WETLAND & PRIMARY ENVIRONMENTAL CORRIDOR DELINEATION REPORT

SALEM UNITED METHODIST CHURCH PROPERTY

NW One-quarter, Section 12, T6N, R19E
CITY OF WAUKESHA
WAUKESHA COUNTY
WISCONSIN

Prepared by:

Christopher Jors
Jennifer Dietl
Daniel Carter

Report completed: March 18, 2016

Southeastern Wisconsin Regional Planning Commission
W239 N1812 Rockwood Drive
P.O. Box 1607
Waukesha, WI 53187-1607

WETLAND DELINEATION REPORT OVERVIEW

(Based upon WDNR WETLAND Delineation Confirmation Request Check List)

INTRODUCTION

- Who requested the delineation – **Doug Koehler, City of Waukesha Planner**
- Why the delineation was undertaken – **Proposed development**
- Date the field work was completed – **July 15, 2015**
- Who conducted field work – **Christopher Jors, Jennifer Dietl, Daniel Carter**
- Statement of Qualifications

METHODS

- Description of Methods
- Sources Reviewed
    - Topographic Map – **Exhibit 1**
    - WDNR Surface Water Data Viewer – Wisconsin Wetland Inventory (WWI) Map – **Exhibit 2**
    - Soil Survey and Floodplain Map – **Exhibit 3**
    - Historical Aerial Photos – **Exhibits 4A to 4L (2015, 2010, 2007, 2005, 2000, 1995, 1990, 1980, 1970, 1963, 1950, and 1941)**
    - Sanitary Sewer Service Map – **Exhibit 5**
    - Draft NRCS Wetland Inventory Map – **Exhibit 6**
    - Advanced Identification (ADID) Wetland Map – **Exhibit 7**
- Description of any site specific agency guidance (site meetings, etc.) – **None**

RESULTS AND DISCUSSION

- Antecedent hydrologic condition analysis – **Drier than normal**
- Previous wetland delineation mapping – **None**
- Existing environmental mapping (WWI mapping, Soil survey, etc.)
- Amount and types of wetland located within the project area
- Wetland/upland boundary explanation
- Disturbed and problematic areas encountered
- Other water resources located in the project area
- Other considerations

LITERATURE CITED

Wetland Delineation Map – **Exhibit 8**

Vegetation Survey, Wetland Delineation Data Forms, and Site Photos

- Preliminary Vegetation Survey – **Exhibit 9**
- Wetland Determination Data Forms – NE/NC Region – **Exhibit 10**
- Site Photos – **Exhibit 11**

Farm Service Agency Slide Review - **Not Applicable**

INTRODUCTION

This wetland delineation report responds to a March 20, 2015, letter of request from Douglas J. Koehler, City of Waukesha Planner, to identify the boundaries of any wetland and primary environmental corridor (PEC) on the Salem United Methodist Church property at 541 Highway 59. The project area is located in the Northwest one-quarter of U.S. Public Land Survey Section 12, Township 6 North, Range 19 East, City of Waukesha, Waukesha County, Wisconsin.

Statement of Qualifications

Christopher Jors, Senior Specialist-Biologist, has worked at SEWRPC since 1993, and has been part of the wetland delineation team since 1994. He received a Bachelor's degree in Conservation Aspects of Biology from the University of Wisconsin – Milwaukee in 1992. Prior to working at SEWRPC, Chris worked at the UWM Field Station at the Cedarburg Bog in Saukville, WI, where he learned methods of sampling wetland plant communities within the Bog. Chris has attended various wetland training workshops including the UW-La Crosse Critical Methods Workshop on March 9, 2016; the UW-La Crosse Basic and Advanced Wetland Delineation Workshops on August 10-15, 2015; a Wisconsin Dept. of Natural Resources Wetland Delineation & Wetland Rapid Assessment Methodology Workshop on April 23, 2014; and a U.S. Army Corps of Engineers Workshop on the Midwest Supplement to the 1987 Wetland Delineation Manual on February 3, 2009.

Jennifer Dietl, Specialist-Biologist, earned a Bachelor's degree in Biology and Environmental Science from Carroll University in 1992. She has worked at the Commission from 1992 to 1997 and from 2006 to the present conducting wetland delineations, primary environmental corridor delineations, and vegetation surveys. In between years of service at the Commission she worked for the Wisconsin Department of Transportation – Green Bay as an LTE Environmental Analysis and Review Specialist – and the Wisconsin Department of Natural Resources – Green Bay as an LTE Hydrologist. Jennifer attended a Wisconsin Dept. of Natural Resources Wetland Delineation & Wetland Rapid Assessment Methodology Workshop on April 23, 2014; and the UW-La Crosse Basic and Advanced Wetland Delineation Workshops on August 10-15, 2015, and the Critical Methods Workshop on March 9, 2016.

Daniel Carter, PhD, Principal Biologist, has worked at SEWRPC since 2013. He graduated with honors from Grinnell College with a Bachelor's degree in Biology. He later received a PhD in Biology from Kansas State University. Daniel has published several plant ecology articles in peer-reviewed journals, served on the botany team for the Wisconsin Wildlife Action Plan, and co-teaches the UW-La Crosse Basic Wetland Plant Identification course. He has completed both basic and advanced wetland delineation training as well as Wisconsin Natural Heritage Inventory training. Prior to working for the Commission, Daniel served as project coordinator for a grassland restoration project overseen jointly by the United States Department of Agriculture and The Nature Conservancy and taught high school Biology.

METHODS

Description of Methods

The wetland boundary determinations were based upon the criteria and methodologies set forth in the 1987 *Corps of Engineers Wetlands Delineation Manual*; the January 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2.0); the March 4, 2015, *Guidance for Submittal of Delineation Reports to the St. Paul District Army Corps of Engineers and the Wisconsin Department of Natural Resources*; and the State of Wisconsin 2014 Wetland Plant List.

Specific methods used to field identify wetland boundaries included the U.S. Department of the Army Corps of Engineers Routine Onsite Determination Method – Plant Community Assessment Procedure. This procedure requires an initial identification of representative plant community types in the project area followed by a characterization of vegetation, soils, and hydrology for each type.

Sources Reviewed

Prior to conducting field work, Commission staff reviewed the following data sources: Waukesha County's topographic mapping (Exhibit 1), WDNR Surface Water Data Viewer - WWI mapping (Exhibit 2), Natural Resource Conservation Service's (NRCS) soil survey and FEMA floodplain mapping (Exhibit 3), Commission aerial photography (Exhibits 4A – 4L), Sanitary Sewer Service Map (Exhibit 5), the Draft NRCS Wetland Inventory Map (Exhibit 6), ADID Wetland Map (Exhibit 7), and precipitation data from the NRCS "WETS" tables.

RESULTS AND DISCUSSION

Christopher Jors, lead investigator, Jennifer Dietl, and Dr. Daniel Carter, identified and staked the boundaries of the wetland and PEC contained within the project area on July 15, 2015. The wetland and PEC boundaries were marked with orange wire flags and ribbon. To differentiate the wetland and PEC markers, Commission staff tied different ribbon above the wire flags. Ribbon with "WETLAND BOUNDARY" in black lettering identified wetland boundary markers and plain orange ribbon identified the PEC boundary. In areas where the wetland and PEC coincide, both types of ribbon were tied together. A church representative, Ms. Bonnie Stuempfig, notified the Commission staff that Landmark Engineering would be hired to survey the wetland and PEC markers. Landmark Engineering has not yet provided a copy of the survey with wetland and PEC boundaries as of the completion of this report. Commission staff used a sub-meter GPS to locate the sample site locations.

The results of the wetland and PEC delineation field inspection for this project area are shown on Exhibit 8, which includes approximate wetland and PEC boundaries, sample site numbers and locations, and plant community area numbers and locations.

Antecedent Hydrologic Conditions

Climatological data were taken from the nearest WETS station(s) and GHCN Stations with relevant data.

WETS Station: WAUKESHA, WI 8937

	Month	3 yrs. In 10 less than	Normal	3 yrs. In 10 more than	Observed precip.	Condition dry, wet, normal	Condition value	Month weight value	Product of previous two columns
1st prior month	July	2.82	3.83	4.49	2.08	Dry	1	3	3
2nd prior month	June	2.46	3.78	4.54	3.26	Normal	2	2	4
3rd prior month	May	2.03	3.02	3.61	2.63	Normal	2	1	2
								sum	9

If sum is	
6 - 9	drier than normal
10 - 14	normal
15 - 18	wetter than normal
Conclusion	Drier

Previous Wetland Delineation Mapping - None

Existing Environmental Mapping

The topographic map (Exhibit 1) depicts a project area within significant topographic relief. Elevations range from a high of 918 feet above National Geodetic Vertical Datum, 1929 adjustment (NGVD 29), on the northwest part of the property to a low elevation of 864 feet above NGVD 29 on the southern portion of the property. While no waterways or waterbodies are contained within the project area, an unnamed tributary to Poplar Creek just east of the project area drains a large wetland complex, a portion of which is contained on the subject property.

The WDNR Surface Water Data Viewer (WWI) map (Exhibit 2) indicates one large wetland complex in the south part of the project area consisting of S3/E2K (Scrub/shrub – Emergent/wet meadow) and T3/S3K (Forested – Scrub/shrub) wetland types. The unnamed tributary to Poplar Creek mentioned above is identified as a USGS waterway on this exhibit. WDNR identifies this waterway as a first order stream. Natural community and general condition information is not available from WDNR.

The NRCS Soil Survey map (Exhibit 3) shows the following soils in the project area:

Soil Name	Slope %	Hydric Rating	% Soil Coverage in Project Area	Sample Site(s)
Casco loam (CeC2)	6-12%, eroded	Non-hydric	0.3%	
Fox loam (FoC2)	6-12%, eroded	Non-hydric	0.6%	
Hochheim loam (HmB)	2-6%	Non-hydric	0.7%	
Hochheim loam (HmB2)	2-6%, eroded	Non-hydric	16.1%	
Hochheim loam (HmC2)	6-12%, eroded	Non-hydric	26.0%	
Hochheim loam (HmD2)	12-20%, eroded	Non-hydric	11.6%	
Hochheim soils (HoD3)	12-20%, severely eroded	Non-hydric	4.0%	
Houghton muck (HtA)	0-2%	Hydric	18.4%	
Lamartine silt loam (LmB)	1-4%	Predominantly Non-hydric	7.4%	
Pella silt loam (Ph)	0-2%	Predominantly hydric	1.2%	1
Pistakee silt loam (PrA)	1-3%	Predominantly Non-hydric	5.0%	2 and 3
Wallkill silt loam (Wa)	0-3%	Hydric	8.4%	4

It should be noted that FEMA has not mapped one-percent-annual-probability floodplain within or immediately adjacent to the project area.

Historical aerial photos of the project area were reviewed going back to 1941. Orthophotographs (2015, 2010, 2007, 2005, 2000, and 1995) and aerial photos (1990, 1980, 1970, 1963, 1950, and 1941) are attached (see Exhibits 4A-4L). This review is summarized in the table below.

Year	**CHANGES IN LAND USE OBSERVED ON AERIAL PHOTOGRAPHY FROM 1941 TO 2015**
1941	The project area is part of a large farmstead with the farm house and barn on the north side of the property, just south of East Broadway. Portions of the wetland on the south side of the property are cropped while the remainder appears to be naturally vegetated – possibly used for pasture or mowed for marsh hay. A large wetland complex appears disturbed but vegetated just east of the property. A drainage ditch bisects the subject wetland complex.
1950	No changes on the subject property. However, most of wetland just east of the subject property is now cropped and the drainage ditch has been extended southward.
1963	Farming of the wetland on the subject property has ceased and vegetation coverage is shrubby. The farm buildings just east of the property have been razed and the farmland appears fallow. Residential development has occurred just west of the subject property.

Year	CHANGES IN LAND USE OBSERVED ON AERIAL PHOTOGRAPHY FROM 1941 TO 2015
1970	STH 164/59 (Les Paul Parkway) has been constructed as a two lane road along the west project boundary. Farming appears to have ceased on the entire property and a church has also been built with access from STH 164/59.
1980	The farmstead buildings on the property have been razed.
1990	STH 164/59 (Les Paul Parkway) is now a four-lane divided highway. More residential development has occurred southwest of the subject property.
1995	No changes.
2000	A sewage pumping station has been built on the far northeast corner of the subject property, likely related to the new residential development just east of the property.
2005	Earthmoving activities and stockpiling of materials occurring north of the church building.
2007	No changes.
2010	No changes.
2015	No changes.

SEWRPC's sanitary sewer service area mapping (Exhibit 5) shows that the project area is located within the planned sanitary sewer service area for the City of Waukesha and Environs. The south part of the project area contains PEC.

The NRCS wetland inventory map (Exhibit 6) indicates lands on the north side and central parts of the project area are mapped Not Inventoried (NI). Lands in the south part of the project area are identified as wetland (W).

The ADID wetland map (Exhibit 7) indicates that wetlands located in the south part of the project area are located in a designated Primary Environmental Corridor (PEC) and, as such, have been designated as ADID wetlands under the Section 404(b)(1) Guidelines of the Clean Water Act.

Amount and Types of Wetlands in the Project Area

One wetland and one upland plant community area (PCA) were identified and inventoried during the field inspection. A list of vascular plant species observed during the field inspection was prepared for each plant community area as well as plant community type(s), dominant plant species, disturbances, and any critical plant and animal species (Exhibit 9). The table below summarizes characteristics for each PCA.

PCA Number	Acreage	PCA Type(s)	Dominant Species	Critical Species
1 Upland	0.55	Undifferentiated hardwoods	*Acer negundo*-Boxelder *Galium triflorum*-Sweet-scented bedstraw *Lonicera* X *bella*-Hybrid honeysuckle *Rhamnus cathartica*-Common buckthorn	None
2 Wetland	7.2	Shallow marsh, fresh (wet) meadow and second growth, Southern, wet to wet-mesic lowland hardwoods.	*Acer negundo*-Boxelder *Phalaris arundinacea*- Reed canary grass *Typha angustifolia*-Narrow-leaved cat-tail	None

Wetland/Upland Boundary Explanation

A total of four representative sample sites were identified within the project area during the field inspection. The Wetland Determination Data Forms describing the findings at each sample site are attached as Exhibit 10. The locations of the sample sites are shown on Exhibit 8. The wetland boundary was determined using breaks in topography, changes in vegetation composition, visual identification of wetland hydrology, and presence of hydric soils.

Disturbed and Problematic Areas Encountered

No "significantly disturbed" or "naturally problematic" areas were encountered during the field inspection.

Other Water Resources Located in the Project Area

No other water resources are located in the project area; however, the staked wetland continues out of the project area.

Other Considerations

The wetlands located within the recorded Primary Environmental Corridor (PEC) as shown on Exhibit 8, have been designated as Advanced Delineation and Identification (ADID) wetlands under the Section 404(b)(1) Guidelines of the Clean Water Act and are deemed generally unsuitable for the discharge of dredge and fill material. In addition, the nonagricultural performance standards set forth in Section NR 151.125 of the *Wisconsin Statutes*, require establishment of a 75-foot impervious surface protective area to protect this "highly susceptible" wetland. This designated protective area boundary is measured horizontally from the delineated wetland boundary to the closest impervious surface. The protective area requirements should be taken into consideration for any planned development of the subject property and it is suggested that a church official or their representative contact WDNR regarding approaches to meet the requirements. Finally, please be advised that no Federal or State regulatory jurisdiction determinations relative to any wetland permits or certifications are made under this report.

LITERATURE CITED

U.S. Army Corps of Engineers, 2015, Special Public Notice: *Guidance for Submittal of Delineation Reports to the St. Paul District Corps of Engineers and the Wisconsin Department of Natural Resources*, U.S. Army Corps of Engineers, March 2015.

U.S. Army Corps of Engineers, 2014, State of Wisconsin Wetland Plant List

U.S. Army Corps of Engineers, 2012, *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (Version 2.0). U.S. Army Engineer Research and Development Center, January 2012.

USDA Natural Resources Conservation Service, 2010, *National Food Security Act Manual, Fifth Edition, Part 514.60*, November 2010.

U.S. Army Corps of Engineers, 1987, U.S. Army Corps of Engineers wetlands delineation manual. Wetlands Research Program Technical Report Y-87-1.

WDNR, Surface Water Data Viewer, website at http://dnrmaps.wi.gov/sl/?Viewer=SWDV


Exhibit 1. Topographic Map
Salem United Methodist Church
NW Quarter, Section 12, T6N-R19E
City of Waukesha, Waukesha County
East Broadway
Stonebrook Drive
Unnamed Tributary to Poplar Creek
Legend
Project Area
Surface Water
Flow Direction
N
0
200
400
Feet
Source: SEWRPC
Date of Photography: 2015
CA#737-269


Exhibit 2. WDNR Surface Water Data Viewer
Wisconsin Wetland Inventory Map
Salem United Methodist Church
NW Quarter, Section 12, T6N-R19E
City of Waukesha, Waukesha County
East Broadway
Stonebrook Drive
LmB
Wa
W0Hx
PfA
HtA
S3/E2K
E2H
T3/S3K
MmA
T3K
S3/E2H
Legend
Project Area
Wetland
Wetland Indicators
USGS Waterway
N
0
200
400
Feet
Source: WDNR, USGS
Date of Photography: 2010
CA#737-269


Exhibit 3. Soils Map
Salem United Methodist Church
NW Quarter, Section 12, T6N-R19E
City of Waukesha, Waukesha County
East Broadway
Stonebrook Drive
HmB2
Lu
HmC2
HmD2
Ph
HmB
HoC3
CeD2
LmB
FoB
HoD3
FoC2
Wa
PrA
HtA
ThB
JuA
MmA
W
FsB
MoB
Legend
Project Area
Other Soils
Poorly drained or Very poorly drained
Somewhat poorly drained
N
0
200
400
Feet
Source: SEWRPC
Date of Photography: 2015
CA#737-269


Exhibit 4A. 2015 Orthophotograph
Salem United Methodist Church
NW Quarter, Section 12, T6N-R19E
City of Waukesha, Waukesha County
East Broadway
Stonebrook Drive
STH 164/S Les Paul Parkway
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
CA#737-269


Exhibit 4B. 2010 Orthophotograph
Salem United Methodist Church
NW Quarter, Section 12, T6N-R19E
City of Waukesha, Waukesha County
East Broadway
Stonebrook Drive
STH 164/59 Les Paul Parkway
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
CA#737-269


Exhibit 4C. 2007 Orthophotograph
Salem United Methodist Church
NW Quarter, Section 12, T6N-R19E
City of Waukesha, Waukesha County
East Broadway
Stonebrook Drive
STH 164/59 Les Paul Parkway
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
CA#737-269


Exhibit 4D. 2005 Orthophotograph
Salem United Methodist Church
NW Quarter, Section 12, T6N-R19E
City of Waukesha, Waukesha County
East Broadway
Stonebrook Drive
STH 164/S. Les Paul Parkway
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
CA#737-269

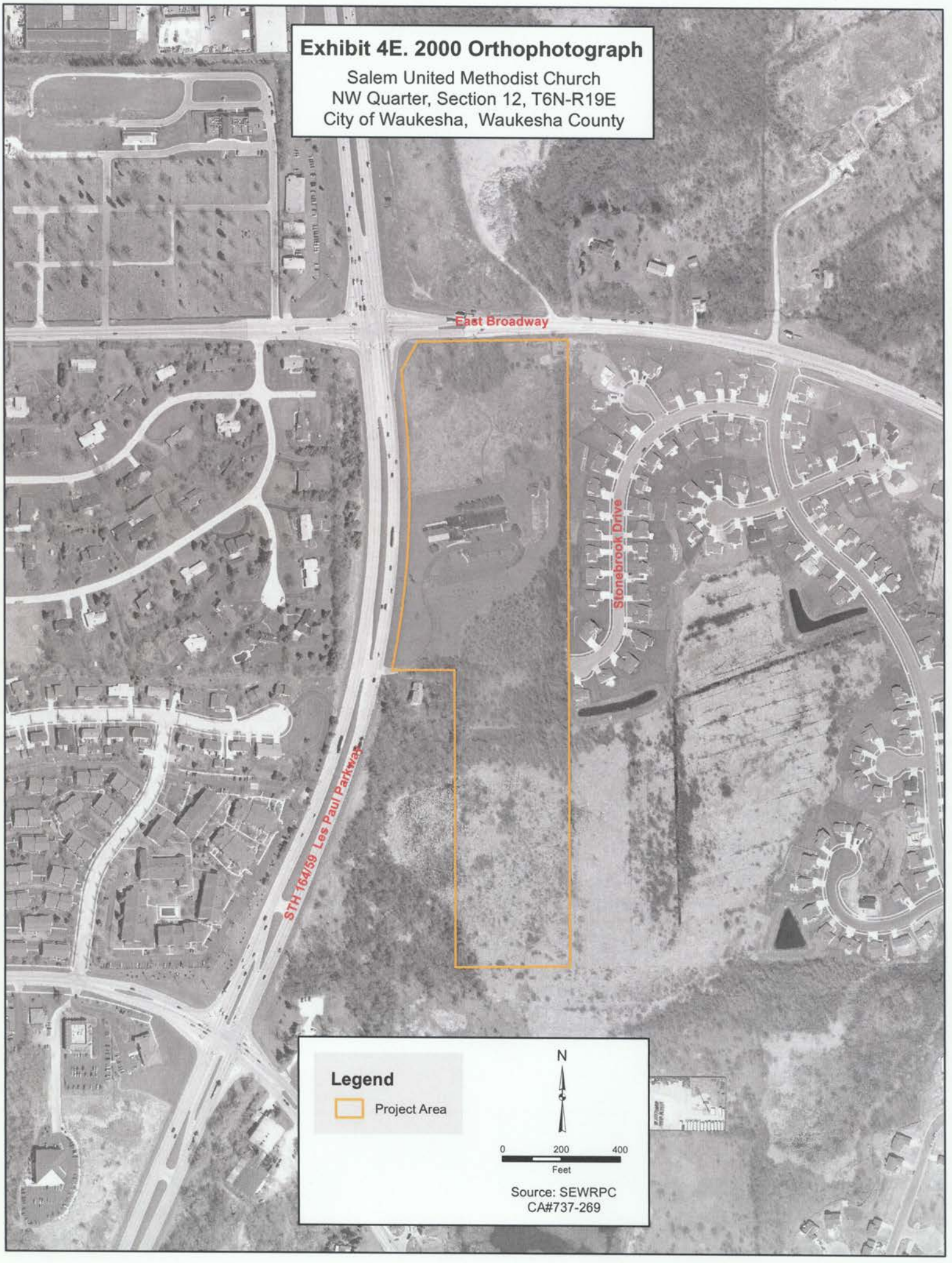


Exhibit 4E. 2000 Orthophotograph
Salem United Methodist Church
NW Quarter, Section 12, T6N-R19E
City of Waukesha, Waukesha County
East Broadway
Stonebrook Drive
STH 164/59 Les Paul Parkway
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
CA#737-269


Exhibit 4F. 1995 Orthophotograph
Salem United Methodist Church
NW Quarter, Section 12, T6N-R19E
City of Waukesha, Waukesha County
East Broadway
STH 164/59 "Les Paul" Parkway
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
CA#737-269


Exhibit 4G. 1990 Aerial Photograph
Salem United Methodist Church
NW Quarter, Section 12, T6N-R19E
City of Waukesha, Waukesha County
East Broadway
STH 164/59 Les Paul Parkway
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
CA#737-269


Exhibit 4H. 1980 Aerial Photograph
Salem United Methodist Church
NW Quarter, Section 12, T6N-R19E
City of Waukesha, Waukesha County
East Broadway
STH 164/N. Lee Paul Parkway
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
CA#737-269

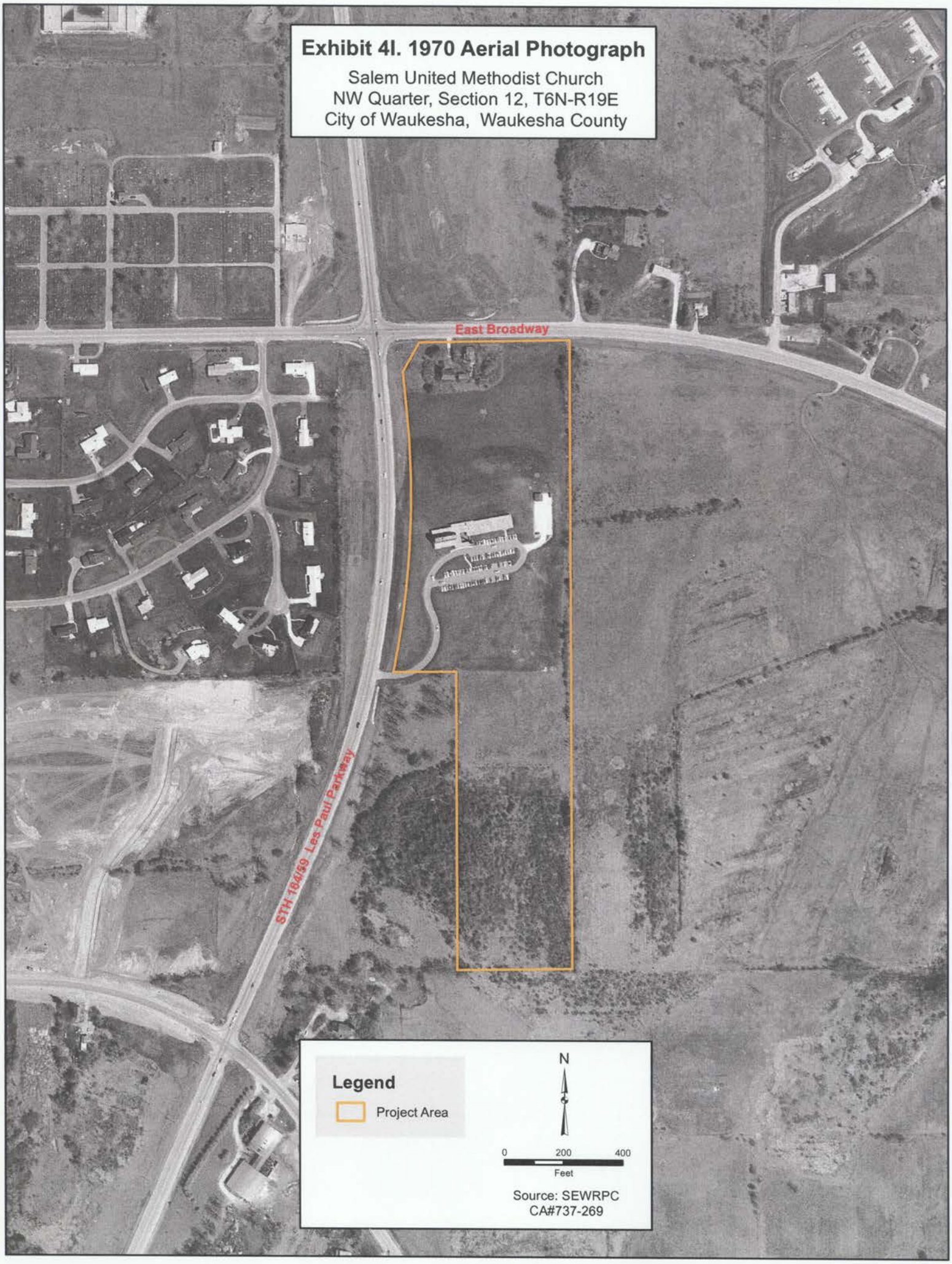


Exhibit 4I. 1970 Aerial Photograph
Salem United Methodist Church
NW Quarter, Section 12, T6N-R19E
City of Waukesha, Waukesha County
East Broadway
STH 164/59 Les Paul Parkway
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
CA#737-269

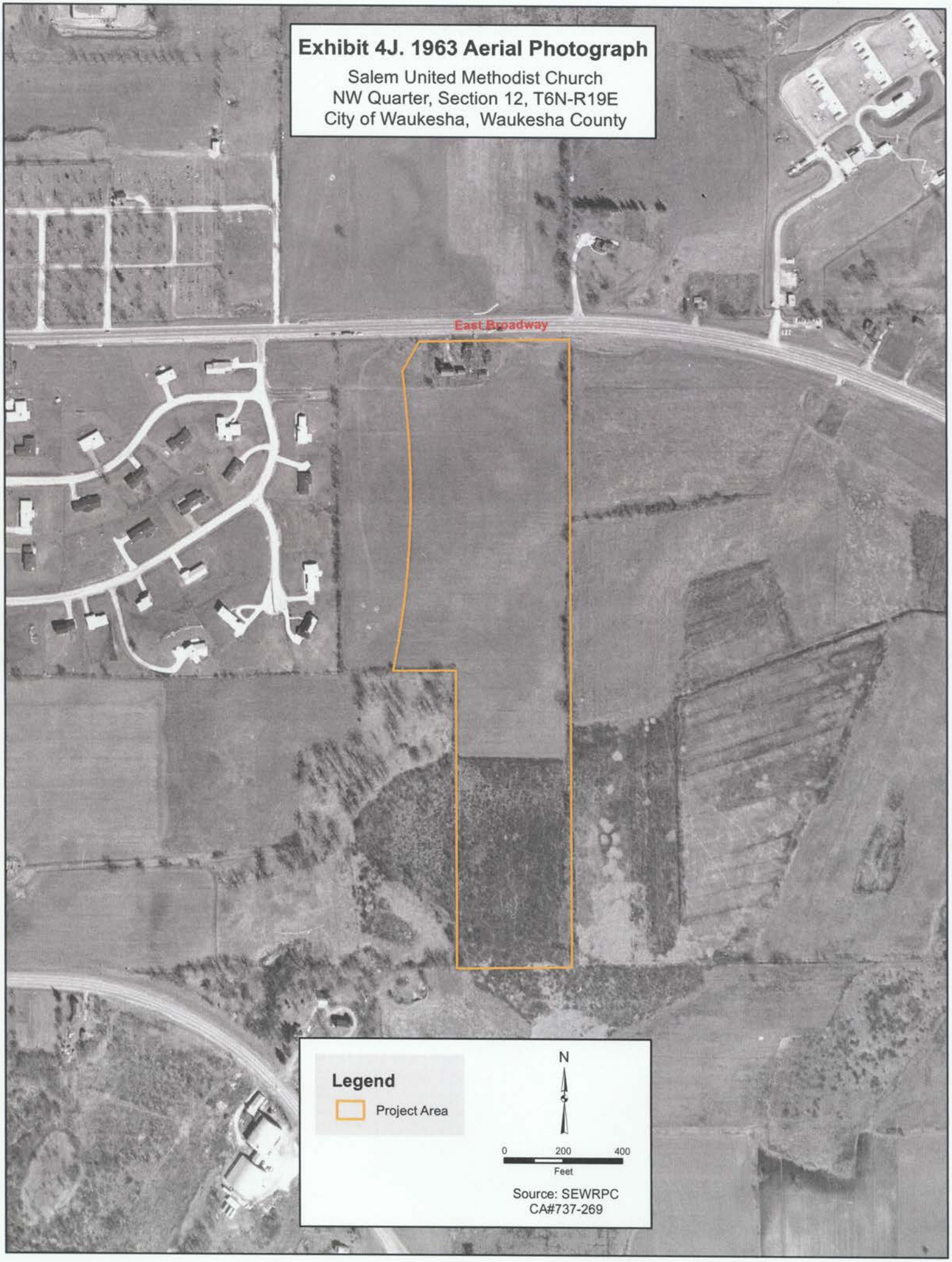


Exhibit 4J. 1963 Aerial Photograph
Salem United Methodist Church
NW Quarter, Section 12, T6N-R19E
City of Waukesha, Waukesha County
East Broadway
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
CA#737-269


Exhibit 4K. 1950 Aerial Photograph
Salem United Methodist Church
NW Quarter, Section 12, T6N-R19E
City of Waukesha, Waukesha County
East Broadway
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
CA#737-269

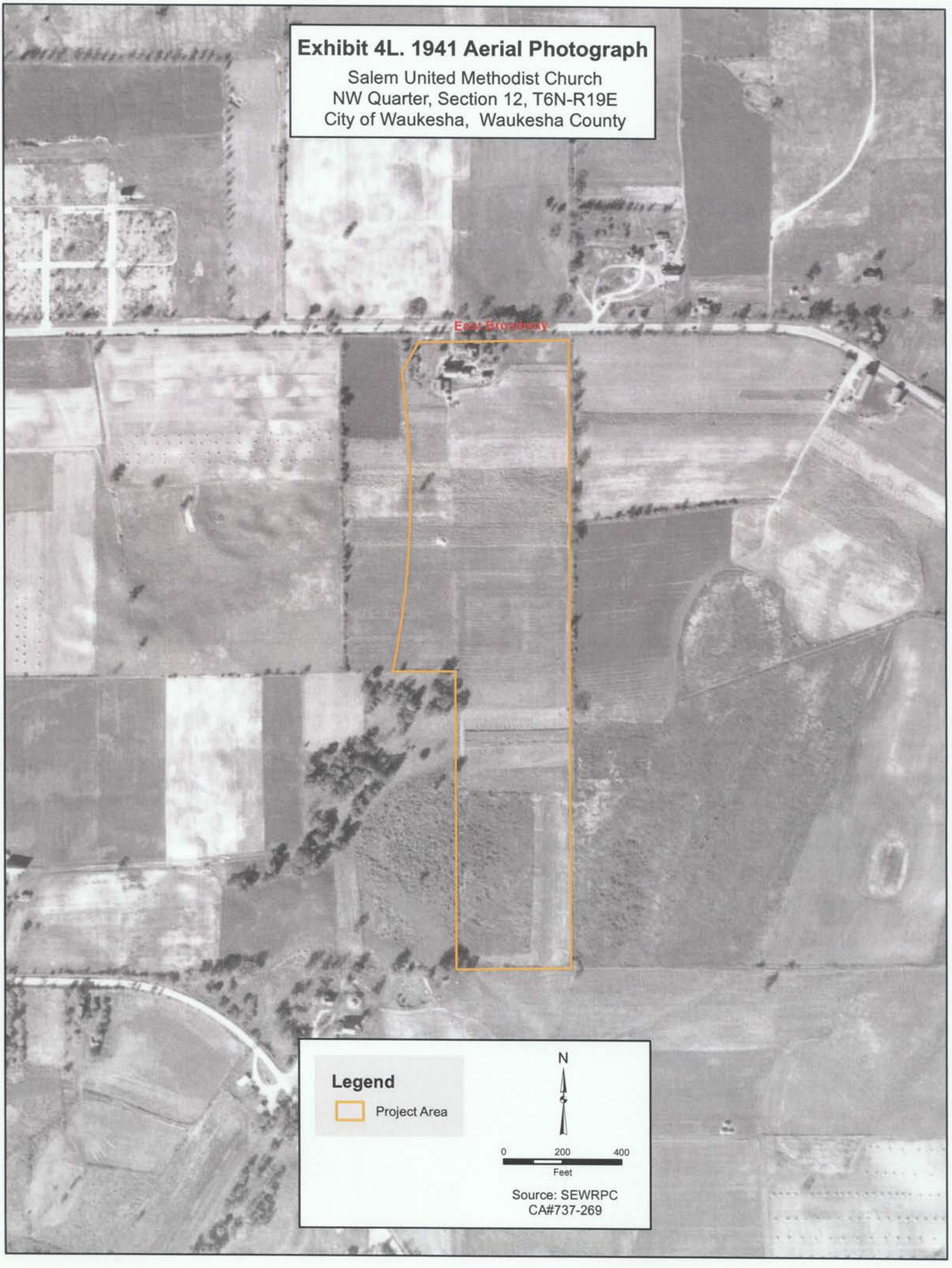


Exhibit 4L. 1941 Aerial Photograph
Salem United Methodist Church
NW Quarter, Section 12, T6N-R19E
City of Waukesha, Waukesha County
East Broadway
Legend
Project Area
N
0
200
400
Feet
Source: SEWRPC
CA#737-269

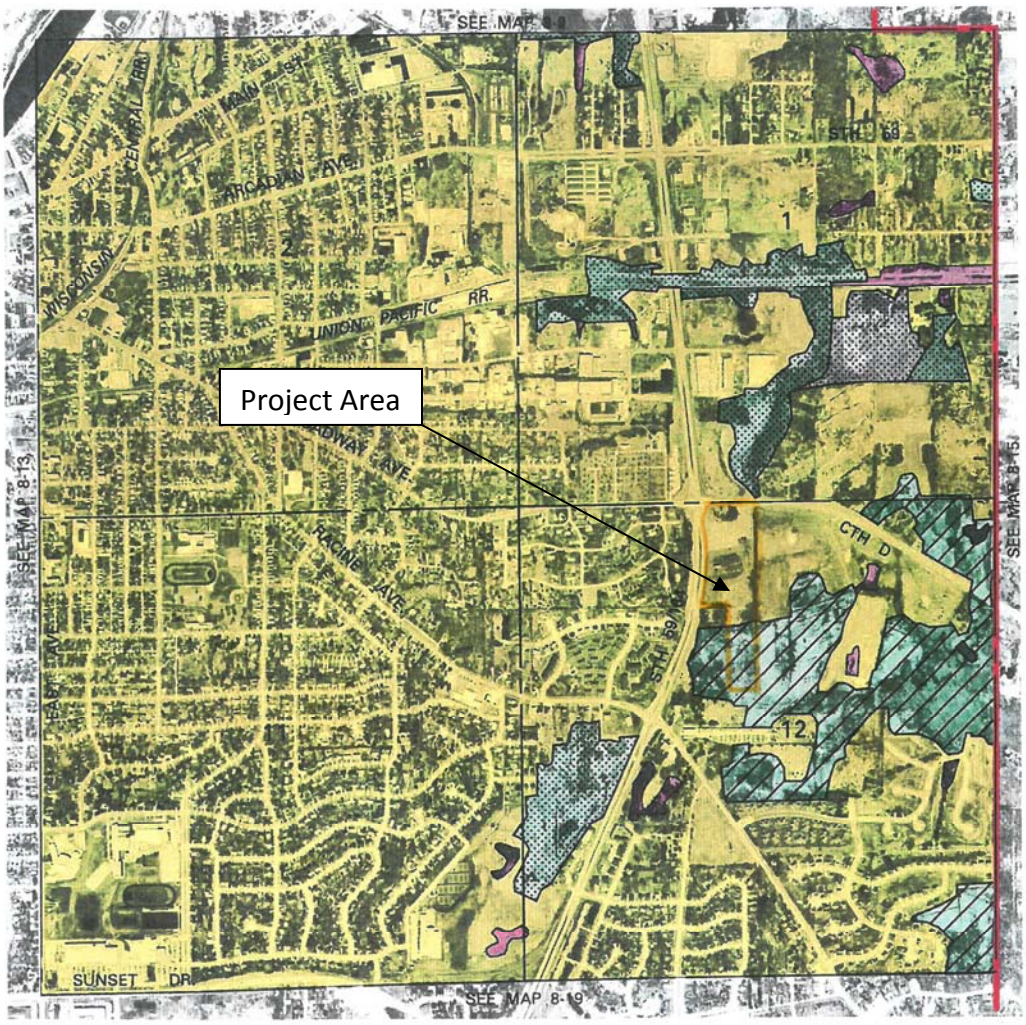
EXHIBIT 5. Sewer Service Area Map

Salem United Methodist Church
NW Quarter, Section 12, T6N-R19E
City of Waukesha, Waukesha County

Map 8-14

ENVIRONMENTALLY SIGNIFICANT LANDS AND PLANNED
SANITARY SEWER SERVICE AREA FOR THE CITY OF WAUKESHA AND ENVIRONS

U. S. Public Land Survey Sections 1, 2, 11, and 12
Township 6 North, Range 19 East



PRIMARY ENVIRONMENTAL CORRIDOR

ISOLATED NATURAL RESOURCE AREA

WETLANDS AND SURFACE WATER AREAS LESS THAN FIVE ACRES IN SIZE

SURFACE WATER WITHIN ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL RESOURCE AREAS

PLANNED SANITARY SEWER SERVICE AREA

GROSS SANITARY SEWER SERVICE AREA BOUNDARY

LANDS WITHIN THE PLANNED SANITARY SEWER SERVICE AREA INELIGIBLE FOR SEWER SERVICE

GRAPHIC SCALE
0 400 800 1200 FEET

Source: SEWRPC.

EXHIBIT 6. Draft NRCS Wetland Inventory Map

Salem United Methodist Church
NW Quarter, Section 12, T6N-R19E
City of Waukesha, Waukesha County

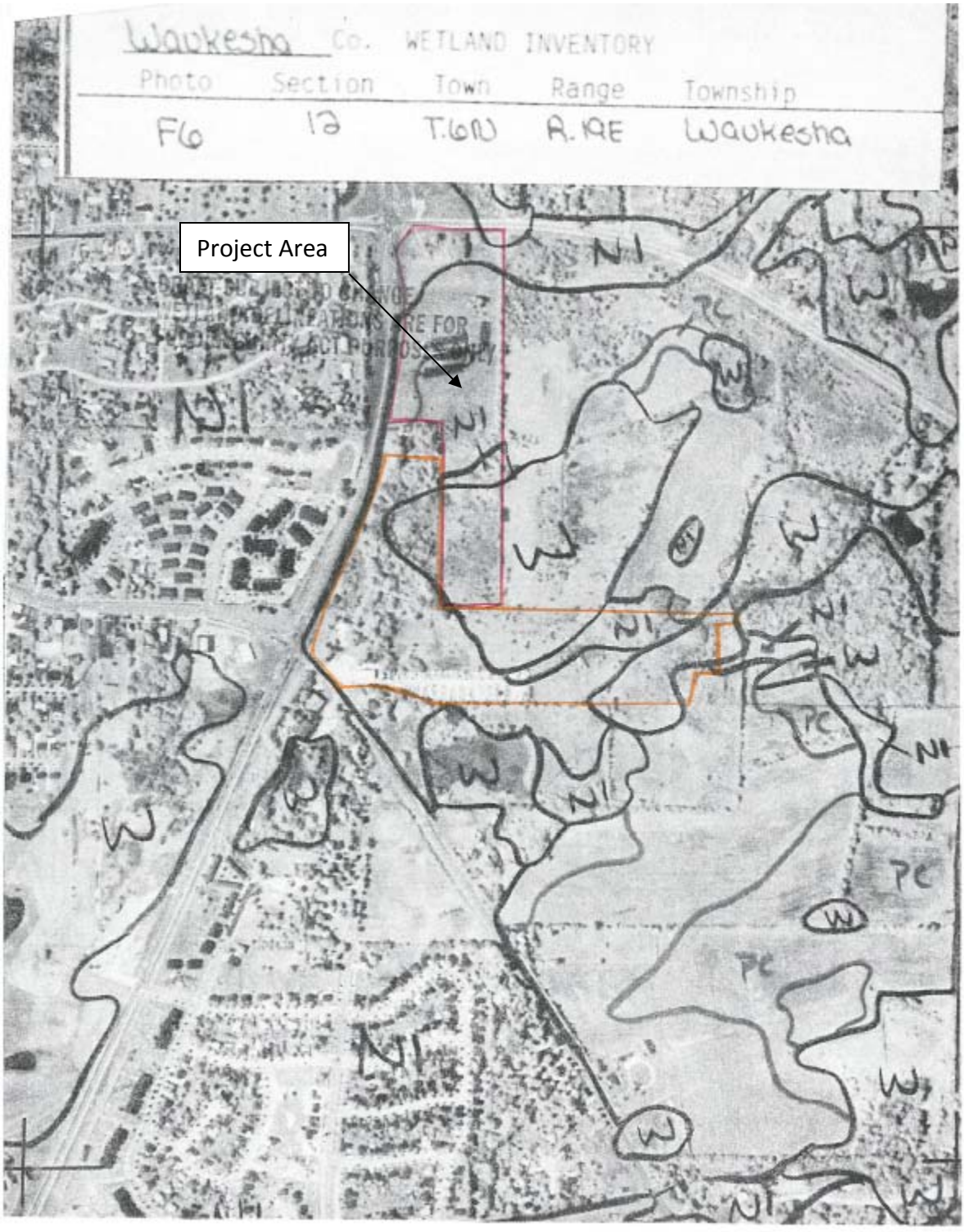


EXHIBIT 7. ADID Wetland Map
Salem United Methodist Church
NW Quarter, Section 12, T6N-R19E
City of Waukesha, Waukesha County

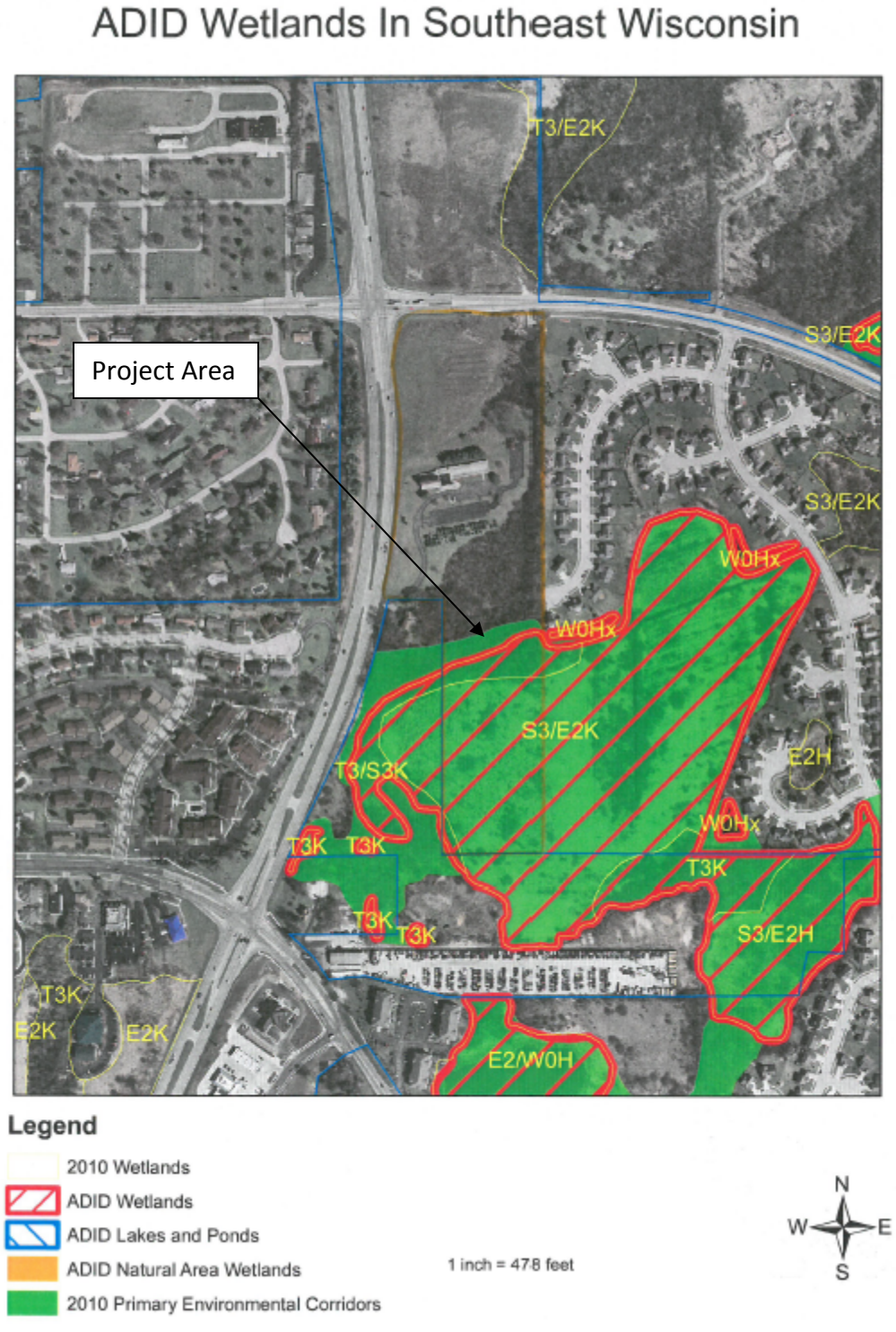



Exhibit 8. Wetland Delineation
Salem United Methodist Church
NW Quarter, Section 12, T6N-R19E
City of Waukesha, Waukesha County
East Broadway
STH 164/59 Les Paul Parkway
Stonebrook Drive
Unnamed Tributary to Poplar Creek
1
2
3
4
Wetland Boundary Not Staked Here
Legend
Project Area
Primary Environmental Corridor (PEC)
PEC Staked by SEWRPC on 7/15/15
Approximate Wetland Boundary Staked by SEWRPC on 7/15/15
Wetland
Plant Community Number
Sample Site
Sample Number
Surface Water
Flow Direction
N
0
200
400
Feet
Source: SEWRPC
Date of Photography: 2015
CA#737-269

EXHIBIT 9. PRELIMINARY VEGETATION SURVEY

SALEM UNITED METHODIST CHURCH

Date: July 15, 2015

Observers: Daniel L. Carter, Ph.D., Principal Biologist
Christopher J. Jors, Senior Biologist
Jennifer Dietl, Biologist
Southeastern Wisconsin Regional Planning Commission

Location: City of Waukesha in parts of the Northwest one-quarter of U.S. Public Land Survey Section 12, Township 6 North, Range 19 East, Waukesha County, Wisconsin.

Species List: Plant Community Area No. 1 – Native Species
Co-dominant species

***Acer negundo*--Boxelder**
Asclepias syriaca--Common milkweed
Carya ovata--Shagbark hickory
Circaea canadensis--Enchanter's nightshade
Cornus racemosa--Grey dogwood
Erigeron annuus--Annual fleabane
Euthamia graminifolia--Grass-leaved goldenrod
***Galium triflorum*--Sweet-scented bedstraw**
Geum canadense--White avens
Glyceria striata--Fowl manna grass
Impatiens capensis--Jewelweed
Juglans nigra--Black walnut
Monarda fistulosa--Wild bergamot
Oxalis stricta--Common wood sorrel
Solidago altissima--Tall goldenrod
Solidago gigantea--Giant goldenrod
Symphyotrichum lateriflorum--Calico aster
Ulmus americana--American elm
Verbena urticifolia--White vervain
Viburnum lentago--Nannyberry
Vitis riparia--Riverbank grape

NON-Native Species

Frangula alnus--Glossy buckthorn
Hesperis matronalis—Dame's rocket
***Lonicera* X *bella*--Hybrid honeysuckle**
***Rhamnus cathartica*--Common buckthorn**

Total number of plant species: 25
Number of alien, or non-native, plant species: 4 (16 percent)

This approximately 0.55-acre upland plant community area is part of a larger primary environmental corridor complex and consists of undifferentiated hardwoods. Disturbances to the plant community area include past agricultural land management activities. No Federal- or State-designated Special Concern, Threatened, or Endangered species were observed during the field inspection.

Plant Community Area No. 2 – Native Species

***Acer negundo*--Boxelder**
Circaea lutetiana--Enchanter's nightshade
Echinocystis lobata--Wild cucumber
Geum canadense--White avens
Glyceria striata--Fowl manna grass
Impatiens capensis--Jewelweed
Salix amygdaloides--Peach-leaved willow
Salix petiolaris--Petioled willow
Solidago gigantea--Giant goldenrod
Ulmus americana--American elm
Urtica dioica—Stinging nettle
Viburnum lentago--Nannyberry
Vitis riparia--Riverbank grape

NON-Native Species

Alliaria petiolata--Garlic-mustard
Frangula alnus--Glossy buckthorn
Hesperis matronalis—Dame's rocket
***Phalaris arundinacea*--Reed canary grass**
Rhamnus cathartica--Common buckthorn
***Typha angustifolia*--Narrow-leaved cat-tail**

Total number of plant species: 19
Number of alien, or non-native, plant species: 6 (32 percent)

This approximately 7.2-acre plant community area is part of a larger wetland complex and consists of shallow marsh, fresh (wet) meadow, and second growth, Southern wet to wet-mesic lowland hardwoods. Disturbances to the plant community area include past agricultural land management activities. No Federal- or State-designated Special Concern, Threatened, or Endangered species were observed during the field inspection.

EXHIBIT 10.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Salem United Methodist Church City/County: City of Waukesha/Waukesha County Sampling Date: 07/15/2015
Applicant/Owner: _____ State: WI Sampling Point: 1
Investigator(s): Jen Dietl, Dan Carter, Chris Jors; SEWRPC Section, Township, Range: NW 1/4 Section 12, T6N, R19E
Landform (hillslope, terrace, etc.): low terrace Local relief (concave, convex, none): concave Slope (%): 0-2%
Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: Pella silt loam (Ph) NWI classification: _____
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ **No** ☒ (If no, explain in Remarks)
Are Vegetation_____, Soil_____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? **Yes** ☒ No ☐
Are Vegetation_____, Soil_____, or Hydrology _____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	☒**Yes**	☐No	**Is the Sampled Area within a Wetland?**	☐ Yes	☒**No**
Hydric Soils Present?	☐Yes	☒**No**			
Wetland Hydrology Present?	☒**Yes**	☐No	If yes, optional Wetland Site ID: _____		

Remarks: (Explain alternative procedures here or in a separate report.) Antecedent precipitation drier than normal. Sample site located in a depressional area dominated with hydrophytic vegetation. In addition, a dark line that is present on 2010 orthophotograph appeared to be a ditch with surface water. However, upon further inspecition this feature was determined to be a silt fence not a water feature. Ultimately, this site was determined to be upland after no hydric soil indicators were found.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ **No** ☒ Depth (inches): _____
Water Table Present? Yes ☐ **No** ☒ Depth (inches): _____
Saturation Present? (includes capillary fringe) **Yes** ☒ No ☐ Depth (inches): 23

Wetland Hydrology Present? **Yes** ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map (Exhibit 3), and Aerial Photos (Exhibit 4).

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 1

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.		☐	
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' radius)			
1. Rhamnus cathartica	**15**	☒	**FAC**
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	15	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Phalaris arundinacea	**100**	☒	**FACW**
2. Solidago altissima	15	☐	FACU
3. Asclepias syriace	10	☐	FACU
4. Solidago gigantea	10	☐	FACW
5.		☐	
6.		☐	
7.		☐	
8.		☐	
9.		☐	
10.		☐	
11.		☐	
12.		☐	
	135	= Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	x 1 =		
FACW species	x 2 =		
FAC species	x 3 =		
FACU species	x 4 =		
UPL species	x 5 =		
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ **Dominance Test is >50%**
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must Be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height

Sapling/shrub – Woody plants less than 3in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height

Hydrophytic Vegetation Present? **Yes** ☒ No ☐

Remarks: (include photo number here or on a separate sheet.) Old field with scattered buckthorns.

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3.5/2	100					Loam	
5-10	10YR 3/2	100					Loam	
10-18	10YR 3/2	98	2.5YR 3/4	2	C	PL M	Silt loam	
18-24	10YR 4/3	98	10YR 3/6	2	C	PL M	Silt loam	

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

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ **No** ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Salem United Methodist Church City/County: City of Waukesha/Waukesha County Sampling Date: 07/15/2015
Applicant/Owner: _____ State: WI Sampling Point: 2
Investigator(s): Jen Dietl, Dan Carter, Chris Jors; SEWRPC Section, Township, Range: NW 1/4 Section 12, T6N, R19E
Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 1-3%
Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: Pistakee silt loam (PrA) NWI classification: none
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ **No** ☒ (If no, explain in Remarks)
Are Vegetation_____, Soil_____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? **Yes** ☒ No ☐
Are Vegetation_____, Soil_____, or Hydrology _____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	☐Yes	☒**No**	**Is the Sampled Area within a Wetland?**	☐ Yes ☒**No**
Hydric Soils Present?	☐Yes	☒**No**		
Wetland Hydrology Present?	☐Yes	☒**No**	If yes, optional Wetland Site ID: Plant Community Area (PCA) 1	

Remarks: (Explain alternative procedures here or in a separate report.) Antecedent precipitation drier than normal.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ **No** ☒ Depth (inches): _____
Water Table Present? Yes ☐ **No** ☒ Depth (inches): _____
Saturation Present? (includes capillary fringe) Yes ☐ **No** ☒ Depth (inches): _____

Wetland Hydrology Present? Yes ☐ **No** ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map (Exhibit 3), and Aerial Photos (Exhibit 4).

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 2

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.		☐	
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' radius)			
1. Cornus racemosa	**40**	☒	**FAC**
2. Lonicera x bella	**40**	☒	**FACU**
3. Rhamnus cathartica	**40**	☒	**FAC**
4. Frangula alnus	5	☐	FAC
5.		☐	
6.		☐	
7.		☐	
	125	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Circaea canadensis	**40**	☒	**FACU**
2. Galium triflorum	**30**	☒	**FACU**
3. Solidago altissima	**30**	☒	**FACU**
4. Geum canadense	10	☐	FAC
5. Solidago gigantea	5	☐	FACW
6. Symphyotrichum lateriflorum	5	☐	FAC
7. Impatiens capensis	2	☐	FACW
8. Glyceria striata	1	☐	OBL
9.		☐	
10.		☐	
11.		☐	
12.		☐	
	123	= Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1. Vitis riparia	3	☐	FAC
2.		☐	
3.		☐	
4.		☐	
	3	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must Be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height

Sapling/shrub – Woody plants less than 3in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height

Hydrophytic Vegetation Present? Yes ☐ **No** ☒

Remarks: (include photo number here or on a separate sheet.) Shrub thicket.

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-11	10YR 3/1	100					Clay loam	
11-15	10YR 3/1	60					Loam	
	10YR 2/1	40						
15-24	10YR 4/2	60	10YR 4/6	30	C	PL M	Clay	
	10YR 3/1	10						

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

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ **No** ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Salem United Methodist Church City/County: City of Waukesha/Waukesha County Sampling Date: 07/15/2015
Applicant/Owner: _____ State: WI Sampling Point: 3
Investigator(s): Jen Dietl, Dan Carter, Chris Jors; SEWRPC Section, Township, Range: NW 1/4 Section 12, T6N, R19E
Landform (hillslope, terrace, etc.): low terrace Local relief (concave, convex, none): none Slope (%): 1-3%
Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: Pistakee silt loam (PrA) NWI classification: _____
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ **No** ☒ (If no, explain in Remarks)
Are Vegetation_____, Soil_____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? **Yes** ☒ No ☐
Are Vegetation_____, Soil_____, or Hydrology _____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	☒ **Yes**	☐ No	**Is the Sampled Area within a Wetland?**	☒ **Yes**	☐ No
Hydric Soils Present?	☒ **Yes**	☐ No			
Wetland Hydrology Present?	☒ **Yes**	☐ No	If yes, optional Wetland Site ID: PCA 2		

Remarks: (Explain alternative procedures here or in a separate report.) Antecedent precipitation drier than normal.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ **No** ☒ Depth (inches): _____
Water Table Present? Yes ☐ **No** ☒ Depth (inches): _____
Saturation Present? (includes capillary fringe) **Yes** ☒ No ☐ Depth (inches): 15

Wetland Hydrology Present? **Yes** ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map (Exhibit 3), and Aerial Photos (Exhibit 4).

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 3

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer negundo	**75**	☒	**FAC**
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	75	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' radius)			
1. Rhamnus cathartica	**80**	☒	**FAC**
2. Viburnum lentago	15	☐	FAC
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	95	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Impatiens capensis	**60**	☒	**FACW**
2. Phalaris arundinacea	10	☐	FACW
3. Urtica dioica	10	☐	FAC
4. Geum canadense	5	☐	FAC
5. Glyceria striata	5	☐	OBL
6. Hesperis matrionalis	5	☐	FACU
7. Solidago gigantea	5	☐	FACW
8. Alliaria petiolata	3	☐	FACU
9.		☐	
10.		☐	
11.		☐	
12.		☐	
	103	= Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1. Vitis riparia	**10**	☒	**FAC**
2.		☐	
3.		☐	
4.		☐	
	10	= Total Cover	

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ **Dominance Test is >50%**
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must Be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height

Sapling/shrub – Woody plants less than 3in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height

Hydrophytic Vegetation Present? **Yes** ☒ No ☐

Remarks: (include photo number here or on a separate sheet.) Buckthorn thicket and lowland hardwoods.

SOIL

Sampling Point: 3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-13	10YR 2/1	100					Loam	
13-18	10YR 2/1	100					Clay loam	
18-24	10YR 6/1	60	10YR 6/6	20	C	PL M	Clay	with disintegrating dolomite
	10YR 2/1	20						

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

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Salem United Methodist Church City/County: City of Waukesha/Waukesha County Sampling Date: 07/15/2015
Applicant/Owner: _____ State: WI Sampling Point: 4
Investigator(s): Jen Dietl, Dan Carter, Chris Jors; SEWRPC Section, Township, Range: NW 1/4 Section 12, T6N, R19E
Landform (hillslope, terrace, etc.): low terrace Local relief (concave, convex, none): none Slope (%): 0-3%
Subregion (LRR or MLRA): LRR K Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: Wallkill silt loam (Wa) NWI classification: S3/E2K
Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ **No** ☒ (If no, explain in Remarks)
Are Vegetation_____, Soil_____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? **Yes** ☒ No ☐
Are Vegetation_____, Soil_____, or Hydrology _____ naturally problematic? (If, needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	☒ **Yes**	☐ No	**Is the Sampled Area within a Wetland?**	☒ **Yes**	☐ No
Hydric Soils Present?	☒ **Yes**	☐ No			
Wetland Hydrology Present?	☒ **Yes**	☐ No	If yes, optional Wetland Site ID: PCA 2		

Remarks: (Explain alternative procedures here or in a separate report.) Antecedent precipitation drier than normal.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ☐ **No** ☒ Depth (inches): _____
Water Table Present? **Yes** ☒ No ☐ Depth (inches): 21
Saturation Present? (includes capillary fringe) **Yes** ☒ No ☐ Depth (inches): 4

Wetland Hydrology Present? **Yes** ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Topo Map (Exhibit 1), WWI Map (Exhibit 2), Soils Map (Exhibit 3), and Aerial Photos (Exhibit 4).

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: 4

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer negundo	**20**	☒	**FAC**
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	20	= Total Cover	

Sapling/Shrub Stratum (Plot size: 30' radius)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
	0	= Total Cover	

Herb Stratum (Plot size: 5' radius)			
1. Phalaris arundinacea	**120**	☒	**FACW**
2.		☐	
3.		☐	
4.		☐	
5.		☐	
6.		☐	
7.		☐	
8.		☐	
9.		☐	
10.		☐	
11.		☐	
12.		☐	
	120	= Total Cover	

Woody Vine Stratum (Plot size: 30' radius)			
1.		☐	
2.		☐	
3.		☐	
4.		☐	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

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Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height

Hydrophytic Vegetation Present? **Yes** ☒ No ☐

Remarks: (include photo number here or on a separate sheet.) Fresh (wet) meadow with scattered lowland hardwoods.

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 2/1	100					Muck	
8-14	10YR 2/1	100					Mucky loam	
14-19	N 2.5/1	65	2.5Y 5/6	15	C	PL M	Clay	
	10YR 3/2	20						
19-27	5GY 5/1	60	2.5Y 5/6	40	C	PL M	Clay	

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

[2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) **(LRR K, L, MLRA 149B**)
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- ☐ Thin Dark Surface (S9) **(LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ☒ No ☐

Remarks:

EXHIBIT 11. SITE PHOTOS

Salem United Methodist Church

NW Quarter, Section 12, T6N, R19E

City of Waukesha, Waukesha County

Photo 1. Upland sample site 1.
Old field with scattered buckthorns.

Photo 2. Upland sample site 2.
Shrub thicket.

EXHIBIT 11. SITE PHOTOS

Salem United Methodist Church

NW Quarter, Section 12, T6N, R19E

City of Waukesha, Waukesha County

Photo 3. Wetland sample site 3.
Buckthorn thicket and lowland hardwoods.

Photo 4. Wetland sample site 4.
Fresh (wet) meadow.

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