

Region 1 Planning Council Regional Freight Rail Site Feasibility Study



Project 22-605

March 2023

200 Prairie Street, Suit 208
Rockford, Illinois 61107

Region 1 Planning Council
127 North Wyman St, Suit 100
Rockford, Illinois 61101

Table of Contents

	PAGE
Part 1: Executive Summary	2
1.0 Introduction.....	2
1.1 Transportation Advantages	2
1.2 Utility Readiness	2
1.3 Land Use and Zoning.....	2
1.4 Geotechnical and Environmental Considerations	2
1.5 Miscellaneous Property Characteristics.....	3
1.6 Conceptual Land Plan and Development Cost.....	3
Part 2: Site Information	3
2.0 Industrial Park	3
3.0 Site Topography and Floodplain	4
4.0 Soils.....	4
5.0 Environmental	5
6.0 Utility Infrastructure	5
6.1 Sanitary Sewer	5
6.2 Public Water.....	6
6.3 Storm Sewer.....	6
6.4 Electrical Service	6
6.5 Gas Services	7
6.6 Telecommunications.....	7
Part 3: Transportation Infrastructure	7
7.0 Roadway Infrastructure	7
7.1 Railroad Infrastructure.....	8
7.2 Air and Sea	8
Part 4: Development Potential.....	8
8.0 Zoning and Land Use	8
9.0 Regional Work Force and History	9
10.0 Site Development Potential.....	9

Exhibits

Exhibit A	Context Map
Exhibit B	Site Conditions
Exhibit C	Conceptual Plans
Exhibit D	Estimate of Cost

PART 1: EXECUTIVE SUMMARY

1.0 Introduction

Fehr Graham has evaluated the subject property for a proposed rail-served Industrial Park. The collected information is on behalf of Region 1 Planning Council (R1) and the previous feasibility study completed in 2015. The data shows that the 1,400+ acre site is located at the northwest corner of the intersection of IL State Route 251 and Edson Road. The property is evaluated for industrial warehousing, logistics, and light manufacturing uses. The evaluation's purpose is to determine the viability of such a development and the estimated costs necessary for said development. The study provides potential land uses and site configurations for a variety of users – small, large, and mega sites – to capitalize on the public infrastructure adjacent to the site. This study identifies the transportation assets (highway, rail, and airport) and public utility infrastructure needed for the anticipated development, the estimated capital investment for said assets and infrastructure, and environmental impacts of the project.

1.1 Transportation Advantages

The potential rail served Industrial Park is located on the southern boundary of Winnebago County adjacent to the existing Omnitrax Illinois Railway line. The 1,400+ acres takes advantage of the existing short line rail infrastructure which provides interconnections with several Class 1 railroads within 20 miles of the subject site. This connectivity offers rail service to ports on both the east and west coasts, as well as service to Canada and Mexico. Complementing the rail assets are the state and interstate highways. Three interstates (I-90, I-88, and I-39) are located within 20 miles of the site and two state truck routes (IL-251 and IL-20) are adjacent or close to the subject site. The property is also immediately south of the Chicago Rockford International Airport (RFD) which is one of the fastest-growing cargo airports in the world and approximately 50 miles from the Chicago O'Hare International Airport (ORD).

1.2 Utility Readiness

The local utilities have invested capital and resources in preparing this site for development. Public water and wastewater utility mains are located at the northeast corner of the property with capacity for the proposed land uses. Electric service is provided by ComED whose assets include a high-voltage, transmission main along Edson Road, and three-phase primary service available at the site. Natural Gas is supplied by Nicor whose nearest high-pressure main is approximately one mile east of the subject site. Communications networks are located in the immediate vicinity of the subject site including fiber optic high speed internet connectivity.

1.3 Land Use and Zoning

The subject site is currently annexed into the City of Rockford and zoned I-2 for General Industry. Beyond the site boundaries is primarily farmland on all sides, except a few sections of rural residential development. The annexation brought with it preparation of connections to the public utilities including water and sanitary sewer already extended adjacent to the subject site. Proximity to and inclusion within the boundaries of industrially developed Rockford provides the site access to established private utilities such as natural gas, electric, and telecommunications (Broadband), which is crucial for successful industrial sites.

1.4 Geotechnical and Environmental Considerations

Preliminary review of the soil types within the site identifies typical Northern Illinois silts, loams, sands, and clays. With proper preparation and construction techniques, these soils have proven to be suitable for building, roadway, utility, and railway construction. The topography of the site provides the needed

slope to direct storm water to detention basins and ultimate release to the nearby Kishwaukee River or its tributary, Kilbuck Creek. A small portion of the northeast corner of the site is encroached upon by the 100-year floodplain. This small, floodplain-impacted portion of the site will have minimal impacts to development and is easily mitigated. Other environmental considerations such as endangered species, wetlands, and historical/archeological status were evaluated. The review identified several potential endangered or protected species that need further study prior to development. Overall, the review resulted in minimal findings that impact the development potential of the site.

1.5 Miscellaneous Property Characteristics

Through this study, several other property characteristics and potential advantages were identified:

- » The proximity to regional 14.75 MW solar farm could attract industries with solar or renewable energy goals.
- » Winnebago County and Orchard Hills landfills located within two miles of the site provides potential to cogenerate power using landfill gases.
- » ComEd transmission line, located along Edson Road, provided the potential to create a micro-grid within the site.
- » Open space and industrial rooftop solar have the potential to generate between 50-100 MW at full site development. Solar could be designed as a microgrid or simply to reduce the development's demand for traditional power.

1.6 Conceptual Land Plan and Development Cost

The property demonstrates tremendous potential to attract transportation, logistical, large-scale utility, and light manufacturing industries given the utility readiness of the site. With access to multiple modes of shipping and the spatial flexibility to develop facilities to suit, the site presents a strong opportunity to create cargo-oriented development (COD) to serve both domestic and international customers. The local and regional air, rail, and highway infrastructure provides an exceptional foundation for the development of this Industrial Park.

Conceptual land development plans were created to demonstrate potential land use and lot configurations of the 1,475 gross acres, approximately 1,100 acres is designated as rail-served industrial (775+ acres), or industrial (300+ acres). The remaining 350+ acres are identified as community solar, open, or green space, and stormwater management. The characteristics of the subject site provide options on phasing the development based on initial demand and capital considerations. The estimated cost to fully develop the rail-served site is \$82.1MIL or \$55,700 per acre.

PART 2: SITE INFORMATION

2.0 Industrial Park

The site information for the Industrial Park is as indicated:

- » The Industrial Park includes 1,475 gross acres.

- » It is located five miles south of the Chicago Rockford International Airport and west of IL State Route 251.
 - » Northern boundary: South Bend Road
 - » Eastern boundary: IL State Route 251
 - » Southern boundary: Edson Road
 - » Western boundary: Farmland, adjacent to drainage ditch to Kishwaukee River.

- » Primarily farmland on all sides except sections of rural residential development along South Bend Road and the northern portion of Friday Road.
- » Approximately 1,100 of the 1,475 acres are considered developable.
- » Total site comprised of 23 parcels owned by two separate family trusts.
- » Location and boundaries displayed on maps within the Exhibits are approximate.

3.0 Site Topography and Floodplain

The site topography and floodplain information consist of the following:

- » The topography of the site drains storm water is at three locations in which are spread across the site.
 - » The site elevation generally ranges between 710 to 715 feet throughout, with rolling slopes of 1% or less.
 - » An elevated area with slopes exceeding 3% exists in the northwest portion of the site, covering approximately 133 acres. Said area has a peak elevation roughly 28 feet above the remainder of the site.
- » Storm water within the site is conveyed overland into grassed drainage ditches ultimately tributary to the Kishwaukee River as the receiving body.
- » Per current flood maps, a small portion of the northeast corner of the site is encroached upon by floodways or flood plains.
- » Relevant Flood Insurance Rate Maps (FIRM) are included in the Exhibits.

4.0 Soils

Soil information compiled by the U.S. Dept. of Agriculture's Natural Resource Conservation Service is shown below.

- » The primary soil types of the subject site are:
 - » Selma Loam.
 - » LaHogue Loam.
 - » Small patches (<3% of site, each) of various other silty or sandy loams.
- » Bearing Capacity for subject site soils generally ranges between 1,500 to 2,000 lbs. per square foot. Large buildings and heavily loaded foundations may require soil modification or additional geotechnical considerations.

- » Subsurface review shows primarily carbonate rock. There exists potential for Karst within the subject site and a full geotechnical and geological review should be completed prior to development.
- » The soil types and subsurface conditions within the site are typical for Northern Illinois and are considered adequate for warehousing and light manufacturing building construction.
- » Soil map is included in the Appendices.

5.0 Environmental

The Illinois Department of Natural Resources Ecological Compliance Assessment Tool (EcoCAT) identifies the following protected resources that may be in the vicinity of the project area:

- » American Brook Lamprey
- » Gravel Chub
- » Rusty Patched Bumble Bee

More environmental information consists of the following:

- » Several wetlands are in or directly adjacent to the site per the Wetland Mapper of U.S. Fish & Wildlife Service. The wetlands are primarily localized depressional areas and are easily mitigated. A formal wetland delineation is recommended prior to development.
- » State of any archeological significance is yet unknown, though historical structures are not likely given the existing and previous agricultural land use.
- » No pipelines currently cross through the proposed site; the nearest is located approximately two miles west of the site according to the National Pipeline Mapping System website.
- » Various Resource Agency result documentation included in the exhibits.

6.0 Utility Infrastructure

The utility infrastructure information is indicated below:

- » Subject project site underwent a review of existing utility infrastructure. Public water and wastewater utilities, along with private communications, electric, and natural gas utilities are adjacent to the subject site.

6.1 Sanitary Sewer

The following forms of utility infrastructure have been assessed and the findings are as follows:

- » Four Rivers Sanitation Authority (FRSA) operates the public wastewater system.
- » Average daily flow of the FRSA wastewater system is approximately 40 million gallons/day.
- » The wastewater treatment plant has an average daily treatment capacity of 40 million gallons/day, with a maximum of 80 million gallons/day.
- » Typical discharge requirements, including pre-treatment for specific categories of users, may be necessary to reduce excessive discharge of certain industrial wastes to allowable levels.

- » FRSA is locally controlled and operated and has permitting authority for all wastewater extensions within the subject site.
- » A 30" trunk sewer is located in the eastern portion of the project site on the east side of the Omnitrax Illinois Railway rail line.
- » No offsite wastewater improvements are necessary for the buildout of this industrial park. The construction of a wastewater collection system within the subject property for service to the various lots is required.

6.2 Public Water

The City of Rockford operates the public water system and more data is as follows:

- » A 16" diameter public water main is located east of the project site along the east side of the Omnitrax Illinois Railway rail line with a 16" lateral stubbed west under the tracks.
- » Average annual daily demand of the water system is 17 million gallons/day.
- » Average annual daily capacity of city water system is 55 million gallons/day.
- » No offsite potable water improvements are necessary for the buildout of this industrial park. water main extensions within the subject property for service to the various lots is required.
- » Should water-intensive industry locate within the subject site, additional storage, and production well(s) may be necessary.

6.3 Storm Sewer

The storm sewer information is indicated below:

- » Storm water runoff from the project site generally drains from the west towards the east.
- » The east third of the site drains to the north into a tributary swale of Kilbuck Creek at the east edge of the site.
- » The central third of the site drains to the east into a tributary swale of Kilbuck Creek just west of residences along Friday Road at the north central part of the site.
- » The west third of the site drains to the west into a ditch a few hundred feet from the west edge of the site, which conveys it north with the Kishwaukee River as the receiving body.
- » Proposed industrial users can reasonably incorporate grading, storm sewer design, and detention location into their site development such that the existing drainage patterns would not be adversely affected.

6.4 Electrical Service

Commonwealth Edison operates the electrical distribution and supply service to the subject site. Electrical service can be readily extended to the potential Industrial users on the subject property from existing infrastructure northeast of the site. More details are as follows:

- » High voltage transmission lines located along the north side of Edson Road.
- » A 50-acre solar farm is located approximately 1.0 mile north of the subject site.

- » Through the inclusion of solar generation on rooftops and open space, the subject site could be a candidate for the development of a small-scale microgrid. Said microgrid will provide a reliable, low-cost, and redundant power source to the various users within the Industrial Park.
- » A preliminary layout should be prepared and reviewed with ComEd officials to determine the specific requirements and capabilities to provide electric service to users.

6.5 Gas Services

Nicor Gas operates the local natural gas supply system. Additional information is indicated as follows:

- » A 4" gas main (plastic) with 60 psi of pressure exists along the north side of Baxter Road to the east of the subject property approximately 1.0 mile.
- » Gas service could be readily extended to potential industrial users on the site.
- » A preliminary layout can be prepared and reviewed with Nicor Gas engineering officials to determine the specific requirements and capacities to provide gas service to the project site.

6.6 Telecommunications

The following telecommunications providers are available and established within the Rockford, Illinois area.

- » AT&T
- » Frontier
- » Comcast
- » Choice One Communications
- » iFiber

PART 3: TRANSPORTATION INFRASTRUCTURE

7.0 Roadway Infrastructure

The roadway infrastructure facts are explained below:

- » Property is near several existing major transportation routes.
- » Local road access to the project site is available from South Bend Road and Baxter Road, along the northern edge of site, and Edson Road along the south.
- » South Bend and Edson Roads are currently paved non-truck routes, with a segment of Edson unpaved. South Bend transitions into Baxter Road which is rated for 80,000 lbs. (120,000 lbs with permit) east of its at-grade crossing with the Omnitrax Illinois Railway tracks.
- » IL-251 (four-lane divided State Highway) is located along the eastern border of the subject site, it is accessible from both South Bend Road and Edson Road.
- » I-39 is located 4 miles east of the subject site and is accessible via Baxter Road and its interchange with the said interstate.
- » US-20 (four-lane divided Bypass) is located 4.0 miles to the north and is accessible via IL-251 or I-39, directly from an interchange with each.

- » IL-72 (two-lane State Highway) is located 3.5 miles to the south and is accessible via IL-251 or I-39.
- » Access to I-39 allows connection to both Interstate 90 (I-90) and Interstate 88 (I-88) within 9 and 18 miles, respectively, from the I-39/Baxter Road interchange.

7.1 Railroad Infrastructure

The railroad infrastructure details are indicated as the following:

- » Existing Omnitrax Illinois Railway rail line runs north and south near the eastern limits of the subject site.
- » Omnitrax Illinois Railway rail line extends from Rochelle, Illinois (26 miles south of the subject site) to the railyards in the City of Rockford (5 miles north of the subject site).
- » Omnitrax Illinois Railway rail line interconnects with the following Class I railroads:
 - » Canadian National (CN)
 - » Canadian Pacific (CP)
 - » Union Pacific (UP)
 - » Burlington Northern Santa Fe (BNSF)
- » Illinois Railway trackage is primarily 90–100 lb. rail and would most likely require an upgrade to 115 lb. or 132 lb. rail to maximize its ability to accommodate freight rail per the AECOM Report prepared for Winnebago County, dated 2009 (AECOM Report).
- » Subject site is suited for rail-served industrial development as the short line provides connectivity to various Class I railroads serving all North America.

7.2 Air and Sea

The air and sea facts are shown below:

- » Roadway system allows connectivity to the Chicago port system is less than 75 miles via truck.
- » Chicago O’Hare Airport (ORD) is approximately 50 miles east via I-90.
- » Chicago Rockford International Airport (RFD) is within 5 miles of site.
- » UPS and Amazon operate cargo hubs at RFD Airport.
- » The site is eligible for inclusion in Foreign Trade Zone #176; including references to such in the associated annexation agreements.

PART 4: DEVELOPMENT POTENTIAL

8.0 Zoning and Land Use

The zoning and land use data is indicated as the following:

- » Subject property has been annexed within the City of Rockford.
- » Current land use is row crop agriculture.
- » Site land uses are controlled by the City of Rockford Comprehensive Plan (2020), and currently all parcels within the subject site are zoned I-2 for general industry.

9.0 Regional Work Force and History

The regional work force and history is shown below:

- » There are over 600,000 people living within 30 miles of the site, including over 300,000 in the labor force.
- » The Rockford Region is recognized as a center of manufacturing excellence.
- » Ample workforce and appropriate skill levels, 55,000 manufacturing workers within 30 miles and 32,000, within the Rockford metropolitan area.
- » Employee training options at local Colleges and Universities, as well as other manufacturing and technical training programs.

10.0 Site Development Potential

Estimates of cost were prepared for the development of the subject site. Estimated onsite costs to develop the 1,475-acre industrial park is \$82.1 MIL.

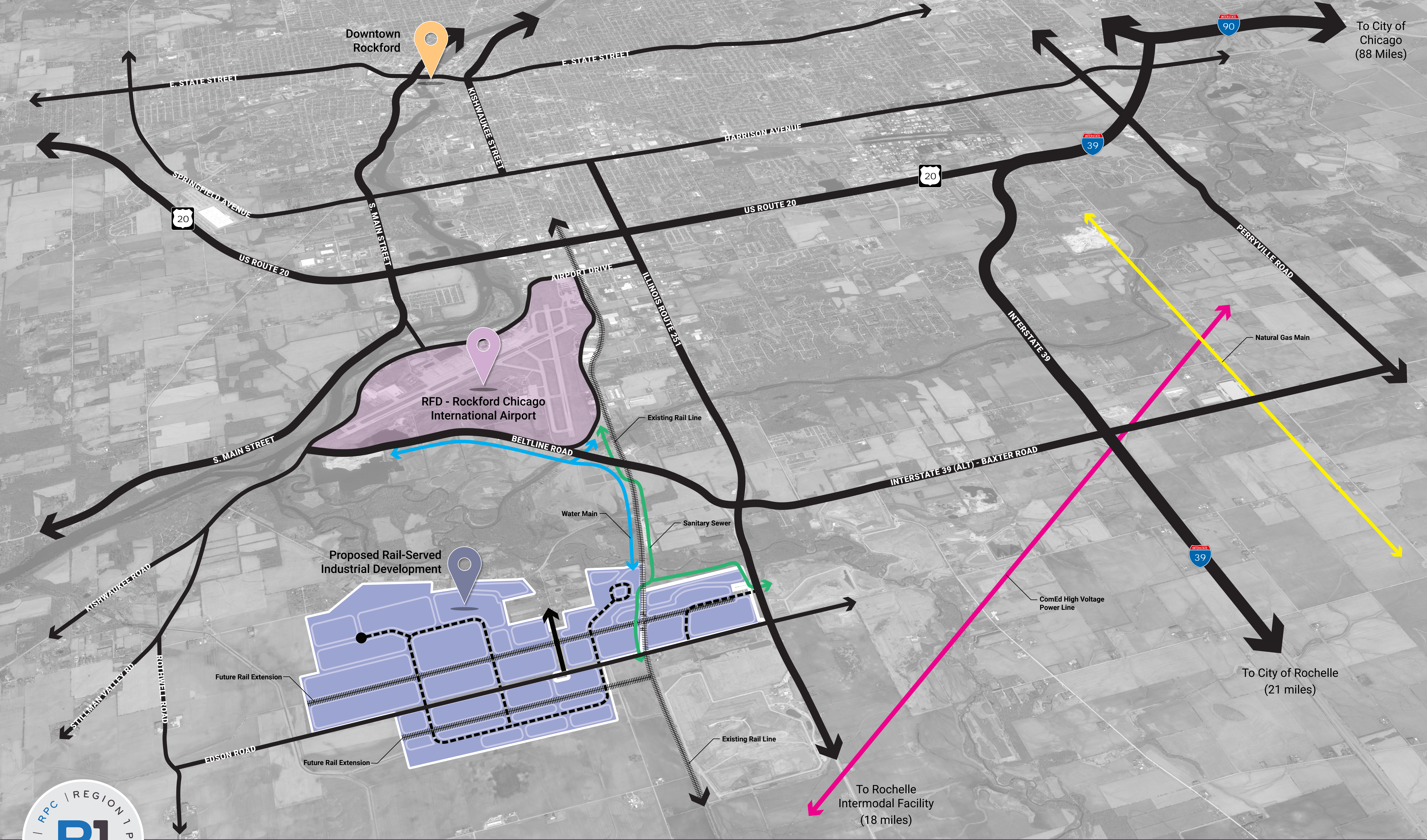
- » On-Site Improvements:
 - » Rail – Lead industrial track and storage tracks:
 - \$10.3 MIL
 - » Roadway – Internal roadway network and upgrades to IL 251 and Edson:
 - \$21.6 MIL
 - » Mass Grading – Preparing the subject site for rail, detention, and building pads:
 - \$25.3 MIL
 - » Utility Extension – Internal buildout of storm sewer, water, wastewater utilities:
 - \$24.9 MIL
- » Potential Off-Site Improvements (not included in estimates).
 - » Rail – Rail and structural upgrades to the Omnitrax Illinois Railway line from Airport Road south to Flagg Center: \$32+ million (AECOM Report)

O:\Region 1 Planning Council\22-605 - Rail Yard-Terminal\Engineering\Report\22-605 - Draft - Region 1 - Feasibility Study Report.docx

Exhibits

Exhibit A

Context Map



PREPARED FOR:
REGION 1 PLANNING COUNCIL
 127 N. Wyman Street, Ste. 100
 Rockford, IL 61101

ROCKFORD RAIL-SERVED INDUSTRIAL PLAN
 Context Map
 02/17/23

ENGINEER:
FEHR GRAHAM
 200 Prairie Street, Suite 208
 Rockford, IL 61107

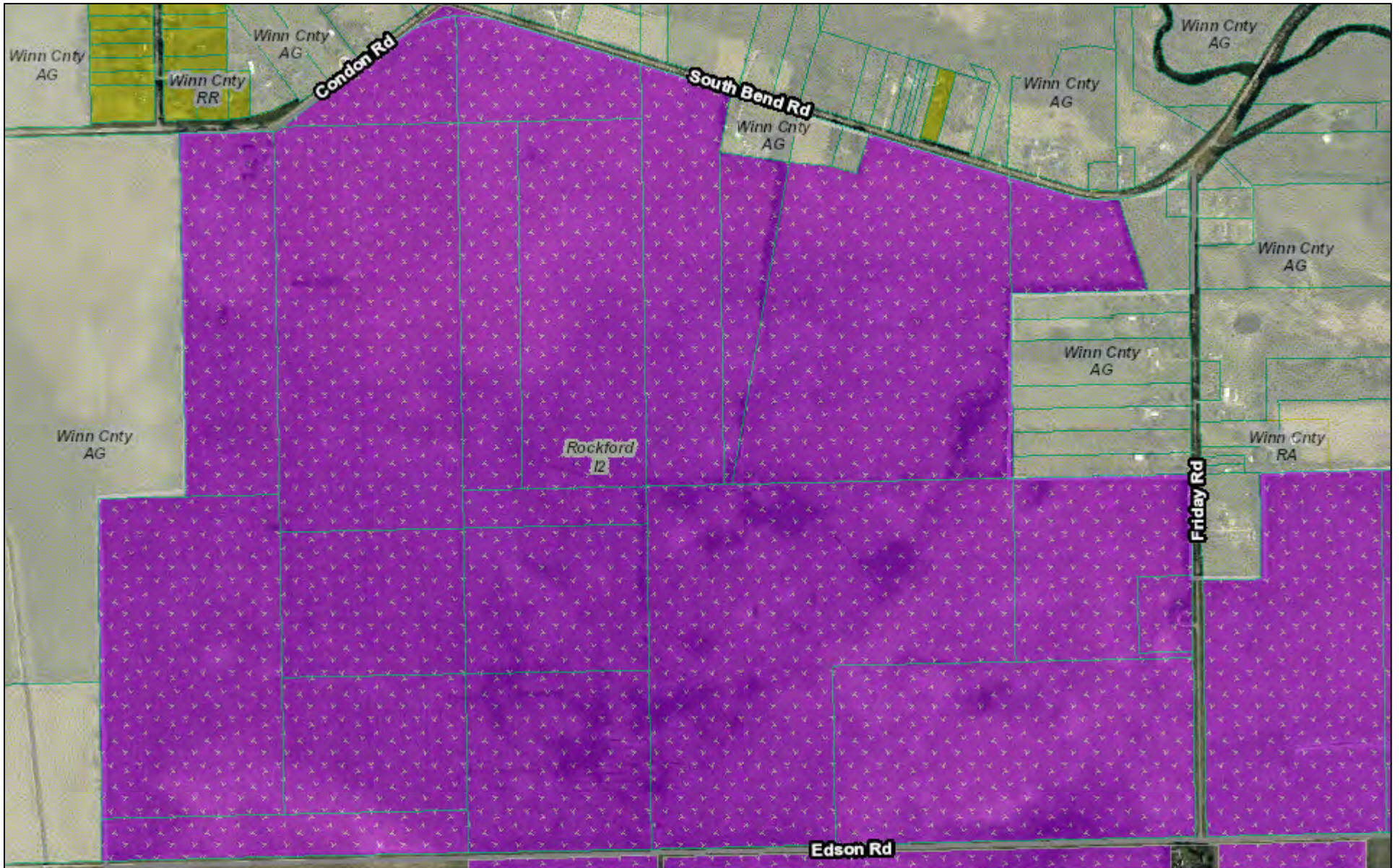


PLANNER:
WBK ENGINEERING
 116 W. Main Street, Suite 201
 St. Charles, IL 60174



Exhibit B
Site Conditions

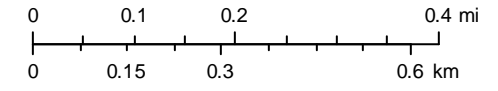
Zoning Map



6/8/2022

1:12,000

Winn Cnty Street Labels	Parcel Owner	C2	I1	R1	R4
Boone Cnty Street Labels	Rockford	C3	I2	R2	RE
Stephenson Cnty Street Labels	C1	C4	I3	R3	



Winnabago County
WinGIS

Applicant: Fehr Graham
Contact: Noah Carmichael
Address: 515 Lincoln Highway
Rochelle, IL 61068

IDNR Project Number: 2214229
Date: 06/09/2022
Alternate Number: 1505299

Project: RMAP Rail Site Eval
Address: Edson Rd, Rockford

Description: Potential layout of proposed rail connection at Edson Rd site in Winnebago County.

Natural Resource Review Results

The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

- Kishwaukee River INAI Site
- American Brook Lamprey (*Lethenteron appendix*)
- Gravel Chub (*Erimystax x-punctatus*)
- Gravel Chub (*Erimystax x-punctatus*)
- Rusty Patched Bumble Bee (*Bombus affinis*)

Thank you for submitting this project for review through the IDNR Comprehensive Environmental Review Process. An IDNR staff member will contact you regarding the results of the Department's review.

Location

The applicant is responsible for the accuracy of the location submitted for the project.

County: Winnebago

Township, Range, Section:

- 43N, 1E, 27
- 43N, 1E, 28
- 43N, 1E, 33
- 43N, 1E, 34
- 43N, 1E, 35



IL Department of Natural Resources

Contact

Justin Dillard
217-785-5500
Division of Ecosystems & Environment

Disclaimer

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

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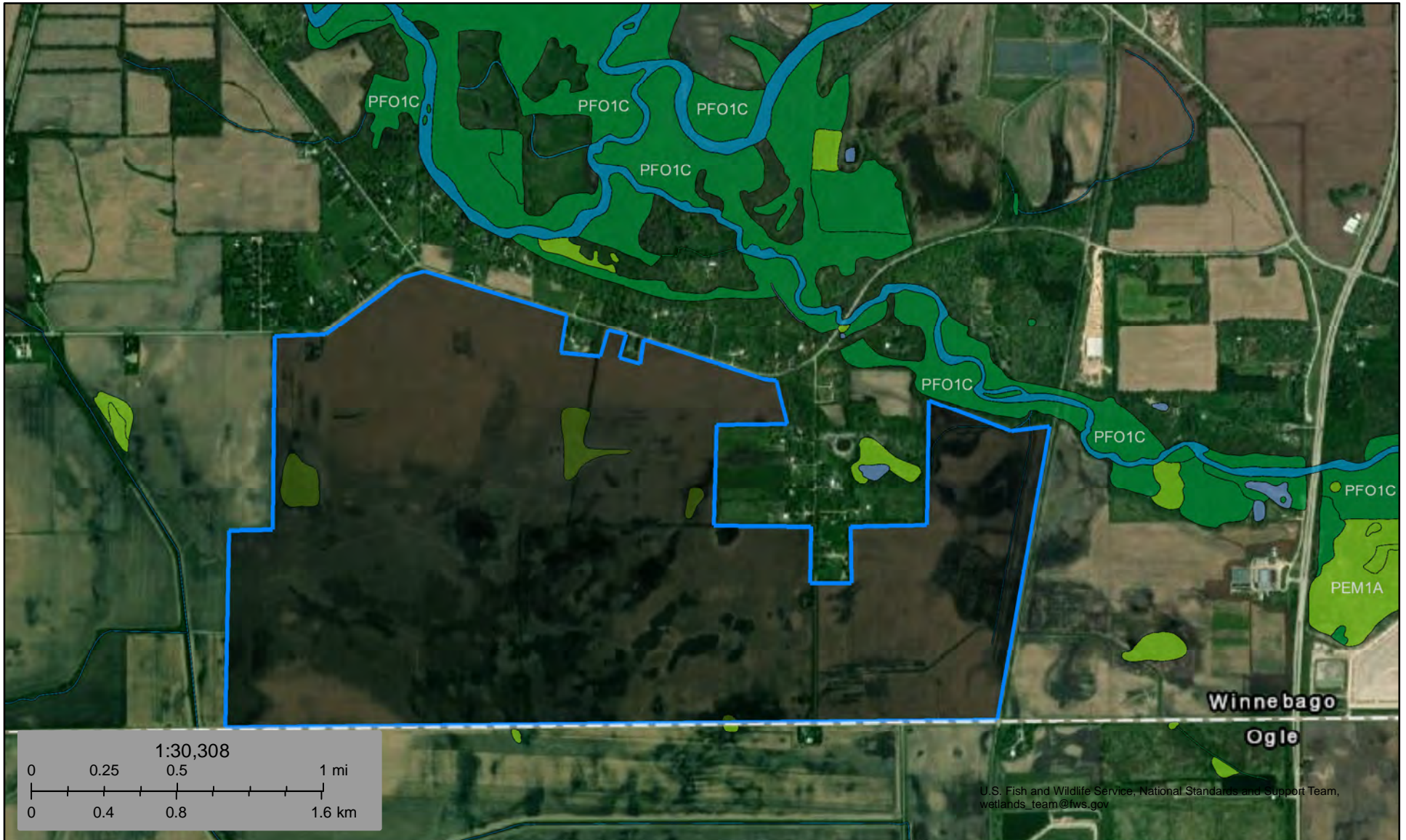
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U.S. Fish and Wildlife Service, National Standards and Support Team,
wetlands_team@fws.gov

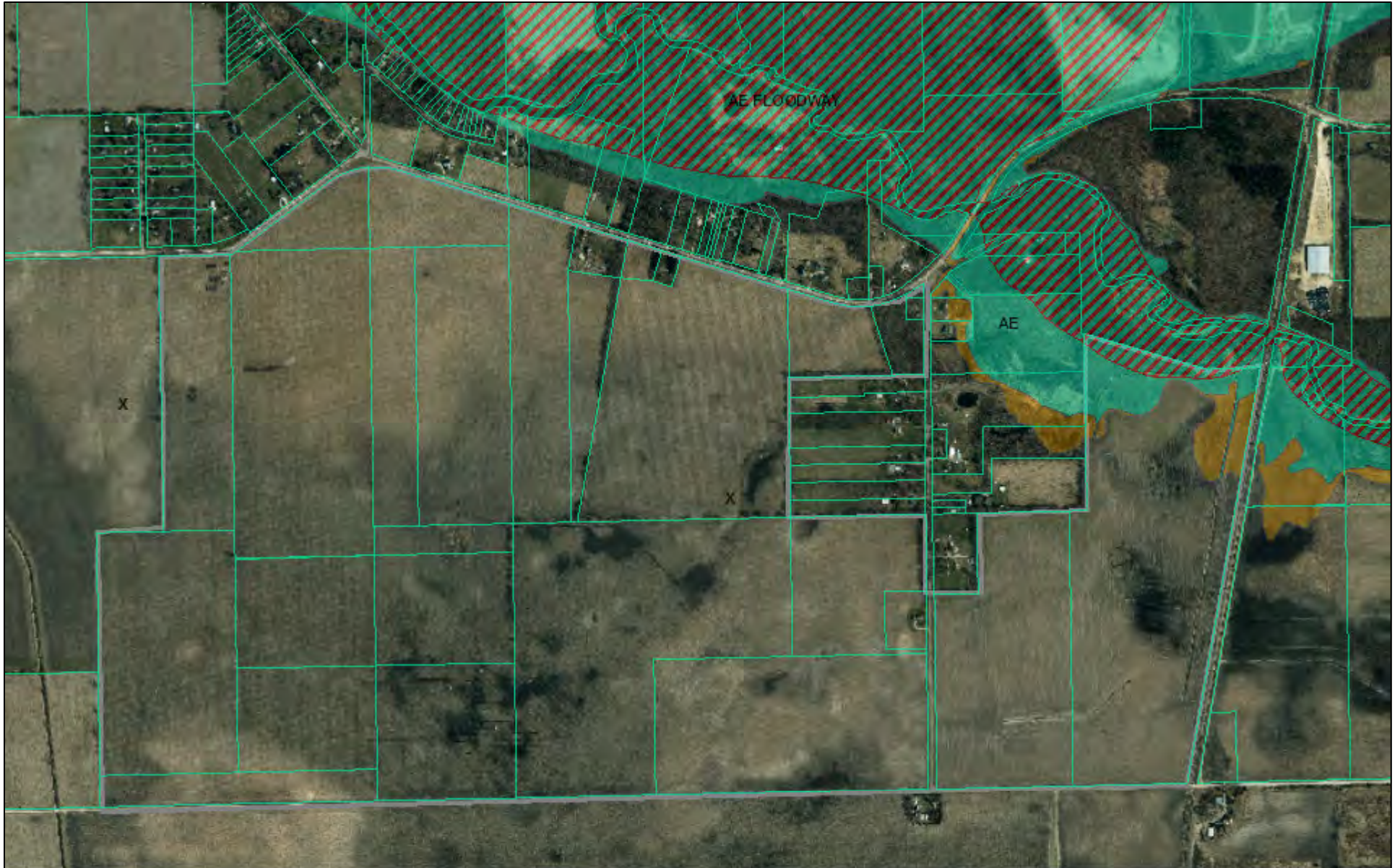
June 8, 2022

Wetlands






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

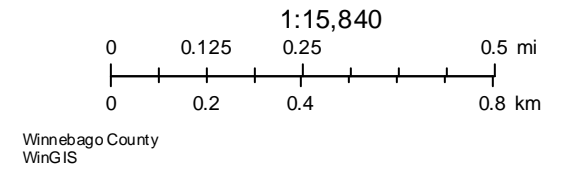
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Flood Plain Map RMAP Rail Study



6/8/2022

- | | |
|---|--|
|  Parcel Owner |  A |
| Flood Zones 2016 |  AE, |
|  0.2 PCT ANNUAL CHANCE |  AE, FLOODWAY |





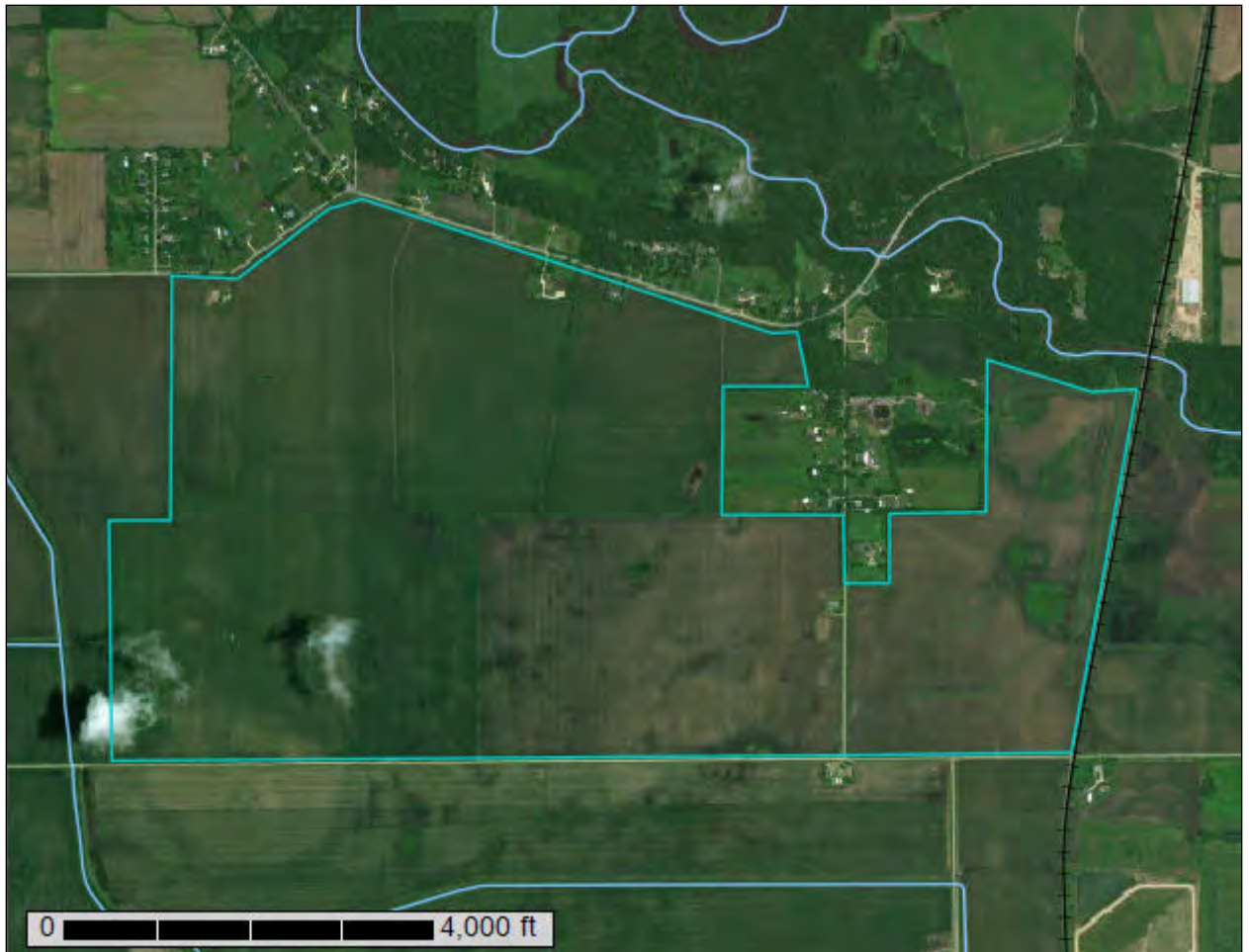
United States
Department of
Agriculture

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 **Winnebago 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

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	11
Map Unit Descriptions.....	12
Winnebago County, Illinois.....	14
100A—Palms muck, 0 to 2 percent slopes.....	14
102A—La Hogue loam, 0 to 2 percent slopes.....	15
125A—Selma loam, 0 to 2 percent slopes.....	17
172A—Hoopeston sandy loam, 0 to 2 percent slopes.....	18
198A—Elburn silt loam, cool, 0 to 2 percent slopes.....	20
199A—Plano silt loam, 0 to 2 percent slopes.....	21
199B—Plano silt loam, 2 to 5 percent slopes.....	22
199C2—Plano silt loam, 5 to 10 percent slopes, eroded.....	23
290A—Warsaw loam, 0 to 2 percent slopes.....	25
290B—Warsaw loam, 2 to 4 percent slopes.....	26
290D2—Warsaw loam, 6 to 12 percent slopes, eroded.....	27
297D2—Ringwood silt loam, 6 to 12 percent slopes, eroded.....	29
332B—Billett sandy loam, 2 to 5 percent slopes.....	30
363D2—Griswold loam, 6 to 12 percent slopes, eroded.....	31
403C—Elizabeth silt loam, 5 to 10 percent slopes.....	32
411C2—Ashdale silt loam, 5 to 10 percent slopes, eroded.....	33
440A—Jasper silt loam, 0 to 2 percent slopes.....	34
440B—Jasper silt loam, 2 to 5 percent slopes.....	35
440C2—Jasper silt loam, 5 to 10 percent slopes, eroded.....	36
490A—Odell silt loam, 0 to 2 percent slopes.....	37
506C2—Hitt silt loam, 5 to 10 percent slopes, eroded.....	38
566B—Rockton and Dodgeville soils, 2 to 5 percent slopes.....	39
772A—Marshan loam, 0 to 2 percent slopes.....	41
777A—Adrian muck, 0 to 2 percent slopes.....	42
781B—Friesland fine sandy loam, 2 to 5 percent slopes.....	44
783A—Flagler sandy loam, 0 to 2 percent slopes.....	45
939D2—Rodman-Warsaw complex, 6 to 12 percent slopes, eroded.....	46
3082A—Millington silt loam, 0 to 2 percent slopes, frequently flooded.....	47
References	50

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

Custom Soil Resource Report

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

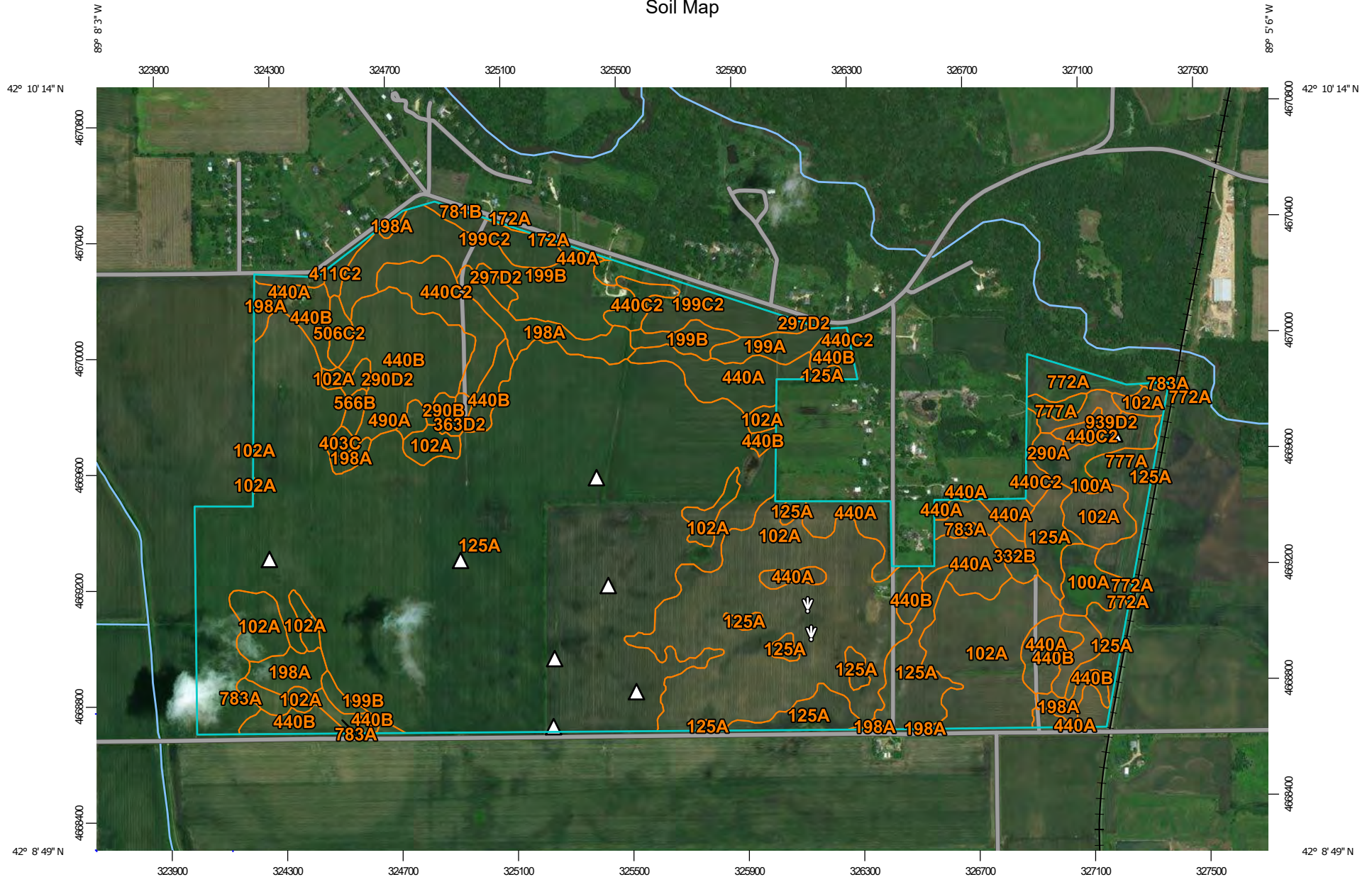
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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

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.

Custom Soil Resource Report Soil Map



Map Scale: 1:18,600 if printed on A landscape (11" x 8.5") sheet.

0 250 500 1000 1500 Meters

0 500 1000 2000 3000 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

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.

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: Winnebago County, Illinois
 Survey Area Data: Version 17, Aug 31, 2021

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

Date(s) aerial images were photographed: Sep 26, 2010—Jul 24, 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
100A	Palms muck, 0 to 2 percent slopes	22.6	2.1%
102A	La Hogue loam, 0 to 2 percent slopes	193.7	18.1%
125A	Selma loam, 0 to 2 percent slopes	514.3	48.0%
172A	Hoopeston sandy loam, 0 to 2 percent slopes	0.3	0.0%
198A	Elburn silt loam, cool, 0 to 2 percent slopes	30.0	2.8%
199A	Plano silt loam, 0 to 2 percent slopes	8.2	0.8%
199B	Plano silt loam, 2 to 5 percent slopes	49.6	4.6%
199C2	Plano silt loam, 5 to 10 percent slopes, eroded	26.7	2.5%
290A	Warsaw loam, 0 to 2 percent slopes	1.4	0.1%
290B	Warsaw loam, 2 to 4 percent slopes	1.6	0.2%
290D2	Warsaw loam, 6 to 12 percent slopes, eroded	1.9	0.2%
297D2	Ringwood silt loam, 6 to 12 percent slopes, eroded	2.5	0.2%
332B	Billett sandy loam, 2 to 5 percent slopes	4.0	0.4%
363D2	Griswold loam, 6 to 12 percent slopes, eroded	2.1	0.2%
403C	Elizabeth silt loam, 5 to 10 percent slopes	1.7	0.2%
411C2	Ashdale silt loam, 5 to 10 percent slopes, eroded	2.3	0.2%
440A	Jasper silt loam, 0 to 2 percent slopes	60.2	5.6%
440B	Jasper silt loam, 2 to 5 percent slopes	73.5	6.9%
440C2	Jasper silt loam, 5 to 10 percent slopes, eroded	27.2	2.5%
490A	Odell silt loam, 0 to 2 percent slopes	2.0	0.2%
506C2	Hitt silt loam, 5 to 10 percent slopes, eroded	3.9	0.4%
566B	Rockton and Dodgeville soils, 2 to 5 percent slopes	2.2	0.2%

Custom Soil Resource Report

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
772A	Marshan loam, 0 to 2 percent slopes	8.3	0.8%
777A	Adrian muck, 0 to 2 percent slopes	16.0	1.5%
781B	Friesland fine sandy loam, 2 to 5 percent slopes	0.2	0.0%
783A	Flagler sandy loam, 0 to 2 percent slopes	10.8	1.0%
939D2	Rodman-Warsaw complex, 6 to 12 percent slopes, eroded	4.0	0.4%
3082A	Millington silt loam, 0 to 2 percent slopes, frequently flooded	0.5	0.0%
Totals for Area of Interest		1,071.6	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.

Custom Soil Resource Report

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.

Winnebago County, Illinois

100A—Palms muck, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2szdc

Elevation: 780 to 1,240 feet

Mean annual precipitation: 31 to 35 inches

Mean annual air temperature: 43 to 49 degrees F

Frost-free period: 124 to 178 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Palms, muck, and similar soils: 87 percent

Minor components: 13 percent

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

Description of Palms, Muck

Setting

Landform: Interdrumlins

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Concave

Parent material: Herbaceous organic material over loamy drift

Typical profile

Oap - 0 to 13 inches: muck

Oa - 13 to 30 inches: muck

2Cg - 30 to 79 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high
(0.14 to 1.98 in/hr)

Depth to water table: About 0 to 4 inches

Frequency of flooding: None

Frequency of ponding: Frequent

Calcium carbonate, maximum content: 20 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Very high (about 15.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: B/D

Hydric soil rating: Yes

Minor Components

Houghton, muck

Percent of map unit: 8 percent

Landform: Depressions

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Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Adrian

Percent of map unit: 5 percent
Landform: Interdrumlins
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

102A—La Hogue loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 1lgwt
Elevation: 400 to 1,300 feet
Mean annual precipitation: 29 to 40 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 150 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

La hogue and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of La Hogue

Setting

Landform: Outwash plains, stream terraces
Landform position (two-dimensional): Footslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Outwash

Typical profile

H1 - 0 to 16 inches: loam
H2 - 16 to 26 inches: clay loam
H3 - 26 to 36 inches: sandy clay loam
H4 - 36 to 61 inches: sandy loam
H5 - 61 to 65 inches: stratified silt 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 high to high
(0.20 to 2.00 in/hr)

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Depth to water table: About 12 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B/D
Hydric soil rating: No

Minor Components

Drummer

Percent of map unit:
Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R108AY013IL - Wet Outwash Prairie
Hydric soil rating: Yes

Orio

Percent of map unit:
Landform: Outwash plains, depressions, stream terraces
Landform position (two-dimensional): Toeslope
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: R108BY015IL - Wet Loamy Outwash Prairie
Hydric soil rating: Yes

Selma

Percent of map unit:
Landform: Depressions
Landform position (two-dimensional): Toeslope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R115CY012IL - Wet Sand Prairie
Hydric soil rating: Yes

Crescent

Percent of map unit:
Landform: Outwash plains
Landform position (two-dimensional): Summit
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R115CY011IL - Sand Prairie
Hydric soil rating: No

Dickinson

Percent of map unit:
Landform: Stream terraces, outwash plains
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Interfluvium
Down-slope shape: Convex
Across-slope shape: Convex

Custom Soil Resource Report

Ecological site: R108BY016IL - Sand Prairie, R115CY011IL - Sand Prairie
Hydric soil rating: No

125A—Selma loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2t6zr
Elevation: 450 to 960 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

Selma, drained, and similar soils: 96 percent
Minor components: 4 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Selma, Drained

Setting

Landform: Lake plains, stream terraces, outwash plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy outwash

Typical profile

Ap - 0 to 21 inches: loam
Bg - 21 to 46 inches: loam
Cg - 46 to 60 inches: stratified silt loam to loamy sand

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 to high
(0.60 to 2.00 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 20 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D

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Ecological site: R110XY024IL - Ponded Depressional Sedge Meadow
Hydric soil rating: Yes

Minor Components

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

Harpster, drained

Percent of map unit: 1 percent
Landform: Depressions on outwash plains, depressions on lake plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R110XY025IL - Ponded Calcareous Sedge Meadow
Hydric soil rating: Yes

Orthents, loamy

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

Houghton, drained

Percent of map unit: 1 percent
Landform: Depressions on outwash plains, depressions on lake plains
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

172A—Hoopeston sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 5v0x
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

Custom Soil Resource Report

Farmland classification: All areas are prime farmland

Map Unit Composition

Hoopeston and similar soils: 90 percent

Minor components: 10 percent

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

Description of Hoopeston

Setting

Landform: Stream terraces, outwash plains

Landform position (two-dimensional): Summit, footslope

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Outwash

Typical profile

H1 - 0 to 14 inches: sandy loam

H2 - 14 to 38 inches: sandy loam

H3 - 38 to 60 inches: loamy sand

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): High (2.00 to 6.00 in/hr)

Depth to water table: About 12 to 24 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 20 percent

Available water supply, 0 to 60 inches: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: A/D

Hydric soil rating: No

Minor Components

Gilford

Percent of map unit: 5 percent

Landform: Swales

Landform position (three-dimensional): Dip

Down-slope shape: Linear

Across-slope shape: Concave

Hydric soil rating: Yes

Selmass

Percent of map unit: 5 percent

Landform: Swales

Landform position (three-dimensional): Dip

Down-slope shape: Linear

Across-slope shape: Concave

Hydric soil rating: Yes

198A—Elburn silt loam, cool, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2wsqv
Elevation: 710 to 1,160 feet
Mean annual precipitation: 35 to 37 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 138 to 173 days
Farmland classification: All areas are prime farmland

Map Unit Composition

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

Description of Elburn, Cool

Setting

Landform: Outwash plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess over stratified loamy outwash

Typical profile

Ap - 0 to 18 inches: silt loam
Bt - 18 to 42 inches: silty clay loam
2BCg - 42 to 51 inches: silt loam
2Cg - 51 to 79 inches: stratified loam to loamy sand

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 to high
(0.60 to 2.00 in/hr)
Depth to water table: About 12 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Pella, drained

Percent of map unit: 5 percent
Landform: Outwash plains
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: Yes

Drummer, drained

Percent of map unit: 5 percent
Landform: Outwash plains
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: Yes

199A—Plano silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2tjws
Elevation: 660 to 1,100 feet
Mean annual precipitation: 33 to 37 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 123 to 173 days
Farmland classification: All areas are prime farmland

Map Unit Composition

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

Description of Plano

Setting

Landform: Outwash plains
Landform position (three-dimensional): Rise
Down-slope shape: Concave, linear
Across-slope shape: Linear
Parent material: Loess over stratified loamy outwash

Typical profile

Ap - 0 to 14 inches: silt loam
Bt1 - 14 to 49 inches: silty clay loam
2Bt2 - 49 to 60 inches: loam
2C - 60 to 79 inches: stratified loamy sand to silt loam

Properties and qualities

Slope: 0 to 2 percent

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Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 20 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 11.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Ecological site: R108AY012IL - Outwash Prairie
Hydric soil rating: No

Minor Components

Elburn

Percent of map unit: 10 percent
Landform: Outwash plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

199B—Plano silt loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2tjwv
Elevation: 660 to 980 feet
Mean annual precipitation: 32 to 40 inches
Mean annual air temperature: 45 to 54 degrees F
Frost-free period: 142 to 173 days
Farmland classification: All areas are prime farmland

Map Unit Composition

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

Description of Plano

Setting

Landform: Outwash plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve

Custom Soil Resource Report

Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loess over stratified loamy outwash

Typical profile

Ap - 0 to 15 inches: silt loam
Bt1 - 15 to 45 inches: silty clay loam
2Bt2 - 45 to 55 inches: loam
2C - 55 to 79 inches: stratified loamy sand to silt loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 20 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: R108AY012IL - Outwash Prairie
Hydric soil rating: No

Minor Components

Elburn

Percent of map unit: 10 percent
Landform: Outwash plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

199C2—Plano silt loam, 5 to 10 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2tjwx
Elevation: 660 to 1,020 feet
Mean annual precipitation: 35 to 38 inches
Mean annual air temperature: 46 to 50 degrees F
Frost-free period: 125 to 178 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Plano, eroded, and similar soils: 90 percent

Minor components: 10 percent

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

Description of Plano, Eroded

Setting

Landform: Stream terraces, outwash plains

Landform position (two-dimensional): Shoulder, backslope

Landform position (three-dimensional): Interfluve

Down-slope shape: Convex

Across-slope shape: Convex, linear

Parent material: Loess over stratified loamy outwash

Typical profile

Ap - 0 to 8 inches: silt loam

Bt1 - 8 to 41 inches: silty clay loam

2Bt2 - 41 to 53 inches: loam

2C - 53 to 79 inches: stratified loamy sand to silt loam

Properties and qualities

Slope: 5 to 10 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 20 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: High (about 10.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Ecological site: R108AY012IL - Outwash Prairie

Hydric soil rating: No

Minor Components

Elburn

Percent of map unit: 10 percent

Landform: Outwash plains

Landform position (three-dimensional): Rise

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: No

290A—Warsaw loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2tjx9
Elevation: 680 to 1,020 feet
Mean annual precipitation: 33 to 37 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 138 to 193 days
Farmland classification: All areas are prime farmland

Map Unit Composition

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

Description of Warsaw

Setting

Landform: Outwash plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy glaciofluvial deposits over calcareous sandy and gravelly outwash

Typical profile

Ap - 0 to 15 inches: loam
Bt - 15 to 31 inches: clay loam
2C - 31 to 79 inches: stratified very gravelly loamy sand to extremely gravelly coarse sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 24 to 40 inches to strongly contrasting textural stratification
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 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 supply, 0 to 60 inches: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: B

Custom Soil Resource Report

Ecological site: R110XY006IL - Dry Glacial Drift Upland Prairie
Hydric soil rating: No

Minor Components

Will

Percent of map unit: 5 percent
Landform: Outwash plains, stream terraces, kames
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R110XY024IL - Poned Depressional Sedge Meadow
Hydric soil rating: Yes

Kane

Percent of map unit: 5 percent
Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

290B—Warsaw loam, 2 to 4 percent slopes

Map Unit Setting

National map unit symbol: 2tjxd
Elevation: 660 to 1,020 feet
Mean annual precipitation: 35 to 37 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 140 to 175 days
Farmland classification: All areas are prime farmland

Map Unit Composition

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

Description of Warsaw

Setting

Landform: Stream terraces
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy glaciofluvial deposits over stratified, calcareous sandy and gravelly outwash

Typical profile

Ap - 0 to 11 inches: loam
Bt - 11 to 29 inches: loam

Custom Soil Resource Report

2C - 29 to 79 inches: stratified gravelly loamy sand to extremely gravelly coarse sand

Properties and qualities

Slope: 2 to 4 percent

Depth to restrictive feature: 24 to 40 inches to strongly contrasting textural stratification

Drainage class: Well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)

Depth to water table: More than 80 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 supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B

Ecological site: R110XY006IL - Dry Glacial Drift Upland Prairie

Hydric soil rating: No

Minor Components

Will

Percent of map unit: 5 percent

Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Linear

Ecological site: R110XY024IL - Poned Depressional Sedge Meadow

Hydric soil rating: Yes

Kane

Percent of map unit: 5 percent

Landform: Stream terraces

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

290D2—Warsaw loam, 6 to 12 percent slopes, eroded

Map Unit Setting

National map unit symbol: 2tjxc

Elevation: 710 to 1,050 feet

Mean annual precipitation: 33 to 37 inches

Mean annual air temperature: 45 to 50 degrees F

Custom Soil Resource Report

Frost-free period: 141 to 173 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Warsaw, eroded, and similar soils: 95 percent

Minor components: 5 percent

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

Description of Warsaw, Eroded

Setting

Landform: Outwash plains

Landform position (three-dimensional): Riser, rise

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Loamy glaciofluvial deposits over calcareous, stratified sandy and gravelly outwash

Typical profile

Ap - 0 to 10 inches: loam

Bt - 10 to 32 inches: sandy clay loam

2C - 32 to 79 inches: stratified sand to gravel

Properties and qualities

Slope: 6 to 12 percent

Depth to restrictive feature: 24 to 40 inches to strongly contrasting textural stratification

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 25 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Forage suitability group: Mod AWC, adequately drained (G095BY005WI)

Other vegetative classification: Mod AWC, adequately drained (G095BY005WI)

Hydric soil rating: No

Minor Components

Fox

Percent of map unit: 3 percent

Landform: Outwash plains

Landform position (three-dimensional): Riser, rise

Down-slope shape: Convex

Across-slope shape: Linear

Hydric soil rating: No

Rodman, eroded

Percent of map unit: 2 percent

Custom Soil Resource Report

Landform: Outwash plains
Landform position (three-dimensional): Riser, rise
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

297D2—Ringwood silt loam, 6 to 12 percent slopes, eroded

Map Unit Setting

National map unit symbol: 5v2n
Elevation: 680 to 1,050 feet
Mean annual precipitation: 30 to 40 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 140 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Ringwood and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ringwood

Setting

Landform: Ground moraines, end moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess or other silty material and in the underlying till

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 16 inches: silty clay loam
H3 - 16 to 32 inches: clay loam
H4 - 32 to 60 inches: sandy loam

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 30 percent
Available water supply, 0 to 60 inches: Moderate (about 8.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Custom Soil Resource Report

Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Hydric soil rating: No

332B—Billett sandy loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1lfzd
Elevation: 620 to 1,020 feet
Mean annual precipitation: 30 to 40 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 140 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Billett and similar soils: 88 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Billett

Setting

Landform: Outwash plains, stream terraces
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Outwash

Typical profile

H1 - 0 to 8 inches: sandy loam
H2 - 8 to 29 inches: sandy loam
H3 - 29 to 38 inches: sandy loam
H4 - 38 to 60 inches: loamy sand

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Selmass

Percent of map unit:

Landform: Outwash plains, stream terraces

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: Yes

363D2—Griswold loam, 6 to 12 percent slopes, eroded

Map Unit Setting

National map unit symbol: 5v3t

Elevation: 680 to 1,150 feet

Mean annual precipitation: 30 to 40 inches

Mean annual air temperature: 45 to 52 degrees F

Frost-free period: 140 to 180 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Griswold and similar soils: 90 percent

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

Description of Griswold

Setting

Landform: End moraines, ground moraines

Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Till

Typical profile

H1 - 0 to 8 inches: loam

H2 - 8 to 23 inches: clay loam

H3 - 23 to 27 inches: sandy loam

H4 - 27 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 6 to 12 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Custom Soil Resource Report

Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Available water supply, 0 to 60 inches: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Hydric soil rating: No

403C—Elizabeth silt loam, 5 to 10 percent slopes

Map Unit Setting

National map unit symbol: 1lfzj
Elevation: 1,000 to 1,500 feet
Mean annual precipitation: 29 to 38 inches
Mean annual air temperature: 45 to 57 degrees F
Frost-free period: 165 to 190 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Elizabeth

Setting

Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loamy residuum weathered from limestone and dolomite

Typical profile

A1 - 0 to 6 inches: silt loam
R - 6 to 60 inches: bedrock

Properties and qualities

Slope: 5 to 10 percent
Depth to restrictive feature: 4 to 20 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Very low (about 1.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Custom Soil Resource Report

Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Hydric soil rating: No

411C2—Ashdale silt loam, 5 to 10 percent slopes, eroded

Map Unit Setting

National map unit symbol: 5v4l
Elevation: 680 to 1,360 feet
Mean annual precipitation: 32 to 40 inches
Mean annual air temperature: 48 to 54 degrees F
Frost-free period: 150 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Ashdale and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ashdale

Setting

Landform: Ground moraines
Landform position (two-dimensional): Shoulder, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loess over residuum weathered from limestone

Typical profile

A - 0 to 9 inches: silt loam
Bt - 9 to 48 inches: silty clay loam
2Bt - 48 to 56 inches: silty clay
2R - 56 to 60 inches: bedrock

Properties and qualities

Slope: 5 to 10 percent
Depth to restrictive feature: 40 to 60 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high
(0.01 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 11.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Hydric soil rating: No

440A—Jasper silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 5v52
Elevation: 600 to 900 feet
Mean annual precipitation: 32 to 40 inches
Mean annual air temperature: 47 to 54 degrees F
Frost-free period: 150 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Jasper and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Jasper

Setting

Landform: Outwash plains, stream terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve, riser
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Thin mantle of loess or other silty material and in the underlying outwash

Typical profile

H1 - 0 to 18 inches: silt loam
H2 - 18 to 37 inches: loam
H3 - 37 to 44 inches: sandy loam
H4 - 44 to 60 inches: stratified loamy sand to silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Available water supply, 0 to 60 inches: High (about 11.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Hydric soil rating: No

440B—Jasper silt loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 5v53
Elevation: 600 to 900 feet
Mean annual precipitation: 32 to 40 inches
Mean annual air temperature: 47 to 54 degrees F
Frost-free period: 150 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Jasper and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Jasper

Setting

Landform: Outwash plains, stream terraces
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve, riser
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Thin mantle of loess or other silty material and in the underlying outwash

Typical profile

H1 - 0 to 14 inches: silt loam
H2 - 14 to 43 inches: clay loam
H3 - 43 to 52 inches: loam
H4 - 52 to 60 inches: stratified loamy sand to silt loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups

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

440C2—Jasper silt loam, 5 to 10 percent slopes, eroded

Map Unit Setting

National map unit symbol: 5v54

Elevation: 600 to 900 feet

Mean annual precipitation: 32 to 40 inches

Mean annual air temperature: 47 to 54 degrees F

Frost-free period: 150 to 180 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Jasper and similar soils: 90 percent

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

Description of Jasper

Setting

Landform: Outwash plains, stream terraces

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 or other silty material and in the underlying outwash

Typical profile

H1 - 0 to 9 inches: silt loam

H2 - 9 to 29 inches: loam

H3 - 29 to 37 inches: sandy loam

H4 - 37 to 60 inches: stratified loamy sand to silt loam

Properties and qualities

Slope: 5 to 10 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 25 percent

Available water supply, 0 to 60 inches: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Hydric soil rating: No

490A—Odell silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 5v5b
Elevation: 510 to 1,400 feet
Mean annual precipitation: 30 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

Odell and similar soils: 95 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Odell

Setting

Landform: Ground moraines
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Thin layer of loess over till

Typical profile

A - 0 to 15 inches: silt loam
2Bt1 - 15 to 20 inches: clay loam
2Bt2 - 20 to 29 inches: clay loam
2BC - 29 to 40 inches: loam
2C - 40 to 60 inches: 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 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: 35 percent
Available water supply, 0 to 60 inches: Moderate (about 8.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: C/D
Hydric soil rating: No

Minor Components

Clyde

Percent of map unit:

Landform: Drainageways

Landform position (two-dimensional): Toeslope

Down-slope shape: Linear

Across-slope shape: Concave

Ecological site: R108BY015IL - Wet Loamy Outwash Prairie

Hydric soil rating: Yes

Selma

Percent of map unit:

Landform: Outwash plains, stream terraces

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Talf

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: Yes

506C2—Hitt silt loam, 5 to 10 percent slopes, eroded

Map Unit Setting

National map unit symbol: 5v5p

Elevation: 680 to 1,360 feet

Mean annual precipitation: 30 to 35 inches

Mean annual air temperature: 50 to 54 degrees F

Frost-free period: 150 to 180 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Hitt and similar soils: 90 percent

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

Description of Hitt

Setting

Landform: Ground moraines

Landform position (two-dimensional): Shoulder, backslope

Landform position (three-dimensional): Side slope

Down-slope shape: Convex

Across-slope shape: Linear

Parent material: Loess over till over residuum weathered from limestone and dolomite

Typical profile

A - 0 to 8 inches: silt loam

Bt - 8 to 19 inches: silty clay loam

2Bt - 19 to 37 inches: clay loam

3Bt - 37 to 42 inches: silty clay

Custom Soil Resource Report

3R - 42 to 60 inches: bedrock

Properties and qualities

Slope: 5 to 10 percent

Depth to restrictive feature: 40 to 60 inches to lithic bedrock

Drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Low to moderately high
(0.01 to 0.20 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: C

Hydric soil rating: No

566B—Rockton and Dodgeville soils, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 5v64

Elevation: 680 to 1,070 feet

Mean annual precipitation: 30 to 40 inches

Mean annual air temperature: 45 to 52 degrees F

Frost-free period: 140 to 180 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Rockton and similar soils: 46 percent

Dodgeville and similar soils: 44 percent

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

Description of Rockton

Setting

Landform: Hillslopes

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Interfluve

Down-slope shape: Convex

Across-slope shape: Convex

Parent material: Loamy drift over clayey residuum weathered from limestone and dolomite

Typical profile

A - 0 to 10 inches: loam

Bt - 10 to 21 inches: clay loam

2Bt - 21 to 25 inches: clay

2R - 25 to 60 inches: bedrock

Custom Soil Resource Report

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

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

Description of Dodgeville

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Thin layer of loess over clayey residuum weathered from limestone and dolomite

Typical profile

A - 0 to 12 inches: silt loam
Bt - 12 to 21 inches: silty clay loam
2Bt - 21 to 36 inches: clay
2R - 36 to 60 inches: bedrock

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well 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: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.8 inches)

Interpretive groups

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

772A—Marshan loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 5v71
Elevation: 540 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: Prime farmland if drained

Map Unit Composition

Marshan and similar soils: 88 percent
Minor components: 12 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Marshan

Setting

Landform: Stream terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Loamy outwash over sandy and gravelly outwash

Typical profile

H1 - 0 to 17 inches: loam
H2 - 17 to 20 inches: loam
H3 - 20 to 24 inches: loam
H4 - 24 to 60 inches: coarse sand

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 to high
(0.60 to 2.00 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Hayfield

Percent of map unit: 5 percent
Landform: Stream terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

La hogue

Percent of map unit: 4 percent
Landform: Stream terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Adrian

Percent of map unit: 3 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

777A—Adrian muck, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2nf39
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: Farmland of statewide importance

Map Unit Composition

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

Description of Adrian

Setting

Landform: Outwash plains, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip

Custom Soil Resource Report

Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Herbaceous organic material over sandy outwash

Typical profile

Oap - 0 to 7 inches: muck
Oa - 7 to 40 inches: muck
Cg - 40 to 60 inches: loamy sand

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 12 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Very high (about 17.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A/D
Ecological site: R110XY022IL - Organic Sand Seep
Hydric soil rating: Yes

Minor Components

Granby

Percent of map unit: 4 percent
Landform: Outwash plains, lake terraces
Landform position (two-dimensional): Toeslope
Ecological site: R110XY015IL - Wet Sand Prairie
Hydric soil rating: Yes

Selmass

Percent of map unit: 2 percent
Landform: Outwash plains, stream terraces
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

Gilford

Percent of map unit: 2 percent
Landform: Outwash plains
Landform position (two-dimensional): Toeslope
Ecological site: R110XY015IL - Wet Sand Prairie
Hydric soil rating: Yes

781B—Friesland fine sandy loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1lgvn
Elevation: 680 to 1,020 feet
Mean annual precipitation: 30 to 40 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 140 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Friesland and similar soils: 92 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Friesland

Setting

Landform: Stream terraces, ground moraines
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy outwash over silty sediments

Typical profile

H1 - 0 to 19 inches: fine sandy loam
H2 - 19 to 35 inches: loam
H3 - 35 to 45 inches: silt loam
H4 - 45 to 60 inches: silt loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high
(0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

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

783A—Flagler sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 5v86
Elevation: 680 to 1,020 feet
Mean annual precipitation: 30 to 40 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 140 to 180 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Flagler and similar soils: 92 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Flagler

Setting

Landform: Outwash plains, stream terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Moderately coarse-textured alluvium over coarse-textured alluvium

Typical profile

H1 - 0 to 23 inches: sandy loam
H2 - 23 to 33 inches: sandy loam
H3 - 33 to 41 inches: gravelly loamy sand
H4 - 41 to 70 inches: gravelly sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Marshan

Percent of map unit:
Landform: Outwash plains, stream terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

939D2—Rodman-Warsaw complex, 6 to 12 percent slopes, eroded

Map Unit Setting

National map unit symbol: 5v8l
Elevation: 680 to 1,020 feet
Mean annual precipitation: 30 to 40 inches
Mean annual air temperature: 45 to 52 degrees F
Frost-free period: 140 to 180 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Rodman and similar soils: 55 percent
Warsaw and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rodman

Setting

Landform: Stream terraces, kames, outwash plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and gravelly glaciofluvial deposits

Typical profile

H1 - 0 to 7 inches: gravelly loam
H2 - 7 to 13 inches: gravelly loam
H3 - 13 to 60 inches: stratified very gravelly loamy sand to extremely gravelly coarse sand

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches

Custom Soil Resource Report

Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 45 percent
Available water supply, 0 to 60 inches: Very low (about 2.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: A
Hydric soil rating: No

Description of Warsaw

Setting

Landform: Stream terraces, kames, outwash plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits

Typical profile

H1 - 0 to 7 inches: loam
H2 - 7 to 27 inches: clay loam
H3 - 27 to 60 inches: stratified gravelly loamy sand to extremely gravelly coarse sand

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: 24 to 40 inches to strongly contrasting textural stratification
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 35 percent
Available water supply, 0 to 60 inches: Low (about 5.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B

3082A—Millington silt loam, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 5v8s

Custom Soil Resource Report

Elevation: 600 to 1,500 feet

Mean annual precipitation: 25 to 45 inches

Mean annual air temperature: 39 to 57 degrees F

Frost-free period: 130 to 200 days

Farmland classification: Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Millington and similar soils: 97 percent

Minor components: 3 percent

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

Description of Millington

Setting

Landform: Flood plains

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Base slope

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Calcareous alluvium

Typical profile

A - 0 to 19 inches: silt loam

Bg - 19 to 35 inches: loam

Cg - 35 to 60 inches: 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 to high
(0.60 to 2.00 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: NoneFrequent

Frequency of ponding: Frequent

Calcium carbonate, maximum content: 30 percent

Available water supply, 0 to 60 inches: High (about 11.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: B/D

Hydric soil rating: Yes

Minor Components

Sawmill

Percent of map unit: 1 percent

Landform: Flood plains

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Base slope

Down-slope shape: Linear

Across-slope shape: Linear

Hydric soil rating: Yes

Custom Soil Resource Report

Otter

Percent of map unit: 1 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Houghton

Percent of map unit: 1 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

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Custom Soil Resource Report

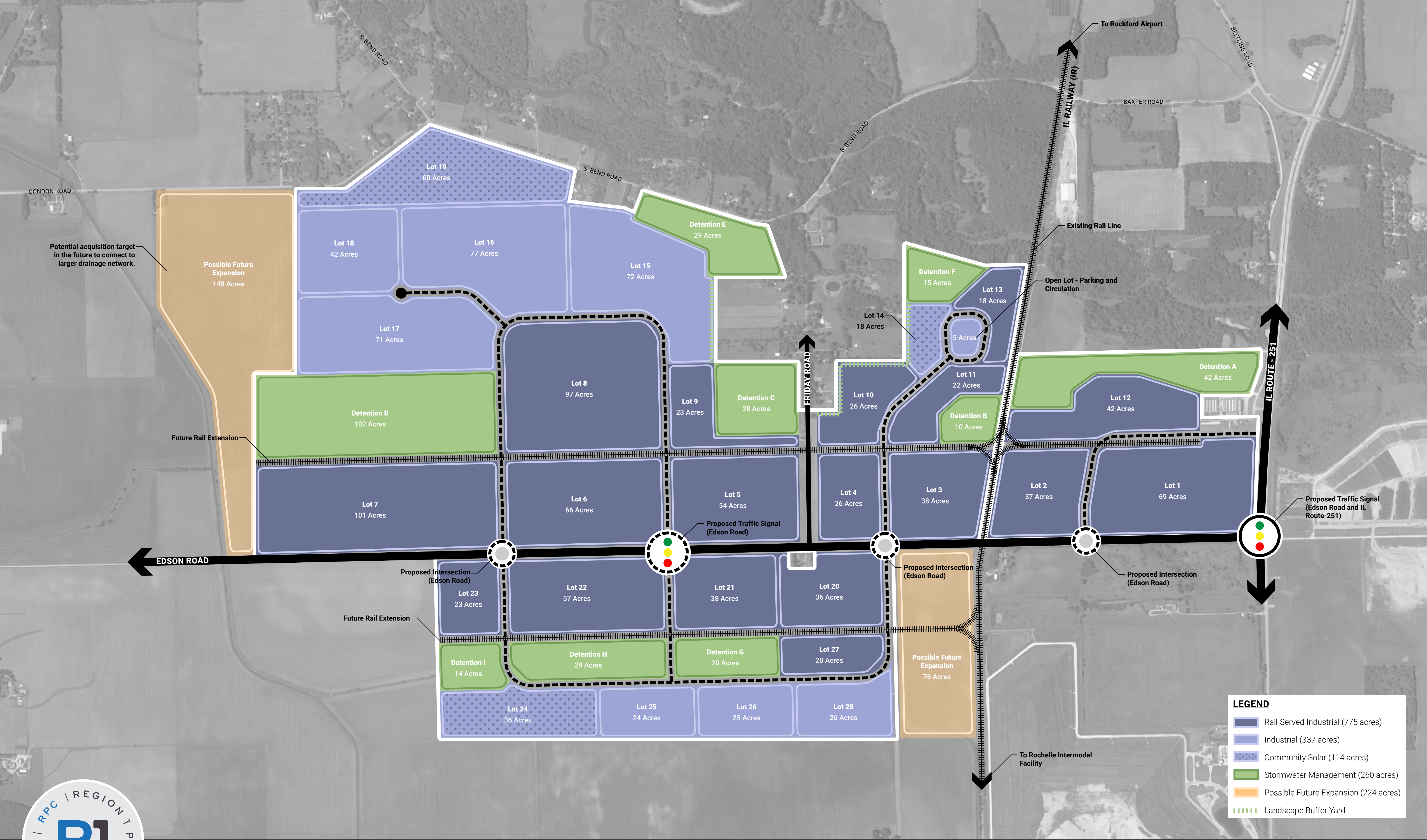
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Exhibit C

Conceptual Plans



Potential acquisition target in the future to connect to larger drainage network.

Possible Future Expansion
148 Acres

Future Rail Extension

Future Rail Extension

Possible Future Expansion
76 Acres

LEGEND	
	Rail-Served Industrial (775 acres)
	Industrial (337 acres)
	Community Solar (114 acres)
	Stormwater Management (260 acres)
	Possible Future Expansion (224 acres)
	Landscape Buffer Yard



PREPARED FOR:
REGION 1 PLANNING COUNCIL
127 N. Wyman Street, Ste. 100
Rockford, IL 61101

ROCKFORD RAIL-SERVED INDUSTRIAL PLAN
Concept Plan
Option One - 12/07/22



ENGINEER:
FEHR GRAHAM
200 Prairie Street, Suite 208
Rockford, IL 61107



PLANNER:
WBK ENGINEERING
116 W. Main Street, Suite 201
St. Charles, IL 60174





PREPARED FOR:
REGION 1 PLANNING COUNCIL
 127 N. Wyman Street, Ste. 100
 Rockford, IL 61101

ROCKFORD RAIL-SERVED INDUSTRIAL PLAN
 Concept Plan
 Option Two - 12/07/22



ENGINEER:
FEHR GRAHAM
 200 Prairie Street, Suite 208
 Rockford, IL 61107



PLANNER:
WBK ENGINEERING
 116 W. Main Street, Suite 201
 St. Charles, IL 60174



Appendix D

Estimate of Cost



Project
Local Agency
County

Edson Road Industrial Park
City of Rockford
Winnebago

Estimate of Cost

COMPLETE PROJECT - PHASES 1-6

Code Number	Item	Unit of Measure	Quantity	Unit Price	Total Cost
1	EARTH EXCAVATION AND SITE GRADING	ACRE	1475	\$12,500.00	\$18,437,500.00
2	IL 251 INTERSECTION IMPROVEMENTS	L SUM	1	\$1,750,000.00	\$1,750,000.00
3	EDSON ROAD RECONSTRUCTION, 2-LANE RURAL	FOOT	17150	\$350.00	\$6,002,500.00
4	INTERNAL ROADWAY CONSTRUCTION, URBAN 3-LANE SECTION	FOOT	30850	\$300.00	\$9,255,000.00
5	WATERMAIN, 12" COMPLETE	FOOT	48700	\$175.00	\$8,522,500.00
6	SANITARY SEWER, 12" COMPLETE	FOOT	42775	\$200.00	\$8,555,000.00
7	STORM SEWER, COMPLETE	FOOT	37020	\$150.00	\$5,553,000.00
8	STORMWATER MANAGEMENT (DETENTION FACILITIES)	AC-FT	610	\$7,500.00	\$4,575,000.00
9	TRAFFIC SIGNALS, COMPLETE	L SUM	4	\$500,000.00	\$2,000,000.00
10	INDUSTRIAL RAIL SPUR, COMPLETE	FOOT	18500	\$400.00	\$7,400,000.00
11	MAINLINE TURNOUT	L SUM	3	\$200,000.00	\$600,000.00
12	AT-GRADE CROSSING AND CROSSING PROTECTION, COMPLETE	L SUM	7	\$200,000.00	\$1,400,000.00
13	BRIDGE CONSTRUCTION	EACH	2	\$300,000.00	\$600,000.00
	CONTINGENCY	PER	10		\$7,465,050.00
TOTAL ESTIMATED COST OF WORK INCLUDING ALL LABOR, MATERIALS AND PROFITS.					\$82,115,550.00
INFRASTRUCTURE COST PER ACRE					\$55,700.00



Project
Local Agency
County

Edson Road Industrial Park
City of Rockford
Winnebago

Estimate of Cost

PHASE 1					
Code Number	Item	Unit of Measure	Quantity	Unit Price	Total Cost
1	EARTH EXCAVATION AND SITE GRADING	ACRE	350	\$12,500.00	\$4,375,000.00
2	IL 251 INTERSECTION IMPROVEMENTS	L SUM	1	\$1,750,000.00	\$1,750,000.00
3	EDSON ROAD RECONSTRUCTION, 2-LANE RURAL	FOOT	6400	\$350.00	\$2,240,000.00
4	INTERNAL ROADWAY CONSTRUCTION, URBAN 3-LANE SECTION	FOOT	8400	\$300.00	\$2,520,000.00
5	WATERMAIN, 12" COMPLETE	FOOT	15500	\$175.00	\$2,712,500.00
6	SANITARY SEWER, 12" COMPLETE	FOOT	8400	\$200.00	\$1,680,000.00
7	STORM SEWER, COMPLETE	FOOT	10080	\$150.00	\$1,512,000.00
8	STORMWATER MANAGEMENT (DETENTION FACILITIES)	AC-FT	160	\$7,500.00	\$1,200,000.00
9	TRAFFIC SIGNALS, COMPLETE	L SUM	1	\$500,000.00	\$500,000.00
10	INDUSTRIAL RAIL SPUR, COMPLETE	FOOT	5000	\$400.00	\$2,000,000.00
11	MAINLINE TURNOUT	L SUM	2	\$200,000.00	\$400,000.00
12	AT-GRADE CROSSING AND CROSSING PROTECTION, COMPLETE	L SUM	1	\$200,000.00	\$200,000.00
13	BRIDGE CONSTRUCTION	EACH	0	\$300,000.00	\$0.00
	CONTINGENCY	PER	20		\$4,217,900.00
TOTAL ESTIMATED COST OF WORK INCLUDING ALL LABOR, MATERIALS AND PROFITS.					\$25,307,400.00
INFRASTRUCTURE COST PER ACRE					\$72,400.00



Project
Local Agency
County

Edson Road Industrial Park
City of Rockford
Winnebago

Estimate of Cost

PHASE 2					
Code Number	Item	Unit of Measure	Quantity	Unit Price	Total Cost
1	EARTH EXCAVATION AND SITE GRADING	ACRE	300	\$12,500.00	\$3,750,000.00
2	IL 251 INTERSECTION IMPROVEMENTS	L SUM	0	\$1,750,000.00	\$0.00
3	EDSON ROAD RECONSTRUCTION, 2-LANE RURAL	FOOT	7950	\$350.00	\$2,782,500.00
4	INTERNAL ROADWAY CONSTRUCTION, URBAN 3-LANE SECTION	FOOT	9200	\$300.00	\$2,760,000.00
5	WATERMAIN, 12" COMPLETE	FOOT	17150	\$175.00	\$3,001,250.00
6	SANITARY SEWER, 12" COMPLETE	FOOT	18325	\$200.00	\$3,665,000.00
7	STORM SEWER, COMPLETE	FOOT	11040	\$150.00	\$1,656,000.00
8	STORMWATER MANAGEMENT (DETENTION FACILITIES)	AC-FT	120	\$7,500.00	\$900,000.00
9	TRAFFIC SIGNALS, COMPLETE	L SUM	1	\$500,000.00	\$500,000.00
10	INDUSTRIAL RAIL SPUR, COMPLETE	FOOT	4000	\$400.00	\$1,600,000.00
11	MAINLINE TURNOUT	L SUM	0	\$200,000.00	\$0.00
12	AT-GRADE CROSSING AND CROSSING PROTECTION, COMPLETE	L SUM	2	\$200,000.00	\$400,000.00
13	BRIDGE CONSTRUCTION	EACH	0	\$300,000.00	\$0.00
	CONTINGENCY	PER	20		\$4,202,950.00
TOTAL ESTIMATED COST OF WORK INCLUDING ALL LABOR, MATERIALS AND PROFITS.					\$25,217,700.00
INFRASTRUCTURE COST PER ACRE					\$84,100.00



Project
Local Agency
County

Edson Road Industrial Park
City of Rockford
Winnebago

Estimate of Cost

PHASE 3					
Code Number	Item	Unit of Measure	Quantity	Unit Price	Total Cost
1	EARTH EXCAVATION AND SITE GRADING	ACRE	175	\$12,500.00	\$2,187,500.00
2	IL 251 INTERSECTION IMPROVEMENTS	L SUM	0	\$1,750,000.00	\$0.00
3	EDSON ROAD RECONSTRUCTION, 2-LANE RURAL	FOOT	0	\$350.00	\$0.00
4	INTERNAL ROADWAY CONSTRUCTION, URBAN 3-LANE SECTION	FOOT	6600	\$300.00	\$1,980,000.00
5	WATERMAIN, 12" COMPLETE	FOOT	6600	\$175.00	\$1,155,000.00
6	SANITARY SEWER, 12" COMPLETE	FOOT	6600	\$200.00	\$1,320,000.00
7	STORM SEWER, COMPLETE	FOOT	7920	\$150.00	\$1,188,000.00
8	STORMWATER MANAGEMENT (DETENTION FACILITIES)	AC-FT	70	\$7,500.00	\$525,000.00
9	TRAFFIC SIGNALS, COMPLETE	L SUM	1	\$500,000.00	\$500,000.00
10	INDUSTRIAL RAIL SPUR, COMPLETE	FOOT	4000	\$400.00	\$1,600,000.00
11	MAINLINE TURNOUT	L SUM	1	\$200,000.00	\$200,000.00
12	AT-GRADE CROSSING AND CROSSING PROTECTION, COMPLETE	L SUM	2	\$200,000.00	\$400,000.00
13	BRIDGE CONSTRUCTION	EACH	2	\$300,000.00	\$600,000.00
	CONTINGENCY	PER	20		\$2,331,100.00
TOTAL ESTIMATED COST OF WORK INCLUDING ALL LABOR, MATERIALS AND PROFITS.					\$13,986,600.00
INFRASTRUCTURE COST PER ACRE					\$80,000.00



Project
Local Agency
County

Edson Road Industrial Park
City of Rockford
Winnebago

Estimate of Cost

PHASE 4					
Code Number	Item	Unit of Measure	Quantity	Unit Price	Total Cost
1	EARTH EXCAVATION AND SITE GRADING	ACRE	350	\$12,500.00	\$4,375,000.00
2	IL 251 INTERSECTION IMPROVEMENTS	L SUM	0	\$1,750,000.00	\$0.00
3	EDSON ROAD RECONSTRUCTION, 2-LANE RURAL	FOOT	0	\$350.00	\$0.00
4	INTERNAL ROADWAY CONSTRUCTION, URBAN 3-LANE SECTION	FOOT	1900	\$300.00	\$570,000.00
5	WATERMAIN, 12" COMPLETE	FOOT	1900	\$175.00	\$332,500.00
6	SANITARY SEWER, 12" COMPLETE	FOOT	1900	\$200.00	\$380,000.00
7	STORM SEWER, COMPLETE	FOOT	2280	\$150.00	\$342,000.00
8	STORMWATER MANAGEMENT (DETENTION FACILITIES)	AC-FT	140	\$7,500.00	\$1,050,000.00
9	TRAFFIC SIGNALS, COMPLETE	L SUM	0	\$500,000.00	\$0.00
10	INDUSTRIAL RAIL SPUR, COMPLETE	FOOT	0	\$400.00	\$0.00
11	MAINLINE TURNOUT	L SUM	0	\$200,000.00	\$0.00
12	AT-GRADE CROSSING AND CROSSING PROTECTION, COMPLETE	L SUM	0	\$200,000.00	\$0.00
13	BRIDGE CONSTRUCTION	EACH	0	\$300,000.00	\$0.00
	CONTINGENCY	PER	20		\$1,409,900.00
TOTAL ESTIMATED COST OF WORK INCLUDING ALL LABOR, MATERIALS AND PROFITS.					\$8,459,400.00
INFRASTRUCTURE COST PER ACRE					\$24,200.00



Project
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County

Edson Road Industrial Park
City of Rockford
Winnebago

Estimate of Cost

PHASE 5					
Code Number	Item	Unit of Measure	Quantity	Unit Price	Total Cost
1	EARTH EXCAVATION AND SITE GRADING	ACRE	100	\$12,500.00	\$1,250,000.00
2	IL 251 INTERSECTION IMPROVEMENTS	L SUM	0	\$1,750,000.00	\$0.00
3	EDSON ROAD RECONSTRUCTION, 2-LANE RURAL	FOOT	2800	\$350.00	\$980,000.00
4	INTERNAL ROADWAY CONSTRUCTION, URBAN 3-LANE SECTION	FOOT	0	\$300.00	\$0.00
5	WATERMAIN, 12" COMPLETE	FOOT	2800	\$175.00	\$490,000.00
6	SANITARY SEWER, 12" COMPLETE	FOOT	2800	\$200.00	\$560,000.00
7	STORM SEWER, COMPLETE	FOOT	0	\$150.00	\$0.00
8	STORMWATER MANAGEMENT (DETENTION FACILITIES)	AC-FT	40	\$7,500.00	\$300,000.00
9	TRAFFIC SIGNALS, COMPLETE	L SUM	0	\$500,000.00	\$0.00
10	INDUSTRIAL RAIL SPUR, COMPLETE	FOOT	2500	\$400.00	\$1,000,000.00
11	MAINLINE TURNOUT	L SUM	0	\$200,000.00	\$0.00
12	AT-GRADE CROSSING AND CROSSING PROTECTION, COMPLETE	L SUM	1	\$200,000.00	\$200,000.00
13	BRIDGE CONSTRUCTION	EACH	0	\$300,000.00	\$0.00
	CONTINGENCY	PER	20		\$956,000.00
TOTAL ESTIMATED COST OF WORK INCLUDING ALL LABOR, MATERIALS AND PROFITS.					\$5,736,000.00
INFRASTRUCTURE COST PER ACRE					\$57,400.00



Project
Local Agency
County

Edson Road Industrial Park
City of Rockford
Winnebago

Estimate of Cost

PHASE 6					
Code Number	Item	Unit of Measure	Quantity	Unit Price	Total Cost
1	EARTH EXCAVATION AND SITE GRADING	ACRE	200	\$12,500.00	\$2,500,000.00
2	IL 251 INTERSECTION IMPROVEMENTS	L SUM	0	\$1,750,000.00	\$0.00
3	EDSON ROAD RECONSTRUCTION, 2-LANE RURAL	FOOT	0	\$350.00	\$0.00
4	INTERNAL ROADWAY CONSTRUCTION, URBAN 3-LANE SECTION	FOOT	4750	\$300.00	\$1,425,000.00
5	WATERMAIN, 12" COMPLETE	FOOT	4750	\$175.00	\$831,250.00
6	SANITARY SEWER, 12" COMPLETE	FOOT	4750	\$200.00	\$950,000.00
7	STORM SEWER, COMPLETE	FOOT	5700	\$150.00	\$855,000.00
8	STORMWATER MANAGEMENT (DETENTION FACILITIES)	AC-FT	80	\$7,500.00	\$600,000.00
9	TRAFFIC SIGNALS, COMPLETE	L SUM	1	\$500,000.00	\$500,000.00
10	INDUSTRIAL RAIL SPUR, COMPLETE	FOOT	3000	\$400.00	\$1,200,000.00
11	MAINLINE TURNOUT	L SUM	0	\$200,000.00	\$0.00
12	AT-GRADE CROSSING AND CROSSING PROTECTION, COMPLETE	L SUM	1	\$200,000.00	\$200,000.00
13	BRIDGE CONSTRUCTION	EACH	0	\$300,000.00	\$0.00
	CONTINGENCY	PER	20		\$1,812,250.00
TOTAL ESTIMATED COST OF WORK INCLUDING ALL LABOR, MATERIALS AND PROFITS.					\$10,873,500.00
INFRASTRUCTURE COST PER ACRE					\$54,400.00