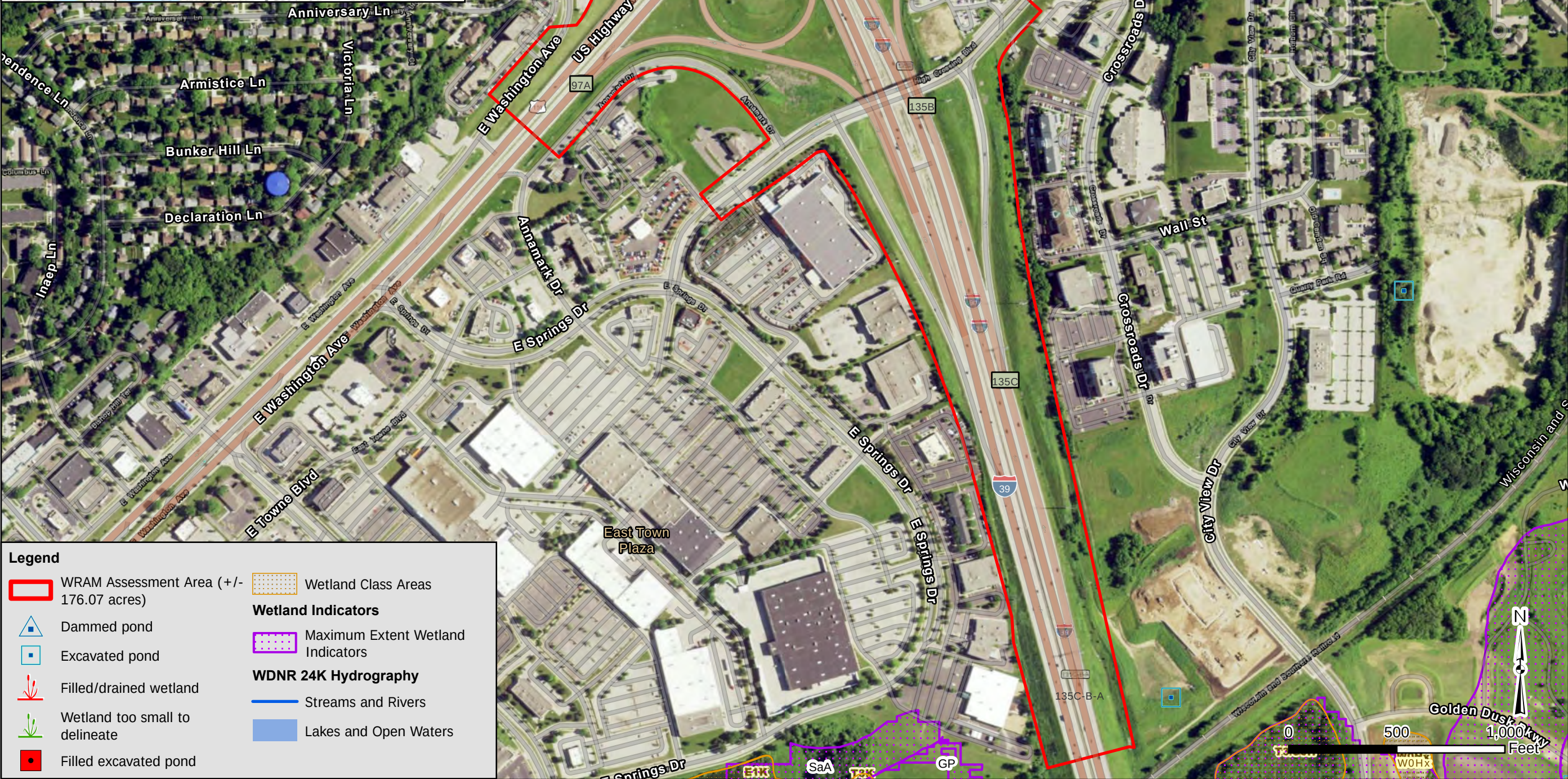
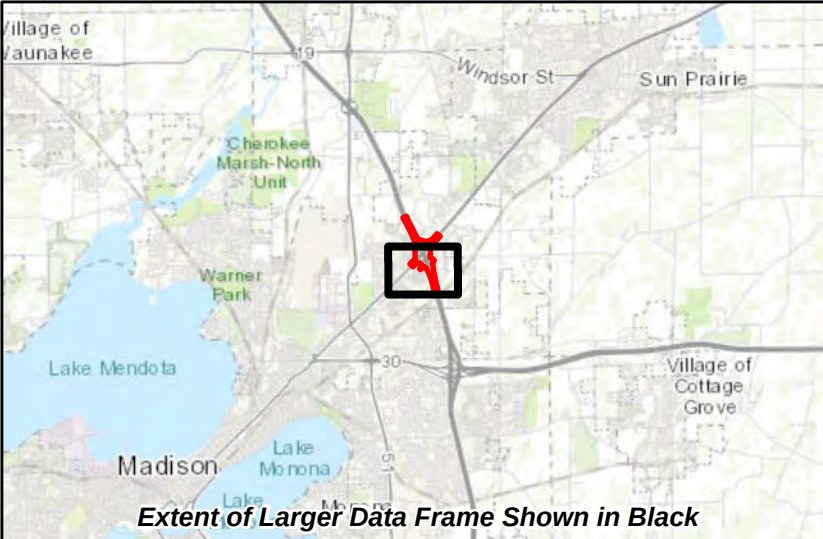
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Approved: KTB 5/15/2024
Scale: As Shown
Project Number: 2404021
Page 2 of 2



FIGURE 3
WISCONSIN WETLAND INVENTORY, WETLAND INDICATORS, AND 24K HYDROGRAPHY MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
USH 151/HIGH CROSSING INTERCHANGE
TOWN OF BURKE AND MADISON
DANE COUNTY, WISCONSIN

Drawn: BWK 5/15/2024
Approved: KTB 5/15/2024
Scale: As Shown
Project Number: 2404021
Page 1 of 2



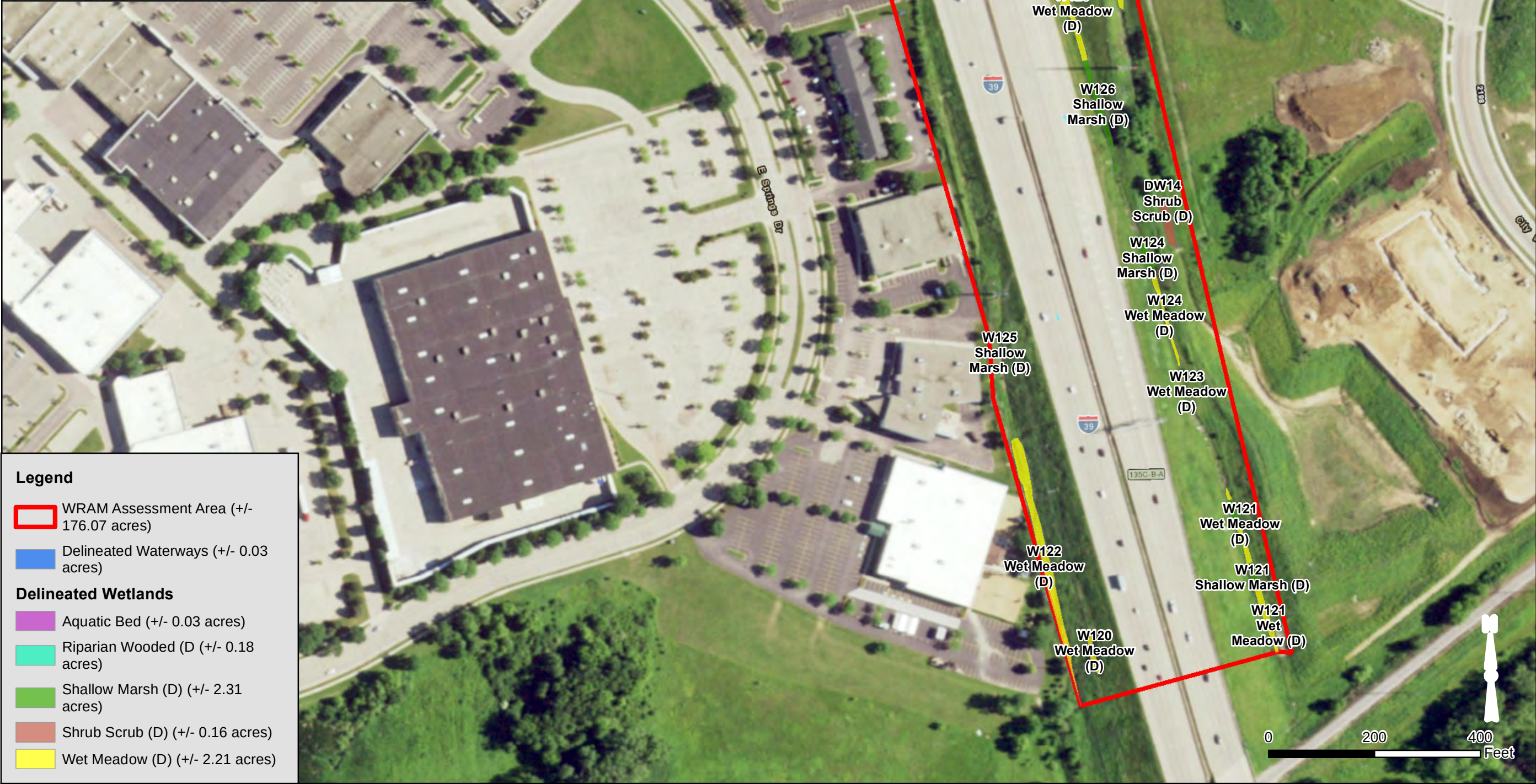
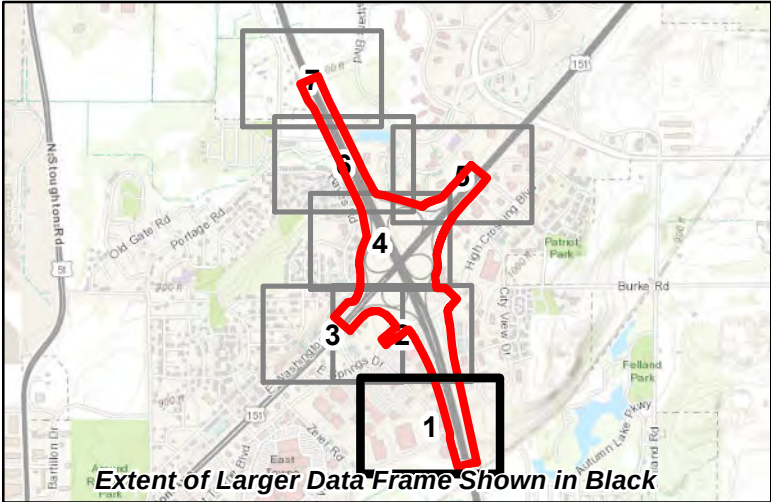
Legend

WRAM Assessment Area (+/- 176.07 acres)	Wetland Class Areas
Dammed pond	Wetland Indicators
Excavated pond	Maximum Extent Wetland Indicators
Filled/draind wetland	WDNR 24K Hydrography
Wetland too small to delineate	Streams and Rivers
Filled excavated pond	Lakes and Open Waters

FIGURE 3
WISCONSIN WETLAND INVENTORY, WETLAND INDICATORS, AND 24K HYDROGRAPHY MAP

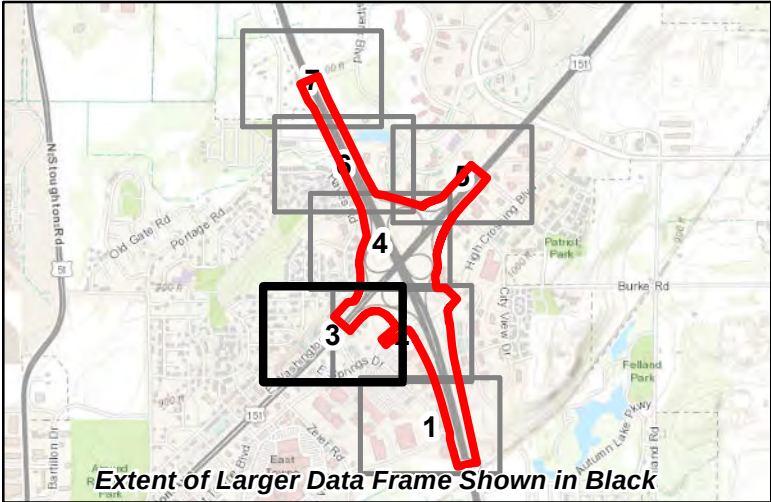
WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
USH 151/HIGH CROSSING INTERCHANGE
TOWN OF BURKE AND MADISON
DANE COUNTY, WISCONSIN





Legend

- WRAM Assessment Area (+/- 176.07 acres)
- Delineated Waterways (+/- 0.03 acres)
- Delineated Wetlands**
 - Aquatic Bed (+/- 0.03 acres)
 - Riparian Wooded (D) (+/- 0.18 acres)
 - Shallow Marsh (D) (+/- 2.31 acres)
 - Shrub Scrub (D) (+/- 0.16 acres)
 - Wet Meadow (D) (+/- 2.21 acres)



- Legend**
- WRAM Assessment Area (+/- 176.07 acres)
 - Delineated Waterways (+/- 0.03 acres)
 - Delineated Wetlands**
 - Aquatic Bed (+/- 0.03 acres)
 - Riparian Wooded (D) (+/- 0.18 acres)
 - Shallow Marsh (D) (+/- 2.31 acres)
 - Shrub Scrub (D) (+/- 0.16 acres)
 - Wet Meadow (D) (+/- 2.21 acres)

FIGURE 5
WETLAND COMMUNITIES MAP
WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
IH 39 90 94 WRAM - USH 151/HIGH CROSSING INTERCHANGE
CITY OF MADISON
DANE COUNTY, WISCONSIN



Delineated Wetlands

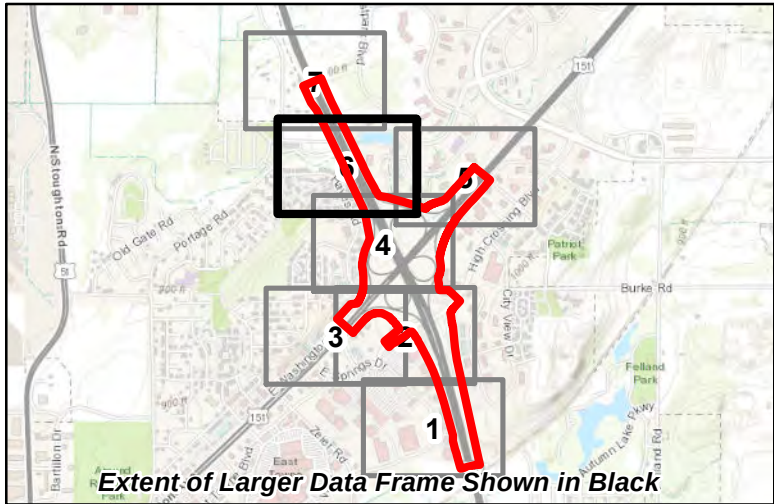
- Aquatic Bed (+/- 0.03 acres)
- Riparian Wooded (D (+/- 0.18 acres)
- Shallow Marsh (D) (+/- 2.31 acres)
- Shrub Scrub (D) (+/- 0.16 acres)
- Wet Meadow (D) (+/- 2.21 acres)

W156
Shallow
Marsh (D)

Waterway 2

FIGURE 5
WETLAND COMMUNITIES MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
IH 39 90 94 WRAM - USH 151/HIGH CROSSING INTERCHANGE
CITY OF MADISON
DANE COUNTY, WISCONSIN



Legend

- WRAM Assessment Area (+/- 178.07 acres)
- Delineated Waterways (+/- 0.03 acres)

Delineated Wetlands

- Aquatic Bed (+/- 0.03 acres)
- Riparian Wooded (D) (+/- 0.18 acres)
- Shallow Marsh (D) (+/- 2.31 acres)
- Shrub Scrub (D) (+/- 0.16 acres)
- Wet Meadow (D) (+/- 2.21 acres)

FIGURE 5
WETLAND COMMUNITIES MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
IH 39 90 94 WRAM - USH 151/HIGH CROSSING INTERCHANGE
CITY OF MADISON
DANE COUNTY, WISCONSIN



Delineated Wetlands

- Aquatic Bed (+/- 0.03 acres)
- Riparian Wooded (D) (+/- 0.18 acres)
- Shallow Marsh (D) (+/- 2.31 acres)
- Shrub Scrub (D) (+/- 0.16 acres)
- Wet Meadow (D) (+/- 2.21 acres)

FIGURE 5

WETLAND COMMUNITIES MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
IH 39 90 94 WRAM - USH 151/HIGH CROSSING INTERCHANGE
CITY OF MADISON
DANE COUNTY, WISCONSIN

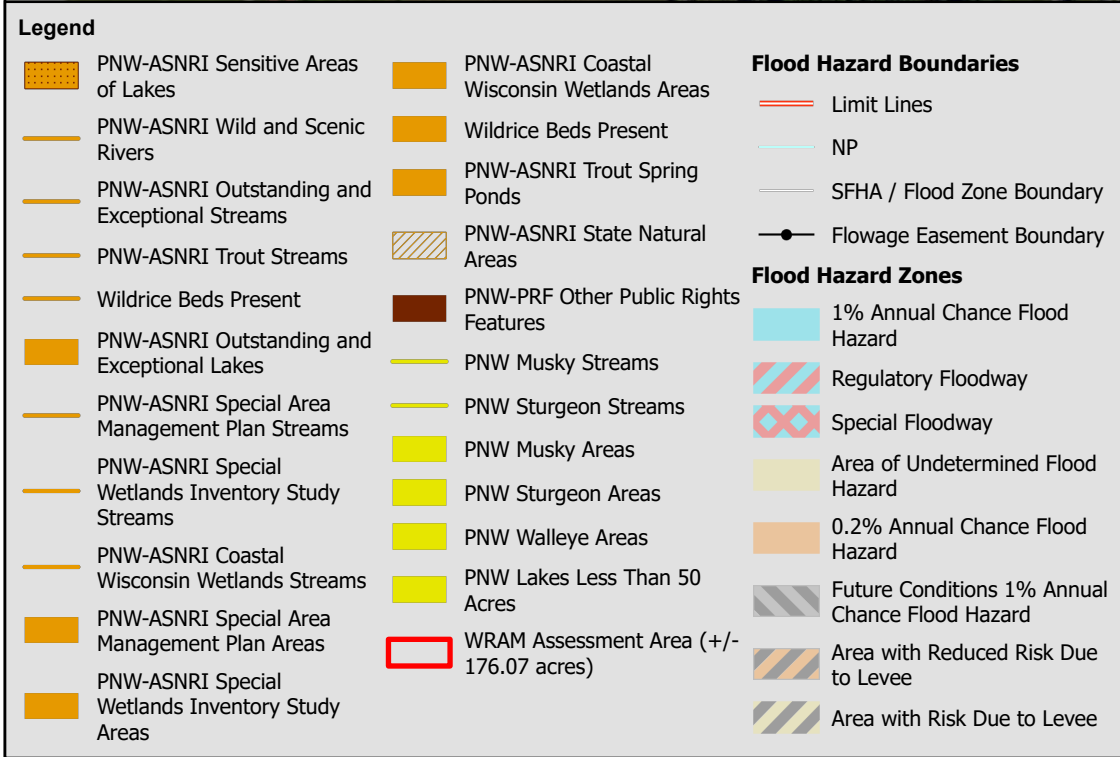
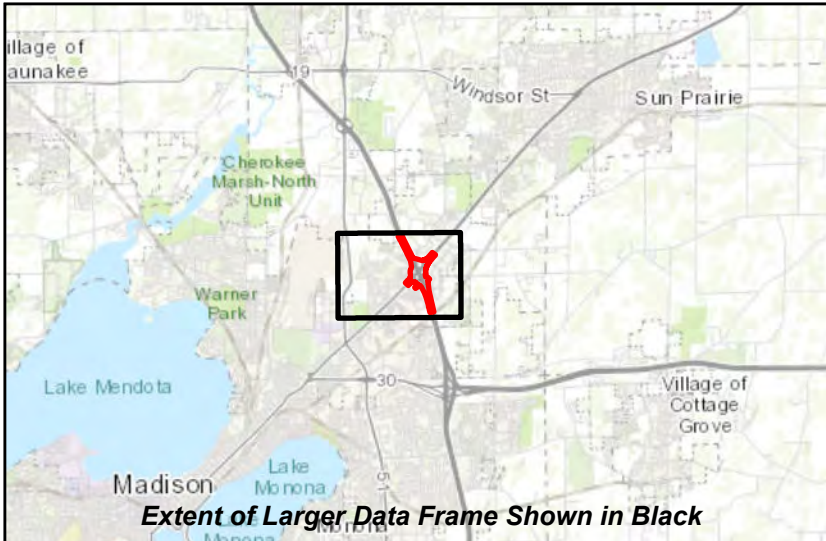
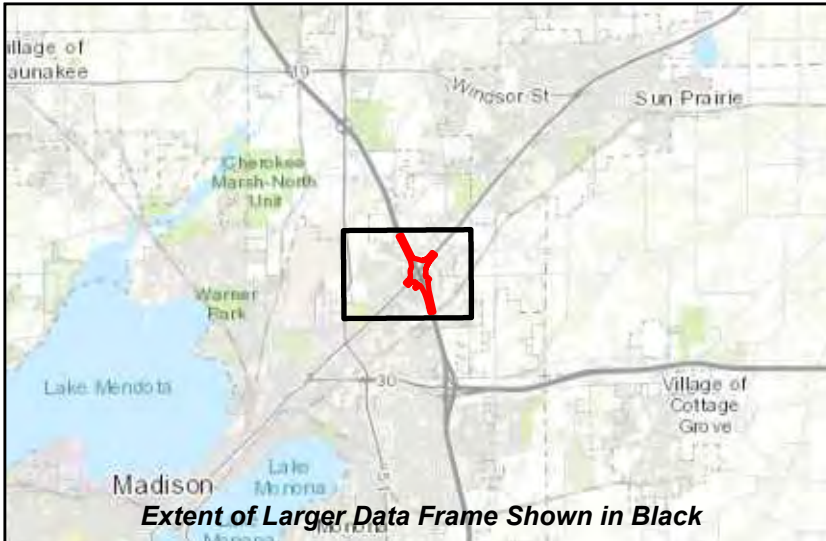


FIGURE 6
FEMA FLOOD MAP, SPECIAL WETLAND PLANNING AND CRITICAL HABITAT AREA MAP
WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
USH 151/HIGH CROSSING INTERCHANGE
TOWNS OF BURKE AND MADISON
COLUMBIA COUNTY, WISCONSIN



Legend

WRAM Assessment Area 100 Meter Buffer (+/- 365.32 acres)

WRAM Assessment Area (+/- 176.07 acres)

LandUse

- Developed, High Intensity (+/- 205.90 acres, 56.21%)
- Developed, Medium Intensity (+/- 5.47 acres, 1.47%)
- Developed, Open Space (+/-136.47 acres, 37.25%)
- Cultivated Crops (+/- 7.10 acres, 1.94%)
- Forest (+/- 4.82 acres, 1.31%)
- Waterways (+/- 1.54 acres, 0.42%)
- Wetlands (+/- 5.03 acres, 1.37%)

FIGURE 7
100 METER BUFFER AND LAND USE MAP
WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
USH 151/HIGH CROSSING INTERCHANGE
TOWNS OF BURKE AND MADISON
DANE COUNTY, WISCONSIN

Appendix A

Wetland Rapid Assessment Methodology Data Form

Wetland Rapid Assessment Methodology – Version 2.0

Long Form

Form 3500-134 (11/22)

Page 2 of 7

Section 1: Functional Value Assessment

	Y / N	Potential	
HU	☐ Y ☐ N		Human Use Values: recreation, culture, education, science, natural scenic beauty
1	☐ Y ☒ N	Y	Used for recreation (hunting, birding, hiking, etc.). List: Potential for birding, vehicles could park and watch birds
2	☐ Y ☒ N	Y	Used for educational or scientific purposes
3	☒ Y ☐ N	Y	Visually or physically accessible to public
4	☐ Y ☒ N	Y	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	☐ Y ☒ N	Y	In or adjacent to RED FLAG areas List:
6	☐ Y ☒ N	Y	Supports or provides habitat for endangered, threatened or special concern species
7	☐ Y ☒ N	Y	In or adjacent to archaeological or cultural resource site
WH	☐ Y ☐ N		Wildlife Habitat
1	☐ Y ☒ N	Y	Wetland and contiguous habitat >10 acres
2	☐ Y ☒ N	Y	3 or more strata present (>10% cover)
3	☐ Y ☒ N	Y	Within or adjacent to habitat corridor or established wildlife habitat area
4	☐ Y ☒ N	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	☐ Y ☒ N	Y	Occurs in a Joint Venture priority township
6	☐ Y ☒ N	Y	Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex, etc.)
7	☐ Y ☒ N	Y	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	☐ Y ☒ N	Y	Part of a large habitat block that supports area sensitive species
9	☐ Y ☒ N	Y	Ephemeral pond with water present > 45 days
10	☐ Y ☒ N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	☐ Y ☒ N	Y	Seasonally exposed mudflats present
12	☐ Y ☒ N	Y	Provides habitat scarce in the area (urban, agricultural, etc.)
FA	☐ Y ☐ N		Fish and Aquatic Life Habitat
1	☐ Y ☒ N	Y	Wetland is connected or contiguous with perennial stream or lake
2	☐ Y ☒ N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	☐ Y ☒ N	Y	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	☒ Y ☐ N	Y	Vegetation is inundated in spring
SP	☐ Y ☐ N		Shoreline Protection
1	☐ Y ☒ N	Y	Along shoreline of a stream, lake, pond or open water area (>1 acre) - if no, not applicable
2	☐ Y ☒ N	Y	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable
3	☐ Y ☒ N	Y	Densely rooted emergent or woody vegetation
ST	☐ Y ☐ N		Storm and Floodwater Storage
1	☒ Y ☐ N	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	☐ Y ☒ N	Y	Water flow through wetland is NOT channelized
3	☒ Y ☐ N	Y	Dense, persistent vegetation
4	☐ Y ☒ N	Y	Evidence of flashy hydrology
5	☒ Y ☐ N	Y	Point or non-point source inflow
6	☒ Y ☐ N	Y	Impervious surfaces cover >10% of land surface within the watershed
7	☒ Y ☐ N	Y	Within a watershed with <10% wetland
8	☒ Y ☐ N	Y	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	☐ Y ☐ N		Water Quality Protection
1	☐ Y ☒ N	Y	Provides substantial storage of storm and floodwater based on previous section
2	☒ Y ☐ N	Y	Basin wetland or constricted outlet
3	☐ Y ☒ N	Y	Water flow through wetland is NOT channelized
4	☐ Y ☒ N	Y	Vegetated wetland associated with a lake or stream
5	☒ Y ☐ N	Y	Dense, persistent vegetation
6	☒ Y ☐ N	Y	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	☒ Y ☐ N	Y	Stormwater or surface water from agricultural land is major hydrology source
8	☒ Y ☐ N	Y	Discharge to surface water
9	☒ Y ☐ N	Y	Natural land cover in 100m buffer area < 50%
GW	☐ Y ☐ N		Groundwater Processes
1	☐ Y ☒ N	Y	Springs, seeps or indicators of groundwater present
2	☐ Y ☒ N	N	Location near a groundwater divide or a headwater wetland
3	☐ Y ☒ N	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	☐ Y ☒ N	N	Wetland soils are organic
5	☐ Y ☒ N	Y	Wetland is within a wellhead protection area

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Long Form

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Section 1 Comments

For Wildlife Observations, see Tables 4 and section 4.2.4 in WRAM Report.

For Fish and Aquatic Life observations, see section 4.2.4 in WRAM Report.

Wildlife Habitat and Species Observation (including amphibians and reptiles)

List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

Observed	Potential	Species/Habitat/Comments

Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat/Comments

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Long Form

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Section 3: Condition of Wetland Assessment Area and Buffer (100 m)

Assessment Area	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
X	X	X	M	C	Removal of herbaceous stratum – mowing, grading, earthworms, etc.
X	X	X	M	C	Removal of tree or shrub strata – logging, unprescribed fire
X	X	X	H	C	Hydrologic changes - high capacity wells, impounded water, increased runoff
X	X	X	H	C	Point source or stormwater discharge
X	X	X	H	C	Polluted runoff
X	X	X	H	C	Pond construction
	X	X	M	C	Agriculture – row crops
	X	X	M	C	Agriculture – hay
		X	M	C	Agriculture – pasture
X	X	X	H	C	Roads or railroad
X	X	X	M	C	Utility corridor (above or subsurface)
X	X	X	H	C	Dams, dikes or levees
	X	X	L	C	Soil subsidence, loss of soil structure
X	X	X	M	C	Sediment input
X	X	X	H	C	Filling, berms (non-impounding)
X	X	X	H	C	Drainage – tiles, ditches
			L	UC	Human trails – unpaved
	X	X	L	C	Human trails – paved
		X	L	UC	Removal of large woody debris
X	X	X	H	C	Cover of non-native and/or invasive species
	X	X	M	C	Residential land use
	X	X	H	C	Urban, commercial or industrial use
	X	X	H	C	Parking lot
			L	UC	Golf course
			L	UC	Gravel pit
			L	C	Recreational use (boating, ATVs, etc.)
	X	X	L	C	Excavation or soil grading
					Other:

* L = Low, M = Medium, H = High

** Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

Summary of Condition Assessment

See attached WRAM Report Narrative section 4.1

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Long Form

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Summary of Functional Values

	Low	Medium	High	Exceptional	NA
Floristic Integrity	☒	☐	☐	☐	☐
Human Use Values	☒	☐	☐	☐	☐
Wildlife Habitat	☒	☐	☐	☐	☐
Fish and Aquatic Life Habitat	☒	☐	☐	☐	☐
Shoreline Protection	☒	☐	☐	☐	☐
Flood and Stormwater Storage	☒	☐	☐	☐	☐
Water Quality Protection	☒	☐	☐	☐	☐
Groundwater Processes	☒	☐	☐	☐	☐

	Rationale
Floristic Integrity See attached WRAM Report Narrative section 4.2.1	
Human Use Values See attached WRAM Report Narrative section 4.2.2	
Wildlife Habitat See attached WRAM Report Narrative section 4.2.3	
Fish and Aquatic Life Habitat See attached WRAM Report Narrative section 4.2.4	
Shoreline Protection See attached WRAM Report Narrative section 4.2.5	
Flood and Stormwater Storage See attached WRAM Report Narrative section 4.2.6	
Water Quality Protection See attached WRAM Report Narrative section 4.2.7	
Groundwater Processes See attached WRAM Report Narrative section 4.2.8	

Section 4: Project Impact Assessment

Project Description

See attached WRAM Report Narrative.

Expected Project Impacts

	Permanence/Reversibility	Significance (Low, Medium, High)
Expected Project Impacts/Direct Impacts See attached WRAM Report Narrative section 5.1.1	See attached WRAM Report Narrative section 5.1.1.1	See attached WRAM Report Narrative section 5.1.1.2
Secondary Impacts (including impacts which are indirectly attributable to the project) See attached WRAM Report Narrative section 5.1.2	See attached WRAM Report Narrative section 5.1.2.1	See attached WRAM Report Narrative section 5.1.2.2
Cumulative Impacts See attached WRAM Report Narrative section 5.1.3	See attached WRAM Report Narrative section 5.1.3.1	See attached WRAM Report Narrative section 5.1.3.2
Spatial/Habitat Integrity See attached WRAM Report Narrative section 5.1.4	See attached WRAM Report Narrative section 5.1.4.1	See attached WRAM Report Narrative section 5.1.4.2
Rare Plant/Animal Communities/Natural Areas See attached WRAM Report Narrative section 5.1.5	See attached WRAM Report Narrative section 5.1.5.1	See attached WRAM Report Narrative section 5.1.5.2

Appendix B

2021 Photographic Log

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 1	DATE: November 9, 2021	LATITUDE: 43.14733133	LONGITUDE: -89.30322683
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland 166, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 2	DATE: November 9, 2021	LATITUDE: 43.14422917	LONGITUDE: -89.30034783
DIRECTION: West	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W165, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 3	DATE: November 9, 2021	LATITUDE: 43.14409367	LONGITUDE: -89.3000415
DIRECTION: West	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland 164, Aquatic Bed (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 4	DATE: November 9, 2021	LATITUDE: 43.14356863	LONGITUDE: -89.30095992
DIRECTION: East	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W163, Aquatic Bed (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 5	DATE: November 9, 2021	LATITUDE: 43.14302317	LONGITUDE: -89.3004775
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W162, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 6	DATE: November 11, 2021	LATITUDE: 43.14273833	LONGITUDE: -89.299309
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W161, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 7	DATE: November 11, 2021	LATITUDE: 43.14248467	LONGITUDE: -89.299132
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W160, Shallow Marsh - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 8	DATE: November 11, 2021	LATITUDE: 43.14083567	LONGITUDE: -89.29791133
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W159, Shallow Marsh - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 9	DATE: November 11, 2021	LATITUDE: 43.1407992	LONGITUDE: -89.29897333
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W158, Wet Meadow - D (foreground)			
PHOTO BY: JLJ			

PHOTOGRAPH No: 10	DATE: November 11, 2021	LATITUDE: 43.1404386	LONGITUDE: -89.2915945
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland N/A, Wet Meadow - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 11	DATE: November 11, 2021	LATITUDE: 43.14028083	LONGITUDE: -89.29546117
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W153, Shallow Marsh - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 12	DATE: November 11, 2021	LATITUDE: 43.14027983	LONGITUDE: -89.2973505
DIRECTION:	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W157, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 13	DATE: November 11, 2021	LATITUDE: 43.14006367	LONGITUDE: -89.296009
DIRECTION: East	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W153, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 14	DATE: November 11, 2021	LATITUDE: 43.1400435	LONGITUDE: -89.293353
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W156, Aquatic Bed (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 15	DATE: November 11, 2021	LATITUDE: 43.139947	LONGITUDE: -89.2954425
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W153, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 16	DATE: November 11, 2021	LATITUDE: 43.13992067	LONGITUDE: -89.29707733
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W154, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 17	DATE: November 11, 2021	LATITUDE: 43.13979217	LONGITUDE: -89.2947265
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W153, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 18	DATE: November 11, 2021	LATITUDE: 43.13966683	LONGITUDE: -89.293996
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W156, Aquatic Bed (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 19	DATE: November 11, 2021	LATITUDE: 43.13965617	LONGITUDE: -89.2939915
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W156, Deep Marsh - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 20	DATE: November 11, 2021	LATITUDE: 43.139473	LONGITUDE: -89.29449083
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W153, Aquatic Bed (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 21	DATE: November 11, 2021	LATITUDE: 43.13930067	LONGITUDE: -89.296431
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland 153, Shallow Marsh - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 22	DATE: November 11, 2021	LATITUDE: 43.13909292	LONGITUDE: -89.29561126
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W153, Shrub Scrub - D (foreground)			
PHOTO BY: KG			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 23	DATE: November 11, 2021	LATITUDE: 43.1390644	LONGITUDE: -89.2979958
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W150, Wet Meadow - D (foreground)			
PHOTO BY: JSC			

PHOTOGRAPH No: 24	DATE: November 11, 2021	LATITUDE: 43.13903583	LONGITUDE: -89.29557683
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W153, Shallow Marsh - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 25	DATE: November 11, 2021	LATITUDE: 43.13899267	LONGITUDE: -89.29474133
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W153, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 26	DATE: November 11, 2021	LATITUDE: 43.1385935	LONGITUDE: -89.2936333
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W149, Wet Meadow - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 27	DATE: November 11, 2021	LATITUDE: 43.1385014	LONGITUDE: -89.2936397
DIRECTION: West	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W149, Wet Meadow - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 28	DATE: November 11, 2021	LATITUDE: 43.13846539	LONGITUDE: -89.29854711
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W147, Shrub Scrub - D (foreground)			
PHOTO BY: JLJ			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 29	DATE: November 11, 2021	LATITUDE: 43.13841711	LONGITUDE: -89.29860176
DIRECTION: Southwest	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W147, Wet Meadow - D (foreground)			
PHOTO BY: JLJ			

PHOTOGRAPH No: 30	DATE: November 11, 2021	LATITUDE: 43.1382206	LONGITUDE: -89.2942725
DIRECTION: East	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W149, Aquatic Bed - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 31	DATE: November 11, 2021	LATITUDE: 43.1381749	LONGITUDE: -89.2943172
DIRECTION: East	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W148 , Wet Meadow - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 32	DATE: November 11, 2021	LATITUDE: 43.1379972	LONGITUDE: -89.2945929
DIRECTION: East	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W148, Shallow Marsh - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH NO: 33	DATE: November 11, 2021	LATITUDE: 43.1379085	LONGITUDE: -89.2932587
DIRECTION: Southwest	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W149, Aquatic Bed - D (foreground) Drainage swale			
PHOTO BY: AK			

PHOTOGRAPH NO: 34	DATE: November 11, 2021	LATITUDE: 43.1378332	LONGITUDE: -89.2946996
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W149, Aquatic Bed - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 35	DATE: November 11, 2021	LATITUDE: 43.1377932	LONGITUDE: -89.2948812
DIRECTION: Northeast	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W146, Wet Meadow - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 36	DATE: November 11, 2021	LATITUDE: 43.1376205	LONGITUDE: -89.2947899
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W144, Aquatic Bed - D (foreground) Drainage swale			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 37	DATE: November 11, 2021	LATITUDE: 43.1376182	LONGITUDE: -89.2942508
DIRECTION: Southwest	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W143, Wet Meadow - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 38	DATE: November 11, 2021	LATITUDE: 43.1375334	LONGITUDE: -89.2946686
DIRECTION: West	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W144, Aquatic Bed - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 39	DATE: November 11, 2021	LATITUDE: 43.1375179	LONGITUDE: -89.2931857
DIRECTION: Northeast	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W143, Aquatic Bed - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 40	DATE: November 11, 2021	LATITUDE: 43.1375044	LONGITUDE: -89.2939995
DIRECTION: West	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W143, Wet Meadow - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 41	DATE: November 11, 2021	LATITUDE: 43.1374995	LONGITUDE: -89.29858005
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W145, Deep Marsh - D (foreground)			
PHOTO BY: JLJ			

PHOTOGRAPH No: 42	DATE: November 11, 2021	LATITUDE: 43.1374203	LONGITUDE: -89.2931409
DIRECTION: Northeast	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W143, Aquatic Bed - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 43	DATE: November 11, 2021	LATITUDE: 43.1373698	LONGITUDE: -89.2953933
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W141, Aquatic Bed - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 44	DATE: November 11, 2021	LATITUDE: 43.137145	LONGITUDE: -89.2951167
DIRECTION: Southeast	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W145, Shallow Marsh - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 45	DATE: November 11, 2021	LATITUDE: 43.1370174	LONGITUDE: -89.2936336
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W143, Wet Meadow - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 46	DATE: November 11, 2021	LATITUDE: 43.1368871	LONGITUDE: -89.2981606
DIRECTION: Southeast	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W142, Deep Marsh - D (foreground) Cattails and reed canary			
PHOTO BY: JSC			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 47	DATE: November 11, 2021	LATITUDE: 43.1368479	LONGITUDE: -89.2951299
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W141, Aquatic Bed - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 48	DATE: November 11, 2021	LATITUDE: 43.1366814	LONGITUDE: -89.2950578
DIRECTION: Northwest	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W141, Wet Meadow - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 49	DATE: November 11, 2021	LATITUDE: 43.1365258	LONGITUDE: -89.2942514
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W140, Deep Marsh - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 50	DATE: November 11, 2021	LATITUDE: 43.1365	LONGITUDE: -89.2942783
DIRECTION: Northeast	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W140, Aquatic Bed - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 51	DATE: November 11, 2021	LATITUDE: 43.1361016	LONGITUDE: -89.2964228
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W139, Shallow Marsh - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 52	DATE: November 11, 2021	LATITUDE: 43.1358424	LONGITUDE: -89.2941667
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W137, Wet Meadow - D (foreground)			
PHOTO BY: OTHER23			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 53	DATE: November 11, 2021	LATITUDE: 43.1358317	LONGITUDE: -89.294185
DIRECTION: West	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W137, Deep Marsh - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 54	DATE: November 11, 2021	LATITUDE: 43.135765	LONGITUDE: -89.2959172
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W139, Wet Meadow - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 55	DATE: November 11, 2021	LATITUDE: 43.1357354	LONGITUDE: -89.2957102
DIRECTION: Southeast	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W139, Shallow Marsh - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 56	DATE: November 11, 2021	LATITUDE: 43.1357292	LONGITUDE: -89.2957849
DIRECTION: Northeast	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W139, Shallow Marsh - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 57	DATE: November 11, 2021	LATITUDE: 43.1355981	LONGITUDE: -89.2942874
DIRECTION: West	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W137, Wet Meadow - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 58	DATE: November 11, 2021	LATITUDE: 43.13559422	LONGITUDE: -89.29755404
DIRECTION: East	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W138, Wet Meadow - D (foreground)			
PHOTO BY: DG			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 59	DATE: November 11, 2021	LATITUDE: 43.1355783	LONGITUDE: -89.2956624
DIRECTION: Southeast	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W138, Wet Meadow - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 60	DATE: November 11, 2021	LATITUDE: 43.1354234	LONGITUDE: -89.2972429
DIRECTION: Southwest	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W136, Wet Meadow - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 61	DATE: November 11, 2021	LATITUDE: 43.135412	LONGITUDE: -89.2972481
DIRECTION: Northeast	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W136, Wet Meadow - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 62	DATE: November 11, 2021	LATITUDE: 43.13540898	LONGITUDE: -89.29760185
DIRECTION: West	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W135, Wet Meadow - D (foreground)			
PHOTO BY: DG			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 63	DATE: November 11, 2021	LATITUDE: 43.1353312	LONGITUDE: -89.2943581
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W137, Deep Marsh - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 64	DATE: November 11, 2021	LATITUDE: 43.13519022	LONGITUDE: -89.29529121
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W134, Wet Meadow - D (foreground)			
PHOTO BY: DG			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 65	DATE: November 11, 2021	LATITUDE: 43.1350056	LONGITUDE: -89.2970236
DIRECTION: East	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W133, Wet Meadow - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 66	DATE: November 11, 2021	LATITUDE: 43.13493328	LONGITUDE: -89.29511548
DIRECTION: West	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W130, Deep Marsh - D (foreground)			
PHOTO BY: DG			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 67	DATE: November 11, 2021	LATITUDE: 43.1349214	LONGITUDE: -89.2967195
DIRECTION: West	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W132, Wet Meadow - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 68	DATE: November 11, 2021	LATITUDE: 43.1349176	LONGITUDE: -89.2961422
DIRECTION: East	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W132, Wet Meadow - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 69	DATE: November 11, 2021	LATITUDE: 43.1349122	LONGITUDE: -89.2961033
DIRECTION: West	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W132, Wet Meadow - D (foreground)			
PHOTO BY: SSC			

PHOTOGRAPH No: 70	DATE: November 11, 2021	LATITUDE: 43.134895	LONGITUDE: -89.2965533
DIRECTION: East	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W132, Wet Meadow - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 71	DATE: November 11, 2021	LATITUDE: 43.1348948	LONGITUDE: -89.29844317
DIRECTION: East	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W131, Wet Meadow - D (foreground)			
PHOTO BY: DG			

PHOTOGRAPH No: 72	DATE: November 11, 2021	LATITUDE: 43.1348817	LONGITUDE: -89.2964733
DIRECTION: Northwest	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W132, Aquatic Bed - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 73	DATE: November 11, 2021	LATITUDE: 43.13470644	LONGITUDE: -89.29818306
DIRECTION: West	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W129, Shallow Marsh - D (foreground)			
PHOTO BY: DG			

PHOTOGRAPH No: 74	DATE: November 11, 2021	LATITUDE: 43.13429405	LONGITUDE: -89.29476621
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W128, Wet Meadow - D (foreground)			
PHOTO BY: DG			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 75	DATE: November 11, 2021	LATITUDE: 43.13426862	LONGITUDE: -89.29920061
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W129, Shallow Marsh - D (foreground)			
PHOTO BY: DG			

PHOTOGRAPH No: 76	DATE: November 3, 2021	LATITUDE: 43.13385283	LONGITUDE: -89.29217904
DIRECTION: Northwest	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W127, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 77	DATE: November 3, 2021	LATITUDE: 43.12897003	LONGITUDE: -89.2913525
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W126, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 78	DATE: November 3, 2021	LATITUDE: 43.12860311	LONGITUDE: -89.29131889
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W126, Shallow Marsh - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 79	DATE: November 3, 2021	LATITUDE: 43.12854766	LONGITUDE: -89.29123571
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W126, Shallow Marsh - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 80	DATE: November 3, 2021	LATITUDE: 43.12786948	LONGITUDE: -89.29100009
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W124, Shallow Marsh - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 81	DATE: November 3, 2021	LATITUDE: 43.12783458	LONGITUDE: -89.29084732
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W124, Shallow Marsh - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 82	DATE: November 3, 2021	LATITUDE: 43.1274702	LONGITUDE: -89.29083907
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W124, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 83	DATE: November 9, 2021	LATITUDE: 43.12735617	LONGITUDE: -89.29197867
DIRECTION: West	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W125, Shallow Marsh - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 84	DATE: November 3, 2021	LATITUDE: 43.12712685	LONGITUDE: -89.29069913
DIRECTION:	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W123, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 85	DATE: November 3, 2021	LATITUDE: 43.12633849	LONGITUDE: -89.2903289
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W121, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 86	DATE: November 9, 2021	LATITUDE: 43.12590783	LONGITUDE: -89.29145067
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W120, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 87	DATE: November 9, 2021	LATITUDE: 43.12557733	LONGITUDE: -89.29155883
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W122, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

Appendix C

2022 Photographic Log

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 1	DATE: May 4, 2022	LATITUDE: 43.12787879	LONGITUDE: -89.29077224
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland DW14, Shrub Scrub - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 1	DATE: May 4, 2022	LATITUDE: 43.12911848	LONGITUDE: -89.29110357
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland DW15, Wet Meadow (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 1	DATE: May 4, 2022	LATITUDE: 43.12961894	LONGITUDE: -89.29127276
DIRECTION: South	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland DW15, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 1	DATE: May 4, 2022	LATITUDE: 43.12996041	LONGITUDE: -89.29137983
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland DW15, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 12	DATE: May 3, 2022	LATITUDE: 43.1356336	LONGITUDE: -89.29364963
DIRECTION:	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W127, Wet Meadow (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 1	DATE: May 10, 2022	LATITUDE: 43.13756524	LONGITUDE: -89.29900819
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W147, Wet Meadow - D (foreground)			
PHOTO BY: CW			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 1	DATE: May 10, 2022	LATITUDE: 43.13772794	LONGITUDE: -89.29895816
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W147, Shrub Scrub - D (foreground)			
PHOTO BY: CW			

PHOTOGRAPH No: 29	DATE: May 3, 2022	LATITUDE: 43.13847624	LONGITUDE: -89.29307716
DIRECTION: Northwest	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W149, Wet Meadow - D (foreground)			
PHOTO BY: LB			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 1	DATE: May 4, 2022	LATITUDE: 43.13951457	LONGITUDE: -89.29457739
DIRECTION: West	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W153, Riparian Wooded - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 1	DATE: May 4, 2022	LATITUDE: 43.13977343	LONGITUDE: -89.29526935
DIRECTION:	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W155, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 1	DATE: May 4, 2022	LATITUDE: 43.13978893	LONGITUDE: -89.29550741
DIRECTION: North	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W153, Shallow Marsh (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 1	DATE: May 4, 2022	LATITUDE: 43.13983705	LONGITUDE: -89.29556296
DIRECTION:	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland W153, Shallow Marsh - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 15	DATE: May 3, 2022	LATITUDE: 43.14051215	LONGITUDE: -89.29378717
DIRECTION: East	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland DW21, Shallow Marsh (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 15	DATE: May 3, 2022	LATITUDE: 43.14055092	LONGITUDE: -89.2937391
DIRECTION: East	SITE LOCATION: USH 151/High Crossing Interchange		
DESCRIPTION: Wetland DW21, Shallow Marsh (foreground)			
PHOTO BY: GTH			

Photographic Log

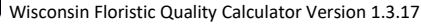


WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

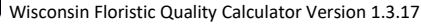
Appendix D

Floristic Quality Calculator by Wetland Community Type



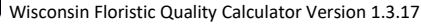
RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC̄ _a By Growth Form:				
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C̄ _n	Weighted Mean C wC̄ _n	FQI _a	w FQI _a	Mean C C̄ _a	Weighted Mean C wC̄ _a	Tree	Shrub	Herb	Aquatic	
7	3	4			2.9		1.7		1.9		0.7						
													0%	0%	0%	0%	:Total Cover

Page 1 of 7



RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC̄ _a By Growth Form:				
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C̄ _n	Weighted Mean C wC̄ _n	FQI _a	w FQI _a	Mean C C̄ _a	Weighted Mean C wC̄ _a	Tree	Shrub	Herb	Aquatic	
5	4	1			7.0		3.5		6.3		2.8						
													0%	0%	0%	0%	:Total Cover

O-108



RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC̄ _a By Growth Form:				
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C̄ _n	Weighted Mean C wC̄ _n	FQI _a	w FQI _a	Mean C C̄ _a	Weighted Mean C wC̄ _a	Tree	Shrub	Herb	Aquatic	
10	5	5			3.6		1.6		2.5		0.8						
													0%	0%	0%	0%	:Total Cover

Page 1 of 7



SITE NAME:				PLANT COMMUNITY:	Wet Meadow Degraded
ASSESSMENT AREA NAME:				SURVEYORS:	
GPS COORDINATES (Decimal Degrees)	Latitude:			SURVEY DATE:	
	Longitude:				
COUNTY:			SITE NOTES:	B028, B030, B031, C001 (no data) , C002 (no data), A060	
ECOREGION (LEVEL III):					

RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC _a By Growth Form:			
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C _n	Weighted Mean C wC _n	FQI _a	w FQI _a	Mean C C _a	Weighted Mean C wC _a	Tree	Shrub	Herb	Aquatic
11	5	6			6.7		3.0		4.5		1.4					
													0%	0%	0%	0%

:Total Cover

ENTER SPECIES CODE:	ENTER % COVER:	Scientific Name	Common Name	C-Value	Wetland Ind. Status (MW/NCNE)	WI Status	Growth Form	Duration	NHI Status	Invasive (NR40) Status	Accepted ITIS Name
PHAARU		<i>Phalaris arundinacea</i>	reed canary grass	0	FACW	Introduced	herb	perennial	0	Non-restricted	<i>Phalaris arundinacea</i>
EPICOL		<i>Epilobium coloratum</i>	cinnamon willow-herb, eastern willow-herb	3	OBL	Native	herb	perennial	0	0	<i>Epilobium coloratum</i>
SALDIS		<i>Salix discolor</i>	pussy willow	2	FACW	Native	tree	perennial	0	0	<i>Salix discolor</i>
TYPANG		<i>Typha angustifolia</i>	narrow-leaved cat-tail	0	OBL	Introduced	herb	perennial	0	Restricted	<i>Typha angustifolia</i>
SYMLAT		<i>Symphyotrichum lateriflorum</i>	side-flowering aster	3	FACW/FAC	Native	herb	perennial	0	0	<i>Symphyotrichum lateriflorum</i>
POAPRA		<i>Poa pratensis</i>	Kentucky bluegrass	0	FAC/FACU	Introduced	herb	perennial	0	0	<i>Poa pratensis</i>
CARSTR		<i>Carex stricta</i>	tussock sedge	7	OBL	Native	herb	perennial	0	0	<i>Carex stricta</i>
ELYMREP		<i>Elymus repens</i>	couchgrass, creeping quackgrass, quack	0	FACU	Introduced	herb	perennial	0	Non-Restricted	<i>Elymus repens</i>
CENSTO		<i>Centaurea stoebe</i>	Spotted knapweed	0	0	Introduced	herb	biennial/perennial	0	Restricted	<i>Centaurea stoebe</i>
CONCAN		<i>Conyza canadensis</i>	Canadian horseweed, fleabane, hogweed	0	FACU	Native	herb	0	0	0	<i>Conyza canadensis</i>
MORALB		<i>Morus alba</i>	Russian mulberry, white mulberry	0	FAC/FACU	Introduced	tree	perennial	0	Restricted	<i>Morus alba</i>



Consulting
Engineers and
Scientists

Wetland Rapid Assessment Methodology
USH 51 Interchange
WisDOT Project ID: 1015-05-00
Dane County, Wisconsin

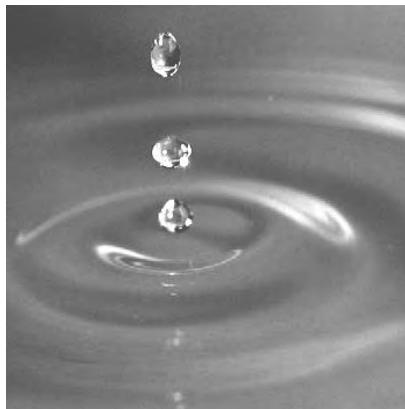
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May 30, 2024
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Appendix A	Wetland Rapid Assessment Methodology Data Form
Appendix B	Photographic Log

Appendix C Floristic Quality Calculator by Wetland Community Type

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1. Introduction

1.1 Purpose

The Wisconsin Department of Transportation (WisDOT) retained GEI Consultants, Inc. (GEI) to complete a Wisconsin Department of Natural Resources (WDNR) Wetland Rapid Assessment Methodology (WRAM) for the U.S. Highway (USH) 51 and Interstate (I) 39 interchange located in parts of sections 4, 5, 8, and 9, Township 8 North, Range 10 East, in the Town of Madison, Dane County, Wisconsin (Figure 1 – Site Location and USGS Topographic Map).

The purpose of the WRAM was to quantify wetland functional values. According to the WDNR, *“This methodology is intended as a rapid method for assessing wetland condition and functional values based upon observable characteristics and using best professional judgment to interpret those observations.”*

No new site visits were completed as part of this WRAM assessment. Prior site visits and previously collected data were utilized in place of new site visits. Other resources such as Google Street View were referenced.

1.2 Site Description

This section includes information found within the Site Description section of the WRAM Data Form (Appendix A).

The assessment area is +/- 119.77 acres and consists of one contiguous area as shown in Figure 1.

1.2.1 Project Name

The project name is USH 51 Interchange. This WRAM is part of the WisDOT 1015-05-00 project.

1.2.2 Evaluator(s)

The following GEI staff members completed the WRAM: Kyle Bretl, Emily Gryga, Brynn Olsen, Rachel Schmid, Bryce Kohler, and Kyle Ayers.

1.2.3 File Reference

No WDNR file reference number has been assigned yet.

1.2.4 Ecoregion

The assessment area is located within the Southeast Glacial Plains ecoregion.

1.2.5 Watershed (HUC12)

The assessment area is located primarily within the 070900020503 (Token Creek) and 070900020504 (Cherokee Lake – Yahara River) HUC12 Watersheds, with a portion of the southern extent reaching into the 0709000020701 (Lake Monona – Yahara River) HUC12 Watershed.

1.2.6 Soils

A total of 19 soil series are present within the WRAM area of investigation. A summary of the soil map units present within the assessment area are listed in Table 2. The USDA NRCS Soil Map is included as Figure 4.

1.2.7 WWI Class

A total of eight individual wetlands are mapped within the assessment area, including an excavated pond. Token Creek is present within the assessment area, flowing from east to west and crossing USH 51 and I 39. A summary of the WWI and 24K Hydrography features present within the assessment area are shown in Table 1. The WDNR WWI, Wetland Indicators, and 24K Hydrography map is included as Figure 3.

1.2.8 Wetland Types(s)

The WisDOT Wetland Classification System was used to classify wetland communities encountered in the assessment area. Wetland communities were classified as “degraded” if they had *“been exposed to deleterious activities such as excessive use as pasture, agricultural cultivation, over exposure to urban effects or storm water runoff to the extent that its natural characteristics have been severely compromised and where wetland function has been substantially reduced”* (WisDOT Wetland Mitigation Banking Technical Guideline).

Wetland communities were determined during the wetland delineation fieldwork that was previously completed. Wetlands were not re-classified to the Eggers and Reed or the Natural Heritage Inventory classification systems for this WRAM.

1.2.9 Wetland Size

A total of 70 distinct wetland polygons were delineated within the assessment area. The wetlands total 17.40 acres. More detailed information regarding the wetlands is included in Table 3 and Figure 5.

1.2.10 Wetland Area Impacted

A total of 17.40 acres of wetland will be impacted. It is currently assumed that all wetlands will be impacted as part of the project. See Table 3 for more detailed information.

1.2.11 Vegetation (Dominant Species)

Previously completed wetland delineation data forms were utilized to extract vegetation data for wetland community types. If data forms were not completed within a specific wetland community type, then no dominant vegetation was recorded for that wetland community type. Appendix C contains the data forms by wetland community type.

1.2.12 Site Maps

The following figures have been generated and are attached to this report.

- Figure 1 Site Location and USGS Topographic Map
- Figure 2 2-Foot Contour Map
- Figure 3 Wisconsin Wetland Inventory, Wetland Indicators, & 24K Hydrography Map
- Figure 4 USDA NRCS Soils Map
- Figure 5 Wetland Communities Map
- Figure 6 FEMA Flood Map, Special Wetland Planning Waters and Critical Habitat Area Map
- Figure 7 100 Meter Buffer & Land Use Map

2. Section 1: Functional Value Assessment

The functional value assessment was recorded on the WRAM form.

2.1 Section 1 Comments

For Storm and Floodwater Storage, it was assumed that wetlands within the assessment area have the potential to hold greater than 10% of the runoff from the contributing area from a 2-year 24-hour storm event.

The WDNR Natural Heritage Inventory (NHI) indicates an element of occurrence for a rare amphibian species and two rare plant species within a section(s) that overlaps or is within proximity to the assessment area.

2.2 Wildlife Habitat and Species Observations

No field verified wildlife surveys were conducted as part of this WRAM. GEI drafted a list of potential bird, mammal, reptile, and amphibian species that may inhabit the area based on GEI staff's professional opinion. A summary of the wildlife species potentially present within the assessment area are listed in Table 4.

2.3 Fish and Aquatic Life Habitat and Species Observations

No field verified fish and aquatic life habitat and species surveys were conducted as part of this WRAM. Token Creek is located within the assessment area and the 100-meter buffer. Token creek is a Class III trout stream, meaning it is used as marginal trout habitat with no natural reproduction occurring. Per the WDNR, intense agricultural practices contribute sediment and nutrients to the stream and small impoundments decrease its suitability for trout management and contribute to excessive nutrient loading which causes low dissolved oxygen and turbidity. Token Creek is classified as a macroinvertebrate, cool-cold headwater, coldwater, cool-warm headwater stream. The river condition is rated as poor, and the river is considered impaired due to degraded biological community by the WDNR.

3. Section 2: Floristic Integrity

This section provides a general overview of wetland plant communities that were present within the assessment area. All plant species observed within each wetland community type were summarized and included on a floristic calculator data sheet. If no plant species data was available because no wetland delineation data form was completed within a certain plant community, then that plant community was not included in the floristic integrity scoring section. All wetland community type floristic calculators are included as Appendix C.

3.1 Floristic Integrity

Each wetland community that was sampled was scored independently. Please see below for floristic integrity ranking by wetland plant community.

3.1.1 Aquatic Bed

No wetland delineation data was collected within the aquatic bed plant community.

3.1.2 Shallow Marsh (D)

The shallow marsh (degraded) plant community was ranked within the low category for all listed criteria.

Section 2: Floristic Integrity				
	☒ Low	☐ Medium	☐ High	☐ Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

**Note: separate plant communities are described independently, check single box based on summary of ratings*

3.1.3 Shrub Scrub (D)

The shrub scrub (degraded) plant community was ranked within the medium category for one listed criteria, and within the low category for five listed criteria.

Section 2: Floristic Integrity				
	☒ Low	☐ Medium	☐ High	☐ Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

**Note: separate plant communities are described independently, check single box based on summary of ratings*

3.1.4 Riparian Emergent (D)

The riparian emergent (degraded) plant community was ranked within the low category for all listed criteria.

Section 2: Floristic Integrity				
	☒ Low	☐ Medium	☐ High	☐ Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

**Note: separate plant communities are described independently, check single box based on summary of ratings*

3.1.5 Riparian Wooded (D)

The riparian wooded (degraded) plant community was ranked within the medium category for two listed criteria, and within the low category for four listed criteria.

Section 2: Floristic Integrity				
	☒ Low	☐ Medium	☐ High	☐ Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

**Note: separate plant communities are described independently, check single box based on summary of ratings*

3.1.6 Wet Meadow (D)

The wet meadow (degraded) plant community was ranked within the low category for all listed criteria.

Section 2: Floristic Integrity				
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

*Note: separate plant communities are described independently, check single box based on summary of ratings

3.1.7 Summary of Floristic Integrity

The wetland plant communities ranked above all scored low overall. Disturbances such as right-of-way mowing and stormwater runoff from adjacent roadways are present and contribute to the lack of floristic integrity. Dominant species observed within most of the wetlands included invasive and/or nonnative species such as cattail (*Typha spp.*) and reed canary grass (*Phalaris arundinacea*). No rare plant species were observed or recorded within the assessment area or 100-meter buffer during the wetland delineations.

4. Section 3 Condition of Wetland Assessment Area and 100-meter Buffer Area

This section assesses the condition of the wetland based upon past and current land use stressors.

4.1 Summary of Condition Assessment

Stressors and associated score and frequency are discussed in the below sections. Stressors are grouped together based on common impact level score.

4.1.1 Low Impact Level Stressors

Nine of the twenty-seven stressors scored as low impact. Utility corridors are located along the interstate and require maintenance such as woody species removal and other disturbance related to maintenance but were scored as low for this interchange. Soil subsidence and loss of soil structure was scored as low, and it is unlikely to occur in this area. Paved human trails are not present within the assessment area and 100-meter buffer while unpaved human trails are present within the 100-meter buffer. Removal of large woody debris was scored as low impact. Large woody debris was historically removed from the area, which may have historically provided habitat for macroinvertebrates and other wildlife. Golf course was scored low since they are not present within the assessment area or buffer. Gravel pits may have historically been present within the buffer area, likely for historic road fill. Recreational use is common within the watershed but ranked low within the assessment area and 100-meter buffer since limited recreational opportunities exists in those areas. Fishing could occur within Token Creek and other recreational uses could occur within the Token Creek County Park. Excavation and soil grading were ranked low as it is likely an infrequent activity within the buffer area.

4.1.2 Medium Impact Level Stressors

Eight of the twenty-seven stressors scored as medium impact. Removal of herbaceous stratum scored medium since the right-of-way area is mowed and likely impacted by earthworms and historic grading which removed or replaced the native seed bank. Removal of tree or shrub strata was ranked medium since trees/shrubs have been removed from the area and continue to be removed as needed. Pond construction was rated as a medium impact since there are ponds present within the buffer area and within the watershed which may have been historically constructed within wetlands and may cause water quality issues such as algal blooms. All three agricultural field categories (row crops, hay, and pasture) were ranked as a medium impact level since there are agricultural fields present within the 100-meter buffer and because of the impact that agriculture has within the watershed. Sediment input was rated medium since it is assumed that some sediment loading occurs within the watershed from agricultural areas and other areas such as construction related to development which would eventually affect the assessment area.

Residential land use was rated as a medium impact since some residences are located in the buffer and surrounding area.

4.1.3 High Impact Level Stressors

Ten of the twenty-seven stressors scored as high impact. Hydrologic changes were rated as high impact since the network of roads and commercial/industrial land use has altered hydrology in the area. Point source or stormwater discharge was rated high due to the amount of runoff from impervious surfaces. Polluted runoff was rated high because of possibility that potentially polluted water, such as runoff from impervious surfaces (parking lots, buildings, roads, etc.) is flowing into the wetlands. Roads and railroads cause increased runoff into the wetlands and possibility of pollutants to be discharged into the wetlands, such as vehicular fluids and road salt. Dams, dikes, levees were rated as high since features like roads or spillways act as dams and at times may restrict flow of water and change cool or cold-water waterways to warm water waterways which are more susceptible to nutrient sinking and algal blooms. Drainage tiles and ditches were rated as high impact because they allow direct discharge of nutrient loaded water into waterways and wetlands. Drainage swales and ditches are present along roads and commercial businesses and drain tiles are likely present within the agricultural fields. Invasive and non-native plant species are present and widespread within the area and are the dominant plant species encountered within different plant communities and have a high impact since they typically form monocultures and support less macroinvertebrates and other species which disrupts the food chain. Urban, commercial, or industrial use and parking lots both ranked high because there are commercial/industrial and parking lots located within the buffer area. These areas contribute to increased runoff and potential for pollutants to be carried downstream to the wetlands and waterways within the project area. They also increase volume of water that reaches the wetlands and contribute to flashy hydrology which is detrimental for numerous reasons such as erosive flows.

4.2 Rationale

The below rationale describes the reason for the rankings selected in the summary of functional values section of the WRAM data form.

When ranking each question, the potential of a wetland to “*support, partially support, or could support that use or functional value*” is almost always yes. There is always a potential for something to occur. However, the reality is that most of these potential questions are unfeasible and chance of occurring is very small. There is always a potential for any given event to occur, but the reality and feasibility of that happening should be taken into consideration and included as a scoring column when conducting this assessment. Thus, this section either ignores or briefly addresses the potential of these features to “*support, partially support, or could support that use or functional value.*”

4.2.1 Floristic Integrity

The floristic integrity is ranked as low for the wetlands due to the cover of invasive/nonnative species. In general, the wetland plant communities are dominated by non-native and/or invasive species. Most areas of the wetland are monocultures of nonnative and/or invasive species, while few areas have multiple strata and a variety of native species. All adjacent upland areas located within the road right-of-way are planted in a typical DOT roadside mix which typically consists of cool season grass species such as fescue species (*Festuca spp.*), bluegrass species (*Poa spp.*), and other cool season grass species. These adjacent upland areas are routinely mowed which is a repeated disturbance that may contribute to the spread of nonnative and/or invasive species. WDNR NHI indicates an element of occurrence of two rare plant species located in a section(s) that overlaps the assessment area. Floristic integrity was ranked as low.

4.2.2 Human Use Values

Two of the seven questions were answered as yes. Wetlands are visible from roadways and accessible to the public via adjacent public lands including the Token Creek County Park and the Cherokee Marsh Wildlife Area/State Fishery Area. Activities such as birdwatching or educational purposes could be possible, vehicles can pull off on roadways or park at adjacent businesses for birdwatching/wildlife viewing or access from adjoining public lands. Based on WDNR records, the areas do provide habitat for state and/or federal endangered, threatened, or special concern species. Human use values were ranked as low.

4.2.3 Wildlife Habitat

Six of the twelve questions of the WRAM assessment were answered yes. A list of birds and wildlife that may be present within the assessment area was compiled based on professional experience and the most recently recorded bird species on the eBird website for Columbia and Dane Counties. Connected wetlands and variety of habitat types make the area suitable for wildlife, however, the generally degraded assessment area wetlands suggest low quality wildlife habitat. The WDNR NHI indicates an element of occurrence for a rare amphibian species located in a section(s) that overlaps the assessment area. Additionally, Token Creek County Park are directly to the east of the assessment area, while Cherokee Marsh State Wildlife Area/State Fishery Area is directly to the west. These areas may provide higher quality habitat for wildlife adjacent to the assessment area and within the buffer. Wildlife habitat was ranked as low.

4.2.4 Fish and Aquatic Life Habitat

Three of the four questions were answered yes. Standing water in small ponds and a stream, Token Creek, provide habitat for amphibians and aquatic invertebrates. Some of the wetlands are directly connected to or within proximity to other surface waters and vegetation within portions of the wetlands is likely inundated in spring. Token Creek is a waterway that runs through the project area and under the existing highway and interstate interchange. Token Creek

is a class III trout stream that feeds into the Yahara River. Class III indicates it provides marginal trout habitat with no natural reproduction occurring. Other fish species commonly found in Token Creek include carp, suckers, sunfish, bluegill, and walleye. Per the WDNR, intense agricultural practices contribute sediment and nutrients to the stream and small impoundments decrease its suitability for trout management and contribute to excessive nutrient loading which causes low dissolved oxygen and turbidity. Token Creek is classified as a macroinvertebrate, cool-cold headwater, coldwater, cool-warm headwater stream. The river condition is rated as poor, and the river is considered impaired due to degraded biological community by the WDNR. Fish and aquatic life habitat was ranked as low.

4.2.5 Shoreline Protection

Two of the three questions were answered yes. Wetland is along a shoreline of waterway/waterbody and has densely rooted emergent/woody vegetation. The wetland does not have to potential for erosion due to wind fetch, waves, boat traffic, erosive soils, or fluctuating water levels or high flows. Shoreline protection was ranked as low.

4.2.6 Flood and Stormwater Storage

Six of the eight questions were answered yes. The wetlands are basin waters or considered to have constricted outlets or has flow-through or is adjacent to a stream. Water flow through most of the wetlands is channelized. Vegetation is generally dense and persistent throughout the wetlands, specifically the shallow marsh (degraded) wetlands. Flashy hydrology is evident within the assessment area. Point or non-point source inflow is contributing to algal blooms which are visible on-air photos. Stormwater from agricultural land is a major hydrology source. Impervious surfaces cover greater than 10% of land surface within the watersheds and within watersheds with less than 10% wetland. Due to the large size of the assessment area, stormwater calculations were not conducted, and it is assumed that the wetlands would be able to hold greater than 10% of the runoff from contributing area from a 2-year 24-hour storm event. Flood and stormwater storage was ranked a medium.

4.2.7 Water Quality Protection

Eight of the nine questions were answered yes. The wetlands provide stormwater storage and filter nutrients, contaminants, and sediments from water prior to discharging water downstream. Heavy macrophyte plant growth was observed within the wetlands, namely cattail species. The wetlands are basin waters or considered to have constricted outlets or has flow-through or is adjacent to a stream. Water flow through most of the wetlands is channelized. One of the wetlands is associated with a waterway, Token Creek. Vegetation is generally dense and persistent throughout the wetlands, specifically the shallow marsh (degraded) wetlands. Point or non-point source inflow is contributing to algal blooms which are visible on-air photos. Stormwater from agricultural land is a major hydrology source. Some of the wetland's discharge to surface waters (Token Creek). Natural land cover is less than 50% within the buffer area.

Due to the large size of the assessment area, stormwater calculations were not conducted, and it is assumed that the wetlands would be able to hold greater than 10% of the runoff from contributing area from a 2-year 24-hour storm event. Water quality protection was ranked medium.

4.2.8 Groundwater Process

Three of the five questions were answered as yes. Springs, seeps, or indicators of groundwater are present. Wetlands remain saturated for a long period of time with no additional water inputs. Wetlands likely receive groundwater discharge during the dry season. In late summer during the dry season and after heavy rain events, some of the wetlands may provide groundwater recharge. Some of the wetland have organic soil map units. Groundwater processes were ranked as low.

5. Section 4: Project Impact Assessment

5.1 Project Description

The proposed transportation Project consists of reconstructing a portion of I-39/90/94 between US 12/18 in Madison and Dees Road in Wisconsin Dells. The reconstruction serves to improve the safety and reliability of travel infrastructure within the Project corridor. The Project corridor is 67 miles long and travels through Dane, Columbia, Sauk, and Juneau Counties. The purpose of the Project is to address existing and future traffic demands, safety issues, aging and outdated corridor infrastructure, and corridor resiliency.

Proposed construction activities for the I-39/90/94 corridor will include removal of existing structures and roadways, bridge construction and widening, earthwork, utility relocations, drainage improvements, traffic control, traffic signals, barrier installation, lighting, and paving. Lane expansions are proposed for the entire length of the corridor. Modification to and/or expansion of 13 existing interchanges, as well as construction of two new interchanges will address a range of design deficiencies.

Many factors influence actual construction. Proposed construction activities are expected to occur over several years. Like most major transportation projects, construction details cannot be fully defined until design advances past the conceptual stage.

For the purposes of this assessment, we have assumed the preferred alternative will be selected, and have assumed that all wetlands located within the assessment area will be impacted.

5.1.1 *Expected Project Impacts (Direct Impacts)*

The project will directly impact a total of 119.77 acres of land within the assessment area, which includes 17.40 acres of wetland.

5.1.1.1 Permanence/Reversibility

Permanent upland and wetland loss will occur due to the road construction. Reversibility would not be feasible. A portion of the impacted areas would be reconstructed. For instance, swales and ditches would be constructed along the extent of the reconstructed roads.

5.1.1.2 Significance (Low, Medium, High)

The interstate corridor is present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. Therefore, significance is rated as low.

5.1.2 Secondary Impacts (including impacts which are indirectly attributable to the project))

Secondary impacts are defined by the WDNR as impacts that “*are closely linked or causally related to the activity but may occur over a longer period of time.*” Various secondary impacts could occur due to the wetland disturbance. A few examples of those are listed below.

- Potential disruption of wildlife using the area (breeding and nesting) and wildlife movement through the area.
- Potential for polluted runoff and/or sediment to reach portions of the wetland which were previously acting as buffer strips.
- Potential for invasive species to reach portions of the wetlands which were previously buffered (edge effect).

5.1.2.1 Permanence/Reversibility

Permanent upland and wetland loss will occur due to the road construction. Reversibility would not be feasible. A portion of the impacted areas would be reconstructed. For instance, swales and ditches would be constructed along the extent of the reconstructed roads. Since many of the wetlands being impacted are ditches/swales that were originally constructed to provide drainage of the road network, the reconstructed area would likely provide similar ecosystem functions and wildlife habitat as the impacted wetland areas.

5.1.2.2 Significance (Low, Medium, High)

The interstate corridor is present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. Therefore, significance is rated as low.

5.1.3 Cumulative Impacts

No cumulative impacts are anticipated. Cumulative impacts are defined by the WDNR as “*impacts attributable to the proposed activity which may occur, based upon past or reasonably anticipated impacts on wetland functional values of similar activities in the affected area.*” Development and adjacent road networks are already established. This construction should not cause any new cumulative impact to wetlands that were not already present prior to the expansion.

5.1.3.1 Permanence/Reversibility

Permanent upland and wetland loss will occur due to the road construction. Reversibility would not be feasible. A portion of the impacted areas would be reconstructed. For instance, swales and ditches would be constructed along the extent of the reconstructed roads.

5.1.3.2 Significance (Low, Medium, High)

The interstate corridor is present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. No new cumulative impacts are anticipated. Therefore, significance is rated as low.

5.1.4 Spatial/Habitat Integrity

Spatial/habitat integrity is defined by the WDNR as “*the loss of wetlands within an area where these wetlands may be critical habitat components to a species or assemblage of species.*” The wetlands within this area are not considered critical habitat components to any species. All of the wetland types impacted are relatively common within the watershed.

5.1.4.1 Permanence/Reversibility

Reversing the impacts of the highway expansion would not be feasible once road construction is complete. A portion of the impacted areas would be reconstructed. For instance, swales and ditches would be constructed along the extent of the reconstructed roads.

5.1.4.2 Significance (Low, Medium, High)

The interstate corridor is already present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. An expansion is not expected to significantly affect the spatial/habitat integrity of the area since large habitat blocks are present adjacent to the site. Therefore, significance is rated as low.

5.1.5 Rare Plant/Animal Communities/Natural Areas

This section refers to any impacts that may occur to state and/or federal threatened, endangered, and special concern species (rare species).

The WDNR NHI indicates an element of occurrence for a rare amphibian species and two rare plant species are located in a section(s) that overlaps the assessment area. The probability that state and/or federal threatened, endangered, and special concern species are present within the disturbance areas is unlikely. Furthermore, the project will be required to follow state and federal threatened and endangered species regulations and enact measures to ensure that rare species are protected from construction.

5.1.5.1 Permanence/Reversibility

Permanent upland and wetland loss will occur due to road construction. Reversibility would not be feasible. A portion of the impacted areas would be reconstructed. For example, swales and ditches would be constructed along the extent of the reconstructed roads. These newly constructed swale and ditches could serve as habitat for various wildlife in the area.

5.1.5.2 Significance (Low, Medium, High)

The interstate corridor is present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. Therefore, significance is rated low. It is also rated as low because of the amount of habitat and wetland present within the assessment area, buffer, and watershed.

Tables

Table 1 Summary of WWI and 24K Features

Table 2 Summary of Soil Map Units

Table 3 Wetland Summary

Table 4 Wildlife Species Observations

Table 1: Summary of WWI and 24K Hydrography Features

WWI/24K Mapped Feature	WWI Code, Class, Subclass, Modifier, or 24 K Hydrography Name
Wetland	E2H (Emergent/Wet Meadow, narrow-leaved persistent, standing water, palustrine)
Wetland	E1K (Emergent/Wet Meadow, persistent, wet soil, palustrine)
Wetland	E2K (Emergent/Wet Meadow, narrow-leaved persistent, wet soil, palustrine)
Wetland	Excavated Pond
Waterway	Token Creek

Table 2: Summary of Soil Map Units

Map Unit Name and Symbol	Hydric Components, Percent, & Location*	Hydric Rating by Map Unit	Drainage Class	Percent Composition in Area of Investigation**
Alluvial land, wet (Af)+	Alluvial land, wet (100%, Outwash plains)	Hydric (100%)	Poorly Drained	13.9%
Cut and fill land (Cu)	-	Nonhydric	Moderately Well Drained	1.9%
Dodge silt loam, 2-6% slopes (DnB)	-	Nonhydric	Well Drained	1.2%
Dodge silt loam, 6-12% slopes, eroded (DnC2)	-	Nonhydric	Well Drained	5.7%
Griswold loam, 2 to 6 percent slopes (GwB)	-	Nonhydric	Well Drained	8.9%
Hayfield silt loam, 0 to 3 percent slopes (HaA)	Marshan (5%, depressions)	Nonhydric	Somewhat poorly drained	4.8%
Kegonsa silt loam, 2-6% slopes (KeB)	-	Nonhydric	Well Drained	1.4%
Kegonsa silt loam, 2-6% slopes (KeB)	-	Nonhydric	Well Drained	0.4%
Kidder loam, 12-20% slopes, eroded (KdD2)	-	Nonhydric	Well Drained	4.2%
Kidder loam, 2 to 6 percent slopes (KdB)	-	Nonhydric	Well Drained	2.0%
Marshan loam (Mc)+	Marshan (100%, depressions on stream terraces)	Hydric (100%)	Very Poorly Drained	3.0%
Palms muck, 0-2% slopes (Pa)+	Palms, Muck (87%, Interdrumlins) Houghton, Muck (8%, Depressions) Adrian (5%, Interdrumlins)	Hydric (100%)	Very Poorly Drained	32.3%
Pecatonica silt loam, 2-6% slopes (PeB)	-	Nonhydric	Well Drained	3.4%
Rockton silt loam, 6-12% slopes, eroded (RoC2)	-	Nonhydric	Well Drained	0.9%
Rockton silt loams, 2 to 6 percents, (RoB)	-	Nonhydric	Well Drained	2.9%
Troxel silt loam, 0-3% slopes (TrB)	-	Nonhydric	Moderately Well Drained	2.1%

Table 2: Summary of Soil Map Units

Map Unit Name and Symbol	Hydric Components, Percent, & Location*	Hydric Rating by Map Unit	Drainage Class	Percent Composition in Area of Investigation**
Virgil silt loam, gravelly substratum, 0-3% slopes (VwA)	Drummer-Drained (4%, Depressions on outwash plains) Sebewa (4%, Depressions on outwash plains) Sable (2% Depressions on outwash plains)	Predominantly Nonhydryc (10%)	Somewhat Poorly Drained	8.9%
Water (W)	-	Nonhydryc	-	0.0%
Wyocena sandy loam, 2-6% slopes (WxB)	-	Nonhydryc	Well Drained	2.1%

+NRCS Listed Hydric Soil

* NRCS Hydric Soil List (2024)

** Calculated Using NRCS Web Soil Survey (2024)

Table 3: Wetland Summary Table

Delineated Wetland ID	Wetland Community Type (WisDOT Classification)	Size (Acres)	Size (Square Feet)
W189	Shallow Marsh (D)	0.015	650
W189	Wet Meadow (D)	0.048	2,109
W189	Wet Meadow (D)	0.059	2,568
W189	Shallow Marsh (D)	0.026	1,123
W189	Shallow Marsh (D)	0.020	869
W189	Wet Meadow (D)	0.063	2,737
W190	Wet Meadow (D)	0.008	370
W206	Shallow Marsh (D)	0.168	7,303
W206	Wet Meadow (D)	0.118	5,153
W206	Shallow Marsh (D)	0.247	10,743
W206	Wet Meadow (D)	0.666	29,007
W216	Riparian Emergent (D)	0.022	958
W216	Shrub Scrub (D)	0.016	680
W216	Riparian Emergent (D)	0.008	328
W216	Wet Meadow (D)	0.031	1,354
W213	Wet Meadow (D)	0.069	3,005
W213	Shallow Marsh (D)	0.199	8,669
W210	Shallow Marsh (D)	0.025	1,079
W202	Wet Meadow (D)	0.032	1,407
W202	Shallow Marsh (D)	0.099	4,308
W208	Shallow Marsh (D)	0.148	6,459
W201	Shallow Marsh (D)	0.853	37,136
W201	Wet Meadow (D)	0.570	24,808
W198	Wet Meadow (D)	0.014	592
W200	Shallow Marsh (D)	0.042	1,816
W195	Wet Meadow (D)	0.005	219
W195	Shallow Marsh (D)	0.390	16,998
W195	Wet Meadow (D)	0.309	13,450
W192	Shallow Marsh (D)	0.018	770
W192	Aquatic Bed	0.015	662
W192	Riparian Emergent (D)	0.005	209
W192	Riparian Emergent (D)	0.004	158
W192	Shallow Marsh (D)	0.021	901
W219	Riparian Emergent (D)	0.101	4,386
W219	Riparian Wooded (D)	0.141	6,125
W219	Riparian Emergent (D)	0.032	1,374
W219	Riparian Wooded (D)	0.091	3,967
W219	Riparian Emergent (D)	0.027	1,187
W219	Wet Meadow (D)	0.278	12,091
W219	Riparian Emergent (D)	0.113	4,925
W219	Wet Meadow (D)	0.257	11,205
W218	Wet Meadow (D)	0.207	9,028
W219	Shallow Marsh (D)	0.048	2,111
W219	Shallow Marsh (D)	0.024	1,056

Table 3: Wetland Summary Table

Delineated Wetland ID	Wetland Community Type (WisDOT Classification)	Size (Acres)	Size (Square Feet)
W219	Wet Meadow (D)	0.810	35,300
W219	Shallow Marsh (D)	0.004	175
W214	Wet Meadow (D)	0.023	1,006
W209	Shallow Marsh (D)	0.102	4,440
W209	Wet Meadow (D)	0.074	3,242
W209	Wet Meadow (D)	0.015	647
W203	Wet Meadow (D)	0.527	22,974
W203	Shallow Marsh (D)	0.014	601
W205	Wet Meadow (D)	0.010	439
W204	Wet Meadow (D)	0.005	220
W194	Shallow Marsh (D)	6.026	262,477
W196	Shallow Marsh (D)	0.066	2,886
W191	Shallow Marsh (D)	0.345	15,036
W187	Wet Meadow (D)	0.013	556
W187	Shallow Marsh (D)	1.450	63,178
W187	Wet Meadow (D)	0.202	8,801
W187	Wet Meadow (D)	0.131	5,699
W187	Wet Meadow (D)	1.664	72,471
W187	Shallow Marsh (D)	0.042	1,824
W215	Riparian Emergent (D)	0.003	119
W215	Riparian Emergent (D)	0.002	89
W217	Wet Meadow (D)	0.147	6,406
W216	Riparian Emergent (D)	0.002	103
W215	Riparian Wooded (D)	0.020	858
W215	Riparian Wooded (D)	0.011	465
W206	Shallow Marsh (D)	0.041	1,804
		17.398	757,867

Table 4: Wildlife Species Observations

Category	Scientific Name	Common Name	Present/Potential
Aves	<i>Agelaius phoeniceus</i>	Red-winged Blackbird	Potential
Aves	<i>Antigone canadensis</i>	Sandhill Crane	Potential
Aves	<i>Fulica americana</i>	American Coot	Potential
Aves	<i>Euphagus carolinus</i>	Rusty Blackbird	Potential
Aves	<i>Branta canadensis</i>	Canada Goose	Potential
Aves	<i>Sturnus vulgaris</i>	European Starling	Potential
Aves	<i>Mergus merganser</i>	Common Merganser	Potential
Aves	<i>Larus delawarensis</i>	Ring-billed Gull	Potential
Aves	<i>Chroicocephalus philadelphia</i>	Bonaparte' s Gull	Potential
Aves	<i>Aythya collaris</i>	Ring-necked Duck	Potential
Aves	<i>Tachycineta bicolor</i>	Tree Swallow	Potential
Aves	<i>Hirundo rustica</i>	Barn Swallow	Potential
Aves	<i>Calcarius lapponicus</i>	Lapland Longspur	Potential
Aves	<i>Setophaga coronata</i>	Yellow-rumped Warbler	Potential
Aves	<i>Turdus migratorius</i>	American Robin	Potential
Aves	<i>Anas platyrhynchos</i>	Mallard	Potential
Aves	<i>Larus argentatus</i>	Herring Gull	Potential
Aves	<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow	Potential
Aves	<i>Quiscalus quiscula</i>	Common Grackle	Potential
Aves	<i>Chordeiles minor</i>	Common Nighthawk	Potential
Aves	<i>Cygnus columbianus</i>	Tundra Swan	Potential
Aves	<i>Mareca strepera</i>	Gadwall	Potential
Aves	<i>Buteo platypterus</i>	Broad-winged Hawk	Potential
Aves	<i>Aythya affinis</i>	Lesser Scaup	Potential
Aves	<i>Charadrius vociferus</i>	Killdeer	Potential
Aves	<i>Calidris melanotos</i>	Pectoral Sandpiper	Potential
Aves	<i>Chaetura pelagica</i>	Chimney Swift	Potential
Aves	<i>Molothrus ater</i>	Brown-headed Cowbird	Potential
Aves	<i>Anas crecca</i>	Green-winged Teal	Potential
Aves	<i>Spatula clypeata</i>	Northern Shoveler	Potential
Aves	<i>Tringa flavipes</i>	Lesser Yellowlegs	Potential
Aves	<i>Petrochelidon pyrrhonota</i>	Cliff Swallow	Potential
Aves	<i>Bombycilla cedrorum</i>	Cedar Waxwing	Potential
Aves	<i>Junco hyemalis</i>	Dark-eyed Junco	Potential
Aves	<i>Anser albifrons</i>	Greater White-fronted Goose	Potential
Aves	<i>Corvus brachyrhynchos</i>	American Crow	Potential
Aves	<i>Riparia riparia</i>	Bank Swallow	Potential
Aves	<i>Setophaga palmarum</i>	Palm Warbler	Potential
Aves	<i>Pelecanus erythrorhynchos</i>	American White Pelican	Potential
Aves	<i>Aix sponsa</i>	Wood Duck	Potential
Aves	<i>Spatula discors</i>	Blue-Winged Teal	Potential
Aves	<i>Spizelloides arborea</i>	American Tree Sparrow	Potential
Aves	<i>Passer domesticus</i>	House Sparrow	Potential
Aves	<i>Calidris minutilla</i>	Least Sandpiper	Potential

Table 4: Wildlife Species Observations

Category	Scientific Name	Common Name	Present/Potential
Aves	<i>Bucephala clangula</i>	Common Goldeneye	Potential
Aves	<i>Spinus pinus</i>	Pine Siskin	Potential
Aves	<i>Meleagris gallopavo</i>	Wild Turkey	Potential
Aves	<i>Columba livia</i>	Rock Pigeon	Potential
Aves	<i>Zenaida macroura</i>	Mourning Dove	Potential
Aves	<i>Ardea herodias</i>	Great Blue Heron	Potential
Aves	<i>Zonotrichia albicollis</i>	White-Throated Sparrow	Potential
Aves	<i>Oxyura jamaicensis</i>	Ruddy Duck	Potential
Aves	<i>Spinus Tristis</i>	American Goldfinch	Potential
Aves	<i>Aythya americana</i>	Redhead	Potential
Aves	<i>Bucephala albeola</i>	Bufflehead	Potential
Aves	<i>Calidris alpina</i>	Dunlin	Potential
Aves	<i>Anser albifrons</i>	Snow Goose	Potential
Aves	<i>Branta hutchinsii</i>	Cackling Goose	Potential
Aves	<i>Anthus rubescens</i>	American pipit	Potential
Aves	<i>Progne subis</i>	Purple Martin	Potential
Mammals	<i>Odocoileus virginianus</i>	White-tailed Deer	Potential
Mammals	<i>Sciurus carolinensis</i>	Gray Squirrel	Potential
Mammals	<i>Ondatra zibethicus</i>	Muskrat	Potential
Mammals	<i>Procyon lotor</i>	Raccoon	Potential
Mammals	<i>Canis latrans</i>	Coyote	Potential
Mammals	<i>Vulpes vulpes</i>	Red Fox	Potential
Mammals	<i>Lontra canadensis</i>	River Otter	Potential
Mammals	<i>Tamias Striatus</i>	Eastern Chipmunk	Potential
Mammals	<i>Mephitis mephitis</i>	Striped skunk	Potential
Marsupials	<i>Didelphis virginiana</i>	Opossum	Potential
Reptiles	<i>Chrysemys picta</i>	Painted Turtle	Potential
Reptiles	<i>Chelydra serpentina</i>	Snapping Turtle	Potential
Reptiles	<i>Glyptemys insculpta</i>	Wood Turtle	Potential
Reptiles	<i>Thamnophis sirtalis</i>	Common Gartersnake	Potential
Amphibians	<i>Rana clamitans</i>	Green Frog	Potential
Amphibians	<i>Bufo americanus</i>	American Toad	Potential
Amphibians	<i>Hyla versicolor</i>	Eastern Gray Treefrog	Potential
Amphibians	<i>Pseudacris triseriata</i>	Western Chrous Frog	Potential

Figures

Figure 1 Site Location and USGS Topographic Map

Figure 2 2-Foot Contour Map

Figure 3 Wisconsin Wetland Inventory, Wetland Indicators, & 24K Hydrography Map

Figure 4 USDA NRCS Soils Map

Figure 5 Wetland Communities Map

Figure 6 FEMA Flood Map, Special Wetland Planning Waters and Critical Habitat Area Map

Figure 7 100 Meter Buffer & Land Use Map

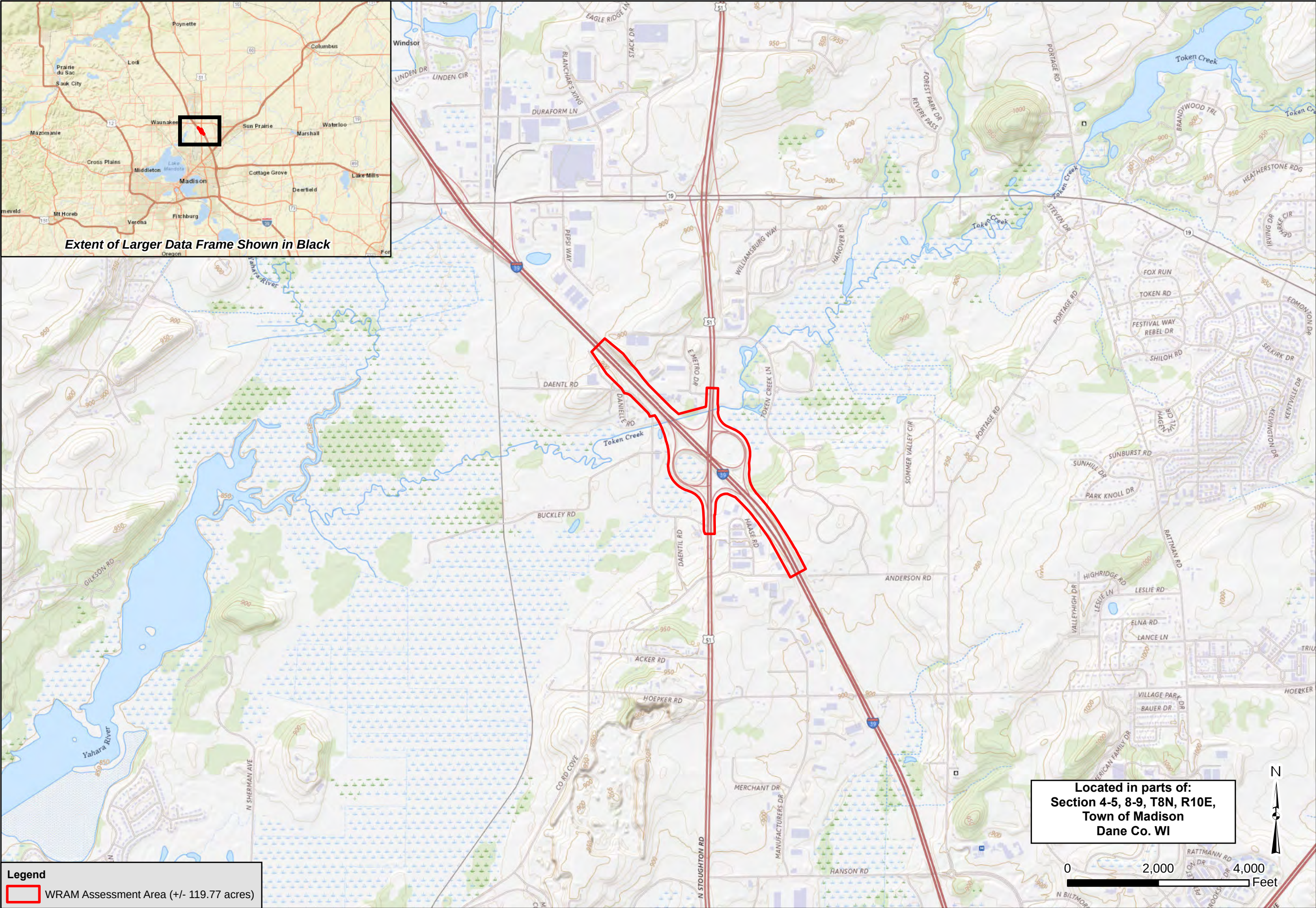


FIGURE 1
SITE LOCATION AND USGS TOPOGRAPHIC MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
USH 51 INTERCHANGE
TOWN OF MADISON
DANE COUNTY, WISCONSIN

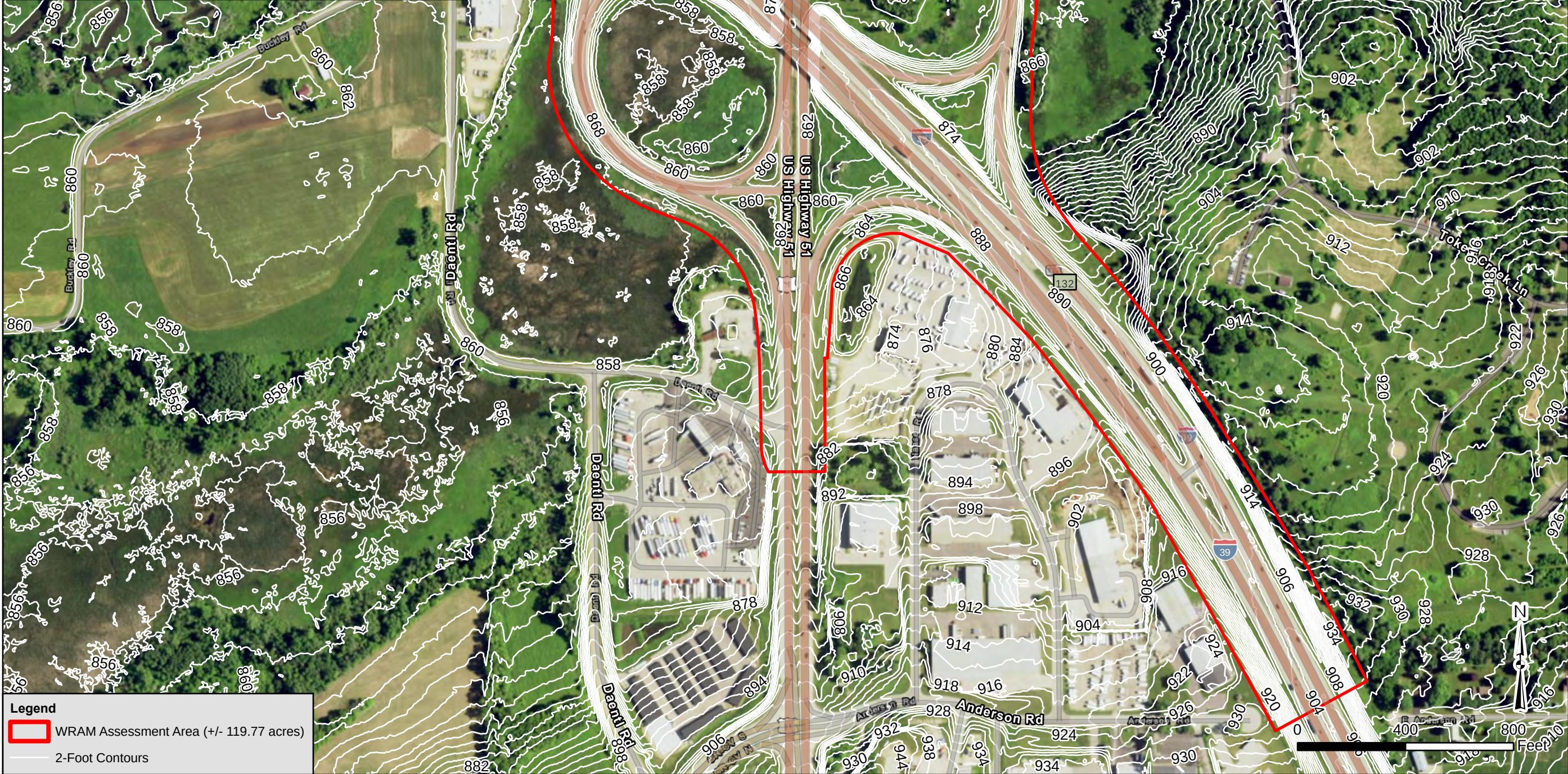
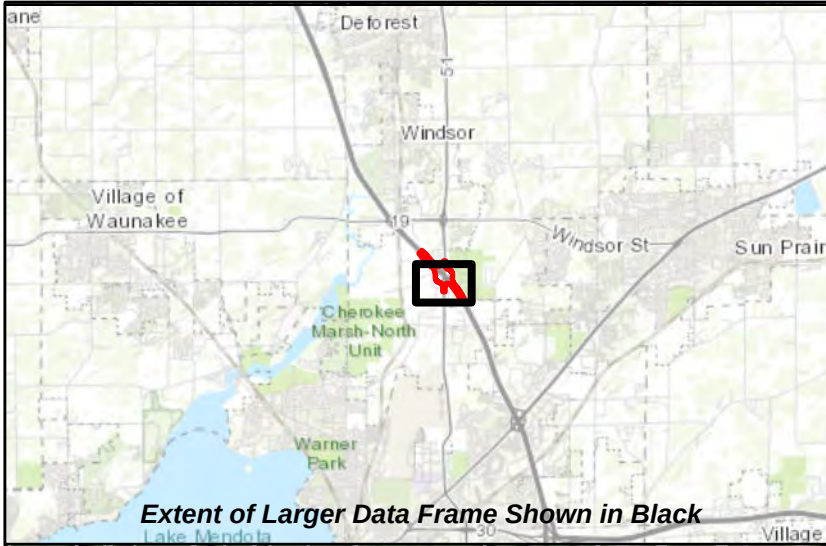
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Approved: KTB 5/15/2024
Scale: As Shown
Project Number: 2404021
Page 1 of 1

Legend

WRAM Assessment Area (+/- 119.77 acres)

Located in parts of:
Section 4-5, 8-9, T8N, R10E,
Town of Madison
Dane Co. WI

0 2,000 4,000 Feet



Legend

- WRAM Assessment Area (+/- 119.77 acres)
- 2-Foot Contours

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FIGURE 2
2-FOOT CONTOUR MAP

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USH 51 INTERCHANGE
TOWN OF MADISON
DANE COUNTY, WISCONSIN

Drawn: BWK 5/15/2024
Approved: KTB 5/15/2024
Scale: As Shown
Project Number: 2404021
Page 2 of 2

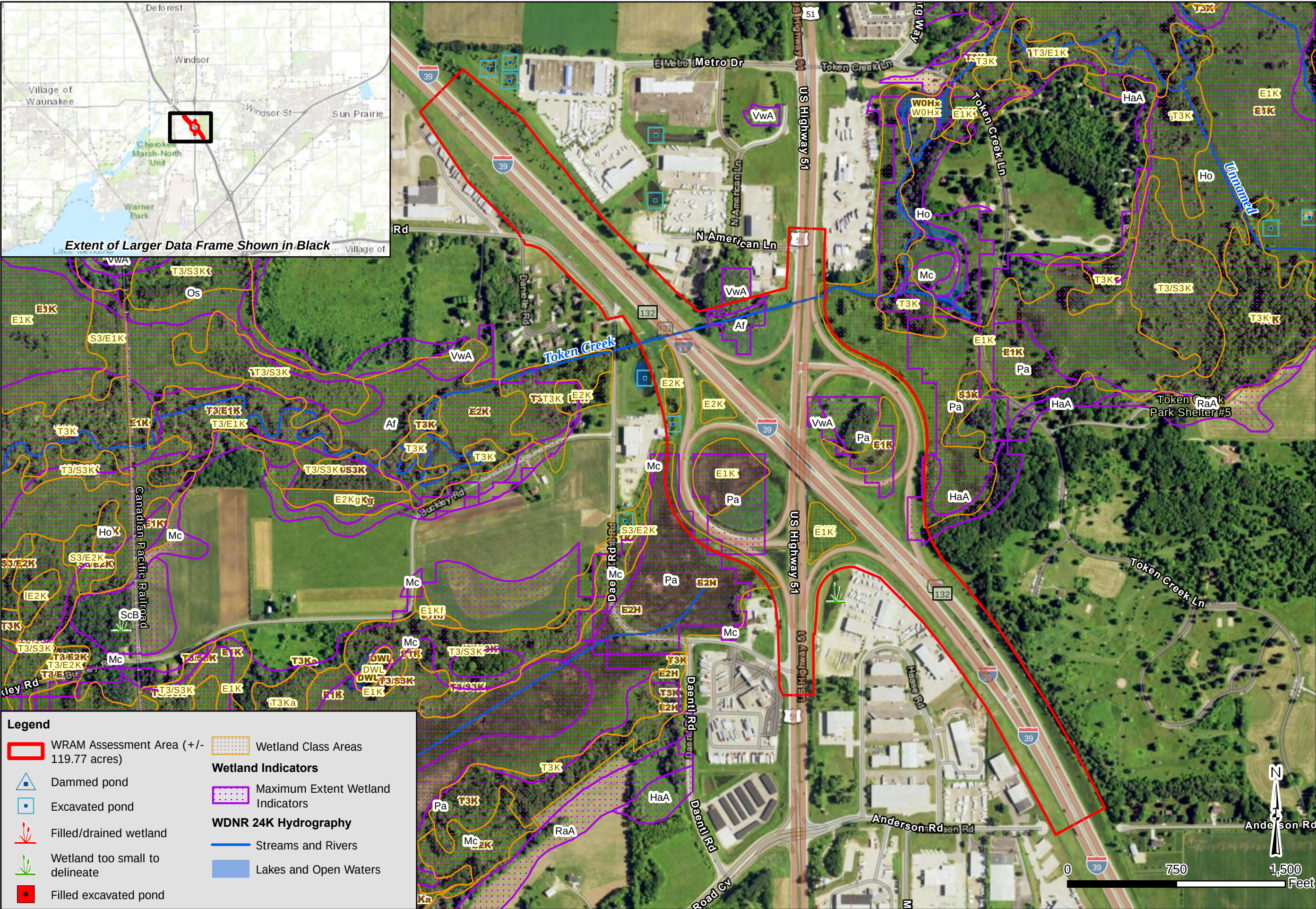


FIGURE 3
WISCONSIN WETLAND INVENTORY, WETLAND INDICATORS, AND 24K HYDROGRAPHY MAP

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USH 51 INTERCHANGE
TOWN OF MADISON
DANE COUNTY, WISCONSIN

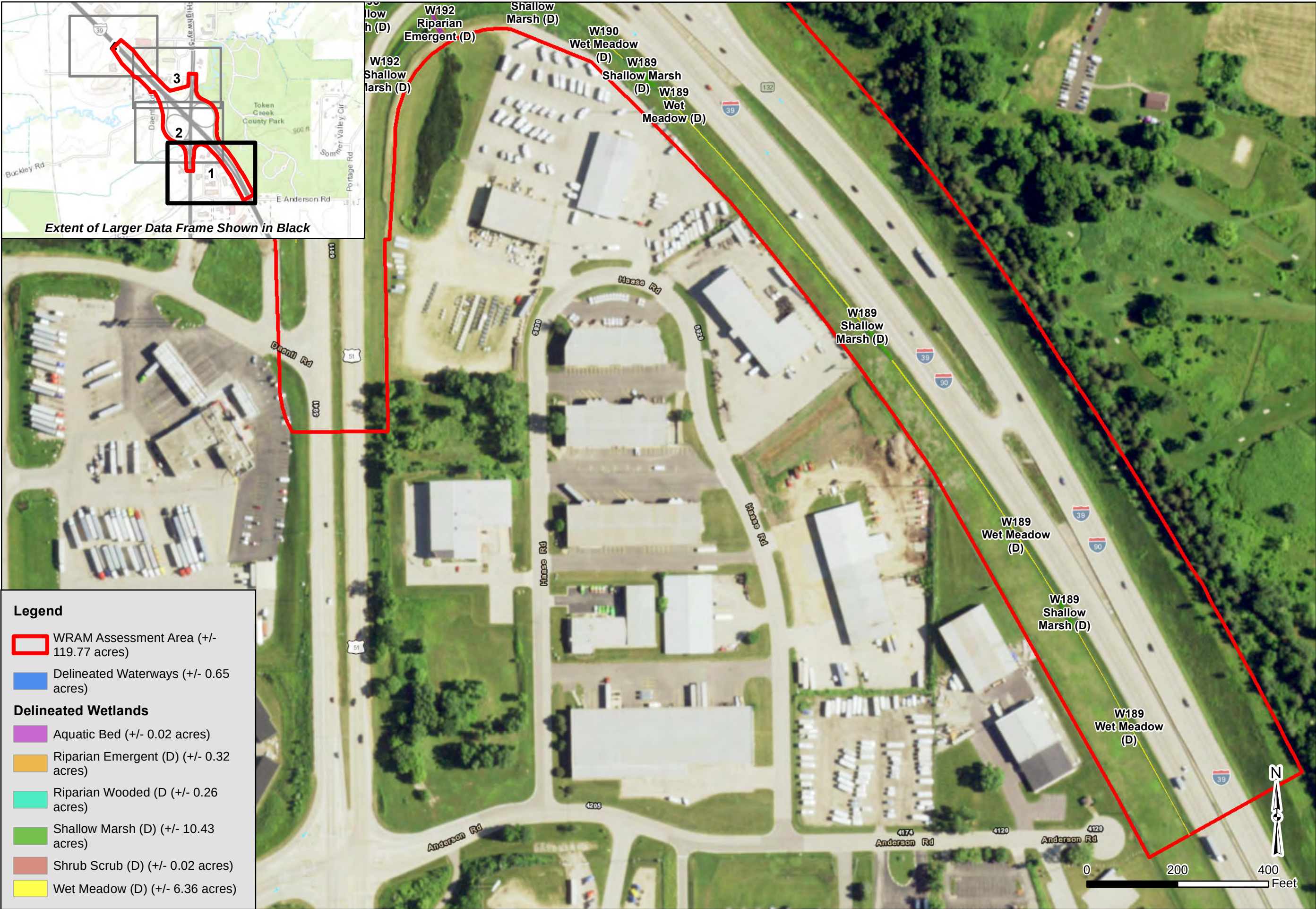


FIGURE 5
WETLAND COMMUNITIES MAP

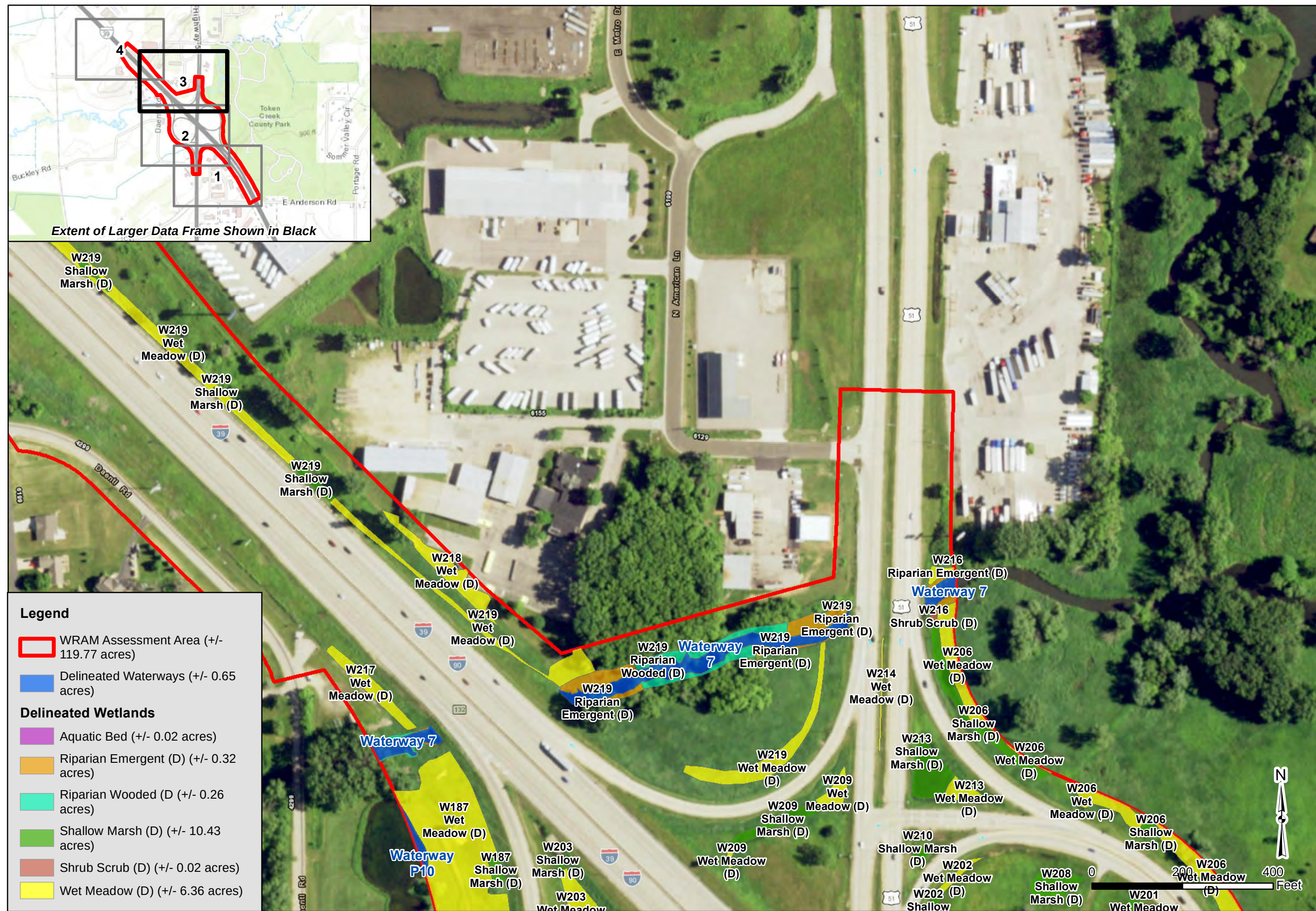
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WISDOT PROJECT ID: 1015-05-00
IH 39 90 94 WRAM - USH 51 INTERCHANGE
TOWN OF MADISON
DANE COUNTY, WISCONSIN

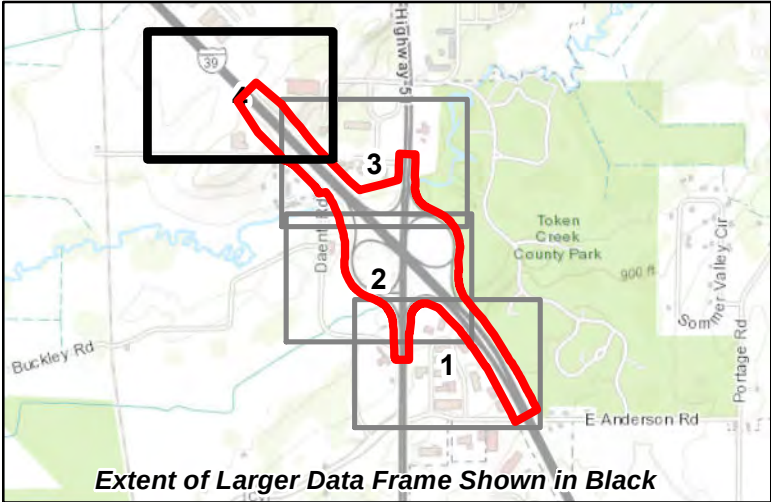
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Approved: KJU 5/6/2024
Scale: As Shown
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Page 1 of 4



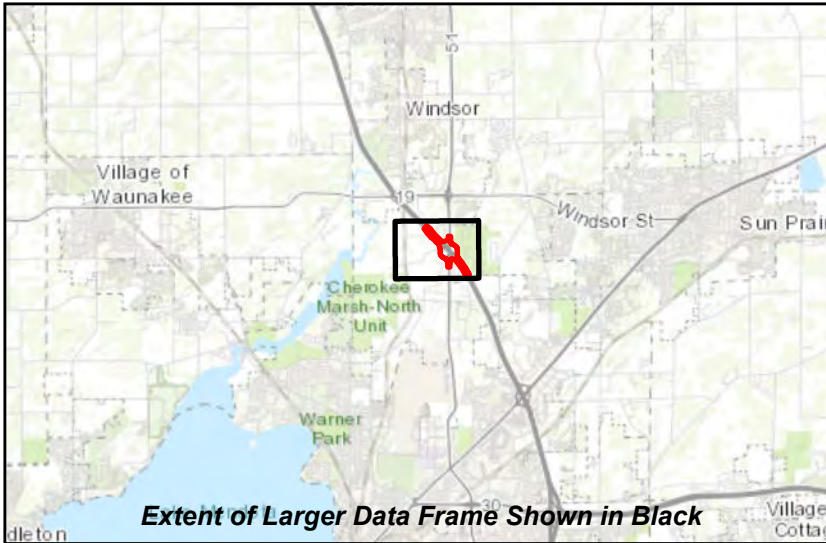
FIGURE 5
WETLAND COMMUNITIES MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
IH 39 90 94 WRAM - USH 51 INTERCHANGE
TOWN OF MADISON
DANE COUNTY, WISCONSIN





- Legend**
- WRAM Assessment Area (+/- 119.77 acres)
 - Delineated Waterways (+/- 0.65 acres)
 - Delineated Wetlands**
 - Aquatic Bed (+/- 0.02 acres)
 - Riparian Emergent (D) (+/- 0.32 acres)
 - Riparian Wooded (D) (+/- 0.26 acres)
 - Shallow Marsh (D) (+/- 10.43 acres)
 - Shrub Scrub (D) (+/- 0.02 acres)
 - Wet Meadow (D) (+/- 6.36 acres)



Legend

WRAM Assessment Area (+/- 119.77 acres)	PNW-ASNRI Special Area Management Plan Areas	PNW Walleye Areas
PNW-ASNRI Sensitive Areas of Lakes	PNW-ASNRI Special Wetlands Inventory Study Areas	PNW Lakes Less Than 50 Acres
PNW-ASNRI Wild and Scenic Rivers	PNW-ASNRI Coastal Wisconsin Wetlands Areas	Flood Hazard Zones
PNW-ASNRI Outstanding and Exceptional Streams	Wildrice Beds Present	1% Annual Chance Flood Hazard
PNW-ASNRI Trout Streams	PNW-ASNRI Trout Spring Ponds	Regulatory Floodway
PNW-ASNRI Outstanding and Exceptional Lakes	PNW-ASNRI State Natural Areas	Special Floodway
PNW-ASNRI Special Area Management Plan Streams	PNW-PRF Other Public Rights Features	Area of Undetermined Flood Hazard
PNW-ASNRI Special Wetlands Inventory Study Streams	PNW Musky Streams	0.2% Annual Chance Flood Hazard
PNW-ASNRI Coastal Wisconsin Wetlands Streams	PNW Sturgeon Streams	Future Conditions 1% Annual Chance Flood Hazard
	PNW Musky Areas	Area with Reduced Risk Due to Levee
	PNW Sturgeon Areas	Area with Risk Due to Levee

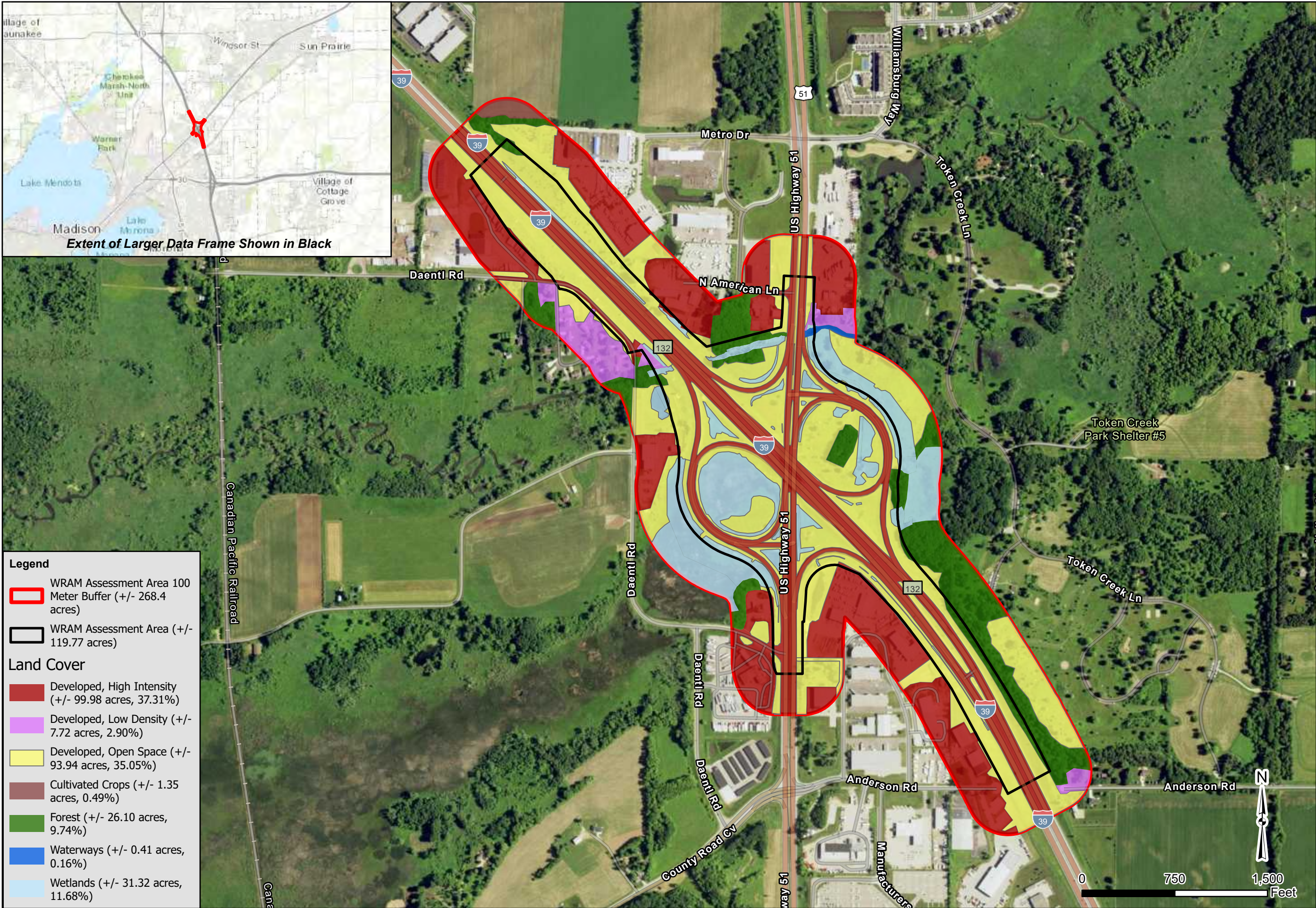
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FIGURE 6
FEMA FLOOD MAP, SPECIAL WETLAND PLANNING AND CRITICAL HABITAT AREA MAP

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USH 51 INTERCHANGE
TOWN OF MADISON
DANE COUNTY, WISCONSIN

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Approved: KTB 5/30/2024
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Project Number: 2404021
Page 1 of 1



Legend

WRAM Assessment Area 100 Meter Buffer (+/- 268.4 acres)

WRAM Assessment Area (+/- 119.77 acres)

Land Cover

- Developed, High Intensity (+/- 99.98 acres, 37.31%)
- Developed, Low Density (+/- 7.72 acres, 2.90%)
- Developed, Open Space (+/- 93.94 acres, 35.05%)
- Cultivated Crops (+/- 1.35 acres, 0.49%)
- Forest (+/- 26.10 acres, 9.74%)
- Waterways (+/- 0.41 acres, 0.16%)
- Wetlands (+/- 31.32 acres, 11.68%)



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FIGURE 7

100 METER BUFFER AND LAND USE MAP

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USH 51 INTERCHANGE
TOWN OF MADISON
DANE COUNTY, WISCONSIN

Drawn: BWK 5/16/2024

Approved: KTB 5/16/2024

Scale: As Shown

Project Number: 2404021

Page 1 of 1

Appendix A

Wetland Rapid Assessment Methodology Data Form

Wetland Rapid Assessment Methodology – Version 2.0

Long Form

Form 3500-134 (11/22)

Page 2 of 7

Section 1: Functional Value Assessment

	Y / N	Potential	
HU	☐ Y ☐ N		Human Use Values: recreation, culture, education, science, natural scenic beauty
1	☐ Y ☒ N	Y	Used for recreation (hunting, birding, hiking, etc.). List: Potential for birding, park and watch birds. Adjacent to Token Creek County Park.
2	☐ Y ☒ N	Y	Used for educational or scientific purposes
3	☒ Y ☐ N	Y	Visually or physically accessible to public
4	☐ Y ☒ N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	☐ Y ☒ N	Y	In or adjacent to RED FLAG areas List: Not considered red flag areas but adjacent to Token Creek County Park. Chreokee Marsh Wildlife Area to west of assessment area
6	☒ Y ☐ N	Y	Supports or provides habitat for endangered, threatened or special concern species
7	☐ Y ☒ N	Y	In or adjacent to archaeological or cultural resource site
WH	☐ Y ☐ N		Wildlife Habitat
1	☒ Y ☐ N	Y	Wetland and contiguous habitat >10 acres
2	☐ Y ☒ N	Y	3 or more strata present (>10% cover)
3	☒ Y ☐ N	Y	Within or adjacent to habitat corridor or established wildlife habitat area
4	☐ Y ☒ N	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	☐ Y ☒ N	Y	Occurs in a Joint Venture priority township
6	☒ Y ☐ N	Y	Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex, etc.)
7	☒ Y ☐ N	Y	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	☒ Y ☐ N	Y	Part of a large habitat block that supports area sensitive species
9	☐ Y ☒ N	Y	Ephemeral pond with water present > 45 days
10	☒ Y ☐ N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	☐ Y ☒ N	Y	Seasonally exposed mudflats present
12	☐ Y ☒ N	Y	Provides habitat scarce in the area (urban, agricultural, etc.)
FA	☐ Y ☐ N		Fish and Aquatic Life Habitat
1	☒ Y ☐ N	Y	Wetland is connected or contiguous with perennial stream or lake
2	☒ Y ☐ N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	☐ Y ☒ N	Y	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	☒ Y ☐ N	Y	Vegetation is inundated in spring
SP	☐ Y ☐ N		Shoreline Protection
1	☒ Y ☐ N	Y	Along shoreline of a stream, lake, pond or open water area (>1 acre) - if no, not applicable
2	☐ Y ☒ N	Y	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable
3	☒ Y ☐ N	Y	Densely rooted emergent or woody vegetation
ST	☐ Y ☐ N		Storm and Floodwater Storage
1	☒ Y ☐ N	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	☐ Y ☒ N	Y	Water flow through wetland is NOT channelized
3	☒ Y ☐ N	Y	Dense, persistent vegetation
4	☐ Y ☒ N	Y	Evidence of flashy hydrology
5	☒ Y ☐ N	Y	Point or non-point source inflow
6	☐ Y ☒ N	Y	Impervious surfaces cover >10% of land surface within the watershed
7	☒ Y ☐ N	Y	Within a watershed with <10% wetland
8	☒ Y ☐ N	Y	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	☐ Y ☐ N		Water Quality Protection
1	☒ Y ☐ N	Y	Provides substantial storage of storm and floodwater based on previous section
2	☒ Y ☐ N	Y	Basin wetland or constricted outlet
3	☐ Y ☒ N	Y	Water flow through wetland is NOT channelized
4	☒ Y ☐ N	Y	Vegetated wetland associated with a lake or stream
5	☒ Y ☐ N	Y	Dense, persistent vegetation
6	☒ Y ☐ N	Y	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	☒ Y ☐ N	Y	Stormwater or surface water from agricultural land is major hydrology source
8	☒ Y ☐ N	Y	Discharge to surface water
9	☐ Y ☒ N	Y	Natural land cover in 100m buffer area < 50%
GW	☐ Y ☐ N		Groundwater Processes
1	☒ Y ☐ N	Y	Springs, seeps or indicators of groundwater present
2	☐ Y ☒ N	N	Location near a groundwater divide or a headwater wetland
3	☒ Y ☐ N	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	☒ Y ☐ N	N	Wetland soils are organic
5	☐ Y ☒ N	Y	Wetland is within a wellhead protection area

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Section 1 Comments

For Wildlife Observations, see tables 4 and section 4.2.3 in WRAM report

For Fish and Aquatic Life observations, see section 4.2.4 in WRAM report

Wildlife Habitat and Species Observation (including amphibians and reptiles)

List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

Observed	Potential	Species/Habitat/Comments

Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat/Comments

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Long Form

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Section 3: Condition of Wetland Assessment Area and Buffer (100 m)

Assessment Area	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
X	X	X	M	C	Removal of herbaceous stratum – mowing, grading, earthworms, etc.
X	X	X	M	C	Removal of tree or shrub strata – logging, unprescribed fire
X	X	X	H	C	Hydrologic changes - high capacity wells, impounded water, increased runoff
X	X	X	H	C	Point source or stormwater discharge
X	X	X	H	C	Polluted runoff
X	X	X	M	C	Pond construction
	X	X	M	C	Agriculture – row crops
	X	X	M	C	Agriculture – hay
	X	X	M	C	Agriculture – pasture
X	X	X	H	C	Roads or railroad
X	X	X	L	C	Utility corridor (above or subsurface)
X	X	X	H	C	Dams, dikes or levees
			L	UC	Soil subsidence, loss of soil structure
X	X	X	M	C	Sediment input
X	X	X	H	C	Filling, berms (non-impounding)
X	X	X	H	C	Drainage – tiles, ditches
	X	X	L	UC	Human trails – unpaved
			L	UC	Human trails – paved
		X	L	UC	Removal of large woody debris
X	X	X	H	C	Cover of non-native and/or invasive species
	X	X	M	C	Residential land use
	X	X	H	C	Urban, commercial or industrial use
	X	X	H	C	Parking lot
			L	UC	Golf course
			L	UC	Gravel pit
	X	X	L	C	Recreational use (boating, ATVs, etc.)
	X	X	L	C	Excavation or soil grading
					Other:

* L = Low, M = Medium, H = High

** Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

Summary of Condition Assessment

See attached WRAM Report Narrative section 4.1

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Long Form

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Summary of Functional Values

	Low	Medium	High	Exceptional	NA
Floristic Integrity	☒	☐	☐	☐	☐
Human Use Values	☒	☐	☐	☐	☐
Wildlife Habitat	☒	☐	☐	☐	☐
Fish and Aquatic Life Habitat	☒	☐	☐	☐	☐
Shoreline Protection	☒	☐	☐	☐	☐
Flood and Stormwater Storage	☐	☒	☐	☐	☐
Water Quality Protection	☐	☒	☐	☐	☐
Groundwater Processes	☒	☐	☐	☐	☐

	Rationale
Floristic Integrity See attached WRAM Report Narrative section 4.2.1	
Human Use Values See attached WRAM Report Narrative section 4.2.2	
Wildlife Habitat See attached WRAM Report Narrative section 4.2.3	
Fish and Aquatic Life Habitat See attached WRAM Report Narrative section 4.2.4	
Shoreline Protection See attached WRAM Report Narrative section 4.2.5	
Flood and Stormwater Storage See attached WRAM Report Narrative section 4.2.6	
Water Quality Protection See attached WRAM Report Narrative section 4.2.7	
Groundwater Processes See attached WRAM Report Narrative section 4.2.8	

Section 4: Project Impact Assessment

Project Description

See attached WRAM Report Narrative section 5.1.

Expected Project Impacts

	Permanence/Reversibility	Significance (Low, Medium, High)
Expected Project Impacts Direct Impacts See attached WRAM Report Narrative section 5.1.1	See attached WRAM Report Narrative section 5.1.1.1	See attached WRAM Report Narrative section 5.1.1.1
Secondary Impacts (including impacts which are indirectly attributable to the project) See attached WRAM Report Narrative section 5.1.2	See attached WRAM Report Narrative section 5.1.2.1	See attached WRAM Report Narrative section 5.1.2.2
Cumulative Impacts See attached WRAM Report Narrative section 5.1.3	See attached WRAM Report Narrative section 5.1.3.1	See attached WRAM Report Narrative section 5.1.3.2
Spatial/Habitat Integrity See attached WRAM Report Narrative section 5.1.4	See attached WRAM Report Narrative section 5.1.4.1	See attached WRAM Report Narrative section 5.1.4.2
Rare Plant/Animal Communities/ Natural Areas See attached WRAM Report Narrative section 5.1.5	See attached WRAM Report Narrative section 5.1.5.1	See attached WRAM Report Narrative section 5.1.5.2

Appendix B

Photographic Log

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 1	DATE: November 1, 2021	LATITUDE: 43.1856188	LONGITUDE: -89.3329528
DIRECTION: Northwest	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W219, Deep Marsh - D (foreground)			
PHOTO BY: DL			

PHOTOGRAPH No: 2	DATE: November 1, 2021	LATITUDE: 43.1841543	LONGITUDE: -89.3308452
DIRECTION: Southeast	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W219, Deep Marsh - D (foreground)			
PHOTO BY: DL			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 3	DATE: November 1, 2021	LATITUDE: 43.1833624	LONGITUDE: -89.3297525
DIRECTION:	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W219, Deep Marsh - D (foreground)			
PHOTO BY: DL			

PHOTOGRAPH No: 4	DATE: November 1, 2021	LATITUDE: 43.1829031	LONGITUDE: -89.3291099
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W219, Deep Marsh - D (foreground)			
PHOTO BY: DL			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 5	DATE: November 1, 2021	LATITUDE: 43.1827346	LONGITUDE: -89.3289533
DIRECTION: Northwest	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W219, Deep Marsh - D (foreground)			
PHOTO BY: DL			

PHOTOGRAPH No: 6	DATE: November 1, 2021	LATITUDE: 43.1826607	LONGITUDE: -89.3287559
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W219, Deep Marsh - D (foreground)			
PHOTO BY: DL			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 7	DATE: November 10, 2021	LATITUDE: 43.18204067	LONGITUDE: -89.323933
DIRECTION: East	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W216, Aquatic Bed (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 8	DATE: November 10, 2021	LATITUDE: 43.18184983	LONGITUDE: -89.32376717
DIRECTION: North	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W216, Shrub Scrub - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 9	DATE: November 10, 2021	LATITUDE: 43.18183033	LONGITUDE: -89.32470167
DIRECTION: East	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W219, Aquatic Bed (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 10	DATE: November 10, 2021	LATITUDE: 43.18183	LONGITUDE: -89.32742
DIRECTION: North	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W218, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 11	DATE: November 4, 2021	LATITUDE: 43.18180907	LONGITUDE: -89.32377813
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W206, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 12	DATE: November 10, 2021	LATITUDE: 43.18173317	LONGITUDE: -89.32426033
DIRECTION: West	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W214, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 13	DATE: November 10, 2021	LATITUDE: 43.18163917	LONGITUDE: -89.32595417
DIRECTION: East	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W219, Aquatic Bed (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 14	DATE: November 10, 2021	LATITUDE: 43.181567	LONGITUDE: -89.326972
DIRECTION: East	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W219, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 15	DATE: November 10, 2021	LATITUDE: 43.18153817	LONGITUDE: -89.32477567
DIRECTION: West	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W219, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 16	DATE: November 10, 2021	LATITUDE: 43.18151382	LONGITUDE: -89.32838906
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W217, Wet Meadow - D (foreground)			
PHOTO BY: DG			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 17	DATE: November 10, 2021	LATITUDE: 43.18148283	LONGITUDE: -89.32673567
DIRECTION: West	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W219, Aquatic Bed (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 18	DATE: November 10, 2021	LATITUDE: 43.181448	LONGITUDE: -89.3269525
DIRECTION: East	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W219, Aquatic Bed (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 19	DATE: November 10, 2021	LATITUDE: 43.18106094	LONGITUDE: -89.32782282
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W187, Wet Meadow - D (foreground)			
PHOTO BY: DG			

PHOTOGRAPH No: 20	DATE: November 10, 2021	LATITUDE: 43.18097133	LONGITUDE: -89.32459083
DIRECTION: West	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W209, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 21	DATE: November 4, 2021	LATITUDE: 43.18082799	LONGITUDE: -89.32260501
DIRECTION: Southeast	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W206, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 22	DATE: November 10, 2021	LATITUDE: 43.18082783	LONGITUDE: -89.32365767
DIRECTION: Northwest	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W213, Deep Marsh - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 23	DATE: November 10, 2021	LATITUDE: 43.1807773	LONGITUDE: -89.3240089
DIRECTION: Northeast	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W213, Deep Marsh - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 24	DATE: November 10, 2021	LATITUDE: 43.18074733	LONGITUDE: -89.32340267
DIRECTION: West	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W213, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 25	DATE: November 4, 2021	LATITUDE: 43.18052297	LONGITUDE: -89.32214663
DIRECTION: East	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W206, Deep Marsh - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 26	DATE: November 10, 2021	LATITUDE: 43.18050833	LONGITUDE: -89.32547317
DIRECTION: Northeast	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W209, Deep Marsh - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 27	DATE: November 10, 2021	LATITUDE: 43.1804982	LONGITUDE: -89.3241102
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W210, Deep Marsh - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 28	DATE: November 10, 2021	LATITUDE: 43.18049398	LONGITUDE: -89.32697241
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W203, Deep Marsh - D (foreground)			
PHOTO BY: DG			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 29	DATE: November 10, 2021	LATITUDE: 43.18041534	LONGITUDE: -89.32742808
DIRECTION: West	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W187, Deep Marsh - D (foreground)			
PHOTO BY: DG			

PHOTOGRAPH No: 30	DATE: November 10, 2021	LATITUDE: 43.1802543	LONGITUDE: -89.3238199
DIRECTION: Northeast	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W202, Wet Meadow - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 31	DATE: November 10, 2021	LATITUDE: 43.1801701	LONGITUDE: -89.32688593
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W203, Wet Meadow - D (foreground)			
PHOTO BY: DG			

PHOTOGRAPH No: 32	DATE: November 10, 2021	LATITUDE: 43.1801659	LONGITUDE: -89.3221123
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W201, Deep Marsh - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 33	DATE: November 10, 2021	LATITUDE: 43.18007915	LONGITUDE: -89.32732957
DIRECTION: North	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W187, Wet Meadow - D (foreground)			
PHOTO BY: DG			

PHOTOGRAPH No: 34	DATE: November 10, 2021	LATITUDE: 43.1800781	LONGITUDE: -89.3228708
DIRECTION: North	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W208, Deep Marsh - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 35	DATE: November 10, 2021	LATITUDE: 43.18000167	LONGITUDE: -89.32461067
DIRECTION: West	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W204, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 36	DATE: November 10, 2021	LATITUDE: 43.1799269	LONGITUDE: -89.3218322
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W201, Wet Meadow - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 37	DATE: November 10, 2021	LATITUDE: 43.17984233	LONGITUDE: -89.3248645
DIRECTION: North	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W205, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 38	DATE: November 10, 2021	LATITUDE: 43.1795876	LONGITUDE: -89.3241239
DIRECTION: North	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W204, Deep Marsh - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 39	DATE: November 4, 2021	LATITUDE: 43.17953563	LONGITUDE: -89.32122196
DIRECTION: Northeast	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W206, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 40	DATE: November 10, 2021	LATITUDE: 43.1790946	LONGITUDE: -89.3219543
DIRECTION: West	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W201, Deep Marsh - D (foreground)			
PHOTO BY: SSC			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 41	DATE: November 10, 2021	LATITUDE: 43.1789742	LONGITUDE: -89.3216196
DIRECTION: West	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W201, Deep Marsh - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 42	DATE: November 4, 2021	LATITUDE: 43.17835104	LONGITUDE: -89.32287436
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W200, Deep Marsh - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 43	DATE: November 4, 2021	LATITUDE: 43.17820676	LONGITUDE: -89.3224248
DIRECTION: East	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W198, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 44	DATE: November 10, 2021	LATITUDE: 43.1782042	LONGITUDE: -89.3242084
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W195, Deep Marsh - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 45	DATE: November 10, 2021	LATITUDE: 43.1781277	LONGITUDE: -89.3241142
DIRECTION: Southeast	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W195, Wet Meadow - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 46	DATE: November 4, 2021	LATITUDE: 43.1777709	LONGITUDE: -89.3213152
DIRECTION: Northeast	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W206, Deep Marsh - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 47	DATE: November 10, 2021	LATITUDE: 43.17765045	LONGITUDE: -89.32618006
DIRECTION: Northwest	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W194, Deep Marsh - D (foreground)			
PHOTO BY: JLJ			

PHOTOGRAPH No: 48	DATE: November 10, 2021	LATITUDE: 43.17751826	LONGITUDE: -89.32688271
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W187, Wet Meadow - D (foreground)			
PHOTO BY: DG			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 49	DATE: November 10, 2021	LATITUDE: 43.17741098	LONGITUDE: -89.32493811
DIRECTION: Northeast	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W196, Deep Marsh - D (foreground)			
PHOTO BY: JLJ			

PHOTOGRAPH No: 50	DATE: November 10, 2021	LATITUDE: 43.17724816	LONGITUDE: -89.32496653
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W191, Deep Marsh - D (foreground)			
PHOTO BY: JLJ			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 51	DATE: November 10, 2021	LATITUDE: 43.1772307	LONGITUDE: -89.3236958
DIRECTION: East	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W195, Wet Meadow - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 52	DATE: November 10, 2021	LATITUDE: 43.177177	LONGITUDE: -89.3236232
DIRECTION: West	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W195, Deep Marsh - D (background)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 53	DATE: November 10, 2021	LATITUDE: 43.1770343	LONGITUDE: -89.3237033
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W192, Aquatic Bed - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 54	DATE: November 10, 2021	LATITUDE: 43.1770154	LONGITUDE: -89.3235836
DIRECTION: East	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W192, Deep Marsh - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 55	DATE: November 10, 2021	LATITUDE: 43.1768	LONGITUDE: -89.3222208
DIRECTION: Southeast	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W190, Aquatic Bed - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 56	DATE: November 10, 2021	LATITUDE: 43.1766206	LONGITUDE: -89.321878
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W189, Deep Marsh - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 57	DATE: November 10, 2021	LATITUDE: 43.1765425	LONGITUDE: -89.3240867
DIRECTION: North	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W192, Deep Marsh - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 58	DATE: November 10, 2021	LATITUDE: 43.17645473	LONGITUDE: -89.32481234
DIRECTION: North	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W187, Deep Marsh - D (foreground)			
PHOTO BY: DG			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 59	DATE: November 10, 2021	LATITUDE: 43.1764422	LONGITUDE: -89.321665
DIRECTION: Northwest	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W189, Wet Meadow - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 60	DATE: November 10, 2021	LATITUDE: 43.1757084	LONGITUDE: -89.3208741
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W189, Wet Meadow - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 61	DATE: November 10, 2021	LATITUDE: 43.17559483	LONGITUDE: -89.3247117
DIRECTION: East	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W187, Wet Meadow - D (foreground)			
PHOTO BY: DG			

PHOTOGRAPH No: 62	DATE: November 10, 2021	LATITUDE: 43.1750723	LONGITUDE: -89.3200824
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W189, Deep Marsh - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 63	DATE: November 10, 2021	LATITUDE: 43.175063	LONGITUDE: -89.3201055
DIRECTION: North	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W189, Wet Meadow - D (foreground)			
PHOTO BY: AK			

PHOTOGRAPH No: 64	DATE: November 10, 2021	LATITUDE: 43.17336	LONGITUDE: -89.318555
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W189, Deep Marsh - D (foreground)			
PHOTO BY: AK			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 65	DATE: November 10, 2021	LATITUDE: 43.1732976	LONGITUDE: -89.3185396
DIRECTION: North	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland W189, Wet Meadow - D (foreground)			
PHOTO BY: AK			

Photographic Log



WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 66	DATE: May 6, 2022	LATITUDE: 43.1766761	LONGITUDE: -89.3234094
DIRECTION: Southwest	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland 192, Shallow Marsh - D (foreground)			
PHOTO BY: MO			

PHOTOGRAPH No: 67	DATE: May 9, 2022	LATITUDE: 43.1782067	LONGITUDE: -89.3251064
DIRECTION: East	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland 194, Shallow Marsh - D (foreground)			
PHOTO BY: MO			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 68	DATE: May 9, 2022	LATITUDE: 43.1784084	LONGITUDE: -89.3250461
DIRECTION: East	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland 194, Shallow Marsh - D (foreground)			
PHOTO BY: MO			

PHOTOGRAPH No: 69	DATE: May 6, 2022	LATITUDE: 43.18212566	LONGITUDE: -89.32336426
DIRECTION: West	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland 206, Aquatic Bed (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 70	DATE: May 6, 2022	LATITUDE: 43.18188706	LONGITUDE: -89.32382576
DIRECTION: East	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland 216, Shrub Scrub - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 71	DATE: May 9, 2022	LATITUDE: 43.17907452	LONGITUDE: -89.32201843
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland 201, Shallow Marsh - D (foreground)			
PHOTO BY: GTH			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 72	DATE: May 9, 2022	LATITUDE: 43.17940977	LONGITUDE: -89.32195458
DIRECTION: South	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland 201, Wet Meadow - D (foreground)			
PHOTO BY: GTH			

PHOTOGRAPH No: 73	DATE: May 9, 2022	LATITUDE: 43.1818213	LONGITUDE: -89.32509934
DIRECTION: North	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland 219, Riparian Forested - D (foreground)			
PHOTO BY: GTH			

Photographic Log



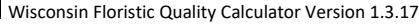
WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 74	DATE: May 9, 2022	LATITUDE: 43.18151951	LONGITUDE: -89.32615811
DIRECTION: East	SITE LOCATION: USH 51 Interchange		
DESCRIPTION: Wetland 219, Riparian Forested - D (foreground)			
PHOTO BY: GTH			

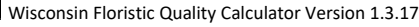
Appendix C

Floristic Quality Calculator by Wetland Community Type



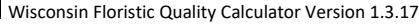
RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC _a By Growth Form:				
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C _n	Weighted Mean C wC _n	FQI _a	w FQI _a	Mean C C _a	Weighted Mean C wC _a	Tree	Shrub	Herb	Aquatic	
5	1	4			2.0		2.0		0.9		0.4						
													0%	0%	0%	0%	:Total Cover

Page 1 of 1



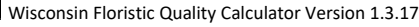
RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC _a By Growth Form:				
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C _n	Weighted Mean C wC _n	FQI _a	w FQI _a	Mean C C _a	Weighted Mean C wC _a	Tree	Shrub	Herb	Aquatic	
1	0	1			#DIV/0!		#DIV/0!		0.0		0.0						
													0%	0%	0%	0%	:Total Cover

[illegible]



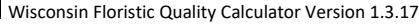
RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC _a By Growth Form:				
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C _n	Weighted Mean C wC _n	FQI _a	w FQI _a	Mean C C _a	Weighted Mean C wC _a	Tree	Shrub	Herb	Aquatic	
3	1	2			3.0		3.0		1.7		1.0						
													0%	0%	0%	0%	:Total Cover

Page 1 of 1



RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC _a By Growth Form:				
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C _n	Weighted Mean C wC _n	FQI _a	w FQI _a	Mean C C _a	Weighted Mean C wC _a	Tree	Shrub	Herb	Aquatic	
8	4	4			2.5		1.3		1.8		0.6						
													0%	0%	0%	0%	:Total Cover

O-202 Page 1 of 1



RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC _a By Growth Form:				
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C _n	Weighted Mean C wC _n	FQI _a	w FQI _a	Mean C C _a	Weighted Mean C wC _a	Tree	Shrub	Herb	Aquatic	
2	1	1			2.0		2.0		1.4		1.0						
													0%	0%	0%	0%	:Total Cover

Page 1 of 1



Consulting
Engineers and
Scientists

**Wetland Rapid Assessment Methodology
I-39 and I-90/94 Split Interchange
WisDOT Project ID: 1015-05-00**
Columbia County, Wisconsin

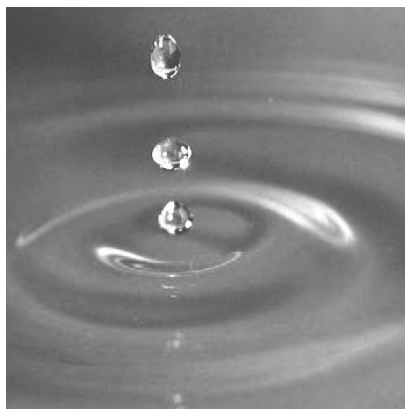
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May 30, 2024
Project 2404021



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Figure 2	2-Foot Contour Map
Figure 3	Wisconsin Wetland Inventory, Wetland Indicators, & 24K Hydrography Map
Figure 4	USDA NRCS Soils Map
Figure 5	Wetland Communities Map
Figure 6	FEMA Flood Map, Special Wetland Planning Waters and Critical Habitat Area Map
Figure 7	100 Meter Buffer & Land Use Map

Appendices

Appendix A Wetland Rapid Assessment Methodology Data Form

Appendix B Photographic Log

Appendix C Floristic Quality Calculator by Wetland Community Type

KTB:amp

B:\Working\WISDOT\2404021 1015-05-00 IH 39 90 94 WRAM\06_In_Progress\Reports\I-39 and I-90 94 Split Int\Draft\WisDOT_1015-05-00_WRAM_I-39 and I-90 94 Split Interchange_FINAL.docx

1. Introduction

1.1 Purpose

The Wisconsin Department of Transportation (WisDOT) retained GEI Consultants, Inc. (GEI) to complete a Wisconsin Department of Natural Resources (WDNR) Wetland Rapid Assessment Methodology (WRAM) for the Interstate (I) 39 and I-90/94 interchange located in part of Section 24, 25, and 36, Township 12 North, Range 8 East and Section 19 and 30, Township 12 North, Range 9 East in the Town of Caledonia, Columbia County, Wisconsin (Figure 1 – Site Location & USGS Topographic Map).

The purpose of the WRAM was to quantify wetland functional values. According to the WDNR, *“This methodology is intended as a rapid method for assessing wetland condition and functional values based upon observable characteristics and using best professional judgment to interpret those observations.”*

No new site visits were completed as part of this WRAM assessment. Prior site visits and previously collected data were utilized in place of new site visits. Other resources such as Google Street View were referenced.

1.2 Site Description

This section includes information found within the Site Description section of the WRAM Data Form (Appendix A).

The assessment area is +/- 208.52 acres in size and consists of one contiguous area as shown on Figure 1.

1.2.1 Project Name

The project name is I-39 and I-90/94 Split Interchange. This WRAM is part of the WisDOT 1015-05-00 I-39/90/94 project.

1.2.2 Evaluator(s)

Wetland Rapid Assessment Methodology form was completed by GEI personnel Kyle Bretl, Rachel Schmid, Bryce Kohler, Kyle Ayers, and Brynn Olsen.

1.2.3 File Reference

No WDNR file reference number has been assigned yet.

1.2.4 Ecoregion

The assessment area is located in the Central Sand Hills ecoregion.

1.2.5 Watershed (HUC12)

The assessment area is located within the 070700040406 (Cascade Mountain-Baraboo River) HUC12 Watershed.

1.2.6 Soils

There are 20 soil series present within the WRAM area of investigation. A summary of the soil map units present within the assessment area are listed in Table 2. The USDA NRCS Soil Map is included as Figure 4.

1.2.7 WWI Class

A total of nine Wisconsin Wetland Inventory (WWI) wetland classes are mapped within the assessment area, including excavated pond symbols. Multiple unnamed waterways are mapped within the assessment area. A summary of the WWI and 24K Hydrography features present within the assessment area are shown in Table 1. The WDNR WWI, Wetland Indicators, and 24K Hydrography Map is included as Figure 3.

1.2.8 Wetland Types(s)

The WisDOT Wetland Classification System was used to classify wetland communities encountered in the assessment area. Wetland communities were classified as “degraded” if they had *“been exposed to deleterious activities such as excessive use as pasture, agricultural cultivation, over exposure to urban effects or storm water runoff to the extent that its natural characteristics have been severely compromised and where wetland function has been substantially reduced”* (WisDOT Wetland Mitigation Banking Technical Guideline).

Wetland communities were determined during the wetland delineation fieldwork that was previously completed. Wetlands were not re-classified to the Eggers and Reed or the Natural Heritage Inventory classification systems for this WRAM.

1.2.9 Wetland Size

A total of 66 distinct wetland polygons were delineated and mapped within the assessment area. The wetlands total 32.12 acres. More detailed information regarding the wetlands is included in Table 3 and Figure 5.

1.2.10 Wetland Area Impacted

A total of 32.12 acres will be impacted. It is currently assumed that all wetlands will be impacted as part of the project. See Table 3 for more detailed information.

1.2.11 Vegetation (Dominant Species)

Previously completed wetland delineation data forms were utilized to extract vegetation data for wetland community type. If data forms were not completed within a specific wetland community type, then no dominant vegetation was recorded for that wetland community type. Appendix C contains the data forms by wetland community type.

1.2.12 Site Maps

The following figures have been generated and are attached to this report.

- Figure 1 Site Location and USGS Topographic Map
- Figure 2 2-Foot Contour Map
- Figure 3 Wisconsin Wetland Inventory, Wetland Indicators, & 24K Hydrography Map
- Figure 4 USDA NRCS Soils Map
- Figure 5 Wetland Communities Map
- Figure 6 FEMA Flood Map, Special Wetland Planning Waters and Critical Habitat Area Map
- Figure 7 100 Meter Buffer & Land Use Map

2. Section 1: Functional Value Assessment

The functional value assessment was recorded on the WRAM form.

2.1 Section 1 Comments

For Storm and Floodwater Storage, it was assumed that the wetlands within the assessment area have the potential to hold greater than 10% of the runoff from contributing area from a 2-year 24-hour storm event.

The WDNR Natural Heritage Inventory (NHI) indicates an element of occurrence for a rare plant species which is located in a section that overlaps the assessment area.

2.2 Wildlife Habitat and Species Observations

No field verified wildlife surveys were conducted as part of this WRAM. GEI drafted a list of potential bird, mammal, reptile, and amphibian species that may inhabit the area based on GEI staff's professional opinion. A summary of the wildlife species potentially present within the assessment area are listed in Table 4.

2.3 Fish and Aquatic Life Habitat and Species Observations

No field verified fish and aquatic life habitat and species surveys were conducted as part of this WRAM. The waterway and waterbodies present within the 100 m buffer may provide habitat for common fish and aquatic species such as walleye, bass, panfish, crayfish, macroinvertebrates, and other common aquatic species. Excavated Ponds are present within the assessment area and may provide habitat for the species listed above. Unnamed tributaries to the Baraboo River are present within the assessment area.

3. Section 2: Floristic Integrity

This section provides a general overview of wetland plant communities that were present within the assessment area. All plant species observed within each wetland community type were summarized and included on a floristic calculator data sheet. If no plant species data was available because no wetland delineation data form was completed within a certain plant community, then that plant community was not included in the floristic integrity scoring section. All wetland community type floristic calculators are included as Appendix C.

3.1 Floristic Integrity

Each wetland community was scored independently. Please see below floristic integrity ranked by wetland plant community.

3.1.1 Deep Marsh

No wetland delineation data form data was collected within the deep marsh community.

3.1.2 Deep Marsh (D)

No wetland delineation data form data was collected within the degraded deep marsh community.

3.1.3 Riparian Wooded (D)

No wetland delineation data from date was collected within the degraded riparian wooded community.

3.1.4 Shallow Marsh

The shallow marsh community was ranked low for all listed criteria.

Section 2: Floristic Integrity				
	☒ Low	☐ Medium	☐ High	☐ Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

**Note: separate plant communities are described independently, check single box based on summary of ratings*

3.1.5 Shallow Marsh (D)

The degraded shallow marsh community was ranked low for all listed criteria.

Section 2: Floristic Integrity				
	☒ Low	☐ Medium	☐ High	☐ Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

**Note: separate plant communities are described independently, check single box based on summary of ratings*

3.1.6 Shrub Scrub

The shrub scrub community was ranked low for all listed criteria.

Section 2: Floristic Integrity				
	☒ Low	☐ Medium	☐ High	☐ Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

**Note: separate plant communities are described independently, check single box based on summary of ratings*

3.1.7 Shrub Scrub (D)

The degraded shrub scrub community was ranked low for all listed criteria.

Section 2: Floristic Integrity				
	☒ Low	☐ Medium	☐ High	☐ Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

**Note: separate plant communities are described independently, check single box based on summary of ratings*

3.1.8 Wet Meadow (D)

The degraded wet meadow community was ranked low for all listed criteria.

Section 2: Floristic Integrity				
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

*Note: separate plant communities are described independently, check single box based on summary of ratings

3.1.9 Wet Meadow

The wet meadow community was ranked low for five categories and medium for one category.

Section 2: Floristic Integrity				
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

*Note: separate plant communities are described independently, check single box based on summary of ratings

3.1.10 Wooded Swamp

No wetland delineation data form data was collected within the wooded swamp community.

3.1.11 Wooded Swamp (D)

No wetland delineation data form data was collected within the degraded wooded swamp community.

3.1.12 Summary of Floristic Integrity

The wetland plant communities ranked above all scored low overall. Disturbances such as right-of-way mowing and stormwater runoff from adjacent roadways are present and contribute to the lack of floristic integrity. Dominant species observed within most of the wetlands included invasive and/or nonnative species such as cattail (*Typha spp.*) and reed canary grass (*Phalaris*

arundinacea). No rare plant species were observed or recorded within the assessment area or 100-meter buffer during the wetland delineations.

4. Section 3 Condition of Wetland Assessment Area and 100-meter Buffer Area

This section assesses the condition of the wetland based upon past and current land use stressors.

4.1 Summary of Condition Assessment

Stressors and associated score and frequency are discussed in the below sections. Stressors are grouped together based on common impact level score.

4.1.1 Low Impact Level Stressors

Nine of the twenty-seven stressors scored as low impact. Utility corridors are located along the interstate and require maintenance such as woody species removal and other disturbance related to maintenance but were scored as low for this interchange. Soil subsidence and loss of soil structure was scored as low and it is unlikely to occur in this area. Paved and unpaved human trails are not present within the assessment area and 100-meter buffer. Removal of large woody debris was scored as low impact. Large woody debris was historically removed from the area, which may have historically provided habitat for macroinvertebrates and other wildlife. Golf course was scored low since they are not present within the assessment area or buffer. Gravel pits were likely present, likely for historic road fill within the buffer area and are now excavated ponds. Recreational use is common within the watershed but ranked low within the assessment area and 100-meter buffer since no recreational opportunities exists in those areas. Excavation and soil grading were ranked low as it is likely an infrequent activity within the buffer area.

4.1.2 Medium Impact Level Stressors

Seven of the twenty-seven stressors scored as medium impact. Removal of herbaceous stratum scored medium since the right-of-way area is mowed and likely impacted by earthworms and historic grading which removed or replaced the native seed bank. Removal of tree or shrub strata was ranked medium since trees/shrubs have been removed from the area and continue to be removed as needed. Pond construction was rated as a medium impact since there are a couple of ponds present within the area which may have been historically constructed within wetlands and may cause water quality issues such as algal blooms. Sediment input was rated medium since it is assumed that some sediment loading occurs within the watershed from agricultural areas and other areas such as construction related to development which would eventually affect the assessment area. Residential land use was rated as a medium impact since some residences are located in the buffer and surrounding area. Urban, commercial, or industrial use and parking lots both ranked medium because there is commercial/industrial and parking lots located within the buffer area. These areas contribute to increased runoff and potential for pollutants to be carried downstream to the wetlands and waterways within the project area. They also increase

volume of water that reaches the wetlands and contribute to flashy hydrology which is detrimental for numerous reasons such as erosive flows.

4.1.3 High Impact Level Stressors

Eleven of the twenty-seven stressors scored as high impact. Hydrologic changes were rated as high impact since the network of roads and commercial/industrial land use has altered hydrology in the area. Point source or stormwater discharge was rated high due to the amount of runoff from impervious surfaces. Polluted runoff was rated high because of possibility that potentially polluted water, such as runoff from impervious surfaces (parking lots, buildings, roads, etc.) is flowing into the wetlands. All three agricultural field categories (row crops, hay, and pasture) were ranked as a high impact level since there are agricultural fields present within the 100-meter buffer and because of the impact that agriculture has within the watershed. Roads and railroads cause increased runoff into the wetlands and possibility of pollutants to be discharged into the wetlands, such as vehicular fluids and road salt. Dams, dikes, levees were rated as high since features like roads or spillways act as dams and at times may restrict flow of water and change cool or cold-water waterways to warm water waterways which are more susceptible to nutrient sinking and algal blooms. Drainage tiles and ditches were rated as high impact because they allow direct discharge of nutrient loaded water into waterways and wetlands. Drainage swales and ditches are present along roads and commercial businesses and drain tiles are likely present within the agricultural fields. Invasive and non-native plant species are present and widespread within the area and are the dominant plant species encountered within different plant communities and have a high impact since they typically form monocultures and support less macroinvertebrates and other species which disrupts the food chain.

4.2 Rationale

The below rationale describes the reason for the rankings selected in the summary of functional values section of the WRAM data form.

When ranking each question, the potential of a wetland to “*support, partially support, or could support that use or functional value*” is almost always yes. There is always a potential for something to occur. However, the reality is that most of these potential questions are unfeasible and chance of occurring is very small. There is always a potential for any given event to occur, but the reality and feasibility of that happening should be taken into consideration and included as a scoring column when conducting this assessment. Thus, this section either ignores or briefly addresses the potential of these features to “*support, partially support, or could support that use or functional value.*”

4.2.1 Floristic Integrity

The floristic integrity is ranked as low for the wetlands due to the cover of invasive/nonnative species. In general, the wetland plant communities are dominated by non-native and/or invasive

species. Most areas of the wetland are monocultures of nonnative and/or invasive species, while few areas have multiple strata and a variety of native species. All adjacent upland areas located within the road right-of-way are planted in a typical DOT roadside mix which typically consists of cool season grass species such as fescue species (*Festuca spp.*), bluegrass species (*Poa spp.*), and other cool season grass species. These adjacent upland areas are routinely mowed which is a repeated disturbance that may contribute to the spread of nonnative and/or invasive species. WDNR NHI indicates an element of occurrence for a rare plant species is located in a section that overlaps the assessment area. Floristic integrity was ranked as low.

4.2.2 Human Use Values

Three of the seven questions were answered as yes. Wetlands are visible from roadways and accessible to the public via adjacent public lands including the Baraboo River/Baraboo River Floodplain Forest State Natural Area, Baraboo River Waterfowl Production Area, and Columbia County Waterfowl Production Area. Activities such as birdwatching or educational purposes could be possible, vehicles can pull off on roadways for birdwatching/wildlife viewing or access from adjoining public lands. Based on WDNR records, the areas do provide habitat for state and/or federal endangered, threatened, or special concern species. Human use values were ranked as low.

4.2.3 Wildlife Habitat

Seven of the twelve questions were answered as yes. A list of potential birds and wildlife that may be present was compiled based on professional experience and based on the most recorded bird species on the eBird website for Columbia and Dane counties. The connection to large habitat blocks and variety of wetland types indicate the area may support a variety of wildlife. Wildlife habitat was ranked as medium.

There are two important bird areas within and adjacent to the assessment area and 100-meter buffers. The Baraboo Hills important bird area supports 135 species of breeding birds, including high priority species such as the Hooded Warbler, and the Worm-Eating Warbler. This site is also considered core habitat for the Cerulean Warbler with up to 30,000 acres of suitable habitat for this species. In the spring and fall, this site is a concentration area for migratory landbirds, supporting approximately 10,000 migrant birds per season. This habitat is critical for bird conservation.

Additionally, Leopold Pine Island important bird area is located directly north of the project area. This area supports priority grassland species such as the bobolink and grasshopper sparrow. Wetland breeders such as the black tern, and marsh wren also use this habitat. Priority shrub/savanna species such as the black-billed cuckoo, and blue winged warbler can also be found in this important bird area. This site is also an important migratory stopover location for sandhill cranes, and other breeding waterfowl.

4.2.4 Fish and Aquatic Life Habitat

Three of the four questions were answered yes. Standing water does provide habitat for amphibians and aquatic invertebrates. Some of the wetlands are directly connected to or within proximity to other surface waters and vegetation within portions of the wetlands is likely inundated seasonally in the spring. The Baraboo River, a warm water sport fishery, crosses north and outside of the 100-meter buffer. Portions of the waterway are listed as impaired at the state level, mainly due to phosphorus loading and dams present along the river. The Baraboo River supports species such as smallmouth bass, walleye, sturgeon, suckers, and other fish and aquatic species. The waterway being impacted within the assessment area appear to be artificially created by historic human activities. Fish and aquatic life habitat was ranked as low.

4.2.5 Shoreline Protection

Two of the three questions were answered yes. Wetland is along a shoreline of waterway/waterbody and has densely rooted emergent/woody vegetation. The wetland does not have to potential for erosion due to wind fetch, waves, boat traffic, erosive soils, or fluctuating water levels or high flows. Shoreline protection was ranked as low.

4.2.6 Flood and Stormwater Storage

Four of the eight questions were answered as yes. These wetlands are basin wetlands and have constricted outlets and are through-flow or adjacent to a waterway. Water flow through most of the wetlands is channelized. Point or non-point source inflow is contributing to algal blooms which are visible on-air photos. Due to large assessment areas, stormwater calculations were not conducted, and it was assumed that they would be able to hold greater than 10% of the runoff from contributing area from a 2-year 24-hour storm event. Flood and stormwater storage was ranked as medium.

4.2.7 Water Quality Protection

Eight of the nine questions were answered as yes. The wetlands provide stormwater storage, filter nutrients, contaminants, and sediment from water prior to discharging water downstream. Heavy macrophyte plant growth is observed within the wetlands, namely cattail species. Water quality protection was ranked as medium.

4.2.8 Groundwater Process

Four of the five questions were answered as yes. Springs, seeps, or indicators of groundwater are present. Wetlands remain saturated for a long period of time with no additional water inputs. Wetlands likely receive groundwater discharge during the dry season. In late summer during the dry season and after heavy rain events, some of the wetlands may provide groundwater recharge. Some of the wetland have organic soil map units. Groundwater processes were ranked as medium.

5. Section 4: Project Impact Assessment

Section 4 of the WRAM is for evaluating project impacts resulting from a project which may affect a wetland.

5.1 Project Description

The proposed transportation project consists of reconstructing a portion of I-39/90/94 between US 12/18 in Madison and Dees Road in Wisconsin Dells. The reconstruction serves to improve the safety and reliability of travel infrastructure within the Project corridor. The Project corridor is 67 miles long and travels through Dane, Columbia, Sauk, and Juneau Counties. The purpose of the Project is to address existing and future traffic demands, safety issues, aging and outdated corridor infrastructure, and corridor resiliency.

Proposed construction activities for the I-39/90/94 corridor will include removal of existing structures and roadways, bridge construction and widening, earthwork, utility relocations, drainage improvements, traffic control, traffic signals, barrier installation, lighting, and paving. Lane expansions are proposed for the entire length of the corridor. Modification to and/or expansion of 13 existing interchanges, as well as construction of two new interchanges will address a range of design deficiencies.

Many factors influence actual construction. Proposed construction activities are expected to occur over several years. Like most major transportation projects, construction details cannot be fully defined until design advances past the conceptual stage.

For the purposes of this assessment, we have assumed the preferred alternative will be selected, and have assumed that all wetlands located within the assessment area will be impacted.

5.1.1 *Expected Project Impacts (Direct Impacts)*

The project will directly impact a total of 208.52 acres of land within the assessment area, including 32.12 acres of wetland impact.

5.1.1.1 **Permanence/Reversibility**

Permanent upland and wetland loss will occur due to road construction. Reversibility would not be feasible. A portion of the impacted areas would be reconstructed. For example, swales and ditches would be constructed along the extent of the reconstructed roads.

5.1.1.2 Significance (Low, Medium, High)

The interstate corridor is present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. Therefore, significance is rated as low.

5.1.2 Secondary Impacts (including impacts which are indirectly attributable to the project)

Secondary impacts are defined by the WDNR as impacts that “*are closely linked or causally related to the activity but may occur over a longer period of time.*” Various secondary impacts could occur due to the wetland disturbance. A few examples of those are listed below.

- Potential disruption of wildlife use (breeding and nesting) and movement.
- Potential for polluted runoff and/or sediment to reach portions of wetland which were previously acting as buffer strips.
- Potential for invasive species populations to reach portions of wetlands which were buffered (edge effect).

5.1.2.1 Permanence/Reversibility

Permanent upland and wetland loss will occur due to road construction. Reversibility would not be feasible. A portion of the impacted areas would be reconstructed. For example, swales and ditches would be constructed along the extent of the reconstructed roads. Since many of the wetlands being impacted are ditches/swales that were originally constructed to provide drainage of the road network, the reconstructed area would likely provide similar ecosystem functions and wildlife habitat as the impacted wetland areas.

5.1.2.2 Significance (Low, Medium, High)

The interstate corridor is present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. Therefore, significance is rated as low.

5.1.3 Cumulative Impacts

No cumulative impacts are anticipated. Cumulative impacts are defined by the WDNR as “*impacts attributable to the proposed activity which may occur, based upon past or reasonably anticipated impacts on wetland functional values of similar activities in the affected area.*” Development and adjacent road networks are already established. This road construction should not cause any new cumulative impacts to wetlands that were not already present prior to the expansion.

5.1.3.1 Permanence/Reversibility

Permanent upland and wetland loss will occur due to road construction. Reversibility would not be feasible. A portion of the impacted areas would be reconstructed. For example, swales and ditches would be constructed along the extent of the reconstructed roads.

5.1.3.2 Significance (Low, Medium, High)

The interstate corridor is present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. No new cumulative impacts are anticipated. Therefore, significance is rated as low.

5.1.4 Spatial/Habitat Integrity

Spatial/habitat integrity is defined by the WDNR as “*the loss of wetlands within an area where these wetlands may be critical habitat components to a species or assemblage of species.*” The wetlands within this area are not considered critical habitat components to any species. All of the wetland types impacted are relatively common within the watershed.

5.1.4.1 Permanence/Reversibility

Permanent upland and wetland loss will occur due to road construction. Reversibility would not be feasible. A portion of the impacted areas would be reconstructed. For example, swales and ditches would be constructed along the extent of the reconstructed roads.

5.1.4.2 Significance (Low, Medium, High)

The interstate corridor is already present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. An expansion is not expected to significantly affect the spatial/habitat integrity of the area since large habitat blocks are present adjacent to the site. Therefore, significance is rated as low.

5.1.5 Rare Plant/Animal Communities/Natural Areas

This section refers to any impacts that may occur to state and/or federal threatened, endangered, and special concern species (rare species).

The WDNR NHI indicates an element of occurrence for a rare plant species which is located in section that overlaps the assessment area. The probability that state and/or federal threatened, endangered, and special concern species are present within the disturbance areas is unlikely. Furthermore, the project will be required to follow state and federal threatened and endangered species regulations and enact measures to ensure that rare species are protected from construction.

5.1.5.1 Permanence/Reversibility

Permanent upland and wetland loss will occur due to road construction. Reversibility would not be feasible. A portion of the impacted areas would be reconstructed. For example, swales and ditches would be constructed along the extent of the reconstructed roads. These newly constructed swale and ditches could serve as habitat for various wildlife in the area.

5.1.5.2 Significance (Low, Medium, High)

The interstate corridor is present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. Therefore, significance is rated low. It is also rated as low because of the amount of habitat and wetland present within the assessment area, buffer, and watershed.

Tables

Table 1 Wetland Summary Table

Table 2 Wildlife Habitat and Species Observation

Table 3 Fish and Aquatic Life Habitat and Species Observations

Table 4 Plant Species List by Wetland Community Type

Figures

Figure 1 Site Location and USGS Topographic Map

Figure 2 2-Foot Contour Map

Figure 3 Wisconsin Wetland Inventory, Wetland Indicators, & 24K Hydrography Map

Figure 4 USDA NRCS Soils Map

Figure 5 Wetland Communities Map

Figure 6 FEMA Flood Map, Special Wetland Planning Waters and Critical Habitat Area Map

Figure 7 100 Meter Buffer & Land Use Map

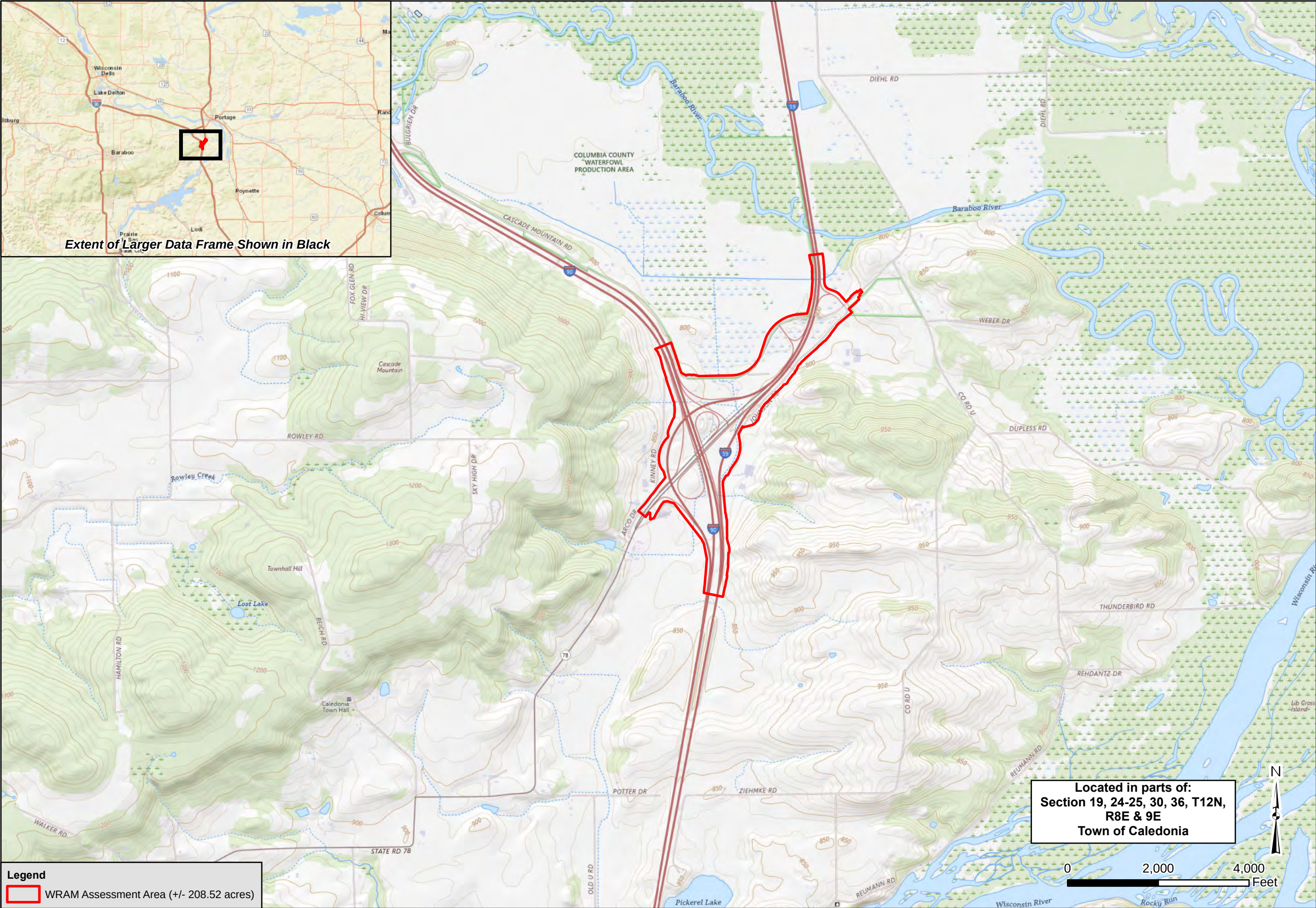


FIGURE 1

SITE LOCATION AND USGS TOPOGRAPHIC MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION

WISDOT PROJECT ID: 1015-05-00

I-39 AND I 90/94 SPLIT INTERCHANGE

TOWN OF CALEDONIA

COLUMBIA COUNTY, WISCONSIN

Drawn: BWK 5/15/2024
Approved: KTB 5/15/2024
Scale: As Shown
Project Number: 2404021
Figure Number: 1



FIGURE 2
2-FOOT CONTOUR MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
I-39 AND I-90/94 SPLIT INTERCHANGE
TOWN OF CALEDONIA
COLUMBIA COUNTY, WISCONSIN

Drawn: BWK 5/15/2024
Approved: KTB 5/15/2024
Scale: As Shown
Project Number: 2404021
Page 1 of 2

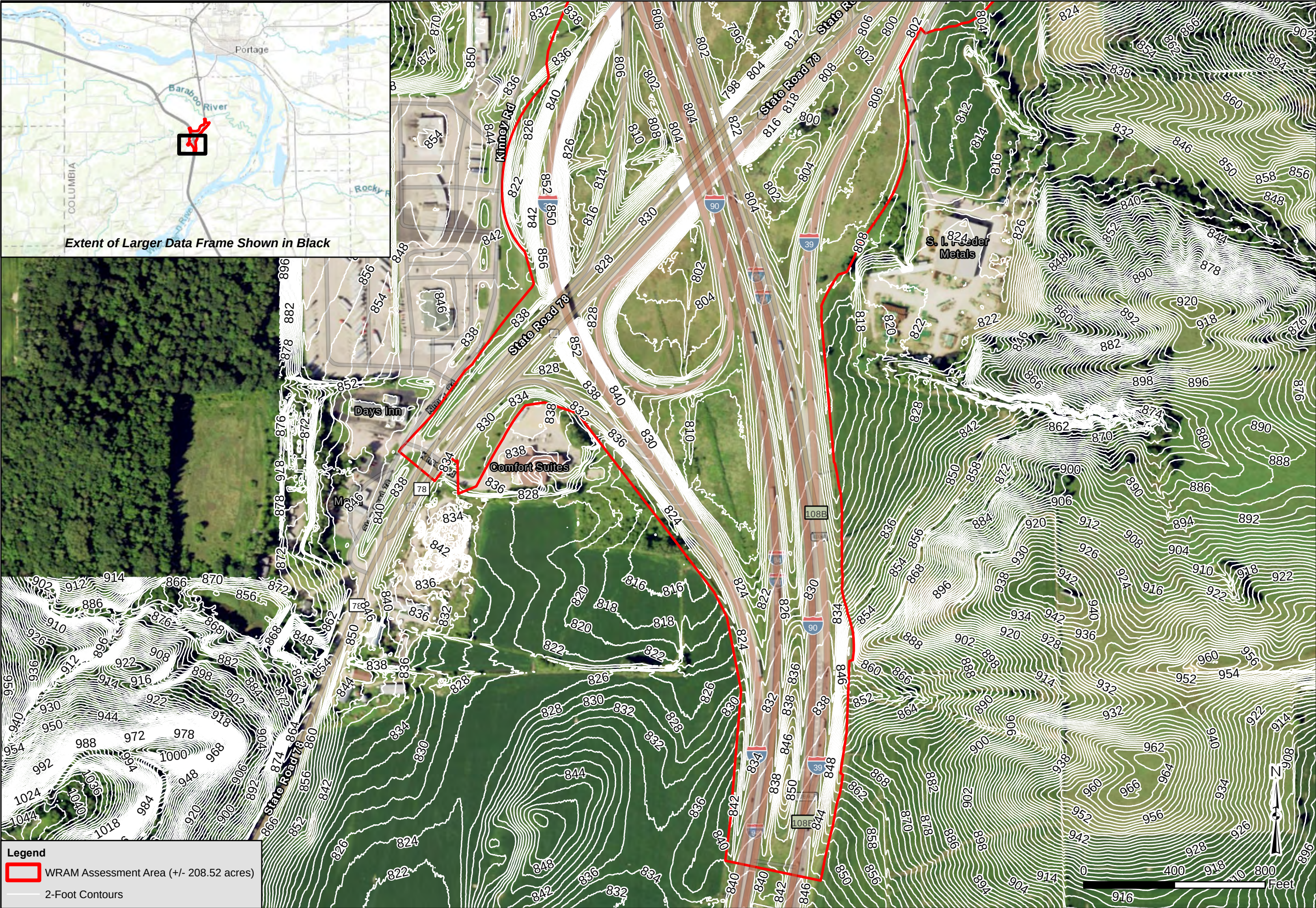


FIGURE 2
2-FOOT CONTOUR MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
I-39 AND I-90/94 SPLIT INTERCHANGE
TOWN OF CALEDONIA
COLUMBIA COUNTY, WISCONSIN

Drawn: BWK 5/15/2024
Approved: KTB 5/15/2024
Scale: As Shown
Project Number: 2404021
Page 2 of 2

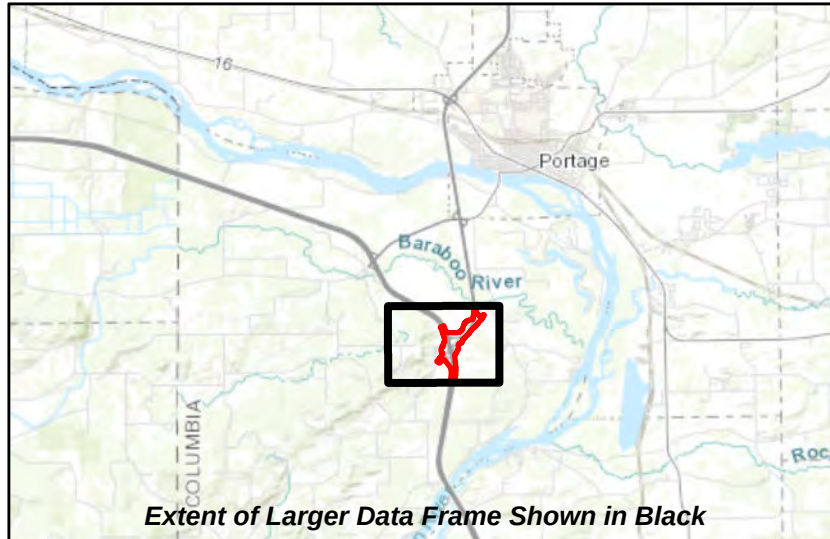


FIGURE 4
USDA NRCS SOILS MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
I-39 AND I-90/94 SPLIT INTERCHANGE
TOWN OF CALEDONIA
COLUMBIA COUNTY, WISCONSIN

Drawn: BWK 5/15/2024
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Scale: As Shown
Project Number: 2404021
Page 1 of 1

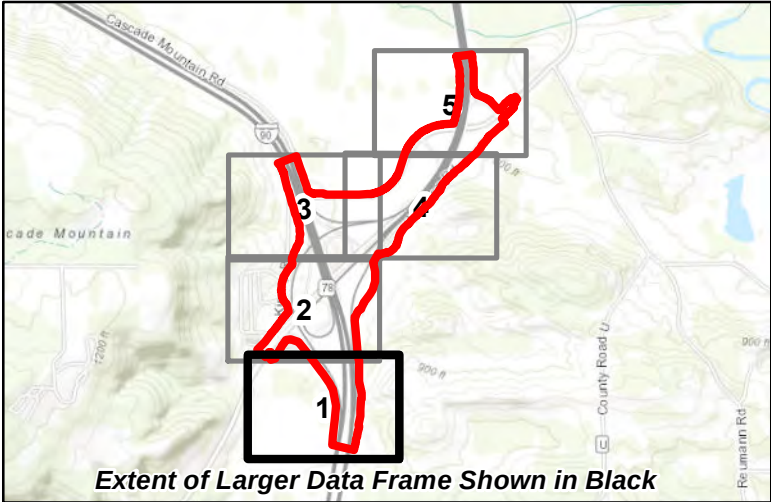


FIGURE 5
WETLAND COMMUNITIES MAP
WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
IH 39 90 94 WRAM - I-39 AND I-90/94 SPLIT INTERCHANGE
TOWN OF CALEDONIA
COLUMBIA COUNTY, WISCONSIN

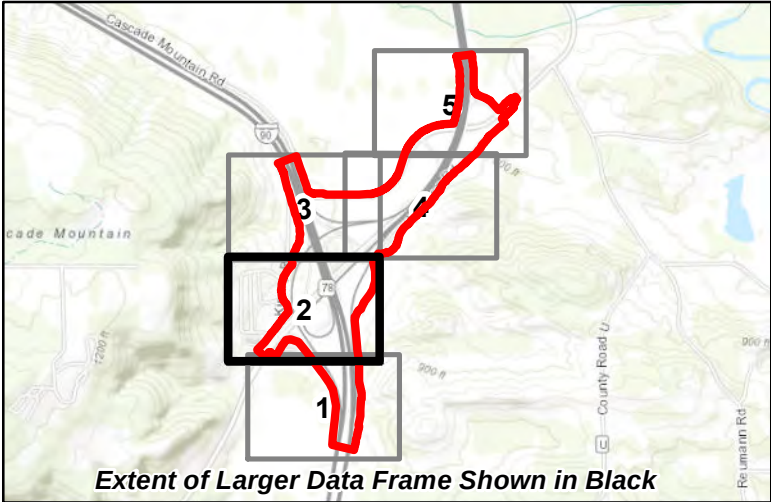
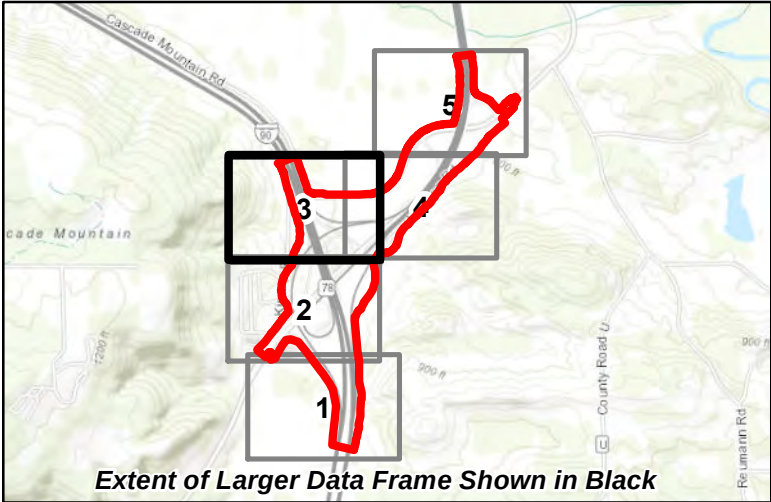


FIGURE 5
WETLAND COMMUNITIES MAP
WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
IH 39 90 94 WRAM - I-39 AND I-90/94 SPLIT INTERCHANGE
TOWN OF CALEDONIA
COLUMBIA COUNTY, WISCONSIN



Legend

WRAM Assessment Area (+/- 208.52 acres)

Delineated Waterways (+/- 0.13 acres)

Delineated Wetlands

Deep Marsh (+/- 0.11 acres)

Riparian Wooded (+/- 0.12 acres)

Shallow Marsh (+/- 3.99 acres)

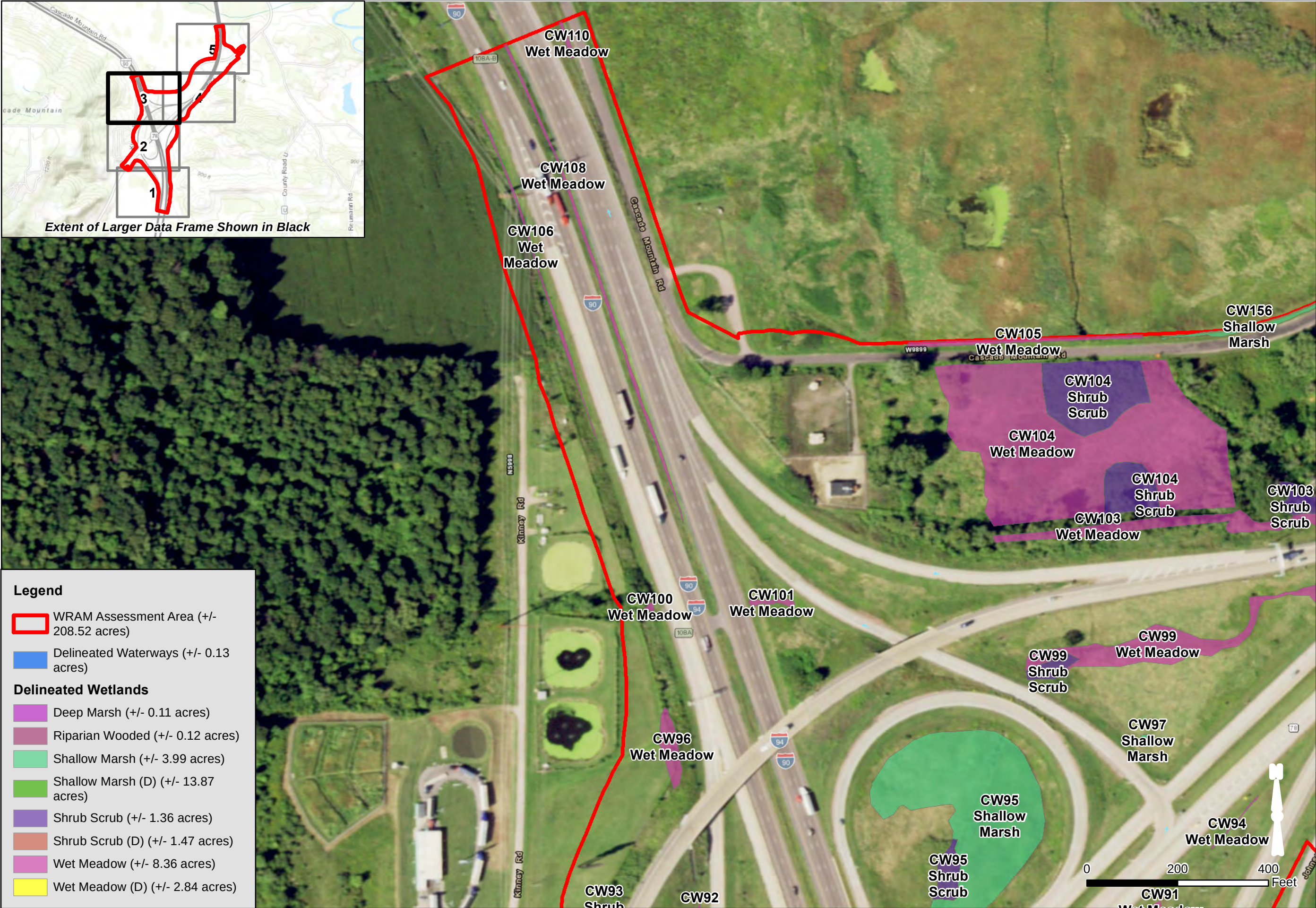
Shallow Marsh (D) (+/- 13.87 acres)

Shrub Scrub (+/- 1.36 acres)

Shrub Scrub (D) (+/- 1.47 acres)

Wet Meadow (+/- 8.36 acres)

Wet Meadow (D) (+/- 2.84 acres)



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FIGURE 5
WETLAND COMMUNITIES MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
IH 39 90 94 WRAM - I-39 AND I-90/94 SPLIT INTERCHANGE
TOWN OF CALEDONIA
COLUMBIA COUNTY, WISCONSIN

Drawn: KTB 5/6/2024

Approved: KJU 5/6/2024

Scale: As Shown

GEI Project No: 2404021

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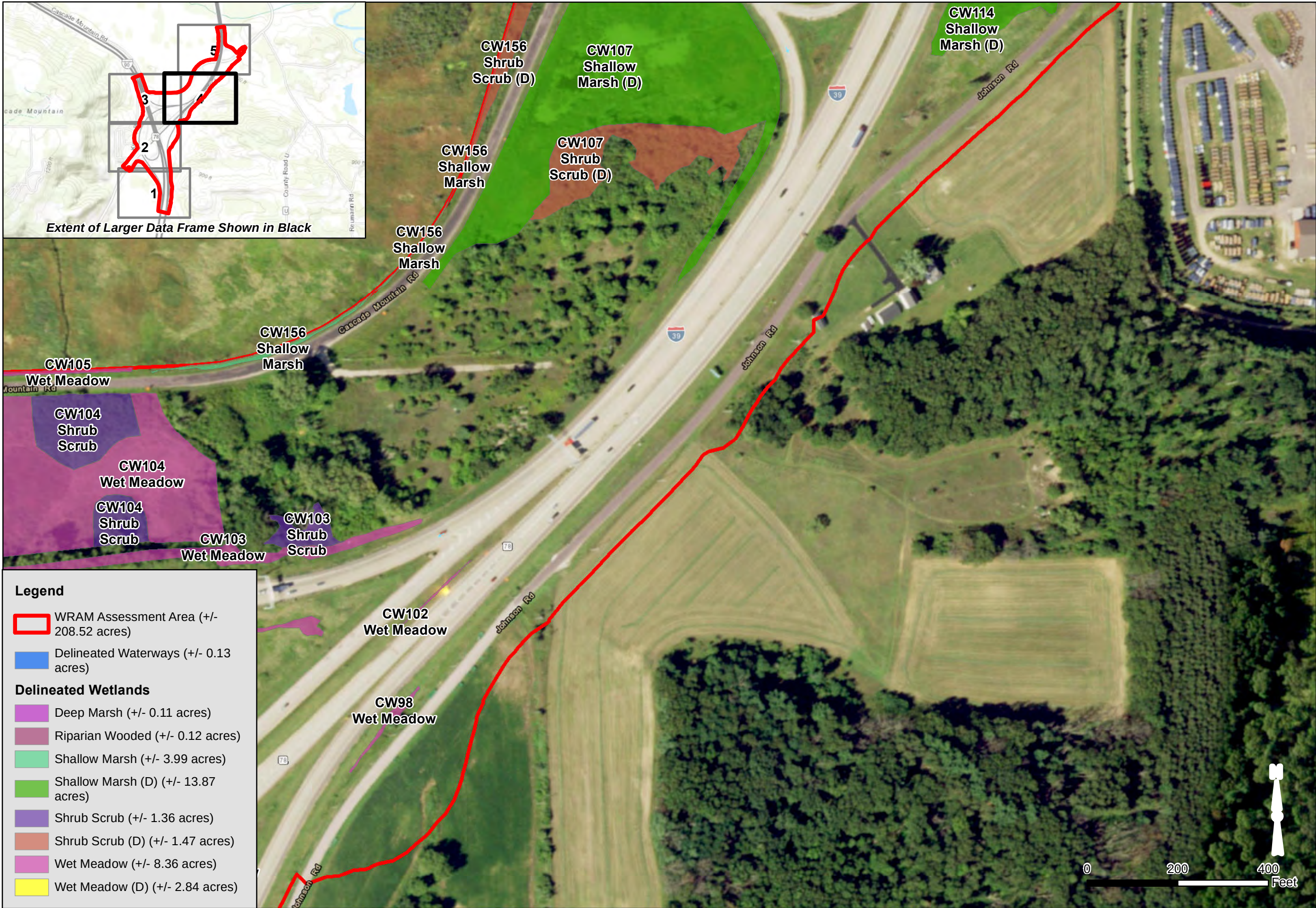


FIGURE 5
WETLAND COMMUNITIES MAP
WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
IH 39 90 94 WRAM - I-39 AND I-90/94 SPLIT INTERCHANGE
TOWN OF CALEDONIA
COLUMBIA COUNTY, WISCONSIN

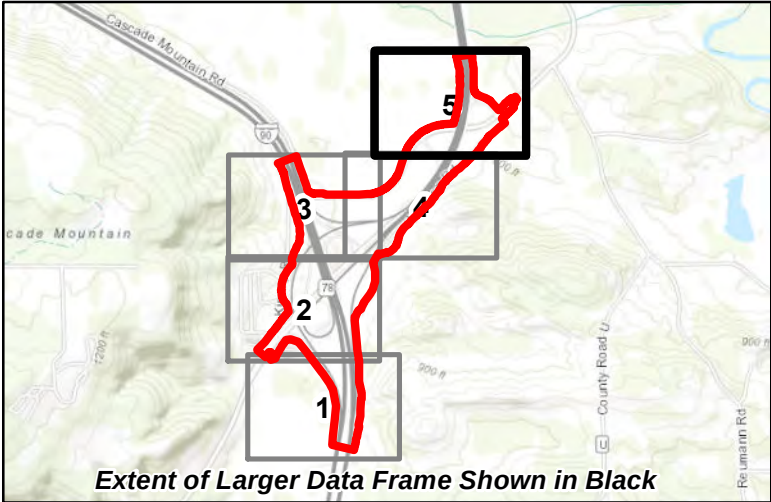


FIGURE 5
WETLAND COMMUNITIES MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
IH 39 90 94 WRAM - I-39 AND I-90/94 SPLIT INTERCHANGE
TOWN OF CALEDONIA
COLUMBIA COUNTY, WISCONSIN

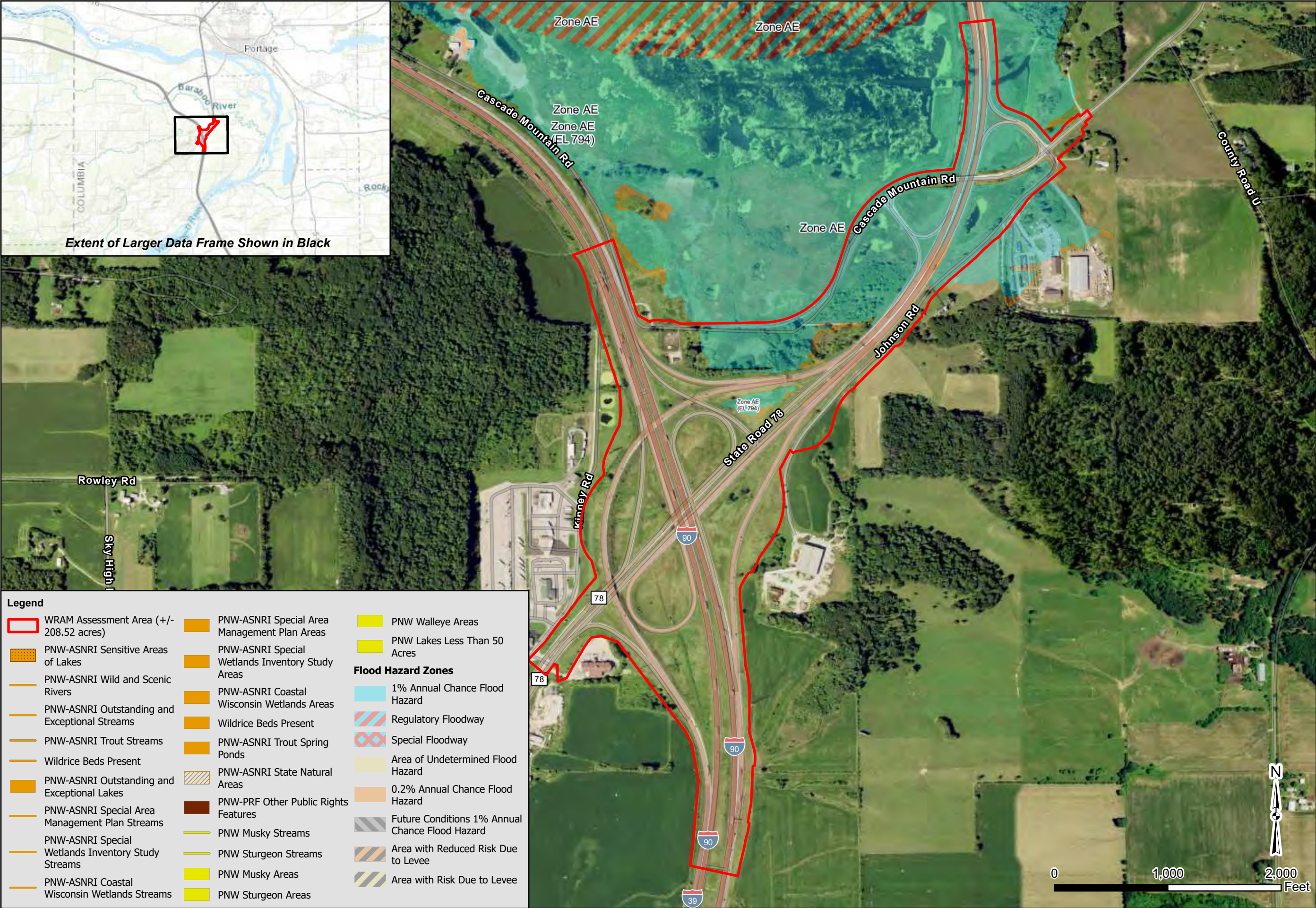
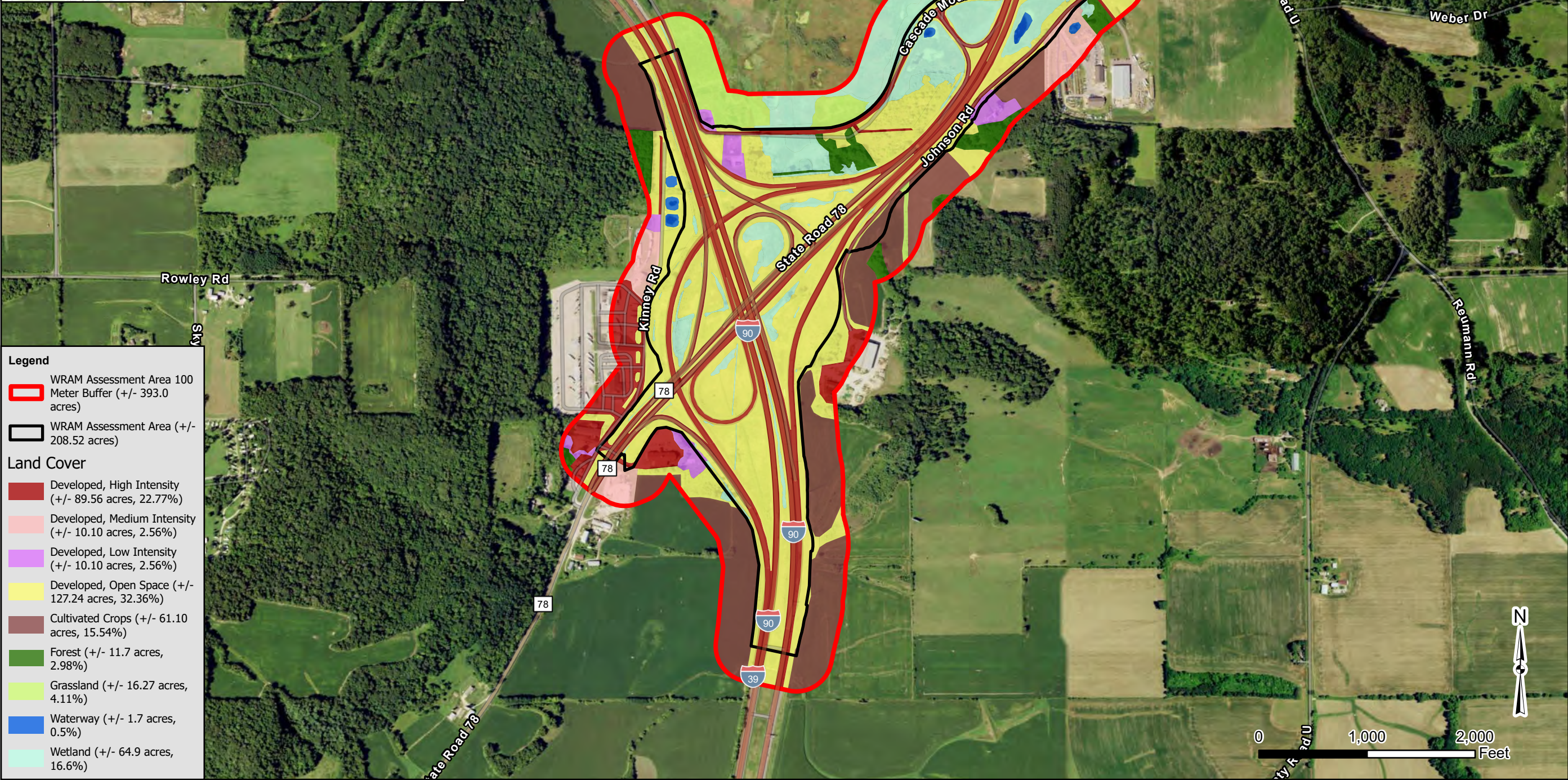
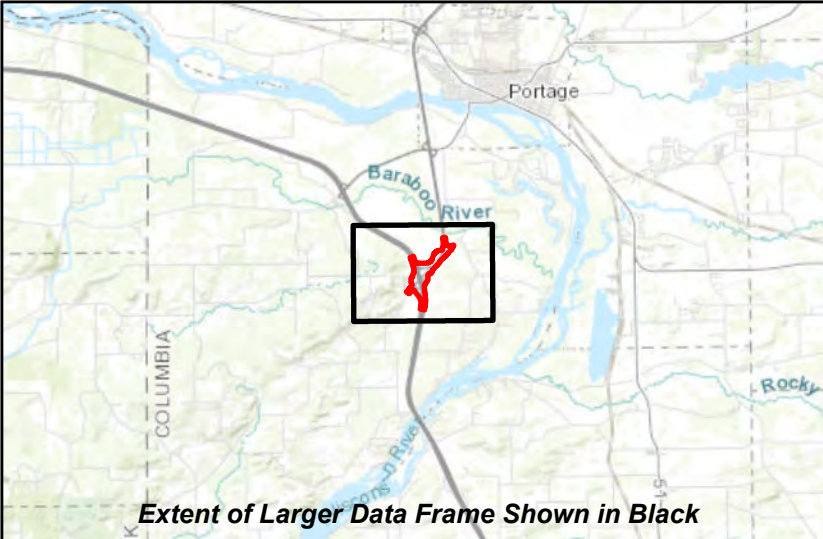


FIGURE 6
FEMA FLOOD MAP, SPECIAL WETLAND PLANNING AND CRITICAL HABITAT AREA MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
I-39 AND I-90/94 SPLIT INTERCHANGE
TOWN OF CALEDONIA
COLUMBIA COUNTY, WISCONSIN

Drawn: BWK 5/29/2024
Approved: KTB 5/29/2024
Scale: As Shown
Project Number: 2404021
Page 1 of 1



Legend

WRAM Assessment Area 100 Meter Buffer (+/- 393.0 acres)

WRAM Assessment Area (+/- 208.52 acres)

Land Cover

- Developed, High Intensity (+/- 89.56 acres, 22.77%)
- Developed, Medium Intensity (+/- 10.10 acres, 2.56%)
- Developed, Low Intensity (+/- 10.10 acres, 2.56%)
- Developed, Open Space (+/- 127.24 acres, 32.36%)
- Cultivated Crops (+/- 61.10 acres, 15.54%)
- Forest (+/- 11.7 acres, 2.98%)
- Grassland (+/- 16.27 acres, 4.11%)
- Waterway (+/- 1.7 acres, 0.5%)
- Wetland (+/- 64.9 acres, 16.6%)

FIGURE 7
100 METER BUFFER AND LAND USE MAP
WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
I-39 AND I-90/94 SPLIT INTERCHANGE
TOWN OF CALEDONIA
COLUMBIA COUNTY, WISCONSIN

Drawn: BWK 5/16/2024
Approved: KTB 5/16/2024
Scale: As Shown
Project Number: 2404021
Page 1 of 1

Appendix A

Wetland Rapid Assessment Methodology Data Form

Wetland Rapid Assessment Methodology – Version 2.0

Long Form

Form 3500-134 (11/22)

Page 2 of 7

Section 1: Functional Value Assessment

	Y / N	Potential	
HU	☐ Y ☐ N	Y	Human Use Values: recreation, culture, education, science, natural scenic beauty
1	☒ Y ☐ N	Y	Used for recreation (hunting, birding, hiking, etc.). List: Potential for birding, vehicles could park and watch birds. Adjacent to numerous public land properties.
2	☐ Y ☒ N	Y	Used for educational or scientific purposes
3	☒ Y ☐ N		Visually or physically accessible to public
4	☐ Y ☒ N	Y	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	☒ Y ☐ N		In or adjacent to RED FLAG areas List: Adjacent to Baraboo River SNA and other public lands.
6	☒ Y ☐ N	Y	Supports or provides habitat for endangered, threatened or special concern species
7	☐ Y ☒ N	Y	In or adjacent to archaeological or cultural resource site
WH	☐ Y ☐ N		Wildlife Habitat
1	☒ Y ☐ N	Y	Wetland and contiguous habitat >10 acres
2	☐ Y ☒ N	Y	3 or more strata present (>10% cover)
3	☒ Y ☐ N	Y	Within or adjacent to habitat corridor or established wildlife habitat area
4	☐ Y ☒ N	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	☐ Y ☒ N	Y	Occurs in a Joint Venture priority township
6	☒ Y ☐ N	Y	Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex, etc.)
7	☒ Y ☐ N	Y	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	☒ Y ☐ N	Y	Part of a large habitat block that supports area sensitive species
9	☒ Y ☐ N	Y	Ephemeral pond with water present > 45 days
10	☒ Y ☐ N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	☐ Y ☒ N	Y	Seasonally exposed mudflats present
12	☐ Y ☒ N	Y	Provides habitat scarce in the area (urban, agricultural, etc.)
FA	☐ Y ☐ N		Fish and Aquatic Life Habitat
1	☒ Y ☐ N	Y	Wetland is connected or contiguous with perennial stream or lake
2	☒ Y ☐ N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	☐ Y ☒ N	Y	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	☒ Y ☐ N	Y	Vegetation is inundated in spring
SP	☐ Y ☐ N		Shoreline Protection
1	☒ Y ☐ N	Y	Along shoreline of a stream, lake, pond or open water area (>1 acre) - if no, not applicable
2	☐ Y ☒ N	Y	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable
3	☒ Y ☐ N	Y	Densely rooted emergent or woody vegetation
ST	☐ Y ☐ N		Storm and Floodwater Storage
1	☒ Y ☐ N	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	☐ Y ☒ N	Y	Water flow through wetland is NOT channelized
3	☒ Y ☐ N	Y	Dense, persistent vegetation
4	☐ Y ☒ N	Y	Evidence of flashy hydrology
5	☒ Y ☐ N	Y	Point or non-point source inflow
6	☐ Y ☒ N	Y	Impervious surfaces cover >10% of land surface within the watershed
7	☐ Y ☒ N	Y	Within a watershed with <10% wetland
8	☒ Y ☐ N	Y	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	☐ Y ☐ N		Water Quality Protection
1	☒ Y ☐ N	Y	Provides substantial storage of storm and floodwater based on previous section
2	☒ Y ☐ N	Y	Basin wetland or constricted outlet
3	☐ Y ☒ N	Y	Water flow through wetland is NOT channelized
4	☒ Y ☐ N	Y	Vegetated wetland associated with a lake or stream
5	☒ Y ☐ N	Y	Dense, persistent vegetation
6	☒ Y ☐ N	Y	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	☒ Y ☐ N	Y	Stormwater or surface water from agricultural land is major hydrology source
8	☒ Y ☐ N	Y	Discharge to surface water
9	☒ Y ☐ N	Y	Natural land cover in 100m buffer area < 50%
GW	☐ Y ☐ N		Groundwater Processes
1	☒ Y ☐ N	Y	Springs, seeps or indicators of groundwater present
2	☐ Y ☒ N	Y	Location near a groundwater divide or a headwater wetland
3	☒ Y ☐ N	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	☒ Y ☐ N	N	Wetland soils are organic
5	☐ Y ☒ N	N	Wetland is within a wellhead protection area

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Section 1 Comments

For Wildlife Observations, see Table 4 and section 4.2.4 in WRAM Report.

For Fish and Aquatic Life observations, see section 4.2.4 in WRAM Report.

Wildlife Habitat and Species Observation (including amphibians and reptiles)

List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

Observed	Potential	Species/Habitat/Comments

Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat/Comments

Wetland Rapid Assessment Methodology – Version 2.0

Long Form

Form 3500-134 (11/22)

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Section 3: Condition of Wetland Assessment Area and Buffer (100 m)

Assessment Area	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
X	X	X	M	C	Removal of herbaceous stratum – mowing, grading, earthworms, etc.
X	X	X	M	C	Removal of tree or shrub strata – logging, unprescribed fire
X	X	X	H	C	Hydrologic changes - high capacity wells, impounded water, increased runoff
X	X	X	H	C	Point source or stormwater discharge
X	X	X	H	C	Polluted runoff
X	X	X	M	C	Pond construction
	X	X	H	C	Agriculture – row crops
	X	X	H	C	Agriculture – hay
	X	X	H	C	Agriculture – pasture
X	X	X	H	C	Roads or railroad
X	X	X	L	C	Utility corridor (above or subsurface)
X	X	X	H	C	Dams, dikes or levees
			L	UC	Soil subsidence, loss of soil structure
X	X	X	M	C	Sediment input
X	X	X	H	C	Filling, berms (non-impounding)
X	X	X	H	C	Drainage – tiles, ditches
			L	UC	Human trails – unpaved
			L	UC	Human trails – paved
		X	L	UC	Removal of large woody debris
X	X	X	H	C	Cover of non-native and/or invasive species
	X	X	M	C	Residential land use
	X	X	M	C	Urban, commercial or industrial use
	X	X	M	C	Parking lot
			L	UC	Golf course
			L	UC	Gravel pit
	X	X	L	C	Recreational use (boating, ATVs, etc.)
		X	L	C	Excavation or soil grading
					Other:

* L = Low, M = Medium, H = High

** Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

Summary of Condition Assessment

See attached WRAM Report Narrative section 4.1

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Long Form

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Summary of Functional Values

	Low	Medium	High	Exceptional	NA
Floristic Integrity	☒	☐	☐	☐	☐
Human Use Values	☒	☐	☐	☐	☐
Wildlife Habitat	☐	☒	☐	☐	☐
Fish and Aquatic Life Habitat	☒	☐	☐	☐	☐
Shoreline Protection	☒	☐	☐	☐	☐
Flood and Stormwater Storage	☐	☒	☐	☐	☐
Water Quality Protection	☐	☒	☐	☐	☐
Groundwater Processes	☐	☒	☐	☐	☐

	Rationale
Floristic Integrity See attached WRAM Report Narrative section 4.2.1	
Human Use Values See attached WRAM Report Narrative section 4.2.2	
Wildlife Habitat See attached WRAM Report Narrative section 4.2.3	
Fish and Aquatic Life Habitat See attached WRAM Report Narrative section 4.2.4	
Shoreline Protection See attached WRAM Report Narrative section 4.2.5	
Flood and Stormwater Storage See attached WRAM Report Narrative section 4.2.6	
Water Quality Protection See attached WRAM Report Narrative section 4.2.7	
Groundwater Processes See attached WRAM Report Narrative section 4.2.8	

Section 4: Project Impact Assessment

Project Description

See attached WRAM Report Narrative section 5.1.

Expected Project Impacts

	Permanence/Reversibility	Significance (Low, Medium, High)
Expected Project Impacts Direct Impacts See attached WRAM Report Narrative section 5.1.1	See attached WRAM Report Narrative section 5.1.1.1	See attached WRAM Report Narrative section 5.1.1.1
Secondary Impacts (including impacts which are indirectly attributable to the project) See attached WRAM Report Narrative section 5.1.2	See attached WRAM Report Narrative section 5.1.2.1	See attached WRAM Report Narrative section 5.1.2.2
Cumulative Impacts See attached WRAM Report Narrative section 5.1.3	See attached WRAM Report Narrative section 5.1.3.1	See attached WRAM Report Narrative section 5.1.3.2
Spatial/Habitat Integrity See attached WRAM Report Narrative section 5.1.4	See attached WRAM Report Narrative section 5.1.4.1	See attached WRAM Report Narrative section 5.1.4.2
Rare Plant/Animal Communities/ Natural Areas See attached WRAM Report Narrative section 5.1.5	See attached WRAM Report Narrative section 5.1.5.1	See attached WRAM Report Narrative section 5.1.5.2

Appendix B

Photographic Log

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 1	DATE: June 23, 2022	LATITUDE: 43.49653022	LONGITUDE: -89.48254681
DIRECTION: West	SITE LOCATION: I-39 and I-90/94 Split Interchange		
DESCRIPTION: Wetland CW117, Shallow Marsh - Deep Marsh (foreground)			
PHOTO BY: MO			

PHOTOGRAPH No: 2	DATE: June 23, 2022	LATITUDE: 43.49731565	LONGITUDE: -89.48205435
DIRECTION: West	SITE LOCATION: I-39 and I-90/94 Split Interchange		
DESCRIPTION: Wetland CW117, Shallow Marsh - D (foreground)			
PHOTO BY: MO			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 3	DATE: June 23, 2022	LATITUDE: 43.49747157	LONGITUDE: -89.48240504
DIRECTION: South	SITE LOCATION: I-39 and I-90/94 Split Interchange		
DESCRIPTION: Wetland CW117, Shallow Marsh - D (foreground)			
PHOTO BY: MO			

PHOTOGRAPH No: 4	DATE: June 23, 2022	LATITUDE: 43.49769641	LONGITUDE: -89.48222624
DIRECTION: Northeast	SITE LOCATION: I-39 and I-90/94 Split Interchange		
DESCRIPTION: Wetland CW122, Deep Marsh (foreground)			
PHOTO BY: MO			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 5	DATE: June 23, 2022	LATITUDE: 43.49788941	LONGITUDE: -89.48320601
DIRECTION: South	SITE LOCATION: I-39 and I-90/94 Split Interchange		
DESCRIPTION: Wetland CW121, Shallow Marsh - D (foreground)			
PHOTO BY: MO			

Appendix C

Floristic Quality Calculator by Wetland Community Type



RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC̄ _a By Growth Form:				
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C̄ _n	Weighted Mean C wC̄ _n	FQI _a	w FQI _a	Mean C C̄ _a	Weighted Mean C wC̄ _a	Tree	Shrub	Herb	Aquatic	
8	5	3			8.0		3.6		6.4		2.3						
													0%	0%	0%	0%	:Total Cover

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SITE NAME:				PLANT COMMUNITY:	Shallow Marsh
ASSESSMENT AREA NAME:				SURVEYORS:	
GPS COORDINATES (Decimal Degrees)	Latitude:			SURVEY DATE:	
	Longitude:				
COUNTY:				SITE NOTES:	Data Point DP-127A, DP-033C, DP-007B, DP-008B, DP-012A, DP-013A, DP-033C, DP-015B, DP-039B
ECOREGION (LEVEL III):					

RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC̄ _a By Growth Form:				
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C̄ _n	Weighted Mean C wC̄ _n	FQI _a	w FQI _a	Mean C C̄ _a	Weighted Mean C wC̄ _a	Tree	Shrub	Herb	Aquatic	
15	9	6			12.0		4.0		9.3		2.4						
													0%	0%	0%	0%	:Total Cover

ENTER SPECIES CODE:	ENTER % COVER:	Scientific Name	Common Name	C-Value	Wetland Ind. Status (MW/NCNE)	WI Status	Growth Form	Duration	NHI Status	Invasive (NR40) Status	Accepted ITIS Name
TYPANG		<i>Typha angustifolia</i>	narrow-leaved cat-tail	0	OBL	Introduced	herb	perennial	0	Restricted	<i>Typha angustifolia</i>
PHAARU		<i>Phalaris arundinacea</i>	reed canary grass	0	FACW	Introduced	herb	perennial	0	Non-restricted	<i>Phalaris arundinacea</i>
TYPGLA		<i>Typha X glauca</i>	hybrid cat-tail, white cat-tail	0	OBL	Introduced	herb	perennial	0	Restricted	<i>Typha X glauca</i>
SOLGIG		<i>Solidago gigantea</i>	giant goldenrod	3	FACW	Native	herb	perennial	0	0	<i>Solidago gigantea</i>
SYMNOV		<i>Symphyotrichum novae-angliae</i>	New England aster	3	FACW	Native	herb	perennial	0	0	<i>Symphyotrichum novae-angliae</i>
POAPRA		<i>Poa pratensis</i>	Kentucky bluegrass	0	FAC/FACU	Introduced	herb	perennial	0	0	<i>Poa pratensis</i>
TAROFF		<i>Taraxacum officinale</i>	common dandelion	0	FACU	Introduced	herb	perennial	0	0	<i>Taraxacum officinale</i>
PASSAT		<i>Pastinaca sativa</i>	wild parsnip	0	0	Introduced	herb	biennial	0	Restricted	<i>Pastinaca sativa</i>
SCIATR		<i>Scirpus atrovirens</i>	black bulrush, dark-green bulrush	3	OBL	Native	herb	perennial	0	0	<i>Scirpus atrovirens</i>
SYMERI		<i>Symphyotrichum ericoides</i>	heath aster	4	FACU	Native	herb	0	0	0	<i>Symphyotrichum ericoides</i>
PERAMP		<i>Persicaria amphibia</i>	water heart's-ease, water smartweed	5	OBL	Native	herb	perennial	0	0	<i>Persicaria amphibia</i>
LEMOBS		<i>Lemna obscura</i>	little duckweed, purple duckweed	5	OBL	Native	aquatic	perennial	0	0	<i>Lemna obscura</i>
LEMMIN		<i>Lemna minor</i>	common duckweed, lesser duckweed, sr.	4	OBL	Native	aquatic	perennial	0	0	<i>Lemna minor</i>
PILPUM		<i>Pilea pumila</i>	Canadian clearweed	3	FACW	Native	herb	annual	0	0	<i>Pilea pumila</i>
BOLFLU		<i>Bolboschoenus fluviatilis</i>	river bulrush	6	OBL	Native	herb	perennial	0	0	<i>Bolboschoenus fluviatilis</i>



RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC̄ _a By Growth Form:				
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C̄ _n	Weighted Mean C wC̄ _n	FQI _a	w FQI _a	Mean C C̄ _a	Weighted Mean C wC̄ _a	Tree	Shrub	Herb	Aquatic	
2	1	1			2.0		2.0		1.4		1.0						
													0%	0%	0%	0%	:Total Cover

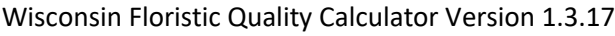
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SITE NAME:				PLANT COMMUNITY:	Shrub-Scrub
ASSESSMENT AREA NAME:				SURVEYORS:	
GPS COORDINATES (Decimal Degrees)	Latitude:			SURVEY DATE:	
	Longitude:				
COUNTY:				SITE NOTES:	Data Point: DP-015A, DP-034C, DP-003B, DP-007B, DP-060B, DP-029B
ECOREGION (LEVEL III):					

RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC̄ _a By Growth Form:			
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C̄ _n	Weighted Mean C wC̄ _n	FQI _a	w FQI _a	Mean C C̄ _a	Weighted Mean C wC̄ _a	Tree	Shrub	Herb	Aquatic
14	10	4			9.8		3.1		8.3		2.2					
													0%	0%	0%	0%
													:Total Cover			

ENTER SPECIES CODE:	ENTER % COVER:	Scientific Name	Common Name	C-Value	Wetland Ind. Status (MW/NCNE)	WI Status	Growth Form	Duration	NHI Status	Invasive (NR40) Status	Accepted ITIS Name
SALINT		Salix interior	sandbar willow	2	FACW	Native	shrub	perennial	0	0	Salix interior
PHAARU		Phalaris arundinacea	reed canary grass	0	FACW	Introduced	herb	perennial	0	Non-restricted	Phalaris arundinacea
ECHLOB		Echinocystis lobata	balsam-apple, wild-cucumber	2	FACW	Native	herb	annual	0	0	Echinocystis lobata
SOLGIG		Solidago gigantea	giant goldenrod	3	FACW	Native	herb	perennial	0	0	Solidago gigantea
FRAPEN		Fraxinus pennsylvanica	green ash, red ash	2	FACW	Native	tree	perennial	0	0	Fraxinus pennsylvanica
POPTRE		Populus tremuloides	aspen, quaking aspen	2	FAC/FAC*	Native	tree	perennial	0	0	Populus tremuloides
QUEPAL		Quercus palustris	pin oak	8	FACW	Native	tree	perennial	Special concern	0	Quercus palustris
LONMOR		Lonicera morrowii	Asian fly honeysuckle, Morrow's honeysuckle	0	FACU	Introduced	shrub	perennial	0	Restricted	Lonicera morrowii
RIBAME		Ribes americanum	American black currant, eastern black currant	4	FACW	Native	shrub	perennial	0	0	Ribes americanum
SOLCAN		Solidago canadensis	Canadian goldenrod	1	FACU	Native	herb	perennial	0	0	Solidago canadensis
ROSMUL		Rosa multiflora	multiflora rose	0	FACU	Introduced	shrub	perennial	0	Restricted	Rosa multiflora
SYMNOV		Symphotrichum novae-angliae	New England aster	3	FACW	Native	herb	perennial	0	0	Symphotrichum novae-angliae
SCICYP		Scirpus cyperinus	wool-grass	4	OBL	Native	herb	perennial	0	0	Scirpus cyperinus
POAPRA		Poa pratensis	Kentucky bluegrass	0	FAC/FACU	Introduced	herb	perennial	0	0	Poa pratensis



RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC̄ _a By Growth Form:				
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C̄ _n	Weighted Mean C wC̄ _n	FQI _a	w FQI _a	Mean C C̄ _a	Weighted Mean C wC̄ _a	Tree	Shrub	Herb	Aquatic	
9	4	5			6.0		3.0		4.0		1.3						
													0%	0%	0%	0%	:Total Cover

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SITE NAME:				PLANT COMMUNITY:	Wet Meadow
ASSESSMENT AREA NAME:				SURVEYORS:	
GPS COORDINATES (Decimal Degrees)	Latitude:			SURVEY DATE:	
	Longitude:				
COUNTY:				SITE NOTES:	Data Points: DP-014A, DP-002B, DP-001B, DP-032C, DP-001A, DP-002A, DP-007A, DP-008A, DP-014B, DP-017B,
ECOREGION (LEVEL III):					

RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC̄ _a By Growth Form:			
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C̄ _n	Weighted Mean C wC̄ _n	FQI _a	w FQI _a	Mean C C̄ _a	Weighted Mean C wC̄ _a	Tree	Shrub	Herb	Aquatic
16	10	6			12.0		3.8		9.5		2.4					
													0%	0%	0%	0%
													:Total Cover			

ENTER SPECIES CODE:	ENTER % COVER:	Scientific Name	Common Name	C-Value	Wetland Ind. Status (MW/NCNE)	WI Status	Growth Form	Duration	NHI Status	Invasive (NR40) Status	Accepted ITIS Name
SPAPEC		<i>Spartina pectinata</i>	prairie cord grass, slough grass	5	FACW	Native	herb	perennial	0	0	<i>Spartina pectinata</i>
PHAARU		<i>Phalaris arundinacea</i>	reed canary grass	0	FACW	Introduced	herb	perennial	0	Non-restricted	<i>Phalaris arundinacea</i>
TYPGLA		<i>Typha X glauca</i>	hybrid cat-tail, white cat-tail	0	OBL	Introduced	herb	perennial	0	Restricted	<i>Typha X glauca</i>
SOLGIG		<i>Solidago gigantea</i>	giant goldenrod	3	FACW	Native	herb	perennial	0	0	<i>Solidago gigantea</i>
SOLCAN		<i>Solidago canadensis</i>	Canadian goldenrod	1	FACU	Native	herb	perennial	0	0	<i>Solidago canadensis</i>
POAPRA		<i>Poa pratensis</i>	Kentucky bluegrass	0	FAC/FACU	Introduced	herb	perennial	0	0	<i>Poa pratensis</i>
PASSAT		<i>Pastinaca sativa</i>	wild parsnip	0	0	Introduced	herb	biennial	0	Restricted	<i>Pastinaca sativa</i>
SYMLAT		<i>Symphyotrichum lateriflorum</i>	side-flowering aster	3	FACW/FAC	Native	herb	perennial	0	0	<i>Symphyotrichum lateriflorum</i>
AGRSTO		<i>Agrostis stolonifera</i>	creeping bent grass, creeping tickle gras	0	FACW	Introduced	herb	perennial	0	0	<i>Agrostis stolonifera</i>
IMPCAP		<i>Impatiens capensis</i>	orange jewelweed, orange touch-me-no	2	FACW	Native	herb	annual	0	0	<i>Impatiens capensis</i>
PERMAC		<i>Persicaria maculosa</i>	heart's-ease, spotted lady's-thumb	0	FACW/FAC	Introduced	herb	annual	0	0	<i>Persicaria maculosa</i>
VERHAS		<i>Verbena hastata</i>	blue vervain, simpler's-joy, swamp verbe	3	FACW	Native	herb	biennial/perenn	0	0	<i>Verbena hastata</i>
CARLAS		<i>Carex lasiocarpa</i>	American woolly-fruit sedge, Narrow-le	9	OBL	Native	herb	perennial	0	0	<i>Carex lasiocarpa</i>
BOLFLU		<i>Bolboschoenus fluviatilis</i>	river bulrush	6	OBL	Native	herb	perennial	0	0	<i>Bolboschoenus fluviatilis</i>
SCICYP		<i>Scirpus cyperinus</i>	wool-grass	4	OBL	Native	herb	perennial	0	0	<i>Scirpus cyperinus</i>
CARSTI		<i>Carex stipata</i>	common fox sedge, owl-fruit sedge	2	OBL	Native	herb	perennial	0	0	<i>Carex stipata</i>



Consulting
Engineers and
Scientists

Wetland Rapid Assessment Methodology
WIS 33 at I-90/94 Interchange
WisDOT Project ID: 1015-05-00
Columbia County, Wisconsin

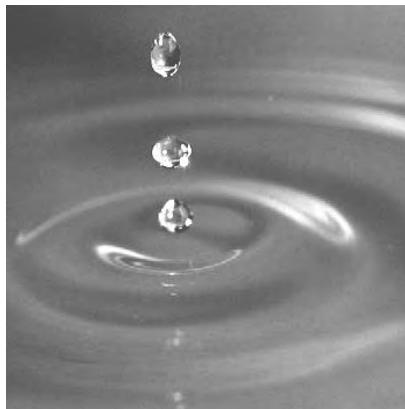
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May 30, 2024
Project 2404021



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1. Introduction

1.1 Purpose

The Wisconsin Department of Transportation (WisDOT) retained GEI Consultants, Inc. (GEI) to complete a Wisconsin Department of Natural Resources (WDNR) Wetland Rapid Assessment Methodology (WRAM) for the Wisconsin (WIS) 33 and Interstate (I) 90/94 interchange located in part of Sections 14, 15, 22, and 23, Township 21 North, Range 8 East in the Town of Caledonia, Columbia County, Wisconsin (Figure 1 – Site Location & USGS Topographic Map).

The purpose of the WRAM was to quantify wetland functional values. According to the WDNR, *“This methodology is intended as a rapid method for assessing wetland condition and functional values based upon observable characteristics and using best professional judgment to interpret those observations.”*

No new site visits were completed as part of this WRAM assessment. Prior site visits and previously collected data were utilized in place of new site visits. Other resources such as Google Street View were referenced.

1.2 Site Description

This section includes information found within the Site Description section of the WRAM Data Form (Appendix A).

The assessment area is +/- 57.09 acres in size and consists of one contiguous area as shown on Figure 1.

1.2.1 Project Name

The project name is WIS 33 at I-90/94 Interchange. This WRAM is part of the WisDOT 1015-05-00 I-39/90/94 project.

1.2.2 Evaluator(s)

The following GEI staff members completed the WRAM: Kyle Bretl, Rachel Schmid, Bryce Kohler, Kyle Ayers, and Brynn Olsen.

1.2.3 File Reference

No WDNR file reference number has been assigned yet.

1.2.4 Ecoregion

The assessment area is located within the Central Sand Hills ecoregion.

1.2.5 Watershed (HUC12)

The assessment area is located within the 070700040406 (Cascade Mountain-Baraboo River) HUC12 Watershed.

1.2.6 Soils

A total of six soil series are present within the WRAM area of investigation. A summary of the soil map units present within the assessment area are listed in Table 2. The USDA NRCS Soil Map is included as Figure 4.

1.2.7 WWI Classification and 24K Hydrography

A total of six Wisconsin Wetland Inventory (WWI) wetland classes are mapped within the assessment area. Some of the mapped wetlands include a special modifier for being located in a floodplain. A summary of the WWI and 24K Hydrography features present within the assessment area are shown in Table 1. The WDNR WWI, Wetland Indicators, and 24K Hydrography Map is included as Figure 3.

1.2.8 Wetland Types(s)

The WisDOT Wetland Classification System was used to classify wetland communities encountered in the assessment area. Wetland communities were classified as “degraded” if they had *“been exposed to deleterious activities such as excessive use as pasture, agricultural cultivation, over exposure to urban effects or storm water runoff to the extent that its natural characteristics have been severely compromised and where wetland function has been substantially reduced”* (WisDOT Wetland Mitigation Banking Technical Guideline).

Wetland communities were determined during the wetland delineation fieldwork that was previously completed. Wetlands were not re-classified to the Eggers and Reed or the Natural Heritage Inventory classification systems for this WRAM.

1.2.9 Wetland Size

A total of 38 distinct wetland polygons were delineated within the assessment area. The wetlands total 15.83 acres. More detailed information regarding the wetlands is included in Table 3 and Figure 5.

1.2.10 Wetland Area Impacted

A total of 15.83 acres of wetland will be impacted because it is currently assumed that all wetlands will be impacted as part of the project.

1.2.11 Vegetation (Dominant Species)

Previously completed wetland delineation data forms were utilized to extract vegetation data for wetland community type. If data forms were not completed within a specific wetland community type, then no dominant vegetation was recorded for that wetland community type. Appendix C contains the data forms by wetland community type.

1.2.12 Site Maps

The following figures have been generated and are attached to this report.

- Figure 1 Site Location and USGS Topographic Map
- Figure 2 2-Foot Contour Map
- Figure 3 Wisconsin Wetland Inventory, Wetland Indicators, & 24K Hydrography Map
- Figure 4 USDA NRCS Soils Map
- Figure 5 Wetland Communities Map
- Figure 6 FEMA Flood Map, Special Wetland Planning Waters and Critical Habitat Area Map
- Figure 7 100 Meter Buffer & Land Use Map

2. Section 1: Functional Value Assessment

The functional value assessment was recorded on the WRAM form.

2.1 Section 1 Comments

For Storm and Floodwater Storage, it was assumed that the wetlands within the assessment area have the potential to hold greater than 10% of the runoff from contributing area from a 2-year 24-hour storm event.

The WDNR Natural Heritage Inventory (NHI) indicates an element of occurrence for a reptile species and an amphibian species which are located in a section(s) that overlap the assessment area.

2.2 Wildlife Habitat and Species Observations

No field verified wildlife surveys were conducted as part of this WRAM. GEI drafted a list of potential bird, mammal, reptile, and amphibian species that may inhabit the area based on GEI staff's professional opinion. A summary of the wildlife species potentially present within the assessment area are listed in Table 4.

2.3 Fish and Aquatic Life Habitat and Species Observations

No field verified fish and aquatic life habitat and species surveys were conducted as part of this WRAM. The waterway and waterbodies located within the 100-meter buffer may provide habitat for common fish and aquatic species such as walleye, bass, panfish, crayfish, macroinvertebrates, and other common aquatic species. Excavated ponds and the Baraboo River, which is present within the 100-meter buffer and listed on the WDNR's impaired waters list, may provide habitat for the species listed above.

3. Section 2: Floristic Integrity

This section provides a general overview of wetland plant communities. All plant species observed within each wetland community type were summarized and included on a floristic calculator data sheet. If no plant species data was available because no wetland delineation data form was completed within a certain plant community, then that plant community was not included in the floristic integrity scoring section. All wetland community type floristic calculators are included as Appendix C.

3.1 Floristic Integrity

Each wetland community was scored independently. Please see below for floristic integrity ranking by wetland plant community.

3.1.1 Deep Marsh

No wetland delineation data form data was collected within the deep marsh community.

3.1.2 Deep Marsh (D)

No wetland delineation data form data was collected within the degraded deep marsh community.

3.1.3 Riparian Wooded (D)

No wetland delineation data form data was collected within the degraded riparian wooded community.

3.1.4 Shallow Marsh

The shallow marsh community was ranked low for three categories and medium for three categories.

Section 2: Floristic Integrity				
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

**Note: separate plant communities are described independently, check single box based on summary of ratings*

3.1.5 Shallow Marsh (D)

The degraded shallow marsh community was ranked low for all listed criteria.

Section 2: Floristic Integrity				
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

**Note: separate plant communities are described independently, check single box based on summary of ratings*

3.1.6 Shrub Scrub

The shrub scrub community was ranked low for all listed criteria.

Section 2: Floristic Integrity				
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

**Note: separate plant communities are described independently, check single box based on summary of ratings*

3.1.7 Shrub Scrub (D)

No wetland delineation data form data was collected within the degraded shrub scrub community.

3.1.8 Wet Meadow

The wet meadow community was ranked low for three categories and medium for three categories.

Section 2: Floristic Integrity				
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

*Note: separate plant communities are described independently, check single box based on summary of ratings

3.1.9 Wet Meadow (D)

The degraded wet meadow community was ranked low for all listed criteria.

Section 2: Floristic Integrity				
	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

*Note: separate plant communities are described independently, check single box based on summary of ratings

3.1.10 Wooded Swamp

No wetland delineation data form data was collected within the wooded swamp community.

3.1.11 Wooded Swamp (D)

No wetland delineation data form data was collected within the degraded wooded swamp community.

3.1.12 Summary of Floristic Integrity

The wetland plant communities ranked above all scored low overall. Disturbances such as right-of-way mowing and stormwater runoff from adjacent roadways are present and contribute to the lack of floristic integrity. Dominant species observed within most of the wetlands included invasive and/or nonnative species such as cattail (*Typha spp.*) and reed canary grass (*Phalaris arundinacea*). No rare plant species were observed or recorded within the assessment area or 100-meter buffer during the wetland delineations.

4. Section 3 Condition of Wetland Assessment Area and 100-meter Buffer Area

This section assesses the condition of the wetland based upon past and current land use stressors.

4.1 Summary of Condition Assessment

Stressors and associated score and frequency are discussed in the below sections. Stressors are grouped together based on common impact level score.

4.1.1 Low Impact Level Stressors

Ten of the twenty-seven stressors scored as low impact. Utility corridors are located along the interstate and require maintenance such as woody species removal and other disturbance related to maintenance but were scored as low for this interchange. Soil subsidence and loss of soil structure was scored as low, and it is unlikely to occur in this area. Paved and unpaved human trails are not present within the assessment area and 100-meter buffer. Removal of large woody debris was scored as low impact. Large woody debris was historically removed from the area, which may have historically provided habitat for macroinvertebrates and other wildlife. Residential land use was rated as a low impact since few to no residences are located in the buffer area. Golf course was scored low since they are not present within the assessment area or buffer. Gravel pits were likely present, likely for historic road fill within the buffer area and are now excavated ponds. Recreational use is common within the watershed but ranked low within the assessment area and 100-meter buffer since no recreational opportunities exists in those areas. Excavation and soil grading were ranked low as it is likely an infrequent activity within the buffer area.

4.1.2 Medium Impact Level Stressors

Nine of the twenty-seven stressors scored as medium impact. Removal of herbaceous stratum scored medium since the right-of-way area is mowed and likely impacted by earthworms and historic grading which removed or replaced the native seed bank. Removal of tree or shrub strata was ranked medium since trees/shrubs have been removed from the area and continue to be removed as needed. Pond construction was rated as a medium impact since there are a couple of ponds present within the area which may have been historically constructed within wetlands and may cause water quality issues such as algal blooms. All three agricultural field categories (row crops, hay, and pasture) were ranked as a medium impact level since there are agricultural fields present within the 100-meter buffer and because of the impact that agriculture has within the watershed. Sediment input was rated medium since it is assumed that some sediment loading occurs within the watershed from agricultural areas and other areas such as construction related to development which would eventually affect the assessment area. Urban, commercial, or industrial use and parking lots both ranked medium because there are commercial/industrial and

parking lots located within the buffer area. These areas contribute to increased runoff and potential for pollutants to be carried downstream to the wetlands and waterways within the project area. They also increase volume of water that reaches the wetlands and contribute to flashy hydrology which is detrimental for numerous reasons such as erosive flows.

4.1.3 High Impact Level Stressors

Eight of the twenty-seven stressors scored as high impact. Hydrologic changes were rated as high impact since the network of roads and commercial/industrial land use has altered hydrology in the area. Point source or stormwater discharge was rated high due to the amount of runoff from impervious surfaces. Polluted runoff was rated high because of possibility that potentially polluted water, such as runoff from impervious surfaces (parking lots, buildings, roads, etc.) is flowing into the wetlands. Roads and railroads cause increased runoff into the wetlands and possibility of pollutants to be discharged into the wetlands, such as vehicular fluids and road salt. Dams, dikes, levees were rated as high since features like roads or spillways act as dams and at times may restrict flow of water and change cool or cold-water waterways to warm water waterways which are more susceptible to nutrient sinking and algal blooms. Drainage tiles and ditches were rated as high impact because they allow direct discharge of nutrient loaded water into waterways and wetlands. Drainage swales and ditches are present along roads and commercial businesses and drain tiles are likely present within the agricultural fields. Invasive and non-native plant species are present and widespread within the area and are the dominant plant species encountered within different plant communities and have a high impact since they typically form monocultures and support less macroinvertebrates and other species which disrupts the food chain.

4.2 Rationale

The below rationale describes the reason for the rankings selected in the summary of functional values section of the WRAM data form.

When ranking each question, the potential of a wetland to “*support, partially support, or could support that use or functional value*” is almost always yes. There is always a potential for something to occur. However, the reality is that most of these potential questions are unfeasible and chance of occurring is very small. There is always a potential for any given event to occur, but the reality and feasibility of that happening should be taken into consideration and included as a scoring column when conducting this assessment. Thus, this section either ignores or briefly addresses the potential of these features to “*support, partially support, or could support that use or functional value.*”

4.2.1 Floristic Integrity

The floristic integrity is ranked as low for the wetlands due to the cover of invasive/nonnative species. In general, the wetland plant communities are dominated by non-native and/or invasive

species. Most areas of the wetland are monocultures of nonnative and/or invasive species, while few areas have multiple strata and a variety of native species. All adjacent upland areas located within the road right-of-way are planted in a typical DOT roadside mix which typically consists of cool season grass species such as fescue species (*Festuca spp.*), bluegrass species (*Poa spp.*), and other cool season grass species. These adjacent upland areas are routinely mowed which is a repeated disturbance that may contribute to the spread of nonnative and/or invasive species. Floristic integrity was ranked as low.

4.2.2 Human Use Values

Three of the seven questions in section 1 were answered as yes. All of the questions were answered yes for potential. Wetlands are visible from the surrounding roads and publicly accessible parking lots. Activities such as bird watching or educational purposes could be possible, as it could be on any roadway where a car can pull over. Based on WDNR records, the areas do provide habitat for state and/or federal endangered, threatened, or special concern species. Human use values were ranked as low.

4.2.3 Wildlife Habitat

Nine of the twelve questions were answered yes. A list of potential birds and wildlife that may be present was compiled based on professional experience and based on the most recorded bird species on the eBird website for Columbia and Dane counties. The connection to large habitat blocks and variety of wetland types indicate the area may support a variety of wildlife. The WDNR NHI indicates an element of occurrence for a rare reptile and a rare amphibian species are located in a section(s) that overlaps the assessment area. Wildlife habitat was ranked as medium.

4.2.4 Fish and Aquatic Life Habitat

Three of the four questions were answered yes. Standing water does provide habitat for amphibians and aquatic invertebrates. Some of the wetlands are directly connected to or within proximity to other surface waters and vegetation within portions of the wetlands is likely inundated seasonally in the spring. An excavated pond, likely a borrow pit for prior construction, is present in the northwest portion of the 100-meter buffer. The Baraboo River, a warm water sport fishery, crosses the 100-meter buffer. Portions of the waterway are listed as impaired at the state level, mainly due to phosphorus loading and dams present along the river. The Baraboo River supports species such as smallmouth bass, walleye, sturgeon, suckers, and other fish and aquatic species. The waterways being impacted within the assessment area appear to be artificially created by historic human activities. Fish and aquatic life habitat was ranked as low.

4.2.5 Shoreline Protection

Two of the three questions were answered yes. Wetland is along a shoreline of waterway/waterbody and has densely rooted emergent/woody vegetation. The wetland does not have to potential for erosion due to wind fetch, waves, boat traffic, erosive soils, or fluctuating water levels or high flows. Shoreline protection was ranked as low.

4.2.6 Flood and Stormwater Storage

Six of the eight questions were answered yes. The wetlands are basin waters or considered to have constricted outlets and/or are through-flow or adjacent to a waterway. Due to large assessment areas, stormwater calculations were not conducted, and it was assumed that they would be able to hold greater than 10% of the runoff from contributing area from a 2-year 24-hour storm event. Flood and stormwater storage was ranked a medium.

4.2.7 Water Quality Protection

Eight of the nine questions were answered yes. The wetlands provide stormwater storage, filter nutrients, contaminants, and sediment from water prior to discharging water downstream. Heavy macrophyte plant growth is observed within the wetlands, namely cattail species. Water quality protection was ranked as medium.

4.2.8 Groundwater Process

Two of the five questions were answered yes. Wetlands remain saturated for a long period of time with no additional water inputs. Wetlands likely receive groundwater discharge during the dry season. It is unlikely that the wetlands recharge groundwater, however during the dry season in late summer and after heavy rain events, they may provide some recharge. Groundwater processes were ranked as low.

5. Section 4: Project Impact Assessment

Section 4 of the WRAM is for evaluating project impacts resulting from a project which may affect a wetland.

5.1 Project Description

The proposed transportation project consists of reconstructing a portion of I-39/90/94 between US 12/18 in Madison and Dees Road in Wisconsin Dells. The reconstruction serves to improve the safety and reliability of travel infrastructure within the Project corridor. The Project corridor is 67 miles long and travels through Dane, Columbia, Sauk, and Juneau Counties. The purpose of the Project is to address existing and future traffic demands, safety issues, aging and outdated corridor infrastructure, and corridor resiliency.

Proposed construction activities for the I-39/90/94 corridor will include removal of existing structures and roadways, bridge construction and widening, earthwork, utility relocations, drainage improvements, traffic control, traffic signals, barrier installation, lighting, and paving. Lane expansions are proposed for the entire length of the corridor. Modification to and/or expansion of 13 existing interchanges, as well as construction of two new interchanges will address a range of design deficiencies.

Many factors influence actual construction. Proposed construction activities are expected to occur over several years. Like most major transportation projects, construction details cannot be fully defined until design advances past the conceptual stage.

For the purposes of this assessment, we have assumed the preferred alternative will be selected, and have assumed that all wetlands located within the assessment area will be impacted.

5.1.1 *Expected Project Impacts (Direct Impacts)*

The project will directly impact a total of 57.1 acres of land within the assessment area, which includes 15.8 acres of wetland impact.

5.1.1.1 **Permanence/Reversibility**

Permanent upland and wetland loss will occur due to the road construction. Reversibility would not be feasible. A portion of the impacted areas would be reconstructed. For instance, swales and ditches would be constructed along the extent of the reconstructed roads.

5.1.1.2 Significance (Low, Medium, High)

The interstate corridor is present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. Therefore, significance is rated as low.

5.1.2 Secondary Impacts (including impacts which are indirectly attributable to the project)

Secondary impacts are defined by the WDNR as impacts that “*are closely linked or causally related to the activity but may occur over a longer period of time.*” Various secondary impacts could occur due to the wetland disturbance. A few examples of those are listed below.

- Potential disruption of wildlife use (breeding and nesting) and movement
- Potential for polluted runoff and/or sediment to reach portions of wetland which were previously acting as buffer strips.
- Potential for invasive species populations to reach portions of wetlands which were buffered (edge effect).

5.1.2.1 Permanence/Reversibility

Permanent upland and wetland loss will occur to road construction. Reversibility would not be feasible. A portion of the impacted areas would be reconstructed. For instance, swales and ditches would be constructed along the extent of the reconstructed roads. Since many of the wetlands being impacted are ditches/swales that were originally constructed to provide drainage of the road network, the reconstructed area would likely provide similar ecosystem functions and wildlife habitat as the impacted wetland areas.

5.1.2.2 Significance (Low, Medium, High)

The interstate corridor is present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. Therefore, significance is rated as low.

5.1.3 Cumulative Impacts

No cumulative impacts are anticipated. Cumulative impacts are defined by the WDNR as “*impacts attributable to the proposed activity which may occur, based upon past or reasonably anticipated impacts on wetland functional values of similar activities in the affected area.*” Development and adjacent road networks are already established. This construction should not cause any new cumulative impact to wetlands that were not already present prior to the expansion.

5.1.3.1 Permanence/Reversibility

Permanent upland and wetland loss will occur due to the road construction. Reversibility would not be feasible. A portion of the impacted areas would be reconstructed. For instance, swales and ditches would be constructed along the extent of the reconstructed roads.

5.1.3.2 Significance (Low, Medium, High)

The interstate corridor is present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. No new cumulative impacts are anticipated. Therefore, significance is rated as low.

5.1.4 Spatial/Habitat Integrity

Spatial/habitat integrity is defined by the WDNR as “*the loss of wetlands within an area where these wetlands may be critical habitat components to a species or assemblage of species.*” The wetlands within this area are not considered critical habitat components to any species. All of the wetland types impacted are relatively common within the watershed.

5.1.4.1 Permanence/Reversibility

Reversing the impacts of the highway expansion would not be feasible once road construction is complete. A portion of the impacted areas would be reconstructed. For instance, swales and ditches would be constructed along the extent of the reconstructed roads.

5.1.4.2 Significance (Low, Medium, High)

The interstate corridor is already present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. An expansion is not expected to significantly affect the spatial/habitat integrity of the area since large habitat blocks are present adjacent to the site.

5.1.5 Rare Plant/Animal Communities/Natural Areas

This section refers to any impacts that may occur to state and/or federal threatened, endangered, and special concern species (rare species).

The WDNR NHI indicates an element of occurrence for a rare reptile and a rare amphibian species are located in a section(s) that overlaps the assessment area. The probability that state and/or federal threatened, endangered, and special concern species are present within the disturbance areas is unlikely. Furthermore, the project will be required to follow state and federal threatened and endangered species regulations and enact measures to ensure that rare species are protected from construction.

5.1.5.1 Permanence/Reversibility

Permanent upland and wetland loss will occur due to the road construction. Reversibility would not be feasible. A portion of the impacted areas would be reconstructed. For instance, swales and ditches would be constructed along the extent of the reconstructed roads. These newly constructed swale and ditches could serve as habitat for various wildlife in the area.

5.1.5.2 Significance (Low, Medium, High)

The interstate corridor is present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. Therefore, significance is rated as low. It is also rated as low because of the amount of habitat and wetland present within the assessment area, buffer, and watershed.

Tables

Table 1 Summary of WWI and 24K Hydrography Features

Table 2 Summary of Soil Map Units

Table 3 Wetland Summary Table

Table 4 Wildlife Species Observations

Table 1. Summary of WWI and 24K Hydrography Features

WWI/24k Mapped Feature	WWI Code, Class, Subclass, and Modifier or 24K Hydrography Name
Wetland	E2/W0H (Emergent/wet Meadow, Open Water, narrowed-leaved persistent, standing water, palustrine)
Wetland	S3/E1Kw (Scrub/shrub, Emergent/Wet Meadow, broad-leaved deciduous, persistent, wet soil, palustrine, floodplain)
Wetland	T3K (Forested, broad-leaved deciduous, wet soil, palustrine)
Wetland	T3Kw (Forested, broad-leaved deciduous, wet soil, palustrine, floodplain)
Wetland	W0H (Open Water, subclass unknown, standing water, palustrine)
Wetland	W0Hx (Open Water, subclass unknown, standing water, palustrine, excavated)
Waterway	Wetland too small to delineate
Waterway	Excavated Pond

Table 2. Summary of Soil Map Units

Map Unit Name and Symbol	Hydric Components, Percent, & Location*	Hydric Rating by Map Unit	Drainage Class	Percent Composition in Area of Investigation**
Alluvial land, loamy (Ag)	Alluvial land, loamy, wet (3%, Depressions)	Predominantly Nonhydric (3%)	Somewhat Poorly Drained	0.07%
Marshan loam (Mc) +	Marshan (90%, Flood plains) Colwood (10%, Flood plains)	Hydric (100%)	Very Poorly Drained	6.80%
Ossian silt loam, 0 to 3 percent slopes (OsA) +	Ossian (90%, Drainageways) Wacousta (6%, Drainageways) Otter (4%, Drainageways)	Hydric (100%)	Poorly Drained	3.20%
Otter silt loam +	Otter (100%, Depressions, flood plains)	Hydric (100%)	Poorly Drained	0.06%
Sandy land (Sd)	-	Nonhydric	Excessively Drained	69.3%
Yahara fine sandy loam, 0 to 3 percent slopes (YaA)	Gilford (6%, Depressions)	Predominantly Nonhydric (6%)	Somewhat Poorly Drained	19.3%

+ NRCS Listed Hydric Soil

* NRCS Hydric Soil List (2024)

** Calculated Using NRCS Web Soil Survey (2024)

Table 3. Wetland Summary Table

Delineated Wetland ID	Wetland Community Type (WisDOT Classification)	Size (Acres)	Size (Square Feet)
CW195	Shallow Marsh (D)	0.019	806
CW163	Shallow Marsh (D)	0.698	30,397
CW163	Shallow Marsh (D)	0.014	607
CW163	Wet Meadow (D)	0.225	9,814
CW163	Wooded Swamp (D)	0.005	227
CW149	Shrub Scrub (D)	0.092	3,997
CW163	Deep Marsh (D)	0.146	6,379
CW143	Wet Meadow (D)	0.091	3,943
CW143	Riparian Wooded (D)	0.387	16,858
CW152	Deep Marsh	0.028	1,240
CW152	Riparian Wooded (D)	0.579	25,220
CW155	Shallow Marsh	1.790	77,967
CW159	Wet Meadow	0.527	22,963
CW152	Wet Meadow	0.239	10,399
CW152	Wet Meadow	0.192	8,383
CW152	Wooded Swamp	0.436	19,013
CW162	Wet Meadow	0.268	11,681
CW167	Wet Meadow	0.723	31,479
CW147	Wet Meadow	0.154	6,708
CW163	Wooded Swamp (D)	0.726	31,608
CW163	Wet Meadow	2.818	122,740
CW151	Wet Meadow	1.252	54,534
CW153	Wet Meadow	0.019	813
CW143	Wet Meadow	0.472	20,574
CW143	Wooded Swamp	0.198	8,630
CW150	Wet Meadow	0.235	10,230
CW148	Wet Meadow	0.011	468
CW155	Shallow Marsh	0.096	4,174
CW155	Wet Meadow	1.699	74,010
CW155	Wooded Swamp	0.118	5,122
CW155	Wooded Swamp	0.112	4,875
CW159	Shallow Marsh	0.351	15,293
CW155	Wet Meadow	0.123	5,358
CW195	Wet Meadow	0.173	7,543
CW195	Wet Meadow	0.186	8,122
CW163	Shallow Marsh	0.111	4,849
CW151	Shrub Scrub	0.170	7,422
CW143	Wooded Swamp	0.348	15,147
		15.831	689,596

Table 4. Wildlife Species Observations

Category	Scientific Name	Common Name	Present/Potential
Aves	<i>Agelaius phoeniceus</i>	Red-winged Blackbird	Potential
Aves	<i>Antigone canadensis</i>	Sandhill Crane	Potential
Aves	<i>Fulica americana</i>	American Coot	Potential
Aves	<i>Euphagus carolinus</i>	Rusty Blackbird	Potential
Aves	<i>Branta canadensis</i>	Canada Goose	Potential
Aves	<i>Sturnus vulgaris</i>	European Starling	Potential
Aves	<i>Mergus merganser</i>	Common Merganser	Potential
Aves	<i>Larus delawarensis</i>	Ring-billed Gull	Potential
Aves	<i>Chroicocephalus philadelphia</i>	Bonaparte's Gull	Potential
Aves	<i>Aythya collaris</i>	Ring-necked Duck	Potential
Aves	<i>Tachycineta bicolor</i>	Tree Swallow	Potential
Aves	<i>Hirundo rustica</i>	Barn Swallow	Potential
Aves	<i>Calcarius lapponicus</i>	Lapland Longspur	Potential
Aves	<i>Setophaga coronata</i>	Yellow-rumped Warbler	Potential
Aves	<i>Turdus migratorius</i>	American Robin	Potential
Aves	<i>Anas platyrhynchos</i>	Mallard	Potential
Aves	<i>Larus argentatus</i>	Herring Gull	Potential
Aves	<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow	Potential
Aves	<i>Quiscalus quiscula</i>	Common Grackle	Potential
Aves	<i>Chordeiles minor</i>	Common Nighthawk	Potential
Aves	<i>Cygnus columbianus</i>	Tundra Swan	Potential
Aves	<i>Mareca strepera</i>	Gadwall	Potential
Aves	<i>Buteo platypterus</i>	Broad-winged Hawk	Potential
Aves	<i>Aythya affinis</i>	Lesser Scaup	Potential
Aves	<i>Charadrius vociferus</i>	Killdeer	Potential
Aves	<i>Calidris melanotos</i>	Pectoral Sandpiper	Potential
Aves	<i>Chaetura pelagica</i>	Chimney Swift	Potential
Aves	<i>Molothrus ater</i>	Brown-headed Cowbird	Potential
Aves	<i>Anas crecca</i>	Green-winged Teal	Potential
Aves	<i>Spatula clypeata</i>	Northern Shoveler	Potential
Aves	<i>Tringa flavipes</i>	Lesser Yellowlegs	Potential
Aves	<i>Petrochelidon pyrrhonota</i>	Cliff Swallow	Potential
Aves	<i>Bombicilla cedrorum</i>	Cedar Waxwing	Potential
Aves	<i>Junco hyemalis</i>	Dark-eyed Junco	Potential
Aves	<i>Anser albifrons</i>	Greater White-fronted Goose	Potential
Aves	<i>Corvus brachyrhynchos</i>	American Crow	Potential
Aves	<i>Riparia riparia</i>	Bank Swallow	Potential
Aves	<i>Setophaga palmarum</i>	Palm Warbler	Potential
Aves	<i>Pelecanus erythrorhynchos</i>	American White Pelican	Potential
Aves	<i>Aix sponsa</i>	Wood Duck	Potential
Aves	<i>Spatula discors</i>	Blue-Winged Teal	Potential
Aves	<i>Spizelloides arborea</i>	American Tree Sparrow	Potential
Aves	<i>Passer domesticus</i>	House Sparrow	Potential
Aves	<i>Calidris minutilla</i>	Least Sandpiper	Potential
Aves	<i>Bucephala clangula</i>	Common Goldeneye	Potential

Table 4. Wildlife Species Observations

Category	Scientific Name	Common Name	Present/Potential
Aves	<i>Spinus pinus</i>	Pine Siskin	Potential
Aves	<i>Meleagris gallopavo</i>	Wild Turkey	Potential
Aves	<i>Columba livia</i>	Rock Pigeon	Potential
Aves	<i>Zenaida macroura</i>	Mourning Dove	Potential
Aves	<i>Ardea herodias</i>	Great Blue Heron	Potential
Aves	<i>Zonotrichia albicollis</i>	White-Throated Sparrow	Potential
Aves	<i>Oxyura jamaicensis</i>	Ruddy Duck	Potential
Aves	<i>Spinus tristis</i>	American Goldfinch	Potential
Aves	<i>Aythya americana</i>	Redhead	Potential
Aves	<i>Bucephala albeola</i>	Bufflehead	Potential
Aves	<i>Calidris alpina</i>	Dunlin	Potential
Aves	<i>Anser albifrons</i>	Snow Goose	Potential
Aves	<i>Branta hutchinsii</i>	Cackling Goose	Potential
Aves	<i>Anthus rubescens</i>	American pipit	Potential
Aves	<i>Progne subis</i>	Purple Martin	Potential
Mammals	<i>Odocoileus virginianus</i>	White-tailed Deer	Potential
Mammals	<i>Sciurus carolinensis</i>	Gray Squirrel	Potential
Mammals	<i>Ondatra zibethicus</i>	Muskrat	Potential
Mammals	<i>Procyon lotor</i>	Raccoon	Potential
Mammals	<i>Canis latrans</i>	Coyote	Potential
Mammals	<i>Vulpes vulpes</i>	Red Fox	Potential
Mammals	<i>Lontra canadensis</i>	River Otter	Potential
Mammals	<i>Tamias striatus</i>	Eastern Chipmunk	Potential
Mammals	<i>Mephitis mephitis</i>	Striped skunk	Potential
Marsupials	<i>Didelphis virginiana</i>	Opossum	Potential
Reptiles	<i>Chrysemys picta</i>	Painted Turtle	Potential
Reptiles	<i>Chelydra serpentina</i>	Snapping Turtle	Potential
Reptiles	<i>Glyptemys insculpta</i>	Wood Turtle	Potential
Reptiles	<i>Nerodia sipedon</i>	Northern Water Snake	Potential
Amphibians	<i>Rana clamitans</i>	Green Frog	Potential
Amphibians	<i>Bufo americanus</i>	American Toad	Potential
Amphibians	<i>Hyla versicolor</i>	Eastern Gray Treefrog	Potential
Amphibians	<i>Pseudacris triseriata</i>	Western Chrous Frog	Potential

Figures

Figure 1 Site Location and USGS Topographic Map

Figure 2 2-Foot Contour Map

Figure 3 Wisconsin Wetland Inventory, Wetland Indicators, & 24K Hydrography Map

Figure 4 USDA NRCS Soils Map

Figure 5 Wetland Communities Map

Figure 6 FEMA Flood Map, Special Wetland Planning Waters and Critical Habitat Area Map

Figure 7 100 Meter Buffer & Land Use Map

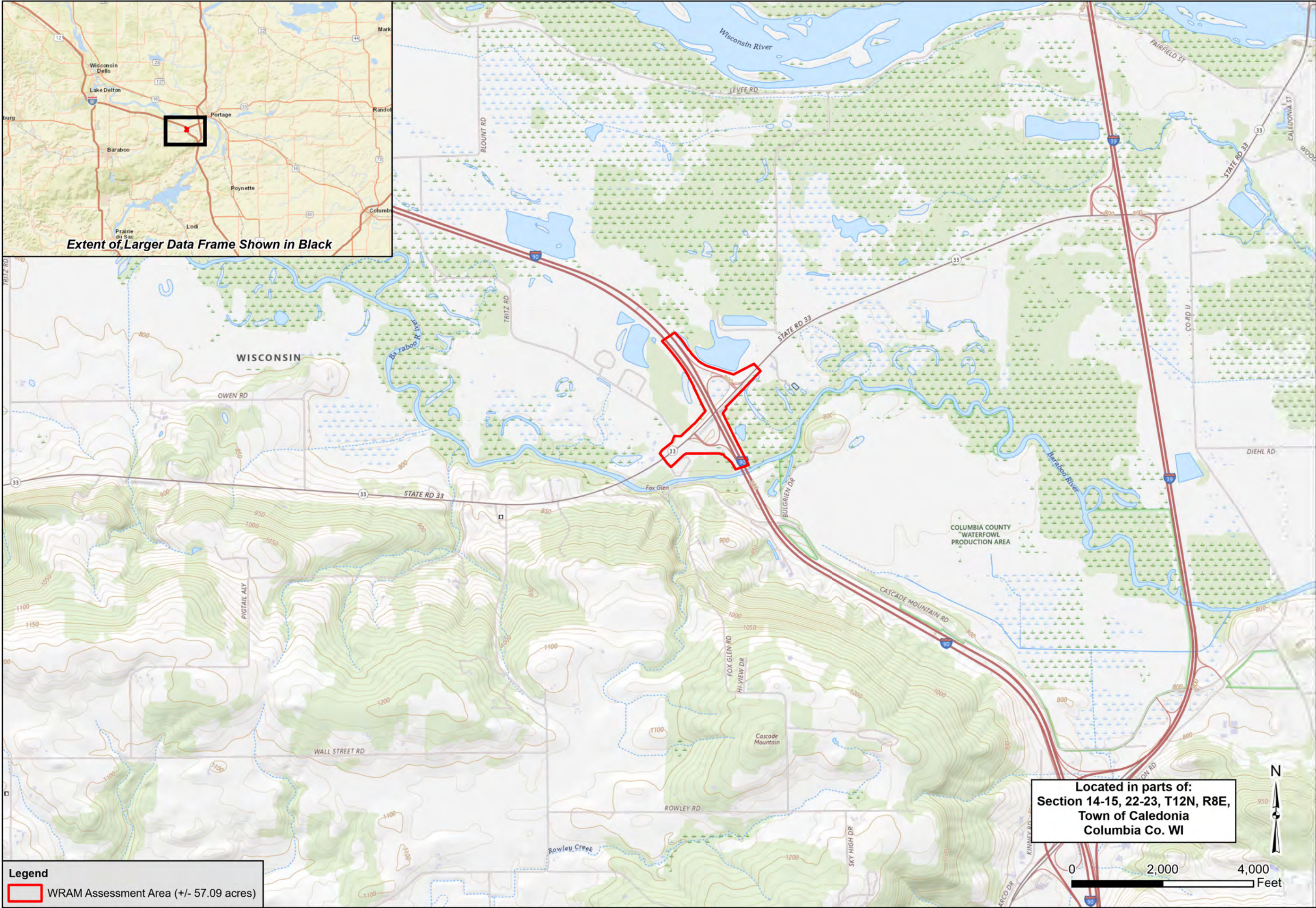


FIGURE 1
SITE LOCATION AND USGS TOPOGRAPHIC MAP
WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
WIS 33 @ I-90/94 INTERCHANGE
TOWN OF CALEDONIA
COLUMBIA COUNTY, WISCONSIN

Drawn: BWK 5/8/2024
Approved: KTB 5/8/2024
Scale: As Shown
Project Number: 2404021
Page 1 of 1

Legend
WRAM Assessment Area (+/- 57.09 acres)

Located in parts of:
Section 14-15, 22-23, T12N, R8E,
Town of Caledonia
Columbia Co. WI



FIGURE 2
2-FOOT CONTOUR MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
WIS 33 AT I-90/94 INTERCHANGE
TOWNS OF CALEDONIA
COLUMBIA COUNTY, WISCONSIN

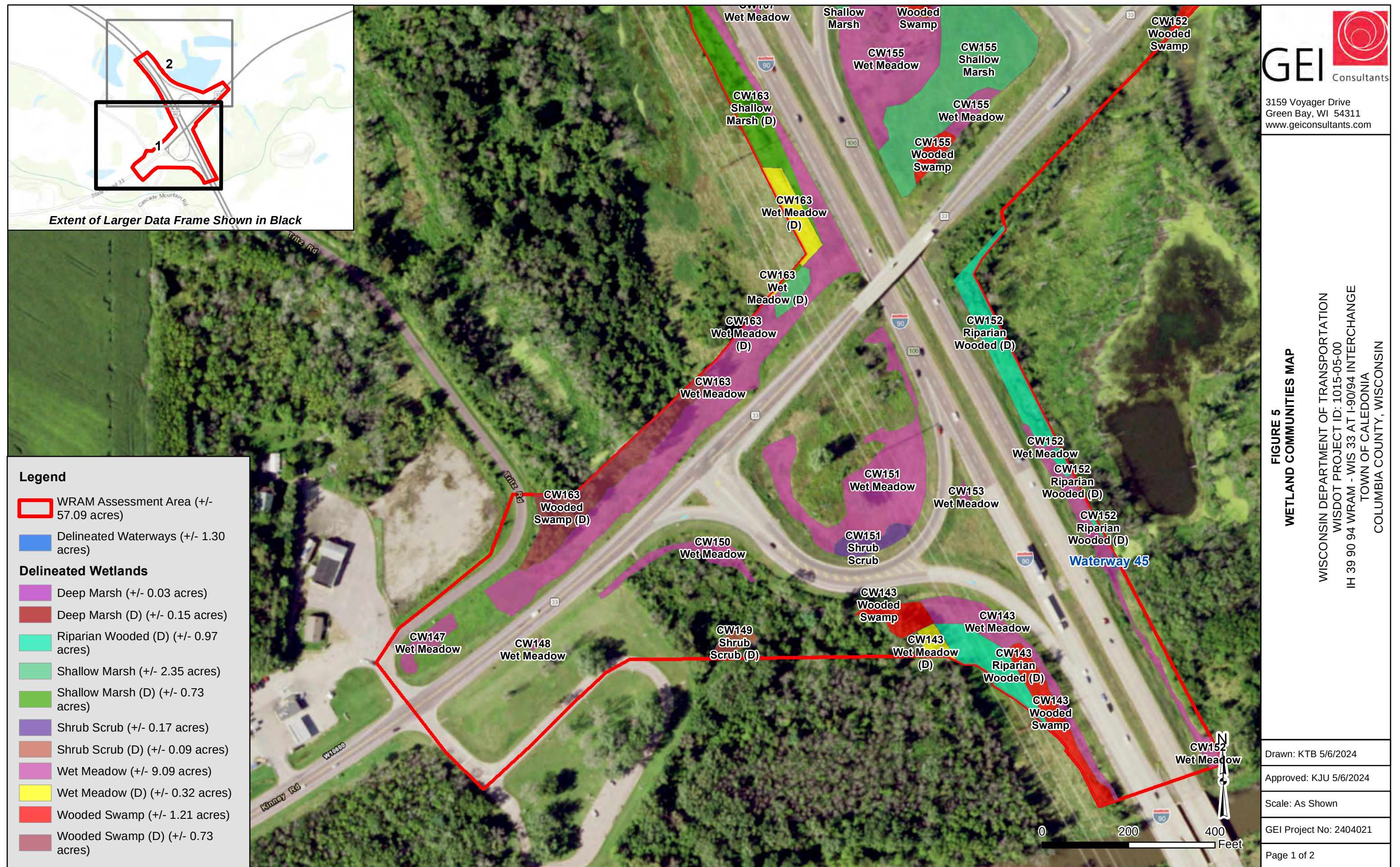
Drawn: BWK 5/15/2024
Approved: KTB 5/15/2024
Scale: As Shown
Project Number: 2404021
Page 1 of 1



FIGURE 4
USDA NRCS SOILS MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
WIS 33 AT I-90/94 INTERCHANGE
TOWNS OF CALEDONIA
COLUMBIA COUNTY, WISCONSIN

Drawn: BWK 5/15/2024
Approved: KTB 5/15/2024
Scale: As Shown
Project Number: 2404021
Page 1 of 1



WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
WIH 39 90 94 WRAM - WIS 33 AT I-90/94 INTERCHANGE
TOWN OF CALEDONIA
COLUMBIA COUNTY, WISCONSIN

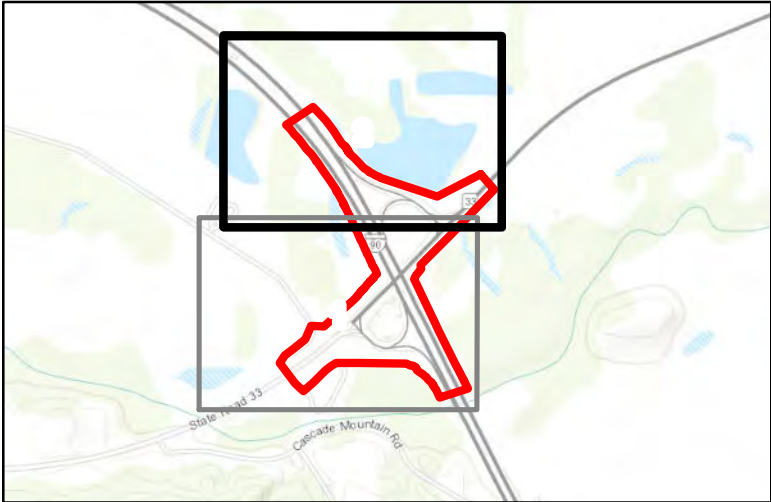
Drawn: KTB 5/6/2024

Approved: KJU 5/6/2024

Scale: As Shown

GEI Project No: 2404021

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Legend

- WRAM Assessment Area (+/- 57.09 acres)
- Delineated Waterways (+/- 1.30 acres)
- Delineated Wetlands**
- Deep Marsh (+/- 0.03 acres)
- Deep Marsh (D) (+/- 0.15 acres)
- Riparian Wooded (D) (+/- 0.97 acres)
- Shallow Marsh (+/- 2.35 acres)
- Shallow Marsh (D) (+/- 0.73 acres)
- Shrub Scrub (+/- 0.17 acres)
- Shrub Scrub (D) (+/- 0.09 acres)
- Wet Meadow (+/- 0.09 acres)
- Wet Meadow (D) (+/- 0.32 acres)
- Wooded Swamp (+/- 1.21 acres)
- Wooded Swamp (D) (+/- 0.73 acres)

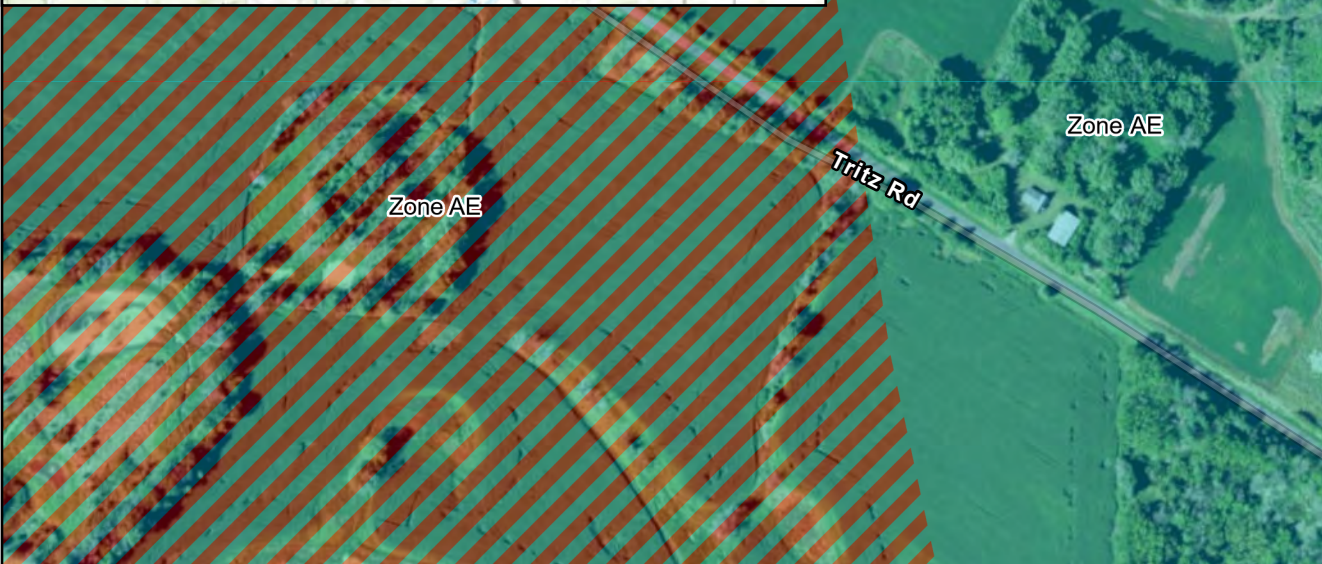
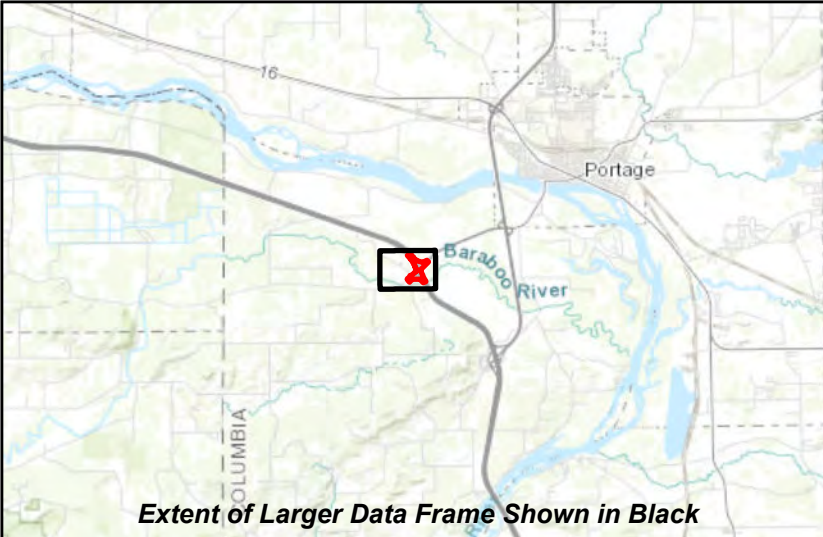
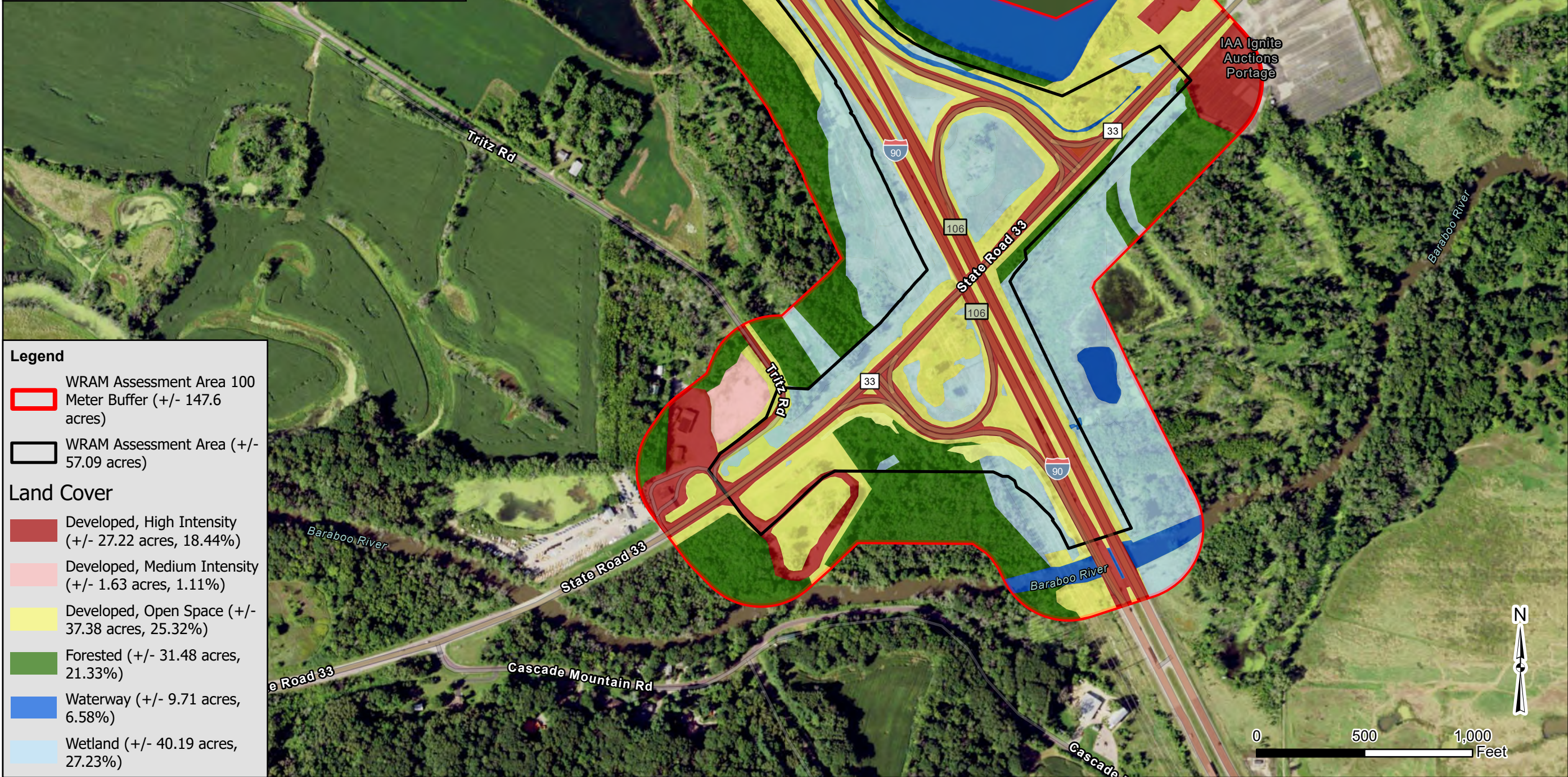
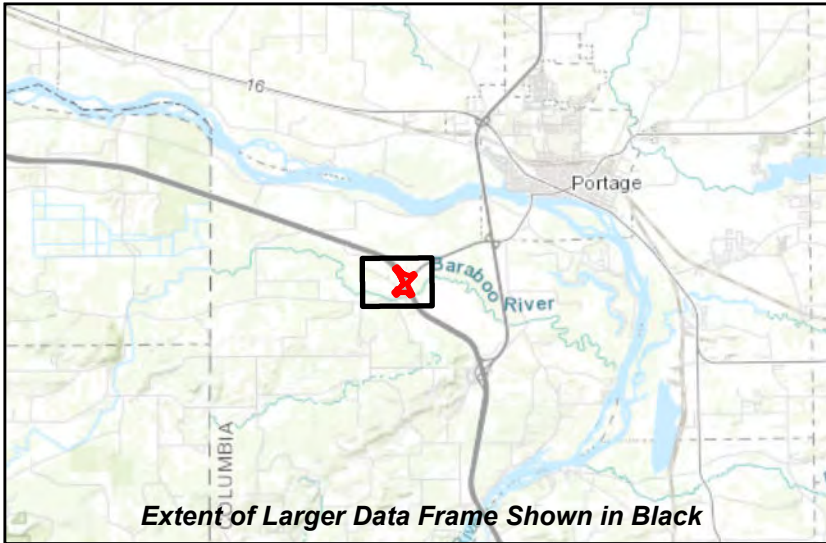


FIGURE 6
FEMA FLOOD MAP, SPECIAL WETLAND PLANNING AND CRITICAL HABITAT AREA MAP
WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
WIS 33 AT I-90/94 INTERCHANGE
TOWN OF CALEDONIA
COLUMBIA COUNTY, WISCONSIN



Legend

WRAM Assessment Area 100 Meter Buffer (+/- 147.6 acres)

WRAM Assessment Area (+/- 57.09 acres)

Land Cover

- Developed, High Intensity (+/- 27.22 acres, 18.44%)
- Developed, Medium Intensity (+/- 1.63 acres, 1.11%)
- Developed, Open Space (+/- 37.38 acres, 25.32%)
- Forested (+/- 31.48 acres, 21.33%)
- Waterway (+/- 9.71 acres, 6.58%)
- Wetland (+/- 40.19 acres, 27.23%)

FIGURE 7
100 METER BUFFER AND LAND USE MAP
WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
WIS 33 AT I-90/94 INTERCHANGE
TOWN OF CALEDONIA
COLUMBIA COUNTY, WISCONSIN

Drawn: BWK 5/16/2024
Approved: KTB 5/16/2024
Scale: As Shown
Project Number: 2404021
Page 1 of 1

Appendix A

Wetland Rapid Assessment Methodology Data Form

State of Wisconsin
Department of Natural Resources
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

Wetland Rapid Assessment Methodology – Version 2.0

Long Form

Form 3500-134 (11/22)

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Notice: Collection of this information is authorized under ss. 281.36(3g)(h) and (3n)(b), Wis. Stats., and s. NR 103.08(2), Wis. Adm. Code. Failure to provide this information may result in longer timeframes for receiving DNR decisions on wetland permit applications or in denial of wetland permit applications. Personal information collected on this form will be used for management of DNR programs and documentation associated with the processing of wetland permit applications pursuant to ss. 281.36(3g) and (3m), Wis. Stats. Information may be provided to requesters to the extent required by Wisconsin's Public Records law [ss. 19.31-19.39, Wis. Stats.].

Site Description	
Project Name: WIS 33 at I-90/94 Interchange	Evaluator(s): Kyle B., Rachel S., Bryce K., Kyle A., Brynn O.
File Reference: Not Applicable	Date of Visit(s): See attached narrative for site visit dates.
Ecoregion: Central Sand Hills	Watershed (HUC12): 070700040406 CASCADE MOUNTAIN-BARABOO RIV
Soils Mapped Type(s): See attached table 2 and figure 4.	WWI Class: See attached table 1 and figure 3.
☐ Field Verified?	Wetland Type(s): See attached table 3 and figure 5.
Vegetation Dominant Species: See attached appendix of floristic calculator by plant community type.	Wetland Size: 15.83 acres
	Wetland Area Impacted: 15.83 acres

Site Map	
{Click to Add/Edit Image}	Date added:
Title: See attached figures 1-7.	

Wetland Rapid Assessment Methodology – Version 2.0

Long Form

Form 3500-134 (11/22)

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Section 1: Functional Value Assessment

	Y / N	Potential	
HU	☐ Y ☐ N		Human Use Values: recreation, culture, education, science, natural scenic beauty
1	☐ Y ☒ N	Y	Used for recreation (hunting, birding, hiking, etc.). List: Potential for birding, vehicles could park and watch birds.
2	☐ Y ☒ N	Y	Used for educational or scientific purposes
3	☒ Y ☐ N	Y	Visually or physically accessible to public
4	☐ Y ☒ N	N	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	☒ Y ☐ N	Y	In or adjacent to RED FLAG areas List: Adjacent to Baraboo River Waterfowl Production Area, Pine Island SWA/SNA
6	☒ Y ☐ N	Y	Supports or provides habitat for endangered, threatened or special concern species
7	☐ Y ☒ N	Y	In or adjacent to archaeological or cultural resource site
WH	☐ Y ☐ N		Wildlife Habitat
1	☒ Y ☐ N	Y	Wetland and contiguous habitat >10 acres
2	☒ Y ☐ N	Y	3 or more strata present (>10% cover)
3	☒ Y ☐ N	Y	Within or adjacent to habitat corridor or established wildlife habitat area
4	☒ Y ☐ N	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	☐ Y ☒ N	Y	Occurs in a Joint Venture priority township
6	☒ Y ☐ N	Y	Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex, etc.)
7	☒ Y ☐ N	Y	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	☒ Y ☐ N	Y	Part of a large habitat block that supports area sensitive species
9	☐ Y ☒ N	Y	Ephemeral pond with water present > 45 days
10	☒ Y ☐ N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	☒ Y ☐ N	Y	Seasonally exposed mudflats present
12	☐ Y ☒ N	Y	Provides habitat scarce in the area (urban, agricultural, etc.)
FA	☐ Y ☐ N		Fish and Aquatic Life Habitat
1	☒ Y ☐ N	Y	Wetland is connected or contiguous with perennial stream or lake
2	☒ Y ☐ N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	☐ Y ☒ N	Y	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	☒ Y ☐ N	Y	Vegetation is inundated in spring
SP	☐ Y ☐ N		Shoreline Protection
1	☒ Y ☐ N	Y	Along shoreline of a stream, lake, pond or open water area (>1 acre) - if no, not applicable
2	☐ Y ☒ N	Y	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable
3	☒ Y ☐ N	Y	Densely rooted emergent or woody vegetation
ST	☐ Y ☐ N		Storm and Floodwater Storage
1	☒ Y ☐ N	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	☒ Y ☐ N	Y	Water flow through wetland is NOT channelized
3	☒ Y ☐ N	Y	Dense, persistent vegetation
4	☐ Y ☒ N	Y	Evidence of flashy hydrology
5	☒ Y ☐ N	Y	Point or non-point source inflow
6	☐ Y ☒ N	Y	Impervious surfaces cover >10% of land surface within the watershed
7	☐ Y ☒ N	Y	Within a watershed with <10% wetland
8	☒ Y ☐ N	Y	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	☐ Y ☐ N		Water Quality Protection
1	☒ Y ☐ N	Y	Provides substantial storage of storm and floodwater based on previous section
2	☒ Y ☐ N	Y	Basin wetland or constricted outlet
3	☒ Y ☐ N	Y	Water flow through wetland is NOT channelized
4	☒ Y ☐ N	Y	Vegetated wetland associated with a lake or stream
5	☒ Y ☐ N	Y	Dense, persistent vegetation
6	☒ Y ☐ N	Y	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	☒ Y ☐ N	Y	Stormwater or surface water from agricultural land is major hydrology source
8	☒ Y ☐ N	Y	Discharge to surface water
9	☐ Y ☒ N	Y	Natural land cover in 100m buffer area < 50%
GW	☐ Y ☐ N		Groundwater Processes
1	☒ Y ☐ N	Y	Springs, seeps or indicators of groundwater present
2	☐ Y ☒ N	N	Location near a groundwater divide or a headwater wetland
3	☒ Y ☐ N	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	☐ Y ☒ N	N	Wetland soils are organic
5	☐ Y ☒ N	Y	Wetland is within a wellhead protection area

Wetland Rapid Assessment Methodology – Version 2.0

Long Form

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Section 1 Comments

For Wildlife Observations, see table 4 and section 4.2.3 in WRAM Report.

For Fish and Aquatic Species observations, see section 4.2.4 in the WRAM Report.

Wildlife Habitat and Species Observation (including amphibians and reptiles)

List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

Observed	Potential	Species/Habitat/Comments

Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat/Comments

Wetland Rapid Assessment Methodology – Version 2.0

Long Form

Form 3500-134 (11/22)

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Section 3: Condition of Wetland Assessment Area and Buffer (100 m)

Assessment Area	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
X	X	X	M	C	Removal of herbaceous stratum – mowing, grading, earthworms, etc.
X	X	X	M	C	Removal of tree or shrub strata – logging, unprescribed fire
X	X	X	H	C	Hydrologic changes - high capacity wells, impounded water, increased runoff
X	X	X	H	C	Point source or stormwater discharge
X	X	X	H	C	Polluted runoff
X	X	X	M	C	Pond construction
	X	X	M	C	Agriculture – row crops
	X	X	M	C	Agriculture – hay
		X	M	C	Agriculture – pasture
X	X	X	H	C	Roads or railroad
X	X	X	L	C	Utility corridor (above or subsurface)
X	X	X	H	C	Dams, dikes or levees
			L	UC	Soil subsidence, loss of soil structure
X	X	X	M	C	Sediment input
X	X	X	H	C	Filling, berms (non-impounding)
X	X	X	H	C	Drainage – tiles, ditches
			L	UC	Human trails – unpaved
			L	UC	Human trails – paved
		X	L	UC	Removal of large woody debris
X	X	X	H	C	Cover of non-native and/or invasive species
	X	X	L	C	Residential land use
	X	X	M	C	Urban, commercial or industrial use
	X	X	M	C	Parking lot
			L	UC	Golf course
		X	L	C	Gravel pit
	X	X	L	C	Recreational use (boating, ATVs, etc.)
		X	L	C	Excavation or soil grading
					Other:

* L = Low, M = Medium, H = High

** Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

Summary of Condition Assessment

See attached WRAM Report Narrative section 4.1.

Wetland Rapid Assessment Methodology – Version 2.0

Long Form

Form 3500-134 (11/22)

Page 6 of 7

Summary of Functional Values

	Low	Medium	High	Exceptional	NA
Floristic Integrity	☒	☐	☐	☐	☐
Human Use Values	☒	☐	☐	☐	☐
Wildlife Habitat	☐	☒	☐	☐	☐
Fish and Aquatic Life Habitat	☒	☐	☐	☐	☐
Shoreline Protection	☒	☐	☐	☐	☐
Flood and Stormwater Storage	☐	☒	☐	☐	☐
Water Quality Protection	☐	☒	☐	☐	☐
Groundwater Processes	☒	☐	☐	☐	☐

	Rationale
Floristic Integrity See attached WRAM Report Narrative section 4.2.1	
Human Use Values See attached WRAM Report Narrative section 4.2.2	
Wildlife Habitat See attached WRAM Report Narrative section 4.2.3	
Fish and Aquatic Life Habitat See attached WRAM Report Narrative section 4.2.4	
Shoreline Protection See attached WRAM Report Narrative section 4.2.5	
Flood and Stormwater Storage See attached WRAM Report Narrative section 4.2.6	
Water Quality Protection See attached WRAM Report Narrative section 4.2.7	
Groundwater Processes See attached WRAM Report Narrative section 4.2.8	

Section 4: Project Impact Assessment

Project Description

See attached WRAM Report Narrative.

Expected Project Impacts

	Permanence/Reversibility	Significance (Low, Medium, High)
Expected Project Impacts Direct Impacts See attached WRAM Report Narrative section 5.1.1	See attached WRAM Report Narrative section 5.1.1.1	See attached WRAM Report Narrative section 5.1.1.1
Secondary Impacts (including impacts which are indirectly attributable to the project) See attached WRAM Report Narrative section 5.1.2	See attached WRAM Report Narrative section 5.1.2.1	See attached WRAM Report Narrative section 5.1.2.2
Cumulative Impacts See attached WRAM Report Narrative section 5.1.3	See attached WRAM Report Narrative section 5.1.3.1	See attached WRAM Report Narrative section 5.1.3.2
Spatial/Habitat Integrity See attached WRAM Report Narrative section 5.1.4	See attached WRAM Report Narrative section 5.1.4.1	See attached WRAM Report Narrative section 5.1.4.2
Rare Plant/Animal Communities/ Natural Areas See attached WRAM Report Narrative section 5.1.5	See attached WRAM Report Narrative section 5.1.5.1	See attached WRAM Report Narrative section 5.1.5.2

Appendix B

Photographic Log

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 1	DATE: June 23, 2022	LATITUDE: 43.510971	LONGITUDE: -89.521628
DIRECTION: Northeast	SITE LOCATION: WIS 33 at I-90/94 Interchange		
DESCRIPTION: Wetland CW152, Riparian Wooded – D.			
PHOTO BY: GOOGLE STREET VIEW			

PHOTOGRAPH No: 2	DATE: June 23, 2022	LATITUDE: 43.513764	LONGITUDE: -89.523658
DIRECTION: Northeast	SITE LOCATION: WIS 33 at I-90/94 Interchange		
DESCRIPTION: Wetland CW155, Wet Meadow and Shallow Marsh. Wooded Swamp in background on left			
PHOTO BY: GOOGLE STREET VIEW			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 3	DATE: June 23, 2022	LATITUDE: 43.515675	LONGITUDE: -89.524948
DIRECTION: Northwest	SITE LOCATION: WIS 33 at I-90/94 Interchange		
DESCRIPTION: Wetland CW167, Wet Meadow located in median.			
PHOTO BY: GOOGLE STREET VIEW			

PHOTOGRAPH No: 4	DATE: June 23, 2022	LATITUDE: 43.515210	LONGITUDE: , -89.524560
DIRECTION: Northeast	SITE LOCATION: WIS 33 at I-90/94 Interchange		
DESCRIPTION: Wetland CW159, Shallow Marsh (left) and Wet Meadow (right).			
PHOTO BY: GOOGLE STREET VIEW			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 5	DATE: June 23, 2022	LATITUDE: 43.517742	LONGITUDE: -89.527772
DIRECTION: East	SITE LOCATION: WIS 33 at I-90/94 Interchange		
DESCRIPTION: Waterway 28 and Wetland CW 195, Wet Meadow.			
PHOTO BY: GOOGLE STREET VIEW			

PHOTOGRAPH No: 6	DATE: June 23, 2022	LATITUDE: 43.516794	LONGITUDE: -89.526662
DIRECTION: Southwest	SITE LOCATION WIS 33 at I-90/94 Interchange		
DESCRIPTION: Wetland CW163, Wet Meadow and Deep Marsh – D.			
PHOTO BY: GOOGLE STREET VIEW			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 7	DATE: June 23, 2022	LATITUDE: 43.517115	LONGITUDE: -89.526874
DIRECTION: Southwest	SITE LOCATION: WIS 33 at I-90/94 Interchange		
DESCRIPTION: Wetland CW163, Wet Meadow.			
PHOTO BY: GOOGLE STREET VIEW			

PHOTOGRAPH No: 8	DATE: June 23, 2022	LATITUDE: 43.514041	LONGITUDE: -89.524347
DIRECTION: Southwest	SITE LOCATION: WIS 33 at I-90/94 Interchange		
DESCRIPTION: Wetland CW163, Shallow Marsh (D), Wet Meadow, and Wet Meadow – D.			
PHOTO BY: GOOGLE STREET VIEW			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 9	DATE: June 23, 2022	LATITUDE: 43.511460	LONGITUDE: -89.523473
DIRECTION: North	SITE LOCATION: WIS 33 at I-90/94 Interchange		
DESCRIPTION: Wetland CW151, Shrub Scrub and Wet Meadow.			
PHOTO BY: GOOGLE STREET VIEW			

PHOTOGRAPH No: 10	DATE: June 23, 2022	LATITUDE: 43.510365	LONGITUDE: -89.522016
DIRECTION: Northwest	SITE LOCATION: WIS 33 at I-90/94 Interchange		
DESCRIPTION: Wetland CW143, Wooded Swamp bordered by Wet Meadow. Riparian Wooded (D) present in background on right side.			
PHOTO BY: GOOGLE STREET VIEW			

Appendix C

Floristic Quality Calculator by Wetland Community Type



RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC̄ _a By Growth Form:				
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C̄ _n	Weighted Mean C wC̄ _n	FQI _a	w FQI _a	Mean C C̄ _a	Weighted Mean C wC̄ _a	Tree	Shrub	Herb	Aquatic	
6	1	5			1.0		1.0		0.4		0.2						
													0%	0%	0%	0%	:Total Cover

Page 1 of 7



SITE NAME:			PLANT COMMUNITY:	Shallow Marsh
ASSESSMENT AREA NAME:			SURVEYORS:	
GPS COORDINATES (Decimal Degrees)	Latitude:		SURVEY DATE:	
	Longitude:			
COUNTY:			SITE NOTES:	Data points: DP-033C, DP-007B, DP-008B, DP-012A, DP-013A, DP-033C, DP-015B, DP-039B
ECOREGION (LEVEL III):				

RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC̄ _a By Growth Form:			
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C̄ _n	Weighted Mean C wC̄ _n	FQI _a	w FQI _a	Mean C C̄ _a	Weighted Mean C wC̄ _a	Tree	Shrub	Herb	Aquatic
14	9	5			12.0		4.0		9.6		2.6					
													0%	0%	0%	0%

Total Cover

ENTER SPECIES CODE:	ENTER % COVER:	Scientific Name	Common Name	C-Value	Wetland Ind. Status (MW/NCNE)	WI Status	Growth Form	Duration	NHI Status	Invasive (NR40) Status	Accepted ITIS Name
PHAARU		Phalaris arundinacea	reed canary grass	0	FACW	Introduced	herb	perennial	0	Non-restricted	Phalaris arundinacea
TYPGLA		Typha X glauca	hybrid cat-tail, white cat-tail	0	OBL	Introduced	herb	perennial	0	Restricted	Typha X glauca
SOLGIG		Solidago gigantea	giant goldenrod	3	FACW	Native	herb	perennial	0	0	Solidago gigantea
SYMNOV		Symphyotrichum novae-angliae	New England aster	3	FACW	Native	herb	perennial	0	0	Symphyotrichum novae-angliae
POAPRA		Poa pratensis	Kentucky bluegrass	0	FAC/FACU	Introduced	herb	perennial	0	0	Poa pratensis
TAROFF		Taraxacum officinale	common dandelion	0	FACU	Introduced	herb	perennial	0	0	Taraxacum officinale
PASSAT		Pastinaca sativa	wild parsnip	0	0	Introduced	herb	biennial	0	Restricted	Pastinaca sativa
SCIATR		Scirpus atrovirens	black bulrush, dark-green bulrush	3	OBL	Native	herb	perennial	0	0	Scirpus atrovirens
SYMERI		Symphyotrichum ericoides	heath aster	4	FACU	Native	herb	0	0	0	Symphyotrichum ericoides
PERAMP		Persicaria amphibia	water heart's-ease, water smartweed	5	OBL	Native	herb	perennial	0	0	Persicaria amphibia
LEMOBS		Lemna obscura	little duckweed, purple duckweed	5	OBL	Native	aquatic	perennial	0	0	Lemna obscura
LEMMIN		Lemna minor	common duckweed, lesser duckweed, sr.	4	OBL	Native	aquatic	perennial	0	0	Lemna minor
PILPUM		Pilea pumila	Canadian clearweed	3	FACW	Native	herb	annual	0	0	Pilea pumila
BOLFLU		Bolboschoenus fluviatilis	river bulrush	6	OBL	Native	herb	perennial	0	0	Bolboschoenus fluviatilis



SITE NAME:			PLANT COMMUNITY:	Shrub-Scrub
ASSESSMENT AREA NAME:			SURVEYORS:	
GPS COORDINATES (Decimal Degrees)	Latitude:		SURVEY DATE:	
	Longitude:			
COUNTY:			SITE NOTES:	Data Points: DP-015A, DP-034C, DP-003B, DP-007B, DP-060B, DP-029B
ECOREGION (LEVEL III):				

RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC̄ _a By Growth Form:			
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C̄ _n	Weighted Mean C wC̄ _n	FQI _a	w FQI _a	Mean C C̄ _a	Weighted Mean C wC̄ _a	Tree	Shrub	Herb	Aquatic
14	10	4			9.8		3.1		8.3		2.2					
													0%	0%	0%	0%

Total Cover

ENTER SPECIES CODE:	ENTER % COVER:	Scientific Name	Common Name	C-Value	Wetland Ind. Status (MW/NCNE)	WI Status	Growth Form	Duration	NHI Status	Invasive (NR40) Status	Accepted ITIS Name
SALINT		Salix interior	sandbar willow	2	FACW	Native	shrub	perennial	0	0	Salix interior
PHAARU		Phalaris arundinacea	reed canary grass	0	FACW	Introduced	herb	perennial	0	Non-restricted	Phalaris arundinacea
ECHLOB		Echinocystis lobata	balsam-apple, wild-cucumber	2	FACW	Native	herb	annual	0	0	Echinocystis lobata
SOLGIG		Solidago gigantea	giant goldenrod	3	FACW	Native	herb	perennial	0	0	Solidago gigantea
FRAPEN		Fraxinus pennsylvanica	green ash, red ash	2	FACW	Native	tree	perennial	0	0	Fraxinus pennsylvanica
POPTRE		Populus tremuloides	aspen, quaking aspen	2	FAC/FAC*	Native	tree	perennial	0	0	Populus tremuloides
QUEPAL		Quercus palustris	pin oak	8	FACW	Native	tree	perennial	Special concern	0	Quercus palustris
LONMOR		Lonicera morrowii	Asian fly honeysuckle, Morrow's honeysuckle	0	FACU	Introduced	shrub	perennial	0	Restricted	Lonicera morrowii
RIBAME		Ribes americanum	American black currant, eastern black currant	4	FACW	Native	shrub	perennial	0	0	Ribes americanum
SOLCAN		Solidago canadensis	Canadian goldenrod	1	FACU	Native	herb	perennial	0	0	Solidago canadensis
ROSMUL		Rosa multiflora	multiflora rose	0	FACU	Introduced	shrub	perennial	0	Restricted	Rosa multiflora
SYMNOV		Symphytotrichum novae-angliae	New England aster	3	FACW	Native	herb	perennial	0	0	Symphytotrichum novae-angliae
SCICYP		Scirpus cyperinus	wool-grass	4	OBL	Native	herb	perennial	0	0	Scirpus cyperinus
POAPRA		Poa pratensis	Kentucky bluegrass	0	FAC/FACU	Introduced	herb	perennial	0	0	Poa pratensis



SITE NAME:				PLANT COMMUNITY:	Wet Meadow (D)
ASSESSMENT AREA NAME:				SURVEYORS:	
GPS COORDINATES (Decimal Degrees)	Latitude:				
	Longitude:			SURVEY DATE:	
COUNTY:				SITE NOTES:	Data Points DP-019B, DP-020B, DP-036B
ECOREGION (LEVEL III):					

RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC̄ _a By Growth Form:				
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C̄ _n	Weighted Mean C wC̄ _n	FQI _a	w FQI _a	Mean C C̄ _a	Weighted Mean C wC̄ _a	Tree	Shrub	Herb	Aquatic	
12	4	8			6.0		3.0		3.5		1.0						
													0%	0%	0%	0%	:Total Cover

ENTER SPECIES CODE:	ENTER % COVER:	Scientific Name	Common Name	C-Value	Wetland Ind. Status (MW/NCNE)	WI Status	Growth Form	Duration	NHI Status	Invasive (NR40) Status	Accepted ITIS Name
PHAARU		Phalaris arundinacea	reed canary grass	0	FACW	Introduced	herb	perennial	0	Non-restricted	Phalaris arundinacea
TYPANG		Typha angustifolia	narrow-leaved cat-tail	0	OBL	Introduced	herb	perennial	0	Restricted	Typha angustifolia
PASSAT		Pastinaca sativa	wild parsnip	0	0	Introduced	herb	biennial	0	Restricted	Pastinaca sativa
CIRARV		Cirsium arvense	Canada thistle, creeping thistle, field thi:	0	FACU	Introduced	herb	perennial	0	Restricted	Cirsium arvense
BOLFLU		Bolboschoenus fluviatilis	river bulrush	6	OBL	Native	herb	perennial	0	0	Bolboschoenus fluviatilis
SOLCAN		Solidago canadensis	Canadian goldenrod	1	FACU	Native	herb	perennial	0	0	Solidago canadensis
TYPGLA		Typha X glauca	hybrid cat-tail, white cat-tail	0	OBL	Introduced	herb	perennial	0	Restricted	Typha X glauca
SOLGIG		Solidago gigantea	giant goldenrod	3	FACW	Native	herb	perennial	0	0	Solidago gigantea
POAPRA		Poa pratensis	Kentucky bluegrass	0	FAC/FACU	Introduced	herb	perennial	0	0	Poa pratensis
DAUCAR		Daucus carota	Queen Anne's-lace, wild carrot	0	UPL	Introduced	herb	biennial	0	Non-Restricted	Daucus carota
CALSEP		Calystegia sepium	hedge bindweed, hedge false bindweed	2	FAC	Native	herb	perennial	0	0	Calystegia sepium
BROINE		Bromus inermis	Hungarian brome, smooth brome	0	FACU/UPL	Introduced	herb	perennial	0	Non-Restricted	Bromus inermis



RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC̄ _a By Growth Form:				
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C̄ _n	Weighted Mean C wC̄ _n	FQI _a	w FQI _a	Mean C C̄ _a	Weighted Mean C wC̄ _a	Tree	Shrub	Herb	Aquatic	
9	6	3			8.6		3.5		7.0		2.3						
													0%	0%	0%	0%	:Total Cover

Page 1 of 7



Consulting
Engineers and
Scientists

Wetland Rapid Assessment Methodology
WIS 33 at I-39 Interchange
WisDOT Project ID: 1015-05-00
Columbia County, Wisconsin

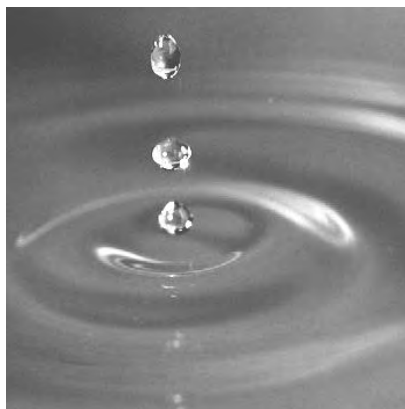
Submitted to:

WisDOT – Southwest Region Office
2101 Wrights St.
Madison, WI 53704

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May 30, 2024
Project 2404021



Rachel Schmid

Rachel Schmid
Wetland Ecologist

Kyle Bretl

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Delineator, Senior Wetland Ecologist

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Figure 2	2-Foot Contour Map
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Figure 7	100 Meter Buffer & Land Use Map

Appendices

Appendix A	Wetland Rapid Assessment Methodology Data Form
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Appendix B Photographic Log

Appendix C Floristic Quality Calculator by Wetland Community Type

KTB:amp

B:\Working\WISDOT\2404021 1015-05-00 IH 39 90 94 WRAM\06_In_Progress\Reports\WIS 33 at I-39 Int\Draft\WisDOT_1015-05-00_WRAM_WIS 33 at I-39_FINAL.docx

1. Introduction

1.1 Purpose

The Wisconsin Department of Transportation (WisDOT) retained GEI Consultants, Inc. (GEI) to complete a Wisconsin Department of Natural Resources (WDNR) Wetland Rapid Assessment Methodology (WRAM) for the Wisconsin (WIS) 33 and Interstate (I) 90/94 interchange located in part of Sections 12 and 13, Township 21 North, Range 8 East in the Towns of Caledonia and Portage, Columbia County, Wisconsin (Figure 1 – Site Location & USGS Topographic Map).

The purpose of the WRAM was to quantify wetland functional values. According to the WDNR, *“This methodology is intended as a rapid method for assessing wetland condition and functional values based upon observable characteristics and using best professional judgment to interpret those observations.”*

No new site visits were completed as part of this WRAM assessment. Prior site visits and previously collected data were utilized in place of new site visits. Other resources such as Google Street View were referenced.

1.2 Site Description

This section includes information found within the Site Description section of the WRAM Data Form (Appendix A).

The assessment area is 73.05 acres in size and consists of one contiguous area as shown on Figure 1.

1.2.1 Project Name

The name for this project is 33 at I-39 Interchange. This WRAM is part of the WisDOT 1015-05-00 IH 39/90/94 project.

1.2.2 Evaluator(s)

Wetland Rapid Assessment Methodology form was completed by GEI personnel Kyle Bretl, Rachel Schmid, Bryce Kohler, Kyle Ayers, and Brynn Olsen.

1.2.3 File Reference

No WDNR file reference number has been assigned yet.

1.2.4 Ecoregion

The project area is located within the Central Sand Hills ecoregion.

1.2.5 Watershed (HUC12)

This Assessment area is located within the 070700031918 (Long Lake-Wisconsin River watershed) HUC12 Watershed.

1.2.6 Soils

A total of three soil series are present within the WRAM area of investigation. A summary of the soil map units present within the area of investigation are listed in Table 2. The USDA NRCS Soil Map is also included in Figure 4.

1.2.7 WWI Class

A total of nine wetlands are mapped within the assessment area. A summary of the WWI features present within the assessment area can be found in Table 1. The WDNR WWI, Wetland Indicators, and 24K Hydrography Map is included as Figure 3.

1.2.8 Wetland Types(s)

The wetlands in the assessment area were classified using the WisDOT Wetland Classification System. Wetlands were classified as ‘degraded’ if they *“been exposed to deleterious activities such as excessive use as pasture, agricultural cultivation, over exposure to urban effects or storm water runoff to the extent that its natural characteristics have been severely compromised and where wetland function has been substantially reduced”* (WisDOT Wetland Mitigation Banking Technical Guideline).

Wetland communities were determined during the wetland delineation fieldwork that was previously completed. Wetlands were not re-classified to the Eggers and Reed or the Natural Heritage Inventory classification systems for this WRAM.

1.2.9 Wetland Size

A total of 39 distinct wetland polygons were delineated and mapped within the assessment area. The wetlands total 36.67 acres. More detailed information regarding the wetlands is included in Table 3 and Figure 5.

1.2.10 Wetland Area Impacted

A total of 36.67 acres of wetland will be impacted. It is under the assumption that all wetlands in the projected area would be impacted.

1.2.11 Vegetation (Dominant Species)

Previously completed wetland delineation data forms were utilized to extract vegetation data for wetland community type. If data forms were not completed within a specific wetland community type, then no dominant vegetation was recorded for that wetland community type. Appendix D contains the data forms by wetland community type.

1.2.12 Site Maps

The following figures have been generated and are attached to this report.

- Figure 1 Site Location and USGS Topographic Map
- Figure 2 2-Foot Contour Map
- Figure 3 Wisconsin Wetland Inventory, Wetland Indicators, & 24K Hydrography Map
- Figure 4 USDA NRCS Soils Map
- Figure 5 Wetland Communities Map
- Figure 6 FEMA Flood Map, Special Wetland Planning Waters and Critical Habitat Area Map
- Figure 7 100 Meter Buffer & Land Use Map

2. Section 1: Functional Value Assessment

The functional value assessment was recorded on the WRAM from.

2.1 Section 1 Comments

For storm and floodwater storage, it is assumed that the wetlands within the assessment area have the potential to hold 10% or greater of the runoff from contributing areas from a 2-year 24-hour storm event.

The WDNR Natural Heritage Inventory (NHI) indicates an element of occurrence for a rare plant species which is located in a section that overlaps the assessment area. It also indicates an element of occurrence for a rare reptile species is located in a section that overlaps the assessment area.

2.2 Wildlife Habitat and Species Observations

No field verified wildlife surveys were conducted as part of this WRAM. GEI drafted a list of potential bird, mammal, reptile, and amphibian species that may inhabit the area based on GEI staff's professional opinion. A summary of the wildlife species potentially present within the assessment area are listed in Table 2.

2.3 Fish and Aquatic Life Habitat and Species Observations

No field verified fish and aquatic life habitat and species surveys were conducted as part of this WRAM. The waterway within the assessment area and 100-meter buffer may provide habitat for common fish and aquatic species such as bluegills, largemouth bass, and other common Wisconsin fish species. Excavated ponds in the assessment area may also provide habitat for the species listed above. An unnamed waterway is present and flows east toward Long Lake before making confluence with the Wisconsin River. Approximately 0.7 miles to the north of the project area is the Wisconsin River. Fish commonly found in this section of the Wisconsin River include smallmouth bass, northern pike, sauger, white bass, catfish, freshwater drums, and lake sturgeon, as well as other common macroinvertebrates.

3. Section 2: Floristic Integrity

This section provides a general overview of wetland plant communities. All plant species observed within each wetland community type were summarized and included on a floristic calculator data sheet. If no plant species data was available because no wetland delineation data form was completed within a certain plant community, then that plant community was not included in the floristic integrity scoring section. All wetland community type floristic calculators are included as Appendix C.

3.1 Floristic Integrity

Each wetland community was scored independently. Please see below for floristic integrity ranking by wetland plant community.

3.1.1 Deep Marsh

No wetland delineation data form data was collected within the deep marsh community.

3.1.2 Riparian Wooded

No wetland delineation data form data was collected within the riparian wooded community.

3.1.3 Shallow Marsh

No wetland delineation data form data was collected within the shallow marsh community.

3.1.4 Shallow Marsh (D)

The degraded shallow marsh community was ranked low for five categories and medium for one category.

Section 2: Floristic Integrity				
	☒ Low	☐ Medium	☐ High	☐ Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

**Note: separate plant communities are described independently, check single box based on summary of ratings*

3.1.5 Wet Meadow

No wetland delineation data form data was collected within the wet meadow community.

3.1.6 Wet Meadow (D)

The degraded wet meadow community was ranked low for two categories and medium for four categories.

Section 2: Floristic Integrity				
	☐ Low	☒ Medium	☐ High	☐ Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

**Note: separate plant communities are described independently, check single box based on summary of ratings*

3.1.7 Wooded Swamp

No wetland delineation data form data was collected within the wooded swamp community.

3.1.8 Wooded Swamp (D)

The degraded wooded swamp community was ranked low for two categories and medium for four categories.

Section 2: Floristic Integrity				
	☐ Low	☒ Medium	☐ High	☐ Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

**Note: separate plant communities are described independently, check single box based on summary of ratings*

3.1.9 Summary of Floristic Integrity

The degraded shallow marsh plant community scored low overall while the degraded wet meadow and degraded wooded swamp plant communities scored medium overall. Some portions of the wetlands are monocultures of nonnative and/or invasive species. Some portions

of the wetlands have multiple strata and a variety of native species. Disturbances such as right-of-way mowing and stormwater runoff from adjacent roadways are present and contribute to the lack of floristic integrity. Dominant species observed within the wetlands include invasive/and or non-native species such as reed canary grass (*Phalaris arundinacea*), and hybrid cattail (*Typha x glauca*). No rare plant species were observed or recorded within the assessment area or 100-meter buffer during the wetland delineations.

4. Section 3 Condition of Wetland Assessment Area and 100-meter Buffer Area

This section assesses the condition of the wetland based upon past and current land use stressors.

4.1 Summary of Condition Assessment

Stressors and associated score and frequency are discussed in the below sections. Stressors are grouped together based on common impact level score.

4.1.1 *Low Impact Level Stressors*

Twelve of the twenty-seven stressors scored as low impact. Utility corridors are located along the interstate and require maintenance such as woody species removal and other disturbance related to maintenance but were scored as low for this interchange. Soil subsidence and loss of soil structure was scored as low, and it is unlikely to occur in this area. Paved and unpaved human trails are not present within the assessment area and 100-meter buffer. Removal of large woody debris was scored as low impact. Large woody debris was historically removed from the area, which may have historically provided habitat for macroinvertebrates and other wildlife. Residential land use was rated as a low impact since few to no residences are located in the buffer area. Urban, commercial, or industrial use and parking lots both ranked low. Golf course was scored low since they are not present within the assessment area or buffer. Gravel pits were likely present, likely for historic road fill within the buffer area and are now excavated ponds. Recreational use is common within the watershed but ranked low within the assessment area and 100-meter buffer since no recreational opportunities exist in those areas. Excavation and soil grading were ranked low as it is likely an infrequent activity within the buffer area.

4.1.2 *Medium Impact Level Stressors*

Eight of the twenty-seven stressors scored as medium impact. Removal of herbaceous stratum scored medium since the right-of-way area is mowed and likely impacted by earthworms and historic grading which removed or replaced the native seed bank. Removal of tree or shrub strata was ranked medium since trees/shrubs have been removed from the area and continue to be removed as needed. Pond construction was rated as a medium impact since there are a couple of ponds present within the area which may have been historically constructed within wetlands and may cause water quality issues such as algal blooms. All three agricultural field categories (row crops, hay, and pasture) were ranked as a medium impact level since there are agricultural fields present within the 100-meter buffer and because of the impact that agriculture has within the watershed. Sediment input was rated medium since it is assumed that some sediment loading occurs within the watershed from agricultural areas and other areas such as construction related to development which would eventually affect the assessment area.

4.1.3 High Impact Level Stressors

Eight of the twenty-seven stressors scored as high impact. Hydrologic changes were rated as high impact since the network of roads and commercial/industrial land use has altered hydrology in the area. Point source or stormwater discharge was rated high due to the amount of runoff from impervious surfaces. Polluted runoff was rated high because of possibility that potentially polluted water, such as runoff from impervious surfaces (buildings, roads, etc.) is flowing into the wetlands. Roads and railroads cause increased runoff into the wetlands and possibility of pollutants to be discharged into the wetlands, such as vehicular fluids and road salt. Dams, dikes, levees were rated as high since features like roads or spillways act as dams and at times may restrict flow of water and change cool or cold-water waterways to warm water waterways which are more susceptible to nutrient sinking and algal blooms. Drainage tiles and ditches were rated as high impact because they allow direct discharge of nutrient loaded water into waterways and wetlands. Drainage swales and ditches are present along roads and commercial businesses and drain tiles are likely present within the agricultural fields. Invasive and non-native plant species are present and widespread within the area and are the dominant plant species encountered within different plant communities and have a high impact since they typically form monocultures and support less macroinvertebrates and other species which disrupts the food chain.

4.2 Rationale

The below sections provide rationale for rankings in the summary of functional values section of the WRAM data from.

When ranking each question, the potential of a wetland to “support, partially support, or could support that use or functional value” is almost always yes. There is always a potential for something to occur. However, the reality is that most of these potential questions are unfeasible and chance of occurring is very small. There is always a potential for any given event to occur, but the reality and feasibility of that happening should be taken into consideration and included as a scoring column when conducting this assessment. Thus, this section either ignores or briefly addresses the potential of these features to “support, partially support, or could support that use or functional value.”

4.2.1 Floristic Integrity

Floristic integrity is ranked medium for the wetlands. In general, the wetland plant communities are dominated by nonnative and/or invasive species. Most areas of the wetland are monocultures of nonnative and/or invasive species. Some of the wetlands do have multiple strata and a variety of native species. All adjacent upland areas located within the road right-of-way are planted in a typical DOT roadside mix which typically consists of cool season grass species such as fescue species (*Festuca* spp.), bluegrass species (*Poa* spp.), and other cool season grass species. The WDNR Natural Heritage Inventory (NHI) indicates an element of occurrence for a rare plant

species is located in a section that overlaps the assessment area. Floristic integrity is ranked medium.

4.2.2 Human Use Value

Five of the seven questions in section one was answered as yes. All questions in this section answered yes for potential. Wetlands are visible from roadways and accessible to the public via Pine Island State Wildlife Area and State Natural Area. The wetlands within the assessment area aesthetically pleasing due to the diversity of habitat types, and lack of pollution and degradation. The Pine Island State Wildlife Area intersects the assessment area, which is considered a ‘Red Flag Area.’ Human use values were ranked as medium.

4.2.3 Wildlife Habitat

Ten of the twelve questions were answered as yes, all were answered yes for potential. A list of potential bird and wildlife that may be present was compiled based on professional experience and based on commonly recorded species on the eBird website for Columbia and Dane counties. Overall, wildlife habitat ranked well with 83% of the questions answered as yes. The connected wetlands, variety of wetland types, and connection to offsite habitat helped the wetland communities rank medium for wildlife. The WDNR NHI indicates an element of occurrence for a rare reptile species is located in a section that overlaps the assessment area. Wildlife habitat was ranked as medium.

4.2.4 Fish and Aquatic Life Habitat

Three of the four questions were answered as yes, with all having potential. Standing water does provide habitat for amphibians and aquatic invertebrates. Some of the wetlands are directly connected to or within proximity to other surface waters and vegetation within portions of the wetlands is likely inundated seasonally in the spring. Two excavated ponds and one unnamed waterway are located in the assessment and/or buffer area. Fish and aquatic life habitat was ranked as low.

The Wisconsin River is located one mile north of the assessment area. Portions of this waterway are considered impaired due to mercury, and PCB’s. The Wisconsin River supports many species such as smallmouth bass, northern pike, sauger, white bass, catfish, freshwater drums, lake sturgeon, and other aquatic species. The WDNR NHI does not have any aquatic species mapped nearby.

4.2.5 Shoreline Protection

Two of the three questions were answered as yes, all with potential. Wetland is along the shoreline of a waterbody and has densely rooted emergent or woody vegetation. The wetlands areas do not have potential for erosion due to high wind, waves, boat traffic, erosive soils, fluctuating water levels or high flows. Shoreline protection was ranked as low.

4.2.6 Flood and Stormwater Storage

Five of the eight questions were answered yes, all with potential. Some of the wetlands are basin wetlands, considered to have constricted outlets, dense vegetation and through-flow, not channelized flow. Due to the large assessment areas, stormwater calculations were not conducted, and it was assumed that they would be able to hold greater than 10% of the runoff from contributing area from a 2-year 24-hour storm event. Flood and stormwater storage was ranked as medium.

4.2.7 Water Quality Protection

Eight of the nine questions were answered yes, all with potential. The wetlands provide stormwater storage, filter nutrients, contaminants, and sediment from water prior to discharging water downstream. Heavy macrophyte plant growth is observed within the wetlands, namely cattail species. Water quality protection was ranked as medium.

4.2.8 Groundwater Process

Two of the five questions were answered yes, and three of the five answered yes for potential. Wetland remain saturated for a long period of time with no additional water inputs. Wetlands likely receive groundwater discharge during the dry season. It is unlikely that the wetlands recharge groundwater, however during the dry season in late summer and after heavy rain events, they may provide some recharge. Groundwater processes were ranked as medium.

5. Section 4: Project Impact Assessment

Section 4 of the WRAM is for evaluating project impacts resulting from a project which may affect a wetland.

5.1 Project Description

The proposed transportation project consists of reconstructing a portion of I-39/90/94 between US 12/18 in Madison and Dees Road in Wisconsin Dells. The reconstruction serves to improve the safety and reliability of travel infrastructure within the Project corridor. The Project corridor is 67 miles long and travels through Dane, Columbia, Sauk, and Juneau Counties. The purpose of the Project is to address existing and future traffic demands, safety issues, aging and outdated corridor infrastructure, and corridor resiliency.

Proposed construction activities for the I-39/90/94 corridor will include removal of existing structures and roadways, bridge construction and widening, earthwork, utility relocations, drainage improvements, traffic control, traffic signals, barrier installation, lighting, and paving. Lane expansions are proposed for the entire length of the corridor. Modification to and/or expansion of 13 existing interchanges, as well as construction of two new interchanges will address a range of design deficiencies.

Many factors influence actual construction. Proposed construction activities are expected to occur over several years. Like most major transportation projects, construction details cannot be fully defined until design advances past the conceptual stage.

For the purposes of this assessment, we have assumed the preferred alternative will be selected, and have assumed that all wetlands located within the assessment area will be impacted.

5.1.1 *Expected Project Impacts (Direct Impacts)*

The project will directly impact 73.05 acres of land within the assessment area, including 36.67 acres of wetland impact.

5.1.1.1 **Permanence/Reversibility**

Permanent upland and wetland loss will occur to road construction. Reversibility would not be feasible. A portion of the impacted areas would be reconstructed. For instance, swales and ditches would be constructed along the extent of the reconstructed roads.

5.1.1.2 Significance (Low, Medium, High)

The interstate corridor is present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. Therefore, significance is rated as low.

5.1.2 Secondary Impacts (including impacts which are indirectly attributable to the project)

Secondary impacts are defined by the WDNR as impacts that “*are closely linked or causally related to the activity but may occur over a longer period of time.*” Various secondary impacts could occur due to the wetland disturbance. A few examples of those are listed below.

- Potential disruption of wildlife use (breeding and nesting) and movement
- Potential for polluted runoff and/or sediment to reach portions of wetland which were previously acting as buffer strips.
- Potential for invasive species populations to reach portions of wetlands which were buffered (edge effect).

5.1.2.1 Permanence/Reversibility

Permanent upland and wetland loss will occur to road construction. Reversibility would not be feasible. A portion of the impacted areas would be reconstructed. For instance, swales and ditches would be constructed along the extent of the reconstructed roads. Since many of the wetlands being impacted are ditches/swales that were originally constructed to provide drainage of the road network, the reconstructed area would likely provide similar ecosystem functions and wildlife habitat as the impacted wetland areas.

5.1.2.2 Significance (Low, Medium, High)

The interstate corridor is present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. Therefore, significance is rated as low.

5.1.3 Cumulative Impacts

No cumulative impacts are anticipated. Cumulative impacts are defined by the WDNR as “*impacts attributable to the proposed activity which may occur, based upon past or reasonably anticipated impacts on wetland functional values of similar activities in the affected area.*” Development and adjacent road networks are already established. This construction should not cause any new cumulative impact to wetlands that were not already present prior to the expansion.

5.1.3.1 Permanence/Reversibility

Permanent upland and wetland loss will occur due to road construction, reversing these effects would not be feasible. A portion of the impacted areas would be reconstructed. For instance, swales and ditches would be constructed along the extent of the reconstructed roads.

5.1.3.2 Significance (Low, Medium, High)

The interstate corridor is present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. No new cumulative impacts are anticipated. Therefore, significance is rated as low.

5.1.4 Spatial/Habitat Integrity

Spatial/habitat integrity is defined by the WDNR as “*the loss of wetlands within an area where these wetlands may be critical habitat components to a species or assemblage of species..*” The wetlands within this area are not considered critical habitat components to any species. All of the wetland types impacted are relatively common within the watershed.

5.1.4.1 Permanence/Reversibility

Reversing the impacts of the highway expansion would not be feasible once road construction is complete. A portion of the impacted areas would be reconstructed. For instance, swales and ditches would be constructed along the extent of the reconstructed roads.

5.1.4.2 Significance (Low, Medium, High)

The interstate corridor is already present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. An expansion is not expected to significantly affect the spatial/habitat integrity of the area since large habitat blocks are present adjacent to the site, such as the Wisconsin River floodplain forests.

5.1.5 Rare Plant/Animal Communities/Natural Areas

This section refers to any impacts that may occur to state and/or federal threatened, endangered, and special concern species (rare species).

The WDNR NHI indicates an element of occurrence for a rare plant species which is located in a section that overlaps the assessment area. It also indicates an element of occurrence for a rare reptile species is located in a section that overlaps the assessment area. The probability that state and/or federal threatened, endangered, and special concern species are present within the disturbance areas is unlikely. Furthermore, the project will be required to follow state and federal threatened and endangered species regulations and enact measures to ensure that rare species are protected from construction.

Adjacent Pine Island State Wildlife Area/State Natural Area could be directly impacted as a result of the expansion.

5.1.5.1 Permanence/Reversibility

Reversing the impacts of the highway expansion would not be feasible once road construction is complete. A portion of the impacted areas would be reconstructed. For instance, swales and ditches would be constructed along the extent of the reconstructed roads.

5.1.5.2 Significance (Low, Medium, High)

The interstate corridor is present and established and has been for decades and this project consists of an expansion with addition of lanes and reconfiguration of interchanges. Therefore, significance is rated as low. It is also rated as low because of the amount of habitat and wetland present within the assessment area, buffer, and watershed.

Tables

Table 1 Summary of WWI and 24K features

Table 2 Summary of Soil Map Units

Table 3 Wetland Summary

Table 4 Wildlife Species Observations

Table 1: Summary of WWI and 24 K Hydrography Features

WWI/24K Mapped Feature	WWI Code, Class, Subclass, or Modifier or 24K Hydrography
Wetland	E1K (Emergent/Wet Meadow, persistent, wet soil, palustrine)
Wetland	E1Ka (Emergent/Wet Meadow, persistent, wet soil, palustrine, grazed)
Wetland	E1Kg (Emergent/Wet Meadow, persistent, wet soil, palustrine, grazed)
Wetland	E1H (Emergent/Wet Meadow, narrow-leaved, persistent, standing water, palustrine)
Wetland	E1Hg (Emergent/Wet Meadow, persistent, standing water, palustrine, grazed)
Wetland	E1/W0Hf (Emergent/Wet Meadow, persistent/Open Water, subclass unknown, standing water, palustrine, farmed)
Wetland	W0H (Open Water, subclass unknown, standing water, palustrine)
Wetland	W0Hx (Open Water, subclass unknown, standing water, palustrine, excavated)
Wetland	Excavated Pond
Waterway	Unnamed

Table 2. Summary of Soil Map Units

Map Unit Name and Symbol	Hydric Components, Percent, & Location*	Hydric Rating by Map Unit	Drainage Class	Percent Composition in Area of Investigation**
Alluvial land, loamy (Ag)	Alluvial land, loamy, wet (3%, Depressions) Alluvial Land, sandy (2%, Flood plains)	Predominantly Nonhydric (3%)	Somewhat Poorly Drained	19.30%
Alluvial land, loamy, wet (Ah)+	-	Hydric (100%)	Poorly Drained	59.70%
Marshan loam (Mc)+	Marshan (90%, Flood plains) Colwood (10%, Flood plains)	Hydric (100%)	Very Poorly Drained	21.0%

+ NRCS Listed Hydric Soil

* NRCS Hydric Soil List (2024)

** Calculated Using NRCS Web Soil Survey (2024)

Table 3. Wetland Summary Table

Delineated Wetland ID	Wetland Community Type (WisDOT Classification)	Size (Acres)	Size (Square Feet)
CW191	Wooded Swamp	1.335	58,155
CW191	Wet Meadow (D)	0.253	11,015
CW191	Wooded Swamp	0.372	16,198
CW191	Shallow Marsh	0.104	4,533
CW191	Wet Meadow (D)	0.120	5,231
CW156	Wet Meadow (D)	2.330	101,473
CW156	Wooded Swamp (D)	7.591	330,657
CW156	Shallow Marsh (D)	0.000	19
CW191	Wet Meadow (D)	0.332	14,472
CW206	Wooded Swamp (D)	0.428	18,658
CW206	Wooded Swamp (D)	0.464	20,214
CW206	Shallow Marsh (D)	0.342	14,917
CW206	Wet Meadow (D)	3.277	142,728
CW208	Wet Meadow (D)	0.467	20,337
CW208	Shallow Marsh (D)	0.035	1,516
CW215	Wooded Swamp	0.005	198
CW215	Riparian Wooded	0.208	9,082
CW215	Riparian Wooded	0.728	31,721
CW215	Shallow Marsh (D)	1.460	63,601
CW193	Wet Meadow (D)	0.395	17,210
CW198	Shallow Marsh (D)	1.334	58,117
CW198	Wet Meadow (D)	2.367	103,118
CW196	Wet Meadow (D)	0.579	25,217
CW196	Shallow Marsh (D)	0.161	7,033
CW215	Shallow Marsh (D)	1.218	53,045
CW215	Wooded Swamp	0.864	37,627
CW215	Wet Meadow (D)	1.277	55,628
CW215	Wooded Swamp	7.399	322,281
CW161	Shallow Marsh	0.014	605
CW161	Deep Marsh	0.016	698
CW161	Wet Meadow	0.410	17,867
CW177	Wet Meadow (D)	0.020	857
CW183	Wet Meadow (D)	0.001	65
CW189	Wet Meadow (D)	0.042	1,809
CW192	Wet Meadow (D)	0.061	2,672
CW205	Wet Meadow (D)	0.167	7,293
CW191	Wet Meadow (D)	0.191	8,307
CW206	Wooded Swamp	0.257	11,183
CW215	Wet Meadow	0.014	615
CW200	Wet Meadow	0.033	1,450
		36.672	1,597,420

Table 4. Wildlife Species Observations

Category	Scientific Name	Common Name	Present/Potential
Amphibians	<i>Bufo americanus</i>	American Toad	Potential
Amphibians	<i>Hyla versicolor</i>	Eastern Gray Treefrog	Potential
Amphibians	<i>Pseudacris triseriata</i>	Western Chrous Frog	Potential
Amphibians	<i>Rana clamitans</i>	Green Frog	Potential
Aves	<i>Anser albifrons</i>	Greater White-fronted Goose	Potential
Aves	<i>Aythya affinis</i>	Lesser Scaup	Potential
Aves	<i>Fulica americana</i>	American Coot	Potential
Aves	<i>Larus delawarensis</i>	Ring-billed Gull	Potential
Aves	<i>Spatula discors</i>	Blue-Winged Teal	Potential
Aves	<i>Zenaida macroura</i>	Mourning Dove	Potential
Aves	<i>Agelaius phoeniceus</i>	Red-winged Blackbird	Potential
Aves	<i>Aix sponsa</i>	Wood Duck	Potential
Aves	<i>Anas crecca</i>	Green-winged Teal	Potential
Aves	<i>Anas platyrhynchos</i>	Mallard	Potential
Aves	<i>Anser albifrons</i>	Snow Goose	Potential
Aves	<i>Anthus rubescens</i>	American pipit	Potential
Aves	<i>Antigone canadensis</i>	Sandhill Crane	Potential
Aves	<i>Ardea herodias</i>	Great Blue Heron	Potential
Aves	<i>Aythya americana</i>	Redhead	Potential
Aves	<i>Aythya collaris</i>	Ring-necked Duck	Potential
Aves	<i>Bombycilla cedrorum</i>	Cedar Waxwing	Potential
Aves	<i>Branta canadensis</i>	Canada Goose	Potential
Aves	<i>Branta hutchinsii</i>	Cackling Goose	Potential
Aves	<i>Bucephala albeola</i>	Bufflehead	Potential
Aves	<i>Bucephala clangula</i>	Common Goldeneye	Potential
Aves	<i>Buteo platypterus</i>	Broad-winged Hawk	Potential
Aves	<i>Calcarius lapponicus</i>	Lapland Longspur	Potential
Aves	<i>Calidris alpina</i>	Dunlin	Potential
Aves	<i>Calidris melanotos</i>	Pectoral Sandpiper	Potential
Aves	<i>Calidris minutilla</i>	Least Sandpiper	Potential
Aves	<i>Chaetura pelagica</i>	Chimney Swift	Potential
Aves	<i>Charadrius vociferus</i>	Killdeer	Potential
Aves	<i>Chordeiles minor</i>	Common Nighthawk	Potential
Aves	<i>Chroicocephalus philadelphia</i>	Bonaparte's Gull	Potential
Aves	<i>Columba livia</i>	Rock Pigeon	Potential
Aves	<i>Corvus brachyrhynchos</i>	American Crow	Potential
Aves	<i>Cygnus columbianus</i>	Tundra Swan	Potential
Aves	<i>Euphagus carolinus</i>	Rusty Blackbird	Potential
Aves	<i>Hirundo rustica</i>	Barn Swallow	Potential
Aves	<i>Junco hyemalis</i>	Dark-eyed Junco	Potential
Aves	<i>Larus argentatus</i>	Herring Gull	Potential
Aves	<i>Mareca strepera</i>	Gadwall	Potential
Aves	<i>Meleagris gallopavo</i>	Wild Turkey	Potential
Aves	<i>Mergus merganser</i>	Common Merganser	Potential

Table 4. Wildlife Species Observations

Category	Scientific Name	Common Name	Present/Potential
Aves	<i>Molothrus ater</i>	Brown-headed Cowbird	Potential
Aves	<i>Oxyura jamaicensis</i>	Ruddy Duck	Potential
Aves	<i>Passer domesticus</i>	House Sparrow	Potential
Aves	<i>Pelecanus erythrorhynchos</i>	American White Pelican	Potential
Aves	<i>Petrochelidon pyrrhonota</i>	Cliff Swallow	Potential
Aves	<i>Progne subis</i>	Purple Martin	Potential
Aves	<i>Quiscalus quiscula</i>	Common Grackle	Potential
Aves	<i>Riparia riparia</i>	Bank Swallow	Potential
Aves	<i>Setophaga coronata</i>	Yellow-rumped Warbler	Potential
Aves	<i>Setophaga palmarum</i>	Palm Warbler	Potential
Aves	<i>Spatula clypeata</i>	Northern Shoveler	Potential
Aves	<i>Spinus pinus</i>	Pine Siskin	Potential
Aves	<i>Spinus Tristis</i>	American Goldfinch	Potential
Aves	<i>Spizelloides arborea</i>	American Tree Sparrow	Potential
Aves	<i>Stelgidopteryx serripennis</i>	Northern Rough-winged Swallow	Potential
Aves	<i>Sturnus vulgaris</i>	European Starling	Potential
Aves	<i>Tachycineta bicolor</i>	Tree Swallow	Potential
Aves	<i>Tringa flavipes</i>	Lesser Yellowlegs	Potential
Aves	<i>Turdus migratorius</i>	American Robin	Potential
Aves	<i>Zonotrichia albicollis</i>	White-Throated Sparrow	Potential
Mammals	<i>Canis latrans</i>	Coyote	Potential
Mammals	<i>Lontra canadensis</i>	River Otter	Potential
Mammals	<i>Mephitis mephitis</i>	Striped skunk	Potential
Mammals	<i>Odocoileus virginianus</i>	White-tailed Deer	Potential
Mammals	<i>Ondatra zibethicus</i>	Muskrat	Potential
Mammals	<i>Procyon lotor</i>	Raccoon	Potential
Mammals	<i>Sciurus carolinensis</i>	Gray Squirrel	Potential
Mammals	<i>Tamias Striatus</i>	Eastern Chipmunk	Potential
Mammals	<i>Vulpes vulpes</i>	Red Fox	Potential
Marsupials	<i>Didelphis virginiana</i>	Opossum	Potential
Reptiles	<i>Chelydra serpentina</i>	Snapping Turtle	Potential
Reptiles	<i>Chrysemys picta</i>	Painted Turtle	Potential
Reptiles	<i>Glyptemys insculpta</i>	Wood Turtle	Potential
Reptiles	<i>Nerodia sipedon</i>	Northern Water Snake	Potential

Figures

Figure 1 Site Location and USGS Topographic Map

Figure 2 2-Foot Contour Map

Figure 3 Wisconsin Wetland Inventory, Wetland Indicators, & 24K Hydrography Map

Figure 4 USDA NRCS Soils Map

Figure 5 Wetland Communities Map

Figure 6 FEMA Flood Map, Special Wetland Planning Waters and Critical Habitat Area Map

Figure 7 100 Meter Buffer & Land Use Map

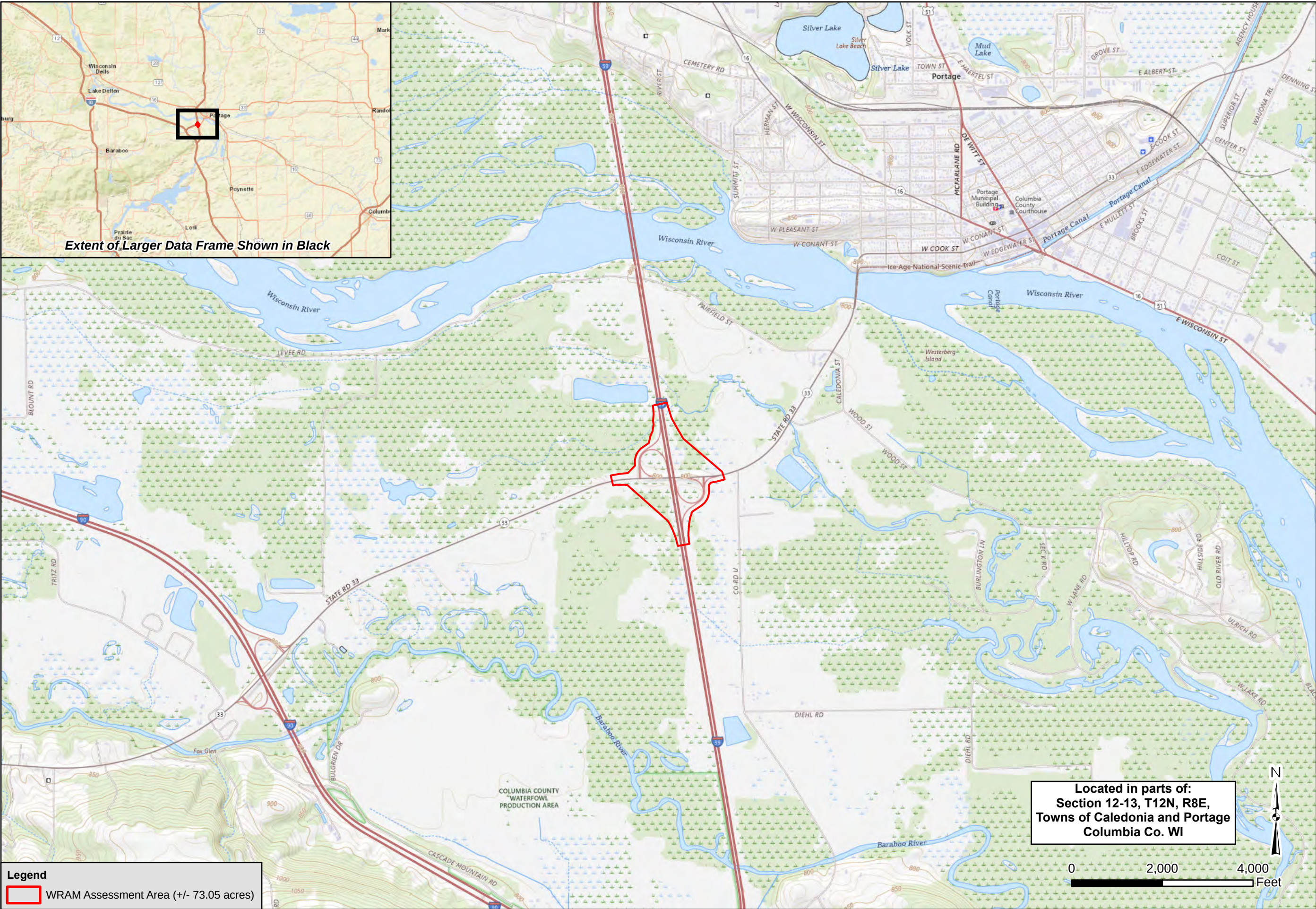


FIGURE 1
SITE LOCATION AND USGS TOPOGRAPHIC MAP
WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
WIS 33 AT I-39 INTERCHANGE
TOWNS OF CALEDONIA AND PORTAGE
COLUMBIA COUNTY, WISCONSIN

Drawn: BWK 5/15/2024
Approved: KTB 5/15/2024
Scale: As Shown
Project Number: 2404021
Page 1 of 1



FIGURE 2
2-FOOT CONTOUR MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
WIS 33 AT I-39 INTERCHANGE
TOWNS OF CALEDONIA AND PORTAGE
COLUMBIA COUNTY, WISCONSIN

Drawn: BWK 5/15/2024
Approved: KTB 5/15/2024
Scale: As Shown
Project Number: 2404021
Page 1 of 1

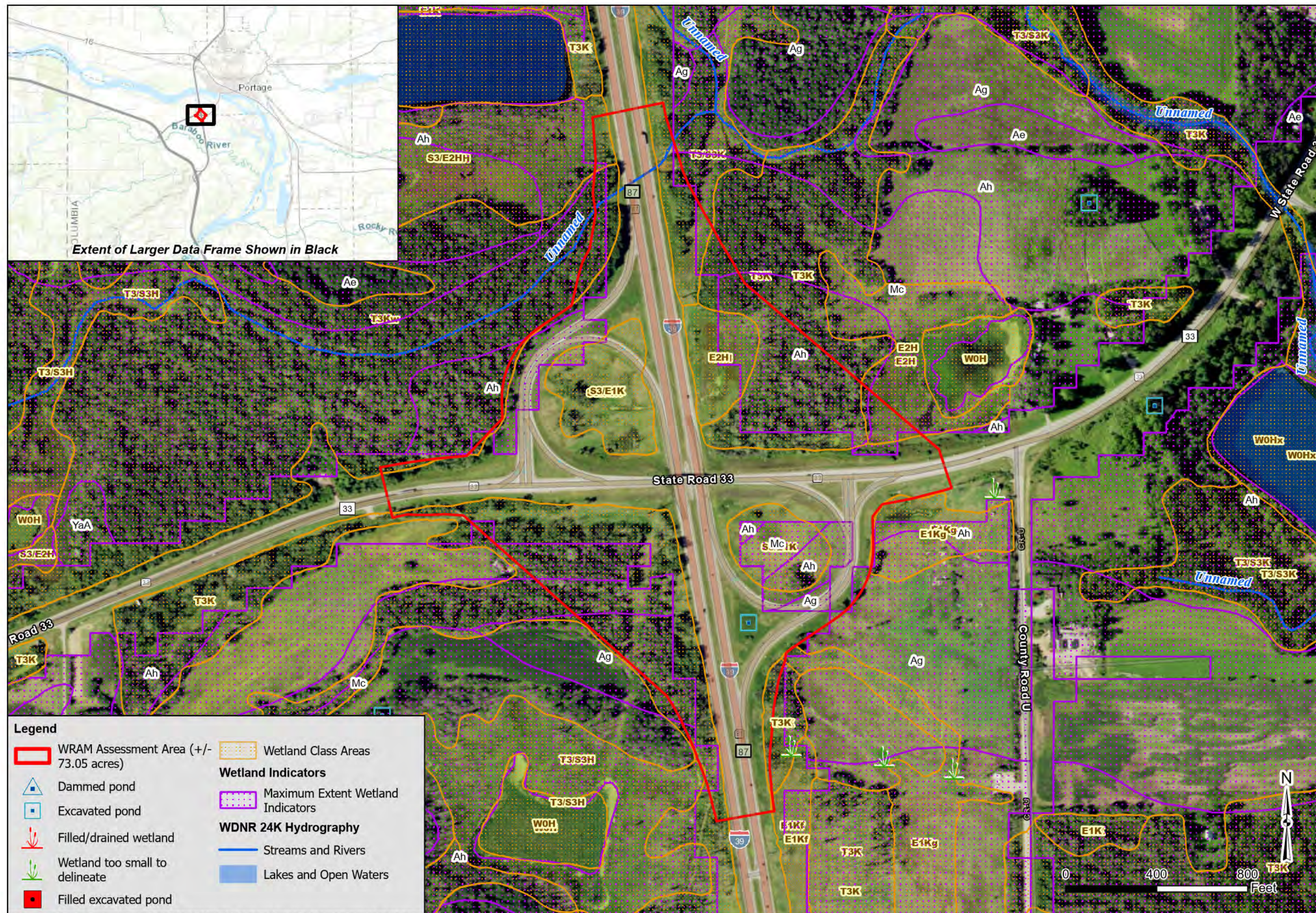


FIGURE 3
WISCONSIN WETLAND INVENTORY, WETLAND INDICATORS, AND 24K HYDROGRAPHY MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
WIS 33 AT I-39 INTERCHANGE
TOWNS OF CALEDONIA AND PORTAGE
COLUMBIA COUNTY, WISCONSIN

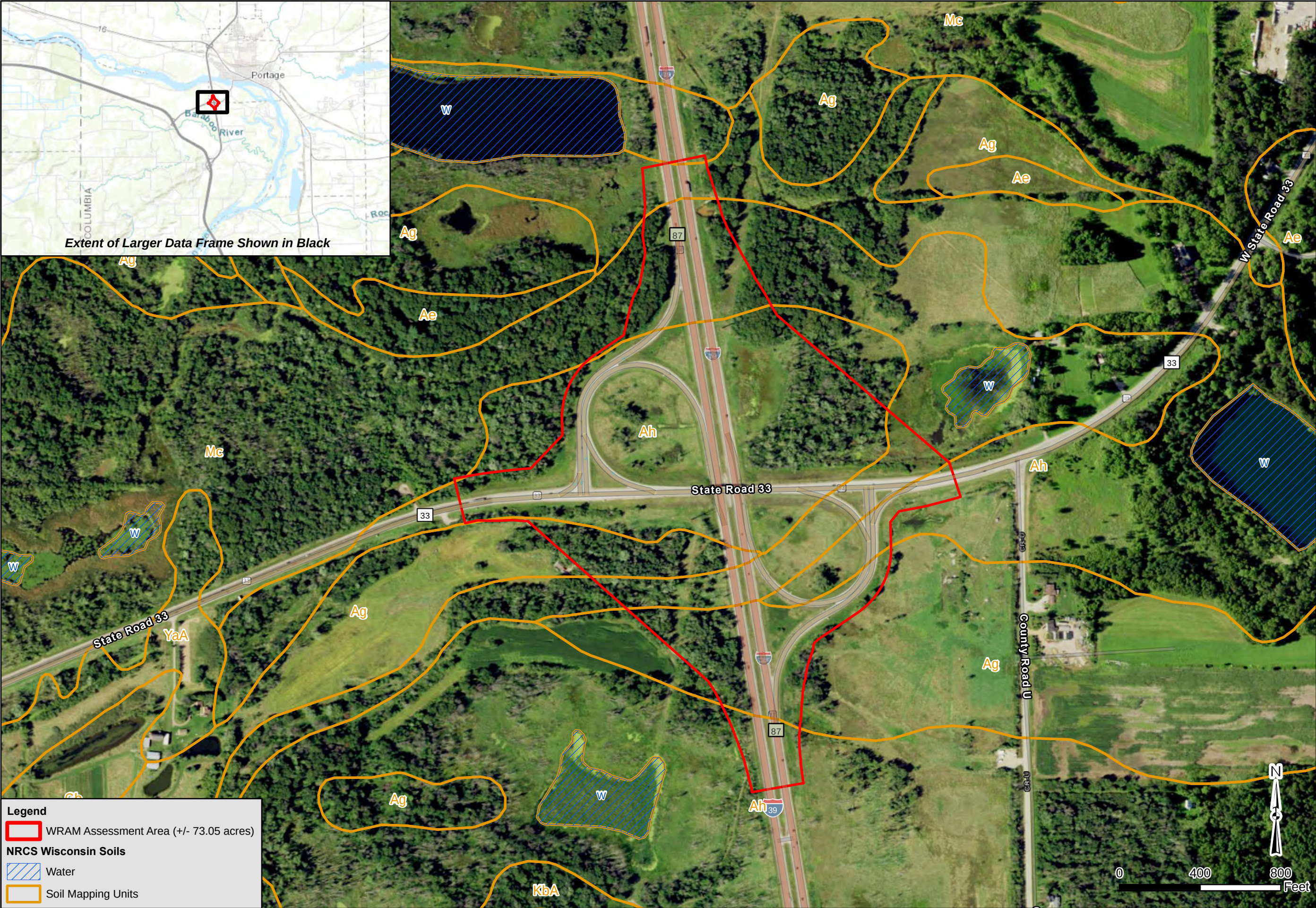


FIGURE 4
USDA NRCS SOILS MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
WIS 33 AT I-39 INTERCHANGE
TOWNS OF CALEDONIA AND PORTAGE
COLUMBIA COUNTY, WISCONSIN

Drawn: BWK 5/15/2024
Approved: KTB 5/15/2024
Scale: As Shown
Project Number: 2404021
Page 1 of 1

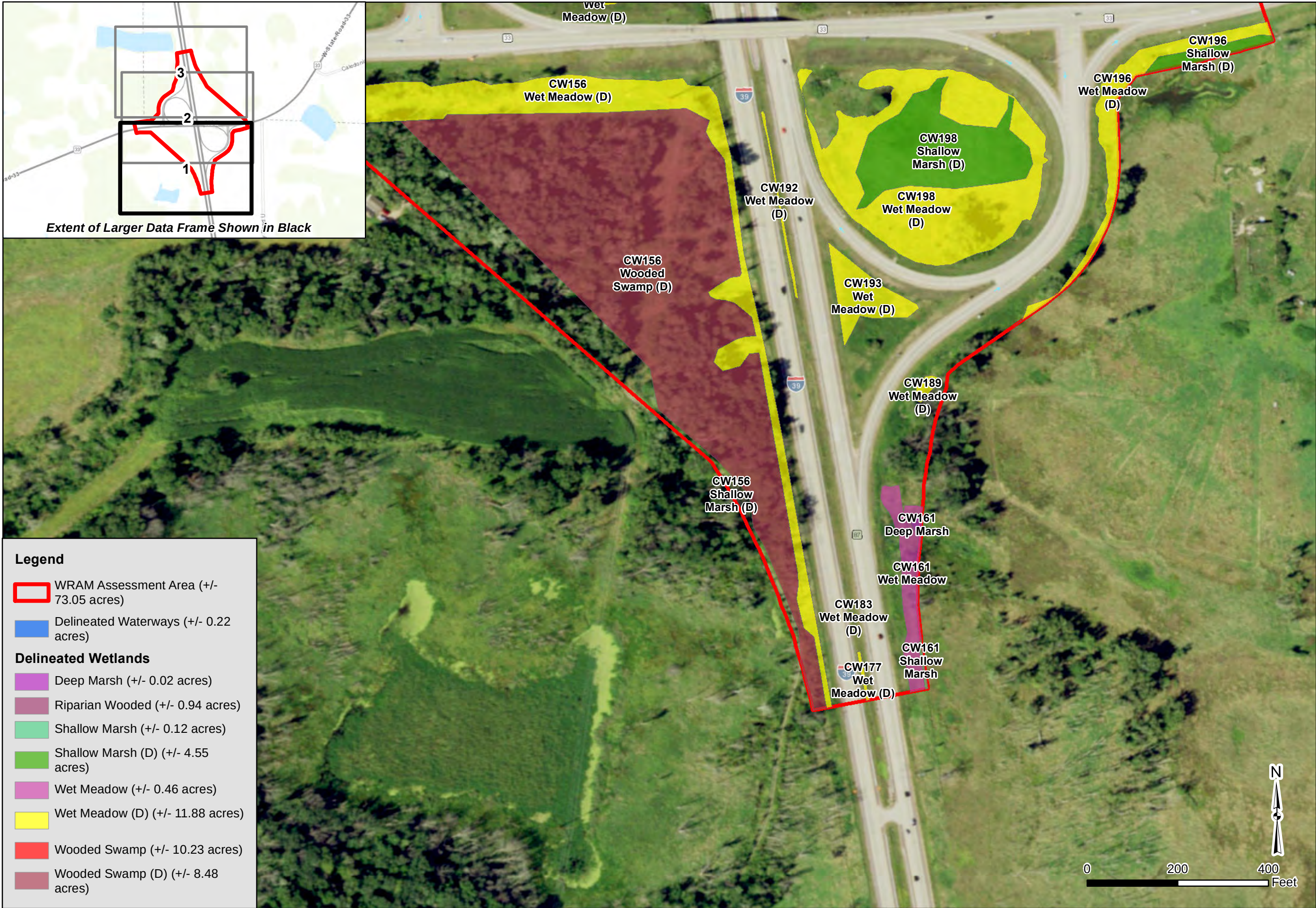


FIGURE 5
WETLAND COMMUNITIES MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
IH 39 90 94 WRAM - WIS 33 AT I-39 INTERCHANGE
TOWN OF CALEDONIA AND CITY OF PORTAGE
COLUMBIA COUNTY, WISCONSIN

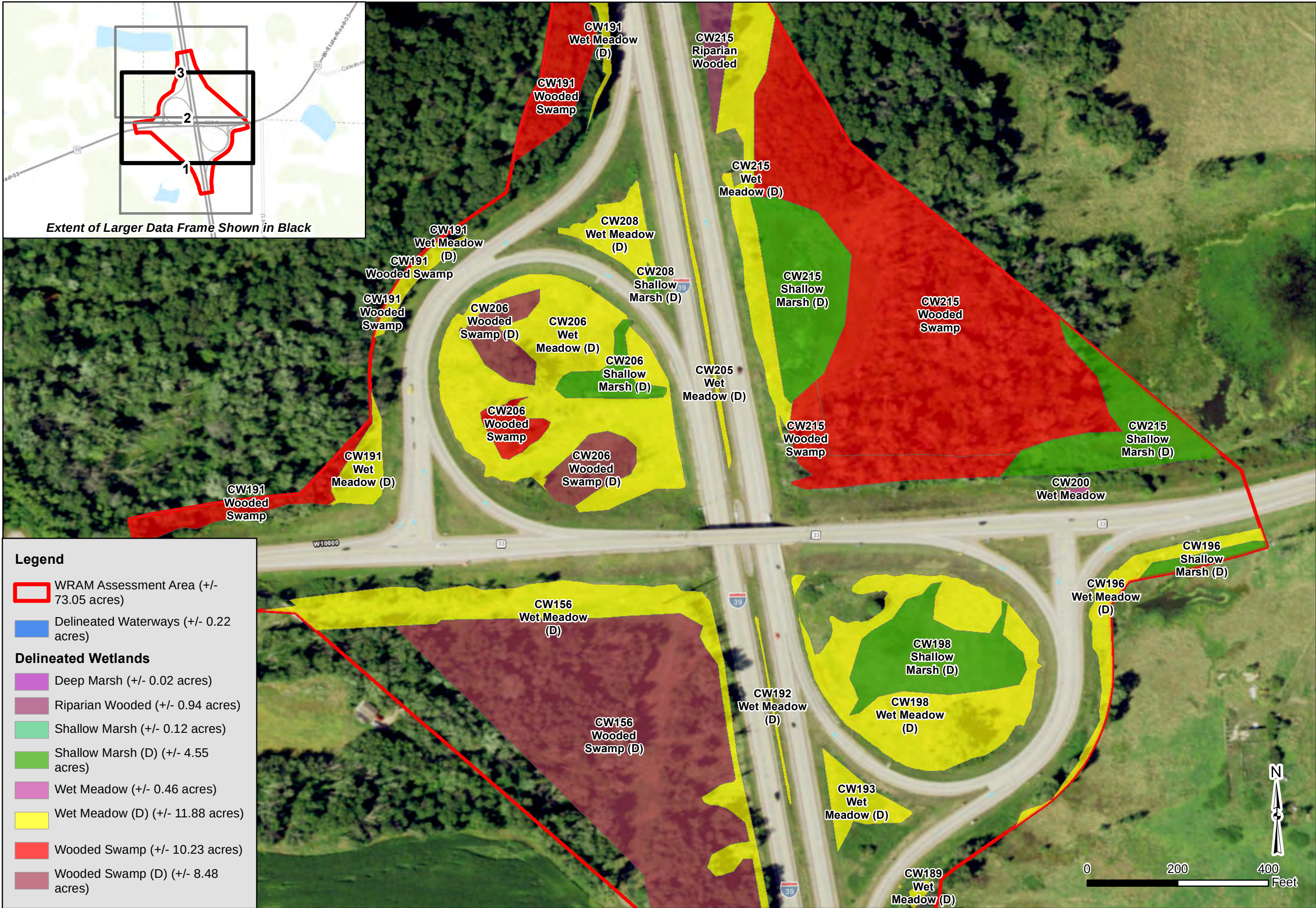
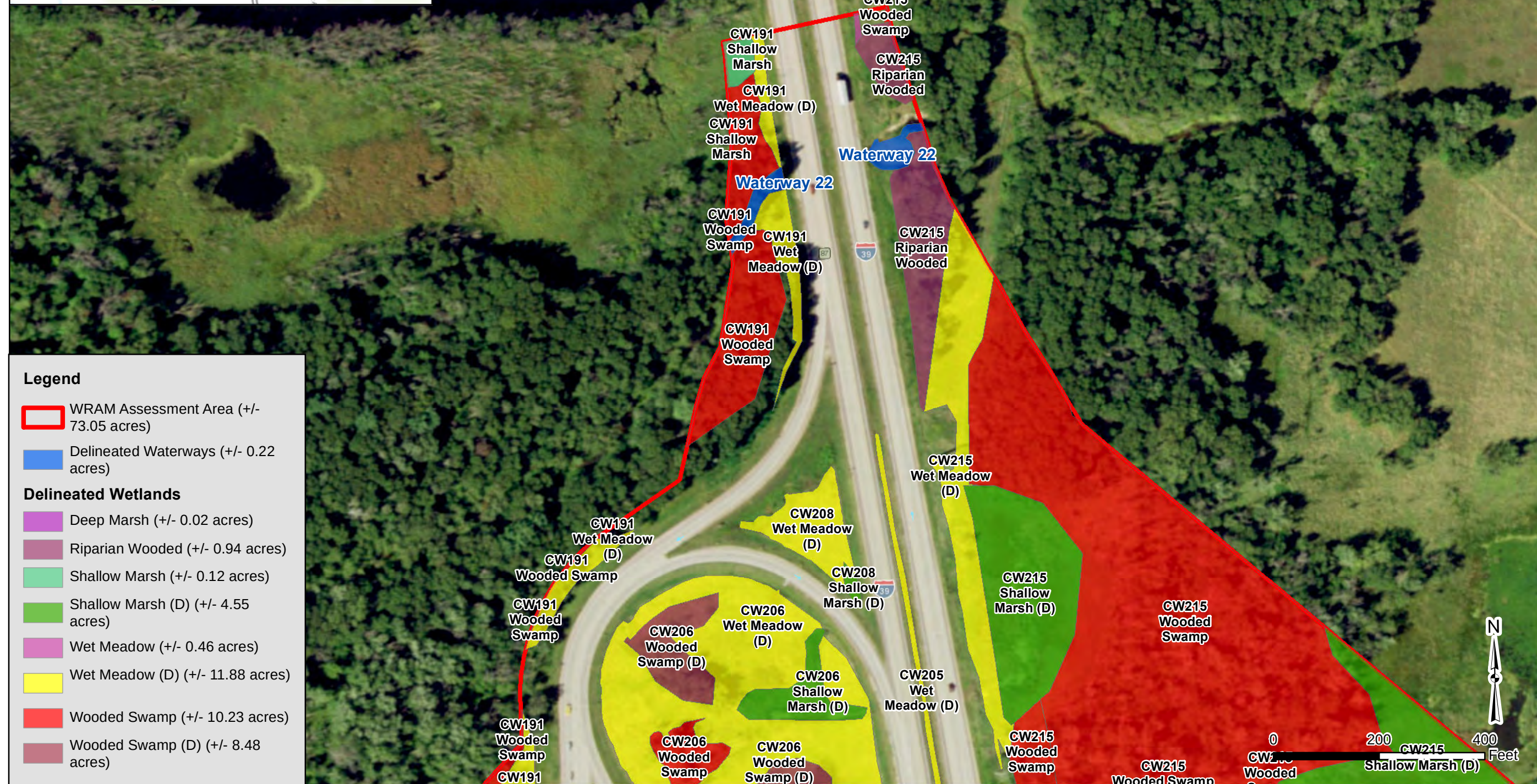
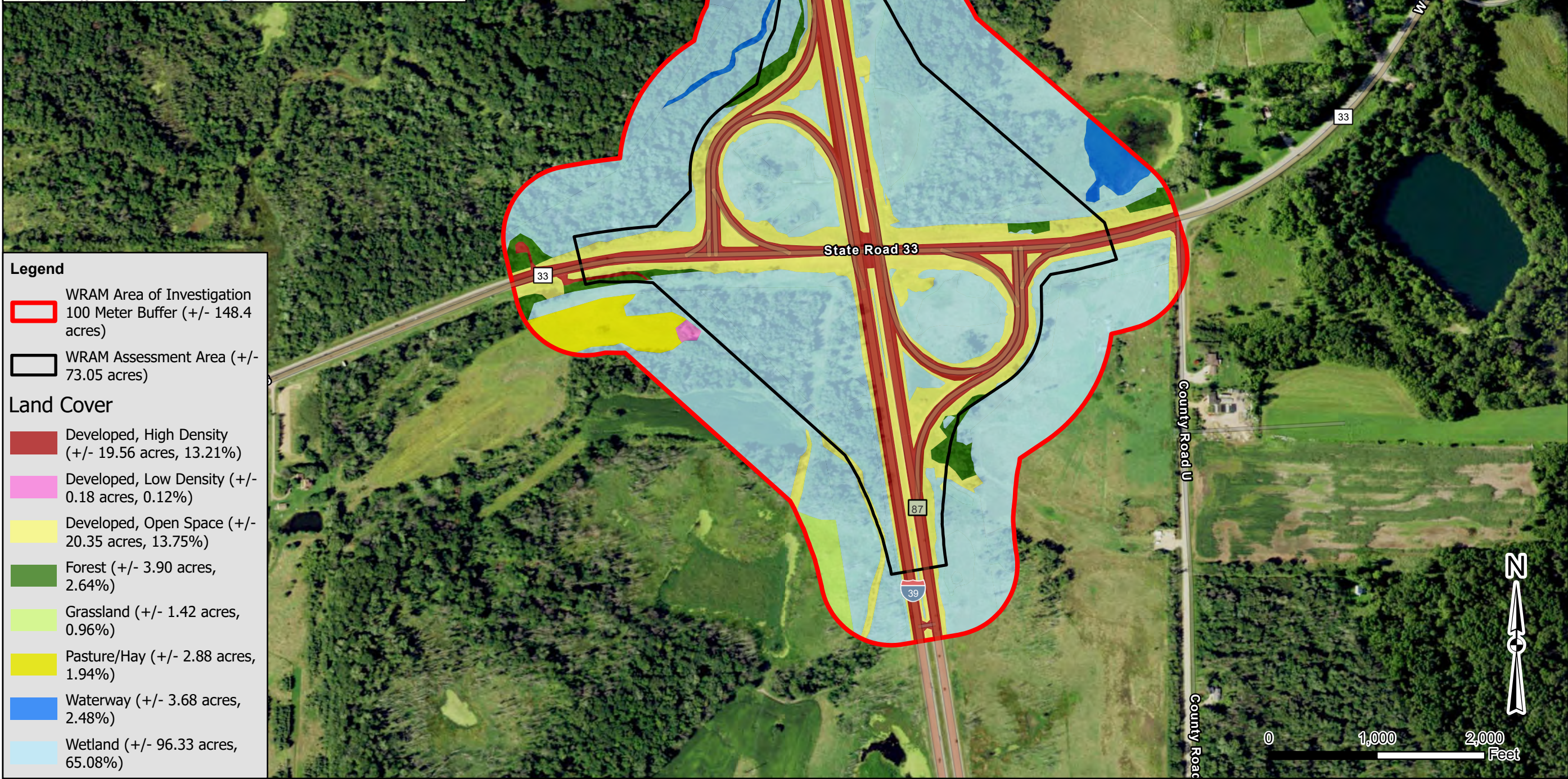
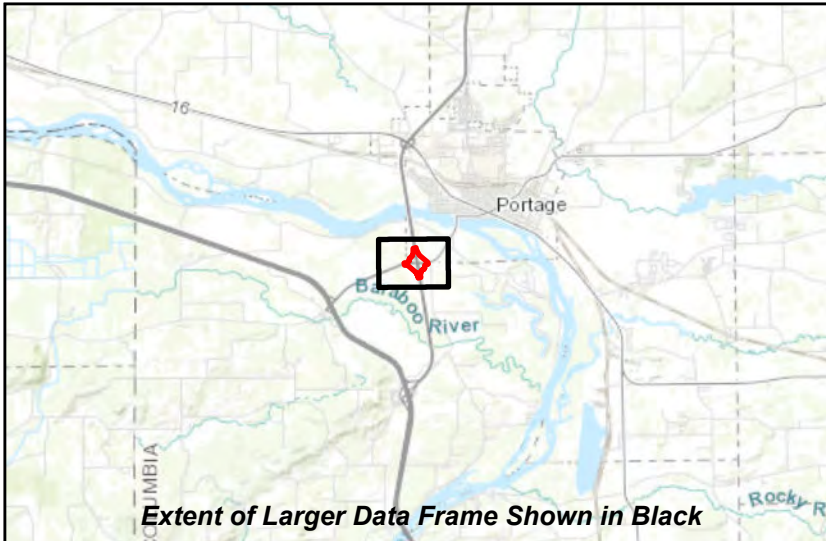


FIGURE 5
WETLAND COMMUNITIES MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
IH 39 90 94 WRAM - WIS 33 AT I-39 INTERCHANGE
TOWN OF CALEDONIA AND CITY OF PORTAGE
COLUMBIA COUNTY, WISCONSIN





Legend

 WRAM Area of Investigation
100 Meter Buffer (+/- 148.4 acres)

 WRAM Assessment Area (+/- 73.05 acres)

Land Cover

Developed, High Density (+/- 19.56 acres, 13.21%)

Developed, Low Density (+/- 0.18 acres, 0.12%)

Developed, Open Space (+/- 20.35 acres, 13.75%)

Forest (+/- 3.90 acres, 2.64%)

Grassland (+/- 1.42 acres, 0.96%)

Pasture/Hay (+/- 2.88 acres, 1.94%)

Waterway (+/- 3.68 acres, 2.48%)

Wetland (+/- 96.33 acres, 65.08%)

FIGURE 7
100 METER BUFFER AND LAND USE MAP

WISCONSIN DEPARTMENT OF TRANSPORTATION
WISDOT PROJECT ID: 1015-05-00
WIS 33 AT I-39 INTERCHANGE
TOWNS OF CALEDONIA AND PORTAGE
COLUMBIA COUNTY, WISCONSIN

Drawn: KJA 5/16/2024
Approved: KTB 5/16/2024
Scale: As Shown
Project Number: 2404021
Page 1 of 1

Appendix A

Wetland Rapid Assessment Methodology Data Form

Wetland Rapid Assessment Methodology – Version 2.0

Long Form

Form 3500-134 (11/22)

Page 2 of 7

Section 1: Functional Value Assessment

	Y / N	Potential	
HU	☐ Y ☐ N		Human Use Values: recreation, culture, education, science, natural scenic beauty
1	☒ Y ☐ N	Y	Used for recreation (hunting, birding, hiking, etc.). List: Potential for birding, vehicles could park and watch birds. Adjacent to Pine Island SWA/SNA
2	☐ Y ☒ N	Y	Used for educational or scientific purposes
3	☒ Y ☐ N	Y	Visually or physically accessible to public
4	☒ Y ☐ N	Y	Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	☒ Y ☐ N	Y	In or adjacent to RED FLAG areas List: Adjacent to Pine Island SWA/SNA
6	☒ Y ☐ N	Y	Supports or provides habitat for endangered, threatened or special concern species
7	☐ Y ☒ N	Y	In or adjacent to archaeological or cultural resource site
WH	☐ Y ☐ N		Wildlife Habitat
1	☒ Y ☐ N	Y	Wetland and contiguous habitat >10 acres
2	☒ Y ☐ N	Y	3 or more strata present (>10% cover)
3	☒ Y ☐ N	Y	Within or adjacent to habitat corridor or established wildlife habitat area
4	☒ Y ☐ N	Y	100 m buffer – natural land cover >50%(south) 75% (north) intact
5	☐ Y ☒ N	Y	Occurs in a Joint Venture priority township
6	☒ Y ☐ N	Y	Interspersion of habitat structure (hemi-marsh, shrub/emergent, wetland/upland complex, etc.)
7	☒ Y ☐ N	Y	Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	☒ Y ☐ N	Y	Part of a large habitat block that supports area sensitive species
9	☒ Y ☐ N	Y	Ephemeral pond with water present > 45 days
10	☒ Y ☐ N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
11	☒ Y ☐ N	Y	Seasonally exposed mudflats present
12	☐ Y ☒ N	Y	Provides habitat scarce in the area (urban, agricultural, etc.)
FA	☐ Y ☐ N		Fish and Aquatic Life Habitat
1	☒ Y ☐ N	Y	Wetland is connected or contiguous with perennial stream or lake
2	☒ Y ☐ N	Y	Standing water provides habitat for amphibians and aquatic invertebrates
3	☐ Y ☒ N	Y	Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	☒ Y ☐ N	Y	Vegetation is inundated in spring
SP	☐ Y ☐ N		Shoreline Protection
1	☒ Y ☐ N	Y	Along shoreline of a stream, lake, pond or open water area (>1 acre) - if no, not applicable
2	☐ Y ☒ N	Y	Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable
3	☒ Y ☐ N	Y	Densely rooted emergent or woody vegetation
ST	☐ Y ☐ N		Storm and Floodwater Storage
1	☒ Y ☐ N	Y	Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	☒ Y ☐ N	Y	Water flow through wetland is NOT channelized
3	☒ Y ☐ N	Y	Dense, persistent vegetation
4	☐ Y ☒ N	Y	Evidence of flashy hydrology
5	☒ Y ☐ N	Y	Point or non-point source inflow
6	☐ Y ☒ N	Y	Impervious surfaces cover >10% of land surface within the watershed
7	☐ Y ☒ N	Y	Within a watershed with <10% wetland
8	☒ Y ☐ N	Y	Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ	☐ Y ☐ N		Water Quality Protection
1	☒ Y ☐ N	Y	Provides substantial storage of storm and floodwater based on previous section
2	☒ Y ☐ N	Y	Basin wetland or constricted outlet
3	☒ Y ☐ N	Y	Water flow through wetland is NOT channelized
4	☒ Y ☐ N	Y	Vegetated wetland associated with a lake or stream
5	☒ Y ☐ N	Y	Dense, persistent vegetation
6	☒ Y ☐ N	Y	Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	☒ Y ☐ N	Y	Stormwater or surface water from agricultural land is major hydrology source
8	☒ Y ☐ N	Y	Discharge to surface water
9	☐ Y ☒ N	Y	Natural land cover in 100m buffer area < 50%
GW	☐ Y ☐ N		Groundwater Processes
1	☒ Y ☐ N	Y	Springs, seeps or indicators of groundwater present
2	☐ Y ☒ N	N	Location near a groundwater divide or a headwater wetland
3	☒ Y ☐ N	Y	Wetland remains saturated for an extended time period with no additional water inputs
4	☐ Y ☒ N	N	Wetland soils are organic
5	☐ Y ☒ N	Y	Wetland is within a wellhead protection area

Wetland Rapid Assessment Methodology – Version 2.0

Long Form

Form 3500-134 (11/22)

Page 3 of 7

Section 1 Comments

For Wildlife Observations, see tables 4 and section 4.2.3 in WRAM report.

For Fish and Aquatic Life observations, see section 4.2.4 in WRAM report.

Wildlife Habitat and Species Observation (including amphibians and reptiles)

List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

Observed	Potential	Species/Habitat/Comments

Fish and Aquatic Life Habitat and Species Observations

List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat/Comments

Wetland Rapid Assessment Methodology – Version 2.0

Long Form

Form 3500-134 (11/22)

Page 5 of 7

Section 3: Condition of Wetland Assessment Area and Buffer (100 m)

Assessment Area	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
X	X	X	M	C	Removal of herbaceous stratum – mowing, grading, earthworms, etc.
X	X	X	M	C	Removal of tree or shrub strata – logging, unprescribed fire
X	X	X	H	C	Hydrologic changes - high capacity wells, impounded water, increased runoff
X	X	X	H	C	Point source or stormwater discharge
X	X	X	H	C	Polluted runoff
X	X	X	M	C	Pond construction
	X	X	M	C	Agriculture – row crops
	X	X	M	C	Agriculture – hay
	X	X	M	C	Agriculture – pasture
X	X	X	H	C	Roads or railroad
X	X	X	L	C	Utility corridor (above or subsurface)
X	X	X	H	C	Dams, dikes or levees
			L	UC	Soil subsidence, loss of soil structure
X	X	X	M	C	Sediment input
X	X	X	H	C	Filling, berms (non-impounding)
X	X	X	H	C	Drainage – tiles, ditches
			L	UC	Human trails – unpaved
			L	UC	Human trails – paved
		X	L	UC	Removal of large woody debris
X	X	X	H	C	Cover of non-native and/or invasive species
	X	X	L	C	Residential land use
			L	UC	Urban, commercial or industrial use
			L	UC	Parking lot
			L	UC	Golf course
		X	L	UC	Gravel pit
	X	X	L	C	Recreational use (boating, ATVs, etc.)
		X	L	C	Excavation or soil grading
					Other:

* L = Low, M = Medium, H = High

** Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

Summary of Condition Assessment

See attached WRAM Report Narrative section 4.1

Wetland Rapid Assessment Methodology – Version 2.0

Long Form

Form 3500-134 (11/22)

Page 6 of 7

Summary of Functional Values

	Low	Medium	High	Exceptional	NA
Floristic Integrity	☐	☒	☐	☐	☐
Human Use Values	☐	☒	☐	☐	☐
Wildlife Habitat	☐	☒	☐	☐	☐
Fish and Aquatic Life Habitat	☒	☐	☐	☐	☐
Shoreline Protection	☒	☐	☐	☐	☐
Flood and Stormwater Storage	☐	☒	☐	☐	☐
Water Quality Protection	☐	☒	☐	☐	☐
Groundwater Processes	☒	☐	☐	☐	☐

	Rationale
Floristic Integrity See attached WRAM Report Narrative section 4.2.1	
Human Use Values See attached WRAM Report Narrative section 4.2.2	
Wildlife Habitat See attached WRAM Report Narrative section 4.2.3	
Fish and Aquatic Life Habitat See attached WRAM Report Narrative section 4.2.4	
Shoreline Protection See attached WRAM Report Narrative section 4.2.5	
Flood and Stormwater Storage See attached WRAM Report Narrative section 4.2.6	
Water Quality Protection See attached WRAM Report Narrative section 4.2.7	
Groundwater Processes See attached WRAM Report Narrative section 4.2.8	

Section 4: Project Impact Assessment

Project Description

See attached WRAM Report Narrative.

Expected Project Impacts

	Permanence/Reversibility	Significance (Low, Medium, High)
Expected Project Impacts/Direct Impacts See attached WRAM Report Narrative section 5.1.1	See attached WRAM Report Narrative section 5.1.1.1	See attached WRAM Report Narrative section 5.1.1.2
Secondary Impacts (including impacts which are indirectly attributable to the project) See attached WRAM Report Narrative section 5.1.2	See attached WRAM Report Narrative section 5.1.2.1	See attached WRAM Report Narrative section 5.1.2.2
Cumulative Impacts See attached WRAM Report Narrative section 5.1.3	See attached WRAM Report Narrative section 5.1.3.1	See attached WRAM Report Narrative section 5.1.3.2
Spatial/Habitat Integrity See attached WRAM Report Narrative section 5.1.4	See attached WRAM Report Narrative section 5.1.4.1	See attached WRAM Report Narrative section 5.1.4.2
Rare Plant/Animal Communities/Natural Areas See attached WRAM Report Narrative section 5.1.5	See attached WRAM Report Narrative section 5.1.5.1	See attached WRAM Report Narrative section 5.1.5.2

Appendix B

Photographic Log

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 1	DATE: June 28, 2022	LATITUDE: 43.52148291	LONGITUDE: -89.48902234
DIRECTION: West	SITE LOCATION: WIS 33 and I-39 Interchange		
DESCRIPTION: Wetland CW156, Shallow Marsh (foreground)			
PHOTO BY: LB			

PHOTOGRAPH No: 2	DATE: June 28, 2022	LATITUDE: 43.52324671	LONGITUDE: -89.4895628
DIRECTION: South	SITE LOCATION: WIS 33 and I-39 Interchange		
DESCRIPTION: Wetland CW156, Wooded Swamp - D (foreground)			
PHOTO BY: LB			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 3	DATE: June 28, 2022	LATITUDE: 43.52379866	LONGITUDE: -89.48867817
DIRECTION: South	SITE LOCATION: WIS 33 and I-39 Interchange		
DESCRIPTION: Wetland CW193, Wet Meadow - D (foreground)			
PHOTO BY: LB			

PHOTOGRAPH No: 4	DATE: June 28, 2022	LATITUDE: 43.52393583	LONGITUDE: -89.48849838
DIRECTION: Northeast	SITE LOCATION: WIS 33 and I-39 Interchange		
DESCRIPTION: Wetland CW198, Shallow Marsh - D (foreground)			
PHOTO BY: LB			

Photographic Log

WisDOT Project ID: 1015-05-00
Project Name: IH 39/90/94 WRAM Assessment
Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 5	DATE: June 27, 2022	LATITUDE: 43.52455261	LONGITUDE: -89.49154998
DIRECTION: West	SITE LOCATION: WIS 33 and I-39 Interchange		
DESCRIPTION: Wetland CW156, Wooded Swamp, Wet Meadow - D (foreground)			
PHOTO BY: LB			

PHOTOGRAPH No: 6	DATE: June 28, 2022	LATITUDE: 43.52460906	LONGITUDE: -89.48640584
DIRECTION: West	SITE LOCATION: WIS 33 and I-39 Interchange		
DESCRIPTION: Wetland CW196, Shallow Marsh - D (foreground)			
PHOTO BY: LB			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 7	DATE: June 27, 2022	LATITUDE: 43.52501303	LONGITUDE: -89.49405114
DIRECTION: Northwest	SITE LOCATION: WIS 33 and I-39 Interchange		
DESCRIPTION: Wetland CW191, Wooded Swamp - D (foreground)			
PHOTO BY: LB			

PHOTOGRAPH No: 8	DATE: June 28, 2022	LATITUDE: 43.52503533	LONGITUDE: -89.48560939
DIRECTION: South	SITE LOCATION: WIS 33 and I-39 Interchange		
DESCRIPTION: Wetland CW196, Shallow Marsh - D (foreground)			
PHOTO BY: LB			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 9	DATE: June 28, 2022	LATITUDE: 43.52524035	LONGITUDE: -89.48572288
DIRECTION: North	SITE LOCATION: WIS 33 and I-39 Interchange		
DESCRIPTION: Wetland CW215, Shallow Marsh - D (foreground)			
PHOTO BY: LB			

PHOTOGRAPH No: 10	DATE: June 28, 2022	LATITUDE: 43.52598441	LONGITUDE: -89.4891494
DIRECTION: East	SITE LOCATION: WIS 33 and I-39 Interchange		
DESCRIPTION: Wetland CW215, Shallow Marsh – D Wooded Swamp (foreground)			
PHOTO BY: LB			

Photographic Log

WisDOT Project ID: 1015-05-00
 Project Name: IH 39/90/94 WRAM Assessment
 Client: WisDOT

GEI Project No. 2404021

PHOTOGRAPH No: 11	DATE: June 27, 2022	LATITUDE: 43.52640359	LONGITUDE: -89.49023595
DIRECTION: Southwest	SITE LOCATION: WIS 33 and I-39 Interchange		
DESCRIPTION: Wetland CW206, Shallow Marsh - D (foreground)			
PHOTO BY: LB			

Appendix C

Floristic Quality Calculator by Wetland Community Type



SITE NAME:			PLANT COMMUNITY:	Shallow Marsh (Degraded)
ASSESSMENT AREA NAME:			SURVEYORS:	
GPS COORDINATES (Decimal Degrees)	Latitude:			
	Longitude:		SURVEY DATE:	
COUNTY:			SITE NOTES:	Data Points DP-093A (Cardno), DP-102A (Cardno) and 7 (GEI)
ECOREGION (LEVEL III):				

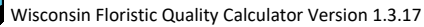
RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC̄ _a By Growth Form:				
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C̄ _n	Weighted Mean C wC̄ _n	FQI _a	w FQI _a	Mean C C̄ _a	Weighted Mean C wC̄ _a	Tree	Shrub	Herb	Aquatic	
11	8	3			11.0		3.9		9.3		2.8						
													0%	0%	0%	0%	:Total Cover

ENTER SPECIES CODE:	ENTER % COVER:	Scientific Name	Common Name	C-Value	Wetland Ind. Status (MW/NCNE)	WI Status	Growth Form	Duration	NHI Status	Invasive (NR40) Status	Accepted ITIS Name
TYPGLA		<i>Typha X glauca</i>	hybrid cat-tail, white cat-tail	0	OBL	Introduced	herb	perennial	0	Restricted	<i>Typha X glauca</i>
PHAARU		<i>Phalaris arundinacea</i>	reed canary grass	0	FACW	Introduced	herb	perennial	0	Non-restricted	<i>Phalaris arundinacea</i>
SPAPEC		<i>Spartina pectinata</i>	prairie cord grass, slough grass	5	FACW	Native	herb	perennial	0	0	<i>Spartina pectinata</i>
POAPAL		<i>Poa palustris</i>	fowl meadow grass, marsh bluegrass	5	FACW	Native	herb	perennial	0	0	<i>Poa palustris</i>
SALINT		<i>Salix interior</i>	sandbar willow	2	FACW	Native	shrub	perennial	0	0	<i>Salix interior</i>
FRAPEN		<i>Fraxinus pennsylvanica</i>	green ash, red ash	2	FACW	Native	tree	perennial	0	0	<i>Fraxinus pennsylvanica</i>
ULMAME		<i>Ulmus americana</i>	American elm, white elm	3	FACW	Native	tree	perennial	0	0	<i>Ulmus americana</i>
SPAEUR		<i>Sparganium eurycarpum</i>	broad-fruit bur-reed, common bur-reed,	5	OBL	Native	aquatic	perennial	0	0	<i>Sparganium eurycarpum</i>
CARLAC		<i>Carex lacustris</i>	common lake sedge	6	OBL	Native	herb	perennial	0	0	<i>Carex lacustris</i>
ALISUB		<i>Alisma subcordatum</i>	American water-plantain, common wate	3	OBL	Native	herb	perennial	0	0	<i>Alisma subcordatum</i>
LYTSAL		<i>Lythrum salicaria</i>	purple loosestrife, spiked loosestrife	0	OBL	Introduced	herb	perennial	0	Restricted	<i>Lythrum salicaria</i>



RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC̄ _a By Growth Form:				
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C̄ _n	Weighted Mean C wC̄ _n	FQI _a	w FQI _a	Mean C C̄ _a	Weighted Mean C wC̄ _a	Tree	Shrub	Herb	Aquatic	
9	6	3			12.2		5.0		10.0		3.3						
													0%	0%	0%	0%	:Total Cover

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RESULTS:		Non-Natives			Floristic Quality Metrics: Native Species (n)				Floristic Quality Metrics: All Species (a)				wC _a By Growth Form:				
N _a	N _n	N _{int.}	Non-Native Total Cover:	Non-Native Relative Cover	FQI _n	w FQI _n	Mean C C _n	Weighted Mean C wC _n	FQI _a	w FQI _a	Mean C C _a	Weighted Mean C wC _a	Tree	Shrub	Herb	Aquatic	
12	9	3			11.7		3.9		10.1		2.9						
													0%	0%	0%	0%	:Total Cover

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