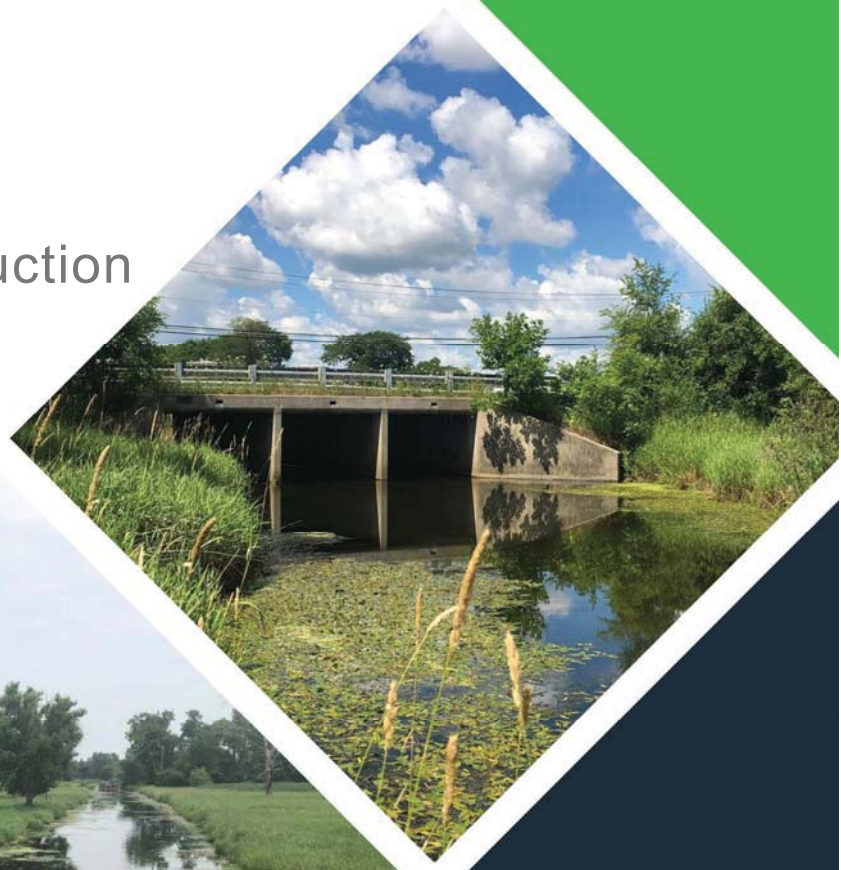
Wetland & Surface Waters Delineation Report

Gary Avenue Reconstruction

Jewell Road to Harrison Avenue

Wheaton, DuPage County, IL

January 2021



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Introduction

The City of Wheaton is proposing improvements to Gary Avenue from Jewell Road to Harrison Avenue and Ellis Avenue, in DuPage County, Illinois. Construction is to include full depth reconstruction of the roadway. Traffic signal installation is proposed at Prairie Avenue along with roadway widening at the intersection approaches to allow for a northbound left turn lane. Additional improvements include an extension of the Winfield Creek culvert, installation of storm sewers, and complete construction of an off-street multi-use path. Adjacent land use adjacent to the project includes commercial, residential, and several recreational sites. Recreational sites include Elliot Lake and connecting Winfield Creek, Cosley Zoo, as well as Wheaton Sports Center.

The U.S Army Corps of Engineers (USACE, Federal Register 1982) and the U.S. Environmental Protection Agency (EPA; Federal Register 1980) jointly define wetlands as: "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that are under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Identification of wetlands is based on a three-factor approach involving indicators of hydrophytic vegetation, hydric soil, and wetland hydrology, originally set forth by the USACE in the 1987 Environmental Laboratory publication entitled "Corps of Engineers Wetlands Delineation Manual: Technical Report Y-87-1" commonly referred to as the 1987 Wetlands Delineation Manual.

The Midwest Region supplement to the 1987 Wetlands Delineation Manual was released in 2010 outlining updated technical guidance and procedures for identifying and delineating wetlands that may be subject to regulatory jurisdiction under Section 404 of the Clean Water Act (CWA) or Section 10 of the Rivers and Harbors Act. This wetland and surface water delineation was conducted using methodologies presented in the "Regional Supplement to the USACE Wetland Delineation Manual: Midwest Region (Version 2.0)" (2010 USACE Midwest Region Manual)

Thomas Engineering Group under supervision of Huff & Huff, Inc. (A Subsidiary of GZA) performed a wetland and surface waters delineation on July 8th, July 13th and September 25th of 2020. In addition, a wetland boundary verification meeting with DuPage County commenced on October 26th of 2020. Wetland communities, and surface waters were all identified within the investigation limits during the data collection. This project lies within the Winfield Creek Watershed area Hydrologic Unit Code (HUC) 07120004. The site investigation limits, along with wetland and surface water areas within the project limits are depicted in **Exhibit A**.

The data points presented in this report were chosen based on plant communities, and topographic changes. A total of twenty (20) data points were taken and analyzed. Five (5) wetlands, and three (3) surface waters was identified within the investigation limits.

The purpose of this report is to summarize the findings of the field visit and general site conditions as observed.

Wetland Identification Methodology

This wetland and surface water delineation was conducted based on available mapping resources, aerial photography, as well as methodologies outlined in the 2010 USACE Midwest Region Manual. Each potential wetland and surface water area was screened for the presence of wetland indicators comprised of hydrophytic vegetation and wetland hydrology as discussed below.

Hydrophytic Vegetation

The evaluation of hydrophytic vegetation includes gathering data using a series of plots, one for each vegetation stratum. Plot size is dictated by vegetation type as well as the size and shape of the plant community being evaluated. The table below presents vegetation strata and standard plot/sample sizes used for sampling purposes as defined by the *2010 USACE Midwest Region Manual*: *Hydrophytic Vegetation Indicators, Chapter 2*.

Stratum	**Description**	**Plot and Sample Size Standards***
Trees	Woody Plants 3 inches (7.6cm) or more in diameter at breast height (DBH), regardless of height	30 Feet (9.1 m) radius
Saplings/Shrubs	Woody plants less than 3 inches DBH and greater than 3.28 feet (1m) tall.	15 feet (4.6m) radius
Herbaceous	Herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants less than 3.28 feet tall.	5 feet (1.5 m) radius or 3.28 by 3.28 feet square (1m sq) quadrant
Woody Vines	Woody vines greater than 3.28 feet in height.	30 feet (9.1 m) radius

Dominant vegetation within the limits of the wetland and surface water delineation was evaluated to determine the presence of hydrophytic vegetation. The indicator status for plant species are rated based on an estimated probability of occurring in wetlands. This rating system, published by Lichvar et al. in 2016 under the title "*The National Wetland Plant List: 2016 Update of Wetland Ratings*," consists of obligate wetland plants (OBL), facultative wetland plants (FACW), facultative plants (FAC), facultative upland plants (FACU), and upland plants (UPL). Obligate plant species generally grow in water. Facultative plant species can exist in saturated or dry soil conditions, and upland plants typically require dry soil conditions to exist.

Hydric Soils

A description of the soil profile is used to evaluate the presence of hydric soil. Hydric soil indicators are defined in the *2010 USACE Midwest Region Manual: Hydric Soil Indicators, Chapter 3.* The DuPage County soil survey was reviewed, in addition to the USDA Web Soil Survey to determine the presence of mapped hydric soil as a preliminary tool. Soils were then investigated as part of this wetland and surface water delineation at several data points within different geomorphic positioning. The NCRS Hydric Soil Indicator table is presented in **Exhibit B**. Due to this list being modified regularly, the most current indicator list can be found on the NCRS website.

Wetland Hydrology

Wetland hydrology indicators, defined in the *2010 USACE Midwest Region Manual: Wetland Hydrology Indicators, Chapter 4,* are separated into four groups and divided into primary or secondary category based on their estimated reliability in this region. Primary indicators provide stand-alone evidence of a current or recent hydrological event. Secondary indicators provide evidence of recent inundation or

saturation when supported by one or more other primary indicators, or secondary wetland hydrology indicators, but should not be used alone.

Indicator	Category	
	Primary	Secondary
Group A - Observation of Surface Water or Saturated Soils		
A1 - Surface water	X	
A2 - High water table	X	
A3 - Saturation	X	
Group B - Evidence of Recent Inundation		
B1 - Water marks	X	
B2 - Sediment deposits	X	
B3 - Drift deposits	X	
B4 - Algal mat or crust	X	
B5 - Iron deposits	X	
B6 - Surface soil cracks		X
B7 - Inundation visible on aerial imagery	X	
B8 - Sparsely vegetated concave surface	X	
B9 - Water-stained leaves	X	
B10 - Drainage patterns		X
B13 - Aquatic fauna	X	
B14 - True aquatic plants	X	
Group C - Evidence of Current or Recent Soil Saturation		
C1 - Hydrogen sulfide odor	X	
C2 - Dry-season water table		X
C3 - Oxidized rhizospheres along living	X	
C4 - Presence of reduced iron	X	
C6 - Recent iron reduction in tilled soils	X	
C7 - Thin muck surface	X	
C8 - Crayfish burrows		X
C9 - Saturation visible on aerial imagery		X
Group D - Evidence from Other Site Conditions or Data		
D1 - Stunted or stressed plants		X
D2 - Geomorphic position		X
D5 - FAC-neutral test		X
D9 - Gauge or well data	X	

Stream/Surface Water Assessment

Surface waters may only have one or two of the wetland criteria stated above. The USACE defines the ordinary high water mark (OHWM) as the boundary of surface waters. The OHWM is the line on the shore stablished by fluctuations of water and is indicated by physical characteristics such as:

- A clear, natural line impressed on the bank;
- Shelving;
- Changes in the character of soil;
- Destruction of terrestrial vegetation;
- The presence of litter and debris; or

- Other appropriate means that consider the characteristics of the surrounding areas.

During low streamflow or drought conditions, the OHWM is used to determine the boundary of a surface water. During extremely high streamflow conditions, or flood conditions the boundaries of surface waters cannot be determined accurately. Surface and Stream waters of Winfield Creek and Elliot Lake were observed during different seasonal changes, in addition to conducting a review of historical aerial photographs for the purposes of this assessment.

Mapping

Wetland and water boundaries were recorded using a GPS unit and data points were then recorded into Google Earth. Data points were also tracked in the field with flagging. These points were then digitized in microstation to provide the exhibits provided in this report.

Floristic Quality Assessment

The Floristic Quality Index (FQI) and mean C-value (coefficient of conservatism) used to rate plant communities is the standardized way to asses the quality of a given community. The index also allows one to place a numerical value on the benefits of native species while also calculating the impact of invasive or adventive species. Areas of high natural quality include native plants with C-values ranging from approximately 4 to 10. C-values are assigned to native plants as listed in *Plants of the Chicago Region* (Swink and Wilhelm, 1994). A low C-value indicates that a plant is generally not considered high quality or is a habitat generalist. An FQI for each site is obtained by multiplying the mean C-value of all native plants encountered by the square root of the number (N) of native species. FQI values of 0 to 5.0 are considered severely degraded, 5.1 to 9.9 are degraded, 10 to 19.9 are moderate quality with some native character, and those with values greater than 20 have natural characteristics and are considered an environmental asset.
The Floristic Quality Assessment figures can be found in the wetland summaries portion of this report.

Wetland Findings

Published Map Data

Data gathered from the DuPage County Soil Survey, U.S. Department of Agriculture, DuPage County Stormwater Commission's mapped wetlands, Illinois Department of Natural Resources (IDNR), NWI Maps, the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), and the Hydrologic Atlas Map provide an indication of areas where wetlands and surface waters potentially occur. Figures are located in **Appendix A**.

Table 1 describes the data regarding mapped soils within the investigation limits. This data was comprised from both DuPage County soil survey, and the U.S Department of Agriculture NRCS soil report.

Table 1. Mapped Soils within Investigation Limits

Soil Unit	Soil Type	Potential Hydric Inclusion (Component Representative Percentage)	High likelihood of being hydric? (hydric soil rating percentage)	Landforms in which the soil is considered hydric
854B	Markham-Ashkum-Beecher complex, 1 to 6 percent slopes	Markham: 40% Ashkum: 30% Beecher: 25% Orthents, clayey: 5%	No (30%)	Ground moraines, end moraines
614A	Chenoa silty clay loam, 0 to 2 percent slopes	Chenoa: 94% Elpaso, drained: 3% Ashkum, drained: 3%	No (6%)	Ground moraines, swales
531B	Markham silt loam, 2 to4 percent slopes	Markham: 90% Ashkum, drained: 6% Orthents, clayey: 2% Urban Land: 2%	No (6%)	Ground moraines, end moraines
530C2	Ozaukee silt loam, 4 to 6 percent slopes, eroded	Ozaukee: 96% Orthents, clayey: 2% Urban Land: 2%	No (0%)	
189A	Martinton silt loam, 0 to 2 percent slopes	Martinton Silt Loam: 92% Milford: 4% Urban Land: 2% Orthents, Clayey: 2%	No (4%)	Lake plains
849A	Milford-Martinton complex, 0 to 2 percent slopes	Milford: 54% Martinton: 40% Orthents, clayey: 5% Houghton: 1%	Yes (55%)	Lake plains, Ground moraines, outwash plains, end moraines
530B	Ozaukee silt loam, 2 to 4 percent slopes	Ozaukee: 94% Ashkum, Drained: 4% Urban Land: 1% Orthents, clayey: 1%	No (4%)	Ground moraines, end moraines
69A	Milford silty clay loam, 0 to 2 percent slopes	Milford, Drained: 93% Peotone, Drained: 5% Urban Land: 1% Orthents, Clayey: 1%	Yes (98%)	Depressions on lake plains
W	water	Water: 100%		
1903A	Muskego and Houghton mucks, undrained, 0 to 2 percent slopes	Muskego: 50% Houghton: 45% Drummer: 5%	Yes (100%)	Ground moraines, outwash plains, depressions
298A	Beechers silt loam, 0 to 2 percent slopes	Beecher: 90% Ashkum, Drained: 6% Urban Land: 2% Orthents, Clayey: 2%	No (6%)	End moraines, ground moraines
232A	Ashkum sility clay loam, 0 to 2 percent slopes	Ashkum, drained: 92% Peotone, drained: 5% Orthents, clayey: 2% Urban Land: 1%	Yes (97%)	Ground moraines, end moraines

- "Yes" indicates Soil is listed as having a hydric soil rating greater than 66% according to the 2016 NRCS Hydric Soil List by State and the NRCS Web Soil Survey.
- Landform as stated in the NRCS Soil Data Access (SDA) Hydric Soils List for DuPage County, IL. **https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1316620.html**

DuPage County's mapped wetlands were consistent with the data shown on the NWI's (National Wetland Inventory) maps. Within the investigative limits of the project, there lies two distinct wetland codes, PFO1C and PEM1C. The boundaries of these mapped areas are also consistent with the mapped soils, and the data retrieved in the field. From the DuPage County's maps, and the NWI maps, it is shown that wetlands within the investigative limits of this project are part of a wider network of wetlands that surround Winfield Creek and its tributaries.

The Hydrological Atlas from the USGS observed, show a snapshot of Winfield Creek and surrounding elevations in the year 1962, however depicting the limits of flooding which occurred in 1954 and 1961. Portions of the investigative limits for this project were inundated during the flood in 1954. This is prior to the construction of "Elliot Lake" and the further excavation of Winfield Creek. By investigating the historical aerials, it appears the further excavation of Winfield Creek took place between 1946 -1952 while the construction of "Elliot Lake" took place between 1974-1983.

Currently, the FEMA flood insurance map shows the connection between the most current and historical maps. The published FIRM map shows a boundary which resembles the limits of the flood that affected the project limits in 1954 as the regulatory floodway. Other mapped wetlands within the project limits and beyond are part of a special flood hazard area which stretch along Winfield

Wetland Determination Site Summaries

The following summary gives details on the data points taken within the project corridor determined to be wetlands. It was determined 5 wetlands were present, although the two areas are connected by Winfield creek and are within close proximity to one another, they have a measureable difference in plant communities. The data sheets and FQI summaries for each point taken along the project corridor can be found in the **appendix B**.

Site Number: 1
Community type: Wet Floodplain Forest, comprised of primarily Buckthorn and other invasive species, very little light penetrating thick understory of shrubs, connected to Winfield Creek.
National Wetlands Inventory code: PEM1C
(Palustrine) The Palustrine System includes all non-tidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens.
(Emergent) Characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. Perennial plants usually dominate these wetlands.
(Persistent) Dominated by species that normally remain standing at least until the beginning of the next growing season. This subclass is found only in the Estuarine and Palustrine systems.
(Seasonally Flooded Non-tidal) Surface water is present for extended periods especially early in the growing season, but is absent by the end of the growing season in most years. The water table after flooding ceases is variable, extending from saturated to the surface to a water table well below the ground surface.

Site location: West side of Gary Ave, South side of Winfield Creek.
Hydrophytic Vegetation? Yes
Hydric Soils? Yes
Wetland Hydrology? Yes
Is this site a wetland? Yes (Along streambank)
Area of site occurring within the project corridor: 0.01 acres
Total site area: Undetermined
Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2019)? No
HGM type: Riverine
Mean Coefficient of Conservatism (mean C): 1.24
Floristic Quality Index (FQI): 6.64
Mean Rated Wildlife Quality (MRWQ): 3.5

Site Number: 2
Community type: Wet Floodplain mostly dominated by Reed Canary Grass, Emergent Wetland to Mesic Prairie becomes more diverse along with several snags/large dead trees, directly connected to Winfield Creek
National Wetlands Inventory code: PEM1C
(Palustrine) The Palustrine System includes all non-tidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens.
(Emergent) Characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. Perennial plants usually dominate these wetlands.
(Persistent) Dominated by species that normally remain standing at least until the beginning of the next growing season. This subclass is found only in the Estuarine and Palustrine systems.
(Seasonally Flooded Non-tidal) Surface water is present for extended periods especially early in the growing season, but is absent by the end of the growing season in most years. The water table after flooding ceases is variable, extending from saturated to the surface to a water table well below the ground surface.
Site location: East side of Gary Ave., both north and South of Winfield Creek.
Hydrophytic Vegetation? Yes
Hydric Soils? Yes
Wetland Hydrology? Yes
Is this site a wetland? Yes
Area of site occurring within the project corridor: 0.09 acres
Total site area: Undetermined
Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? No
HGM type: Riverine
Mean Coefficient of Conservatism (mean C): 2.75
Floristic Quality Index (FQI): 7.78
Mean Rated Wildlife Quality (MRWQ): 4.5

Site Number: 3
Community type: Excavated Pond with surface water PUBGx code. “Elliot Lake” is a man made, excavated pond that is stocked for recreational catch and release fishing. A constructed berm separates Elliot Lake from Winfield Creek where it appears fish cannot cross. The area surrounding Elliot Lake was planted with freshwater emergent plants at the waters’ edge to create a fringe wetland. It is clear the berm and other slightly higher elevated areas were planted with a native pollinator mix and are likely managed by mowing, herbicide application, and other landscape practices.
National Wetlands Inventory code: PEM1C (PUBGx Surface Water)*
(Palustrine) The Palustrine System includes all non-tidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens.
Unconsolidated Bottom (UB): Includes all wetlands and deepwater habitats with at least 25% cover of particles smaller than stones (less than 6-7 cm), and a vegetative cover less than 30%.
Water Regime **Intermittently Exposed (G)**: Water covers the substrate throughout the year except in years of extreme drought.
Special Modifier **Excavated (x)**: This Modifier is used to identify wetland basins or channels that were excavated by humans.
Site location: West side of Gary Ave. North of Winfield creek.
Hydrophytic Vegetation? Yes
Hydric Soils? Yes
Wetland Hydrology? Yes
Is this site a wetland? Yes
Area of site occurring within the project corridor: 0.0 acres
Total site area: Undetermined
Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? No
HGM type: Lacustrine Fringed
Mean Coefficient of Conservatism (mean C): 3.94
Floristic Quality Index (FQI): 19.34
Mean Rated Wildlife Quality (MRWQ): 4

Site Number: 4
Community type: Forested Wetland slopes down away from roadside with ephemeral pools containing true aquatic plants during times of high precipitation. Algal matting, buttressing, and water marks on trees present during dry periods.
National Wetlands Inventory code: PFO1C
(Palustrine) The Palustrine System includes all non-tidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens.
Forested (FO): Characterized by woody vegetation that is 6 m tall or taller.
Broad-Leaved Deciduous (1): Woody angiosperms (trees or shrubs) with relatively wide, flat leaves that are shed during the cold or dry season; e.g., black ash (Fraxinus nigra).
Seasonally Flooded (C): Surface water is present for extended periods especially early in the growing season, but is absent by the end of the growing season in most years. The water table after flooding ceases is variable, extending from saturated to the surface to a water table well below the ground surface.
Site location: East side of Gary Ave. South of Winfield Creek
Hydrophytic Vegetation? Yes
Hydric Soils? Yes
Wetland Hydrology? Yes

Is this site a wetland? Yes
Area of site occurring within the project corridor: 0.12 acres
Total site area: Undetermined
Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? No
HGM type: Depressional
Mean Coefficient of Conservatism (mean C): 3.16
Floristic Quality Index (FQI): 15.80
Mean Rated Wildlife Quality (MRWQ): 6.5

Site Number: 5
Community type: Roadside Cattail Marsh
National Wetlands Inventory code: PEM1C
(Palustrine) The Palustrine System includes all non-tidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens.
(Emergent) Characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. Perennial plants usually dominate these wetlands.
(Persistent) Dominated by species that normally remain standing at least until the beginning of the next growing season. This subclass is found only in the Estuarine and Palustrine systems.
(Seasonally Flooded Non-tidal) Surface water is present for extended periods especially early in the growing season, but is absent by the end of the growing season in most years. The water table after flooding ceases is variable, extending from saturated to the surface to a water table well below the ground surface.
Site location: West side of Gary Ave. South of Winfield Creek
Hydrophytic Vegetation? Yes
Hydric Soils? Yes
Wetland Hydrology? Yes
Is this site a wetland? Yes
Area of site occurring within the project corridor: 0.27 acres
Total site area: Undetermined
Does this site meet U.S. Fish and Wildlife Service (FWS) criteria for potential *Platanthera leucophaea* (Eastern prairie fringed orchid) habitat (USFWS 2014)? No
HGM type: Depressional
Mean Coefficient of Conservatism (mean C): 1.57
Floristic Quality Index (FQI): 4.16
Mean Rated Wildlife Quality (MRWQ): 2

Wetland Determination Site Summary Table

Site No.	NWI Code	Community Type	Area (ac.)	> 50%	FQI	Mean C	MRWQ	Critical/Regulatory?
1	PEM1C	Freshwater emergent wetland/ Wet Floodplain Forest	0.01	No	6.64	1.24	3.5	Regulatory
2	PEM1C	Emergent wetland to Mesic Prairie	0.09	No	7.78	2.75	4.5	Regulatory
3	PEM1C	Restored Excavated pond	0.00	No	19.34	3.94	4	Regulatory
4	PFO1C	Forested Wetland with Ephemeral pools	0.12	No	15.8	3.16	6.5	**Critical:** due to MRWQ
5	PEM1C	Marsh	0.27	No	4.16	1.57	2	Regulatory
W1	PUBGx	Pond (surface water)	0.00	No	N/A	N/A		
W2	R2UBHx	Creek (surface water)	0.11	No	N/A	N/A		

Threatened/Endangered Species and Natural Communities of Special Interest

One species listed as threatened or endangered, federally or in Illinois was observed during our wetland survey within the project limits. During project corridor reconnaissance, a Black-Crowned Night-Heron (Nycticorax nycticorax) was seen hunting for fish above Elliot Lake. According to the Illinois Department of Natural Resources, the Black-Crowned Night-Heron is listed as endangered in Illinois. It is a migratory bird where the first sightings occur in Illinois in April. The species then nests through the summer within bottomland forests; lakes, ponds and reservoirs; marshes; rivers and streams; swamps; wet prairies and fens. The Black-Crowned Night-Heron is observed nesting in colonies among other heron species, and because of their tendency to nest in groups, it is possible that a population of this species uses areas near the project corridor as a nesting site during the summer months.

In addition, all wetland determination sites were assessed for potential habitat suitability of *Platanthera leucophaea* (Eastern Prairie Fringed Orchid or EPFO). EPFO is a federal threatened and Illinois endangered plant species. Our assessment of suitable habitat follows the guidelines established in *S7 Technical Assistance: Eastern prairie fringed orchid (Platanthera leucophaea)* (USFWS 2019). Our site reconnaissance was performed during the blooming period for EPFO, which occurs between June 28th and July 11th, where it was not observed to be present. As part of the section 7 guidelines, a Floristic Quality Assessment was performed for all wetland areas observed within the project limits. It can be concluded that the Eastern Prairie Fringed Orchid is not present due to not meeting the FQI of greater than 20, or the Native Mean C of 3.5 or greater as specified by the United States Fish and Wildlife Service.

Furthermore, two natural communities of special interest exists within proximity to the project corridor. The first exists just outside of the project limits. According to the DuPage County Countywide Stormwater and Flood Plain Ordinance, “wetlands shall be classified as either critical or regulatory based on the evaluation of the entire wetland complex” where several parameters are used to classify the site. One of the parameters include using the Mean Rated Wildlife Quality (MRWQ), where if an area observed reaches a score of 5 or higher it is considered critical. The area near site number 4, due to ephemeral pools, and interspersion of vegetation, was given a score of 6.5 which classifies it as critical.

The second area is Lincoln Marsh and is mapped as critical on the DuPage County Wetland Map. Lincoln Marsh exists approximately 0.3 miles from the project corridor but is worth mention as the Ordinance describes evaluating the wetland system as an entire "complex." Lincoln Marsh is directly connected to the wetlands evaluated in this report by Winfield Creek.

References

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30:1-17.

Swink F. and G. Wilhelm. 1994. Plants of the Chicago Region. 4th ed. Indiana Academy of Science, Indianapolis, IN. 921 p.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at http://websoilsurvey.nrcs.usda.gov/ [Accessed August 2020].

U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0), ed. J.S. Wakely, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-10-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

U.S. Army Corps of Engineers Chicago District. 2017. Chicago District Regional Permit Program. Available at: https://www.lrc.usace.army.mil/Portals/36/docs/regulatory/pdf/RPP/2017RPP-Modified.pdf [Accessed August - December 2020].

U.S. Army Corps of Engineers Chicago District. 2015. General Permit Number 25: Programmatic General Permit for Activities Requiring Review under Section 404 of the Clean Water Act within the Established Boundaries of DuPage County Illinois. Available at: https://www.lrc.usace.army.mil/Portals/36/docs/regulatory/pdf/DuPageGP.pdf [Accessed August-December 2020]

U.S. Fish and Wildlife Service. 2019. S7 Technical Assistance: Eastern prairie fringed orchid (*Platanthera leucophaea*), online at http://www.fws.gov/midwest/Endangered/section7/s7process/plants/epfos7guide.html [Accessed August - December,2020].

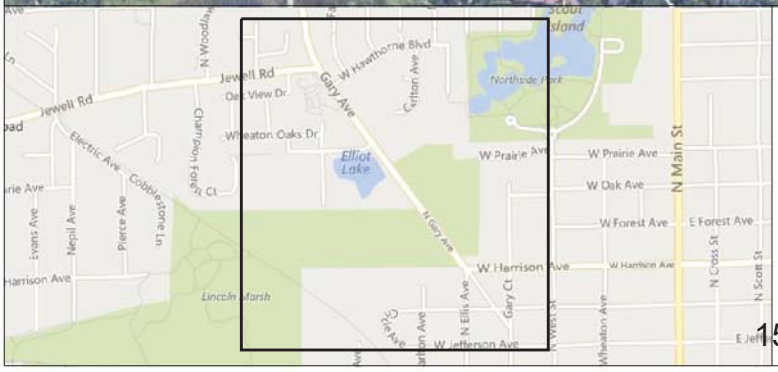
U.S. Geological Survey. 2016. The StreamStats program for Illinois, online at http://water.usgs.gov/osw/streamstats/illinois.html. [Accessed December, 2020].

U.S. Environmental Protection Agency. 2020. Navigable Waters Protection Rule. Document number 2020-02500.

DuPage County Map Portal. Parcel Viewer, online at https://gis.dupageco.org/parcelviewer/ [Accessed August-December 2020].

U.S. Fish and Wildlife Service. National Wetlands Inventory. Wetland Mapper, online at https://www.fws.gov/wetlands/data/mapper.html [Accessed August 2020]

U. S. Geological Survey and the Northeastern Illinois Planning Commission. USGS/NIPC Historic Hydrologic Atlases. Lombard Quadrangle. Available online, https://datahub.cmap.illinois.gov/dataset/usgs-nipc-historic-hydrologic-atlases/resource/807f4d1d-5fb3-4a82-a08f-11c1fd4033a2 [Accessed August 2020]



AERIAL SOURCE: GOOGLE EARTH

LEGEND

- PROJECT LIMITS
- WETLAND
- SURFACE WATER

0 100 200 300
SCALE IN FEET

N

thomas® engineering group
service at the highest grade®


Custom Soil Resource Report
Soil Map
88° 7' 21" W
88° 6' 45" W
41° 52' 51" N
41° 52' 15" N
406900
407000
407100
407200
407300
407400
407500
407600
4637100
4637000
4636900
4636800
4636700
4636600
4636500
4636400
4636300
4636200
4636100
N Purnell St
Ellis Ave
N Carlton St
W Prairie Ave
Wheaton Oaks Ct
Circle Ave
Gary
854B
614A
531B
530C2
849A
189A
530B
69A
W
1903A
298A
232A
Soil Map may not be valid at this scale.
Map Scale: 1:5,420 if printed on A portrait (8.5" x 11") sheet.
Meters
0 50 100 200 300
Feet
0 250 500 1000 1500
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84
N

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: DuPage County, Illinois
Survey Area Data: Version 16, May 29, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 10, 2016—Oct 8, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

APPENDIX A

MAPS AND FIGURES

U.S. Fish and Wildlife Service

National Wetlands Inventory

Gary Ave. NWI Map

August 24, 2020

Wetlands

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

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

National Flood Hazard Layer FIRMette

FEMA

88°7'23"W 41°52'48"N

88°6'46"W 41°52'21"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 — Cross Sections with 1% Annual Chance
- 17.5 — Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

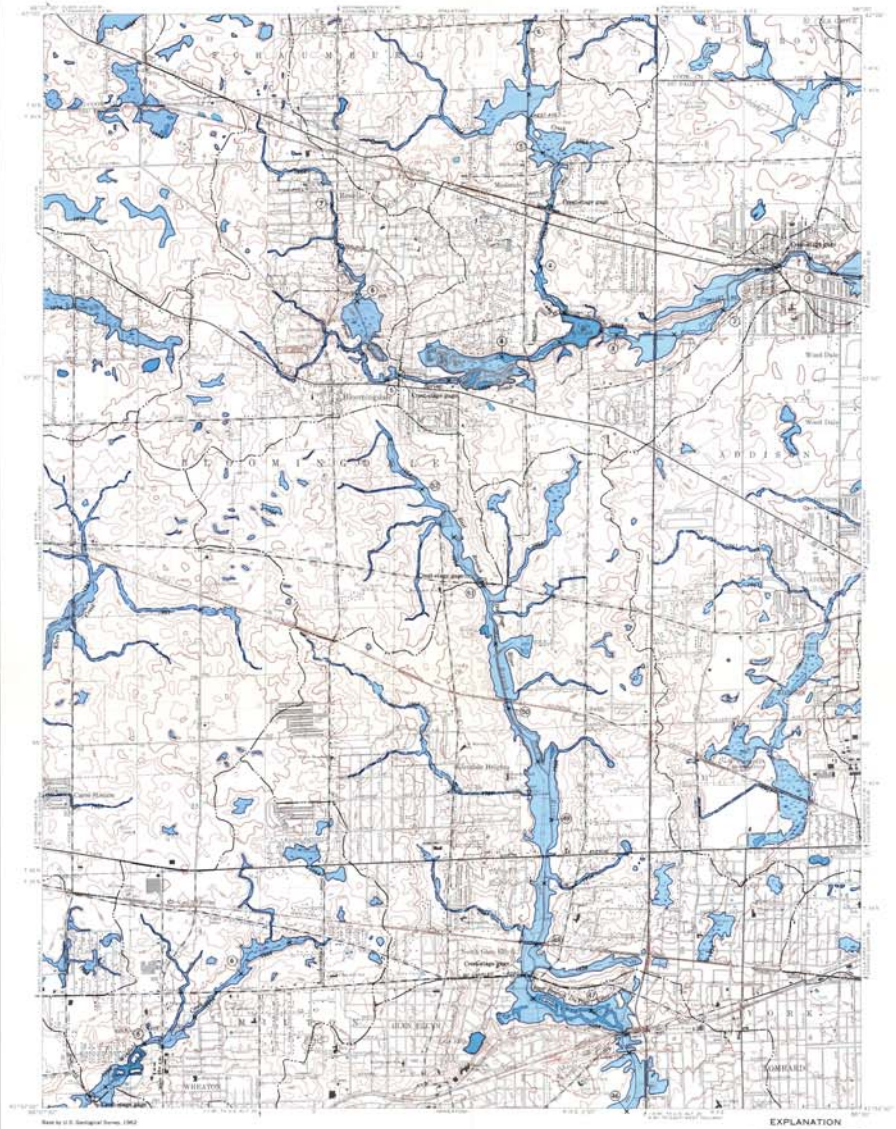
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/25/2020 at 12:38 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH
THE NORTHEASTERN ILLINOIS METROPOLITAN
AREA PLANNING COMMISSION

HYDROLOGIC INVESTIGATIONS
ATLAS HA-143



FLOODS IN LOMBARD QUADRANGLE ILLINOIS

This report is a study of hydrologic data to evaluate the depth and frequency of flooding that affect the economic development of flood plains. The data provide a technical basis for making sound decisions concerning the use of flood-plain lands. No recommendations or suggestions for land use regulations are made and no solutions of existing flood problems are proposed.

The approximate areas inundated by floods along streams in the Lombard 7 1/2-minute quadrangle are delineated on a topographic map. The quadrangle location is shown in figure 1.

FIGURE 1.—*Index map of northeastern Illinois showing location of quadrangles included in the flood-hazard mapping program.*

Inundated areas are shown along Winfield Creek for the flood of May 1954; along Spring Brook, Meacham Creek, and East Branch Du Page River for the flood of October 1954; and along unnamed tributaries of East Branch Du Page River, Salt Creek tributary, and Klein Creek for the flood of September 1961.

The general procedure followed in defining flood limits was to develop flood profiles on the basis of all available data. The horizontal extent of flooding delineated on the topographic map was derived from the profiles by interpolation between contours (lines of equal elevation) and by plotting overflow limits identified during field investigations and surveys. The locations of flood limits shown on the map are only approximate because the map scale is small (1 inch = 2,000 feet) and the contour interval is relatively large (10 feet, supplemented by 5-foot-interval contours in some areas).

The flood limits shown on the map are not necessarily those for the highest floods expected. Greater floods are possible but definition of their probable overflow limits is not within the scope of this report. The flood limits shown reflect channel conditions existing when the floods occurred. No attempt is made to appraise the effect of changes in channel conditions, waterway openings at highways and railroads, or changes in runoff characteristics of the stream caused by increased urbanization that may have taken place after the floods occurred. Protective works built after the floods of 1954 and 1961 may reduce the frequency of flooding in the area but will not necessarily eliminate all future flooding. The inundation pattern of future floods may be affected by new highways and bridges, relocation and improvement of stream channels, and other cultural changes.

There are numerous depressions or lowland areas in the Lombard quadrangle where surface water accumulates. Flood limits are shown for many such areas but there may be other depressions subject to flooding that were not detected during this investigation.

Flood limits are not defined for areas inundated as a result of backup in storm drains.

Cooperation and acknowledgment.—The preparation of this report is a part of an extensive flood-mapping program financed through a cooperative agreement between The Northeastern Illinois Metropolitan Area Planning Commission and the U.S. Geological Survey. Under the agreement, flood maps will be prepared for the 7 1/2-minute quadrangles shown in figure 1. Areal limits of the program include parts of Cook, Kane, McHenry, and Will Counties, and all of Du Page and Lake Counties. The six counties cooperate financially in the program through separate agreements with the Planning Commission. Financial support for the preparation of this report was provided by Du Page County.

The cooperative program is administered on behalf of the Planning Commission by Paul Oppermann, Executive Director, and is directly coordinated by John R. Sheaffer, Chief Planner.

The report was prepared by the U.S. Geological Survey under the administrative direction of William D. Mitchell, district engineer, and under the immediate supervision of Davis W. Ellis, engineer-in-charge of the project.

Acknowledgment is made to the following agencies that supplied some of the flood data on which this report is based: the State of Illinois, Department of Public Works and Buildings, Division of Waterways; Du Page County Highway Department; and the Department of Highways of Cook County.

Additional data were obtained from officials of municipalities located in the area, and from field investigations.

Flood height.—The height of a flood at a gaging station usually is stated in terms of gage height or stage, which is the elevation of the water surface above a selected datum plane. Elevations shown on the map are in feet above mean sea level. Gage heights for crest-stage gages located in the Lombard quadrangle can be converted to elevations above mean sea level by adding the gage height to the appropriate datum of gage listed in the following table. The drainage area at each station is also shown in the table. Drainage divides are shown on the map.

Crest-stage gage	Datum of gage above mean sea level (feet)	Drainage area (square miles)
Meacham Creek at Medinah (Chicago, Milwaukee, St. Paul and Pacific Railroad)	696.32	3.92
Spring Brook:		
At Bloomingdale (Circle Avenue)	700.53	3.66
At Itasca (Walnut Avenue)	680.44	12.6
Winfield Creek at Wheaton (Gary Avenue)	723.79	4.36
East Branch Du Page River:		
Near Bloomingdale (Army Trail Road)	704.01	3.02
At Glen Ellyn (St. Charles Road)	689.66	14.2

Gage height and year of occurrence of each annual flood (highest peak discharge in each calendar year) above 571-foot elevation at the gaging station on Du Page River at Troy during the period 1941-62 are shown in figure 2. The gaging station at Troy is located about 24 miles northwest of the Lombard quadrangle and about 10 1/2 miles upstream from the mouth of Du Page River. The irregular occurrence of floods is evident.

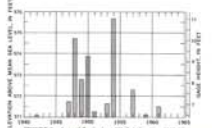


FIGURE 2.—*Annual floods above 571 feet elevation, 1941-62, Du Page River at Troy, Illinois.*

Flood discharge.—The rate of discharge of a stream is the volume of flow that passes a particular location in a given period of time. Discharge rates usually are expressed in units of cubic feet per second (cfs). Peak discharge, the maximum discharge attained by a flood, generally occurs at the time of the maximum height (stage) of the flood, but if a stream is affected by variable backwater, the peak discharge may not coincide with the maximum stage. For example, backwater from an ice jam may cause a high stage during a period of relatively low discharge.

Flood frequency.—Frequency of floods at the Geological Survey crest-stage gage on Meacham Creek at Medinah was derived from stream-flow records at this station combined with records at nearby stations and with the regional flood-frequency relation for streams in northern Illinois (Mitchell, 1954b). The general relation between frequency and discharge is shown in figure 3, and the general relation between frequency and stage is shown in figure 4. The relation between stage and frequency is dependent on the relation of stage to discharge which is affected by changes in physical conditions of channels and constrictions. The frequency curve shown in figure 4 is based on channel conditions existing in 1953. Longer records and future changes in channel conditions may define somewhat different flood-frequency curves. Extrapolation of the curves beyond the limits shown is not recommended because of the possibility of large errors.

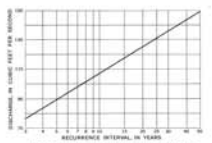


FIGURE 3.—*Frequency of flood discharges on Meacham Creek at Medinah (Chicago, Milwaukee, St. Paul and Pacific Railroad).*

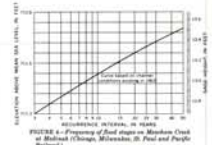


FIGURE 4.—*Frequency of flood stages on Meacham Creek at Medinah (Chicago, Milwaukee, St. Paul and Pacific Railroad).*

Recurrence intervals.—As applied to flood events, recurrence interval is the average interval of time within which a given flood will be equaled or exceeded once. Frequencies of floods may be stated in terms of their probabilities of occurrence (reciprocals of their recurrence intervals). For example, a flood with a 25-year recurrence interval would have a 4-percent chance of being equaled or exceeded in any given year, or a flood with a 50-year recurrence interval would have a 2-percent chance of being equaled or exceeded in any given year.

The general relation between recurrence interval and flood height at the crest-stage gage on Meacham Creek at Medinah (fig. 4) is tabulated below.

Recurrence interval (years)	Elevation above mean sea level (feet)
50	713.3
25	713.7
10	714.4
5	715.2
2	715.6

It is emphasized that recurrence intervals are average figures—the average number of years that will elapse between occurrences of floods that equal or exceed a given magnitude. The fact that a major flood is experienced in one year does not reduce the probability of that flood being exceeded in the next year or in the next week.

Flood profiles.—Profiles of the water surface, based primarily on elevations of marks left by floods of April 1950, May and October 1954, and September 1961, are shown in figures 5-7. Where floodmarks could not be identified, the profiles were constructed on the basis of flood crests determined from photographs and reports of local residents, and elevations of streambeds and lower floods. River miles used for the profiles correspond to those marked along the streams on the flood map.

The abrupt changes in the profiles, shown at some road crossings, indicate the differences in water-surface elevations at the upstream and downstream sides of bridges which produced channel constrictions during the floods shown. The drop in water surface through bridge openings during future floods may be different from that shown on the profiles. An increase in channel capacity through a bridge opening would reduce the flood height on the upstream side. An accumulation of debris at a bridge would reduce the channel capacity and tend to increase the upstream flood height. Channel changes through bridge openings may also change the overflow pattern of future floods.

Flood depths.—Depth of flooding at any point can be estimated by subtracting the ground elevation from the water-surface elevation indicated by the profiles in figures 5-7. The approximate ground elevation can be determined from information indicated by contours on the map, although more accurate elevations may be obtained by leveling to nearby bench marks.

Additional data.—Other information pertaining to floods in the Lombard quadrangle may be obtained at the office of the U.S. Geological Survey, Oak Park, Ill., and from the following published reports:

Daniels, W. S., and Hale, M. D., 1958, Floods of October 1954 in the Chicago area, Illinois and Indiana: U.S. Geol. Survey Water-Supply Paper 1370-B, p. 107-200.

Illinois Department of Public Works and Buildings, Division of Waterways, 1962, Survey report for flood control, Du Page River, 203 p.

Mitchell, W. D., 1954, Floods in Illinois, magnitude and frequency: Illinois Dept. Public Works and Bldgs., Div. of Waterways, 386 p.

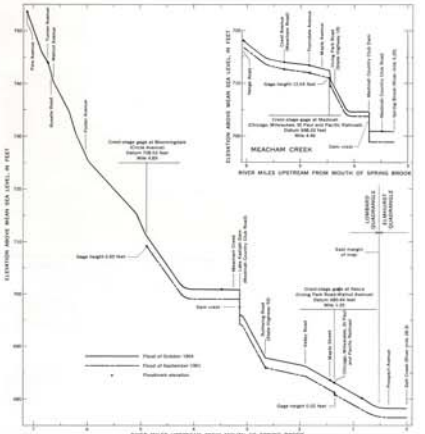


FIGURE 5.—*Profiles of floods on Spring Brook and Meacham Creek.*

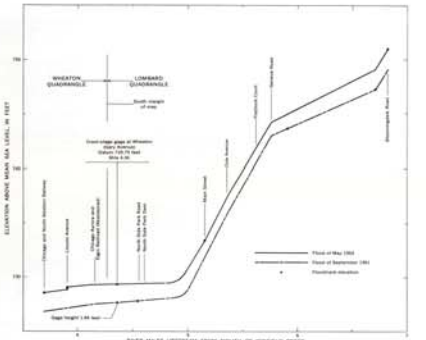


FIGURE 6.—*Profiles of floods on Winfield Creek.*

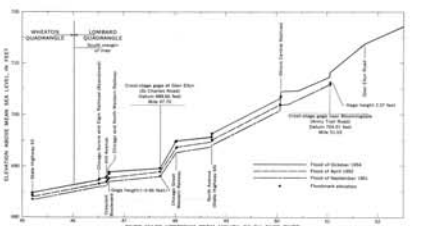


FIGURE 7.—*Profiles of floods on East Branch Du Page River.*

FLOODS IN LOMBARD QUADRANGLE, ILLINOIS

By
Howard E. Allen and Vester J. May

1964

HYDROLOGIC INVESTIGATIONS
ATLAS HA-143

For sale by U. S. Geological Survey, price $1.25

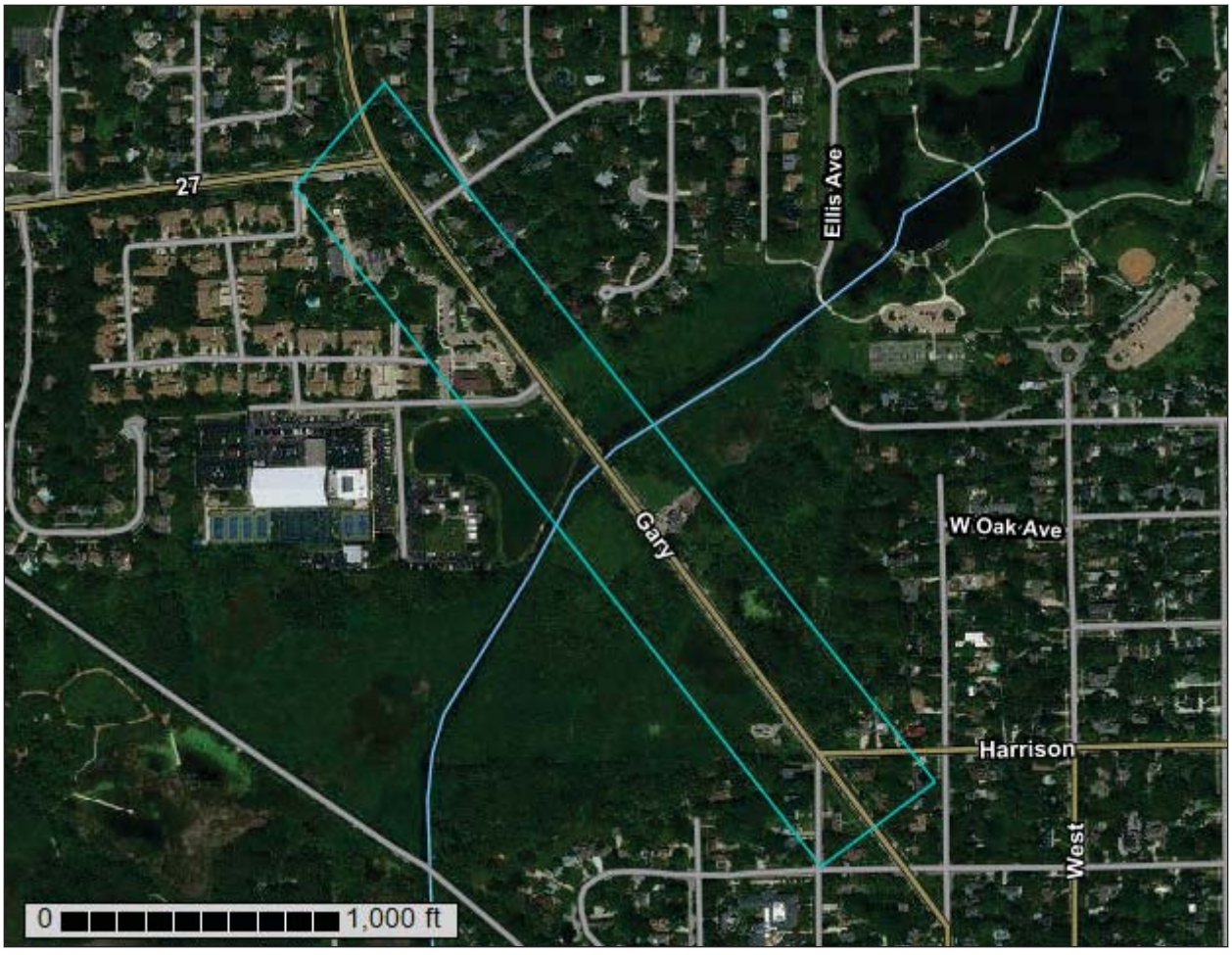
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for DuPage County, Illinois



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.


88° 7'21" W
88° 6'45" W
41° 52' 51" N
41° 52' 15" N
406900
407000
407100
407200
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407500
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4636300
4636200
4636100
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Ellis Ave
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Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: DuPage County, Illinois
Survey Area Data: Version 16, May 29, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 10, 2016—Oct 8, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
69A	Milford silty clay loam, 0 to 2 percent slopes	5.4	15.2%
189A	Martinton silt loam, 0 to 2 percent slopes	5.9	16.5%
232A	Ashkum silty clay loam, 0 to 2 percent slopes	2.5	6.9%
298A	Beecher silt loam, 0 to 2 percent slopes	2.6	7.1%
530B	Ozaukee silt loam, 2 to 4 percent slopes	2.2	6.2%
530C2	Ozaukee silt loam, 4 to 6 percent slopes, eroded	0.4	1.0%
531B	Markham silt loam, 2 to 4 percent slopes	1.6	4.5%
614A	Chenoa silty clay loam, 0 to 2 percent slopes	1.3	3.6%
849A	Milford-Martinton complex, 0 to 2 percent slopes	0.9	2.5%
854B	Markham-Ashkum-Beecher complex, 1 to 6 percent slopes	5.1	14.4%
1903A	Muskego and Houghton mucks, undrained, 0 to 2 percent slopes	6.5	18.3%
W	Water	1.4	3.9%
Totals for Area of Interest		**35.7**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion

of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

DuPage County, Illinois

69A—Milford silty clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2smzk
Elevation: 510 to 930 feet
Mean annual precipitation: 34 to 40 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 155 to 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Milford, drained, and similar soils: 93 percent
Minor components: 7 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Milford, Drained

Setting

Landform: Depressions on lake plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf, dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Parent material: Clayey lacustrine deposits

Typical profile

Ap - 0 to 9 inches: silty clay loam
A - 9 to 22 inches: silty clay
Bg - 22 to 50 inches: silty clay loam
Cg - 50 to 60 inches: stratified sandy loam to silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: High (about 9.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: R110XY008IL - Wet Glacial Drift Upland Prairie
Hydric soil rating: Yes

Minor Components

Peotone, drained

Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Urban land

Percent of map unit: 1 percent
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Orthents, clayey

Percent of map unit: 1 percent
Landform: Ground moraines, lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

189A—Martinton silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 64sv
Elevation: 510 to 980 feet
Mean annual precipitation: 28 to 40 inches
Mean annual air temperature: 45 to 54 degrees F
Frost-free period: 140 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Martinton and similar soils: 92 percent
Minor components: 8 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Martinton

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear

Parent material: Lacustrine deposits

Typical profile

H1 - 0 to 12 inches: silt loam
H2 - 12 to 39 inches: silty clay loam
H3 - 39 to 60 inches: stratified sandy loam to silty clay

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Available water capacity: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: C/D
Ecological site: R110XY007IL - Moist Glacial Drift Upland Prairie
Hydric soil rating: No

Minor Components

Milford

Percent of map unit: 4 percent
Landform: Lake plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R110XY008IL - Wet Glacial Drift Upland Prairie
Hydric soil rating: Yes

Urban land

Percent of map unit: 2 percent
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Orthents, clayey

Percent of map unit: 2 percent
Landform: Ground moraines, lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

232A—Ashkum silty clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2ssrw
Elevation: 520 to 930 feet
Mean annual precipitation: 33 to 41 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 160 to 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Ashkum, drained, and similar soils: 92 percent
Minor components: 8 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ashkum, Drained

Setting

Landform: Ground moraines, end moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Clayey colluvium over till

Typical profile

Ap - 0 to 12 inches: silty clay loam
Bg1 - 12 to 29 inches: silty clay
2Bg2 - 29 to 54 inches: silty clay loam
2Cg - 54 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 25 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow

Hydric soil rating: Yes

Minor Components

Peotone, drained

Percent of map unit: 5 percent
Landform: Depressions on ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Orthents, clayey

Percent of map unit: 2 percent
Landform: Lake plains, ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Urban land

Percent of map unit: 1 percent
Landform: Ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

298A—Beecher silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2ytq0
Elevation: 520 to 900 feet
Mean annual precipitation: 34 to 41 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 160 to 180 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Beecher and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Beecher

Setting

Landform: Ground moraines, end moraines

Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess over silty clay loam or clay loam till

Typical profile

Ap - 0 to 13 inches: silt loam
2Bt1 - 13 to 21 inches: silty clay loam
2Bt2 - 21 to 37 inches: silty clay loam
2Cd - 37 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 24 to 45 inches to densic material
Drainage class: Somewhat poorly drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Ashkum, drained

Percent of map unit: 6 percent
Landform: End moraines, ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Hydric soil rating: Yes

Urban land

Percent of map unit: 2 percent
Landform: Ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Orthents, clayey

Percent of map unit: 2 percent
Landform: Ground moraines
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve

Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

530B—Ozaukee silt loam, 2 to 4 percent slopes

Map Unit Setting

National map unit symbol: 2sn06
Elevation: 550 to 980 feet
Mean annual precipitation: 35 to 41 inches
Mean annual air temperature: 47 to 52 degrees F
Frost-free period: 140 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Ozaukee and similar soils: 94 percent
Minor components: 6 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ozaukee

Setting

Landform: End moraines, ground moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Thin mantle of loess over silty clay loam till

Typical profile

Ap - 0 to 4 inches: silt loam
BE - 4 to 10 inches: silt loam
2Bt1 - 10 to 21 inches: silty clay
2Bt2 - 21 to 39 inches: silty clay loam
2Cd - 39 to 60 inches: silty clay loam

Properties and qualities

Slope: 2 to 4 percent
Depth to restrictive feature: 23 to 45 inches to densic material
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 24 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: F110XY012IL - Moist Glacial Drift Upland Forest
Hydric soil rating: No

Minor Components

Ashkum, drained

Percent of map unit: 4 percent
Landform: Ground moraines, end moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Urban land

Percent of map unit: 1 percent
Landform: Ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Orthents, clayey

Percent of map unit: 1 percent
Landform: Ground moraines
Landform position (two-dimensional): Backslope, summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

530C2—Ozaukee silt loam, 4 to 6 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2sn07
Elevation: 540 to 980 feet
Mean annual precipitation: 35 to 42 inches
Mean annual air temperature: 47 to 53 degrees F
Frost-free period: 140 to 185 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Ozaukee, eroded, and similar soils: 96 percent
Minor components: 4 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ozaukee, Eroded

Setting

Landform: End moraines, ground moraines
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Thin mantle of loess over silty and clayey till

Typical profile

Ap - 0 to 7 inches: silt loam
2Bt1 - 7 to 26 inches: silty clay
2Bt2 - 26 to 37 inches: silty clay loam
2Cd - 37 to 60 inches: silty clay loam

Properties and qualities

Slope: 4 to 6 percent
Depth to restrictive feature: 22 to 45 inches to densic material
Drainage class: Moderately well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 24 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: F110XY011IL - Dry Glacial Drift Upland Forest
Hydric soil rating: No

Minor Components

Orthents, clayey

Percent of map unit: 2 percent
Landform: Ground moraines
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Urban land

Percent of map unit: 2 percent
Landform: Ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear

Hydric soil rating: No

531B—Markham silt loam, 2 to 4 percent slopes

Map Unit Setting

National map unit symbol: 2ytpr
Elevation: 540 to 900 feet
Mean annual precipitation: 34 to 41 inches
Mean annual air temperature: 46 to 52 degrees F
Frost-free period: 160 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Markham and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Markham

Setting

Landform: Ground moraines, end moraines
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loess over silty clay loam till

Typical profile

Ap - 0 to 8 inches: silt loam
2Bt1 - 8 to 21 inches: silty clay loam
2Bt2 - 21 to 32 inches: silty clay loam
2Cd - 32 to 60 inches: silty clay loam

Properties and qualities

Slope: 2 to 4 percent
Depth to restrictive feature: 20 to 55 inches to densic material
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 24 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C

Ecological site: R110XY010IL - Moist Glacial Drift Upland Savanna
Hydric soil rating: No

Minor Components

Ashkum, drained
Percent of map unit: 6 percent
Landform: Ground moraines, end moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Orthents, clayey
Percent of map unit: 2 percent
Landform: Ground moraines
Landform position (two-dimensional): Backslope, summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Urban land
Percent of map unit: 2 percent
Landform: Ground moraines
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

614A—Chenoa silty clay loam, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: 2t706
Elevation: 590 to 800 feet
Mean annual precipitation: 34 to 40 inches
Mean annual air temperature: 48 to 53 degrees F
Frost-free period: 155 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Chenoa and similar soils: 94 percent
Minor components: 6 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chenoa

Setting

Landform: Ground moraines, end moraines
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess over till

Typical profile

Ap - 0 to 12 inches: silty clay loam
Btg - 12 to 32 inches: silty clay loam
2Bt - 32 to 36 inches: silty clay loam
2C - 36 to 60 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: R110XY007IL - Moist Glacial Drift Upland Prairie, R108AY006IL - Loess Upland Prairie
Hydric soil rating: No

Minor Components

Elpaso, drained

Percent of map unit: 3 percent
Landform: Ground moraines, swales
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R108AY007IL - Wet Loess Upland Prairie, R108AY008IL - Ponded Loess Sedge Meadow, R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Ashkum, drained

Percent of map unit: 3 percent
Landform: Ground moraines, swales
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope

Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

849A—Milford-Martinton complex, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 64wx
Elevation: 510 to 1,020 feet
Mean annual precipitation: 28 to 40 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 140 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Milford and similar soils: 54 percent
Martinton and similar soils: 40 percent
Minor components: 6 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Milford

Setting

Landform: Lake plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Lacustrine deposits

Typical profile

H1 - 0 to 9 inches: silty clay loam
H2 - 9 to 22 inches: silty clay
H3 - 22 to 50 inches: silty clay loam
H4 - 50 to 60 inches: stratified sandy loam to silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 30 percent
Available water capacity: High (about 11.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: R110XY008IL - Wet Glacial Drift Upland Prairie
Hydric soil rating: Yes

Description of Martinton

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit, footslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Lacustrine deposits

Typical profile

H1 - 0 to 12 inches: silt loam
H2 - 12 to 39 inches: silty clay loam
H3 - 39 to 60 inches: stratified sandy loam to silty clay

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Available water capacity: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: C/D
Ecological site: R110XY007IL - Moist Glacial Drift Upland Prairie
Hydric soil rating: No

Minor Components

Orthents, clayey

Percent of map unit: 5 percent
Landform: Ground moraines, lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Houghton

Percent of map unit: 1 percent
Landform: Ground moraines, outwash plains, end moraines
Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R110XY021IL - Ponded Organic Alkaline Peatland, R110XY020IL - Ponded Organic Acidic Peatland
Hydric soil rating: Yes

854B—Markham-Ashkum-Beecher complex, 1 to 6 percent slopes

Map Unit Setting

National map unit symbol: 64wy
Elevation: 510 to 930 feet
Mean annual precipitation: 28 to 40 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 140 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Markham and similar soils: 40 percent
Ashkum and similar soils: 30 percent
Beecher and similar soils: 25 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Markham

Setting

Landform: Ground moraines, end moraines
Landform position (two-dimensional): Backslope, summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Thin mantle of loess or other silty material and in the underlying till

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 21 inches: silty clay loam
H3 - 21 to 32 inches: silty clay loam
H4 - 32 to 60 inches: silty clay loam

Properties and qualities

Slope: 1 to 6 percent
Depth to restrictive feature: 20 to 55 inches to densic material
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 24 to 42 inches

Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Available water capacity: Low (about 5.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: R110XY010IL - Moist Glacial Drift Upland Savanna
Hydric soil rating: No

Description of Ashkum

Setting

Landform: Ground moraines, end moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Colluvium and in the underlying till

Typical profile

H1 - 0 to 12 inches: silty clay loam
H2 - 12 to 29 inches: silty clay
H3 - 29 to 54 inches: silty clay loam
H4 - 54 to 60 inches: silty clay loam

Properties and qualities

Slope: 1 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 25 percent
Available water capacity: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: R110XY008IL - Wet Glacial Drift Upland Prairie
Hydric soil rating: Yes

Description of Beecher

Setting

Landform: Ground moraines, end moraines
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex

Parent material: Thin mantle of loess or other silty material and in the underlying till

Typical profile

H1 - 0 to 7 inches: silt loam
H2 - 7 to 24 inches: silty clay loam
H3 - 24 to 36 inches: silty clay loam
H4 - 36 to 60 inches: silty clay loam

Properties and qualities

Slope: 2 to 4 percent
Depth to restrictive feature: 24 to 45 inches to densic material
Drainage class: Somewhat poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Available water capacity: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Ecological site: R110XY010IL - Moist Glacial Drift Upland Savanna
Hydric soil rating: No

Minor Components

Orthents, clayey

Percent of map unit: 5 percent
Landform: Ground moraines, lake plains
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

1903A—Muskego and Houghton mucks, undrained, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 64sx
Elevation: 510 to 930 feet
Mean annual precipitation: 28 to 40 inches
Mean annual air temperature: 45 to 52 degrees F

Frost-free period: 140 to 180 days
Farmland classification: Not prime farmland

Map Unit Composition

Muskego and similar soils: 50 percent
Houghton and similar soils: 45 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Muskego

Setting

Landform: Ground moraines, outwash plains, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Herbaceous organic material over coprogenic material

Typical profile

O1 - 0 to 5 inches: muck
O2 - 5 to 27 inches: muck
L3 - 27 to 60 inches: coprogenous silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 60 percent
Available water capacity: Very high (about 17.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Ecological site: R110XY021IL - Ponded Organic Alkaline Peatland, R110XY024IL - Ponded Depressional Sedge Meadow, R110XY020IL - Ponded Organic Acidic Peatland
Hydric soil rating: Yes

Description of Houghton

Setting

Landform: Depressions, ground moraines, outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Herbaceous organic material

Typical profile

O1 - 0 to 19 inches: muck
O2 - 19 to 60 inches: muck

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 6.00 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water capacity: Very high (about 23.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Ecological site: R110XY021IL - Ponded Organic Alkaline Peatland, R110XY024IL - Ponded Depressional Sedge Meadow, R110XY020IL - Ponded Organic Acidic Peatland
Hydric soil rating: Yes

Minor Components

Drummer

Percent of map unit: 5 percent
Landform: Outwash plains, ground moraines
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R110XY008IL - Wet Glacial Drift Upland Prairie
Hydric soil rating: Yes

W—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8w
Hydric soil rating: Unranked

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

APPENDIX B

DATA SHEETS

FQI

WILDLIFE UTILIZATION

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gary Ave. reconstruction/improvements | City/County: DuPage Co. | Sampling Date: 7/8/2020

Applicant/Owner: City of Wheaton | State: Illinois | Sampling Point: DP1C-1

Investigator(s): Thomas Engineering Group | Section, Township, Range: 5-8D-W

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

Slope (%): 5 | Lat: 44.52'34.03 | Long: 88.07'05.04 | Datum:

Soil Map Unit Name: 1903A | NWI Classification: PEM1C

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

Are vegetation ____, soil X, or hydrology X 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

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.)

Filter Fabric/Erosion Control Blanket present under first few inches of soil. Wetland Fringe along creek near culvert

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. x 30 ft.)	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. x 15 ft.)			
1			
2			
3			
4			
5			
	0	= Total Cover	
Herb stratum (Plot size: 5 ft. x 5 ft.)			
1 *Phalaris arundinacea*	90	Y	FACW
2 *Persicaria punctata*	5	N	OBL
3 *Parthenocissus quinquefolia*	5		FACU
4			
5			
6			
7			
8			
9			
	100	= Total Cover	
Woody vine stratum (Plot size: 30 ft. x 30 ft.)			
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% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species ____ x 1 = ____

FACW species ____ x 2 = ____

FAC species ____ x 3 = ____

FACU species ____ x 4 = ____

UPL species ____ x 5 = ____

Column totals ____ (A) ____ (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Rapid Test for Hydrophytic Vegetation

X Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological 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:** DP1C-1

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					Muck	With Rocks
10-16	10YR 2/1	60	10YR 4/6	5	C	M	Silty Clay	
	10YR 4/4	25	10YR 5/6	10	C	PL/M	Silty Clay	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X 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)**
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland 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)
- X 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
- X (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	X	Depth (inches):	
Water table present?	Yes	X	No		Depth (inches):	10
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches):	6

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: Gary Ave. Reconstruction/Improvements | City/County: DuPage Co. | Sampling Date: 7/8/2020
Applicant/Owner: City of Wheaton | State: Illinois | Sampling Point: 1-2 (DP1c-2)
Investigator(s): Thomas Engineering Group | Section, Township, Range: 5-8DW
Landform (hillslope, terrace, etc.): Floodplain | Local relief (concave, convex, none): CMVCY
Slope (%): 2 | Lat: 41.52'33.46 | Long: 88.07'04.45 | Datum: WGS 84
Soil Map Unit Name: 69A | NWI Classification: PEM1C
Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
Are vegetation ____, soil X, or hydrology X 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
Wetland hydrology present?	N	If yes, optional wetland site ID:	

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

slight hillslope to creek/ floodpalin terrace. Rained last night. Urban area disturbed soil due to previous construction of Pond and road.

VEGETATION -- Use scientific names of plants.

	Absolute % Cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft. x 30 ft.)			
1 *Celtis Occidentalis*	10	Y	FAC
2 *Fraxinus pennsylvanica*	5	N	FACW
3 *Ulmus pumila*	5	N	UPL
4 *Juglans nigra*	5	N	FACU
5			
	25	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. x 15 ft.)			
1 *Rhamnus cathartica*	80	Y	FAC
2 *Lonicera tatarica*	10	N	FACU
3			
4			
5			
	90	= Total Cover	
Herb stratum (Plot size: 5 ft. x 5 ft.)			
1 *Fraxinus pennsylvanica*	10	Y	FACW
2 *Viola Labradorica*	10	Y	FACW
3 *Arctium minus*	5	N	FACU
4 *Bidens frondosa*	10	Y	FACW
5 *Parthenocissus quinquefolia*	10	Y	FACU
6 *Oxalis stricta*	5	N	FACUP
7 *Geum canadense*	5	N	FAC
8			
9			
	55	= Total Cover	
Woody vine stratum (Plot size: 30 ft. x 30 ft.)			
1 *Vitis riparia*	5	Y	FACW
2			
	5	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)
Total Number of Dominant Species Across all Strata: 7 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 86% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	95	x 3 =	285
FACU species	35	x 4 =	140
UPL species	5	x 5 =	25
Column totals	175 (A)		530 (B)

Prevalence Index = B/A = 3.03

Hydrophytic Vegetation Indicators:

- ____ Rapid Test for Hydrophytic Vegetation
- X Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphological 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:** 1-2 (DP1c-2)

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 2/1	100					silt loam	
6-18	10YR 5/2		10YR 2/1		C	M	Clay	
	10YR 5/4				C	M		
12-18	10YR 5/1	80					silty clay	with rocks and roots
	10YR 5/6	10						
	10YR 2/1	5						

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

Hydric Soil Indicators:

- ___ Histosol (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)**
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):
Type: roots/ rocks
Depth (inches): 15 inches

Hydric soil present? N

Remarks:

clay / no butrising on buckthorn

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 X	Depth (inches):	>12	
Water table present?	Yes ___	No X	Depth (inches):	>18	
Saturation present? (includes capillary fringe)	Yes ___	No X	Depth (inches):	>18	

Wetland hydrology present? N

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

Remarks:

2-3 feet higher than the creek. Rained last night, ground water is higher

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gary Ave. Reconstruction/Improvements | City/County: DuPage Co. | Sampling Date: 7/13/2020
Applicant/Owner: City of Wheaton | State: Illinois | Sampling Point: Upland 1-3
Investigator(s): Thomas Engineering Group | Section, Township, Range: 5-8D-W
Landform (hillslope, terrace, etc.): Toe of Slope | Local relief (concave, convex, none): Convex
Slope (%): 10 | Lat: 41.52'33.28 | Long: 88.07'04.07 | Datum:
Soil Map Unit Name: 1903A | NWI Classification: PEM1C
Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
Are vegetation ____, soil X, 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	**Is the sampled area within a wetland?**	N
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 ft. x 30 ft.)	Absolute % Cover	Dominant Species	Indicator Status
1 *Ulmus pumila*	30	Y	UPL
2 *Robinia pseudoacacia*	30	Y	FACU
3 *Rhamnus cathartica*	20	Y	FAC
4 *Juniperus virginiana*	10	N	FACU
5			
	90	= Total Cover	

Sapling/Shrub stratum (Plot size: 15 ft. x 15 ft.)			
1 *Rhamnus cathartica*	90	Y	FAC
2			
3			
4			
5			
	90	= Total Cover	

Herb stratum (Plot size: 5 ft. x 5 ft.)			
1 *Solanum dulcamara*	2	Y	FAC
2 *Geum canadense*	2	Y	FAC
3			
4			
5			
6			
7			
8			
9			
	4	= Total Cover	

Woody vine stratum (Plot size: 30 ft. x 30 ft.)			
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: 6 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index Worksheet

Total % Cover of:				
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	24	x 3 =	72	
FACU species	40	x 4 =	160	
UPL species	30	x 5 =	150	
Column totals	94	(A)	382	(B)

Prevalence Index = B/A = 4.06

Hydrophytic Vegetation Indicators:

- ____ Rapid Test for Hydrophytic Vegetation
- X Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphological 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)

additional upland point taken in buckthorn area on the southwest side of Gary Ave. near Winfield Creek.

SOIL

Sampling Point: Upland 1-3

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						Silty Loam	
10-14	10YR 4/2		10YR 6/6	10	C	M	Clay	
			10YR 2/1	5	C	M	Clay	
			10YR 2/1	20	C	M		Mixed matrix

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

Hydric Soil Indicators:

- ___ Histosol (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)**
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland 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): _____

Wetland hydrology present? N

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

Remarks:

SITE: Wetland Community 1 - Southwest Side of Gary Ave. Winfield Creek Wheaton IL,
LOCALE: DuPage Co
BY: Angelia Millsap
NOTES:

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	2.10	SPECIES RICHNESS (ALL)	17
MEAN C (ALL SPECIES)	1.24	SPECIES RICHNESS (NATIVE)	10
MEAN C (NATIVE TREES)	2.25	% NON-NATIVE	0.41
MEAN C (NATIVE SHRUBS)	0.00	WET INDICATOR (ALL)	0.24
MEAN C (NATIVE HERBACEOUS)	1.75	WET INDICATOR (NATIVE)	0.00
FQAI (NATIVE SPECIES)	6.64	% HYDROPHYTE (MIDWEST)	0.53
FQAI (ALL SPECIES)	5.09	% NATIVE PERENNIAL	0.53
ADJUSTED FQAI	16.11	% NATIVE ANNUAL	0.06
% C VALUE 0	0.53	% ANNUAL	0.06
% C VALUE 1-3	0.29	% PERENNIAL	0.88
% C VALUE 4-6	0.18		
% 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
ARCMIN	Arctium minus	ARCTIUM MINUS	Lesser Burrdock	0	FACU	FACU	1	Forb	Biennial	Adventive
BIDFRO	Bidens frondosa	Bidens frondosa	Devil's-Pitchfork	1	FACW	FACW	-1	Forb	Annual	Native
CELOCC	Celtis occidentalis	Celtis occidentalis	Common Hackberry	2	FAC	FAC	0	Tree	Perennial	Native
FRAPENS	Fraxinus pennsylvanica	Fraxinus pennsylvanica subintegerrima; Fraxinus lanceolata	Green Ash	4	FACW	FACW	-1	Tree	Perennial	Native
GEUCAN	Geum canadense	Geum canadense	White Avens	1	FAC	FAC	0	Forb	Perennial	Native
JUGNIG	Juglans nigra	Juglans nigra	Black Walnut	3	FACU	FACU	1	Tree	Perennial	Native
JUNVIR	Juniperus virginiana	Juniperus virginiana crebra	Eastern Red-Cedar	0	FACU	FACU	1	Tree	Perennial	Native
LONTAT	Lonicera tatarica	LONICERA TATARICA	Twinsisters	0	FACU	FACU	1	Shrub	Perennial	Adventive
OXASTR	Oxalis stricta	Oxalis europaea	Upright Yellow Wood-Sorrel	0	FACU	FACU	1	Forb	Perennial	Native
PARQUI	Parthenocissus quinquefolia	Parthenocissus quinquefolia	Virginia-Creeper	4	FACU	FACU	1	Vine	Perennial	Native
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
RHACAT	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn	0	FAC	FAC	0	Shrub	Perennial	Adventive
ROBPSE	Robinia pseudoacacia	ROBINIA PSEUDOACACIA	Black Locust	0	FACU	FACU	1	Tree	Perennial	Adventive
SOLDUL	Solanum dulcamara	SOLANUM DULCAMARA	Climbing Nightshade	0	FAC	FAC	0	Vine	Perennial	Adventive
ULMPUM	Ulmus pumila	ULMUS PUMILA	Siberian Elm	0	UPL	FACU	2	Tree	Perennial	Adventive
VIOCON	Viola labradorica	Viola conspersa	Alpine Violet	5	FACW	FAC	-1	Forb	Perennial	Native

VITRIP	Vitis riparia	Vitis riparia var. syrticola	River-Bank Grape	1 FACW	FAC	-1 Vine	Perennial	Native	

OBSERVER: Angelia Millsap (Thomas Engineering Group)

DATE: 07/08/2020

LOCATION: Southwest side of Gary Ave. near Winfield Creek

WILDLIFE HABITAT / USE EVALUATION SCORE SHEET

To assess the existing and/or potential wildlife habitat use of the subject wetland, the applicant must first complete this scoresheet. The attached documentation provides examples of each scoring parameter.

A separate sheet must be completed for each wetland. The wetland system as a whole must be considered. If the wetland extends off-site, aerial photographs, observations from public access areas (roads, etc.) should be considered in the evaluation sheet.

Applicants must document their basis for scoring decisions with field surveys followed by current photographs, and other appropriate information.

A. Utilization by Wildlife

Wildlife Use	Score
Significant	3
Evident	2
Low	1
Occasional	0.5
Non-Existent	0

SUB-TOTAL = 2

B. Interspersion of Vegetative Cover

Interspersion	Score
High	3
Medium	2
Low	1

SUB-TOTAL = 1

C. Vegetative Cover to Open Water

Cover	Score
>95% Cover	0.5
76% - 95% Cover, Peripheral	1.5
76% - 95% Cover, Various	2.5
26% - 75% Cover, Peripheral	2.0
26% - 75% Cover, Patches	3.0
5% - 25% Cover, Peripheral	1.0
<5% Cover	0.5

SUB-TOTAL = 0.5

TOTAL SCORE (A+B+C) = 3.5

Observations/Notes:

Wildlife observations made during the site visit included various insects, a large carp swimming by in Winfield creek, Mallard ducks, and a Great Blue Heron.

Community type	Cover
Total Cover	97%
Emergent	15%
Scrub Shrub	0%
Wet Meadow	0%
Forested	80%
Aquatic	2%
Other	0%

Total score ≥ 5.00 wetland receives CRITICAL status
Total score ≤ 5.00 wetland receives REGULATORY status

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gary Ave. Wheaton IL | City/County: DuPage Co. | Sampling Date: 7/13/2020
Applicant/Owner: City of Wheaton | State: Illinois | Sampling Point: 4-1 (DP1A-1)
Investigator(s): Thomas Engineering Group | Section, Township, Range: 5-D8-W
Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): Depression
Slope (%): 2 | Lat: 41.52'34.91 | Long: 88.07'04.04 | Datum:
Soil Map Unit Name: 1903A | NWI Classification: PEM1C
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
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.)

Terrace along Winfield Creek

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. x 30 ft.)	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. x 15 ft.)			
1 *fraxinus pennsylvanica*	2	Y	FACW
2			
3			
4			
5			
	2	= Total Cover	
Herb stratum (Plot size: 5 ft. x 5 ft.)			
1 *Phalaris arundinacea*	80	Y	FACW
2			
3			
4			
5			
6			
7			
8			
9			
	80	= Total Cover	
Woody vine stratum (Plot size: 30 ft. x 30 ft.)			
1 *Parthenocissus quinquefolia*	5	Y	FACU
2			
	5	= 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: 67% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- X Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Morphological 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)

peremeter near creek, plot size was modified due to water

SOIL

Sampling Point: 4-1 (DP1A-1)

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				C	M	Muck	Roots
6-10	10YR 3-1	30	10YR 5-4	30	C	M	Silty Clay	Roots and Rocks
	10YR 2-1	30	10YR 6-8	5	C	M	Mixed	
			10YR 5-2	5	D	M		
10-14	10YR 2-1		10YR 5-4	10	C	M	Silty Clay	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X 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)
- X 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)**
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland 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	X	No	___	Depth (inches): ___
Saturation present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): ___

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: Gary Ave. Wheaton IL | City/County: DuPage Co. | Sampling Date: 7/13/2020
Applicant/Owner: Angelia Millsap | State: Illinois | Sampling Point: 4-1 DP1A-2
Investigator(s): Thomas Engineering Group | Section, Township, Range: 5-D8-W
Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): None
Slope (%): 1 | Lat: 41.52'34.26 | Long: 88.07'03.08 | Datum:
Soil Map Unit Name: 1903A | NWI Classification: PEM1C
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	**Is the sampled area within a wetland?**	N
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.

	Absolute % Cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft. x 30 ft.)			
1 *Populus deltoides*	40	Y	FAC
2 *Rhamnus cathartica*	20	Y	FAC
3 *Fraxinus pennsylvanica*	10	N	FACW
4			
5			
	70	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. x 15 ft.)			
1 *Rhamnus cathartica*	80	Y	FAC
2 *Fraxinus pennsylvanica*	5	N	FACW
3			
4			
5			
	85	= Total Cover	
Herb stratum (Plot size: 5 ft. x 5 ft.)			
1 *Rhamnus cathartica*	10	Y	FAC
2 *Geranium maculatum*	2	N	FACU
3			
4			
5			
6			
7			
8			
9			
	12	= Total Cover	
Woody vine stratum (Plot size: 30 ft. x 30 ft.)			
1 *Parthenocissus quinquefolia*	10	Y	FACU
2 *Vitis riparia*	5	Y	FACW
	15	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)
Total Number of Dominant Species Across all Strata: 6 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 83% (A/B)

Prevalence Index Worksheet

Total % Cover of:
OBL species ____ x 1 = ____
FACW species ____ x 2 = ____
FAC species ____ x 3 = ____
FACU species ____ x 4 = ____
UPL species ____ x 5 = ____
Column totals ____ (A) ____ (B)
Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ Rapid Test for Hydrophytic Vegetation
- X Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphological 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:** 4-1 DP1A-2

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 2-1	100					silt loam	roots and rocks

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

Hydric Soil Indicators:

- ___ Histosol (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)**
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):
Type: Roots and Rocks
Depth (inches): 8

Hydric soil present? N

Remarks:

Tried 3 different holes within this area, rock layer about 8 inches deep in all sections would not allow to dig further

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	X	Depth (inches):	8
Water table present?	Yes ___	No	X	Depth (inches):	8
Saturation present? (includes capillary fringe)	Yes ___	No	X	Depth (inches):	8

Wetland hydrology present? N

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

Remarks:

No visible signs of hydrology, or water. No buttrussing on trees or shrubs.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gary Ave. Wheaton IL | City/County: DuPage Co. | Sampling Date: 7/13/2020

Applicant/Owner: Angelia Millsap | State: Illinois | Sampling Point: 4-3 (DP1B-1)

Investigator(s): Thomas Engineering Group | Section, Township, Range: 5-D8-W

Landform (hillslope, terrace, etc.): Terrace along creek | Local relief (concave, convex, none): Concave

Slope (%): 0 | Lat: 41.52'35.68 | Long: 88.07'04.78 | Datum:

Soil Map Unit Name: 1903A | NWI Classification: PEM1C

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? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? Y	**Is the sampled area within a wetland?** Y
Hydric soil present? Y	If yes, optional wetland site ID:
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 ft. x 30 ft.)	Absolute % Cover	Dominant Species	Indicator Status
1 *Morus rubra*	30	Y	FACU
2 *Acer negundo*	10	Y	FAC
3			
4			
5			
	40	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. x 15 ft.)			
1 *Rhamnus cathartica*	5	Y	FAC
2			
3			
4			
5			
	5	= Total Cover	
Herb stratum (Plot size: 5 ft. x 5 ft.)			
1 *Phalaris arundinacea*	90	Y	FACW
2 *Apocynum cannabinum*	10	N	FAC
3			
4			
5			
6			
7			
8			
9			
	100	= Total Cover	
Woody vine stratum (Plot size: 30 ft. x 30 ft.)			
1 *Vitis riparia*			FACW
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: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- ___ Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Morphological 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)

Emergent meadow

SOIL

Sampling Point: =Vegetation!AH3

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	N2.5-0		10YR5-2	5	D	M	Muck	
6-10	10YR22-1		10YR5-2	30	D	M		
			N2.5-0	5				
			10YR5-6	5		PL	sitly clay loam	connections on roots
10-16	N2.5-0		10YR3-1	10		M		
			10YR5-6	5	C	PL		

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

Hydric Soil Indicators:

- ___ Histosol (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)**
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland 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
- X (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- X 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): ___

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: Gary Ave. Wheaton IL | City/County: DuPage Co. | Sampling Date: 7/13/2020
Applicant/Owner: City of Wheaton | State: Illinois | Sampling Point: 4-4 DP1B-2
Investigator(s): Thomas Engineering Group | Section, Township, Range: 5-D8-W
Landform (hillslope, terrace, etc.): Slope | Local relief (concave, convex, none): concave
Slope (%): 5 | Lat: 41.52'35.83 | Long: 88.07'05.09 | Datum:
Soil Map Unit Name: 69A | NWI Classification: PEM1C
Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
Are vegetation ____, soil X, or hydrology ____ significantly disturbed? Are "normal circumstances" present? Yes
Are vegetation ____, soil ____, or hydrology ____ naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	N		
Hydric soil present?	N	**Is the sampled area within a wetland?**	N
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.

	Absolute % Cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft. x 30 ft.)			
1 *Ulmus rubra*	20	N	FAC
2 *Juglans nigra*	50	Y	FACU
3 *Tilia americana*	10	N	FACU
4 *Acer negundo*	30	N	FAC
5			
	110	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. x 15 ft.)			
1 *Tilia americana*	10	Y	FACU
2 *Sambucus nigra*	20	Y	FAC
3 *Fraxinus pennsylvanica*	5	N	FACW
4			
5			
	35	= Total Cover	
Herb stratum (Plot size: 5 ft. x 5 ft.)			
1 *Phalaris arundinacea*	50	Y	FACW
2 *Glechoma hederacea*	30	Y	FACU
3 *Arctium minus*	10	N	FACU
4 *Hackelia virginiana*	5	N	FACU
5 *Geum canadense*	5	N	FAC
6			
7			
8			
9			
	100	= Total Cover	
Woody vine stratum (Plot size: 30 ft. x 30 ft.)			
1 *Vitis riparia*	10	Y	FACW
2 *Parthenocissus quinquefolia*	10	Y	FACU
	20	= 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: 7 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 43% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	65	x 2 =	130	
FAC species	75	x 3 =	225	
FACU species	115	x 4 =	460	
UPL species	0	x 5 =	0	
Column totals	255	(A)	815	(B)

Prevalence Index = B/A = 3.20

Hydrophytic Vegetation Indicators:

- ____ Rapid Test for Hydrophytic Vegetation
- ____ Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphological 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:** 4-4 DP1B-2

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
0-3	10YR 3-1	100					silty loam with sand	
3-5	10YR- 2-1	100						
5-8	10YR 3-1	100					silt loam with sand	
8-14	10YR 2-1	40					silty clay loam	
	10YR 3-1	40					mixed matrix	

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

Hydric Soil Indicators:

- ___ Histosol (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)**
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland 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	X	Depth (inches):	___
Water table present?	Yes ___	No	X	Depth (inches):	___
Saturation present? (includes capillary fringe)	Yes ___	No	X	Depth (inches):	___

Wetland hydrology present? N

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

Remarks:

SITE:	Wetland Community 2 Emmergent wetland transition zone North East side of Gary Ave. Wheaton IL,
LOCALE:	DuPage Co
BY:	Angelia Millsap
NOTES:	

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	2.75	SPECIES RICHNESS (ALL)	12
MEAN C (ALL SPECIES)	1.83	SPECIES RICHNESS (NATIVE)	8
MEAN C (NATIVE TREES)	3.50	% NON-NATIVE	0.33
MEAN C (NATIVE SHRUBS)	0.00	WET INDICATOR (ALL)	-0.17
MEAN C (NATIVE HERBACEOUS)	1.50	WET INDICATOR (NATIVE)	-0.13
FQAI (NATIVE SPECIES)	7.78	% HYDROPHYTE (MIDWEST)	0.75
FQAI (ALL SPECIES)	6.35	% NATIVE PERENNIAL	0.67
ADJUSTED FQAI	22.45	% NATIVE ANNUAL	0.00
% C VALUE 0	0.50	% ANNUAL	0.00
% C VALUE 1-3	0.25	% PERENNIAL	1.00
% C VALUE 4-6	0.17		
% C VALUE 7-10	0.08		

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
APOCAN	Apocynum cannabinum	Apocynum sibiricum	Indian-Hemp	2	FAC	FAC	0	Forb	Perennial	Native
FRAPENS	Fraxinus pennsylvanica	Fraxinus pennsylvanica subintegerrima; Fraxinus lanceolata	Green Ash	4	FACW	FACW	-1	Tree	Perennial	Native
LONTAT	Lonicera tatarica	LONICERA TATARICA	Twinsisters	0	FACU	FACU	1	Shrub	Perennial	Adventive
MORRUB	Morus rubra	Morus rubra	Red Mulberry	10	FACU	FACU	1	Tree	Perennial	Native
PARQUI	Parthenocissus quinquefolia	Parthenocissus quinquefolia	Virginia-Creeper	4	FACU	FACU	1	Vine	Perennial	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
RHACAT	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn	0	FAC	FAC	0	Shrub	Perennial	Adventive
SAMNIG	Sambucus nigra ssp. nigra	SAMBUCUS NIGRA	Black Elder	0	FAC	FACW	-1	Shrub	Perennial	Adventive
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

OBSERVER: Angelia Millsap (Thomas Engineering Group)

DATE: 07/08/2020

LOCATION: Emergent wetland transition zone. North Eastern side of Gary Ave.

WILDLIFE HABITAT / USE EVALUATION SCORE SHEET

To assess the existing and/or potential wildlife habitat use of the subject wetland, the applicant must first complete this scoresheet. The attached documentation provides examples of each scoring parameter.

A separate sheet must be completed for each wetland. The wetland system as a whole must be considered. If the wetland extends off-site, aerial photographs, observations from public access areas (roads, etc.) should be considered in the evaluation sheet.

Applicants must document their basis for scoring decisions with field surveys followed by current photographs, and other appropriate information.

A. Utilization by Wildlife

Wildlife Use	Score
Significant	3
Evident	2
Low	1
Occasional	0.5
Non-Existent	0
SUB-TOTAL =	2

Observations/Notes:
Wildlife observations made during the site visit included frogs near Winfield creek, a Great Blue Heron perched in a dead tree further east, and various insects.

B. Interspersion of Vegetative Cover

Interspersion	Score
High	3
Medium	2
Low	1
SUB-TOTAL =	1

Community type	**Cover**
Total Cover	81%
Emergent	15%
Scrub Shrub	2%
Wet Meadow	60%
Forested	2%
Aquatic	2%
Other	0%

C. Vegetative Cover to Open Water

Cover	Score
>95% Cover	0.5
76% - 95% Cover, Peripheral	1.5
76% - 95% Cover, Various	2.5
26% - 75% Cover, Peripheral	2.0
26% - 75% Cover, Patches	3.0
5% - 25% Cover, Peripheral	1.0
<5% Cover	0.5
SUB-TOTAL =	1.5

TOTAL SCORE (A+B+C) = 4.5

Total score ≥ 5.00 wetland receives CRITICAL status
Total score ≤ 5.00 wetland receives REGULATORY status

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gary Ave. reconstruction/improvements | City/County: DuPage Co. | Sampling Date: 7/13/2020
Applicant/Owner: City of Wheaton | State: Illinois | Sampling Point: 5-1
Investigator(s): Thomas Engineering Goup | Section, Township, Range: 5-8D-W
Landform (hillslope, terrace, etc.): Floodplain/Terrace | Local relief (concave, convex, none): concave
Slope (%): 0 | Lat: 41.52'34.43 | Long: 88.07'05.33 | Datum:
Soil Map Unit Name: 1903A | NWI Classification: None
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
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.)

Narrow shelf along Winfield Creek, and stormwater conveyance acting as tributary.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. x 30 ft.)	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. x 15 ft.)			
1			
2			
3			
4			
5			
	0	= Total Cover	
Herb stratum (Plot size: 5 ft. x 5 ft.)			
1 *Persicaria amphibia*	5	N	OBL
2 *Persicaria hydropiper*	30	Y	OBL
3 *Persicaria pensylvanica*	10	Y	FACW
4 *Verbena hastata*	20	Y	FACW
5 *Asclepias incarnata*	10	Y	OBL
6 *Cardamine bulbosa*	5	N	OBL
7 *Daucus carota*	5	N	UPL
8 *Amaranthus albus*	5	N	FACU
9 *Phalaris arundinacea*	10	Y	FACW
	100	= Total Cover	
Woody vine stratum (Plot size: 30 ft. x 30 ft.)			
1 *Fallopia convolvulus*	30	Y	FACU
2			
	30	= Total Cover	

Dominance Test Worksheet
Number of Dominant Species that are OBL, FACW, or FAC: 5 (A)
Total Number of Dominant Species Across all Strata: 6 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 83% (A/B)

Prevalence Index Worksheet
Total % Cover of:
OBL species ____ x 1 = ____
FACW species ____ x 2 = ____
FAC species ____ x 3 = ____
FACU species ____ x 4 = ____
UPL species ____ x 5 = ____
Column totals ____ (A) ____ (B)
Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
____ Rapid Test for Hydrophytic Vegetation
X Dominance test is >50%
____ Prevalence index is ≤3.0*
____ Morphological 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)

area was managed by someone, looks as if the reed canary grass was sprayed and was dying back.

SOIL

Sampling Point: 5-1

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
0-5	10YR 2/1						Silty Clay	
5-7	10YR 5/4	95	10YR 5/8					
7-16	10YR 5/4	45	10Y 7/0	30	D	PL/M	Clay	
			10YR 6/8	5	C	PL/M	Clay	
			N2.5	20	C	PL/M	Clay	

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

Hydric Soil Indicators:

- ___ Histosol (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)
- X 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)**
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland 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
- X (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)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes ___	No ___	Depth (inches): ___		
Water table present?	Yes ___	No ___	Depth (inches): ___		
Saturation present? (includes capillary fringe)	Yes ___	No ___	Depth (inches): ___	**Wetland hydrology present?**	Y

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gary Ave. reconstruction/improvements | City/County: DuPage Co. | Sampling Date: 7/13/2020
Applicant/Owner: City of Wheaton | State: Illinois | Sampling Point: 5-Pond Upl point 2 & 1
Investigator(s): Thomas Engineering Group | Section, Township, Range: 5-8D-W
Landform (hillslope, terrace, etc.): Top of berm | Local relief (concave, convex, none): Concave
Slope (%): 5 | Lat: 41.52'34.51 | Long: 88.07'05.50 | Datum:
Soil Map Unit Name: 1903A | NWI Classification: None
Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
Are vegetation ____, soil X, 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?	N	**Is the sampled area within a wetland?**	N
Wetland hydrology present?	N	If yes, optional wetland site ID:	

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

Top of berm between Winfield Creek and Elliot Lake. This point is the upland point for both the excavated pond and Winfield creek on the NW side due to limited area to take data.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. x 30 ft.)	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. x 15 ft.)			
1			
2			
3			
4			
5			
	0	= Total Cover	
Herb stratum (Plot size: 5 ft. x 5 ft.)			
1 *Ambrosia artemisiifolia*	40	Y	FACU
2 *Melilotus officinalis*	20	Y	FACU
3 *Asclepias syriaca*	20	Y	FACU
4 *Sonchus oleraceus*	2	N	FACU
5 *Rudbeckia hirta*	2	N	FACU
6 *Fallopia convolvulus*	5	N	FACU
7			
8			
9			
	89	= Total Cover	
Woody vine stratum (Plot size: 30 ft. x 30 ft.)			
1			
2			
	0	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across all Strata: 3 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	89	x 4 =	320	
UPL species	0	x 5 =	0	
Column totals	89	(A)	356	(B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

- ____ Rapid Test for Hydrophytic Vegetation
- ____ Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphological 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)

This area is near an excavated, restored, and stocked recreational lake (pond).

SOIL

Sampling Point: Pond Upl point 2 &

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 2/1	100				M	Silt Loam	Rocks
4-8	10YR 2/1		10YR 5/4	2		M	Silty Clay	Rocks
8-14	10YR 2/1		10YR 5/4	1		M	Loamy Clay	Rocks

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

Hydric Soil Indicators:

- ___ Histosol (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)**
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland 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): _____

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: Gary Ave.reconstruction/improvements | City/County: DuPage Co. | Sampling Date: 7/13/2020
Applicant/Owner: City of Wheaton | State: Illinois | Sampling Point: pond 1
Investigator(s): Thomas Engineering Group | Section, Township, Range: 5-8 D-W
Landform (hillslope, terrace, etc.): Slope | Local relief (concave, convex, none): Concave
Slope (%): 10 | Lat: 41.52'34.42 | Long: 88.07'05.65 | Datum:
Soil Map Unit Name: 1903A | NWI Classification: none
Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
Are vegetation ____, soil X, 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
Wetland hydrology present? Y

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.

Tree Stratum (Plot size: 30 ft. x 30 ft.)	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. x 15 ft.)			
1			
2			
3			
4			
5			
	0	= Total Cover	
Herb stratum (Plot size: 5 ft. x 5 ft.)			
1 *Senna hebecarpa*	10	Y	FACW
2 *Vernonia fasciculata*	20	Y	FACW
3 *Iris virginica*	30	Y	OBL
4 *Sparganium eurycarpum*	5	N	OBL
5 *Leersia virginica*	30	Y	FACW
6 *Eleocharis acicularis*	10	N	OBL
7 *Bidens pilosa*	5	N	FACW
8 *Rumex crispus*	5	N	FAC
9 *Persicaria maculosa*	5	N	FACW
	120	= Total Cover	
Woody vine stratum (Plot size: 30 ft. x 30 ft.)			
1 *Fallopia convolvulus*	5	Y	FACU
2			
	5	= 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% (A/B)

Prevalence Index Worksheet

Total % Cover of:
OBL species ____ x 1 = ____
FACW species ____ x 2 = ____
FAC species ____ x 3 = ____
FACU species ____ x 4 = ____
UPL species ____ x 5 = ____
Column totals ____ (A) ____ (B)
Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ Rapid Test for Hydrophytic Vegetation
- X Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphological 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)

This area is part of a restored section of Elliot Lake, Reed Canary Grass was also present but showed evidence of being treated with herbicide.

SOIL

Sampling Point: pond 1

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 2/1						loam	
4-8	10YR 2/1							
8-12	10YR 2/1		5YR 3/4	10	RM	M		

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

Hydric Soil Indicators:

- ___ Histosol (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)**
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland 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)
- X Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- X Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- X Aquatic Fauna (B13)
- X 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)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface water present?	Yes		No		Depth (inches):
Water table present?	Yes	X	No		Depth (inches): 12
Saturation present? (includes capillary fringe)	Yes	X	No		Depth (inches): 4

Wetland hydrology present? Y

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

Remarks:

This area is part of the excavated, restored, and stocked Elliot Lake (pond)

SITE: Excavated and Restored Elliot Lake
LOCALE: Wheaton IL, DuPage Co.
BY: Angelia Millsap
NOTES: observations were taken along Elliot Lake, and burm between stormwater conveyance and Winfield Creek.

CONSERVATISM-BASED METRICS			ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	5.58		SPECIES RICHNESS (ALL)	17
MEAN C (ALL SPECIES)	3.94		SPECIES RICHNESS (NATIVE)	12
MEAN C (NATIVE TREES)	n/a		% NON-NATIVE	0.29
MEAN C (NATIVE SHRUBS)	n/a		WET INDICATOR (ALL)	-0.88
MEAN C (NATIVE HERBACEOUS)	5.58		WET INDICATOR (NATIVE)	-1.25
FQAI (NATIVE SPECIES)	19.34		% HYDROPHYTE (MIDWEST)	0.82
FQAI (ALL SPECIES)	16.25		% NATIVE PERENNIAL	0.65
ADJUSTED FQAI	46.91		% NATIVE ANNUAL	0.06
% C VALUE 0	0.35		% ANNUAL	0.24
% C VALUE 1-3	0.12		% PERENNIAL	0.76
% C VALUE 4-6	0.29			
% C VALUE 7-10	0.24			

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
ASCINC	Asclepias incarnata	Asclepias incarnata	Swamp Milkweed	3	OBL	OBL	-2	Forb	Perennial	Native
ASCSYR	Asclepias syriaca	Asclepias syriaca	Common Milkweed	0	FACU	UPL	1	Forb	Perennial	Native
BIDDIS	Bidens discoidea	Bidens discoidea	Small Beggarticks	10	FACW	FACW	-1	Forb	Annual	Native
DIGSAN	Digitaria sanguinalis	DIGITARIA SANGUINALIS	Hairy Crab Grass	0	FACU	FACU	1	Grass	Annual	Adventive
ELEACI	Eleocharis acicularis	Eleocharis acicularis	Needle Spike-Rush	3	OBL	OBL	-2	Sedge	Perennial	Native
EUTPUR	Eutrochium purpureum	Eupatorium purpureum	Sweet-Scented Joe-Pye-Weed	6	FAC	FAC	0	Forb	Perennial	Native
FALCON	Fallopia convolvulus	POLYGONUM CONVOLVULUS	Black-Bindweed	0	FACU	FACU	1	Forb	Annual	Adventive
IRIVIR	Iris virginica var. shrevei	Iris virginica shrevei	Virginia Blueflag	5	OBL	OBL	-2	Forb	Perennial	Native
LEEVIR	Leersia virginica	Leersia virginica	White Grass	5	FACW	FACW	-1	Grass	Perennial	Native
PERAMP	Persicaria amphibia	Polygonum coccineum; Polygonum amphibium stipulaceum	Water Smartweed	4	OBL	OBL	-2	Forb	Perennial	Native
PERMAC	Persicaria maculosa	POLYGONUM PERSICARIA	Lady's-Thumb	0	FACW	FAC	-1	Forb	Annual	Adventive
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
PONCOR	Pontederia cordata	Pontederia cordata	Pickerelweed	9	OBL	OBL	-2	Forb	Perennial	Native
RUMCRI	Rumex crispus	RUMEX CRISPUS	Curly Dock	0	FAC	FAC	0	Forb	Perennial	Adventive
SENHEB	Senna hebecarpa	Cassia hebecarpa	American Wild Sensitive-Plant	9	FACW	FACW	-1	Forb	Perennial	Native

SPAEUR	Sparganium eurycarpum	Sparganium eurycarpum	Broad-Fruit Burr-Reed	5	OBL	OBL	-2 Forb	Perennial	Native
VERFAS	Vernonia fasciculata	Vernonia fasciculata	Prairie Ironweed	8	FACW	FACW	-1 Forb	Perennial	Native

OBSERVER: Angelia Millsap (Thomas Engineering Group)

DATE: 07/08/2020

LOCATION: Excavated, restored pond (Elliot Lake). This Lake is stocked with several species of fish for recreational catch and release purposes. This body of water does not directly connect to Winfield creek.

WILDLIFE HABITAT / USE EVALUATION SCORE SHEET

To assess the existing and/or potential wildlife habitat use of the subject wetland, the applicant must first complete this scoresheet. The attached documentation provides examples of each scoring parameter.

A separate sheet must be completed for each wetland. The wetland system as a whole must be considered. If the wetland extends off-site, aerial photographs, observations from public access areas (roads, etc.) should be considered in the evaluation sheet.

Applicants must document their basis for scoring decisions with field surveys followed by current photographs, and other appropriate information.

A. Utilization by Wildlife

Wildlife Use	Score
Significant	3
Evident	2
Low	1
Occasional	0.5
Non-Existent	0
SUB-TOTAL =	2

Observations/Notes:
Wildlife observations made during the site visit included frogs, several species of stocked fish, Mallard ducks, a Cormorant, and a Black crested Night Heron.

B. Interspersion of Vegetative Cover

Interspersion	Score
High	3
Medium	2
Low	1
SUB-TOTAL =	1

Community type	**Cover**
Total Cover	21%
Emergent	15%
Scrub Shrub	0
Wet Meadow	0
Forested	0
Aquatic	4%
Other	2%

C. Vegetative Cover to Open Water

Cover	Score
>95% Cover	0.5
76% - 95% Cover, Peripheral	1.5
76% - 95% Cover, Various	2.5
26% - 75% Cover, Peripheral	2.0
26% - 75% Cover, Patches	3.0
5% - 25% Cover, Peripheral	1.0
<5% Cover	0.5
SUB-TOTAL =	1

TOTAL SCORE (A+B+C) = 4

Total score ≥ 5.00 wetland receives CRITICAL status
Total score ≤ 5.00 wetland receives REGULATORY status

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gary Ave. Reconstruction/Improvements | City/County: DuPage Co. | Sampling Date: 7/8/2020
Applicant/Owner: City of Wheaton | State: Illinois | Sampling Point: DP3-1
Investigator(s): Thomas Engineering Group | Section, Township, Range: 5-8D-W
Landform (hillslope, terrace, etc.): Terrace/Depression | Local relief (concave, convex, none): Concave
Slope (%): 3 | Lat: 41.52'27.23 | Long: 88.06'56.23 | Datum:
Soil Map Unit Name: 1903A | NWI Classification: PFO1C
Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
Are vegetation ____, soil X, 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
Wetland hydrology present? Y

Is the sampled area within a wetland? N
If yes, optional wetland site ID:

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

Data point taken within proximity to high quality wetland. Looks as if previous development was in the area due to cinder blocks and chunks of cement

VEGETATION -- Use scientific names of plants.

	Absolute % Cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft. x 30 ft.)			
1 *Robinia pseudoacacia*	20	Y	FACU
2 *Catalpa speciosa*	20	Y	FACU
3 *Populus deltoides*	30	Y	FAC
4 *Ulmus americana*	20	Y	FACW
5 *Fraxinus pennsylvanica*	5	N	FACW
	95	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. x 15 ft.)			
1 *Fraxinus pennsylvanica*	20	Y	FACW
2 *Rhamnus cathartica*	20	Y	FAC
3 *Sambucus nigra*	5	N	FAC
4			
5			
	45	= Total Cover	
Herb stratum (Plot size: 5 ft. x 5 ft.)			
1 *Laportea canadensis*	10	Y	FACW
2 *Phalaris arundinacea*	80	Y	FACW
3 *Acer saccharinum*	5	N	FACW
4 *Carex lacustris*	5	N	OBL
5 *Echinochloa muricata*	5	N	OBL
6 *Xanthium strumarium*	2	N	FAC
7 *Bidens frondosa*	3	N	FACW
8 *Persicaria amphibia*	2	N	OBL
9			
	112	= Total Cover	
Woody vine stratum (Plot size: 30 ft. x 30 ft.)			
1 *Parthenocissus quinquefolia*	10	Y	FACU
2 *Vitis riparia*	5	Y	FACW
	15	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 7 (A)
Total Number of Dominant Species Across all Strata: 10 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 70% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	12	x 1 =	12
FACW species	203	x 2 =	406
FAC species	57	x 3 =	171
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column totals	322 (A)		789 (B)

Prevalence Index = B/A = 2.45

Hydrophytic Vegetation Indicators:

- ____ Rapid Test for Hydrophytic Vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ____ Morphological 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:** DP3-1

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
0-2	10YR2/2							
2-5	10YR 7/3	60	10YR 7/8	20	C	M		Sandy
			10YR 2/1	20	C	M		Sandy
5-16	10YR 2/2		10YR 5/6	10	C	M	Silty Clay	With Rocks
16-20	10YR 2/2	50	10YR 6/6	20	C	M	Clay	With Rocks
			N2.5/0	30	C	M		

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

Hydric Soil Indicators:

- ___ Histosol (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)**
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland 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)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

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

Wetland hydrology present? Y

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

Remarks:

Near a high quality wetland and wet meadow

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gary Ave. Wheaton IL | City/County: DuPage Co. | Sampling Date: 7/13/2020
Applicant/Owner: City of Wheaton | State: Illinois | Sampling Point: DP 3-2
Investigator(s): Thomas Engineering Group (Millsap) | Section, Township, Range: 5-8D-W
Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): None
Slope (%): | Lat: 41.52'26.83 | Long: 88.06'54.96 | Datum:
Soil Map Unit Name: 1903A | NWI Classification: PFO1C
Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
Are vegetation , soil X , 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
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.)

Appears there was a previous development/residence in this area. There is quite a bit of aggregate, rocks, and nails.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. x 30 ft.)	Absolute % Cover	Dominant Species	Indicator Status
1 *Acer negundo*	20	Y	FAC
2 *Celtis occidentalis*	20	Y	FAC
3 *Juglans nigra*	30	Y	FACU
4 *Populus deltoides*	20	Y	FAC
5			
	90	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. x 15 ft.)			
1 *Aesculus glabra*	10	N	FAC
2 *Lonicera tatarica*	10	N	FACU
3 *Sambucus nigra*	20	Y	FAC
4 *Celtis occidentalis*	20	Y	FAC
5 *Rhamnus cathartica*	20	Y	FAC
	80	= Total Cover	
Herb stratum (Plot size: 5 ft. x 5 ft.)			
1 *Phalaris arundinacea*	70	Y	FACW
2 *Parthenocissus quinquefolia*	10	N	FACU
3 *Hesperis matronalis*	5	N	FACU
4			
5			
6			
7			
8			
9			
	85	= Total Cover	
Woody vine stratum (Plot size: 30 ft. x 30 ft.)			
1 *vitis riparia*	20	Y	FACW
2 *Fallopia convolvulus*	10	Y	FACU
	30	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 8 (A)
Total Number of Dominant Species Across all Strata: 10 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index Worksheet

Total % Cover of:
OBL species x 1 =
FACW species x 2 =
FAC species x 3 =
FACU species x 4 =
UPL species x 5 =
Column totals (A) (B)
Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Rapid Test for Hydrophytic Vegetation
- X Dominance test is >50%
- Prevalence index is ≤3.0*
- Morphological 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:** DP 3-2

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 2/1						Silty Clay Loam	With Roots
4-8	10YR 2/1		10YR 5/4	20		M	Silty Clay Loam	Mixed Matrix
			10YR 4/4	10		M		
8-12	10YR 2/1		10YR 5/2	10		M		
			10YR 5/4	20		M		Rocks

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

Hydric Soil Indicators:

- ___ Histosol (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)
- X Depleted Matrix (F3)
- X 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)**
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):
Type: Rocks
Depth (inches): 12

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

Wetland hydrology present? N

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

Remarks:

Rusty areas could be due to nails and other debris in soil

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gary ave. reconstruction/improvements | City/County: DuPage Co. | Sampling Date: 7/13/2020
Applicant/Owner: City of Wheaton | State: Illinois | Sampling Point: DP3-3
Investigator(s): Thomas Engineering Group | Section, Township, Range: 5-8D-W
Landform (hillslope, terrace, etc.): Slope from Road | Local relief (concave, convex, none): concave
Slope (%): 3 | Lat: 41.52'25.49 | Long: 88.06'54.80 | Datum:
Soil Map Unit Name: 232A | NWI Classification: PFO1C
Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
Are vegetation ____, soil X, 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?	N	**Is the sampled area within a wetland?**	N
Wetland hydrology present?	N	If yes, optional wetland site ID:	

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

Nails/ other old development debris present. Residential landscape type plants in the area rather than those normally found in the wild.

VEGETATION -- Use scientific names of plants.

	Absolute % Cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft. x 30 ft.)			
1 *Acer negundo*	20	N	FAC
2 *Juglans nigra*	30	Y	FACU
3 *Celtis occidentalis*	40	Y	FAC
4 *Populus deltoides*	20	N	FAC
5 *Fraxinus pennsylvanica*	5	N	FACW
	115	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. x 15 ft.)			
1 *Rhamnus cathartica*	20	Y	FAC
2 *Lonicera tatarica*	10	Y	FACU
3 *Sambucus nigra*	10	Y	FAC
4 *Aesculus glabra*	5	N	FAC
5			
	45	= Total Cover	
Herb stratum (Plot size: 5 ft. x 5 ft.)			
1 *Phalaris arundinacea*	50	Y	FACW
2 *Glechoma hederacea*	20	Y	FACU
3 *Parthenocissus quinquefolia*	10	N	FACU
4 *Hedera helix*	20	N	UPL
5 *Geum canadense*	5	N	FAC
6 *Arctium minus*	5	N	FACU
7 *Impatiens capensis*	5	N	FACW
8 *Ageratina altissima*	5	N	FACU
9 *Hesperis matronalis*	2	N	FACU
	122	= Total Cover	
Woody vine stratum (Plot size: 30 ft. x 30 ft.)			
1 *Fallopia convolvulus*	10	N	FACU
2 *Parthenocissus quinquefolia*	30	Y	FACU
	40	= 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: 8 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	75	x 2 =	475
FAC species	125	x 3 =	375
FACU species	122	x 4 =	488
UPL species	10	x 5 =	50
Column totals	332 (A)		1388 (B)

Prevalence Index = B/A = 4.18

Hydrophytic Vegetation Indicators:

- ____ Rapid Test for Hydrophytic Vegetation
- ____ Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphological 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: DP3-3

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
0-2	10YR 2/1					M		Rocks
2-4	10YR 2/1		7.5YR 4/6	2		M		Nails Present
			10YR5/4	10		M	Silty Clay Loam	
4-16	10YR 2/1					M		

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

Hydric Soil Indicators:

- ___ Histosol (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)**
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric soil present? N

Remarks:

Redox appears to be oxidation from nails in 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	X	Depth (inches):	___
Water table present?	Yes ___	No	X	Depth (inches):	>16
Saturation present? (includes capillary fringe)	Yes ___	No	X	Depth (inches):	>16

Wetland hydrology present? N

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

Remarks:

No signs of Hydrology

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gary Ave. reconstruction/improvements | City/County: DuPage Co. | Sampling Date: 7/8/2020
Applicant/Owner: Wheaton | State: Illinois | Sampling Point: DP3-4
Investigator(s): Thomas Engineering Group | Section, Township, Range: 5-8D-W
Landform (hillslope, terrace, etc.): terrace sloping to wetland | Local relief (concave, convex, none): convex
Slope (%): 3 | Lat: 41.520000 | Long: 88.060000 | Datum:
Soil Map Unit Name: 1903A | NWI Classification: PFO1C
Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
Are vegetation ____, soil X, 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?	N	**Is the sampled area within a wetland?**	N
Wetland hydrology present?	N	If yes, optional wetland site ID:	

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

Cinder bocks and chunks of concrete

VEGETATION -- Use scientific names of plants.

	Absolute % Cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft. x 30 ft.)			
1 *Juglans nigra*	30	Y	FACU
2 *Aesculus glabra*	30	Y	FAC
3 *Celtis occidentalis*	5	N	FAC
4 *Acer negundo*	20	Y	FAC
5 *Ulmus americana*	10	N	FACW
	95	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. x 15 ft.)			
1 *Rhamnus cathartica*	50	Y	FAC
2 *Euonymus atropurpureus*	10	N	FAC
3			
4			
5			
	60	= Total Cover	
Herb stratum (Plot size: 5 ft. x 5 ft.)			
1 *Glechoma hederacea*	60	Y	FACU
2 *Arctium minus*	20	Y	FACU
3 *Geum canadense*	10	N	FAC
4 *Parthenocissus quinquefolia*	20	Y	FACU
5 *Impatiens capensis*	5	N	FACW
6 *Glyceria striata*	5	N	OBL
7 *Ageratina altissima*	5	N	FACU
8 *Allium canadense*	10	N	FACU
9			
	135	= Total Cover	
Woody vine stratum (Plot size: 30 ft. x 30 ft.)			
1 *Parthenocissus quinquefolia*	5	Y	FACU
2			
	5	= 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: 8 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	5	x 1 =	5	
FACW species	5	x 2 =	10	
FAC species	10	x 3 =	30	
FACU species	100	x 4 =	400	
UPL species	0	x 5 =	0	
Column totals	120	(A)	445	(B)

Prevalence Index = B/A = 3.71

Hydrophytic Vegetation Indicators:

- ___ Rapid Test for Hydrophytic Vegetation
- ___ Dominance test is >50%
- ___ Prevalence index is ≤3.0*
- ___ Morphological 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:** DP3-4

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
0-12	10YR 2/1						silty clay loam	
12-18	10YR 2/1						silty clay loam	with sand

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

Hydric Soil Indicators:

- ___ Histosol (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)**
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland 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	X	Depth (inches):	___
Water table present?	Yes ___	No	X	Depth (inches):	___
Saturation present? (includes capillary fringe)	Yes ___	No	X	Depth (inches):	___

Wetland hydrology present? N

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

Remarks:

no hydro

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gary Ave. Reconstruction/Improvemetnts | City/County: DuPage Co | Sampling Date: 9/25/2020
Applicant/Owner: City of Wheaton | State: Illinois | Sampling Point: 3-5
Investigator(s): Thomas Engineering Group | Section, Township, Range: 5-D8-W
Landform (hillslope, terrace, etc.): toe of slope from road to wetland | Local relief (concave, convex, none): concave
Slope (%): 2 | Lat: 41.520000 | Long: 88.060000 | Datum:
Soil Map Unit Name: 232A | NWI Classification: PFO1C
Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
Are vegetation ____, soil X, 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
Wetland hydrology present?	N	If yes, optional wetland site ID:	

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

additional data point taken to find a precise boundary during a different season/ chunks of concrete, brick and other debris found when digging.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. x 30 ft.)	Absolute % Cover	Dominant Species	Indicator Status
1 *Acer negundo*	15	Y	FAC
2 *Juglans nigra*	20	Y	FACU
3 *Fraxinus pennsylvanica*	10	Y	FACW
4			
5			
	45	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. x 15 ft.)			
1 *Sambucus nigra*	10	Y	FAC
2 *Aesculus glabra*	5	Y	FAC
3 *Euonymus atropurpureus*	2	N	FAC
4			
5			
	17	= Total Cover	
Herb stratum (Plot size: 5 ft. x 5 ft.)			
1 *Phalaris arundinacea*	70	Y	FACW
2 *Pilea pumila*	20	Y	FACW
3 *Hesperis matronalis*	20	Y	FACU
4 *Glechoma hederacea*	5	N	FACU
5 *Hackelia virginiana*	10	N	FACU
6			
7			
8			
9			
	125	= Total Cover	
Woody vine stratum (Plot size: 30 ft. x 30 ft.)			
1 *Vinca minor L.*	5	Y	UPL
2			
	5	= Total Cover	

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 6 (A)
Total Number of Dominant Species Across all Strata: 9 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 67% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	32	x 3 =	96
FACU species	55	x 4 =	220
UPL species	5	x 5 =	25
Column totals	192 (A)		541 (B)

Prevalence Index = B/A = 2.82

Hydrophytic Vegetation Indicators:

- ____ Rapid Test for Hydrophytic Vegetation
- X Dominance test is >50%
- X Prevalence index is ≤3.0*
- ____ Morphological 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:** 3-5

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 2/1							
6-8	10YR 2/1	97	10YR 3/6	2		M		mixed matrix
								roots and rocks
								brick fragments

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

Hydric Soil Indicators:

- ___ Histosol (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)**
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):
Type: Bricks/Rocks
Depth (inches): 8 inches

Hydric soil present? N

Remarks:

extreemely dry the last few days

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): ___

Wetland hydrology present? N

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

Remarks:

SITE: Forested Wetland East side of Gary Ave. Connects to High Quality Wetland
LOCALE: DuPage Co.
BY: Angelia Millsap
NOTES: Taken over 5 data points and several observations

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	3.16	SPECIES RICHNESS (ALL)	37
MEAN C (ALL SPECIES)	2.14	SPECIES RICHNESS (NATIVE)	25
MEAN C (NATIVE TREES)	2.50	% NON-NATIVE	0.32
MEAN C (NATIVE SHRUBS)	9.00	WET INDICATOR (ALL)	-0.22
MEAN C (NATIVE HERBACEOUS)	3.21	WET INDICATOR (NATIVE)	-0.56
FQAI (NATIVE SPECIES)	15.80	% HYDROPHYTE (MIDWEST)	0.65
FQAI (ALL SPECIES)	12.99	% NATIVE PERENNIAL	0.51
ADJUSTED FQAI	25.98	% NATIVE ANNUAL	0.16
% C VALUE 0	0.43	% ANNUAL	0.22
% C VALUE 1-3	0.27	% PERENNIAL	0.76
% C VALUE 4-6	0.22		
% C VALUE 7-10	0.08		

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
ACESAI	Acer saccharinum	Acer saccharinum	Silver Maple	1	FACW	FACW	-1	Tree	Perennial	Native
AESGLA	Aesculus glabra	Aesculus glabra	Ohio Buckeye	7	FAC	FAC	0	Tree	Perennial	Native
AGEALT	Ageratina altissima	Eupatorium rugosum	White Snakeroot	3	FACU	FACU	1	Forb	Perennial	Native
ALLCER	Allium cernuum	Allium cernuum	Nodding Onion	7	FACU	FACU	1	Forb	Perennial	Native
ARCMIN	Arctium minus	ARCTIUM MINUS	Lesser Burrdock	0	FACU	FACU	1	Forb	Biennial	Adventive
CXLACU	Carex lacustris	Carex lacustris	Lakebank Sedge	5	OBL	OBL	-2	Sedge	Perennial	Native
CATSPE	Catalpa speciosa	CATALPA SPECIOSA	Northern Catalpa	0	FACU	FACU	1	Tree	Perennial	Adventive
CELOCC	Celtis occidentalis	Celtis occidentalis	Common Hackberry	2	FAC	FAC	0	Tree	Perennial	Native
ECHMUR	Echinochloa muricata	Echinochloa muricata	Rough Barnyard Grass	4	OBL	OBL	-2	Grass	Annual	Native
EUOATR	Euonymus atropurpureus	Euonymus atropurpureus	Eastern Wahoo	9	FAC	FACU	0	Shrub	Perennial	Native
FALCON	Fallopia convolvulus	POLYGONUM CONVOLVULUS	Black-Bindweed	0	FACU	FACU	1	Forb	Annual	Adventive
FRAPENS	Fraxinus pennsylvanica	Fraxinus pennsylvanica subintegerrima; Fraxinus lanceolata	Green Ash	4	FACW	FACW	-1	Tree	Perennial	Native
GEUCAN	Geum canadense	Geum canadense	White Avens	1	FAC	FAC	0	Forb	Perennial	Native
GLEHED	Glechoma hederacea	GLECHOMA HEDERACEA	Groundivy	0	FACU	FACU	1	Forb	Perennial	Adventive

GLYSTR	Glyceria striata	Glyceria striata var. stricta	Fowl Manna Grass	4	OBL	OBL	-2	Grass	Perennial	Native
HACVIR	Hackelia virginiana	Hackelia virginiana	Beggar's-Lice	1	FACU	FACU	1	Forb	Perennial	Native
HESMAT	Hesperis matronalis	HESPERIS MATRONALIS	Mother-of-the-Evening	0	FACU	FACU	1	Forb	Perennial	Adventive
IMPCAP	Impatiens capensis	Impatiens capensis	Spotted Touch-Me-Not	3	FACW	FACW	-1	Forb	Annual	Native
JUGNIG	Juglans nigra	Juglans nigra	Black Walnut	3	FACU	FACU	1	Tree	Perennial	Native
LAPCAN	Laportea canadensis	Laportea canadensis	Canadian Wood-Nettle	5	FACW	FACW	-1	Forb	Perennial	Native
LEMMIO	Lemna minor	Lemna minor	Common Duckweed	5	OBL	OBL	-2	Forb	Annual	Native
LONTAT	Lonicera tatarica	LONICERA TATARICA	Twinsisters	0	FACU	FACU	1	Shrub	Perennial	Adventive
PARQUI	Parthenocissus quinquefolia	Parthenocissus quinquefolia	Virginia-Creeper	4	FACU	FACU	1	Vine	Perennial	Native
PERHYR	Persicaria hydropiper	Polygonum hydropiper	Mild Water-Pepper	2	OBL	OBL	-2	Forb	Annual	Native
POLSCB	Persicaria lapathifolia	POLYGONUM SCABRUM	Dock-Leaf Smartweed	0	FACW	FACW	-1	Forb	Annual	Native
PERMAC	Persicaria maculosa	POLYGONUM PERSICARIA	Lady's-Thumb	0	FACW	FAC	-1	Forb	Annual	Adventive
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
RHACAT	Rhamnus cathartica	RHAMNUS CATHARTICA	European Buckthorn	0	FAC	FAC	0	Shrub	Perennial	Adventive
ROBPSE	Robinia pseudoacacia	ROBINIA PSEUDOACACIA	Black Locust	0	FACU	FACU	1	Tree	Perennial	Adventive
SAMNIG	Sambucus nigra ssp. nigra	SAMBUCUS NIGRA	Black Elder	0	FAC	FACW	-1	Shrub	Perennial	Adventive
ULMAME	Ulmus americana	Ulmus americana	American Elm	3	FACW	FACW	-1	Tree	Perennial	Native
UTRMAC	Utricularia macrorhiza	Utricularia vulgaris	Greater Bladderwort	5	OBL	OBL	-2	Forb	Perennial	Native
VINMIN	Vinca minor	VINCA MINOR	Common Periwinkle	0	UPL	UPL	2	Shrub	Perennial	Adventive
VITRIP	Vitis riparia	Vitis riparia var. syrticola	River-Bank Grape	1	FACW	FAC	-1	Vine	Perennial	Native
XANSTR	Xanthium strumarium	Xanthium strumarium var. canadense; Xanthium strumarium var. glabratum	Rough Cockleburr	0	FAC	FAC	0	Forb	Annual	Native

OBSERVER: Angelia Millsap (Thomas Engineering Group)

DATE: 07/08/2020

LOCATION: Forested Wetland East side of Gary ave. Connects with high quality vernal pool wetland area.

WILDLIFE HABITAT / USE EVALUATION SCORE SHEET

To assess the existing and/or potential wildlife habitat use of the subject wetland, the applicant must first complete this scoresheet. The attached documentation provides examples of each scoring parameter.

A separate sheet must be completed for each wetland. The wetland system as a whole must be considered. If the wetland extends off-site, aerial photographs, observations from public access areas (roads, etc.) should be considered in the evaluation sheet.

Applicants must document their basis for scoring decisions with field surveys followed by current photographs, and other appropriate information.

A. Utilization by Wildlife

Wildlife Use	Score
Significant	3
Evident	2
Low	1
Occasional	0.5
Non-Existent	0
SUB-TOTAL =	2

B. Interspersion of Vegetative Cover

Interspersion	Score
High	3
Medium	2
Low	1
SUB-TOTAL =	2

C. Vegetative Cover to Open Water

Cover	Score
>95% Cover	0.5
76% - 95% Cover, Peripheral	1.5
76% - 95% Cover, Various	2.5
26% - 75% Cover, Peripheral	2.0
26% - 75% Cover, Patches	3.0
5% - 25% Cover, Peripheral	1.0
<5% Cover	0.5
SUB-TOTAL =	2.5

TOTAL SCORE (A+B+C) = 6.5

Total score ≥ 5.00 wetland receives CRITICAL status
Total score ≤ 5.00 wetland receives REGULATORY status

Observations/Notes:
Wildlife observations made during the site visit included various insects, several species of frogs and toads, tad poles, a Coyote, Cormorant, and Great Blue Heron.

Community type	**Cover**
Total Cover	85%
Emergent	5%
Scrub Shrub	0%
Wet Meadow	0%
Forested	70%
Aquatic	10%
Other	0%

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gary Ave. Wheaton IL | City/County: DuPage Co. | Sampling Date: 7/8/2020
Applicant/Owner: City of Wheaton | State: Illinois | Sampling Point: DP2-1
Investigator(s): Angelia Millsap | Section, Township, Range: 5-8D-W
Landform (hillslope, terrace, etc.): Depression | Local relief (concave, convex, none): Concave
Slope (%): 3 | Lat: 44.52'28.65 | Long: 88.06'59.50 | Datum:
Soil Map Unit Name: 298A | NWI Classification: PEM1C
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
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.)

Roadside edge of Cattail Marsh

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. x 30 ft.)	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
	0 = Total Cover		
Sapling/Shrub stratum (Plot size: 15 ft. x 15 ft.)			
1			
2			
3			
4			
5			
	0 = Total Cover		
Herb stratum (Plot size: 5 ft. x 5 ft.)			
1 *Typha angustifolia*	45	Y	OBL
2 *Typha latifolia*	45	Y	OBL
3 *Phalaris arundinacea*	10		FACW
4			
5			
6			
7			
8			
9			
	100 = Total Cover		
Woody vine stratum (Plot size: 30 ft. x 30 ft.)			
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: 2 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % Cover of:
OBL species ____ x 1 = ____
FACW species ____ x 2 = ____
FAC species ____ x 3 = ____
FACU species ____ x 4 = ____
UPL species ____ x 5 = ____
Column totals ____ (A) ____ (B)
Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

X Rapid Test for Hydrophytic Vegetation
X Dominance test is >50%
__ Prevalence index is ≤3.0*
__ Morphological 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:** DP2-1

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
0-2	10YR 2/2	100					Muck	
2-16	10YR 4/3	50	10YR 5/8	20	C	M	Sandy Clay with rocks	
			N 2.5/0	10	C	M		
			10YR 5/2	20	D	M		

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X 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)
- X 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)**
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland 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)
- X 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): ___	**Wetland hydrology present?**	Y
Water table present?	Yes ___	No ___	Depth (inches): ___		
Saturation present? (includes capillary fringe)	Yes ___	No ___	Depth (inches): ___		

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gary Ave. Wheaton IL | City/County: DuPage Co. | Sampling Date: 7/8/2020
Applicant/Owner: Brittany Carney | State: Illinois | Sampling Point: DP2-2
Investigator(s): Thomas Engineering Group | Section, Township, Range: 5-8D-W
Landform (hillslope, terrace, etc.): slope | Local relief (concave, convex, none): convex
Slope (%): 10 | Lat: 41.52'28.7 | Long: 88.06'59.63 | Datum:
Soil Map Unit Name: 298A | NWI Classification: PEM1C
Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)
Are vegetation X, soil X, 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?	N	**Is the sampled area within a wetland?**	N
Wetland hydrology present?	N	If yes, optional wetland site ID:	

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

Vegetation and soil are considered disturbed due to it being on the roadside, this area is affected by regular roadside maintenance procedures.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. x 30 ft.)	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. x 15 ft.)			
1			
2			
3			
4			
5			
	0	= Total Cover	
Herb stratum (Plot size: 5 ft. x 5 ft.)			
1 *Daucus carota*	20	Y	UPL
2 *melilotus officinalis*	10		FACU
3 *asclepias syriaca*	10		FACU
4 *cirsium arvense*	10		FACU
5 *cichorium intybus*	5		FACU
6 *phalaris arundinacea*	10		FACW
7 *Poa pratensis*	40	Y	FAC
8 *trifolium pratense*	40	Y	FACU
9			
	145	= Total Cover	
Woody vine stratum (Plot size: 30 ft. x 30 ft.)			
1 *vitis riparia*	2	Y	FACW
2			
	2	= 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: 4 (B)
Percent of Dominant Species that are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	12	x 2 =	24
FAC species	40	x 3 =	245
FACU species	75	x 4 =	300
UPL species	0	x 5 =	0
Column totals	125 (A)		567 (B)

Prevalence Index = B/A = 4.54

Hydrophytic Vegetation Indicators:

- ____ Rapid Test for Hydrophytic Vegetation
- ____ Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphological 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:** DP2-2

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
2	10YR 3/1							
2-8	10YR 4/3	75	10 YR 2/1	20			clay	
	10 YR 7/0	3	N 2.5/0	1				
			10 YR 10/6	1				

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

Hydric Soil Indicators:

- ___ Histosol (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)**
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):
Type: compaction
Depth (inches): 8 inches

Hydric soil present? N

Remarks:

road side slope toward the bottom

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 X	Depth (inches): ___	**Wetland hydrology present?**	N
Water table present?	Yes ___	No X	Depth (inches): ___		
Saturation present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___		

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

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gary Ave. Reconstruction | City/County: Wheaton, DuPage | Sampling Date: 10/26/2020

Applicant/Owner: City of Wheaton | State: Illinois | Sampling Point: Roadside 2-3

Investigator(s): Angelia Millsap | Section, Township, Range: 5-8D-W

Landform (hillslope, terrace, etc.): high spot on slope | Local relief (concave, convex, none): Convex

Slope (%): 0 | Lat: 41.52'28.93 | Long: 88.07'00.11 | Datum: WGS 84

Soil Map Unit Name: 69A | NWI Classification: PEM1C

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

Are vegetation ____, soil X, 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	**Is the sampled area within a wetland?**	Y
Hydric soil present?	Y	If yes, optional wetland site ID:	
Wetland hydrology present?	Y		

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

very iregular surface, berm like structure between cattail marsh and buckthorn populated section. Encountered 2 in stone, gravel, and possible construction materials (bricks) during digging.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: 30 ft. x 30 ft.)	Absolute % Cover	Dominant Species	Indicator Status
1			
2			
3			
4			
5			
	0	= Total Cover	
Sapling/Shrub stratum (Plot size: 15 ft. x 15 ft.)			
1 *Ulmus rubra*	5	Y	FAC
2			
3			
4			
5			
	5	= Total Cover	
Herb stratum (Plot size: 5 ft. x 5 ft.)			
1 *Phalaris arundinacea*	90	Y	FACW
2 *Cirsium arvense*	10	N	FACU
3 *Solidago altissima*	5	N	FACU
4			
5			
6			
7			
8			
9			
	105	= Total Cover	
Woody vine stratum (Plot size: 30 ft. x 30 ft.)			
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: 2 (B)

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

Prevalence Index Worksheet

Total % Cover of:

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

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ Rapid Test for Hydrophytic Vegetation
- X Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphological 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: Roadside 2-3

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 2/1							Silt Loam/ Rocks
4-10	10YR 2/1		10YR 4/2					Silt Clay + Gravel
10-12	10YR 2/1		N2.5/0	10	D	PL/M	Clay	Rocks/roots
			2.5 YR 4/6	1	D	M		Possible Brick Fragments

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

Hydric Soil Indicators:

- ___ Histosol (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)
- X Depleted Dark Surface (F7)
- X Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L)**
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (explain in remarks)

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

Restrictive Layer (if observed):

Type: Fill/2 inch stone

Depth (inches): 12"

Hydric soil present? Y

Remarks:

Looks like construction fill at about 12"

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

Wetland hydrology present? Y

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

Remarks:

	Wetland Community 5 Roadside Cattail
SITE:	Marsh
	Wheaton IL,
LOCALE:	DuPage Co.
BY:	Angelia Millsap
NOTES:	

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	1.57	SPECIES RICHNESS (ALL)	16
MEAN C (ALL SPECIES)	0.69	SPECIES RICHNESS (NATIVE)	7
MEAN C (NATIVE TREES)	4.00	% NON-NATIVE	0.56
MEAN C (NATIVE SHRUBS)	n/a	WET INDICATOR (ALL)	0.38
MEAN C (NATIVE HERBACEOUS)	1.20	WET INDICATOR (NATIVE)	0.29
FQAI (NATIVE SPECIES)	4.16	% HYDROPHYTE (MIDWEST)	0.38
FQAI (ALL SPECIES)	2.75	% NATIVE PERENNIAL	0.38
ADJUSTED FQAI	10.39	% NATIVE ANNUAL	0.00
% C VALUE 0	0.75	% ANNUAL	0.00
% C VALUE 1-3	0.13	% PERENNIAL	0.75
% C VALUE 4-6	0.13		
% 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
ASCSYR	Asclepias syriaca	Asclepias syriaca	Common Milkweed	0	FACU	UPL	1	Forb	Perennial	Native
CICINT	Cichorium intybus	CICHORIUM INTYBUS	Chicory	0	FACU	FACU	1	Forb	Perennial	Adventive
CIRARV	Cirsium arvense	CIRSIUM ARVENSE	Canadian Thistle	0	FACU	FACU	1	Forb	Perennial	Adventive
DAUCAR	Daucus carota	DAUCUS CAROTA	Queen Anne's Lace	0	UPL	UPL	2	Forb	Biennial	Adventive
DIPFUL	Dipsacus fullonum	DIPSACUS SYLVESTRIS	Fuller's Teasel	0	FACU	FACU	1	Forb	Biennial	Adventive
ERIANN	Erigeron annuus	Erigeron annuus	Eastern Daisy Fleabane	0	FACU	FACU	1	Forb	Biennial	Native
MELLOF	Melilotus officinalis	MELILOTUS ALBA	Yellow Sweet-Clover	0	FACU	FACU	1	Forb	Biennial	Adventive
PHAARU	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
PHYLON	Physalis longifolia	Physalis subglabrata	Smooth Ground Cherry	0	UPL	UPL	2	Forb	Perennial	Native
POAPRA	Poa pratensis	POA PRATENSIS	Kentucky Blue Grass	0	FAC	FACU	0	Grass	Perennial	Adventive
Solalt	Solidago altissima	Solidago altissima	Tall Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
TRIPRA	Trifolium pratense	TRIFOLIUM PRATENSE	Red Clover	0	FACU	FACU	1	Forb	Perennial	Adventive
TYPANG	Typha angustifolia	TYPHA ANGUSTIFOLIA	Narrow-Leaf Cat-Tail	0	OBL	OBL	-2	Forb	Perennial	Adventive
TYPLAT	Typha latifolia	Typha latifolia	Broad-Leaf Cat-Tail	5	OBL	OBL	-2	Forb	Perennial	Native
Ulmrub	Ulmus rubra	Ulmus rubra	Slippery Elm	4	FAC	FAC	0	Tree	Perennial	Native
VITRIP	Vitis riparia	Vitis riparia var. syrticola	River-Bank Grape	1	FACW	FAC	-1	Vine	Perennial	Native

OBSERVER: Angelia Millsap (Thomas Engineering Group)

DATE: 07/08/2020

LOCATION: Roadside Cattail Marsh on the West side of Gary Ave.

WILDLIFE HABITAT / USE EVALUATION SCORE SHEET

To assess the existing and/or potential wildlife habitat use of the subject wetland, the applicant must first complete this scoresheet. The attached documentation provides examples of each scoring parameter.

A separate sheet must be completed for each wetland. The wetland system as a whole must be considered. If the wetland extends off-site, aerial photographs, observations from public access areas (roads, etc.) should be considered in the evaluation sheet.

Applicants must document their basis for scoring decisions with field surveys followed by current photographs, and other appropriate information.

A. Utilization by Wildlife

Wildlife Use	Score
Significant	3
Evident	2
Low	1
Occasional	0.5
Non-Existent	0
SUB-TOTAL =	0.5

Observations/Notes:
Wildlife observations made during the site visit included various insects, and birds flying overhead.

B. Interspersion of Vegetative Cover

Interspersion	Score
High	3
Medium	2
Low	1
SUB-TOTAL =	1

Community type	**Cover**
Total Cover	100%
Emergent	95%
Scrub Shrub	0%
Wet Meadow	0%
Forested	80%
Aquatic	0%
Other	5%

C. Vegetative Cover to Open Water

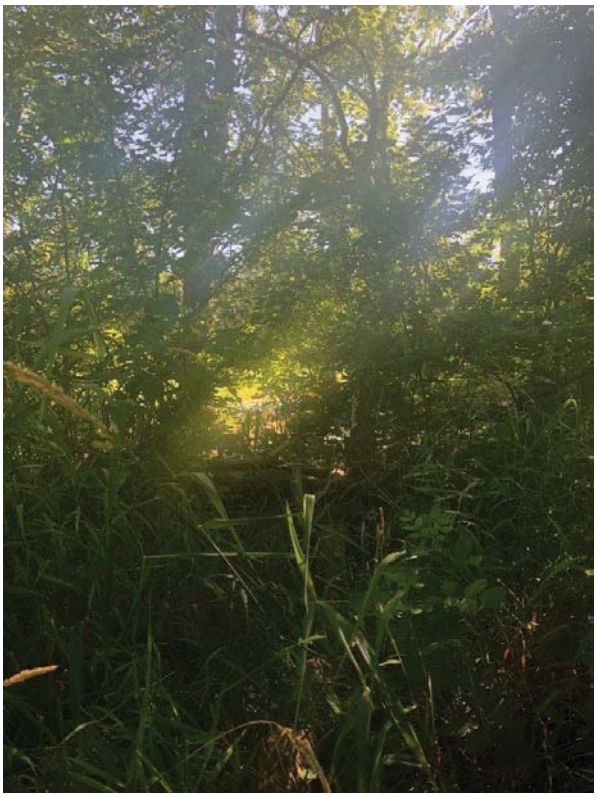
Cover	Score
>95% Cover	0.5
76% - 95% Cover, Peripheral	1.5
76% - 95% Cover, Various	2.5
26% - 75% Cover, Peripheral	2.0
26% - 75% Cover, Patches	3.0
5% - 25% Cover, Peripheral	1.0
<5% Cover	0.5
SUB-TOTAL =	0.5

TOTAL SCORE (A+B+C) = 2

Total score ≥ 5.00 wetland receives CRITICAL status
Total score ≤ 5.00 wetland receives REGULATORY status

Elliot Lake: Managed turf and planted areas looking South (a)

Elliot Lake: Managed turf and planted areas looking West (a)



Forested Wetland: Looking East (b)

High Point between Winfield Creek and Cattail Marsh looking East (c)

High Point between Winfield Creek and Cattail Marsh looking West (c)

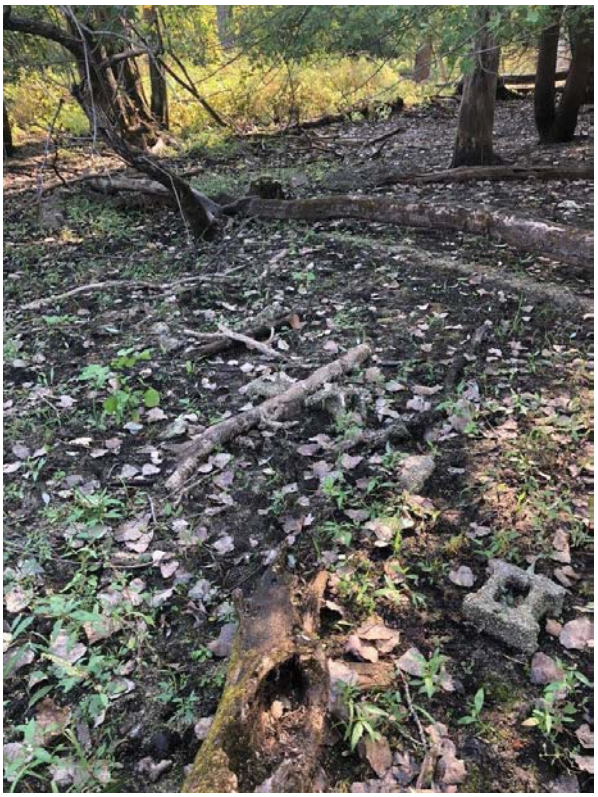
High Quality Community adjacent to Forested Wetland (d)

High Quality Community adjacent to Forested Wetland (d)

High Quality Community adjacent to Forested Wetland (d)

High Quality Community adjacent to Forested Wetland (d)

High Quality Community during dry period 2 (d)



High Quality Community during dry period 3 (d)

High Quality Community during dry period (d)

Representative Forested Wetland (e)

Roadside Cattail Marsh looking northwest (f)

Unnamed tributary to Winfield Creek looking East (g)

Unnamed tributary to Winfield Creek looking North (g)

Winfield Creek and Floodplain looking East (h)

Winfield Creek and Floodplain looking southeast (h)

Winfield Creek Floodplain looking northeast (h)

Winfield Creek looking West (h)

Winfield Creek under Gary Ave. culvert looking North (i)

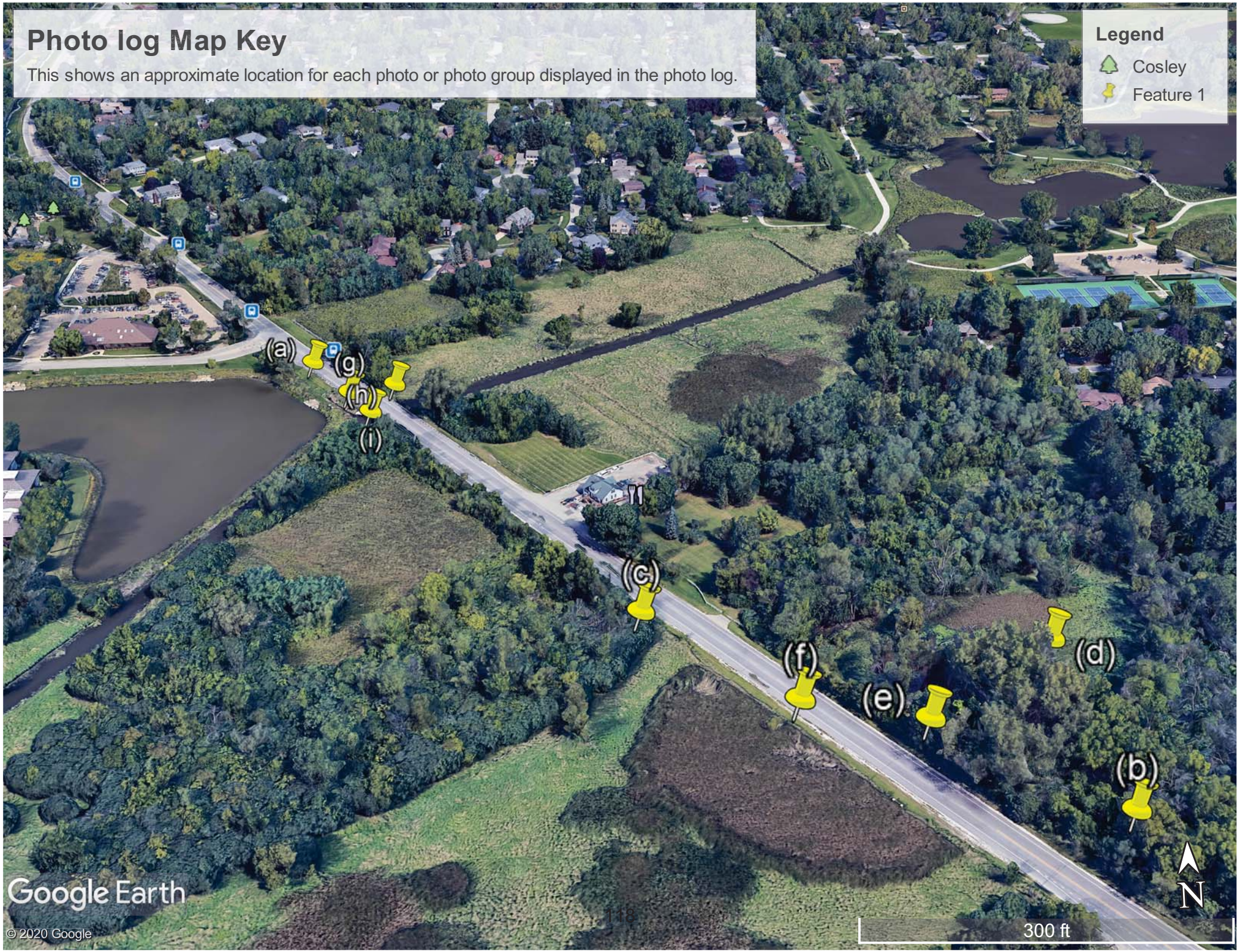


Photo log Map Key
This shows an approximate location for each photo or photo group displayed in the photo log.
Legend
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Feature 1
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