WETLAND DELINEATION REPORT

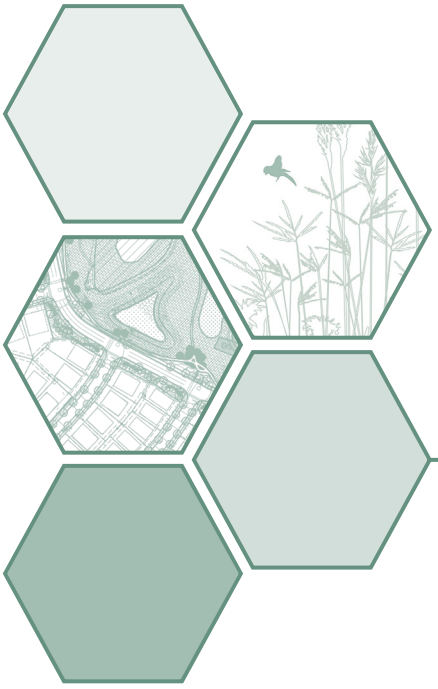
Route 59 and Bartlett Road

South Barrington, Cook County, Illinois

McNaughton Development

MT2017

September 11, 2020



GARY R. WEBER ASSOCIATES, INC.
LAND PLANNING ECOLOGICAL CONSULTING LANDSCAPE ARCHITECTURE

WETLAND DELINEATION REPORT

Route 59 and Bartlett Road

South Barrington, Cook County, Illinois

Prepared for:

McNaughton Developoment
11S220 Jackson Street, Suite #101
South Barrington, Cook County, Illinois

Attn: John Barry

Prepared by:

Gary R. Weber Associates, Inc.
402 W. Liberty Drive
Wheaton, IL 60187
(630)668-7197

Project Reference Information

MT2017

September 11, 2020

Carl M. Peterson, CPESC, LEED AP
GRWA - Managing Principal

Ellen L. Raimondi, CWS, DECI
GRWA - Senior Ecologist

Project Staff

Lisa Pajon
GRWA - Natural Resource Consultant

CONTENTS

1.0 INTRODUCTION

Project Name:	Route 59 and Bartlett Rd	**Client:**	McNaughton Development
Location:	South Barrington, Cook County, Illinois		
Coordinates:	NE S21 T42N R9E		
	Latitude: 42.106169 Longitude: -88.181692		
Date of site visit:	**9/10/2020**		

Gary R Weber Associates performed a formal wetland delineation within the study area located on southwest of IL-Route 59 and Bartlett Road in South Barrington, Cook County, Illinois (Exhibit A: Location), hereafter referred to as the study area. It is generally bounded by residential development to the north, east, and south, and IL Rt 59 and a railway to the west. The study area, as presented in this report, represents the property limits investigated by GRWA for the presence of regulated surface water resources. These limits do not necessarily reflect the boundaries of any proposed development activities. It is within the Spring Creek subwatershed and the Fox River watershed.

The study area consists of a landscape nursery containing rows of cultivated trees and shrubs. A stormwater management pond associated with the residential development is located in the southern portion of the study area.

1.1 DELINEATION SUMMARY

Seven (7) wetlands were identified within the project area. Wetland acreages provided in this report are estimations; a survey of staked boundaries must be performed to obtain exact size and location information. Wetland descriptions and sizes are included in the table below.

Wetland ID	Size (ac)	C-Value	FQI	Buffer (ft)
Wetland 1	3.34	2.79	13.68	50
Wetland 2	1.91	2.88	14.4	50
Wetland 3	0.21	2.14	8.02	30
Wetland 4	0.02	1.75	4.95	
Wetland 5	0.16	1.9	6.01	30
Wetland 6	0.17	2.11	6.33	30
Wetland 7	1.13	2.93	10.96	50

1.2 REGULATION SUMMARY

As of June 22, 2020, the Navigable Waters Protection Rule is in effect in all states but Colorado. Briefly, under the 2020 Rule (33 C.F.R. § 328.3) there are four categories of WOTUS:

1. Territorial seas and traditional navigable waters;
2. Tributaries of jurisdictional waters;
    a. Tributary must be perennial or intermittent in a typical year
3. Lakes, ponds, and impoundments that contribute surface water flow to a jurisdictional water in a typical year; and
4. Wetlands adjacent to non-wetland jurisdictional waters.
    a. Adjacent means: touching at least at one point of a water identified above; inundated by flooding from a water identified above; only separated by a natural berm, bank or similar; separated by a structure and still maintains a direct hydrologic surface connection during a typical year.

In Cook County, isolated wetlands are regulated under the Metropolitan Water Reclamation Districts (MWRD) Watershed Management Ordinance (WMO).

No observable connections to regulated waterways described were noted. Wetlands 1 – 7 may be considered isolated and under MWRD regulation.

At the time of this wetland delineation report, current regulations state that this delineation is valid for 3 years from the date of site visit.

1.3 THREATENED AND ENDANGERED SPECIES

Based on a 9/11/2020 review of the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) website, sensitive (federally threatened or endangered) plant or animal species habitat are not located on or adjacent to the study area (see attached USFWS Review Summary).

According to the Illinois Department of Natural Resources (IDNR), the following protected resources may be in the vicinity of the project location: Black-Billed Cuckoo (Coccyzus erythropthalmus), Common Moorhen (Gallinula chloropus), King Rail (Rallus elegans), Yellow-Headed Blackbird (Xanthocephalus xanthocephalus), and Crabtee Nature Center INAI Site. Further information from the IDNR is forthcoming (see Appendix F). (see attached IDNR EcoCAT Results Report).

2.0 PROJECT PURPOSE

The purpose of the site visit was to identify regulated surface wetland, non-wetland water resources or Waters of the United States (WOUS) on, or within 100 feet, of the study area. A floodplain determination was not included as part of our investigation.

On-site wetland areas encountered were delineated using standard methods sanctioned by the United States Army Corps of Engineers in the Corps of Engineers Wetlands Delineation Manual (1987) and 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region. Plant observations were made for calculating the Coefficient of Conservatism (ĉ) and Floristic Quality Index (FQI) for each wetland plant community using the Wilhelm method (Swink and Wilhelm, 1994).

On-site non-wetland water resources encountered were given established Ordinary High Water Mark (OHWM) boundaries using the definitions described in Section 404 of the Clean Water Act (CWA Section 404(b).(1) Guidelines (40CFR230)

3.0 EXHIBIT REVIEW

- The **Location Map** identifies approximate location of study area and nearby major roadways (Exhibit A)

- The **National Wetlands Inventory** identifies two (2) freshwater, emergent, persistent wetlands (PEM1F/C) within the southern portion of the study area (Exhibit B).

- The **Soil Map** identifies the following soils within the study area:

  1903A Muskego and Houghton Mucks - Hydric
  232A Ashkum Silty Clay Loam – Predominantly Hydric
  146B Elliot Silt Loam – Predominantly Non-hydric
  531B/C2 Markham Silt Loam – Predominantly Non-hydic

  Field evaluations are made to determine if a hydric inclusion may be present (Exhibit C).

- The **United States Geologic Survey (USGS) Topographic Map** identifies a marsh or swamp in the southeastern portion of the site (Exhibit D).

- The **Flood Insurance Rate Map** identifies the study area outside the 500-year floodplain (Exhibit E).

- The **Aerial Photograph** identifies the present conditions within the study area. Locations of Wetland 1-7 are denoted (Exhibit F).

- The **Site Photographs** show conditions exhibited within the study area at the time of the site visit (Exhibit G)

4.0 METHODS

Prior to the site visit, a preliminary site evaluation is performed using aerial photography and natural resource mapping. Potential wetland areas and non-wetland waters units identified by these resources are evaluated in the field.

1987 USACE Wetland Delineation Manual and 2010 Regional Supplement.

Potential wetland areas were investigated to determine if they meet the requirements for a wetland based on the USACE parameters of vegetation, hydrology, and soils. In general, positive indication of each of the three parameters must be demonstrated to classify an area as wetland. Each of these parameters is discussed below.

Vegetation – Three vegetative indicators are applied to plant communities in order to determine if the hydrophytic vegetation criterion is met.

1. More than 50% of the dominant plant species across all strata must be hydrophytic (water tolerant). Wetland plants fall into three indicator classes based on differing tolerances to water level and soil saturation. These indicators are rated obligate wetland (OBL), facultative wetland (FACW), or facultative (FAC).

2. The prevalence index is 3.0 or less. The prevalence index is a weighted-average wetland indicator status of all plant species in a sampling plot. The index is used to determine whether hydrophytic vegetation is present on sites where indicators of hydric soil and wetland hydrology are present but the vegetation initially fails the dominance test.

3. Over 50% of non-wetland plants in a sample area exhibit morphological adaptations for life in wetlands. To apply this indicator, adapted plants must occur in areas where indicators of hydric soil and wetland hydrology are present.

Hydrology – To be considered a wetland, an area must have 14 or more consecutive days of flooding or ponding, or a water table 12 inches or less below the soil surface, during the growing season at a minimum frequency of 5 years in 10. Wetland hydrology indicators are divided into four groups as described below:

Group A – Observation of Surface Water or Saturated Soils
Group B – Evidence of Recent Inundation
Group C – Evidence of Recent Soil Saturation
Group D –Evidence from Other Site Conditions or Data

Soils - To be considered a wetland, an area must contain hydric soil. Hydric soils are formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic (lacking oxygen) conditions in the upper part. Soils generally, but not always, will develop indicators that are formed predominantly by the accumulation or loss of iron, manganese, sulfur, or carbon compounds in a saturated and anaerobic environment. The most current edition of the United States Department of Agriculture, Natural Resource Conservation Service *Field Indicators of Hydric Soils in the United States* is used for identification of hydric soils. Field indicators of hydric soils include but are not limited to the presence of any of the following: histic epipedon, sulfidic odor, at least 2 centimeters of

muck, depleted matrix, and/or redoximorphic features. Field indicators are usually examined in the top 20 inches of the soil. Soil colors are determined using *Munsell Soil Color Charts*.

Areas meeting these three criteria are staked in the field for surveying purposes. Boundaries are demarcated in the field with pink flagged pin stakes labeled "WETLAND DELINEATION." Staked boundaries are mapped on an aerial photograph included in this report. Approximate off-site wetland boundaries are identified on the aerial photograph and were determined using available aerial photographs, wetland maps, and field observation.

The Ordinary High Water Mark (OHWM)

Potential non-wetland water resources were investigated to determine if they meet requirements for a regulated WOUS or isolated waters unit based on USACE parameters.

Ordinary High Water Mark (OHWM) boundaries were established using the definition provided in 33 CFT Part 328.3 of the Clean Water Act. The OHWM is defined as the line on the shore established by the fluctuations of water. This line can be identified by physical characteristics such as a clear, natural line on the bank, changes in the character of the soil, shelving, vegetation matted down, bent, or absent, leaf litter disturbed or washed away, sediment deposition, water staining, the presence of litter and debris, destruction of terrestrial vegetation, sediment sorting, scour, multiple observed or predicted flow events, and abrupt change in plant community.

5.0 REVIEWED ON-SITE CONDITIONS

5.1 SITE SUMMARY

The study area consists of a tree nursery dominated by rows of cultivated trees and open field. The nursery began production in 1980 and remained largely unchanged until 2008 with the development of Acadia Dr and the stormwater detention basin.

The site is characterized by tree rows with open field dominated by weedy uplands species (Photos 1-7).

5.2 WATER RESOURCES SUMMARY

Wetland 1. This wetland (approximately 1.91 acres in total size) is located within the southern portion of the study area. The wetland is an emergent wetland with open water and portions of scrub-shrub and wooded communities associated with the tree farm (see Photos 8-9). The wetland is a depressional feature and that existed prior to the surrounding development.

Sample points were established within and adjacent to Wetland 1 to characterize the vegetation, soils, and hydrology (Exhibit F: Aerial Photograph). The wetland boundaries were demarcated with pink flagged pin stakes.

Wetland 1 was primarily vegetated by Reed Canary Grass, Cattail (*Typha sp.*), Eastern Cottonwood (*Populus deltoides*), Goldenrod (*Solidago sp*) and Sawtooth Sunflower (*Helianthus grosseserratus*) and Common Reed (*Phragmites sp*). The mapped soil series is Ashkum Silty Clay Loam, a predominantly hydric soil. USDA field indicator A11: Depleted Below Dark Surface provided evidence of hydric soil. Surface water, saturation, and water-stained leaves provided evidence of persistent hydrology (See Wetland Determination Data Forms).

The Coefficient of Conservatism (ĉ) for the on-site portion of Wetland 1 was 2.79, and the Floristic Quality Index (FQI) was 13.68 (see attached Floristic Quality Data). These values indicate a moderate quality plant community.

Wetland 2. This wetland (approximately 1.91 acres in total size) is located along the west-central portion of the study area. It is a depressional, emergent wetland with portions of scrub-shrub and wooded communities (see Photo 10-13). No observable outlets were noted.

Sample points were established within Wetland 2 to characterize the vegetation, soils, and hydrology (Exhibit F: Aerial Photograph). The wetland boundaries were demarcated with pink flagged pin stakes.

Wetland 2 was primarily vegetated by Reed Canary Grass (*Phalaris arundinacea*), European Buckthorn (*Rhamnus sp*) and Common Reed. The mapped soil series is Ashkum Silty Clay Loam, a predominantly hydric soil. USDA field indicator A12: Thick Dark Surface provided evidence of hydric soil. Surface water, saturation, and water-stained leaves provided evidence of persistent hydrology (See Wetland Determination Data Forms).

The Coefficient of Conservatism (ĉ) for the on-site portion of Wetland 2 was 2.88, and the Floristic Quality Index (FQI) was 14.40 (see attached Floristic Quality Data). These values indicate a moderate quality plant community.

Wetland 3. This wetland (approximately 0.21 acres in total size) is located along Rt 59 at the western boundry. It is a depressional, concave feature that is part of the roadside ditch (see Photo 14-15).

Sample points were established within Wetland 3 to characterize the vegetation, soils, and hydrology (Exhibit F: Aerial Photograph). The wetland boundaries were demarcated with pink flagged pin stakes.

Wetland 3 was primarily vegetated by European Buckthorn and Pinkweed (*Persicaria pensylvanica*) The mapped soil series is Muskego and Houghton mucks, a hydric soil. USDA field indicator A11: Depleted Below Dark Surface provided evidence of hydric soil. Surface water, saturation, and water-stained leaves provided evidence of persistent hydrology (See Wetland Determination Data Forms).

The Coefficient of Conservatism (ĉ) for Wetland 3 was 2.14, and the Floristic Quality Index (FQI) was 8.02 (see attached Floristic Quality Data). These values indicate a low quality plant community.

Wetland 4. This wetland (approximately 0.02 acres in total size) is a small wetland in the central portion of the study area. It is a depressional feature in the field (see Photo 16).

Sample points were established within Wetland 4 to characterize the vegetation, soils, and hydrology (Exhibit F: Aerial Photograph). The wetland boundaries were demarcated with pink flagged pin stakes.

Wetland 4 was primarily vegetated by Reed Canary Grass and Pink Weed. The mapped soil series is Ashkum Silty Clay Loam, a predominantly hydric soil. USDA field indicator A11: Depleted provided evidence of hydric soil. Surface water, Saturation, and drift deposits provided evidence of persistent hydrology (See Wetland Determination Data Forms).

The Coefficient of Conservatism (ĉ) for Wetland 4 was 1.75, and the Floristic Quality Index (FQI) was 4.95 (see attached Floristic Quality Data). These values indicate a low quality plant community.

Wetland 5. This wetland (approximately 0.16 acres in total size) is located in the central portion of the study area. It is a depressional area surrounded by the tree farm (see Photo 17).

Sample points were established within Wetland 5 to characterize the vegetation, soils, and hydrology (Exhibit F: Aerial Photograph). The wetland boundaries were demarcated with pink flagged pin stakes.

Wetland 5 was primarily vegetated by Reed Canary Grass. The mapped soil series is Ashkum Silty Clay Loam, a predominantly hydric soil. USDA field indicator A12: Depleted Below Dark Surface provided evidence of hydric soil. Geomorphic position and the FAC-neutral test provided evidence of persistent hydrology (See Wetland Determination Data Forms).

The Coefficient of Conservatism (ĉ) for Wetland 5 was 1.9, and the Floristic Quality Index (FQI) was 6.01 (see attached Floristic Quality Data). These values indicate a low quality plant community.

Wetland 6. This wetland (approximately 0.17 acres in total size) is in the eastern portion of the site. It is a depressional associated with a roadside ditch (see Photo 18).

Sample points were established within Wetland 6 to characterize the vegetation, soils, and hydrology (Exhibit F: Aerial Photograph). The wetland boundaries were demarcated with pink flagged pin stakes.

Wetland 6 was primarily vegetated by Reed Canary Grass The mapped soil series is Ashkum Silty Clay Loam, a predominantly hydric soil. USDA field indicator A11: Depleted Below Dark Surface provided evidence of hydric soil. Geomorphic position and the FAC-Neutral test provided evidence of persistent hydrology (See Wetland Determination Data Forms).

The Coefficient of Conservatism (ĉ) for Wetland 6 was 2.11, and the Floristic Quality Index (FQI) was 6.33 (see attached Floristic Quality Data). These values indicate a low quality plant community.

Wetland 7. This wetland (approximately 1.13 acres in total size) is in the east-southern portion of the site. It is a depressional wetland associated with the roadside ditch and adjacent detention basin (see Photo 19-21). The wetland was previously avoided by development. An excavated roadside ditch enters the site within Wetland 7 through a culvert. The culvert and ditch were modified through the installation of an entrance from Bartlett Rd in 2018.

Sample points were established within Wetland 7 to characterize the vegetation, soils, and hydrology (Exhibit F: Aerial Photograph). The wetland boundaries were demarcated with pink flagged pin stakes.

Wetland 7 was primarily vegetated by Reed Canary Grass. The mapped soil series is Ashkum Silty Clay Loam, a predominantly hydric soil. USDA field indicator A12: Thick Dark Surface provided evidence of hydric soil. Sparsely vegetated concave surface and drift deposits provided evidence of persistent hydrology (See Wetland Determination Data Forms).

The Coefficient of Conservatism (ĉ) for Wetland 7 was 2.93, and the Floristic Quality Index (FQI) was 10.96 (see attached Floristic Quality Data). These values indicate a moderate quality plant community.

6.0 REGULATORY STATEMENT

6.1 Federal Regulations

The deposition of dredge or fill materials into federally jurisdictional wetlands or Waters of the United States is regulated by the USACE under Section 404 of the Clean Water Act.

The Chicago District USACE has implemented a Regional Permit Program (RPP), replacing the previous Nationwide Permit Program. Generally, the RPP authorizes up to 0.10 acre of low quality wetland to be filled without mitigation. Low quality wetland impacts totaling between 0.10 acre and 1.0 acres may qualify for a Regional Permit with compensatory wetland mitigation. Under the RPP, total wetland impacts in excess of 1.0 acre or any single crossing greater than 0.25 acre will not qualify for a Regional Permit and will require an Individual Permit.

Projects qualifying for a Regional Permit must also establish and/or enhance an upland buffer of native plants (or other appropriate vegetation approved by the District) adjacent to all created, restored, enhanced or preserved waters of the U.S., including wetlands. Created buffers should be established on 6:1 or gentler slopes. Minimum buffer widths are as follows:

- For any waters of the U.S. that do not qualify as wetland (e.g., lakes, rivers, ponds, etc.) the buffer shall be a minimum of 50 feet from the Ordinary High water Mark (OHWM);
- For any jurisdictional wetland from 0.25 acres and up to 0.50 acre, the buffer shall be a minimum of 30 feet;
- For any jurisdictional wetland over 0.50 acre, the buffer shall be a minimum of 50 feet; and
- For any waters of the U.S. determined to be a high-quality aquatic resource, the buffer shall be a minimum of 100 feet.

The District may allow buffer widths below the above-required minimums. It shall be incumbent on the applicant to demonstrate that no practicable alternatives are available that would not impact the required buffer widths.

Under the regulations, secondary impacts (both on-site and off-site) from filling also must be evaluated. Mitigation may be required at a higher rate if a project will significantly alter wetland functions such as stormwater detention, water filtration, sediment trapping, and/or wildlife habitat.

Before mitigation will be approved, reasonable proof that avoidance or minimization of wetland impacts has been attempted must be provided to the USACE.

A USACE permit is not required if the wetlands are avoided and construction erosion near a wetland is controlled.

6.2 Municipal and State Regulations

Cook County (MWRD): In Cook County, isolated wetlands are regulated under the Metropolitan Water Reclamation Districts (MWRD) Watershed Management Ordinance (WMO). Permit submittal for impact to an isolated wetland shall describe all development in accordance with Article 6 of the ordinance. Either the District or authorized municipality shall verify all onsite isolated wetland determinations and delineations.

Development of wetlands that fall under the USACE Jurisdiction will be prohibited unless a permit for all regulated activities is obtained from appropriate state and federal employees.
The District or authorized municipality has final determination of the status of the isolated wetland per §603.8 of the ordinance. Assessed isolated wetlands will be classified as high quality or standard isolated wetlands. High quality wetlands meet the following criteria:

- Swink and Wilhelm Floristic Quality Index (FQI) value ≥20 during a single season assessment or a native mean C-value of 3.5 or higher; or
- The wetland is known to possess a federal or state listed threatened and endangered species based on FWS and IDNR consultations

The WMO authorizes up to 0.10 acre of isolated wetland to be filled without mitigation. Impacts to standard isolated wetlands that are ≥ 0.10 acre will be prohibited unless documentation is submitted which demonstrates that no practical alternative to wetland modification exits. Impacts to high quality wetlands will be prohibited unless it is demonstrated that no practical alternative to wetland modification exists or avoidance of high quality wetlands would create a hazardous road condition. The District or authorized municipality will make the final determination as to whether the modification represents the least amount of wetland impact required to allow economic use of the parcel or to mitigate the road hazard.

Wetland buffers for isolated wetlands shall be determined according to the classification of the wetland according to §603.8 in the ordinance. Minimum wetland buffer widths will be as follows:

- For standard isolated wetlands greater than or equal to 0.10 acre and less than 0.50 acre, the buffer will be a minimum of 30ft from the boundary
- For standard isolated wetlands greater than or equal to 0.50 acre, the buffer will be a minimum of 50ft from the boundary
- For high quality wetlands, the buffer will be a minimum of 100ft from the boundary

The wetland buffer for isolated wetlands may be varied to a minimum of the greater of one-half the required buffer width or thirty feet, upon approval of either the District or authorized municipality.
Mitigation for impacts to an isolated wetland shall provide for the replacement of lost wetland environment. Impacts to standards isolated wetlands <0.10 acre do not require mitigation. Impacts to standard isolated wetlands ≥ 0.10 acre require a 1.5:1 mitigation ratio. Impacts to high quality wetlands will require a 3:1 mitigation ratio. Mitigated isolated wetlands will be designed to duplicate or improve hydrologic and biologic features of the original wetland.

Any developments within a riparian environment that is not a Waters of the U.S. (WOUS) will require a buffer 30ft from the Ordinary High-Water Mark (OHWM).

Illinois Department of Natural Resources Agency Action Plans for Interagency Wetlands Policy Act of 1989: The Illinois Interagency Wetlands Policy Act of 1989 is intended to ensure that there is no overall net loss of the State's existing wetland acres or their functional values resulting from State-supported activities. The Act charges State agencies with a further duty to "preserve, enhance and create wetlands where necessary to increase the quality and quantity of the State's wetland resource base."

The Interagency Wetlands Policy Act of 1989 states that any construction, land management or other activity performed by, or for which financial assistance is administered or provided by, a State agency that will result in an adverse impact to a wetland shall be subject to compliance. This includes, but is not limited to the following:

- The alteration, removal, excavation, or dredging of soil, sand, gravel, minerals, organic matter, vegetation, or naturally occurring minerals of any kind from a wetland;
- The discharge or deposit of fill material or dredged material in a wetland;
- The alteration of existing drainage characteristics, sedimentation patterns, or flood retention characteristics of a wetland;
- The disturbance of water level or water table of a wetland;
- The destruction or removal of plant life that would alter the character of a wetland, except for activities undertaken in accordance with the Illinois Noxious Weed Act;
- The transfer of State owned wetlands to any entity other than another state agency; and
- Other actions that cause or may cause adverse wetland impacts.

The Act is to be implemented through a State Wetland Mitigation Policy. The State Wetland Mitigation Policy requires preservation of wetlands as the primary objective. Where adverse wetland impacts are unavoidable, progressive levels of compensation based upon the level of impact to the existing wetland and the location of compensation wetlands are required.

Archaeological Survey Requirements: An archaeological survey may be required before a Section 404 permit will be issued for wetland impacts. The U.S. Army Corps of Engineers will make this determination as part of the permit application review. The archaeological survey must cover all areas of the study area, not wetlands only. If you already have a letter from the Illinois Historic Preservation Agency (IHPA) stating an archaeological survey is required, you should act on it because the USACE will support this notification.

7.0 RECOMMENDATIONS

Seven (7) wetlands totaling approximately 6.94 acres were identified on the study area. Wetland size and locations presented in this report are estimations.

Wetland ID	Size (ac)	C-Value	FQI	Buffer (ft)
Wetland 1	3.34	2.79	13.68	50
Wetland 2	1.91	2.88	14.4	50
Wetland 3	0.21	2.14	8.02	30
Wetland 4	0.02	1.75	4.95	
Wetland 5	0.16	1.9	6.01	30
Wetland 6	0.17	2.11	6.33	30
Wetland 7	1.13	2.93	10.96	50

The U.S. Army Corps of Engineers has the final authority in determining the jurisdictional status of the wetlands identified on site. GRWA recommends that a request for jurisdictional determination be sent to the U.S. Army Corps of Engineers as soon as possible.

Regulated buffer areas extend from wetland boundaries and are to remain free of development. Any impacts to jurisdictional wetland, Waters of the U.S., or associated buffers will require U.S. Army Corps of Engineers and MWRD notification.

8.0 REFERENCES

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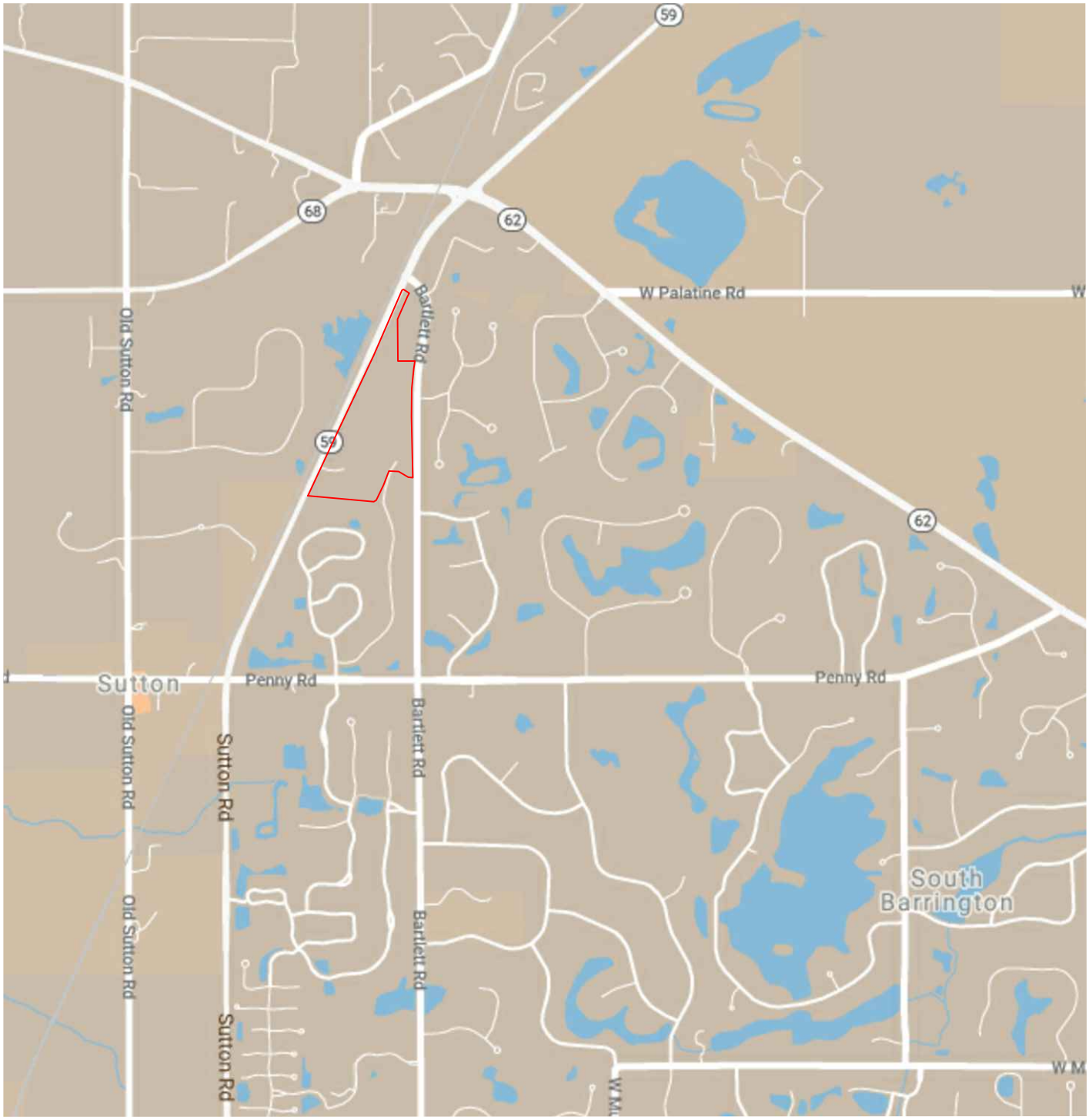
LAND PLANNING ECOLOGICAL CONSULTING
LANDSCAPE ARCHITECTURE

402 W. LIBERTY DRIVE WHEATON, ILLINOIS 60187
TELEPHONE: 630-668-7197 FACSIMILE: 630-668-9693

Appendix A: Water Resource Maps (Exhibits A-F)



LEGEND

Section: NE S21 T42N R9E

Latitude: 42.106169

Longitude: -88.181692

Study Area

0 1000' 2000'

SCALE: 1"=2000'

NORTH

Provided by: Google Maps

GARY R. WEBER ASSOCIATES, INC.

Route 59 and Bartlett Road

South Barrington, Illinois

MT2017

McNaughton Development

LOCATION MAP

EXHIBIT A

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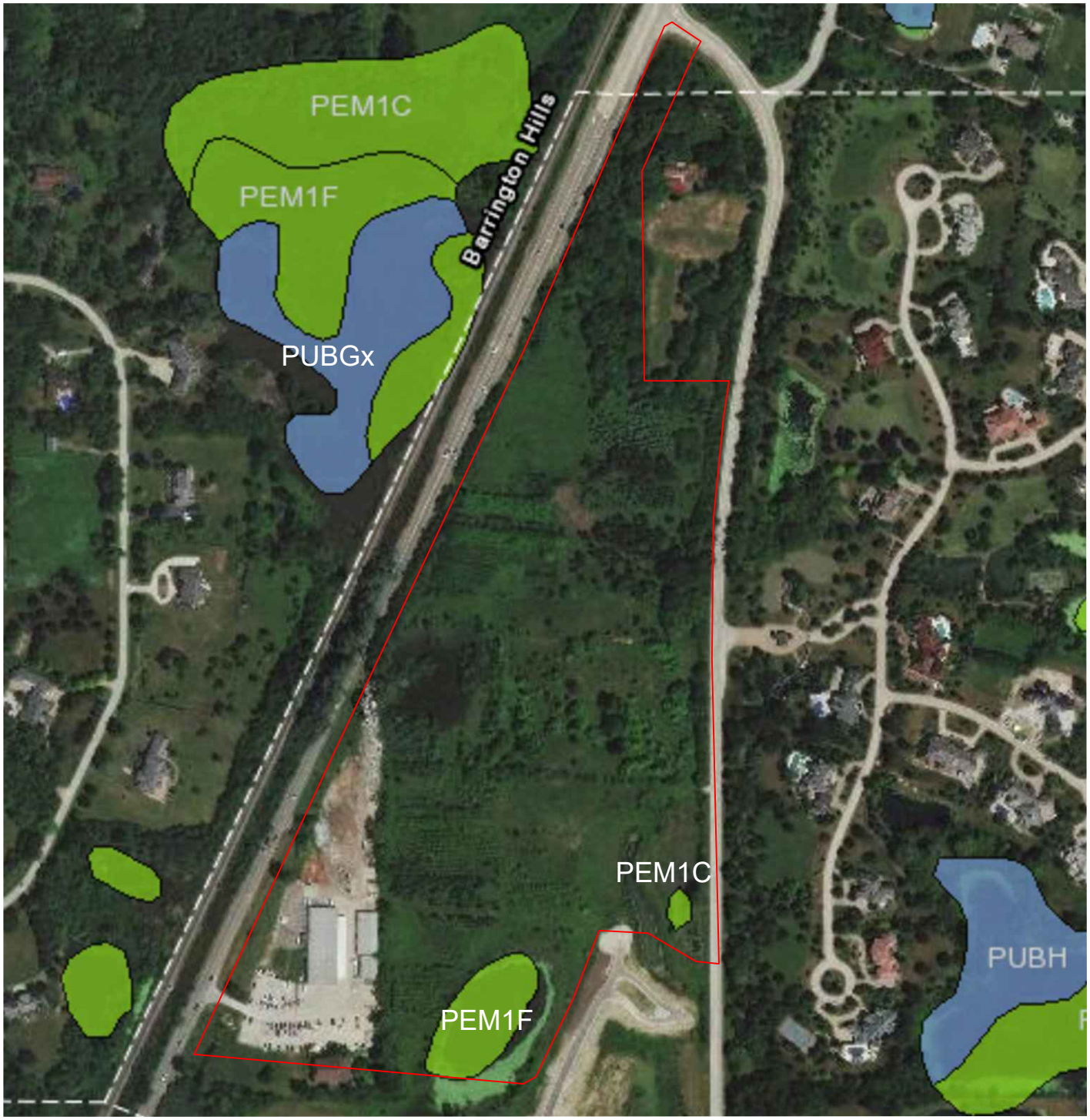

LEGEND

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Study Area

Provided by: U.S. Fish and Wildlife Service

0 200' 400'

SCALE: 1"=400' NORTH

GARY R. WEBER ASSOCIATES, INC.

Route 59 and Bartlett Road

South Barrington, Illinois

MT2017

McNaughton Development

NATIONAL WETLANDS INVENTORY MAP

EXHIBIT B

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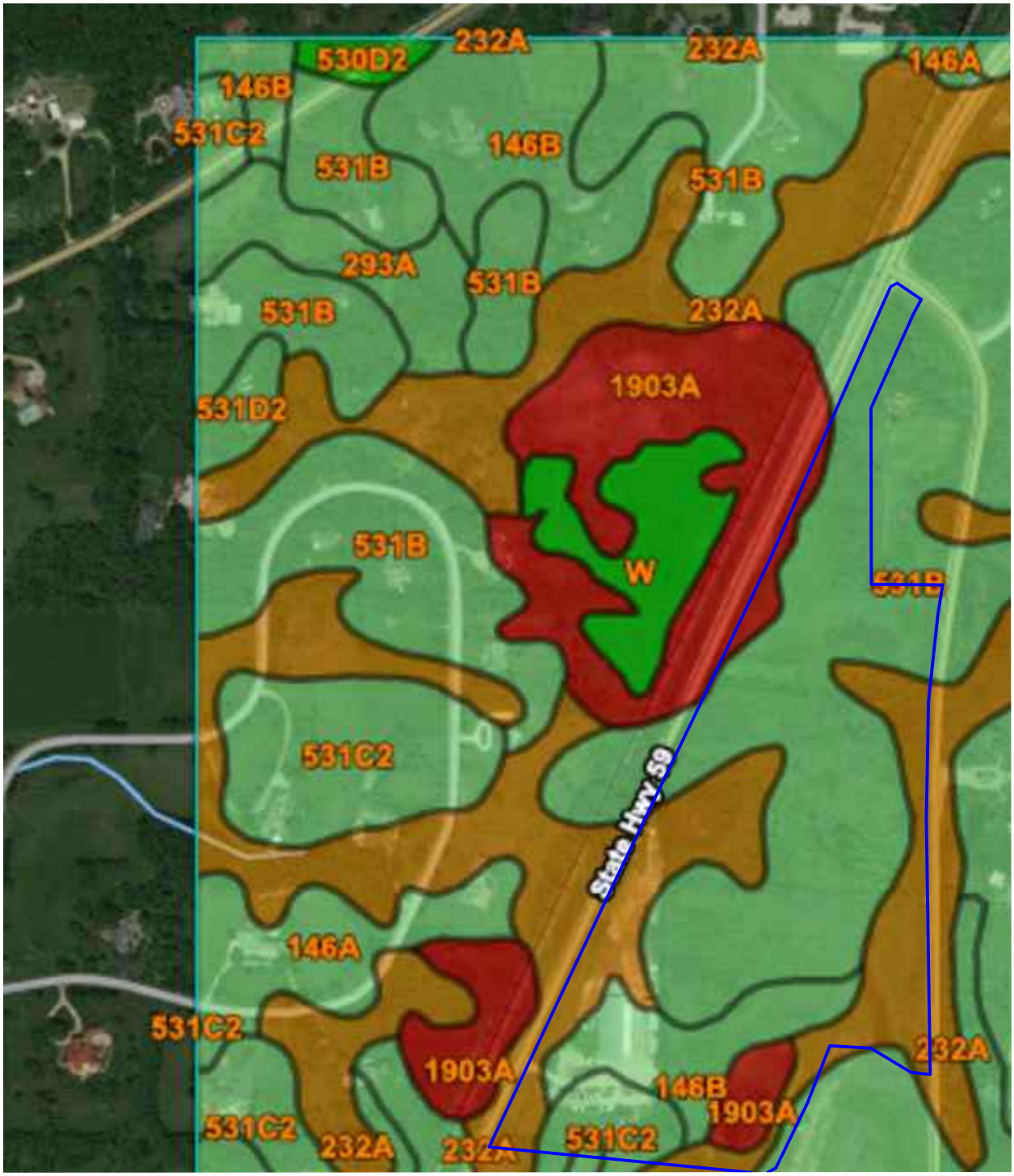


LEGEND

- Hydric Soil (100%)
- Predominantly Hydric (66-99%)
- Partially Hydric (33-65%)
- Predominantly Non-hydric (1-32%)
- Non-hydric (0%)

Study Area

Provided by: U.S. Department of Agriculture Natural Resources Conservation Service

0 250' 500'

SCALE: 1"=500' NORTH

GARY R. WEBER ASSOCIATES, INC.

Route 59 and Bartlett Road

South Barrington, Illinois

MT2017

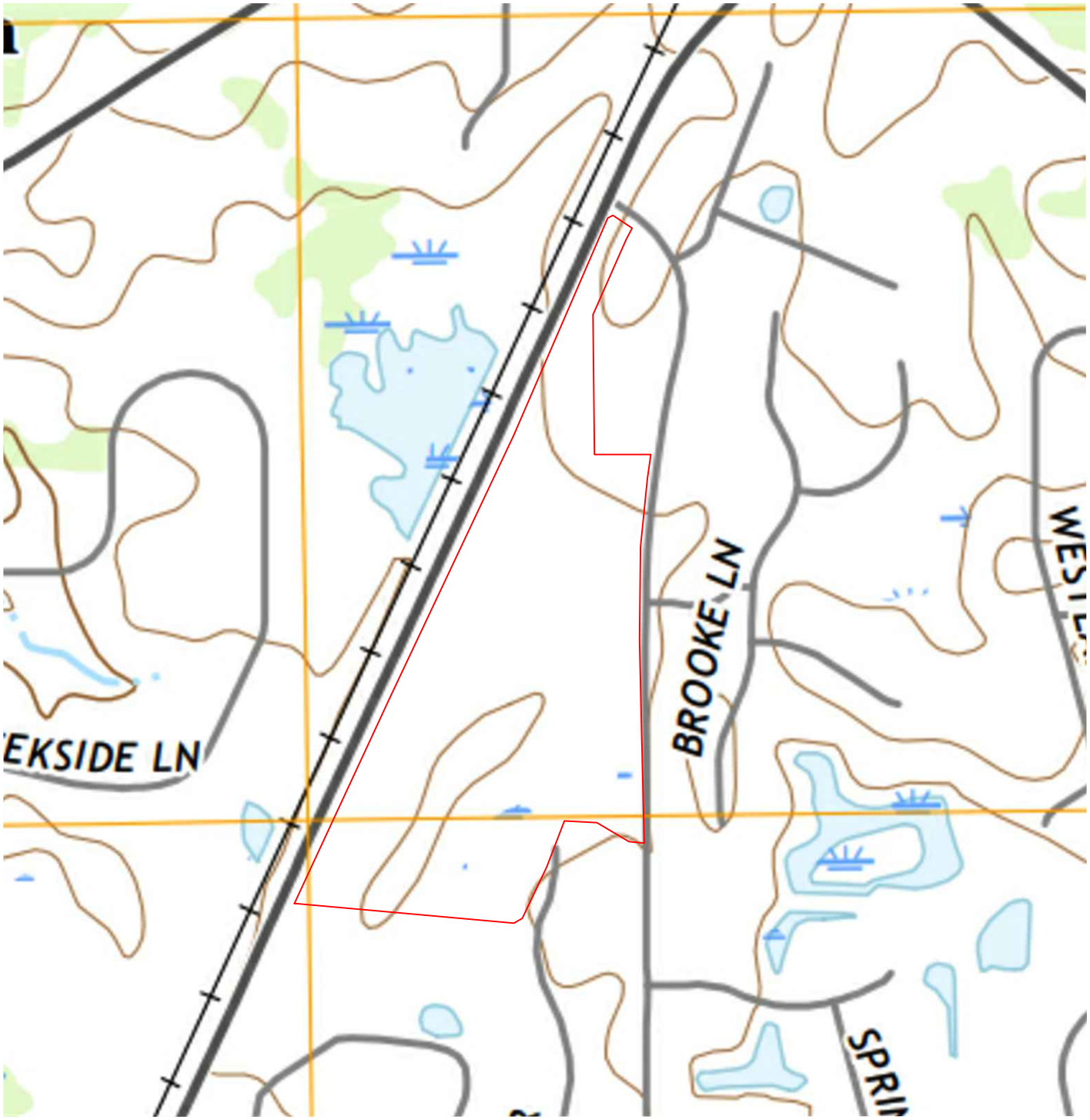
McNaughton Development

SOIL SURVEY MAP

Web Soil Survey 3.0 (Cook County)

EXHIBIT C

L:\Projects\MT2017\Eco-Con\Maps\Rt 59 and Bartlett Rd_WL Exhibits.dwg



LEGEND

- Perennial Stream
- Perennial River
- Intermittent Stream
- Intermittent River
- Marsh or swamp
- Submerged marsh
- Wooded marsh or swamp
- Submerged wooded marsh or swamp
- Perennial Lake/Pond
- Intermittent Lake/Pond
- Study Area

0 300' 600'

SCALE: 1"=600' **NORTH**

Provided by: USGS Topographic (Streamwood Quadrangle)

GARY R. WEBER ASSOCIATES, INC.

Route 59 and Bartlett Road

South Barrington, Illinois

MT2017

McNaughton Development

USGS TOPOGRAPHIC MAP

EXHIBIT D

L:\Projects\MT2017\Eco-Con\Maps\Rt 59 and Bartlett Rd_WL Exhibits.dwg

LEGEND

Regulatory Floodway	Area of Undetermined Flood Hazard		
Special Floodway	Future Conditions 1% Annual Chance Flood Hazard		
1% Annual Chance Flood Hazard	Area with Reduced Risk Due to Levee		
0.2% Annual Chance Flood Hazard		Study Area	

Provided by: Federal Emergency Management Agency

0 300' 600'

SCALE: 1"=600' NORTH

GARY R. WEBER ASSOCIATES, INC.

Route 59 and Bartlett Road

South Barrington, Illinois

MT2017

McNaughton Development

FLOOD INSURANCE MAP

EXHIBIT E

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LEGEND

Study Area

Wetland Boundaries

Off-site Wetland and
Unflagged Boundaries (est.)

Sample Points A-O

0 200' 400'

SCALE: 1"=400' **NORTH**

Provided by: Google Earth - Image date 3/17/2018

GARY R. WEBER ASSOCIATES, INC.

Route 59 and Bartlett Road

South Barrington, Illinois

MT2017

McNaughton Development

AERIAL PHOTOGRAPH

EXHIBIT F

L:\Projects\MT2017\Eco-Con\Maps\Rt 59 and Bartlett Rd_WL Exhibits.dwg

Appendix B: Site Photographs (Exhibit G)

Photo 1. Tree nursery in southern portion west of Wetland 1

Photo 2. Tree nursery north o Wetland 1

Photo 3. Tree nursery area east of Wetland 3

Photo 4. Upland field north of Wetland.

Photo 5. Upland field south of Wetland 2

Photo 6. Upland field east of Wetland 3

Photo 7. Grassed paths between tree rows

Photo 8. Overview of Wetland 1 facing southeast.

Photo 9. The densely vegetated portion of southwest side of Wetland 1

Photo 10. South side of Wetland 2 near Sample Points E and F

Photo 11. Wetland 2 near Sample Point G. Facing east.

Photo 12. Northern portion of Wetland 2

Photo 13. Where Wetland 2 meets cell-phone tower fence at the west boundary. Facing east.

Photo 14. Wetland 3 merges with roadside ditch. Facing north.

Photo 15. Wetland 3 expanding into project area. Facing west.

Photo 16. Wetland 4. Facing southeast.

Photo 17. Wetland 5. Facing south.

Photo 18. Wetland 6 near Sample Point M. Facing south.

Photo 19. Overview of Wetland 7 near Sample Point O. Facing south.

Photo 20. Central portion of Wetland 7. Facing east

Photo 21. Stormwater management facility. Facing west.

Appendix C: Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: MT2017/Bartlet Road and Rt 59 | City/County: S. Barrington/Cook Co | Sampling Date: 9/10/2020

Applicant/Owner: McNaughton Development | State: IL | Sampling Point: A

Investigator(s): E. Raimondi | Section, Township, Range: NE S21 T42N R9E

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none):

Slope (%): | Lat: 42.106169 | Long: -88.181692 | Datum:

Soil Map Unit Name: Muskego and Houghton Mucks | NWI Classification: PEM1F

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y		
Hydric soil present?	Y	**Is the sampled area within a wetland?**	Y
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	Wetland 1

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

man-made feature

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dom. Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	

Sapling/Shrub stratum (Plot size: 15)			
1			
2			
3			
4			
5			
	0	= Total Cover	

Herb stratum (Plot size: 5)			
1 *Phalaris arundinacea*	50	Y	FACW
2 *Helianthus grosseserratus*	30	Y	FACW
3 *Juncus dudleyi*	20	Y	FACW
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	

Woody vine stratum (Plot size: 5)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	100	x 2 =	200	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column totals	100	(A)	200	(B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: A

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-6	10YR 3/1							
6-12	10YR 2/1		10YR 5/6		C	M		

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- X 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)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	X	No	Depth (inches):	1
Water table present?	Yes		No	Depth (inches):	
Saturation present? (includes capillary fringe)	Yes		No	Depth (inches):	

Indicators of wetland hydrology present? Y

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: MT2017/Bartlet Road and Rt 59 | City/County: S. Barrington/Cook Co | Sampling Date: 9/10/2020

Applicant/Owner: McNaughton Development | State: IL | Sampling Point: B

Investigator(s): E. Raimondi | Section, Township, Range: NE S21 T42N R9E

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none):

Slope (%): | Lat: 42.106169 | Long: -88.181692 | Datum:

Soil Map Unit Name: Muskego and Houghton Mucks | NWI Classification: PEM1F

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y
Hydric soil present?	N
Indicators of wetland hydrology present?	N

Is the sampled area within a wetland? N

If yes, optional wetland site ID: Wetland 1

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

man-made feature

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dom. Species	Indicator Staus
1 *Fraxinus pennsylvanica*	25	Y	FACW
2			
3			
4			
5			
	25 = Total Cover		

Sapling/Shrub stratum (Plot size: 15)			
1			
2			
3			
4			
5			
	0 = Total Cover		

Herb stratum (Plot size: 5)			
1 *Dipsacus fullonum*	40	Y	FACU
2 *Phalaris arundinacea*	30	Y	FACW
3 *Symphyotrichum novae-angliae*	30	Y	FACW
4			
5			
6			
7			
8			
9			
10			
	100 = Total Cover		

Woody vine stratum (Plot size: 5)			
1			
2			
	0 = Total Cover		

Dominance Test Worksheet

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

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

Percent of Dominant Species that are OBL, FACW, or FAC: 75.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	85	x 2 =	170
FAC species	0	x 3 =	0
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column totals	125 (A)		330 (B)

Prevalence Index = B/A = 2.64

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: B

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-10	10YR 3/1							Mixed soil
	10YR 4/4							
	10YR 5/3							

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? N

Remarks:

Mixed soil

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)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ 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): ___

Indicators of wetland hydrology present? N

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: MT2017/Bartlet Road and Rt 59 | City/County: S. Barrington/Cook Co | Sampling Date: 9/10/2020

Applicant/Owner: McNaughton Development | State: IL | Sampling Point: C

Investigator(s): E. Raimondi | Section, Township, Range: NE S21 T42N R9E

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none):

Slope (%): | Lat: 42.106169 | Long: -88.181692 | Datum:

Soil Map Unit Name: Muskego and Houghton Mucks | NWI Classification: PEM1F

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y		
Hydric soil present?	Y	**Is the sampled area within a wetland?**	Y
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	Wetland 1

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

man-made feature

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dom. Species	Indicator Staus
1 *Fraxinus pennsylvanica*	25	Y	FACW
2			
3			
4			
5			
	25 = Total Cover		
Sapling/Shrub stratum (Plot size: 15)			
1			
2			
3			
4			
5			
	0 = Total Cover		
Herb stratum (Plot size: 5)			
1 *Phalaris arundinacea*	40	Y	FACW
2 *Dipsacus fullonum*	20	Y	FACU
3 *Epilobium coloratum*	20	Y	OBL
4 *Symphyotrichum novae-angliae*	20	Y	FACW
5			
6			
7			
8			
9			
10			
	100 = Total Cover		
Woody vine stratum (Plot size: 5)			
1			
2			
	0 = 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: 5 (B)

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

Prevalence Index Worksheet

Total % Cover of:

OBL species	20	x 1 =	20
FACW species	85	x 2 =	170
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column totals	125 (A)		270 (B)

Prevalence Index = B/A = 2.16

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Y

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

SOIL **Sampling Point:** C

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-6	10YR 3/1	100						
6-12	10YR 2/1		10YR 4/2		D	M		
			10YR 5/6		C	M		

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

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

Hydric soil present? Y

Remarks:

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)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X 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): ___

Indicators of wetland hydrology present? Y

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: MT2017/Bartlet Road and Rt 59 | City/County: S. Barrington/Cook Co | Sampling Date: 9/10/2020

Applicant/Owner: McNaughton Development | State: IL | Sampling Point: D

Investigator(s): E. Raimondi | Section, Township, Range: NE S21 T42N R9E

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none):

Slope (%): | Lat: 42.106169 | Long: -88.181692 | Datum:

Soil Map Unit Name: Muskego and Houghton Mucks | NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	N
Hydric soil present?	N
Indicators of wetland hydrology present?	N

Is the sampled area within a wetland? N

If yes, optional wetland site ID:

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

VEGETATION -- Use scientific names of plants.

	Absolute % Cover	Dom. Species	Indicator Staus
Tree Stratum (Plot size: 30)			
1 *Fraxinus pennsylvanica*			FACW
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratum (Plot size: 15)			
1			
2			
3			
4			
5			
	0	= Total Cover	
Herb stratum (Plot size: 5)			
1 *Phalaris arundinacea*	40	Y	FACW
2 *Dipsacus fullonum*	40	Y	FACU
3 *Solidago altissima*	20	Y	FACU
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	
Woody vine stratum (Plot size: 5)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 33.33% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column totals	100 (A)		320 (B)

Prevalence Index = B/A = 3.20

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- Dominance test is >50%
- Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? N

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

SOIL **Sampling Point:** D

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-4	10YR 3/1	100					SiCL	
4-8	10YR 3/4	40					SiCL	
	10YR 4/4	40						
	10YR 4/1	20						
8-16	10YR 4/4	50					SiCL	
	10YR 41	50						

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

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

Hydric soil present? N

Remarks:
Mixed soil

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)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X 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): ___

Indicators of wetland hydrology present? N

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: MT2017/Bartlet Road and Rt 59 | City/County: S. Barrington/Cook Co | Sampling Date: 9/10/2020

Applicant/Owner: McNaughton Development | State: IL | Sampling Point: E

Investigator(s): E. Raimondi | Section, Township, Range: NE S21 T42N R9E

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none):

Slope (%): | Lat: 42.106169 | Long: -88.181692 | Datum:

Soil Map Unit Name: Muskego and Houghton Mucks | NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	N		
Hydric soil present?	Y	**Is the sampled area within a wetland?**	N
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	Wetland 2

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

VEGETATION -- Use scientific names of plants.

	Absolute % Cover	Dom. Species	Indicator Staus
Tree Stratum (Plot size: 30)			
1			
2			
3			
4			
5			
	0 = Total Cover		
Sapling/Shrub stratum (Plot size: 15)			
1			
2			
3			
4			
5			
	0 = Total Cover		
Herb stratum (Plot size: 5)			
1 *Phalaris arundinacea*	30	Y	FACW
2 *Dipsacus fullonum*	30	Y	FACU
3 *Solidago altissima*	30	Y	FACU
4 *Scirpus atrovirens*	10	N	OBL
5			
6			
7			
8			
9			
10			
	100 = Total Cover		
Woody vine stratum (Plot size: 5)			
1			
2			
	0 = Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 33.33% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	10	x 1 =	10
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column totals	100 (A)		310 (B)

Prevalence Index = B/A = 3.10

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- Dominance test is >50%
- Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? N

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

SOIL

Sampling Point: E

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-6	10YR 3/1	100					SiL	
6-8	10YR 3/1	50						
	10YR 4/6	50						
8-14	10YR 3/1	40	10YR 4/2	40			SiCL	
			10YR 5/6	20				
14+	10YR 2/1	100					SiCL	
								14+: 10YR 4/4

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

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)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X 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): ___

Indicators of wetland hydrology present? Y

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: MT2017/Bartlet Road and Rt 59 | City/County: S. Barrington/Cook Co | Sampling Date: 9/10/2020

Applicant/Owner: McNaughton Development | State: IL | Sampling Point: F

Investigator(s): E. Raimondi | Section, Township, Range: NE S21 T42N R9E

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none):

Slope (%): | Lat: 42.106169 | Long: -88.181692 | Datum:

Soil Map Unit Name: Muskego and Houghton Mucks | NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	N
Hydric soil present?	N
Indicators of wetland hydrology present?	N

Is the sampled area within a wetland? N

If yes, optional wetland site ID:

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

VEGETATION -- Use scientific names of plants.

	Absolute % Cover	Dom. Species	Indicator Staus
Tree Stratum (Plot size: 30)			
1			
2			
3			
4			
5			
	0 = Total Cover		
Sapling/Shrub stratum (Plot size: 15)			
1 *Pyrus calleryana*	20	Y	UPL
2 *Rosa multiflora*	15	Y	FACU
3			
4			
5			
	35 = Total Cover		
Herb stratum (Plot size: 5)			
1 *Solidago altissima*	30	Y	FACU
2 *Euthamia graminifolia*	30	Y	FACW
3 *Verbena urticifolia*	20	Y	FAC
4 *Phalaris arundinacea*	10	N	FACW
5			
6			
7			
8			
9			
10			
	90 = Total Cover		
Woody vine stratum (Plot size: 5)			
1			
2			
	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: 5 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 40.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	20	x 3 =	60
FACU species	45	x 4 =	180
UPL species	20	x 5 =	100
Column totals	125 (A)		420 (B)

Prevalence Index = B/A = 3.36

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- Dominance test is >50%
- Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? N

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

SOIL **Sampling Point:** F

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-6	10YR 3/1	100						
6-12	10YR 3/1							
	10YR 4/6							
12-14	10YR 3/1							
	10YR 5/6							
	10YR 4/3							
	10YR 4/6							
14+	10YR 3/1							14+: 10YR 4/4

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

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

Hydric soil present? N

Remarks:
Mixed soil

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)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ 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): ___		

Indicators of wetland hydrology present? N

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: MT2017/Bartlet Road and Rt 59 | City/County: S. Barrington/Cook Co | Sampling Date: 9/10/2020

Applicant/Owner: McNaughton Development | State: IL | Sampling Point: G

Investigator(s): E. Raimondi | Section, Township, Range: NE S21 T42N R9E

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none):

Slope (%): | Lat: 42.106169 | Long: -88.181692 | Datum:

Soil Map Unit Name: Muskego and Houghton Mucks | NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y		
Hydric soil present?	Y	**Is the sampled area within a wetland?**	Y
Indicators of wetland hydrology present?	Y	If yes, optional wetland site ID:	Wetland 2

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

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dom. Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	

Sapling/Shrub stratum (Plot size: 15)			
1			
2			
3			
4			
5			
	0	= Total Cover	

Herb stratum (Plot size: 5)			
1 *Euthamia graminifolia*	40	Y	FACW
2 *Dipsacus fullonum*	30	Y	FACU
3 *Scirpus atrovirens*	20	Y	OBL
4 *Lythrum salicaria*	10	N	OBL
5			
6			
7			
8			
9			
10			
	100	= Total Cover	

Woody vine stratum (Plot size: 5)			
1			
2			
	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: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 66.67% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	30	x 1 =	30	
FACW species	40	x 2 =	80	
FAC species	0	x 3 =	0	
FACU species	30	x 4 =	120	
UPL species	0	x 5 =	0	
Column totals	100	(A)	230	(B)

Prevalence Index = B/A = 2.30

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Y

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

SOIL **Sampling Point:** G

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-16	10YR 3/1	100					SiL	
16-24	10YR 3/1	40	10YR 4/1	60	D	M	SiCL	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- X Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

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

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X 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)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X 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): ___

Indicators of wetland hydrology present? Y

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: MT2017/Bartlet Road and Rt 59 | City/County: S. Barrington/Cook Co | Sampling Date: 9/10/2020

Applicant/Owner: McNaughton Development | State: IL | Sampling Point: H

Investigator(s): E. Raimondi | Section, Township, Range: NE S21 T42N R9E

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none):

Slope (%): | Lat: 42.106169 | Long: -88.181692 | Datum:

Soil Map Unit Name: Muskego and Houghton Mucks | NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

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

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dom. Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	

Sapling/Shrub stratum (Plot size: 15)			
1 *Rhamnus cathartica*	40	Y	FAC
2			
3			
4			
5			
	40	= Total Cover	

Herb stratum (Plot size: 5)			
1 *Persicaria pensylvanica*	25	Y	FACW
2 *Bidens frondosa*	25	Y	FACW
3			
4			
5			
6			
7			
8			
9			
10			
	50	= Total Cover	

Woody vine stratum (Plot size: 5)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

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

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	50	x 2 =	100
FAC species	40	x 3 =	120
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	90 (A)		220 (B)

Prevalence Index = B/A = 2.44

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: H

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-8	10YR 3/1	100						
8+	10YR 2/1	30	10YR 4/1	60	D	M		
			10YR 4/2	5	D	PL		
			10YR 5/4	5	C	M		

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- X Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- ___ High Water Table (A2)
- X 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)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes ___	No ___	Depth (inches):	1	
Water table present?	Yes ___	No ___	Depth (inches):		
Saturation present? (includes capillary fringe)	Yes ___	No ___	Depth (inches):	1	

Indicators of wetland hydrology present? Y

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: MT2017/Bartlet Road and Rt 59 | City/County: S. Barrington/Cook Co | Sampling Date: 9/10/2020

Applicant/Owner: McNaughton Development | State: IL | Sampling Point: I

Investigator(s): E. Raimondi | Section, Township, Range: NE S21 T42N R9E

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none):

Slope (%): | Lat: 42.106169 | Long: -88.181692 | Datum:

Soil Map Unit Name: Muskego and Houghton Mucks | NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

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

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dom. Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	

Sapling/Shrub stratum (Plot size: 15)			
1			
2			
3			
4			
5			
	0	= Total Cover	

Herb stratum (Plot size: 5)			
1 *Phalaris arundinacea*	100	Y	FACW
2			
3			
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	

Woody vine stratum (Plot size: 5)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	100 (A)		200 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Y

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

SOIL **Sampling Point:** I

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-30	10YR 2/1	100					granular	dry, no redox

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

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

Hydric soil present? N

Remarks:

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)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ 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): ___

Indicators of wetland hydrology present? N

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

Remarks:
transitional upland

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: MT2017/Bartlet Road and Rt 59 | City/County: S. Barrington/Cook Co | Sampling Date: 9/10/2020

Applicant/Owner: McNaughton Development | State: IL | Sampling Point: J

Investigator(s): E. Raimondi | Section, Township, Range: NE S21 T42N R9E

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none):

Slope (%): | Lat: 42.106169 | Long: -88.181692 | Datum:

Soil Map Unit Name: Muskego and Houghton Mucks | NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances" present? Yes

Are vegetation , soil , or hydrology naturally problematic?

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	Y
Hydric soil present?	Y
Indicators of wetland hydrology present?	Y

Is the sampled area within a wetland? Y

If yes, optional wetland site ID:

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

Shallow Swale

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dom. Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratum (Plot size: 15)			
1 *Sambucus nigra*	10	Y	FAC
2			
3			
4			
5			
	10	= Total Cover	
Herb stratum (Plot size: 5)			
1 *Phalaris arundinacea*	40	Y	FACW
2 *Persicaria pensylvanica*	30	Y	FACW
3 *Symphyotrichum lanceolatum*	30	Y	FAC
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	
Woody vine stratum (Plot size: 5)			
1			
2			
	0	= 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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	70	x 2 =	140
FAC species	40	x 3 =	120
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	110 (A)		260 (B)

Prevalence Index = B/A = 2.36

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: J

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-20	10YR 2/1	100					SiL	granular
20-28	10YR 2/1	20	10YR 4/2	70			SiCL	
			10YR 5/6	10				

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

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)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X 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): ___

Indicators of wetland hydrology present? Y

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: MT2017/Bartlet Road and Rt 59 | City/County: S. Barrington/Cook Co | Sampling Date: 9/10/2020

Applicant/Owner: McNaughton Development | State: IL | Sampling Point: K

Investigator(s): E. Raimondi | Section, Township, Range: NE S21 T42N R9E

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none):

Slope (%): | Lat: 42.106169 | Long: -88.181692 | Datum:

Soil Map Unit Name: Muskego and Houghton Mucks | NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

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

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dom. Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	

Sapling/Shrub stratum (Plot size: 15)			
1			
2			
3			
4			
5			
	0	= Total Cover	

Herb stratum (Plot size: 5)			
1 *Solidago altissima*	60	Y	FACU
2 *Symphyotrichum lanceolatum*	30	Y	FAC
3 *Urtica dioica*	5	N	FACW
4 *Phalaris arundinacea*	5	N	FACW
5			
6			
7			
8			
9			
10			
	100	= Total Cover	

Woody vine stratum (Plot size: 5)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species that are OBL, FACW, or FAC: 50.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	30	x 3 =	90
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column totals	100 (A)		350 (B)

Prevalence Index = B/A = 3.50

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- Dominance test is >50%
- Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? N

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

SOIL

Sampling Point: K

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-20	10YR 2/1	100					SiL	granular
20-28	10YR 2/1	20	10YR 4/2	70			SiCL	
			10YR 5/6	10				

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

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)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ 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): ___		

Indicators of wetland hydrology present? N

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: MT2017/Bartlet Road and Rt 59 | City/County: S. Barrington/Cook Co | Sampling Date: 9/10/2020

Applicant/Owner: McNaughton Development | State: IL | Sampling Point: L

Investigator(s): E. Raimondi | Section, Township, Range: NE S21 T42N R9E

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none):

Slope (%): | Lat: 42.106169 | Long: -88.181692 | Datum:

Soil Map Unit Name: Muskego and Houghton Mucks | NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

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

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dom. Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	

Sapling/Shrub stratum (Plot size: 15)			
1			
2			
3			
4			
5			
	0	= Total Cover	

Herb stratum (Plot size: 5)			
1 *Phalaris arundinacea*	100	Y	FACW
2			
3			
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	

Woody vine stratum (Plot size: 5)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	100 (A)		200 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Y

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

SOIL **Sampling Point:** L

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-10	10YR 2/1	100					SiL	
10-16	10YR 2/1	20	10YR 4/1	60	D		SiCL	
			10YR 5/6	20	C			

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

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

Hydric soil present? Y

Remarks:

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)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X 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):

Indicators of wetland hydrology present? Y

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: MT2017/Bartlet Road and Rt 59 | City/County: S. Barrington/Cook Co | Sampling Date: 9/10/2020

Applicant/Owner: McNaughton Development | State: IL | Sampling Point: M

Investigator(s): E. Raimondi | Section, Township, Range: NE S21 T42N R9E

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none):

Slope (%): | Lat: 42.106169 | Long: -88.181692 | Datum:

Soil Map Unit Name: Muskego and Houghton Mucks | NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

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

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dom. Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	

Sapling/Shrub stratum (Plot size: 15)			
1			
2			
3			
4			
5			
	0	= Total Cover	

Herb stratum (Plot size: 5)			
1 *Phalaris arundinacea*	100	Y	FACW
2			
3			
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	

Woody vine stratum (Plot size: 5)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	100 (A)		200 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Y

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

SOIL

Sampling Point: M

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-10	10YR 2/1	100					SiL	
10-16	10YR 2/1	30	10YR 4/1	60	D		SiCL	
			10YR 5/6	10	C			

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X 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)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- X Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	X	No	Depth (inches):	2
Water table present?	Yes		No	Depth (inches):	
Saturation present? (includes capillary fringe)	Yes		No	Depth (inches):	

Indicators of wetland hydrology present? Y

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: MT2017/Bartlet Road and Rt 59 | City/County: S. Barrington/Cook Co | Sampling Date: 9/10/2020

Applicant/Owner: McNaughton Development | State: IL | Sampling Point: N

Investigator(s): E. Raimondi | Section, Township, Range: NE S21 T42N R9E

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none):

Slope (%): | Lat: 42.106169 | Long: -88.181692 | Datum:

Soil Map Unit Name: Muskego and Houghton Mucks | NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

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

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dom. Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	

Sapling/Shrub stratum (Plot size: 15)			
1			
2			
3			
4			
5			
	0	= Total Cover	

Herb stratum (Plot size: 5)			
1 *Phalaris arundinacea*	100	Y	FACW
2			
3			
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	

Woody vine stratum (Plot size: 5)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	100 (A)		200 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Y

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

SOIL **Sampling Point:** N

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-10	10YR 2/1	100					SiL	
10-16	10YR 2/1	30	10YR 4/1	60	D		SiCL	
			10YR 5/6	10	C			

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

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

Hydric soil present? Y

Remarks:

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)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes X	No ___	Depth (inches):	2	
Water table present?	Yes ___	No ___	Depth (inches):	___	
Saturation present? (includes capillary fringe)	Yes ___	No ___	Depth (inches):	___	

Indicators of wetland hydrology present? N

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

Remarks:
upslope of SP M

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: MT2017/Bartlet Road and Rt 59 | City/County: S. Barrington/Cook Co | Sampling Date: 9/10/2020

Applicant/Owner: McNaughton Development | State: IL | Sampling Point: O

Investigator(s): E. Raimondi | Section, Township, Range: NE S21 T42N R9E

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none):

Slope (%): | Lat: 42.106169 | Long: -88.181692 | Datum:

Soil Map Unit Name: Muskego and Houghton Mucks | NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

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

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

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dom. Species	Indicator Staus
1			
2			
3			
4			
5			
	0	= Total Cover	

Sapling/Shrub stratum (Plot size: 15)			
1			
2			
3			
4			
5			
	0	= Total Cover	

Herb stratum (Plot size: 5)			
1 *Phalaris arundinacea*	100	Y	FACW
2			
3			
4			
5			
6			
7			
8			
9			
10			
	100	= Total Cover	

Woody vine stratum (Plot size: 5)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	100 (A)		200 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Y

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

SOIL **Sampling Point:** O

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

Depth (Inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type*	Loc**	Texture	Remarks
0-10	10YR 2/1	100					SiL	
10-16	10YR 2/1	30	10YR 4/1	70	D	M	SiCL	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

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

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X 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)
- ___ True Aquatic Plants (B14)
- ___ 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)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes	X	No	Depth (inches):	2
Water table present?	Yes		No	Depth (inches):	
Saturation present? (includes capillary fringe)	Yes		No	Depth (inches):	

Indicators of wetland hydrology present? Y

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

Remarks:

Appendix D: Floristic Quality Index

SITE: WL 1 - Rt 59 and Bartlett Rd
LOCALE: S. Barrington
BY: E Raimondi
NOTES: 9/10/2020

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	2.79	SPECIES RICHNESS (ALL)	32
MEAN C (ALL SPECIES)	2.09	SPECIES RICHNESS (NATIVE)	24
MEAN C (NATIVE TREES)	3.00	% NON-NATIVE	0.25
MEAN C (NATIVE SHRUBS)	1.50	WET INDICATOR (ALL)	-0.78
MEAN C (NATIVE HERBACEOUS)	2.89	WET INDICATOR (NATIVE)	-0.92
FQAI (NATIVE SPECIES)	13.68	% HYDROPHYTE (MIDWEST)	0.84
FQAI (ALL SPECIES)	11.84	% NATIVE PERENNIAL	0.75
ADJUSTED FQAI	24.18	% NATIVE ANNUAL	0.00
% C VALUE 0	0.34	% ANNUAL	0.00
% C VALUE 1-3	0.31	% PERENNIAL	0.97
% C VALUE 4-6	0.34		
% C VALUE 7-10	0.00		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
APOCAN	Apocynum cannabinum	Apocynum sibiricum	Indian-Hemp	2	FAC	FAC	0	Forb	Perennial	Native
CXNORM	Carex normalis	Carex normalis	Greater Straw Sedge	5	FACW	FACW	-1	Sedge	Perennial	Native
CXSTIP	Carex stipata	Carex stipata	Stalk-Grain Sedge	4	OBL	OBL	-2	Sedge	Perennial	Native
CXVULP	Carex vulpinoidea	Carex vulpinoidea	Common Fox Sedge	2	FACW	OBL	-1	Sedge	Perennial	Native
CORRAC	Cornus racemosa	Cornus racemosa	Gray Dogwood	1	FAC	FAC	0	Shrub	Perennial	Native
DIPFUL	Dipsacus fullonum	DIPSACUS SYLVESTRIS	Fuller's Teasel	0	FACU	FACU	1	Forb	Biennial	Adventive
EPICOL	Epilobium coloratum	Epilobium coloratum	Purple-Leaf Willowherb	3	OBL	OBL	-2	Forb	Perennial	Native
EQUARV	Equisetum arvense	Equisetum arvense	Field Horsetail	0	FAC	FAC	0	Fern	Perennial	Native
EUTGRA	Euthamia graminifolia	Solidago graminifolia; Solidago graminifolia nuttallii; Euthamia nuttallii	Flat-Top Goldentop	4	FACW	FAC	-1	Forb	Perennial	Native
FRAVIR	Fragaria virginiana	Fragaria virginiana	Virginia Strawberry	0	FACU	FACU	1	Forb	Perennial	Native
FRAPEN	Fraxinus pennsylvanica	Fraxinus pennsylvanica subintegerrima; Fraxinus lanceolata	Green Ash	4	FACW	FACW	-1	Tree	Perennial	Native
HELGRO	Helianthus grosseserratus	Helianthus grosseserratus	Saw-Tooth Sunflower	4	FACW	FACW	-1	Forb	Perennial	Native
JUNDUD	Juncus dudleyi	Juncus dudleyi	Dudley's Rush	2	FACW	FACW	-1	Forb	Perennial	Native
JUNTOR	Juncus torreyi	Juncus torreyi	Torrey's Rush	2	FACW	FACW	-1	Forb	Perennial	Native
LONMAA	Lonicera maackii	LONICERA MAACKII	Amur Honeysuckle	0	UPL	UPL	2	Shrub	Perennial	Adventive
LYCAME	Lycopus americanus	Lycopus americanus	Cut-Leaf Water-Horehound	4	OBL	OBL	-2	Forb	Perennial	Native
LYTSAL	Lythrum salicaria	LYTHRUM SALICARIA	Purple Loosestrife	0	OBL	OBL	-2	Forb	Perennial	Adventive

PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
PHRAUSU	Phragmites australis ssp. australis	PHRAGMITES AUSTRALIS	Common Reed	0	FACW	FACW	-1	Grass	Perennial	Adventive
POPDEL	Populus deltoides	Populus deltoides	Eastern Cottonwood	0	FAC	FAC	0	Tree	Perennial	Native
SAGLAT	Sagittaria latifolia	Sagittaria latifolia	Duck-Potato	3	OBL	OBL	-2	Forb	Perennial	Native
SALINT	Salix interior	Salix interior	Sandbar Willow	2	FACW	FACW	-1	Shrub	Perennial	Native
SALNIG	Salix nigra	Salix nigra	Black Willow	5	OBL	OBL	-2	Tree	Perennial	Native
SAMNIG	Sambucus nigra ssp. nigra	SAMBUCUS NIGRA	Black Elder	0	FAC	FACW	-1	Shrub	Perennial	Adventive
SCIATV	Scirpus atrovirens	Scirpus atrovirens	Dark-Green Bulrush	4	OBL	OBL	-2	Sedge	Perennial	Native
SOLALT	Solidago altissima	Solidago altissima	Tall Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
SOLGIG	Solidago gigantea	Solidago gigantea	Late Goldenrod	4	FACW	FACW	-1	Forb	Perennial	Native
SONARV	Sonchus arvensis	SONCHUS ARVENSIS	Field Sow-Thistle	0	FACU	FACU	1	Forb	Perennial	Adventive
SYMLAT	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	FAC	-1	Forb	Perennial	Native
SYMNOV	Symphyotrichum novae-angliae	Aster novae-angliae	New England American-Aster	3	FACW	FACW	-1	Forb	Perennial	Native
TYPANG	Typha angustifolia	TYPHA ANGUSTIFOLIA	Narrow-Leaf Cat-Tail	0	OBL	OBL	-2	Forb	Perennial	Adventive
VERHAS	Verbena hastata	Verbena hastata	Simpler's-Joy	4	FACW	FACW	-1	Forb	Perennial	Native

SITE: WL 2 - Rt 59 and Bartlett Rd
LOCALE: S. Barrington
BY: E Raimondi
NOTES: 9/10/2020

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	2.88	SPECIES RICHNESS (ALL)	33
MEAN C (ALL SPECIES)	2.18	SPECIES RICHNESS (NATIVE)	25
MEAN C (NATIVE TREES)	2.25	% NON-NATIVE	0.24
MEAN C (NATIVE SHRUBS)	1.50	WET INDICATOR (ALL)	-1.00
MEAN C (NATIVE HERBACEOUS)	3.16	WET INDICATOR (NATIVE)	-1.12
FQAI (NATIVE SPECIES)	14.40	% HYDROPHYTE (MIDWEST)	0.91
FQAI (ALL SPECIES)	12.53	% NATIVE PERENNIAL	0.70
ADJUSTED FQAI	25.07	% NATIVE ANNUAL	0.06
% C VALUE 0	0.30	% ANNUAL	0.06
% C VALUE 1-3	0.39	% PERENNIAL	0.91
% C VALUE 4-6	0.30		
% C VALUE 7-10	0.00		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
ACENEG	Acer negundo	Acer negundo var. violaceum	Ash-Leaf Maple	0	FAC	FAC	0	Tree	Perennial	Native
ALISUB	Alisma subcordatum	Alisma subcordatum	American Water-Plantain	3	OBL	OBL	-2	Forb	Perennial	Native
APOCAN	Apocynum cannabinum	Apocynum sibiricum	Indian-Hemp	2	FAC	FAC	0	Forb	Perennial	Native
BIDFRO	Bidens frondosa	Bidens frondosa	Devil's-Pitchfork	1	FACW	FACW	-1	Forb	Annual	Native
CXNORM	Carex normalis	Carex normalis	Greater Straw Sedge	5	FACW	FACW	-1	Sedge	Perennial	Native
CXVULP	Carex vulpinoidea	Carex vulpinoidea	Common Fox Sedge	2	FACW	OBL	-1	Sedge	Perennial	Native
CORRAC	Cornus racemosa	Cornus racemosa	Gray Dogwood	1	FAC	FAC	0	Shrub	Perennial	Native
DIPFUL	Dipsacus fullonum	DIPSACUS SYLVESTRIS	Fuller's Teasel	0	FACU	FACU	1	Forb	Biennial	Adventive
EPICOL	Epilobium coloratum	Epilobium coloratum	Purple-Leaf Willowherb	3	OBL	OBL	-2	Forb	Perennial	Native
EUTGRA	Euthamia graminifolia	Euthamia nuttallii	Flat-Top Goldentop	4	FACW	FAC	-1	Forb	Perennial	Native
FRAPEN	Fraxinus pennsylvanica	Fraxinus pennsylvanica subintegerrima; Fraxinus lanceolata	Green Ash	4	FACW	FACW	-1	Tree	Perennial	Native
GLYSTR	Glyceria striata	Glyceria striata var. stricta	Fowl Manna Grass	4	OBL	OBL	-2	Grass	Perennial	Native
IMPCAP	Impatiens capensis	Impatiens capensis	Spotted Touch-Me-Not	3	FACW	FACW	-1	Forb	Annual	Native
JUNDUD	Juncus dudleyi	Juncus dudleyi	Dudley's Rush	2	FACW	FACW	-1	Forb	Perennial	Native
JUNTOR	Juncus torreyi	Juncus torreyi	Torrey's Rush	2	FACW	FACW	-1	Forb	Perennial	Native
LEEORY	Leersia oryzoides	Leersia oryzoides	Rice Cut Grass	3	OBL	OBL	-2	Grass	Perennial	Native
LYCAME	Lycopus americanus	Lycopus americanus	Cut-Leaf Water-Horehound	4	OBL	OBL	-2	Forb	Perennial	Native

LYTSAL	Lythrum salicaria	LYTHRUM SALICARIA	Purple Loosestrife	0	OBL	OBL	-2	Forb	Perennial	Adventive
PENSED	Penthorum sedoides	Penthorum sedoides	Ditch-Stonecrop	4	OBL	OBL	-2	Forb	Perennial	Native
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
PHRAUSU	Phragmites australis ssp. australis	PHRAGMITES AUSTRALIS	Common Reed	0	FACW	FACW	-1	Grass	Perennial	Adventive
POPDEL	Populus deltoides	Populus deltoides	Eastern Cottonwood	0	FAC	FAC	0	Tree	Perennial	Native
RHACAT	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn	0	FAC	FAC	0	Shrub	Perennial	Adventive
ROSMUL	Rosa multiflora	ROSA MULTIFLORA	Rambler Rose	0	FACU	FACU	1	Shrub	Perennial	Adventive
SALINT	Salix interior	Salix interior	Sandbar Willow	2	FACW	FACW	-1	Shrub	Perennial	Native
SALNIG	Salix nigra	Salix nigra	Black Willow	5	OBL	OBL	-2	Tree	Perennial	Native
SAMNIG	Sambucus nigra ssp. nigra	SAMBUCUS NIGRA	Black Elder	0	FAC	FACW	-1	Shrub	Perennial	Adventive
SCIATV	Scirpus atrovirens	Scirpus atrovirens	Dark-Green Bulrush	4	OBL	OBL	-2	Sedge	Perennial	Native
SCICYP	Scirpus cyperinus	Scirpus cyperinus	Cottongrass Bulrush	6	OBL	OBL	-2	Sedge	Perennial	Native
SOLALT	Solidago altissima	Solidago altissima	Tall Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
SOLGIG	Solidago gigantea	Solidago gigantea	Late Goldenrod	4	FACW	FACW	-1	Forb	Perennial	Native
SYMNOV	Symphyotrichum novae-angliae	Aster novae-angliae	New England American-Aster	3	FACW	FACW	-1	Forb	Perennial	Native
TYPANG	Typha angustifolia	TYPHA ANGUSTIFOLIA	Narrow-Leaf Cat-Tail	0	OBL	OBL	-2	Forb	Perennial	Adventive

SITE: WL 3 - Rt 59 and Bartlett Rd
LOCALE: S. Barrington
BY: E Raimondi
NOTES: 9/10/2020

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	2.14	SPECIES RICHNESS (ALL)	16
MEAN C (ALL SPECIES)	1.88	SPECIES RICHNESS (NATIVE)	14
MEAN C (NATIVE TREES)	2.33	% NON-NATIVE	0.13
MEAN C (NATIVE SHRUBS)	1.50	WET INDICATOR (ALL)	-0.81
MEAN C (NATIVE HERBACEOUS)	2.38	WET INDICATOR (NATIVE)	-0.79
FQAI (NATIVE SPECIES)	8.02	% HYDROPHYTE (MIDWEST)	0.94
FQAI (ALL SPECIES)	7.50	% NATIVE PERENNIAL	0.81
ADJUSTED FQAI	20.04	% NATIVE ANNUAL	0.06
% C VALUE 0	0.25	% ANNUAL	0.06
% C VALUE 1-3	0.56	% PERENNIAL	0.94
% C VALUE 4-6	0.19		
% C VALUE 7-10	0.00		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
ALISUB	Alisma subcordatum	Alisma subcordatum	American Water-Plantain	3	OBL	OBL	-2	Forb	Perennial	Native
APOCAN	Apocynum cannabinum	Apocynum sibiricum	Indian-Hemp	2	FAC	FAC	0	Forb	Perennial	Native
CORRAC	Cornus racemosa	Cornus racemosa	Gray Dogwood	1	FAC	FAC	0	Shrub	Perennial	Native
EPICOL	Epilobium coloratum	Epilobium coloratum	Purple-Leaf Willowherb	3	OBL	OBL	-2	Forb	Perennial	Native
FRAPEN	Fraxinus pennsylvanica	Fraxinus pennsylvanica subintegerrima; Fraxinus lanceolata	Green Ash	4	FACW	FACW	-1	Tree	Perennial	Native
JUNDUD	Juncus dudleyi	Juncus dudleyi	Dudley's Rush	2	FACW	FACW	-1	Forb	Perennial	Native
LYSNUM	Lysimachia nummularia	LYSIMACHIA NUMMULARIA	Creeping-Jenny	0	FACW	FACW	-1	Forb	Perennial	Adventive
PERPEN	Persicaria pensylvanica	Polygonum pensylvanicum	Pinkweed	0	FACW	FACW	-1	Forb	Annual	Native
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
POPDEL	Populus deltoides	Populus deltoides	Eastern Cottonwood	0	FAC	FAC	0	Tree	Perennial	Native
SALINT	Salix interior	Salix interior	Sandbar Willow	2	FACW	FACW	-1	Shrub	Perennial	Native
SOLALT	Solidago altissima	Solidago altissima	Tall Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
SOLGIG	Solidago gigantea	Solidago gigantea	Late Goldenrod	4	FACW	FACW	-1	Forb	Perennial	Native
SYMLAT	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	FAC	-1	Forb	Perennial	Native
ULMAME	Ulmus americana	Ulmus americana	American Elm	3	FACW	FACW	-1	Tree	Perennial	Native
VITRIP	Vitis riparia	Vitis riparia var. syrticola	River-Bank Grape	1	FACW	FAC	-1	Vine	Perennial	Native

SITE:	WL 4 - Rt 59 and Bartlett Rd
LOCALE:	S. Barrington
BY:	E Raimondi
NOTES:	9/10/2020

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	1.75	SPECIES RICHNESS (ALL)	10
MEAN C (ALL SPECIES)	1.40	SPECIES RICHNESS (NATIVE)	8
MEAN C (NATIVE TREES)	n/a	% NON-NATIVE	0.20
MEAN C (NATIVE SHRUBS)	1.50	WET INDICATOR (ALL)	-0.50
MEAN C (NATIVE HERBACEOUS)	1.83	WET INDICATOR (NATIVE)	-0.38
FQAI (NATIVE SPECIES)	4.95	% HYDROPHYTE (MIDWEST)	0.90
FQAI (ALL SPECIES)	4.43	% NATIVE PERENNIAL	0.70
ADJUSTED FQAI	15.65	% NATIVE ANNUAL	0.10
% C VALUE 0	0.30	% ANNUAL	0.10
% C VALUE 1-3	0.60	% PERENNIAL	0.90
% C VALUE 4-6	0.10		
% C VALUE 7-10	0.00		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
APOCAN	Apocynum cannabinum	Apocynum sibiricum	Indian-Hemp	2	FAC	FAC	0	Forb	Perennial	Native
CORRAC	Cornus racemosa	Cornus racemosa	Gray Dogwood	1	FAC	FAC	0	Shrub	Perennial	Native
PERPEN	Persicaria pensylvanica	Polygonum pensylvanicum	Pinkweed	0	FACW	FACW	-1	Forb	Annual	Native
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
SALINT	Salix interior	Salix interior	Sandbar Willow	2	FACW	FACW	-1	Shrub	Perennial	Native
SAMNIG	Sambucus nigra ssp. nigra	SAMBUCUS NIGRA	Black Elder	0	FAC	FACW	-1	Shrub	Perennial	Adventive
SOLALT	Solidago altissima	Solidago altissima	Tall Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
SOLGIG	Solidago gigantea	Solidago gigantea	Late Goldenrod	4	FACW	FACW	-1	Forb	Perennial	Native
SYMLAN	Symphyotrichum lanceolatum	Aster simplex	White Panicled American-Aster	3	FAC	FACW	0	Forb	Perennial	Native
URTDIO	Urtica dioica ssp. gracilis	Urtica procera; Urtica gracilis	Tall Nettle	1	FACW	FAC	-1	Forb	Perennial	Native

SITE: WL 5 - Rt 59 and Bartlett Rd
LOCALE: S. Barrington
BY: E Raimondi
NOTES: 9/10/2020

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	1.90	SPECIES RICHNESS (ALL)	13
MEAN C (ALL SPECIES)	1.46	SPECIES RICHNESS (NATIVE)	10
MEAN C (NATIVE TREES)	4.00	% NON-NATIVE	0.23
MEAN C (NATIVE SHRUBS)	1.50	WET INDICATOR (ALL)	-0.54
MEAN C (NATIVE HERBACEOUS)	1.83	WET INDICATOR (NATIVE)	-0.50
FQAI (NATIVE SPECIES)	6.01	% HYDROPHYTE (MIDWEST)	0.92
FQAI (ALL SPECIES)	5.27	% NATIVE PERENNIAL	0.69
ADJUSTED FQAI	16.66	% NATIVE ANNUAL	0.08
% C VALUE 0	0.31	% ANNUAL	0.08
% C VALUE 1-3	0.54	% PERENNIAL	0.92
% C VALUE 4-6	0.15		
% C VALUE 7-10	0.00		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
APOCAN	Apocynum cannabinum	Apocynum sibiricum	Indian-Hemp	2	FAC	FAC	0	Forb	Perennial	Native
CORRAC	Cornus racemosa	Cornus racemosa	Gray Dogwood	1	FAC	FAC	0	Shrub	Perennial	Native
FRAPEN	Fraxinus pennsylvanica	Fraxinus pennsylvanica subintegerrima; Fraxinus lanceolata	Green Ash	4	FACW	FACW	-1	Tree	Perennial	Native
PERPEN	Persicaria pensylvanica	Polygonum pensylvanicum	Pinkweed	0	FACW	FACW	-1	Forb	Annual	Native
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
RUMCRI	Rumex crispus	RUMEX CRISPUS	Curly Dock	0	FAC	FAC	0	Forb	Perennial	Adventive
SALINT	Salix interior	Salix interior	Sandbar Willow	2	FACW	FACW	-1	Shrub	Perennial	Native
SAMNIG	Sambucus nigra ssp. nigra	SAMBUCUS NIGRA	Black Elder	0	FAC	FACW	-1	Shrub	Perennial	Adventive
SOLALT	Solidago altissima	Solidago altissima	Tall Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
SOLGIG	Solidago gigantea	Solidago gigantea	Late Goldenrod	4	FACW	FACW	-1	Forb	Perennial	Native
SYMLAN	Symphyotrichum lanceolatum	Aster simplex	White Panicled American-Aster	3	FAC	FACW	0	Forb	Perennial	Native
URTDIO	Urtica dioica ssp. gracilis	Urtica procera; Urtica gracilis	Tall Nettle	1	FACW	FAC	-1	Forb	Perennial	Native
VITRIP	Vitis riparia	Vitis riparia var. syrticola	River-Bank Grape	1	FACW	FAC	-1	Vine	Perennial	Native

SITE: WL 6 - Rt 59 and Bartlett Rd
LOCALE: S. Barrington
BY: E Raimondi
NOTES: 9/10/2020

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	2.11	SPECIES RICHNESS (ALL)	12
MEAN C (ALL SPECIES)	1.58	SPECIES RICHNESS (NATIVE)	9
MEAN C (NATIVE TREES)	n/a	% NON-NATIVE	0.25
MEAN C (NATIVE SHRUBS)	1.50	WET INDICATOR (ALL)	-0.58
MEAN C (NATIVE HERBACEOUS)	2.50	WET INDICATOR (NATIVE)	-0.56
FQAI (NATIVE SPECIES)	6.33	% HYDROPHYTE (MIDWEST)	0.92
FQAI (ALL SPECIES)	5.48	% NATIVE PERENNIAL	0.67
ADJUSTED FQAI	18.28	% NATIVE ANNUAL	0.08
% C VALUE 0	0.33	% ANNUAL	0.08
% C VALUE 1-3	0.42	% PERENNIAL	0.92
% C VALUE 4-6	0.25		
% C VALUE 7-10	0.00		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
APOCAN	Apocynum cannabinum	Apocynum sibiricum	Indian-Hemp	2	FAC	FAC	0	Forb	Perennial	Native
CORRAC	Cornus racemosa	Cornus racemosa	Gray Dogwood	1	FAC	FAC	0	Shrub	Perennial	Native
HELGRO	Helianthus grosseserratus	Helianthus grosseserratus	Saw-Tooth Sunflower	4	FACW	FACW	-1	Forb	Perennial	Native
PERPEN	Persicaria pensylvanica	Polygonum pensylvanicum	Pinkweed	0	FACW	FACW	-1	Forb	Annual	Native
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
RUMCRI	Rumex crispus	RUMEX CRISPUS	Curly Dock	0	FAC	FAC	0	Forb	Perennial	Adventive
SALINT	Salix interior	Salix interior	Sandbar Willow	2	FACW	FACW	-1	Shrub	Perennial	Native
SAMNIG	Sambucus nigra ssp. nigra	SAMBUCUS NIGRA	Black Elder	0	FAC	FACW	-1	Shrub	Perennial	Adventive
SOLALT	Solidago altissima	Solidago altissima	Tall Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
SOLGIG	Solidago gigantea	Solidago gigantea	Late Goldenrod	4	FACW	FACW	-1	Forb	Perennial	Native
SYMLAT	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	FAC	-1	Forb	Perennial	Native
VITRIP	Vitis riparia	Vitis riparia var. syrticola	River-Bank Grape	1	FACW	FAC	-1	Vine	Perennial	Native

SITE: WL 7 - Rt 59 and Bartlett Rd
LOCALE: S. Barrington
BY: E Raimondi
NOTES: 9/10/2020

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	2.93	SPECIES RICHNESS (ALL)	20
MEAN C (ALL SPECIES)	2.05	SPECIES RICHNESS (NATIVE)	14
MEAN C (NATIVE TREES)	5.00	% NON-NATIVE	0.30
MEAN C (NATIVE SHRUBS)	1.50	WET INDICATOR (ALL)	-0.80
MEAN C (NATIVE HERBACEOUS)	3.20	WET INDICATOR (NATIVE)	-1.00
FQAI (NATIVE SPECIES)	10.96	% HYDROPHYTE (MIDWEST)	0.85
FQAI (ALL SPECIES)	9.17	% NATIVE PERENNIAL	0.65
ADJUSTED FQAI	24.50	% NATIVE ANNUAL	0.05
% C VALUE 0	0.35	% ANNUAL	0.05
% C VALUE 1-3	0.30	% PERENNIAL	0.90
% C VALUE 4-6	0.35		
% C VALUE 7-10	0.00		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
APOCAN	Apocynum cannabinum	Apocynum sibiricum	Indian-Hemp	2	FAC	FAC	0	Forb	Perennial	Native
CIRARV	Cirsium arvense	CIRSIUM ARVENSE	Canadian Thistle	0	FACU	FACU	1	Forb	Perennial	Adventive
CORRAC	Cornus racemosa	Cornus racemosa	Gray Dogwood	1	FAC	FAC	0	Shrub	Perennial	Native
DIPFUL	Dipsacus fullonum	DIPSACUS SYLVESTRIS	Fuller's Teasel	0	FACU	FACU	1	Forb	Biennial	Adventive
EPICOL	Epilobium coloratum	Epilobium coloratum	Purple-Leaf Willowherb	3	OBL	OBL	-2	Forb	Perennial	Native
HELGRO	Helianthus grosseserratus	Helianthus grosseserratus	Saw-Tooth Sunflower	4	FACW	FACW	-1	Forb	Perennial	Native
PERHYO	Persicaria hydropiperoides	Polygonum opelousanum adenocalyx	Swamp Smartweed	6	OBL	OBL	-2	Forb	Perennial	Native
PERPEN	Persicaria pensylvanica	Polygonum pensylvanicum	Pinkweed	0	FACW	FACW	-1	Forb	Annual	Native
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
RUMCRI	Rumex crispus	RUMEX CRISPUS	Curly Dock	0	FAC	FAC	0	Forb	Perennial	Adventive
SALINT	Salix interior	Salix interior	Sandbar Willow	2	FACW	FACW	-1	Shrub	Perennial	Native
SALNIG	Salix nigra	Salix nigra	Black Willow	5	OBL	OBL	-2	Tree	Perennial	Native
SAMNIG	Sambucus nigra ssp. nigra	SAMBUCUS NIGRA	Black Elder	0	FAC	FACW	-1	Shrub	Perennial	Adventive
SCIATV	Scirpus atrovirens	Scirpus atrovirens	Dark-Green Bulrush	4	OBL	OBL	-2	Sedge	Perennial	Native
SOLALT	Solidago altissima	Solidago altissima	Tall Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
SOLGIG	Solidago gigantea	Solidago gigantea	Late Goldenrod	4	FACW	FACW	-1	Forb	Perennial	Native
SYMLAT	Symphyotrichum lateriflorum	Aster lateriflorus	Farewell-Summer	4	FACW	FAC	-1	Forb	Perennial	Native
TYPANG	Typha angustifolia	TYPHA ANGUSTIFOLIA	Narrow-Leaf Cat-Tail	0	OBL	OBL	-2	Forb	Perennial	Adventive
VERHAS	Verbena hastata	Verbena hastata	Simpler's-Joy	4	FACW	FACW	-1	Forb	Perennial	Native
VITRIP	Vitis riparia	Vitis riparia var. syrticola	River-Bank Grape	1	FACW	FAC	-1	Vine	Perennial	Native

Appendix E: Threatened and Endangered Species Consultation

September 11, 2020

John Barry
McNaughton Develoment
11S220 Jackson Street, Suite #101
Burr Ridge, Illinois 60527

RE: USFWS Threatened and Endangered Species IPaC Review Summary
Route 59 and Bartlett Road – South Barrington, Cook County, Illinois

Dear Mr. Barry

Gary R. Weber Associates Inc. reviewed the U.S, Fish and Wildlife Information for Planning and Consultation (IPaC) website on September 11, 2020 for federally listed threatened and endangered species. The IPaC program utilizes known or expected range of species, as well as additional areas outside of the range in which activities may indirectly affect a species.

According to the IPaC consultation, nine (9) species are thought to be present in this location of Will County (See Table 1). **Potential habitat for the Northern-Long eared bat may be present within the wooded portions of the site. Tree removal is recommended to occur in winter months (Nov 1-March 31) to reduce impact.** Further coordination with the IDNR may be required should tree removal and mass grading be required See below for a description of on-site conditions.

Habitat Requirements and on-site availability:

The study area consists of a disused plant nursery. The on-site conditions area characterized young, small caliper nursery trees and upland fields of low-diversity forms. There are patches of emergent and scrub-shrub wetland along the boundaries.

Rusty patched bumble bee (RPBB) (*Bombus affinis*): The site is located within the Red Zone of the Bee Habitat Map provided by the U.S. Fish and Wildlife Service (USFWS). This area is considered high potential for bee presence.

According to the USFWS guidance, the conditions suitable for bee habitat include a diverse community of plant species that flower from April through September. See USFWS RPBB Plant list). The bee typically forages within a few hundred meters to one kilometer from the nest location. Woodland and spring ephemerals are important food sources during spring emergence, and late season blooms help to maximize resources needed to over winter. Summer nesting is presumed to take place in upland grassland/shrublands, and winter nesting is presumed to be limited to upland forest and woodland. Conditions not suitable for be habitat include dense scrub-shrub thickets, agricultural fields, lawns, open water, or unvegetated areas.

Current site conditions present in the project area that may suit the RPBB include the upland areas between nursery trees. These areas, however, are limited in diversity and primarily consist of Avens (*Geum sp.),* Goldenrod (*Solidago sp.*) and Blue grass (*Poa sp.*). The scrub-shrub boundary is dominated by dense Honeysuckle (*Lonicera maackii*), and Grey Dogwood (*Cornus racemosa*).

Due to the low-quality conditions and small size of the upland areas, habitat for the RPBB does **not appear present** on this site.

Table 1

Species	Status*	Habitat	Habitat Present**
Northern long-eared bat *(Myotis septentrionalis)*	T	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests, floodplain forest, around streams, edge habitats and mature woods.	Not Present
Eastern massasauga *(Sistrurus catenatus)*	T	Graminoid dominated plant communities (fens, sedge meadows, peatlands, wet prairies, open woodlands, and shrublands)	Not Present
Piping Plover (Charadrius melodus)	E	Open sandy beaches	Not Present
Rufa Red Knot (Calidris canutus rufa)	T	Sparsely vegetated hillside, marine habitats	Not Present
Hine's emerald dragonfly *(Somatochlora hineana)*	E	Spring fed wetlands, wet meadows, and marshes	Not Present
Rusty Patched Bumble Bee (*Bombus affinis)*	E	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.	The site is located in the **Red Zone** of the Bee Habitat Map provided by the USFWS. See review of on-site habitat availability
Eastern prairie fringed orchid *(Platanthera leucophaea)*	T	Moderate to high quality wetlands, sedge meadow, marsh, and mesic to wet prairie	Not Present
Leafy-prairie clover *(Dalea foliosa)*	E	Prairie remnants on thin soil over limestone	Not Present
Mead's milkweed *(Asclepias meadii)*	T	Late successional tallgrass prairie, tallgrass prairie converted to hay meadow, and glades or barrens with thin soil	Not Present
Prairie Bush-clover (*Lespedeza leptostachya*)	T	Dry gravel prairies and dry-mesic tallgrass prairies with steep, well drained calcareous soils.	Not Present

*T=Threatened, E=Endangered, C= Candidate, CH=Critical Habitat
** Y=Yes, N=No, P=Possible