



March 17, 2022

Carolyn Cooper
Hydrogeologist
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711-5367

Re: Request for Initial Site Inspection – Proposed Dane County Landfill Site No. 3
Dane County Department of Waste & Renewables

Dear Ms. Cooper:

On behalf of Dane County Department of Waste and Renewables (Dane County) and in accordance with the Wisconsin Administrative Code (WAC) NR 509.04, Cornerstone Environmental Group, a Tetra Tech company (Tetra Tech) is requesting an Initial Site Inspection (ISI) of the proposed Dane County Landfill Site No. 3, located in the City of Madison, Dane County, Wisconsin within a portion of the existing Yahara Hills Golf Course (Figure 1).

Included with this letter is the NR 509.04 Landfill ISI Request Completeness Checklist (Attachment 1). Tetra Tech, on behalf of Dane County, respectfully requests an initial site inspection at your earliest convenience.

Background

The proposed Dane County Landfill Site No. 3 will be a new landfill with an organics management area located contiguously with the new landfill. The precise location and orientation of these areas are still being evaluated; therefore, the limits of waste will be refined to an area of approximately 40 acres that is located within the approximately 115-acre area shown on Figures 1 and 3.

This ISI request identifies a proposed limits of disturbance to include additional area surrounding the proposed limits of waste to account for ancillary features such as perimeter berms, visual screening, soil stockpiles and stormwater management basins. The total area of the proposed limits of disturbance is approximately 230-acres. Dane County is in the process of purchasing the 230-acre area that includes property parcels 251/0710-254-0099-7 and 251/0710-361-0099-0 from the City of Madison.

Tetra Tech is providing the following information in accordance with WAC NR 509.04 (4):

Applicant:	Dane County Department of Waste & Renewables 1919 Alliant Energy Center Way, Madison, WI 53713
Authorized Facility Contact:	John Welch, Director of Waste & Renewables Phone: (608) 516-4154
Property Ownership:	City of Madison Parks Yahara Hills Golf Course (currently) Dane County (pending purchase)
Existing Facility Type:	Municipal Golf Course (Yahara Hills Golf Course)

Operation Proposed:	Non-hazardous Municipal Solid Waste (MSW) Landfill using Area Fill
Site Location:	Property Parcel No. 251/0710-254-0099-7 and 251/0710-361-0099-0 SE ¼ of Section 25 and N ½ of NE ¼ of Section 36, T7N, R10E, City of Madison, Dane County, Wisconsin.
Present Land Use:	Recreation (Golf Course) and Water (man-made Pond)

Surrounding Land Use and Residence Information

Residences within one mile of the proposed limits of disturbance are shown on Figure 1. There are no residences within the proposed limits of waste or proposed limits of disturbance. The nearest resident and assumed off-site private water supply well to the proposed limits of disturbance and proposed limits of waste is approximately 250 feet and 380 feet to the east, respectively. The Yahara Hills Golf Course has three water supply wells within the proposed limits of disturbance.

The land use within one mile of the proposed limits of disturbance is shown on Figure 2. The land use information was provided by Dane County Land Information Office. The land use for the proposed limits of disturbance area is entirely Recreation with one man-made pond. The proposed limits of disturbance is bound to the north by U.S. Highway 12 & 18 with the Dane County Landfill Site No. 2 beyond. County Highway AB bounds the eastern side of the proposed limits of disturbance with a mixture of agriculture, woodlands, open land and residential beyond. The Yahara Hills Golf Course continues to the west of the proposed limits of disturbance with agriculture, residential, and open land to the south. Land uses identified within one mile of the proposed limits of disturbance include agriculture, cemetery, commercial, communication/utilities, industrial, institutional/ governmental, open land, recreation, residential, transportation, under construction, vacant subdivided land, water and woodlands.

Known or Potential Impacts to Endangered and Threatened Species

An Endangered Resources Preliminary Assessment was conducted through the WDNR Natural Heritage Inventory (NHI) public portal, accessed online on March 10, 2022, for the proposed limits of disturbance area. The results of this assessment stated further actions are required to verify compliance. According to this preliminary assessment, the project site overlaps the Karner Blue Butterfly High Potential Range and the Rusty Patched Bumble Bee High Potential Zone. A copy of the preliminary assessment is provided as Attachment 2.

The WDNR published a Karner Blue Butterfly High Potential Range map in 2019. This map shows the approximate project location within Dane County which is outside the Karner Blue Butterfly High Potential Range (Attachment 3). The US Fish and Wildlife Service (USFWS) publishes an interactive map of the Rusty Patched Bumble Bee High and Low Potential Zones. According to this map, the proposed limits of disturbance is not located within the high potential zone.

A list of known endangered species present in Dane County, according to the USFWS, is included in Attachment 3. There are eight species currently recognized as endangered, threatened or proposed within Dane County - Northern Long-Eared Bat, Whooping Crane, Higgins Eye Pearly mussel, Sheepnose mussel, Rusty Patched Bumble Bee, Eastern Prairie Fringed Orchid, Mead’s Milkweed and Prairie Bush-clover. Based on the habitat description for the listed species, the historical and existing land use of the proposed limits of disturbance are not applicable or conducive to support these species. Of note, the non-suitable habitat for the Rusty Patched Bumble Bee includes “areas mowed too frequently to allow development of foraging resources.” The Yahara Hills Golf Course has been in operation since the late-1960s and requires frequent and routine mowing. It is believed that the golf course would be a non-suitable habitat for the Rusty Patched Bumble Bee with the potential presence being very low.

Known or Potential Impacts to Historic, Scientific or Archeological Areas

The proposed Dane County Landfill Site No. 3 is located on land previously disturbed by agriculture then by the construction and operation of the Yahara Hills Golf Course. If cultural resources were once within the proposed limits of disturbance, it is unlikely these still exist after the land was shaped and graded for the golf course.

Archaeological Consulting Services, Inc. (ACS) reviewed available literature and records on previously reported cultural resources in and around the Yahara Hills Golf Course. The reviewed study area included the proposed limits of disturbance. A report of investigations was prepared by ACS in November 2021 (Attachment 4). The results of this study found no previously reported archaeological sites within the study area. According to ACS, the closest archaeological site is approximately 350-meters to the north of the Yahara Hills Golf Course but several Euro-American farmsteads were located within the study area prior to the development of the golf course. No standing buildings or other structures in the study area are listed on the Wisconsin Architecture and History Inventory. The 1967 Club House has been identified as potentially significant and is located to the west (see Figure 3).

An Archaeological Survey Field Report, prepared by Commonwealth Heritage Group, Inc. in October 2020, was provided to Dane County by the State Historical Preservation Office which reported results of the cultural resources field survey for the proposed Wisconsin Department of Transportation (WisDOT) US Highway 12 & 18, County Highway AB Interchange project (Attachment 5). A portion of the proposed limits of disturbance was previously studied as part of this WisDOT project. The reported findings stated, “no cultural materials or features were identified during survey”.

Locational Criteria and Performance Standard Review

NR 504.04(3) and NR 502.12(8) Locational Criteria Assessment

NR 504.04(3)(a) within 1,000 feet of any navigable lake, pond or flowage:

The proposed limits of waste is located within 1,000 feet of a navigable lake, pond or flowage. According to the WDNR Surface Water Data Viewer, an unnamed pond (WBIC 5575561) is located within the proposed limits of waste. A preliminary review of historical aerial imagery indicates this unnamed pond is not naturally occurring but was man-made for operation and maintenance of the golf course. Construction of the proposed Dane County Landfill Site No. 3 would remove the unnamed man-made pond as well as any unsuitable soils prior to constructing the landfill liner system. Surface water features from the WDNR’s Surface Water Data Viewer are shown on Figures 1 and 3.

NR 504.04(3)(b) within 300 feet of any navigable river or stream:

The proposed limits of waste is not located within 300 feet of any navigable stream or river. An unnamed river or stream (WBIC 803000) is located southeast of the proposed limits of waste. At its nearest point, the unnamed stream is approximately 850-feet from the proposed limits of disturbance and approximately 950-feet from the proposed limits of waste. This unnamed stream flows to the northeast and discharges into Door Creek (WBIC 802800). Surface water features are shown on Figures 1 and 3.

NR 504.04(3)(c) within a floodplain:

The proposed limits of waste is not located within a floodplain, as shown on Figure 1.

NR 504.04(3)(d) within 1,000 feet of the nearest edge of the right-of-way of any state trunk highway, interstate, federal aid primary highway or the boundary of any public park unless the landfill is screened by natural objects, plantings, fences or other appropriate means so that it is not visible from the highway or park:

The proposed limits of waste will be located approximately 425 feet to the south of US Highway 12 & 18 and approximately 150 feet to the west of County Highway AB. Interstate I-90/I-39 is approximately 1,350 feet southwest from the proposed limits of waste.

The City of Madison has indicated that they plan to maintain at least 18 holes of the Yahara Hills Golf Course after the proposed Dane County Landfill Site No. 3 is constructed. The proposed limits of waste, as shown in Figure 3, overlaps portions of the currently proposed 18-hole golf course. The final routing of the golf course may be subject to change through the City of Madison's reconfiguration of the golf course and Dane County would not utilize this area if it conflicted with the plans for golf. Dane County has included this area for the ISI request to depict the maximum limits of waste in the event golf does not remain in that area at the time that it would need to be developed for landfill use.

Dane County will propose appropriate screening measures from US Highway 12 & 18, County Highway AB and the Yahara Hills Golf Course, as required in future submittals for the proposed Dane County Landfill Site No. 3.

NR 504.04(3)(e) within an area where the design or operations of the landfill would pose a significant bird hazard to aircraft.

There are no airports designed or planned to be designed within 5,000 feet or 10,000 feet of the proposed limits of waste. The nearest public airport is the Blackhawk Airfield, located in Cottage Grove, and Dane County Regional Airport, located in Madison, Wisconsin. Blackhawk Airfield and Dane County Regional Airport are located approximately 5.25 miles and 7 miles from the proposed limits of waste, respectively. The nearest private use airport is the Quale Airport, located in Cottage Grove, approximately 3 miles from the proposed limits of waste.

NR 504.04(3)(f) within 1,200 feet of a public or private well:

Three private water supply wells (PW-C, PW-D and PW-E), owned by the City of Madison, are used to service the Yahara Hills Golf Course and are located within the proposed limits of waste (Figure 3). These private wells are proposed to be abandoned prior to constructing the proposed Dane County Landfill Site No. 3. Private water supply wells PW-A and PW-B are located approximately 1,250 feet south and approximately 1,100 feet west of the proposed limits of waste, respectively (Figure 3).

Four assumed private water supply wells are located east of County Highway AB where residences are located. These private wells are assumed to be located approximately 380, 800, 1,000 and 1,030 feet from the proposed limits of waste. One assumed private water supply well associated with a residence is located approximately 1,100 feet southwest of the proposed limits of waste. A known private water supply well (Biogas Well YZ391) is located approximately 990 feet north of the proposed limits of waste, adjacent to the Biogas Facility for the Dane County Landfill Site No. 2.

Proposed Dane County Landfill Site No. 3
ISI Request

Other assumed or known private and public water supply wells are located beyond 1,200 feet from the proposed limits of waste. See Figures 1 and 3 for assumed and known public and private water supply well locations.

NR 504.04(3)(g) within 200 feet of a fault that has had displacement in Holocene time:

The proposed Dane County Landfill Site No. 3 is not located within 200 feet of a fault that has had displacement in Holocene times. No faults in Wisconsin are known to have had displacements since the Holocene time.

NR 504.04(3)(h) within seismic impact zones:

The proposed Dane County Landfill Site No. 3 is not within a seismic impact zone.

NR 504.04(3)(i) within unstable areas:

The bedrock beneath the proposed Dane County Landfill Site No. 3 consists of Prairie du Chien Group dolomite and sandstone and/or the Cambrian Sandstone. Based on previous site geologic studies at the Dane County Landfill Site No. 2 and supply wells drilled at the golf course, there is no evidence of unstable conditions.

NR 504.04(4) and NR 502.04(1) Performance Standards Assessment

NR 504.04(4)(a) A significant adverse impact on wetlands:

Based on a review of the WDNR mapped wetlands, the proposed limits of disturbance would directly impact one wetland. The WDNR Surface Water Data Viewer showed a wetland overlapping the unnamed man-made pond within the limits of waste. This wetland is classified as W0Hx (Open water, Subclass unknown, Wet soil - Palustrine, Excavated) and is approximately 2.27-acres in size. The WDNR also indicated the presence of “wetlands too small to delineate” in the northeast corner of the proposed limits of disturbance. Figure 3 includes the known wetland boundaries from the WDNR Mapped Wetlands.

Wetland indicators within the northeast portion of the proposed limits of disturbance include Os (Orion silt loam, wet) and VwA (Virgil silt loam, gravelly substratum, 0 to 3 percent slopes) soil descriptions. A map of the known wetlands and wetland indicators prepared from the WDNR Surface Water Data Viewer on March 11, 2022 is provided in Attachment 6.

Dane County will conduct wetland delineations and initiate the appropriate wetland permitting process if the field delineations indicate wetlands will be impacted as a result of the proposed Dane County Landfill Site No. 3.

NR 504.04(4)(b) A take of an endangered or threatened species:

According to the USFWS interactive map and WDNR published map, there is a low potential for the presence of the Rusty Patched Bumble Bee and Karner Blue Butterfly identified through the NHI public portal, as previously discussed. The proposed limits of disturbance are not anticipated to take an endangered or threatened species.

An Environmental Resources Review (ERR) application will be submitted to the WDNR following this ISI request. A copy of the ERR application and response from the WDNR will be included with future permitting submittals to the WDNR for the proposed Dane County Landfill Site No. 3.

NR 504.04(4)(c) A detrimental effect on any surface water:

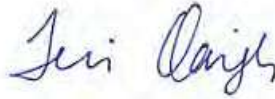
No naturally occurring surface water is located in or immediately adjacent to the proposed limits of disturbance. Surface water runoff from the proposed Dane County Landfill Site No. 3 will be managed in accordance with NR 216 and NR 500 and will pose no detrimental effect on surface water.

NR 504.04(4) subsections (d) through (f) are not required to be evaluated as part of the NR 509.04(4) requirements for an ISI request.

Please contact Teri Daigle at (630) 410-7231 or teri.daigle@tetratech.com with any questions regarding the provided information. Dane County will transmit the required inspection fee in a separate submittal.

Sincerely,

CORNERSTONE ENVIRONMENTAL GROUP, LLC – A TETRA TECH COMPANY



Teri Daigle
Project Manager

Enclosures:

Figures:

- Figure 1 – Site Location Map
- Figure 2 – Land Use Map
- Figure 3 – Existing Conditions Map

Attachments:

- Attachment 1 – WDNR NR 509.04 Initial Site Inspection Request Completeness Checklist
- Attachment 2 – Endangered Resources Preliminary Assessment (March 10, 2022)
- Attachment 3 – USFWS List of Current Federally Listed Endangered, Threatened and Proposed Species for Dane County (January 2018)
WDNR Karner Blue Butterfly High Potential Range Map (2019)
- Attachment 4 – A Literature and Records Search on the Previously Reported Cultural Resources in and Near the Yahara Hills Golf Course in Madison, Dane County, Wisconsin (ACS, November 2021)
- Attachment 5 – Archaeological Survey Field Report, USH 12/18, CTH AB Interchange, Dane County, Wisconsin (Commonwealth Heritage Group, October 2020)
- Attachment 6 – WDNR Surface Water Data Viewer Map of Wetlands and Wetland Indicator Soils (March 11, 2022)

Proposed Dane County Landfill Site No. 3
ISI Request

cc: Ann Bekta, WDNR (1 Hard Copy and Electronic Copy)
Valerie Joosten, WDNR (Electronic Copy)
Joe Lourigan, WDNR (Electronic Copy)
John Welch, Dane County (1 Hard Copy and Electronic Copy)
Allison Rathsack, Dane County (1 Hard Copy and Electronic Copy)
John Oswald, P.G., Tetra Tech (Electronic Copy)
Mark Torresani, P.E., Tetra Tech (Electronic Copy)

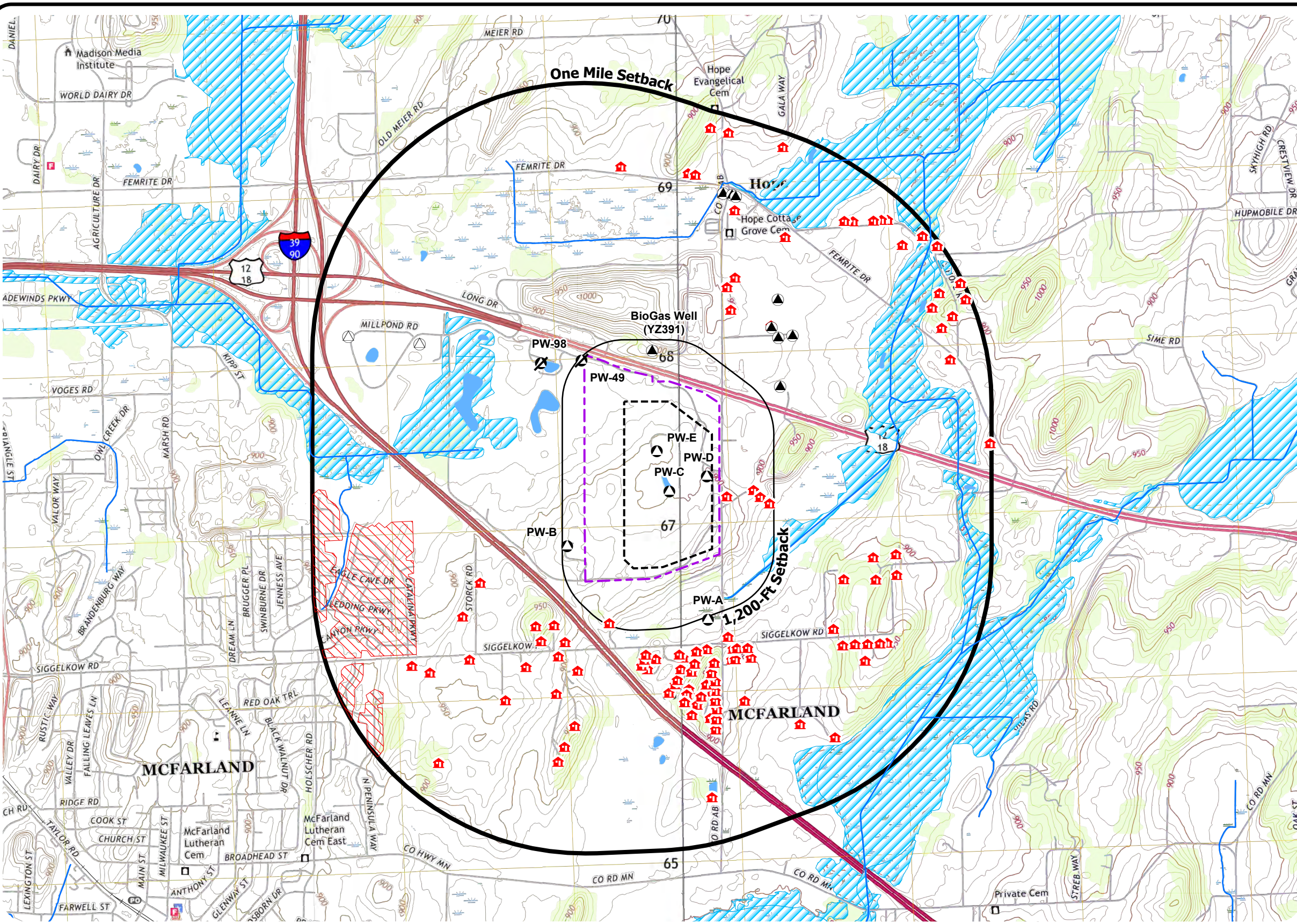
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FIGURES

Figure 1 – Site Location Map

Figure 2 – Land Use Map

Figure 3 – Existing Conditions Map



- Legend**
- Proposed Landfill Limits of Disturbance
 - Proposed Landfill Limits of Waste
 - Setback 1-Mile from Limits of Disturbance
 - Setback 1,200-ft from Limits of Waste
 - Stream
 - Waterbody
 - FEMA 100-Year Floodplain
 - Assumed Offsite Private Well, Approximate Location
 - Known Offsite Private Well, Approximate Location
 - Known Yahara Hills Private Well, Approximate Location
 - Abandoned Private Well
 - Residence and Assumed Offsite Private Well, Approximate
 - Residential Development on City Water Supply



NOTES:
 1. Streams, Waterbodies and Floodplains are from WDNR Surface Water Data Viewer.

BASEMAP SOURCE:
 USGS Topographic Quadrangles 7.5 Minute Series: Madison East, WI (2022)
 Series: Cottage Grove, WI (2022)

Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 Datum: North American 1983



REV	DATE	DESCRIPTION	DES BY	DWN BY	CHK BY	APP BY

DATE OF ISSUE	DESIGNED BY	SSW	CHECKED BY	TD
3/17/2022	DRAWN BY	SSW	APPROVED BY	JO

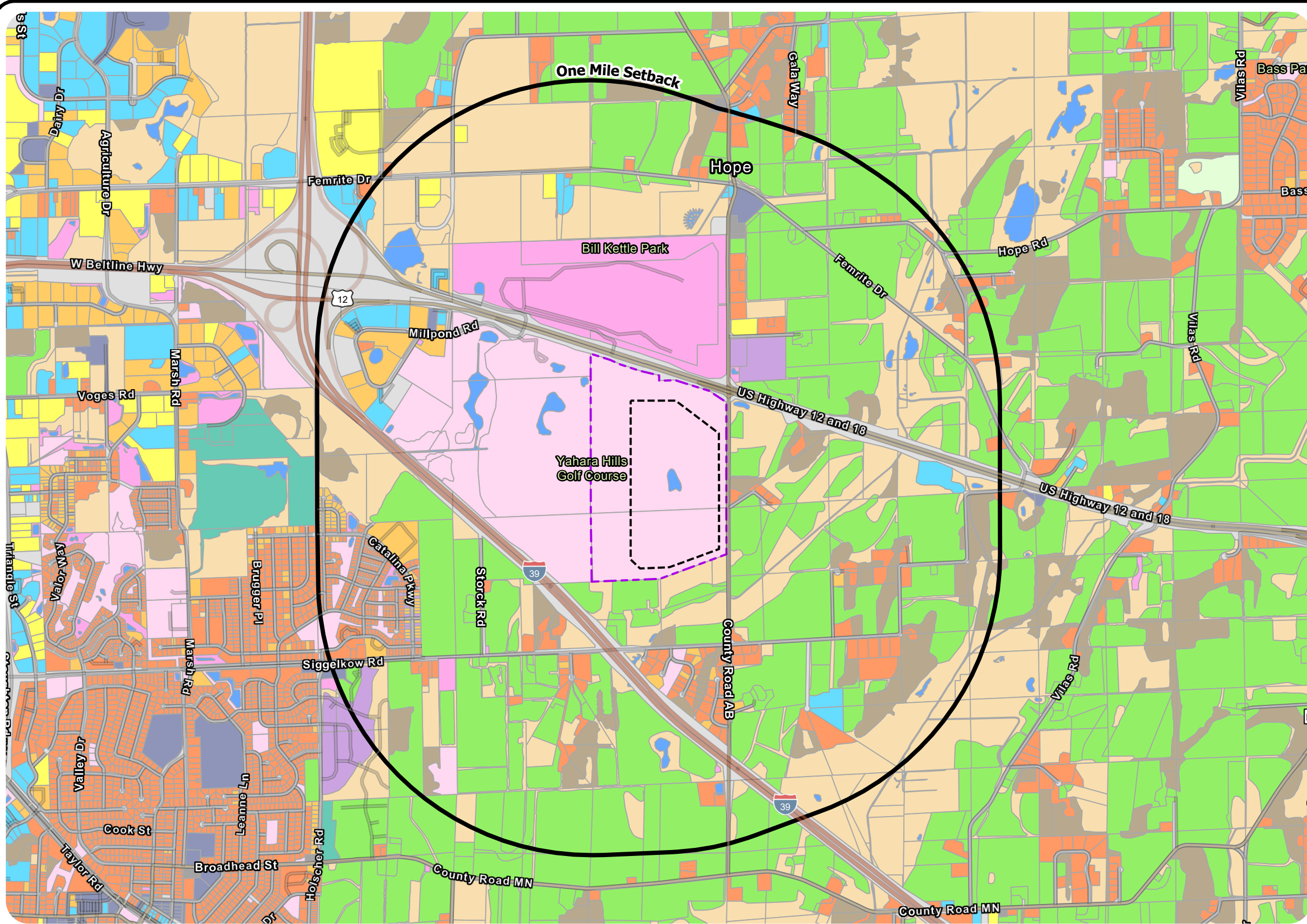
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Dane County Waste & Renewables Department
 City of Madison, Dane County, Wisconsin
 Proposed Dane County Landfill Site No. 3
INITIAL SITE INSPECTION
SITE LOCATION MAP

FIGURE NO.
1
 PROJECT NO.
 4221302

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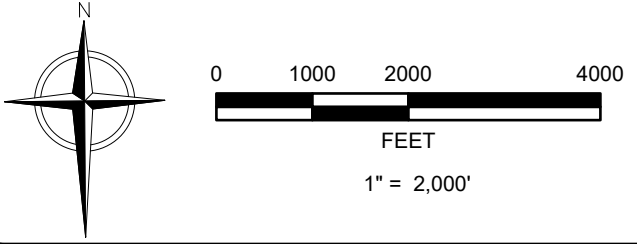
- Legend**
- Proposed Landfill Limits of Disturbance
 - Proposed Landfill Limits of Waste
 - Setback
- Land Use**
- Agriculture
 - Cemetery
 - Commercial
 - Communication/Utilities
 - Fallow Farm Field
 - Industrial
 - Institutional/Governmental
 - Mineral Extraction
 - Open Land
 - Recreation
 - Residential
 - Transportation
 - Under Construction
 - Vacant Subdivided Land
 - Water
 - Woodlands



SOURCE:
Land use information is from 2015 and supplied by Dane County.

Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
Datum: North American 1983

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REV	DATE	DESCRIPTION	DES BY	DWN BY	CHK BY	APP BY

DATE OF ISSUE	DESIGNED BY	SSW	CHECKED BY	TD
3/17/2022	DRAWN BY	SSW	APPROVED BY	JO

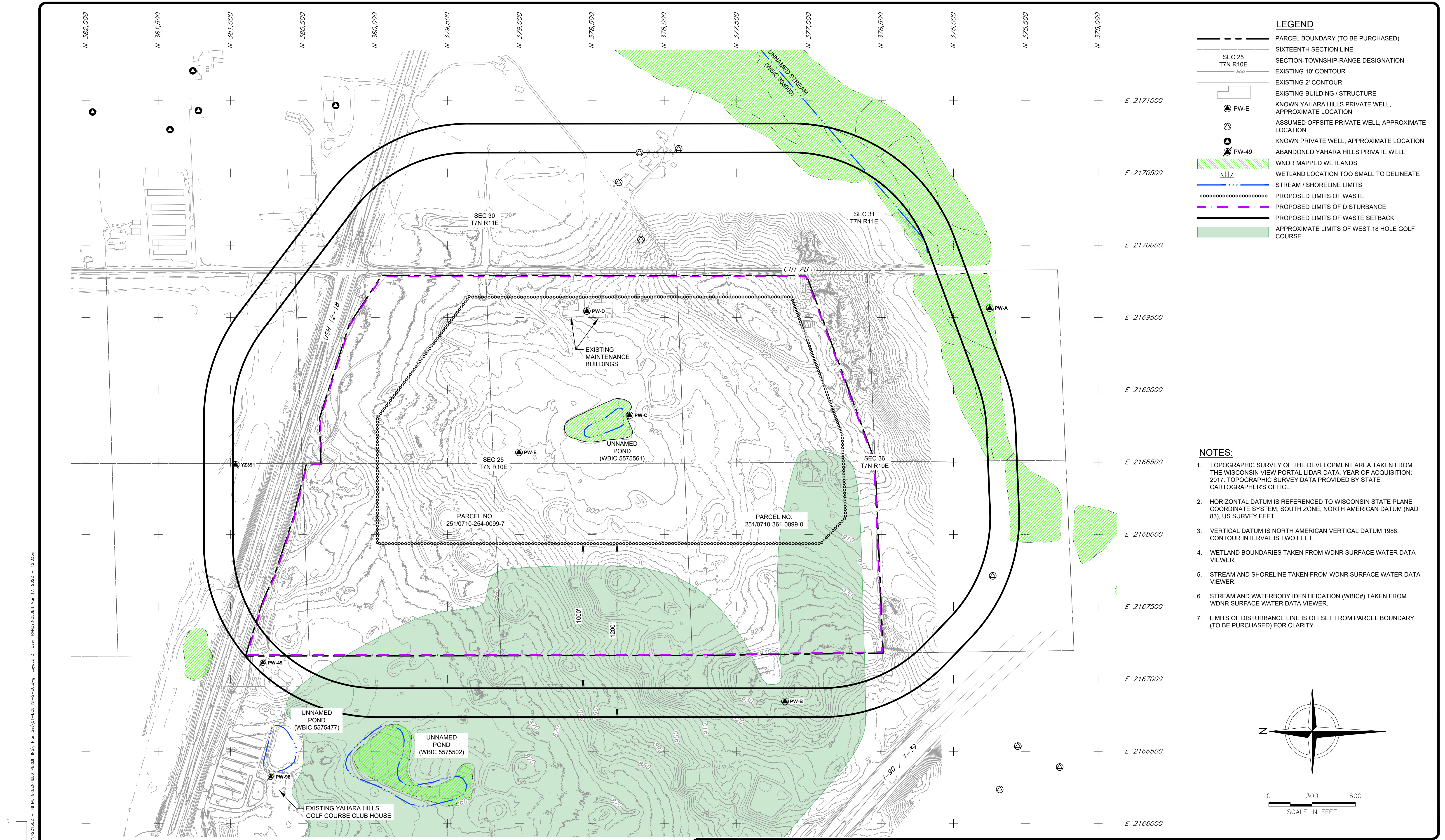
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Dane County Waste & Renewables Department
City of Madison, Dane County, Wisconsin
Proposed Dane County Landfill Site No. 3
INITIAL SITE INSPECTION
LAND USE MAP

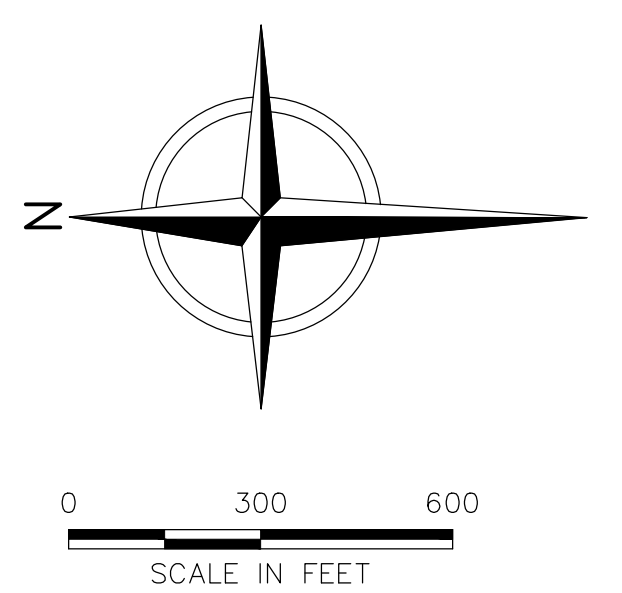
FIGURE NO.
2
PROJECT NO.
4221302



LEGEND

- PARCEL BOUNDARY (TO BE PURCHASED)
- SIXTEENTH SECTION LINE
- SECTION-TOWNSHIP-RANGE DESIGNATION
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING BUILDING / STRUCTURE
- KNOWN YAHARA HILLS PRIVATE WELL, APPROXIMATE LOCATION
- ASSUMED OFFSITE PRIVATE WELL, APPROXIMATE LOCATION
- KNOWN PRIVATE WELL, APPROXIMATE LOCATION
- ABANDONED YAHARA HILLS PRIVATE WELL
- WNDP MAPPED WETLANDS
- WETLAND LOCATION TOO SMALL TO DELINEATE
- STREAM / SHORELINE LIMITS
- PROPOSED LIMITS OF WASTE
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED LIMITS OF WASTE SETBACK
- APPROXIMATE LIMITS OF WEST 18 HOLE GOLF COURSE

- NOTES:**
1. TOPOGRAPHIC SURVEY OF THE DEVELOPMENT AREA TAKEN FROM THE WISCONSIN VIEW PORTAL LIDAR DATA, YEAR OF ACQUISITION: 2017. TOPOGRAPHIC SURVEY DATA PROVIDED BY STATE CARTOGRAPHER'S OFFICE.
 2. HORIZONTAL DATUM IS REFERENCED TO WISCONSIN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NORTH AMERICAN DATUM (NAD 83), US SURVEY FEET.
 3. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988. CONTOUR INTERVAL IS TWO FEET.
 4. WETLAND BOUNDARIES TAKEN FROM WDNR SURFACE WATER DATA VIEWER.
 5. STREAM AND SHORELINE TAKEN FROM WDNR SURFACE WATER DATA VIEWER.
 6. STREAM AND WATERBODY IDENTIFICATION (WBIC#) TAKEN FROM WDNR SURFACE WATER DATA VIEWER.
 7. LIMITS OF DISTURBANCE LINE IS OFFSET FROM PARCEL BOUNDARY (TO BE PURCHASED) FOR CLARITY.

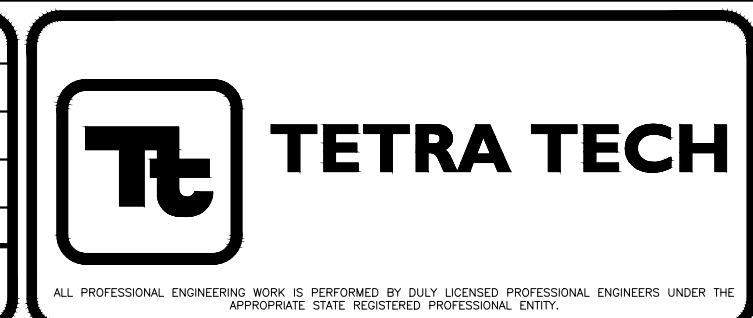


File: X:\PROJECTS\DADE COUNTY\4221302 - INITIAL GREENFIELD PERMITTING\Plan Set\01-301-31-5-EC.dwg Layout: 3 User: RANDYANDEN Mar 17, 2022 - 15:03pm
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REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

DATE OF ISSUE: MAR, 2022
 DRAWN BY: RBN
 DESIGNED BY: RBN
 CHECKED BY: TD
 APPROVED BY: JCO



DANE COUNTY WASTE & RENEWABLES DEPARTMENT
PROPOSED DANE COUNTY LANDFILL SITE NO. 3
CITY OF MADISON, DANE COUNTY, WISCONSIN

INITIAL SITE INSPECTION
EXISTING CONDITIONS MAP

FIGURE NO.
3
 PROJECT NO.
 4221302

ATTACHMENT 1

WDNR NR 509.04 Initial Site Inspection Request Completeness Checklist

LANDFILL INITIAL SITE INSPECTION REQUEST COMPLETENESS CHECKLIST

SECTION NR 503.07, WISCONSIN ADMINISTRATIVE CODE – C&D AND ONE-TIME DISPOSAL LANDFILLS SECTION NR 509.04, WISCONSIN ADMINISTRATIVE CODE – ALL OTHER LANDFILLS

Refer to Applicable Codes for Exact Requirements

General Information

Applicant:

Applicant Name: Dane County Dept. of Waste & Renewables

Contact/Title: John Welch, Director of Waste & Renewables

Address: 1919 Alliant Center Way, Madison, WI 53713

Phone #: (608) 516-4154

FID #: Not assigned

Site Location: Yahara Hills Golf Course

6701 U.S. Highway 12 & 18, Madison, WI 53718

Date of Initial Site Inspection Request: _____

Consultant:

Consultant Name: Tetra Tech

Contact/Title: Teri Daigle, Project Manager

Address: 8413 Excelsior Drive, Suite 160, Madison, WI 53717

Phone #: 630-410-7231

Date Project Entered into FIST System: _____

Date ISI is Due (Max. 22 bus. Days after receipt of request):

Legal Note:

This document is intended solely as guidance, and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. This guidance does not establish or affect legal rights or obligations and is not finally determinative of any of the issues addressed. This guidance does not create any rights enforceable by any party in litigation with the State of Wisconsin Department of Natural Resources. Any regulatory decisions made by the Department of Natural Resources in any matter addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.

GENERAL SUBMITTAL REQUIREMENTS - NR 503.07(2) or 509.04(2)		Y	N	NA	LOCATION	COMMENTS
1.	Report sent to region and central office	Y				
2.	Current standard technical procedures used and test methods specified – NR 500.05(5)	Y				
3.	Visuals - NR 500.05(6)					
a.	8.5x11 to 32x44 inches in size	Y				
b.	Appropriate scale to show all required details with sufficient clarity	Y				
c.	Be numbered; referenced in the narrative; have a title, legend, horizontal and vertical scales; and drafting or origination dates	Y				
d.	Uniform scales	Y				Figure 3 provided at 1"=300' to show greater detail for review
e.	North arrow	Y				
f.	Mean sea level as basis for all elevations	Y				
g.	Survey grid based on field monuments and utilizing a coordinate system acceptable to the department	Y				
h.	Original topography and grid system on plan sheets showing construction, operation or closure topography	Y				
i.	Cross-sections include survey grid location, reference to major plan sheets and reduced diagram of cross-section location plan view map			X		
3.	Table of contents – NR 500.05(7)			X		
4.	Appendix listing all references, raw data, testing and sampling procedures and calculations – NR 500.05(8)			X		

LANDFILL REQUEST MINIMUM REQUIREMENTS - NR 503.07(4) or 509.04(4)		Y	N	NA	LOCATION	COMMENTS
1.	Cover Letter					
	a. Applicant identified	Y			Page 1	
	b. Authorized contact identified	Y			Page 1	
	c. Current property owner identified	Y			Page 1	
	d. Type of landfill being proposed	Y			Page 2	
	e. Project location by ¼, ¼ section	Y			Page 2	
	f. Present land use	Y			Page 2	
2.	Known potential impacts to endangered and threatened species - NR 29	Y			Page 2	
3.	Known potential impacts to historic, scientific or archeological areas, including prior studies or surveys, identified - s. 44.40, Wis. Stats.	Y			Page 3	
4.	Enlarged 7.5 minute USGS map or equivalent (minimum 1"=500')					
	a. Ground surface relief within one mile of project	Y			Figure 1	
	b. Surface water bodies within one mile of project	Y			Figure 1	
	c. Floodplains within one mile of project	Y			Figure 1	
	d. Existing land use within one mile of project	Y			Figure 2	
	e. All water supply wells and residences within one mile of project	Y			Figure 1	
5.	Preliminary identification of all potential conflicts with locational criteria and performance standards in: <ul style="list-style-type: none"> • for C&D and one-time disposal landfills, NR 503.04 • for all other landfills, NR 504.04 excluding NR 504.04(4)(d) to (f) 	Y			Pages 3 - 6	

ATTACHMENT 2

Endangered Resources Preliminary Assessment (March 10, 2022)



Endangered Resources Preliminary Assessment

Created on **3/10/2022**. This report is good for one year after the created date.

DNR staff will be reviewing the ER Preliminary Assessments to verify the results provided by the Public Portal. ER Preliminary Assessments are only valid if the project habitat and waterway-related questions are answered accurately based on current site conditions. If an assessment is deemed invalid, a full ER review may be required even if the assessment indicated otherwise.

Results

A search was conducted of the NHI Portal within a 1-mile buffer (for terrestrial and wetland species) and a 2-mile buffer (for aquatic species) of the project area. Based on these search results, below are your follow-up actions.

Further actions are required to ensure compliance with Wisconsin's Endangered Species Law (s. 29.604 Wis. Stats.) and the Federal Endangered Species Act (16 USC ss 1531-43).

One or more of the following situations apply:

- The species recorded are state or federal threatened or endangered animals.
- The species recorded are state threatened or endangered plants on public land.
- The species recorded are federal threatened or endangered plants on federal land or involve federal funds or a federal permit.
- The project site overlaps the Karner Blue Butterfly High Potential Range.
- The project overlaps the Rusty Patched Bumble Bee High Potential Zone.

Therefore you should request an Endangered Resources Review <https://dnr.wi.gov/topic/ERReview/Review.html>. An ER Review is the mechanism to ensure compliance with Wisconsin's Endangered Species Law (s. 29.604 Wis. Stats.) and the Federal Endangered Species Act (16 USC ss 1531-43). The ER Review will list the endangered resources that have been recorded within the vicinity of the project area and follow-up actions may be necessary.

A copy of this document can be kept on file and submitted with any other necessary DNR permit applications to show that the need for an ER Review has been met. This notice only addresses endangered resources issues. This notice does not constitute DNR authorization of the proposed project and does not exempt the project from securing necessary permits and approvals from the DNR and/or other permitting authorities.

Project Information

Landowner name	Yahara Hills Golf Course
Project address	7101 US Highway 12 & 18, Madison, WI 53718
Project description	Potential Greenfield Site

Project Questions

Does the project involve a public property?	Yes
Is there any federal involvement with the project?	No
Is the project a utility, agricultural, forestry or bulk sampling (associated with mining) project?	No
Is the project property in Managed Forest Law or Managed Forest Tax Law?	No
Project involves tree removal?	Yes
Is project near (within 300 ft) a waterbody or a shoreline?	Yes

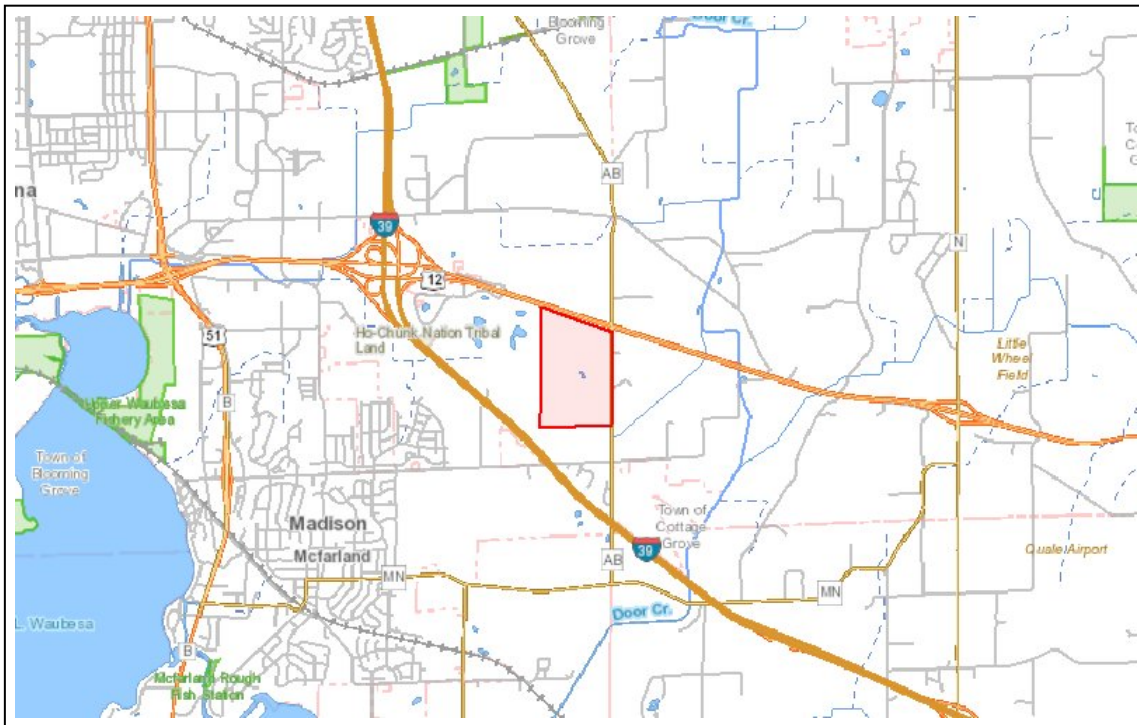
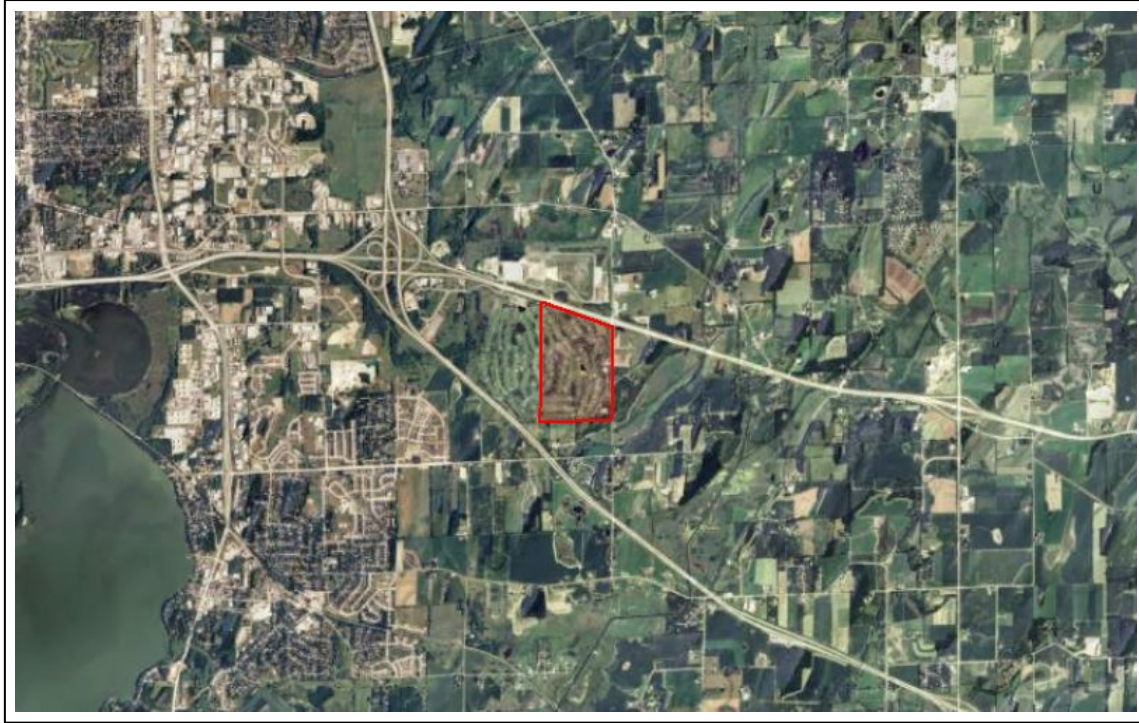
Public Portal ID: **2ue5V4hel**

3/10/2022, 3:13:47 PM

Is project within a waterbody or along the shoreline? **Yes**

Does the project area (including access routes, staging areas, laydown yards, select sites, source/fill sites, etc.) occur **entirely within** one or more of the following habitats?

Urban/residential	No
Manicured lawn	No
Artificial/paved surface	No
Agricultural land	No
Areas covered in crushed stone or gravel	No



The information shown on these maps has been obtained from various sources, and is of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. Users of these maps should confirm the ownership of land through other means in order to avoid trespassing. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/legal/>.

<https://dnrx.wisconsin.gov/nhiportal/public>

101 S. Webster Street . PO Box 7921 . Madison, Wisconsin 53707-7921

ATTACHMENT 3

USFWS List of Current Federally Listed Endangered, Threatened and Proposed Species for Dane County
(January 2018)

WDNR Karner Blue Butterfly High Potential Range Map (2019)

Wisconsin

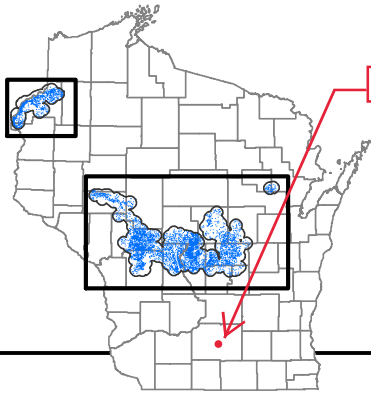
County Distribution of Federally-listed Endangered, Threatened and Proposed Species

Jan. 10, 2018

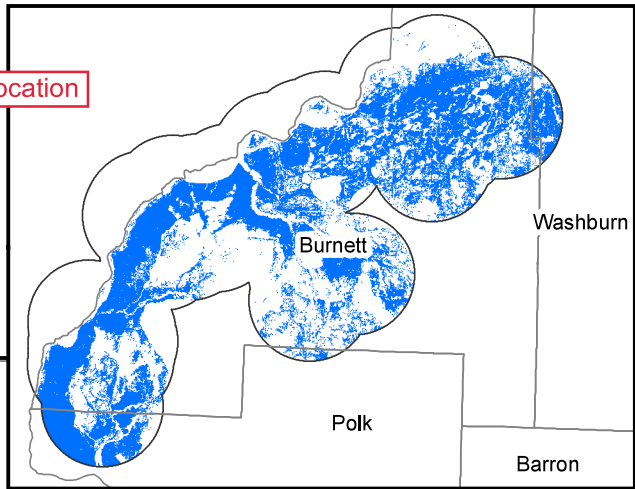
County	Species	Status	Habitat
Adams	Gray wolf <i>Canis lupus</i>	Endangered	Northern forested areas
	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests and woods.
	Kirtland's warbler <i>Setophaga kirtlandii</i>	Endangered	Young jack pine stands (5 to 25 years old)
	Whooping crane <i>Grus americanus</i>	**Non-essential experimental population	Open wetlands and lakeshores Whooping cranes have nested in this county
	Karner blue butterfly <i>Lycaeides melissa samuelis</i>	Endangered	Prairie, oak savanna, and jack pine areas with wild lupine
Ashland	Canada lynx <i>Lynx canadensis</i>	Threatened	While no resident populations are known from Wisconsin, the species occasionally occurs in northern forested areas, and counties listed are those with the highest likelihood of occurrence.
	Gray wolf <i>Canis lupus</i>	Endangered	Northern forested areas
	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. During summer, roosts and forages in upland forests.
	Piping plover <i>Charadrius melodus</i>	Endangered	Sandy beaches; bare alluvial and dredge spoil islands
	Piping plover <i>Charadrius melodus</i>	Critical Habitat Designated	
	Rufa red knot <i>(Calidris canutus rufa)</i>	Threatened	Along Lake Superior
Barron	Gray wolf <i>Canis lupus</i>	Endangered	Northern forested areas
	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. During summer, roosts and forages in upland forests.

County	Species	Status	Habitat
	Mead's milkweed (<i>Asclepias meadii</i>)	Threatened	Upland tallgrass prairie or glade/barren habitat Note: all the Mead's milkweed sites in Wisconsin are reintroduction attempts and occur on protected conservation lands.
	Prairie bush-clover (<i>Lespedeza leptostachya</i>)	Threatened	Dry to mesic prairies with gravelly soil
Crawford	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. During summer, roosts and forages in upland forests.
	Whooping crane (<i>Grus americanus</i>)	**Non-essential experimental population	Open wetlands and lakeshores
	Higgins eye pearly mussel (<i>Lampsilis higginsii</i>)	Endangered	Mississippi River
	Sheepnose (<i>Plethobasus cyphus</i>)	Endangered	Shallow areas in larger rivers and streams
	Spectaclecase (<i>Cumberlandia monodonta</i>)	Endangered	Mississippi River Note: EO for Crawford county is historic-last observation 1982
	Rusty patched bumble bee <i>Bombus affinis</i> Note for project proponents: this bee is not known to occur throughout the entire counties. To determine if your project or ongoing action is within an area that is likely to have the rusty patched bumble bee, use our online tool at https://ecos.fws.gov/ipac/	Endangered	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.
Dane	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. During summer, roosts and forages in upland forests.
	Whooping crane (<i>Grus americanus</i>)	**Non-essential experimental population	Open wetlands and lakeshores
	Higgins eye pearly mussel (<i>Lampsilis higginsii</i>)	Endangered	Lower Wisconsin River
	Sheepnose (<i>Plethobasus cyphus</i>)	Endangered	Shallow areas in larger rivers and streams

County	Species	Status	Habitat
	Rusty patched bumble bee <i>Bombus affinis</i> Note for project proponents: this bee is not known to occur throughout the entire counties. To determine if your project or ongoing action is within an area that is likely to have the rusty patched bumble bee, use our online tool at https://ecos.fws.gov/ipac/	Endangered	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.
	Eastern prairie fringed orchid <i>(Platanthera leucophaea)</i>	Threatened	Wet grasslands
	Mead's milkweed <i>(Asclepias meadii)</i>	Threatened	Upland tallgrass prairie or glade/barren habitat Note: all the Mead's milkweed sites in Wisconsin are reintroduction attempts and occur on protected conservation lands.
	Prairie bush-clover <i>(Lespedeza leptostachya)</i>	Threatened	Dry to mesic prairies with gravelly soil
Dodge	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. During summer, roosts and forages in upland forests.
	Whooping crane <i>(Grus americanus)</i>	**Non-essential experimental population	Open wetlands and lakeshores
	Rusty patched bumble bee <i>Bombus affinis</i> Note for project proponents: this bee is not known to occur throughout the entire counties. To determine if your project or ongoing action is within an area that is likely to have the rusty patched bumble bee, use our online tool at https://ecos.fws.gov/ipac/	Endangered	Grasslands with flowering plants from April through October, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter.
Door	Northern long-eared bat <i>Myotis septentrionalis</i>	Threatened	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. During summer, roosts and forages in upland forests.
	Hine's emerald dragonfly <i>(Somatochlora hineana)</i>	Endangered	Calcareous streams & associated wetlands overlying dolomite bedrock

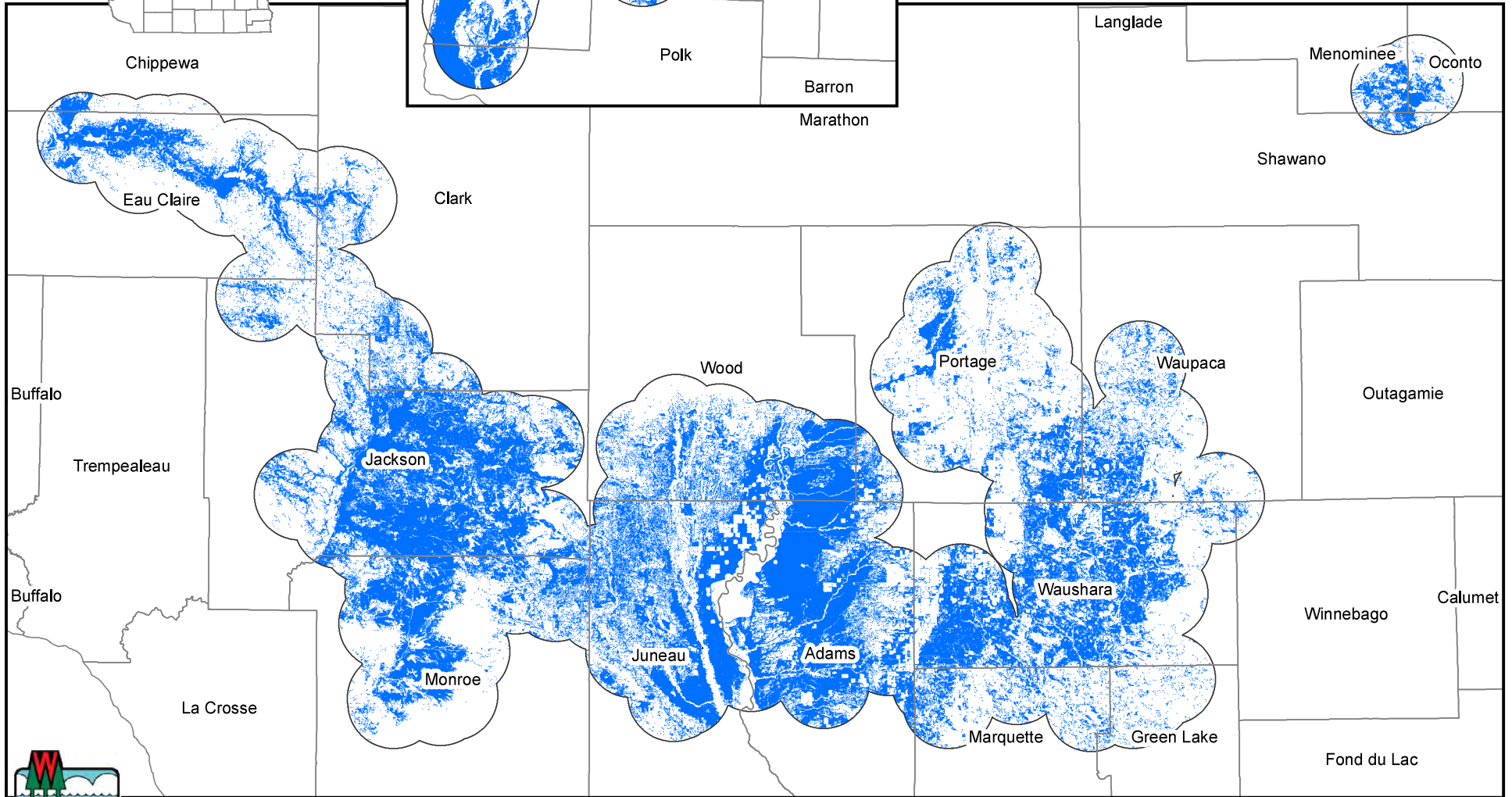
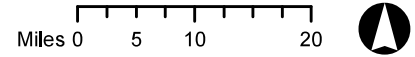


Project Location



Karner Blue Butterfly High Potential Range 2019

- High Potential Range
- 5 mile buffer around sites



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ATTACHMENT 4

A Literature and Records Search on the Previously Reported Cultural Resources in and Near the Yahara Hills Golf Course in Madison, Dane County, Wisconsin (ACS, November 2021)



**Archaeological
Consulting and
Services, Inc.**

*A LITERATURE AND RECORDS SEARCH ON THE PREVIOUSLY REPORED
CULTURAL RESOURCES IN AND NEAR THE YAHARA HILLS GOLF
COURSE IN MADISON, DANE COUNTY, WISCONSIN*

REPORT OF INVESTIGATIONS NO. 2185

PREPARED BY:

*PHILIP H. SALKIN
ARCHAEOLOGICAL CONSULTING AND SERVICES, INC.
POB 260274
MADISON, WISCONSIN 53726-02274*

NOVEMBER, 2021

PROJECT SUMMARY

Title: A Literature and Records Search on the Previously Reported Cultural Resources in and Near the Yahara Hills Golf Course in Madison, Dane County, Wisconsin

I.D.: ACS 2185

Principal Investigator: Philip H. Salkin
Archaeological Consulting and Services, Inc.
POB 260274
Madison, Wisconsin 53526-0274

Project Personnel: Lauren Glover

Contractor: Dane County Department of Waste and Renewables
7102 USH 12
Madison, Wisconsin 533718

Methods: Literature and Records Search

Results of the Study:

No previously reported archaeological sites lie within the project area, although the closest is approximately 350 meters to the north. Several Euro-American farmsteads were within the project area prior to the development of the golf course. No standing buildings or other structures in the project area are listed on the Wisconsin Architectural/Historical Inventory, but the 1967 Club House is immediately to the west.

Recommendations:

Portions of the project area to be disturbed by the potential landfill should be archaeologically surveyed prior to construction. However, portions of the project area were not well-drained in the past and most of it has been disturbed by cultivation and then the construction of the golf course. Consultation with the State Historic Preservation Office and the Wisconsin DNR will help to craft the best approach to any archaeological studies, considering the lack of previously reported archaeological sites and wet and/or disturbed conditions.

Date of Research: November, 2021

Date of Report: November, 2021

Abstract

In November, 2021, the author conducted a literature and records search on the previously reported cultural resources associated with the potential redevelopment of a portion of the Yahara Golf Course into a landfill in the City of Madison, Wisconsin. In the course of the study, various data sources were checked on the previously reported Native American and Euro-American archaeological resources in and around the project area. The Wisconsin Architectural and Historical Inventory was examined to see if any potential significant architectural resources might be impacted.

The study indicated that no previously reported archaeological sites lie in the project area. However, sites are reported for the Rodenfeld Landfill area north of USH 12/18 in Sec. 25, T7N, R10E, the closest within about 350 meters of the project area. Other sites lie with 1.6km away in surrounding sections. Using old maps and plats and the 1937 aerial photos, it is clear that a small number of mid-19th to mid-20th century farmsteads were located within the project area. The Yahara Hills Club House is listed on the Wisconsin Architectural and Historical Inventory. While not in the project area, it might be visually impacted depending on the design of the proposed landfill.

This study indicated several things about the physical setting of the golf course. As indicated by the 1939 Wisconsin Economic Inventory Map, much of the area was cultivated for generations prior to the development of the golf course. This would have impacted archaeological sites within the project area, although deeper deposits may have survived undisturbed. Most of the project area was impacted by grading for its development. Depending on the depth of the excavations, this may have further impacted any archaeological resources present. Importantly, the 1978 soil manual indicates the presence of somewhat poorly or poorly drained soils in portions of the golf course. This is also indicated by early maps. Such areas have a lower archaeological potential, although sites may present on their periphery. Any draining and filling of wetlands would have also impacted potential sites.

The recommendations for this project are to examine any records on the construction of the course. This will help determine which areas were disturbed beyond typical agricultural impacts. In coordination with the State Historical Preservation Office and the Wisconsin DNR, this may help to eliminate the need for archaeological survey in some areas. This is also true for poorly drained soils, especially those impacted by drainage and filling activities, or it could call for less intensive archaeological investigations.

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The Project Area	5-12
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Introduction

In November, 2021, the author conducted a literature and records search on the previously reported cultural resources in and near a portion of the Yahara Hills Golf Course in Madison, Wisconsin. The project relates to the potential redevelopment of a portion of the golf course into a landfill. The project area is approximately 149.4 hectares (369 acres) in size. It includes most of the SE1/4, Sec. 25, and portions of the SW1/4, Sec. 25, the SE1/4, NW1/4, Sec. 25, the SW1/4, NE1/4, Sec. 25 and the N1/2, N1/2, Sec. 36, T7N, R10E, Dane County.

The study was conducted by the author with the assistance of Lauren Glover of Archaeological Consulting and Services, Inc. of Madison, Wisconsin. It was conducted for Dane County Department of Waste and Renewables.

The General Area

The project area is located in east-central Dane County in the south-central portion of the state (Figs. 1-2). This part of Wisconsin lies in the Eastern Ridges and Lowlands Province, a region distinguished by a relatively level topography with elevations from about 140 to 378 meters m.s.l. It is dominated by *cuestas*; ridges with steep escarpments on one side and long, gentle slopes on the other (Martin 1965: 212). The bedrock in the general project area is complex with Cambrian sandstones, dolomites and shales, sandstones, limestones and conglomerates of the St. Peter Formation and dolomites, sandstones and shales of the Prairie du Chien Group (Wisconsin Geological and Natural History Survey 1981). This is covered in this area with ground moraines, with small areas of end moraines and outwash deposits (Wisconsin Geological and Natural History Survey 1976). Numerous drumlins are found in this portion of Wisconsin (Martin 1965: 258, Fig. 91).

Prior to the intensive utilization of the region by Euro-American populations, the vegetation cover consisted of oak-savanna and prairie. The former included upland stands of bur, white and black oak, with a mesic prairie understory and lowland stands of swamp white oak with a wet, mesic prairie understory (Curtis 1959: 326). The latter were dominated by non-arboreal species of grasses (such as bluestem), forbs and some woody plants (ibid: 262). Finley (1976) shows the area as covered by oak stands, mixed hardwood stands and marsh and sedge meadows.

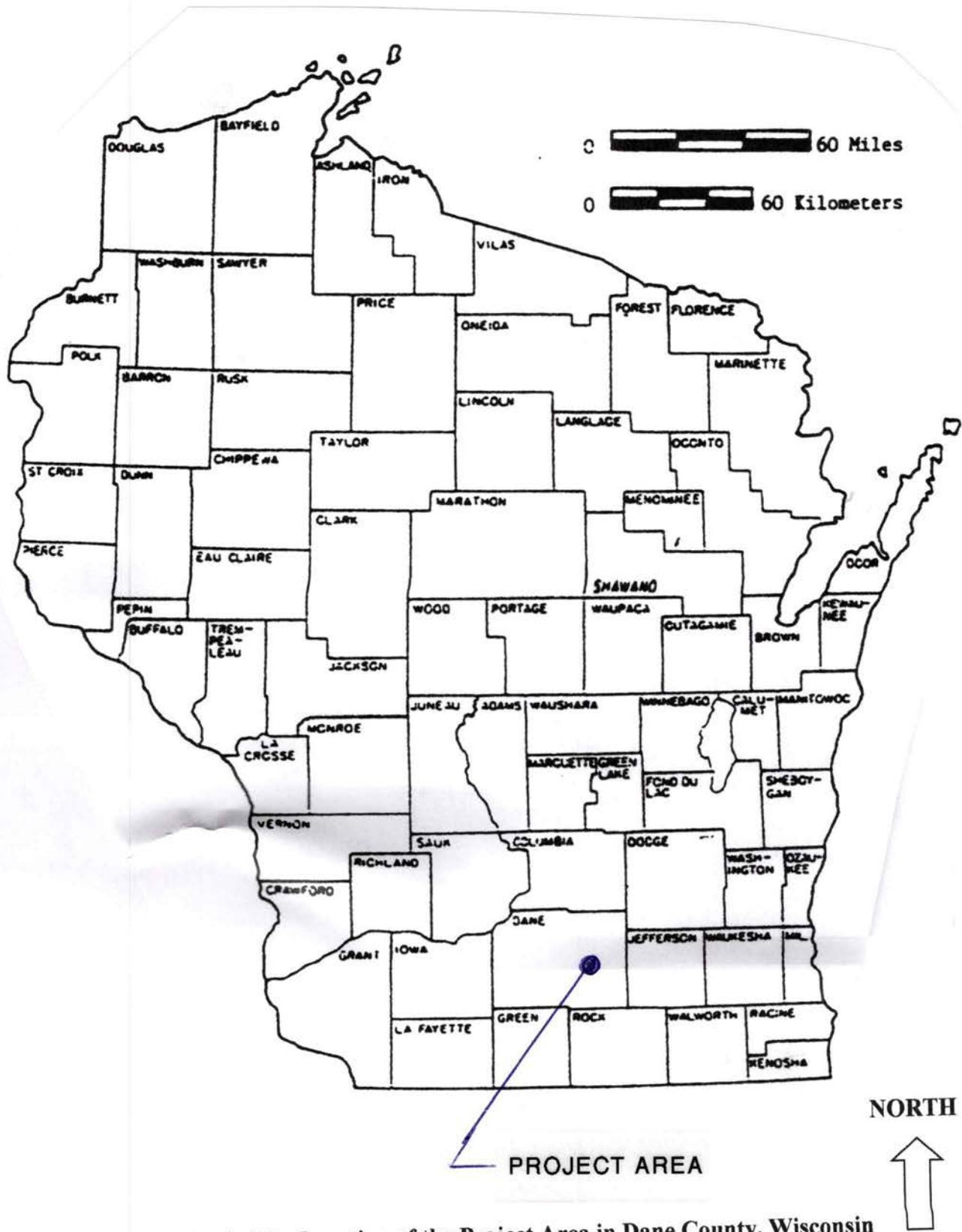
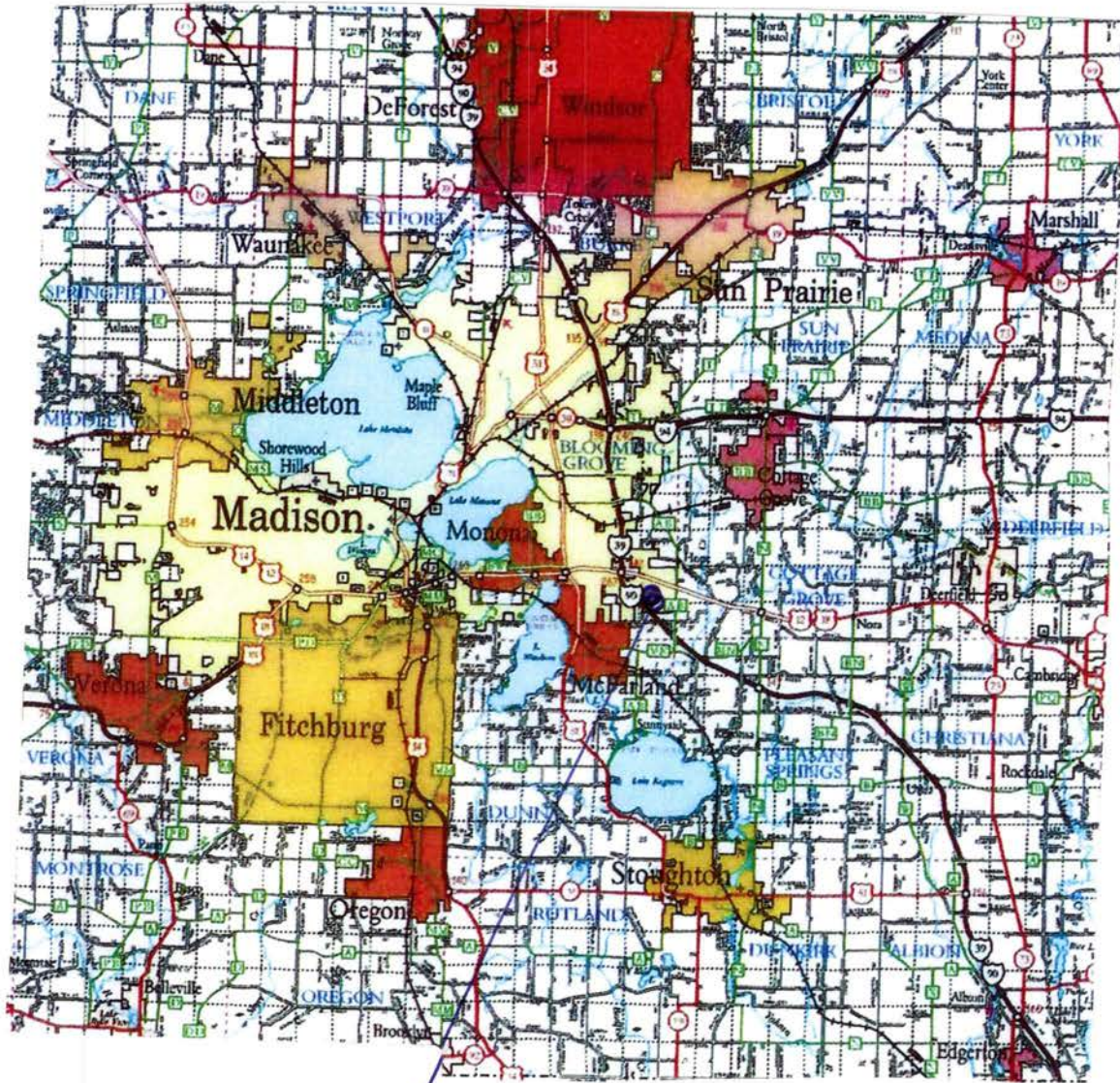


Fig. 1 - The Location of the Project Area in Dane County, Wisconsin



PROJECT AREA

NORTH



**Fig. 2 - The Location of the Project Area in Dane County
(WisDOT Map)**

The Project Area

The project area is located south of USH 12/18 and north of I-90. To the east is CTH 'AB" (Figs. 3-5). Much of the golf course can be described as level to gently rolling, but there is a general slope uphill to the southeast, Elevations range from approximately 265 meters m.s.l. near the club house to 280 meters m.s.l. in the southeastern corner.

In terms of vegetation, the project area was developed as two golf courses in the 1960's. It opened as a 122 ha. (400 acre) facility in 1968. The 1939 Wisconsin Economic Inventory Map (Fig. 5) shows most of the project area in agricultural use. However, it does show an area covered by marsh grass in the NE1/4, SW1/4, Sec. 25 into the SE1/4, NW1/4, Sec. 25, T7N, R10E.

As might be expected in a facility this size, there are a variety of soil types present. The largest portion lies in an area of Dodge silt loam, 2-6% slopes soils (Fig. 7), This a well-drained soil found of the tops of ridges and on upper side slopes. They form in loess over sandy loam glacial till under a cover of mixed hardwoods (Glocker and Patzer 1978: 22). Another well-drained soil present is the McHenry silt loam, 6-12% slopes, eroded type. This is found on middle side slopes. It forms in thin loess and sandy loam glacial till under thin stands of mixed hardwoods (ibid: 43-44).

The project area also has significant areas with less well-drained soils. These include: Orion silt loam, wet – somewhat poorly drained soil found on low bottoms in stream valleys – formed in recent silty alluvium and dark colored, older silty alluvium under a cover of mixed hardwoods (Glocker and Patzer 1978: 48) – areas of such soils may require deeper shovel testing as older archaeological materials might lie in the older alluvial layer

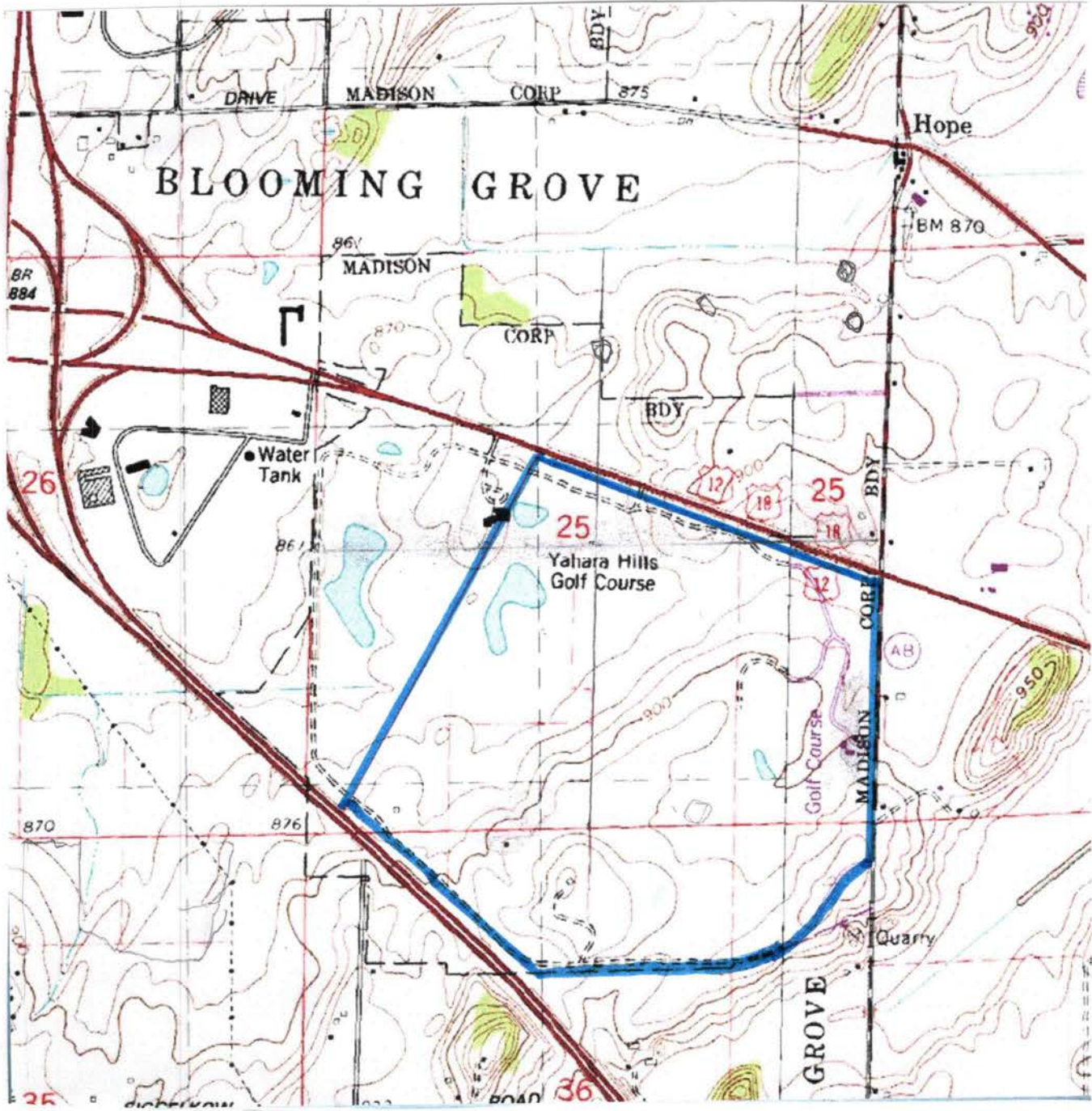


Fig. 3 – The Topography of the General Project Area

NORTH



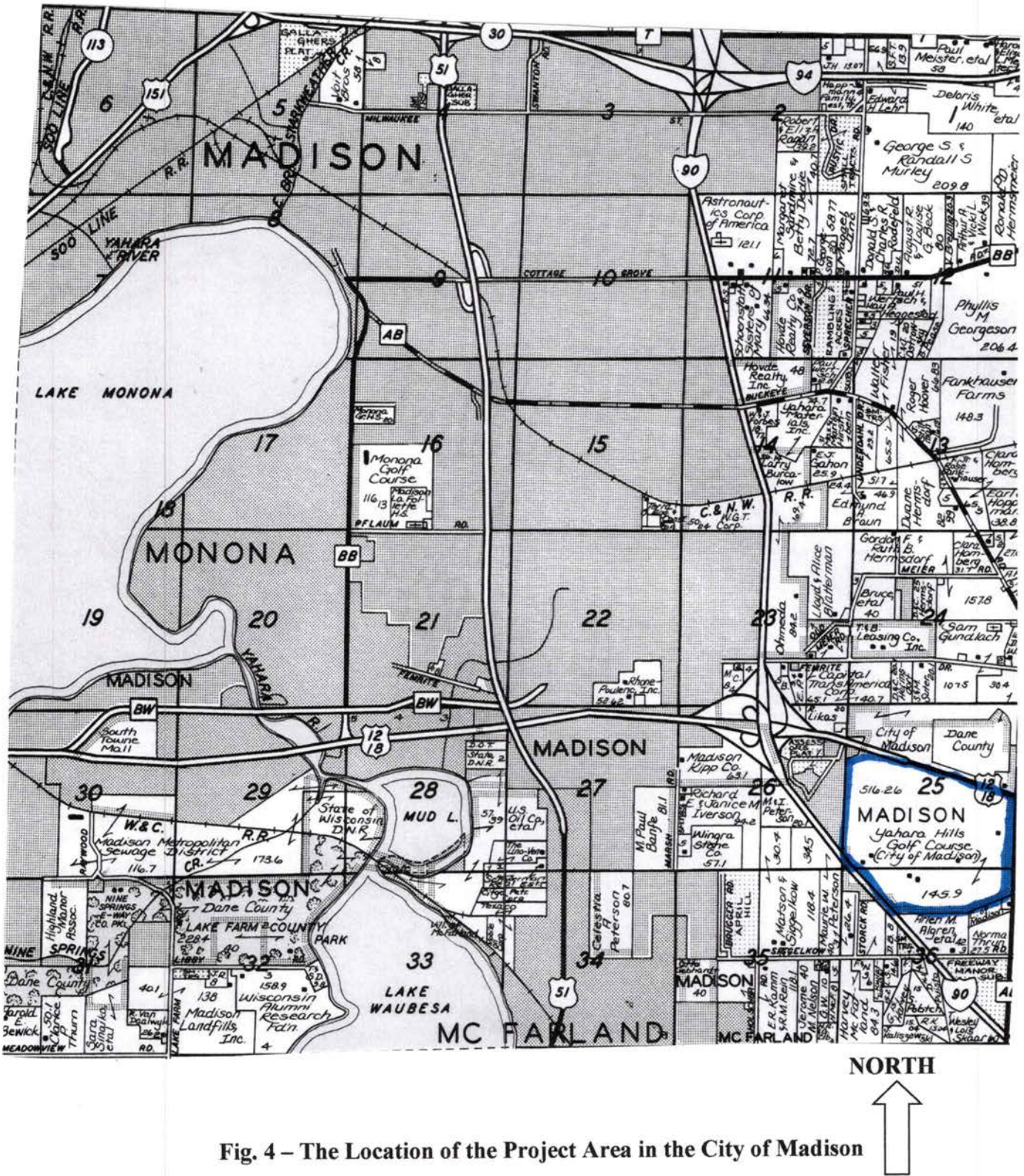


Fig. 4 – The Location of the Project Area in the City of Madison

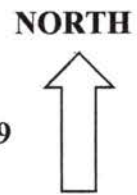
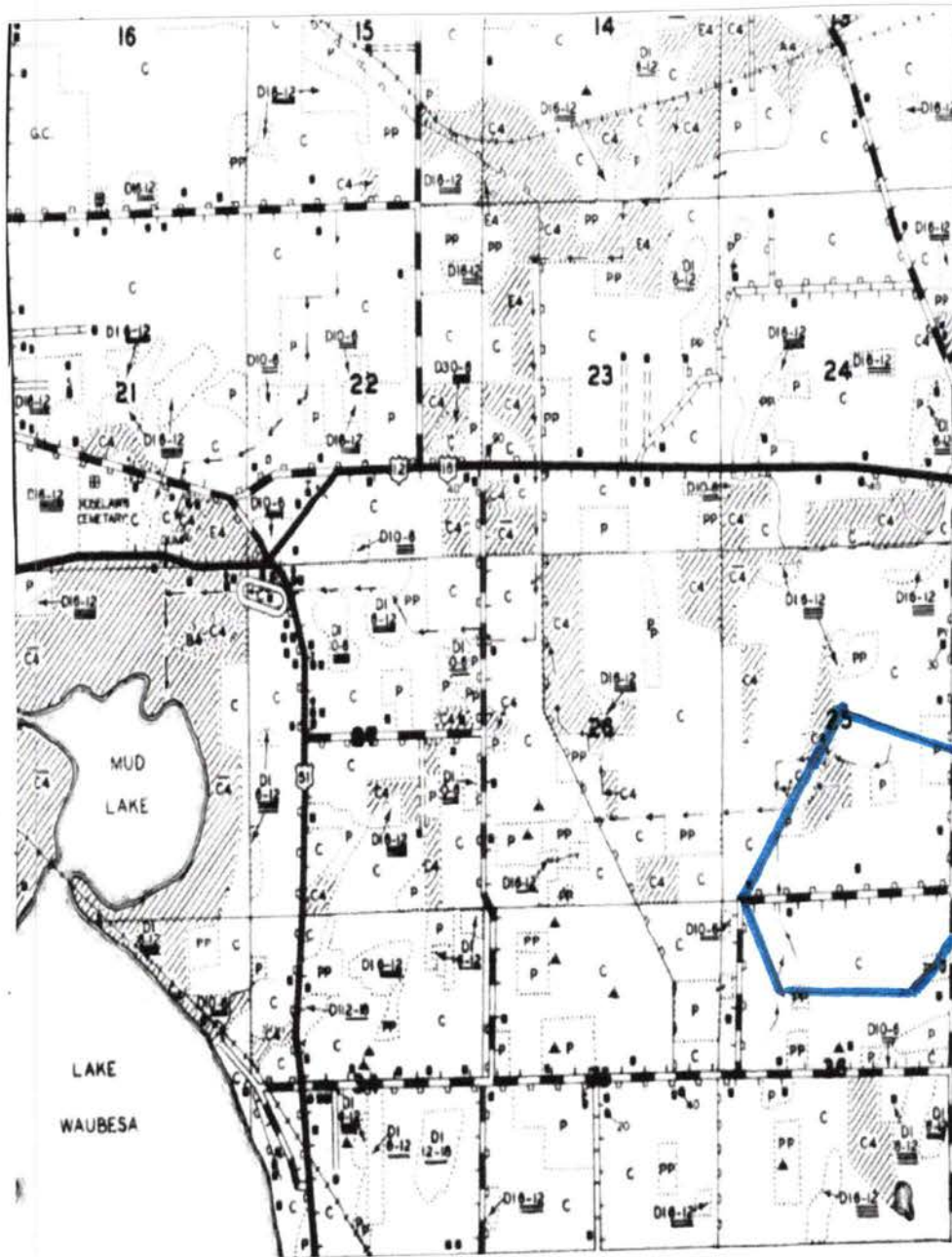


1000 ft

NORTH



Fig. 5 – Aerial View of the Yahara Hills Golf Course



**Fig. 6 – The Land Use in the General Project Area in 1939
(Wisconsin Economic Inventory Map)
C – Cropland C4 – Marsh Grass**

Virgil silt loam, gravelly substratum, 0-3% slopes – somewhat poorly drained soil found on convex benchlands on outwash plains – formed in loess and glacial till or sand and gravel outwash under a cover of mixed hardwoods with a grassy understory (Glocker and Patzer 1978: 69)

Wacousta silty clay loam – poorly drained soil found on low benches in old lake basins – formed under sedges in silt with some fine layers of sand (ibid: 70).

The significance of these areas with somewhat poorly to poorly drained soils is that archaeological sites, especially larger occupations are less likely to be found in these locations.

There are only limited water resources in the project area at this time. These include the two ponds in the project area and the two immediately to the west (Fig. 3). However, the ponds relate to the development of the golf course. They do not appear on the 1937 aerial photograph of the area. The ponds suggest relatively wet conditions in the area. This is supported by the soils present. Further, the 1834 G.L.O. map (Fig. 8), the 1862 plat map (Ligowsky 1862) and the 1904 U.S.G.S. map show significant marshes in the western portion of the project area .

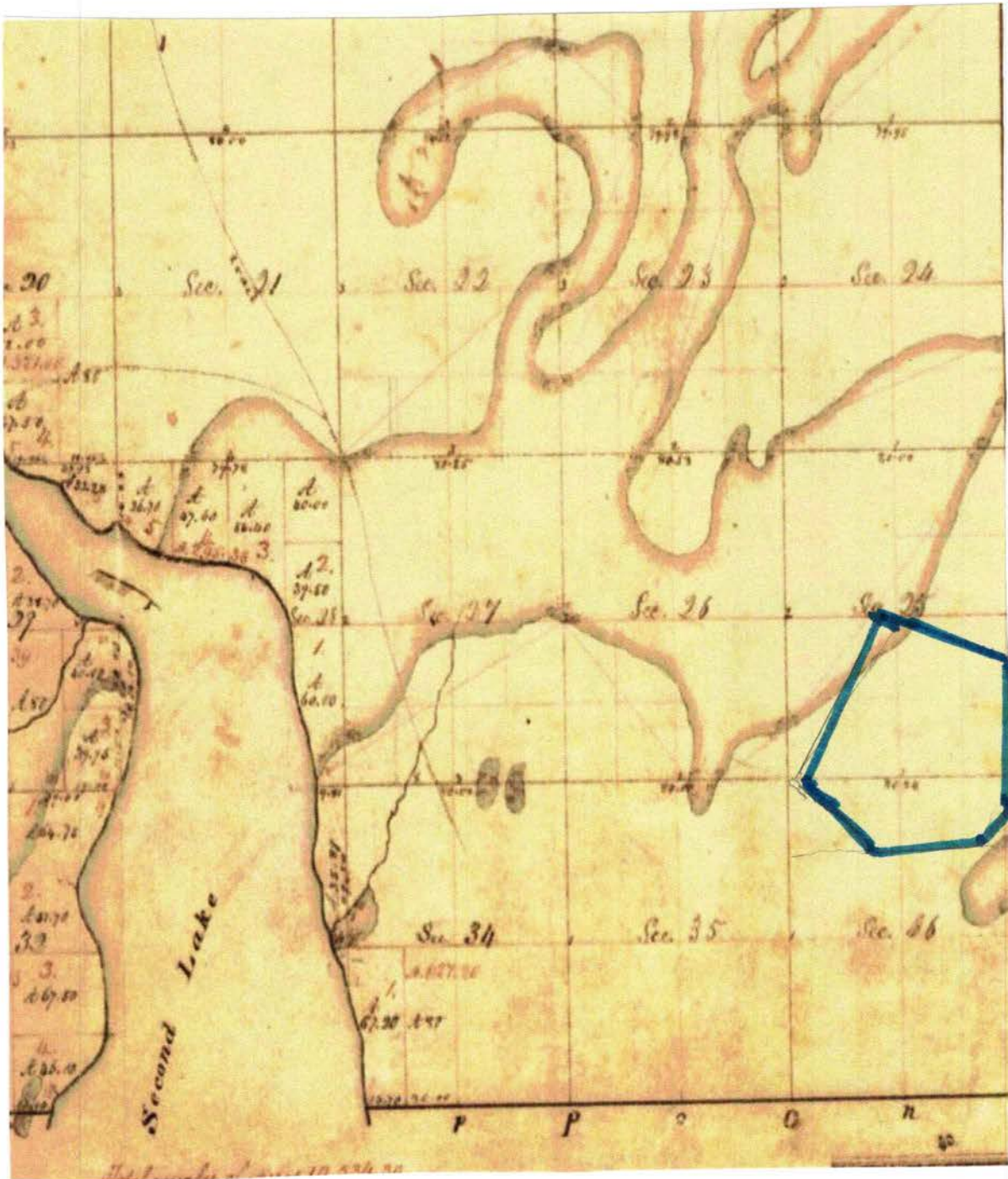


Fig. 8 – The General Project Area on the 1834 G.L.O. Map

Previously Reported Cultural Resources in and Near the Project Area

In conducting the literature and records search was conducted on the project area, the following data sources were reviewed:

Site files and archives of the Wisconsin Historic Preservation Division

Archives Division of the State Historical Society of Wisconsin

Archives of Archaeological Consulting and Services, Inc. (various reports on projects within 2.0km of this project area)

“A Literature and Records Search on the Prehistoric Cultural Resources of Dane County, Wisconsin” (Salkin 1983)

National Register of Historic Places

Charles E. Brown Atlas

Charles E. Brown Manuscripts

Wisconsin Archeologist

Local and County Histories.

The literature and records search indicated that the following sites are those closest to the project area (all sites in T7N, R10E);

47DA-1068 – Locus 1 – Sec. 25 – Native American occupation – 7 artifacts – approx. 350m north of the project area

47DA-1070 – Locus 3 – Sec. 25 – isolate Native American artifact – approx. 515m north of the project area

47DA-0049 – Sigglekow Mounds – Sec. 35 – Native American mound group – approx.. 525m southwest of the project area

47DA-1071 – Locus 4 – Sec. 25 – isolated Native American artifact – approx.. 680m north of the project area

47DA-1069 – Locus 2 – Sec. 25 – Native American occupation – approx. 850m north of the project area

47DA-0624 – Sec. 35 - Koch 4 Site – Native American occupation with a Woodland Tradition component – approx. 900m southwest of the project area

47DA-0306 – Soiney Group - Sec. 26 – Native American mound group – probably destroyed – approx. 1.0km west of the project area

47DA-0034 – Schimming Mound – Sec. 24 – single linear Native American mound – approx. 1.15km northwest of the project area.

47DA-1358 – Marsh Road I Site – Sec. 26 – Native American occupation – approx.. 1.6km west of the project area

Thus, no Native American sites were previously located in, or immediately near the project area.

The nearest sites were those identified within the bounds of a survey area for the Rodenfeld Landfill north of USH 12/18 (Stoltman 1982, Salkin 2012).

In terms of Euro-American resources, a review of available plats from 1862 to 1955, show a small number of Euro-American farmsteads located within the project area. For example, the 1862 plat shows the following farmsteads:

Sec. 25 – SE1/4, SW1/4, SE1/4 – Lamp
 Sec. 25 – C., S1/2, SW1/4, SW1/4 – Messner
 Sec. 36 – NW1/4, NE1/4, NW1/4 – Sigglekow.

In 1873, the following farms are noted:

Sec. 25 – SE1/4, SW1/4, SE1/4 – Lamp
 Sec. 25 – SE1/4, NE1/4, SE1/4 – Keen (?)
 Sec. 25 – C., S1/2, SW1/4, SW1/4 – Messner
 Sec. 36 – NE1/4, NE1/4, NW1/4 – Messner

Houses remained in those approximate locations into the 1950's. The 1937 aerial appears to show four farms with the addition of the E. Brand property in the NE1/4, SE1/4, SE1/4, Sec. 25, T7N, R10E.

It can be difficult to rely on plat maps for the location of structures. Some maps do not show houses at all. The location of homes may vary from map to map. The significance of mid-19th to 20th century farmsteads as archaeological sites varies. Sites with extant basements might be the location of interesting artifacts, although if the farm was long-lived, such materials are often overwhelmed by more modern mass-produced items.

A review of the Wisconsin Architectural Historical Inventory indicated that no listed properties lie in the project area. However, the Yahara Hills Golf Club, immediately to the west is listed (Ref. 227030). The potential visual impact of the development of a landfill should be investigated.

Summation and Recommendations

In November, 2021, the author conducted a literature and records search on the previously reported cultural resources associated with the potential redevelopment of a portion of the Yahara Golf Course into a landfill in the City of Madison, Wisconsin. In the course of the study, various data sources were checked on the previously reported Native American and Euro-American archaeological resources in and around the project area. The Wisconsin Architectural and Historical Inventory was examined to see if any potential significant architectural resources might be impacted.

The study indicated that no previously reported archaeological sites lie in the project area. However, sites are reported for the Rodenfeld Landfill area north of USH 12/18 in Sec. 25, T7N, R10E, the closest within about 350 meters of the project area. Other sites lie with 1.6km away in surrounding sections. Using old maps and plats and the 1937 aerial photos, it is clear

that a small number of mid-19th to mid-20th century farmsteads were located within the project area. In some situations, these might provide information on the early Euro-American settlement of the area. Finally, the Yahara Hills Club House is listed on the Wisconsin Architectural and Historical Inventory. While not in the project area, it might be visually impacted depending on the design of the proposed landfill.

This study indicated several things about the physical setting of the golf course. As indicated by the 1939 Wisconsin Economic Inventory Map, much of the area was cultivated for generations prior to the development of the golf course. This would have impacted archaeological sites within the project area, although deeper deposits may have survived undisturbed. Most of the project area was impacted by grading for its development. Depending on the depth of the excavations, this may have further impacted any archaeological resources present. Importantly, the 1978 soil manual indicates the presence of somewhat poorly or poorly drained soils in portions of the golf course. This is also indicated by early maps. Such areas have a lower archaeological potential, although sites may present on their periphery. Any draining and filling of wetlands would have also impacted potential sites.

The recommendations for this project are to examine any records on the construction of the course. This will help determine which areas were disturbed beyond typical agricultural impacts. In coordination with the State Historical Preservation Office and the Wisconsin DNR, this may help to eliminate the need for archaeological survey in some areas. This is also true for poorly drained soils, especially those impacted by drainage and filling activities, or it could call for less intensive archaeological investigations.

Bibliography

Curtis, John T.

1959 The Vegetation of Wisconsin. University of Wisconsin Press. Madison.

Finley, Robert W.

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Glocker, Carl L. and Robert A. Patzer.

1978 Soil Survey of Dane County, Wisconsin. USDA Soil Conservation Services. Washington, D.C.

Martin, Lawrence.

1965 The Physical Geography of Wisconsin. University of Wisconsin Press. Madison.

Salkin, Philip H.

1983 A Literature and Records Search on the Prehistoric Cultural Resources of Dane County, Wisconsin. Reports of Investigations, No. 111. Archaeological Consulting and Services, Inc. Verona.

Salkin, Philip H.

1991 An Archaeological Survey of Proposed Improvement to the Odana Hills Golf Course. Reports of Investigations, No. 692. Archaeological Consulting and Services, Inc. Verona.

Salkin, Philip H.

2012 An Archaeological Survey of a Proposed Expansion Area for the Rodenfeld Landfill in Madison, Dane County, Wisconsin. Reports of Investigations, No. 1905. Archaeological Consulting and Services, Inc. Verona.

Salzer, Robert J. and Larry A. Johns.

1992 Final Report of the Dane County Indian Mounds Identification Project. Unpublished Manuscript on file at the Wisconsin Historical Society. Madison.

Stoltman, James B.

1982 A Report of Archaeological Survey on the Site of Possible Landfill Construction East of Madison in Dane County, Wisconsin.

Wisconsin Geological and Natural History Survey.

1976 Geological Deposits of Wisconsin. Wisconsin Geological and Natural History Survey, Map 10. Madison.

Wisconsin Geological and Natural History Survey.

1981 Bedrock Geology of Wisconsin. Wisconsin Geological and Natural History Survey.
Madison

Maps and Plats

1862 - Map of Dane County, Wisconsin - A. Ligowsky - Madison

1873 - Atlas of Dane County, Wisconsin - Harrison and Warner - Madison

1890 - Plat Book of Dane County, Wisconsin - C.M. Foote and Co. - Minneapolis

1899 - New Atlas of Dane County, Wisconsin - Leonard W. Gray and Co. - Madison

1904 - Atlas of Dane County, Wisconsin - Democrat Printing Co. - Madison

1911 - Standard Historical Atlas of Dane County, Wisconsin - Cantwell Printing Co. - Madison

1922? - Plat Book of Dane County, Wisconsin - W.W. Hixson and Co. - Rockford

1926 - New Atlas of Dane County, Wisconsin - Dane County Atlas Co. - Madison

1931 - Atlas and Plat Book of Dane County, Wisconsin - The Thrift Press – Rockford

1937 – Aerial Photographic Map of 1937

1939 – Wisconsin Economic Inventory Map, Town of Blooming Grove – Wisconsin Economic Inventory Map

1940 - Dane County Plat Book - W.W. Hixson and Co. - Rockford

1947 - Ownership Plat Book of Dane County, Wisconsin - Marathon Map Service – Milwaukee

1955 – Plat Book of Dane County, Wisconsin – Derr Map Studios - Madison

1993 – Plat Book of Dane County – Rockford Map Publishers - Rockford

ATTACHMENT 5

Archaeological Survey Field Report, USH 12/18, CTH AB Interchange, Dane County, Wisconsin (Commonwealth Heritage Group, October 2020)

ARCHAEOLOGICAL SURVEY FIELD REPORT

Wisconsin Department of Transportation
DT1978 6/2007 (Replaces ED864)

PROJECT INFORMATION			
Project ID 3080-01-05	Highway/Street USH 12/18	County Dane	SHSW Compliance Number
Project Termini CTH AB Overpass/Interchange		Project Size 1.7 miles	206.08 acres
Township(s) City of Madison, Town of Cottage Grove	Town/Range 7N/10E 7N/11E	Sections 25, 26 30	
Project Type <input checked="" type="checkbox"/> Reconstruction <input type="checkbox"/> Reconditioning <input type="checkbox"/> Bridge <input type="checkbox"/> Wetland Mitigation <input type="checkbox"/> Other			
Landowners Contacted - If No, Explain <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Permits Obtained - If Yes, Attach <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

LITERATURE SEARCH		
Previously Reported Sites in Project Area <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Archaeology and Records Literature Search <input checked="" type="checkbox"/> Attached	Cemetery in Project Area <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

FIELDWORK		
Dates of Field Work 8/13/2020, 8/27/2020, 10/8/2020	Crew Size 1	Area Surveyed 72.95 acres

SURVEY TECHNIQUES - Attach project plans showing survey coverage.

<input checked="" type="checkbox"/> Shovel Testing	<input type="checkbox"/> Surface Collection	<input checked="" type="checkbox"/> Other - Describe 133.13 ac previously surveyed; visual observation of disturbed (23.18 ac) and wet (5.74 ac) areas
44.03 acres	acres	
15 m interval	interval	

Describe Visibility
0% - Entire APE was paved, covered in vegetation, or golf course ponds

LAND USE – Describe. Also, attach map, showing location.
Were there area(s), which were not surveyed? If yes, show on project plans and explain.
 Yes No

Were there area(s), which were extensively impacted? If yes, show on project plans and explain.
 Yes No Most of current survey area was in a heavily disturbed golf course

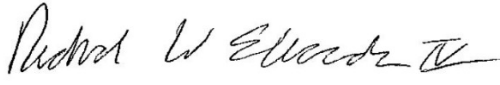
Comments
One previously identified mound site in APE located within previously surveyed area. Site was described as destroyed by previous construction. Current survey area was shovel tested where possible, obvious areas of disturbance (paved areas, golf course fairways/tees, sand traps) and wet areas were visually inspected

ISOLATED FINDS – Describe. Also, attach map, showing location.
n/a

I certify that the literature search and all fieldwork conducted for this report was done according to the Wisconsin Archeological Survey Guidelines. No archeological sites were identified in the project area.

Commonwealth Heritage Group
(Print Name of Firm or Institution)

Richard W. Edwards VI, PhD, RPA
(Print Name of Archaeologist)


(Signature of Archaeologist)

10/13/2020
(Date)

Note: Current archaeological methods may not detect buried sites or burial areas. If artifacts, or human remains are discovered during construction, immediately stop construction in that area and notify the Wisconsin Department of Transportation, Bureau of Equity & Environmental Services.



ARCHAEOLOGICAL LITERATURE AND RECORDS REVIEW

Wisconsin Department of Transportation
DT1459 2/2013

PROJECT INFORMATION

Project ID 3080-01-05	Highway/Street USH 12/18	County Dane	SHSW Compliance Number
Project Termini CTH AB Overpass/Interchange			
Township(s) City of Madison, Town of Cottage Grove	Town/Range 7N/10E 7N/11E	Sections 25, 26 30	
USGS Quadrangle(s) Madison East (1983), Cottage Grove (1991)			

SOURCES RESEARCHED

See Continuation Sheet

<input checked="" type="checkbox"/> OSA USGS Maps	<input checked="" type="checkbox"/> Previous Surveys	<input checked="" type="checkbox"/> CEB Atlas	
<input checked="" type="checkbox"/> WI Land Economic Inventory (WLEI)	<input type="checkbox"/> County History	<input checked="" type="checkbox"/> CEB Manuscripts	
<input checked="" type="checkbox"/> Burial Sites Office	<input type="checkbox"/> Archival Maps:		
Publisher Harrison and Warner	Year 1873	Publisher Leonard W. Gray & Co.	Year 1899
Publisher C.M. Foote & Co.	Year 1890	Publisher Democrat Printing Co.	Year 1904
<input checked="" type="checkbox"/> Other GLO survey maps (Lyon 1834)			

SITES IN PROJECT AREA

See Continuation Sheet

Total Number of Sites	Prehistoric 1	Historic 0	Cemeteries/Burials 1
CODE	TYPE		AFFILIATION
#47 DA – 0062/BDA-0334	Mound(s) Linear		Late Woodland
#47 –			
#47 –			

SITES WITHIN ONE MILE OF THE PROJECT AREA

See Continuation Sheet

Total Number of Sites	Prehistoric 20	Historic 4	Cemeteries/Burials 11
CODE	TYPE		AFFILIATION
# BDA – 0030	Cemetery/Burial		Historic Euroamerican
# BDA – 0031	Cemetery/Burial		Historic Euroamerican
#47 DA – 0034/BDA-0314	Mound(s) Linear		Late Woodland
<input checked="" type="checkbox"/> Sites Reported in the Project Area			
<input checked="" type="checkbox"/> Sites Reported Within One Mile			
<input checked="" type="checkbox"/> No Sites Reported in the Project Area			

Research Conducted by Elissa Hulit; Richard Edwards	Date (m/d/yy) 8/4/2020
--	---------------------------

I certify that the literature search was done according to the Wisconsin Survey Guidelines.

Richard W. Edwards IV, PhD, RPA

(Print Name of Archaeologist)

Commonwealth Heritage Group, Inc.

(Print Name of Firm or Institution)

X

(Signature of Archaeologist)

08/05/2020

(Date – m/d/yy)

SOURCES RESEARCHED (continued)

Publisher	Year	Publisher	Year
Cantwell Printing Co.	1911		
Publisher	Year	Publisher	Year
W.W. Hixson and Co.	1922		
Publisher	Year	Publisher	Year
Dane County Atlas Co.	1926		
Publisher	Year	Publisher	Year
Thrift Press	1931		
Publisher	Year	Publisher	Year
Publisher	Year	Publisher	Year
Publisher	Year	Publisher	Year
Publisher	Year	Publisher	Year

SITES IN PROJECT AREA (continued)

CODE	TYPE	AFFILIATION
#47	-	
#47	-	
#47	-	
#47	-	

SITES WITHIN ONE MILE OF THE PROJECT AREA (continued)

CODE	TYPE	AFFILIATION
Total Number of Sites	Prehistoric 20	Historic 4
		Cemeteries/Burials 11
CODE	TYPE	AFFILIATION
#47 DA - 0035/BDA-0315	Mound (s) Effigy	Late Woodland
#47 DA - 0036/BDA-0316	Mound (s) Conical	Late Woodland
#47 DA - 0063/BDA0332	Mound (s) Linear	Late Woodland
#47 DA - 0064/BDA0333	Mound (s) Linear	Late Woodland
#47 DA - 0065/BDA0330	Mound (s) Linear	Late Woodland
#47 DA - 0066/BDA0335	Mound (s) Linear	Late Woodland
#47 DA - 0067/BDA0331	Mound (s) Other/Unknown	Late Woodland
#47 DA - 0492	Campsite/Village	Unknown Prehistoric
#47 DA - 0493	Campsite/Village	Unknown Prehistoric
#47 DA - 0601	Campsite/Village	Unknown Prehistoric
#47 DA - 0723/BDA0525	Mound (s) Effigy; Lithic Scatter	Late Woodland
#47 DA - 1069	Lithic Scatter	Unknown Prehistoric
#47 DA - 1071	Isolated Finds	Unknown Prehistoric
#47 DA - 1358	Lithic Scatter	Unknown Prehistoric
#47 DA - 1468	Lithic Scatter	Unknown Prehistoric
#47 DA - 1469	Lithic Scatter	Unknown Prehistoric
#47 DA - 1470	HCM Concentration	Unknown Historic
#47 DA - 1471	Isolated Finds	Unknown Prehistoric
#47 DA - 1483	Isolated Finds	Unknown Prehistoric
#47 DA - 1523	Isolated Finds	Unknown Prehistoric
#47 DA - 1524	Isolated Finds	Unknown Historic

WISCONSIN PUBLIC LANDS FIELD ARCHAEOLOGICAL PERMIT
 REQUIRED TO CONDUCT ARCHAEOLOGY ON ALL NON-FEDERAL PUBLIC LAND UNDER WIS. STAT. § 44.47
 Wisconsin Historical Society

Name/Organization/Contact Robert Watson Telephone# 414-446-4121 ext 104
 Address 8669 N Deerwood Dr City Milwaukee State WI Zip Code 53209
 E-mail Address rwatson@chg-inc.com FAX# 414-446-4325
 Institutional Affiliation Commonwealth Heritage Group, Inc.

Location: County WisDOT Properties Civil Town _____
 Town _____ Range _____ Section _____ Quarter Sections _____
 Hwy/Rd Hwy/Rd: _____ Other Type of Project

Project Description: _____

Type of fieldwork: Phase I/Survey Phase II/Testing Phase III/Excavation Monitoring

Purpose of the fieldwork: Federal Compliance State Compliance Education Other

Site # _____ Burial Site# _____ Burial Permit Secured? Y N

Dates of field work: Begin date: January 6, 2020 End date: December 31, 2020

What institution will curate recovered artifacts, notes, and records? UWM or MVAC
 (Curation agreement must be on file with WHS; all materials must be curated in an appropriate, staffed facility.)

Print name Robert Watson see attachments

Signature of Archaeologist Robert Watson Date 1-6-2020

Maps and/or Letters of explanation can accompany this application

Landowner or custodian name (print) Jason Kennedy Phone 608-267-6693

Affiliation: Wisconsin Department of Transportation

Signature of Landowner Jason Kennedy Date 01/06/2020

DO NOT WRITE BELOW THIS LINE

Permit Approved John H. Broihahn Date 8 Jan 2020

PLP # 20 002

John H. Broihahn
 State Archaeologist
 Wisconsin Historical Society
 816 State Street Madison, WI 53706
 FAX: 608-264-6504 / PH 608-264-6496
 Email: john.broihahn@wisconsinhistory.org



**WISCONSIN
 HISTORICAL
 SOCIETY**

One paper copy and one PDF copy of the final report must be submitted to the State Historic Preservation Office.

Additional authorization or permitting is necessary to conduct work within the boundaries of uncataloged and cataloged human burial sites under Wis. Stat. § 157.70. For additional information please see: <http://wihist.org/10WqFCf>

WisDOT ID 3080-01-05
 USH 12/18, CTH AB Overpass/Interchange
 Dane County

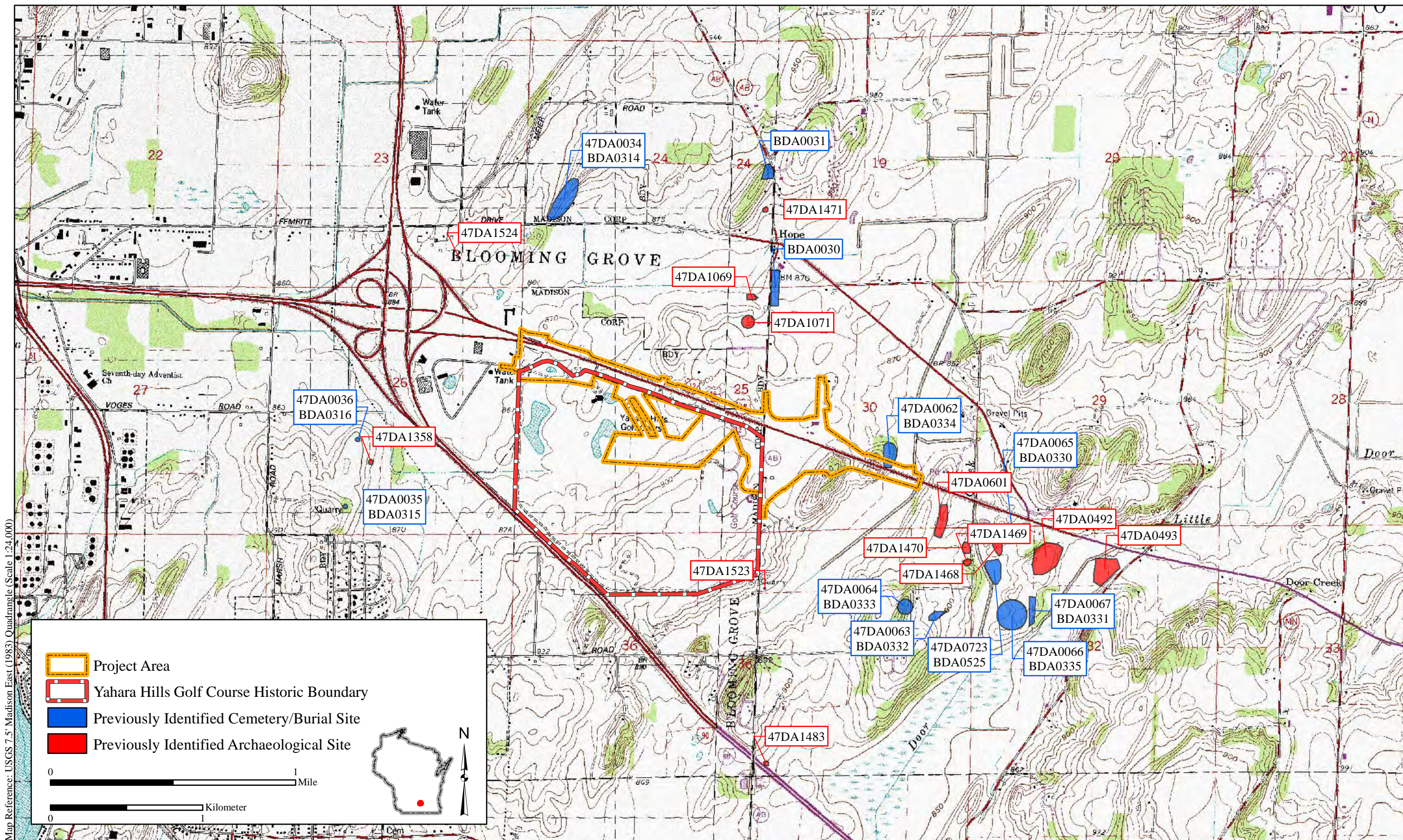
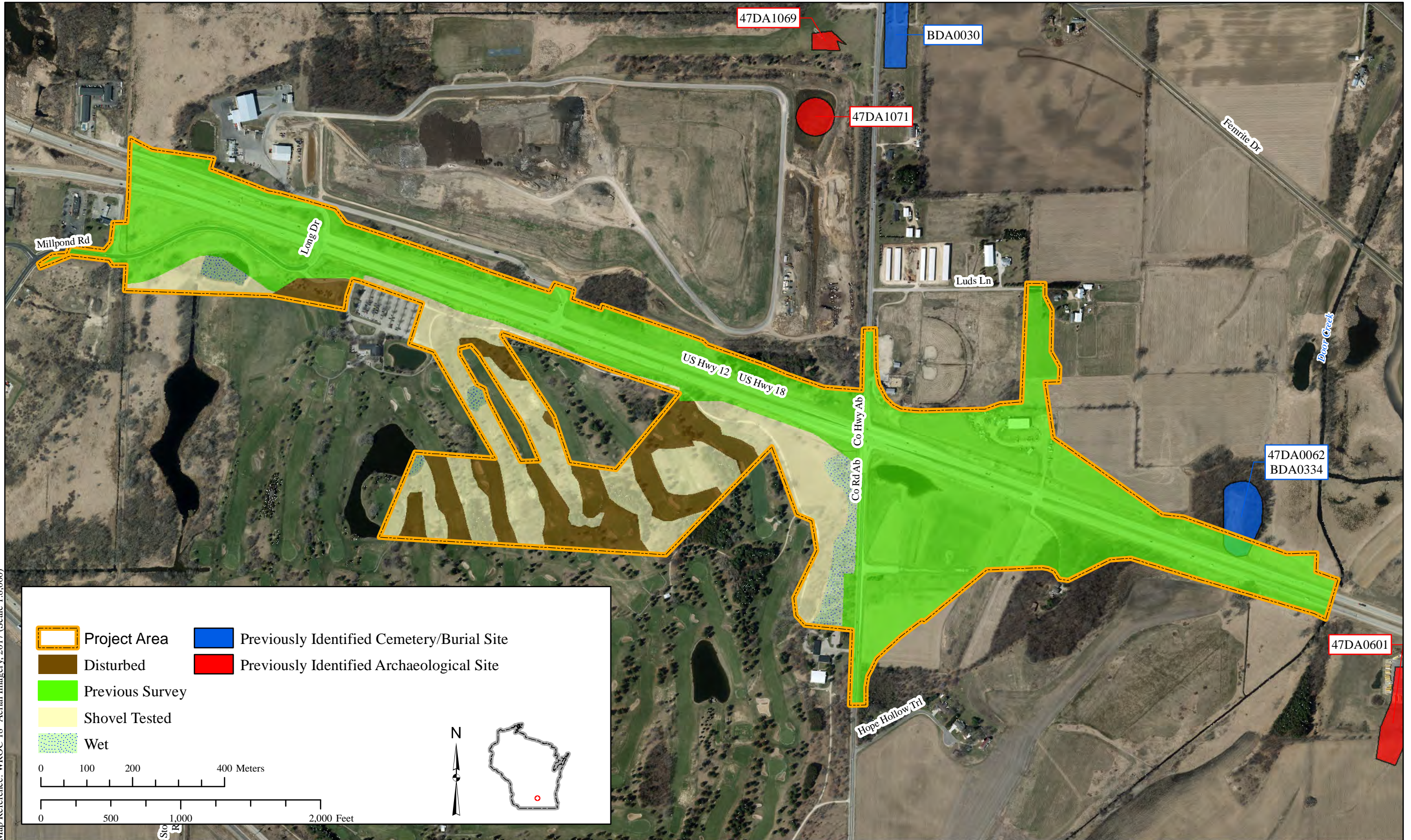


Figure 1. Project Area Location, Previously Identified Archaeological and Cemetery/Burial Sites within One Mile, and Previously Identified Architectural/Historic Resources within 1,000 Feet

WisDOT ID 3080-01-05
 USH 12/18, CTH AB Overpass/Interchange
 Dane County



Map Reference: WROC 18" Aerial Imagery, 2017 (Scale 1:8,000)

Job: W-1756; Date Saved: 10/9/2020 1:25:10 PM

Figure 2. Project Area and Survey Coverage

WisDOT ID 3080-01-05
USH 12/18, CTH AB Overpass/Interchange
Dane County



Figure 3. Project Area Overview, Shovel Tested Portion of Golf Course, View East



Figure 4. Project Area Overview, Wetland at West Edge of APE, View East

WisDOT ID 3080-01-05
USH 12/18, CTH AB Overpass/Interchange
Dane County



Figure 5. Project Area Overview, Shovel Tested Portion East of Golf Course, View Southeast



Figure 6. Project Area Overview, Wetland East of Golf Course, View South

ARCHAEOLOGICAL REPORT INVENTORY FORM

WHS/SHSW #

COUNTY Dane

AUTHORS: Richard W. Edwards, IV

REPORT TITLE: Archaeological Survey Field Report, USH 12/18, CTH AB Overpass/Interchange, Dane County, Wisconsin.

DATE OF REPORT (MONTH AND YEAR): October 2020

SERIES/NUMBER: WR-1762

PLACE OF PUBLICATION: Commonwealth Heritage Group, Inc., Milwaukee, Wisconsin

LOCATIONAL INFORMATION [LEGAL DESCRIPTION OF SURVEY AREA (T-R-S)]
T7N-R10E-25, 26 | T7N-R11E-30

U.S.G.S. QUAD MAP(S): Madison East (1983), Cottage Grove (1991)

SITE(S) INVESTIGATED: None

ACRES INVESTIGATED: 72.95

AGENCY # 3080-01-05

INVESTIGATION TECHNIQUES COMPLETED (Check all that apply.)

- | | | |
|--|--|---|
| <input type="checkbox"/> Avocational Survey | <input type="checkbox"/> Chance Encounter | <input type="checkbox"/> Historical Research |
| <input type="checkbox"/> Faunal Analysis | <input type="checkbox"/> Floral Analysis | <input type="checkbox"/> Interview/Informant |
| <input checked="" type="checkbox"/> Literature Background Research | <input type="checkbox"/> Major Excavation/Phase III | <input type="checkbox"/> Mechanical Stripping |
| <input type="checkbox"/> Monitoring | <input type="checkbox"/> Osteological Analysis | <input type="checkbox"/> Geomorphology |
| <input checked="" type="checkbox"/> Records/Background | <input checked="" type="checkbox"/> Surface Survey | <input type="checkbox"/> Soil Core |
| <input type="checkbox"/> Remote Sensing | <input type="checkbox"/> Shovel Testing/Probing | |
| <input type="checkbox"/> Test Excavation/Phase II | <input type="checkbox"/> Traditional Knowledge | |
| <input type="checkbox"/> Underwater | <input checked="" type="checkbox"/> Walk Over /Visual Inspection | |

ABSTRACT: Included in report Written in space below

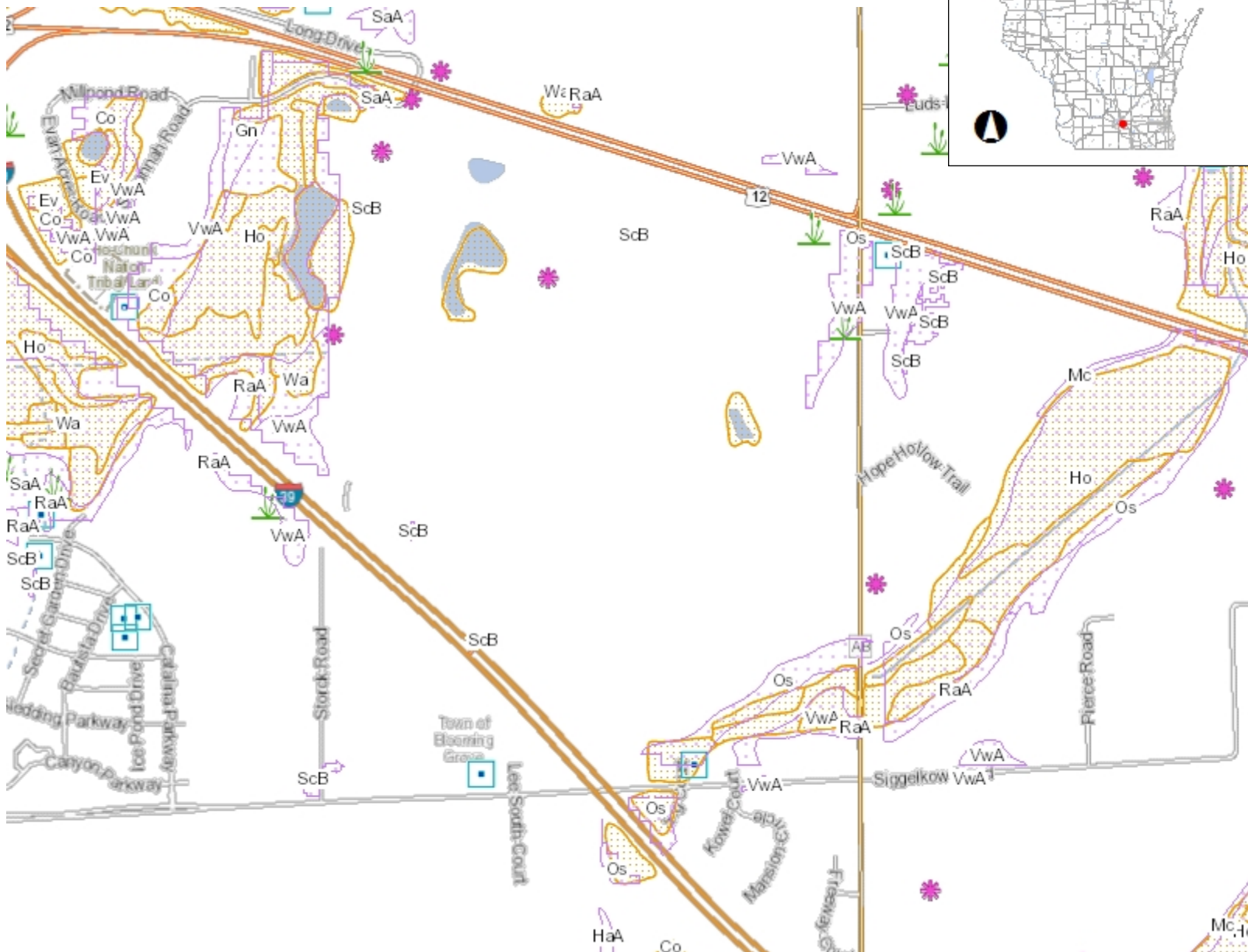
In August and October 2020, Commonwealth Heritage Group, Inc. (Commonwealth) conducted archaeological survey for a proposed WisDOT project in Dane County to remove the at-grade Millpond Road/Long Drive and CTH AB intersections on USH 12/18 and construct a new grade-separated interchange at CTH AB. Most of the Area of Potential Effects (APE) was previously surveyed (133.13 ac), including one previously identified mound site (47DA0062/BDA0334) that was determined to have been destroyed. The portion of the APE not previously surveyed included paved surfaces, vegetated areas, and an active golf course. Shovel testing was implemented throughout this portion of the APE (44.03 ac). No cultural materials or features were identified during survey. Based on the results of the archaeological survey, Commonwealth concludes that the project will have no effect on archaeological historic properties.

ATTACHMENT 6

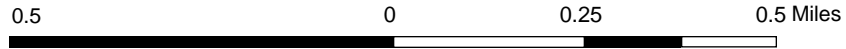
WDNR Surface Water Data Viewer Map of Wetlands and Wetland Indicator Soils (March 11, 2022)



Surface Water Data Viewer Map Wetlands and Wetland Indicator Soils



- Legend**
- Wetland Indicators
 - Wetland Class Areas
 - Wetland Class Points
 - Dammed pond
 - Excavated pond
 - Filled/draind wetland
 - Wetland too small to delineate
 - Filled excavated pond
 - Filled Points
 - Wetland Class Areas
 - Filled Areas
 - Wetland Class Areas
 - Wetland Class Points
 - Dammed pond
 - Excavated pond
 - Filled/draind wetland
 - Wetland too small to delineate
 - Filled excavated pond
 - Filled Points
 - Wetland Class Areas
 - Filled Areas
 - Wetland Identifications and Confirmations
 - NRCS Wetspots
 - Municipality
 - State Boundaries
 - County Boundaries
 - Major Roads**
 - Interstate Highway
 - State Highway
 - US Highway
 - County and Local Roads**
 - County HWY
 - Local Road
 - Railroads



NAD_1983_HARN_Wisconsin_TM

1: 15,840

DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: <http://dnr.wi.gov/legal/>

Notes