



McHenry County  
Zoning Board of Appeals - Zoning Hearing  
AGENDA

April 15, 2026, 1:30 PM  
County Board Conference Room  
Administration Building, 667 Ware Rd., Woodstock, IL 60098

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Pages

1. CALL TO ORDER
2. ROLL CALL
3. OLD BUSINESS
  - 3.1 Z26-0009 3A Energy LLC, A1-A1C, Alden Twp (continued from March 18, 2026) 2
4. NEW BUSINESS
  - 4.1 Discussion and vote on Tree Preservation Ordinance Resolution 165  
Resolution recommending that the County Board consider and adopt a Tree Preservation Ordinance.
5. PUBLIC COMMENT  
Topics unrelated to public hearing - 3-minute time limit per speaker
6. ANNOUNCEMENTS
7. ADJOURNMENT

# Staff Report for the McHenry County Zoning Board of Appeals

**Application:** #Z26-0009

**PINs:** 02-33-300-006

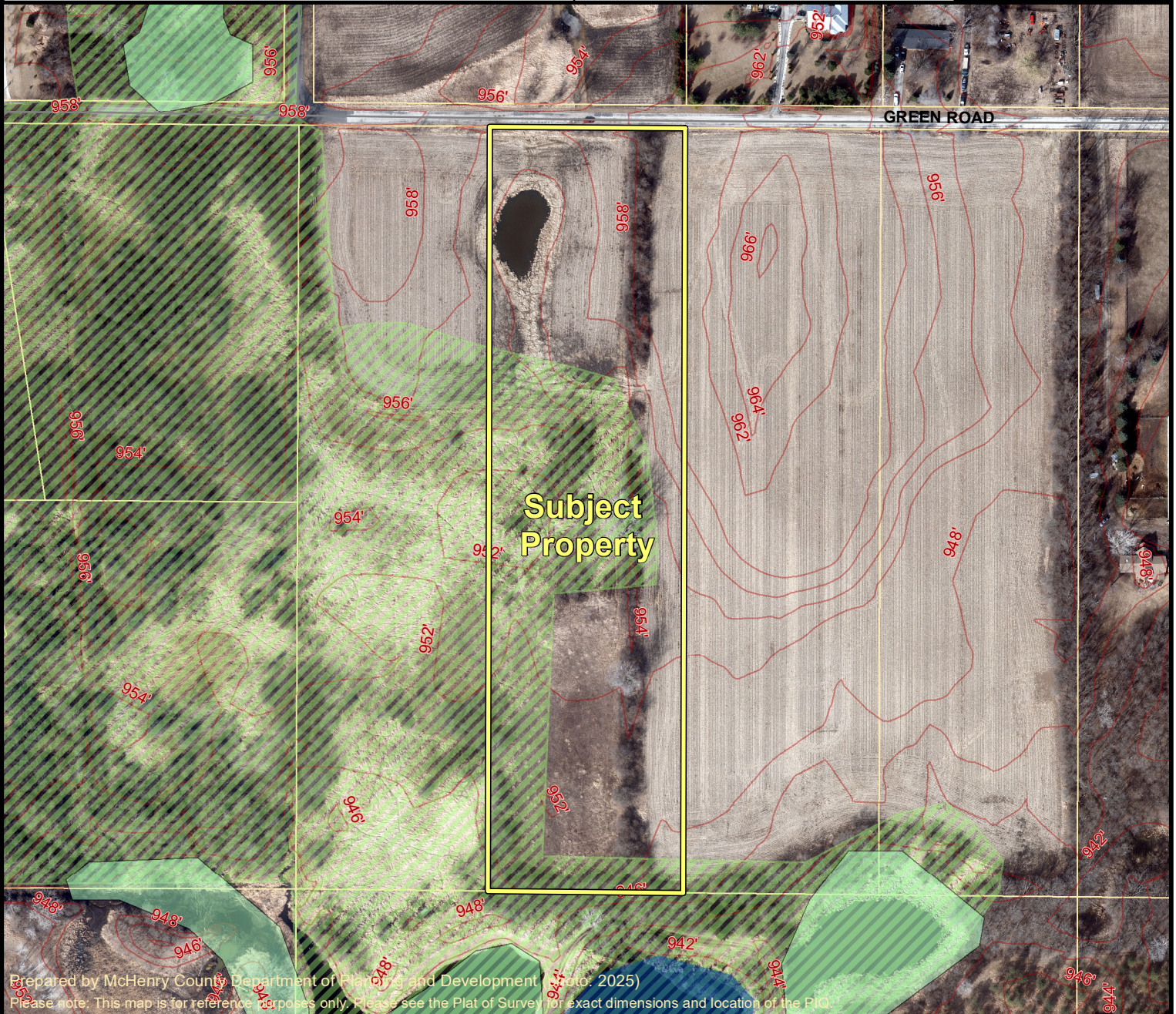
**Location:** The property consists of approximately 9.906 acres and is located on the south side of Green Road, approximately 323 feet east of the intersection of Shields and Green Roads in Alden Township, Illinois.

**Hearing:** March 18, 2026

**Applicant:** 3 A Energy LLC

**Request:** Conditional Use Permit to allow for a Commercial Solar Energy Facility

## Aerial Map



Prepared by McHenry County Department of Planning and Development (Photo: 2025)  
Please note: This map is for reference purposes only. Please see the Plat of Survey for exact dimensions and location of the PIO.

**Elevation**  
(feet above sea level)  
Contours

**ADID Wetland Map 2005**

- High Functional Value Wetland (hfw)
- High Quality Wetland (hqw)
- Wetland (w)
- Farmed Wetland (fw)

**FEMA Flood Hazard Areas**

- 0.2 % Annual Chance of Flood
- 1% Annual Chance of Flood
- Floodway

**Historic Flood Zone**



Feet  
125 62.5 0 125 250  
1 inch equals 250 feet



# Staff Report for the McHenry County Zoning Board of Appeals

## **STAFF COMMENTS**

*The following comments and conclusions are based upon staff analysis and review prior to this hearing and are to be considered viable unless evidence is established to the contrary. Staff may have additional comments based upon the testimony presented during the public hearing.*

## **BACKGROUND & REQUEST SUMMARY**

The applicant is requesting a Conditional Use Permit to allow for a Commercial Solar Energy Facility. The subject property consists of approximately 9.9 acres and is zoned A-1 Agriculture District. According to aerial photography, a portion of the property is in crop cultivation.

According to the narrative, the applicant is proposing a 2.2-megawatt commercial solar energy facility, enclosed by a seven (7)-foot tall security fence, per the regulations of the National Electric Code. The nearest adjacent residence on a nonparticipating parcel is over one-hundred fifty (150) feet from the proposed location of the solar array.

*Note: On January 27, 2023, the State of Illinois passed Public Act 102-1123 (further modified under trailer bill P.A. 103-0580 on December 8, 2023), which modifies regulations for proposed commercial solar energy facilities. The County of McHenry has amended the Unified Development Ordinance, as of April 18, 2023, in order to comply with the State's regulations.*

## **MCHENRY COUNTY UNIFIED DEVELOPMENT ORDINANCE**

- The applicant must meet the Principal Use Standards for a Solar Farm, listed in County Code Section 16.56.030.PP of the UDO (with the exception of any changes provided by Public Act 102-1123, as outlined above).

## **STAFF ANALYSIS**

### Current Land Use & Zoning

The property is adjacent to agricultural uses to the north, south, east and west. The surrounding zoning consists of A-1 Agriculture to the north, south, east, and west.

### 2030 Comprehensive Plan Future Land Use Map

The proposed conditional use permit is consistent with the County's future land use designation of Agriculture.

### 2030 Comprehensive Plan & 2030 and Beyond Analysis

The 2030 Comprehensive Plan and 2030 and Beyond Update support the construction of commercial solar energy facilities within existing agricultural areas. (See analysis below)

### McHenry County 2030 and Beyond, Adopted October 18, 2016

#### Big Idea #1 Let's make our communities healthy, active, and green

*"We can make it happen by preserving our groundwater aquifers, lakes, rivers, streams, and their natural functions."* (p.11)

- The McHenry County Water Resources Division has determined that the panels will not be calculated as an impervious surface for the development permit. This is because the panels are proposed to be elevated above the ground several feet and supported by driven piles. The petitioner will be required to obtain a Stormwater Management Permit which will include calculations for all impervious areas, including but not limited to the piles, access drives, and equipment pads.

#### Big Idea #2 Let's build on our strengths

*"We can make it happen by recognizing the economic and social importance of our agricultural industry."* (p. 15)

- The McHenry County Soil and Water Conservation District's Natural Resources Inventory report (#26-007-4790) indicates that the LE score is 90.44 out of a possible 100 regarding soils for crop production. The concerns that the development of solar facilities in the county will result in the loss of farmland, particularly prime farmland can be remediated because, unlike other forms of development, the land is preserved for future farming. Also, the proposed native vegetation may slow the velocity of runoff, capturing sediments or other pollutants and allowing water to infiltrate into the soil, thereby reducing potential for erosion and sedimentation and improving soil conditions.

#### Big Idea #3 Let's grow smarter

*"The county should also be open to commercial enterprises in the unincorporated areas that are major generators of jobs or tax revenues for which no suitable municipal sites exist elsewhere in the county, or that are dependent upon a direct proximity to agriculture or open space and designed in harmony with these areas."* (p. 17 & 21)

- Due to the size and scale of the project, undeveloped acreage is important to the siting and development of a commercial solar energy facility. The applicant should be prepared to address how the proposed use relates to the statement above regarding generation of jobs, tax revenues, and siting of the facility.

#### Big Idea #4 Let's expand our economy

*"We can make it happen by improving infrastructure, including freight and commuter rail, access to major regional and interstate roadways, and access to high-speed internet services."* (p.22)

- The proposed commercial solar energy facility will provide a renewable energy source to the electrical grid as an alternative to energy created from sources with a larger carbon footprint.

*McHenry County 2030 Comprehensive Plan, Adopted April 20, 2010*

#### Community Character & Housing

No applicable text.

#### Agricultural Resources

*"Encourage owners of parcels with the greatest potential for productive agricultural use, such as parcels with an LE score of 80 or above that are in agricultural use and contiguous with other such parcels, to preserve their parcels for agricultural uses."* (p. 38, #7)

- Commercial solar energy facilities typically have a life of approximately thirty (30) to forty (40) years and after that time the property may return to agriculture.

*"Continue joint participation with the USDA Natural Resources Conservation Service and McHenry County Soil and Water Conservation District in educational programs regarding best soil conservation practices and improving rural water quality."* (p. 38, #20)

- The McHenry-Lake County Soil and Water Conservation District recommends that areas between panels be planted to a native prairie mix to help increase water infiltration and reduce runoff from the site. It is recommended that a planting and maintenance plan be developed with the landowner to ensure that noxious weeds are controlled, and native plantings are properly installed and managed. The petitioner is encouraged to add pollinator species to this planting plan. The Soil and Water Conservation District also recommends, upon decommissioning, that if any underground lines are to remain, they should have at least five (5) feet of cover to adequately allow farming operations to commence after the facility's removal.

#### Greenways, Open Space & Natural Resources

*"Protect environmentally sensitive areas from negative impacts of adjacent land uses."* (p.57, #9)

- The IDNR found record of potential protected resources in the vicinity of the project location – Harvard East Geological Area INAI and Blanding's Turtle - but concluded that adverse effects were unlikely, as long as the applicants adopted their recommendations as outlined in their January 14, 2026, letter. The endangered species consultation was closed.

*"Encourage the design of developments to achieve the broader sustainability of human and natural communities, including the social and economic dimensions of sustainability."* (p. 57, #15)

- The proposed commercial solar energy facility will contribute to a broader sustainability objective in that it will produce clean energy as a replacement for energy produced by unsustainable means.

#### Water Resources

*"Preserve and enhance the chemical, physical, biological, hydrologic integrity of streams, lakes and wetlands."* (p.63)

*"...land use and development should be carefully examined and regulated within sensitive groundwater recharge areas to ensure that the water quality, quantity, and natural recharge functions of the area are safely maintained."* (p.67)

- The applicant will be required to obtain a Stormwater Management Permit prior to construction.

#### Economic Development

*"Decrease the degree to which the residential sector in the County must pay for services."* (p.87)

- The state legislature has approved standards that would regulate how commercial solar energy facilities are assessed for tax purposes. The standards would result in an increase from the current assessed value of agricultural land.

#### Infrastructure

*"It is estimated that every 120 MW of solar power would eliminate 1.7 million tons of carbon dioxide emissions which is the equivalent of removing 310,000 vehicles from the nation's roadways annually. A 1,000 MW coal plant produces approximately 6 million tons of carbon dioxide per year."* (p.116)

"Encourage all governmental units in the County to adopt and support ordinances that will enhance all segments of the areas electric grid." (p. 120, #5)

The proposed commercial solar energy facility is consistent with the *Comprehensive Plan* support of more sustainable energy sources.

### **STAFF ASSESSMENT**

*The 2030 Comprehensive Plan and the 2030 and Beyond Update both support the development of commercial solar energy facilities. Once the facility is constructed, there is very little to no traffic generated by the use. There is very minimal risk of noise, lighting, or other nuisances generated by this use. The proposed use is compatible with adjacent uses. As noted within Public Act 102-1123, a request for a Conditional Use Permit for a commercial solar energy facility shall be approved if the request is in compliance with the standards and conditions imposed within the Act, the zoning ordinance adopted consistent with this Code, and the conditions imposed under State and Federal statutes and regulations. A County may not adopt zoning regulations that disallow commercial solar energy facilities from being developed or operated in any district zoned to allow agricultural or industrial uses. All construction will be required to meet applicable codes and ordinances for: fire protection, commercial building and electrical construction, and stormwater management.*

Staff offers the following conditions for consideration:

1. The Conditional Use shall have no time limit, unless the use is abandoned as specified in 16.56.030.PP.4 of the McHenry County Unified Development Ordinance.
2. Site development shall be in substantial conformance with the site plan prepared by Kachi Energy, dated February 11, 2026.
3. The *Decommissioning Plan* shall be applicable in part as well as in whole. If any portion of the commercial solar energy facility ceases to perform its intended function for more than twelve (12) consecutive months, that portion of the facility shall be decommissioned in compliance with all the terms of the *Decommissioning Plan*.
4. A McHenry County Stormwater Management Permit shall be secured prior to construction. Any damaged drainage tiles shall be repaired at the expense of the Petitioner and in a manner satisfactory to the Water Resources Division Manager.
5. A detailed Landscape Plan illustrating compliance with required landscape screening standards and Illinois Department of Natural Resources Pollinator Scorecard Standards and land management practices shall be approved by the Zoning Enforcement Officer prior to issuance of construction/building permit.
6. Recommendations made by the Illinois Department of Natural Resources in their January 14, 2026, letter to the applicants shall be followed.
7. Fencing shall be provided in compliance with the National Electrical Code (NEC), as applicable, and shall be of a woven wire agricultural style, containing a 6-inch gap along the bottom to prevent the restriction of wildlife movement. Fence bonding and grounding shall be in compliance with NEC 250.194 and NEC 691.11. The use of barbed wire is prohibited. Setting fence posts in concrete is prohibited except for gate posts and where otherwise required for stability.
8. All requirements of McHenry County Unified Development Ordinance §16.56.030.PP (as amended, subject to State of Illinois Public Act 102-1123 and Public Act 103-0580) shall be met or exceeded unless specifically amended by this Conditional Use Permit.
9. All other federal, state, and local laws shall be met.

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### **16.56.030 Principal Use Standards**

**PP. COMMERCIAL SOLAR ENERGY FACILITY.** Conditional use permits for a COMMERCIAL SOLAR ENERGY FACILITY shall have no time limit, unless the use is abandoned as specified in subsection PP.4. below (COMMERCIAL SOLAR ENERGY FACILITY: Abandonment), or the permit is revoked in accordance with § 16.20.040I. (Revocation of Conditional Use Permits).

1. Application.

- a. A threatened and endangered species consultation (EcoCAT) from the Illinois Department of Natural Resources is required at the time of conditional use permit application for any site that is five (5) acres or greater in size and currently in agricultural use or undeveloped.
- b. A site plan shall be provided showing all improvements, including structures, fencing, power lines (above and below ground), lighting, and landscaping, at a detail sufficient to understand the location, height, appearance, and area.
- c. All other application submittal requirements outlined in the *Planning and Development Department Zoning Application Packet* as published on the McHenry County Website.

## 2. Site design.

- a. Solar panels, structures, and electrical equipment, excluding fences and power lines for interconnection, shall be erected no less than fifty (50) feet from any lot line and no less than one hundred fifty (150) feet from any residence, other than a residence on the same ownership parcel.
- b. No structures, excluding power lines for interconnection, may exceed twenty (20) feet in height. Power lines shall be placed underground to the maximum extent possible.
- c. Lighting must comply with § 16.60.020 (Exterior Lighting).
- d. Solar panels shall have a surface that minimizes glare and shall comply with § 16.60.040D. (Lighting and Glare).
- e. The facility shall be situated as to minimize impacts to woodlands, savannas, wetlands, drainage tiles, and encroachment into flood plains. All site development shall comply with the Stormwater Management Ordinance. Any damaged drainage tiles shall be repaired.
- f. In order prevent erosion, manage run-off, and provide ecological benefit, the facility shall be planted with “low-profile” native prairie species, using a mix appropriate for the region and soil conditions per Illinois Department of Natural Resources (IDNR) standards, as amended from time to time.
- g. Fencing shall be provided in compliance with the National Electrical Code, as applicable. The use of barbed wire must comply with § 16.56.050H.1.c. of this Ordinance.
- h. Any part of the facility that is within five hundred (500) feet of a NONPARTICIPATING RESIDENCE, or road right-of-way, shall be landscaped with an arrangement of native shrubs, subject to approval by the County Board, unless the facility is screened from view by existing vegetation.
- i. Prior to building permit issuance, the operator shall prepare a landscape monitoring and maintenance plan to ensure the establishment and continued maintenance of the native prairie species, all installed landscape screening, and all existing vegetation that provides required landscape screening.
- j. Prior to scheduled public hearing, the operator shall enter into an Agricultural Impact Mitigation Agreement with the Illinois Department of Agriculture (IDOA), as required by that department.
- k. Prior to building permit issuance, the operator shall provide an executed road use agreement between the Applicant and the appropriate governing road and highway jurisdictions or the Illinois Department of Transportation (IDOT), showing approved entrances.

## 3. Safety.

- a. Prior to construction, the operator shall prepare an emergency management plan acceptable to the County and the local fire district and shall be responsible for training of emergency personnel, as needed.
- b. A sign shall be posted providing the name of the operator and a phone number to be used in case of an on-site emergency.
- c. Access shall be granted, provided appropriate advance notice, for periodic inspection of the site by the County or the local fire district.
- d. Damaged solar panels shall be removed, repaired, or replaced within sixty (60) days of the damage. The ground shall remain free of debris from damaged solar panels at all times.

## 4. Abandonment.

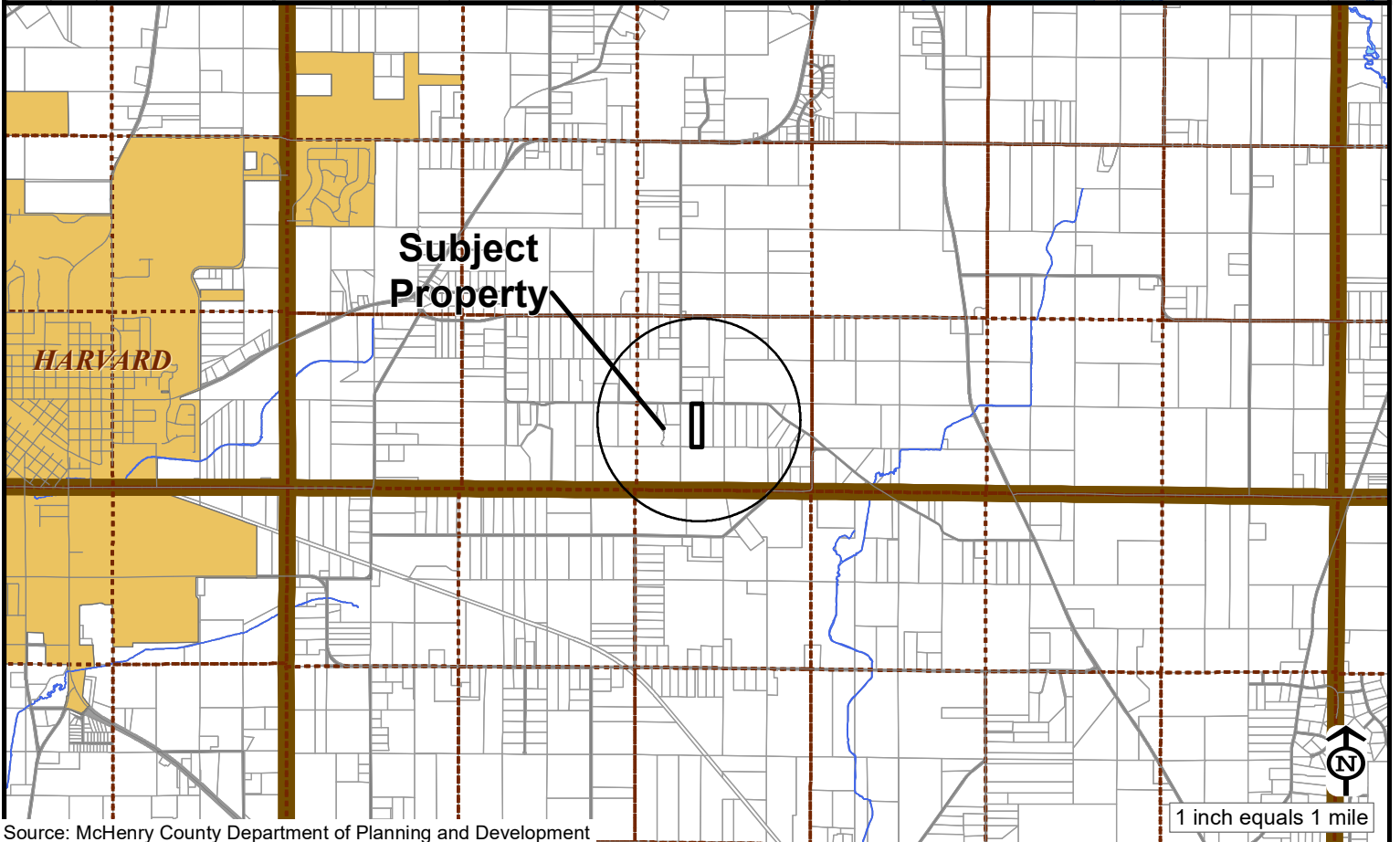
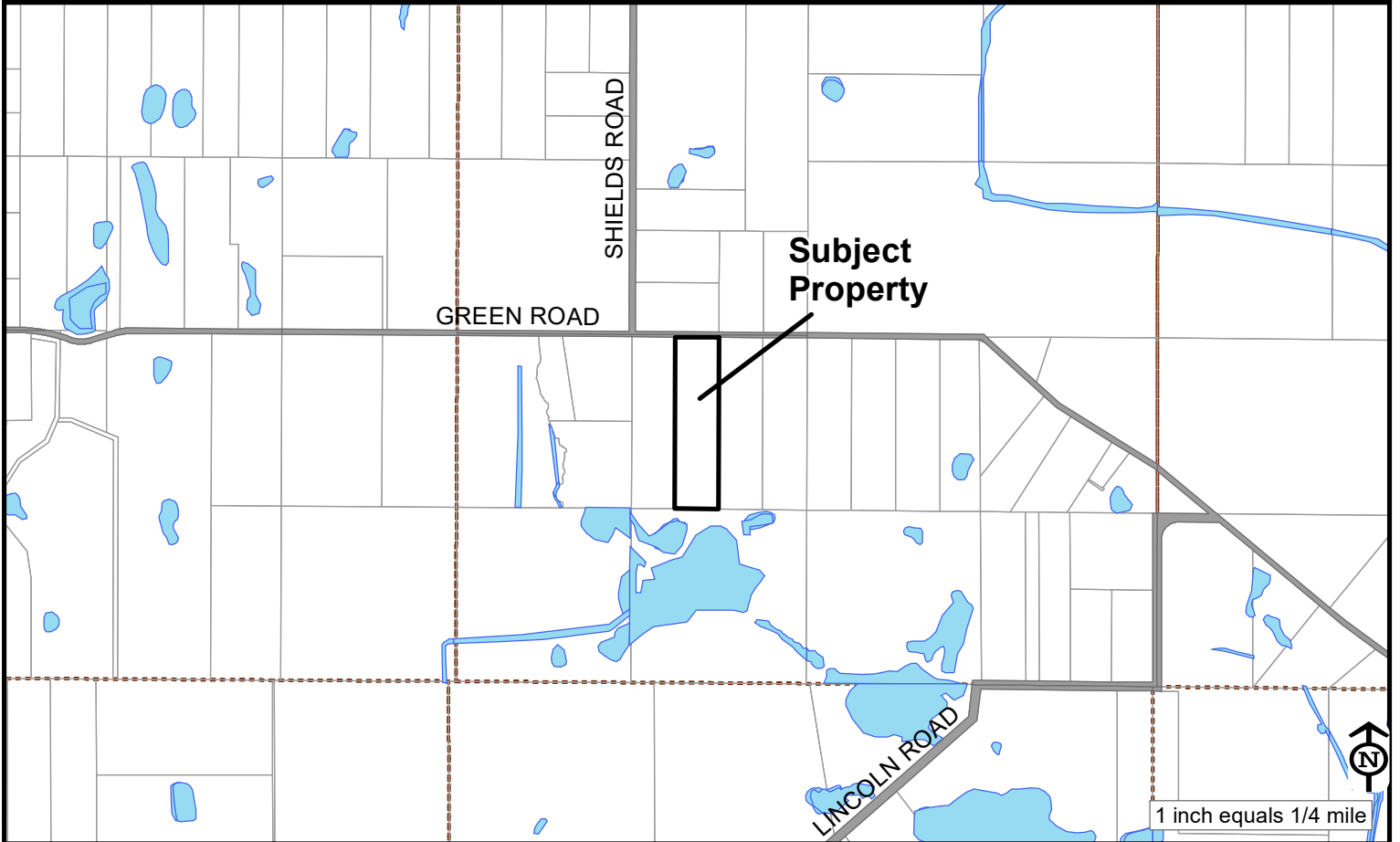
- a. The COMMERCIAL SOLAR ENERGY FACILITY shall be considered abandoned if the operator fails to pay rent as specified in the Agricultural Impact Mitigation Agreement, or it ceases to generate electricity for a period of twelve (12) consecutive months. Reports of electrical power production shall be provided to the County upon request. An abandoned COMMERCIAL SOLAR ENERGY FACILITY must be decommissioned and removed within twelve (12) months from the time it is deemed abandoned. The operator may appeal in writing to the Zoning Enforcement Officer for an extension of time in order to remove the facility or to bring the solar farm back into operation.

5. Decommissioning. Decommissioning and removal of the COMMERCIAL SOLAR ENERGY FACILITY shall be the responsibility of the operator upon abandonment or revocation of the conditional use permit. All operators shall comply with the following:

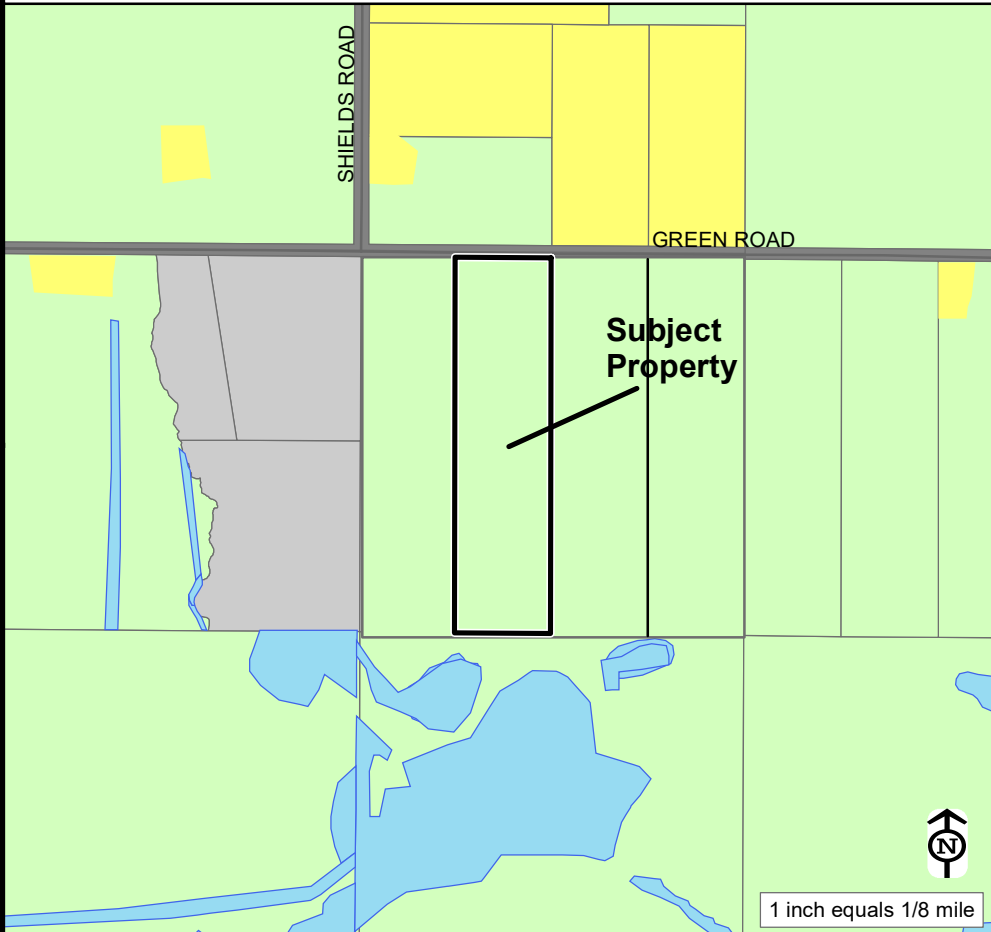
- a. Prior to building permit issuance, the operator shall prepare a decommissioning plan which shows the final site conditions after the COMMERCIAL SOLAR ENERGY FACILITY has been removed from the property. Decommissioning plans shall require removal of all solar panels, electrical equipment, poles, piles, foundations, and conduits (above and below ground). Access roads, fencing, groundcover, and landscaping may remain only by agreement of property owner.
- b. Prior to building permit issuance, the operator shall submit an engineer's estimate of cost for decommissioning the facility and restoring the site in accordance with the approved decommissioning plan. Upon review and approval by the Zoning

Enforcement Officer of the estimate, the operator shall obtain a bond, letter of credit, or other form of surety acceptable to the County to be held by the Department of Planning and Development in the amount of one hundred percent (100%) of the estimate. Provision of this financial assurance shall be phased in over the first eleven (11) years of the project's operation or as otherwise provided in accordance with the executed Agricultural Impact Mitigation Agreement.

c. During the operation of the facility, a new engineer's estimate of cost for decommissioning shall be submitted every ten (10) years to the Department of Planning and Development. Upon approval of the estimated costs by the Zoning Enforcement Officer, a revised surety shall be provided to the Department of Planning and Development in the amount of one hundred percent (100%) of the new estimate.



**Current Land Use Map**



**Current Land Use**

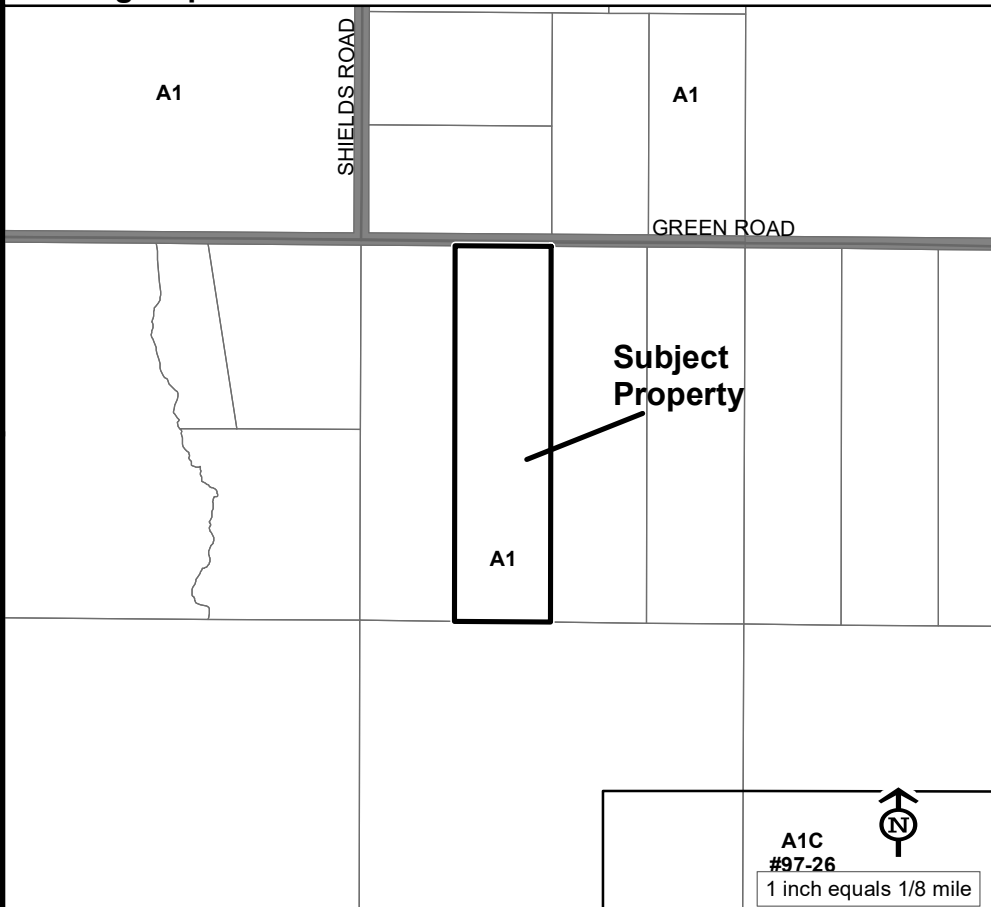
*Agriculture*

**Adjacent Land Use(s)**

North: *Agriculture*  
 South: *Agriculture*  
 East: *Agriculture*  
 West: *Agriculture*

- Agriculture
- MCCD Agriculture
- Single-Family Residential
- Multi-Family Residential
- Open Space
- Golf Course
- Commercial
- Office
- Industrial
- Mixed Use
- Earth Extraction
- Vacant
- Government / Institutional
- Transportation, Communication, Utilities
- Under Review

**Zoning Map**



**Current Zoning**

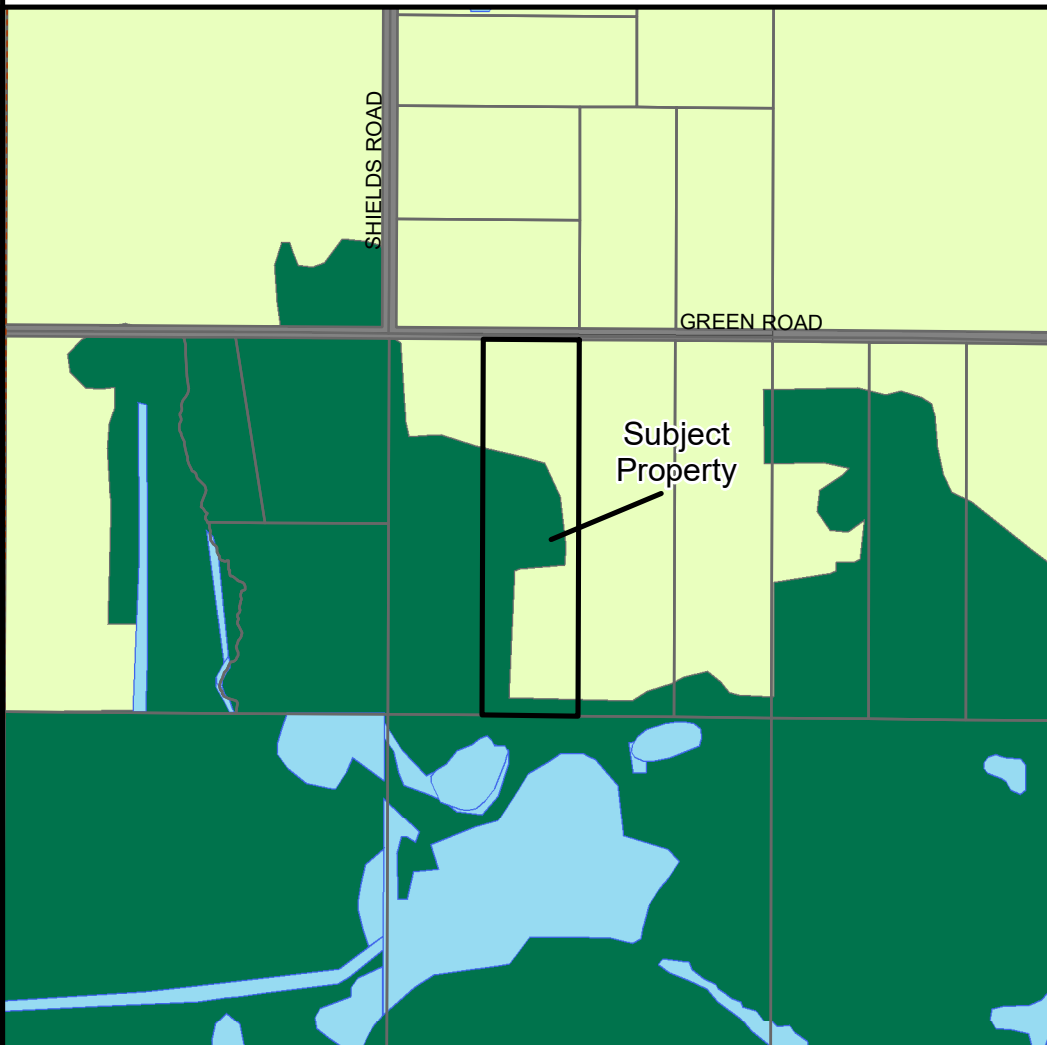
**A-1 Agriculture**

**Adjacent Zoning**

North: *A-1 Agriculture*  
 South: *A-1 Agriculture*  
 East: *A-1 Agriculture*  
 West: *A-1 Agriculture*

- A-1 Agriculture
- A-2 Agriculture
- E-5 Estate
- E-3 Estate
- E-2 Estate
- E-1 Estate
- R-1 Single-Family Residential
- R-2 Two-Family Residential
- R-3 Multiple-Family Residential
- B-1 Neighborhood Business
- B-2 Neighborhood Business
- B-3 General Business
- O Office / Research
- I-1 Light Industrial
- I-2 Heavy Industrial
- PD Planned Development
- C Conditional Use
- V Variation
- Incorporated

# McHenry County 2030 Comprehensive Plan Future Land Use Map



## Future Land Use Map Designation Agricultural/ Environmentally Sensitive Area

- Agricultural
  - Open Space
  - Environmentally Sensitive Area
  - Estate
  - Isolated Estate
  - Residential
  - Isolated Residential
  - Retail
  - Mixed Use
  - Office, Research, Industrial
  - Gov't, Institutional, Utilities
  - TOD Existing Rail Station
  - TOD Future Rail Station
  - Active Earth Extraction Site
  - Municipality
- Scale: 1 inch = 1/8 mile



### Municipal / Township Plan Designations

Alden Township: Agriculture/Environmentally Sensitive Area

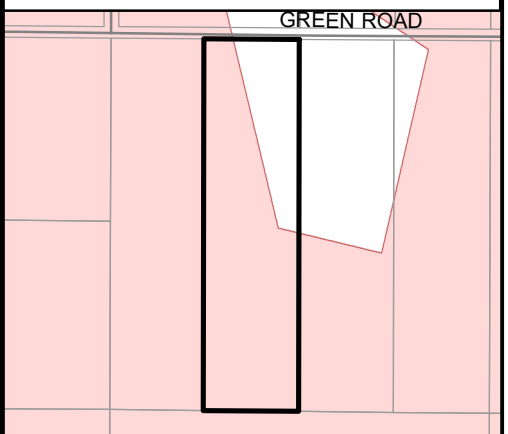
### McHenry County 2030 Comprehensive Plan — Text Analysis Land Use

**AGRICULTURAL** – represents existing agricultural acres, including cropland, pastureland, farmyards, and farmsteads, that should remain in agricultural use through the 2030 planning horizon. Development in the Agricultural District should be strictly limited to agriculture, agricultural residences, and agricultural support uses.

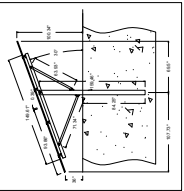
### Sensitive Aquifer Recharge Areas

The site is partially located in a zone with elevated contamination potential.

### Sensitive Aquifer Recharge Areas (SARA)



- Sensitive Recharge Area



**IMPERVIOUS AREA CALCULATIONS:**  
 I-BEAM AREA: 0.014375 SQFT  
 SWITCHGEAR PAD AREA: 55 SQFT  
 ROAD AREA: 17,002 SQFT  
**TOTAL IMPERVIOUS AREA:**  
 0.014375 + 55 + 17,002  
 = 17,064.4875 SQFT  
 = 0.392 ACRES

ACRES  
9.9

PARCEL #  
02-33-300-006

**KACHI ENERGY**  
 1575 RAVEN DR. SUITE 110  
 ELGIN, IL 60120

THESE DRAWINGS MAY HAVE BEEN REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN PERMISSION OF THE OWNER AND ARCHITECT. ASSUME NO LIABILITY FOR USE OF INACCURATE SCALE. DO NOT SCALE DRAWINGS.

SYSTEM SIZE	2.43 MW
DC	
SYSTEM SIZE	2.2 MW
AC	
PROJECT NO.	
TOTAL NO. MODULES	3,472

PROJECT NAME AND ADDRESS:  
**3 A SOLAR FARM**  
 GREEN RD  
 HARVARD, IL 60033

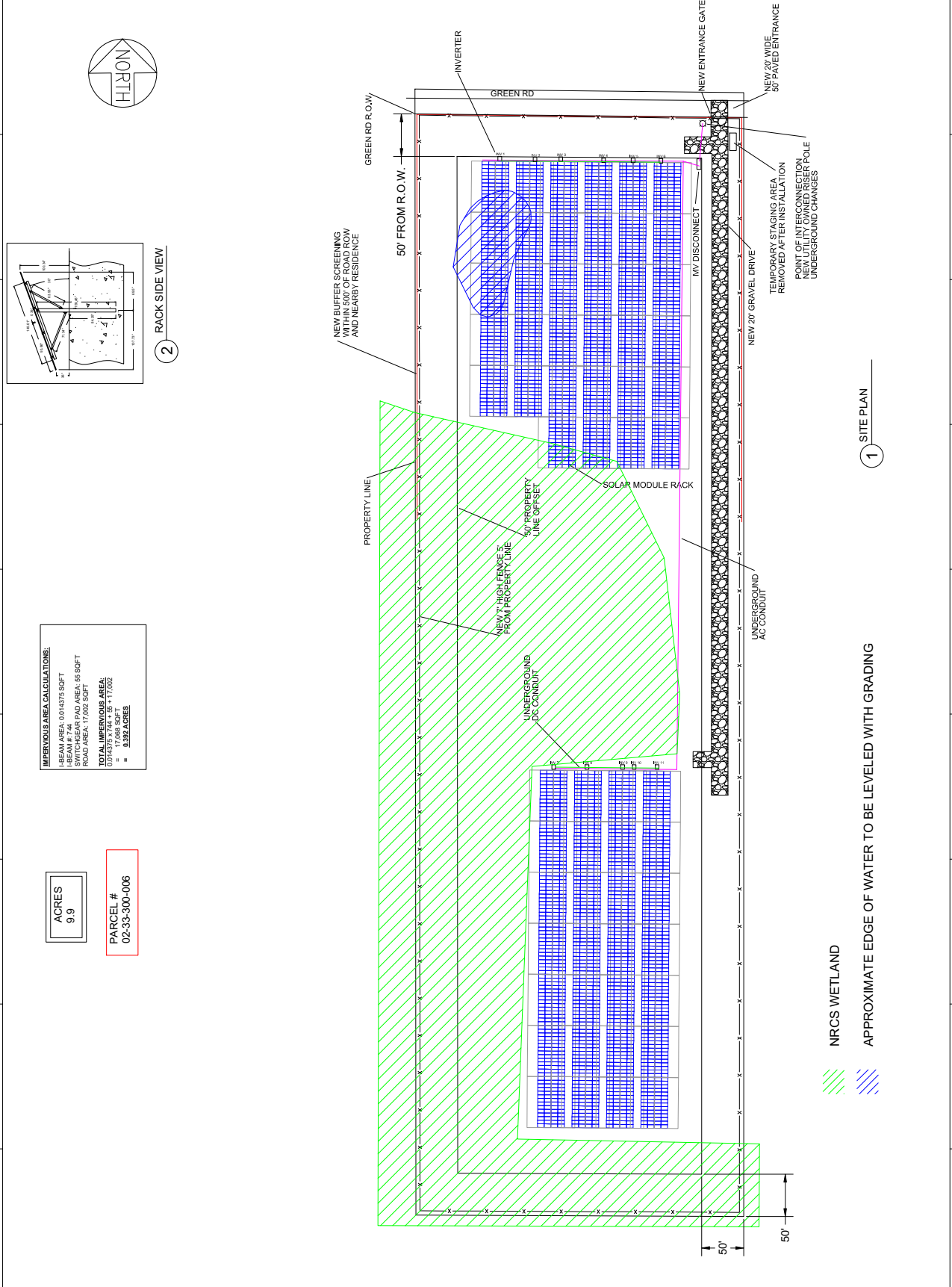
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF ILLINOIS.

PAPER SIZE 24" X 36"

REV	DESCRIPTION	DATE
1	ADD COMMENTS	2/1/2020
	DESIGNED BY: JACOB BAWA	12/1/2019
	DRAWN BY: JACOB BAWA	12/1/2019
	CHECKED BY: JACOB BAWA	12/1/2019
	SCALE:	

DRAWING TITLE:  
**SITE PLAN**

DRAWING NUMBER:  
**GA-300**



NRCS WETLAND  
 APPROXIMATE EDGE OF WATER TO BE LEVELLED WITH GRADING

① SITE PLAN

# McHENRY~LAKE COUNTY SOIL & WATER CONSERVATION DISTRICT

## NATURAL RESOURCES INFORMATION REPORT

**26-007-4790**

February 3, 2026



This report has been prepared for:  
3-A Energy LLC

Contact Person:  
Ebrahim Mamsa

PREPARED BY:  
McHENRY-LAKE COUNTY SOIL & WATER CONSERVATION  
DISTRICT

1648 S. EASTWOOD DR.

WOODSTOCK, IL 60098

PHONE: (815) 338-0444

[www.mchenryswcd.org](http://www.mchenryswcd.org)

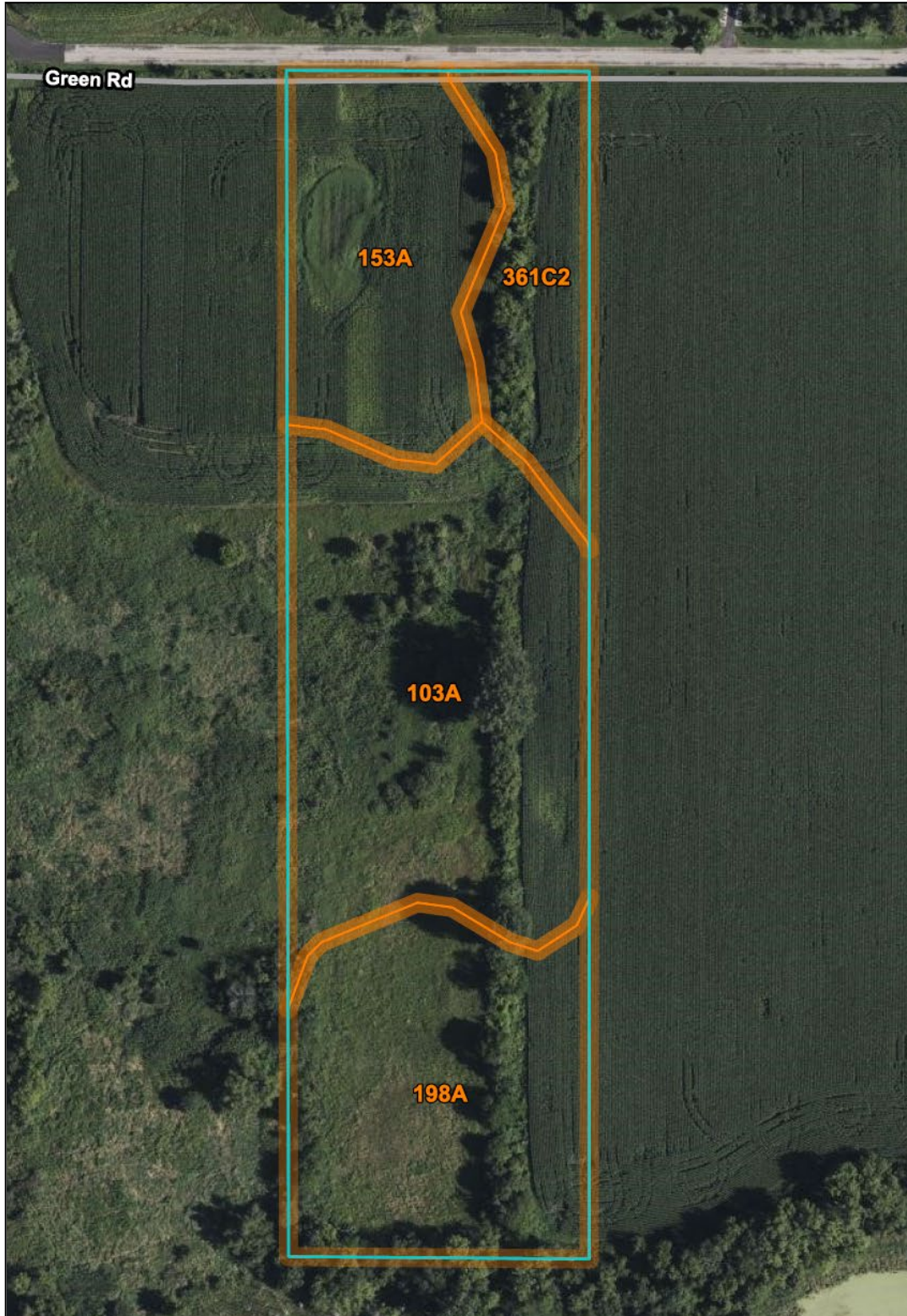
The McHenry-Lake County Soil & Water Conservation District  
is an equal opportunity provider and employer.

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## EXECUTIVE SUMMARY OF NRI REPORT #26-007-4790

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*It is the opinion of the McHenry-Lake County Soil and Water Conservation District Board of Directors that this report as summarized on these pages are pertinent to the requested zoning change.*





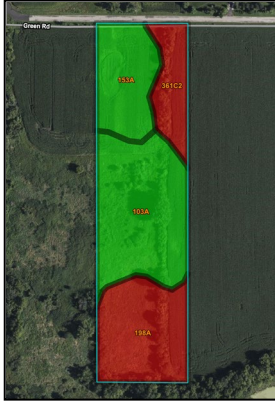
Site Picture: Looking south from Green Road.



**Aquifer Sensitivity Map** (\*This is the area beneath the soil profile down to bedrock)  
The Geologic features map indicates the parcel is comprised of B2 geologic limitations which has a moderately high contamination potential.



**Sensitive Aquifer Recharge Areas** (Includes the soil profile and underlying geology).  
The Sensitive Aquifer Recharge Map indicates 7.48 acres of the parcel is within an area designated as Sensitive Aquifer Recharge (identified in red).



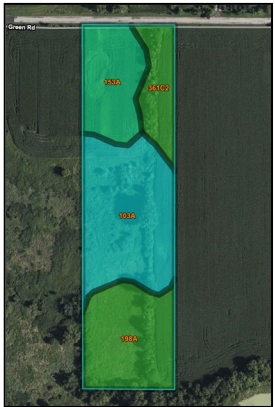
**Soil Leachability Map** (This is only the soil profile within the parcel from the surface down to approx. 5 feet).  
 The Soil Leachability Index indicates 3.9 acres or 40.0% of the parcel has high leachable soils, for fertilizers (identified in red).

**Soil Permeability** (This is only the soil profile within the parcel from the surface down to approx. 5 feet. Soil permeability is a reflection of the speed in which water (with or without pollutants) can move through the soil profile.)  
 The USDA-NRCS Soil Survey Map of the area indicates there are no highly permeable soils on the parcel.

**Soil Limitations (This evaluates the parcel from the surface down to approximately 5 feet.):**

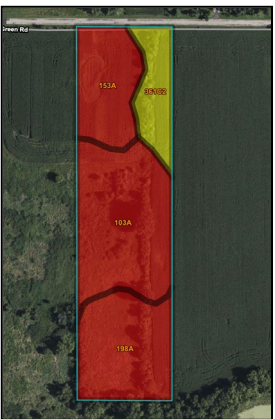
**Erosion Ratings**

The NRCS Soils Survey indicates 1.2 acres or 12.4% of the parcel is comprised of highly erodible soils.



**Prime Farmland Soils**

The Natural Resources Conservation Service (NRCS) Soil Survey indicates 3.9 acres or 40.0% of the parcel is comprised of prime farmland soil (identified in green) and 2.0 acres or 20.1% of the parcel is comprised of prime farmland if drained soils (identified in blue).



**Ground-Based Solar Arrays**

The Natural Resources Conservation Service (NRCS) Soil Survey indicates 8.6 acres or 87.6% of the parcel has very limited soils for ground-based solar arrays (identified in red).



### Hydric Soils

The NRCS Soil Survey indicates 5.9 acres or 60.0% of the parcel contains hydric soils (identified in orange and red).

### Floodplain Information:

#### The Flood Insurance Rate Map

Indicates the parcel is outside of the 100-year floodplain.

#### Flood of Record Map (Hydrologic Atlas)

The Flood of Record Map for this area indicates the parcel has not previously flooded.

### Wetland Information:



#### USDA-NRCS Wetland Inventory

The NRCS Wetlands Inventory indicates FWP: Farmed Wetland Pasture on 3.30 acres of the parcel (identified in red).



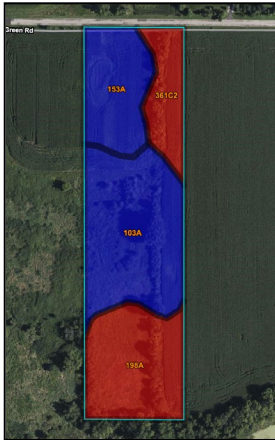
#### ADID Wetland Inventory

The ADID Wetland Study indicates 3.38 acres of High Quality Wetland K62 on the parcel.

\*It is unclear if a wetland delineation has been completed on the parcel or if the inventory boundaries were utilized for the site plan. Due to the high quality of the wetland, including being a McHenry County Natural Areas Inventory site, it is imperative to know where the exact boundaries are to ensure avoidance. Additionally, the farmed wetland within the northwest corner should be evaluated to determine potential impacts.

### Flooding Frequency

The NRCS Soil Survey indicates flooding is not probable. The chance of flooding is nearly 0 percent in any year. Flooding occurs less than once in 500 years.



### Ponding Frequency

The NRCS Soil Survey indicates that frequent ponding occurs on 5.9 acres or 60.0% of the parcel (identified in blue). Ponding occurs, on the average, more than once in 2 years. The chance of ponding is more than 50 percent in any year.

**Cultural Resources:** None identified



**Preserved or Recognized Ecological Sites:** Office maps indicate McHenry County Natural Areas Inventory Site - Giugni/Kessler Wetlands is located partially on the southern portion of the parcel. Giugni/Kessler Wetlands is comprised of mesic silt loam prairie, wet silt loam prairie, basin marshes, and sedge meadow. The site is threatened by water table alteration, brush encroachment, and Reed Canary Grass.

**Woodlands:** None Identified

**Agricultural Areas:** Office Maps indicate there are no State designated agricultural areas on the parcel in question.

### Land Evaluation Site Assessment (LESA)

The Land Evaluation Score for the parcel is 90.44 and the Site Assessment Score is 120, for a total LESA Score of 210.44 indicating the parcel should maintain its existing land use.

**Vegetation:** Information provided by the applicant indicates the site will be revegetated with native plantings. A management and monitoring plan will need to be developed in accordance with guidance from the Illinois Department of Natural Resources and the McHenry County Department of Planning & Development. It is recommended that early coordination with the McHenry County Department of Planning & Development occur to ensure the planting and monitoring plan adequately reflect the site conditions.

**Agricultural Impact Mitigation Agreement:** We have not received notice from the Illinois Department of Agriculture that an Agricultural Impact Mitigation Agreement has been filed. Please reach out to Sean McIntyre, IDOA, for more information.



**Sean McIntyre | AGRICULTURAL LAND & WATER RESOURCE SPECIALIST I**  
Land and Water Resources

Illinois Department of Agriculture

John R. Block Building | 801 E. Sangamon Ave., P.O. Box 19281 | Springfield, IL 62794-9281

(O) 217-558-8095 | [sean.m.mcintyre@illinois.gov](mailto:sean.m.mcintyre@illinois.gov)



## NATURAL RESOURCE INFORMATION REPORT (NRI)

NRI Report Number	26-007-4790	
Applicant's Name	3-A Energy LLC	
Size of Parcel	9.906 acres	
Zoning Change	Conditional Use - Solar Facility	
Parcel Index Number(s)	02-33-300-012	
Common Location	Undefined	
Contact Person	Ebrahim Mamsa	
<i>Copies of this report or notification of the proposed land-use change were provided to:</i>	<i>yes</i>	<i>no</i>
The Applicant	x	
The Applicant's Legal Representation/Consultant		x
The Village/City/County Planning and Zoning Department or Appropriate Agency	x	

Report Prepared By: *Spring M. Duffey*

Position: *Executive Director*



January 14, 2026

Dr. Everton Walters  
1816 S Main St  
Lombard, IL 60512

**RE: 3 A SOLAR FARM  
Consultation Program  
EcoCAT Review #2609063  
McHenry County**

Dear Applicant:

The Department has received your submission for this project for the purposes of consultation pursuant to the *Illinois Endangered Species Protection Act* [520 ILCS 10/11], the *Illinois Natural Areas Preservation Act* [525 ILCS 30/17], and Title 17 *Illinois Administrative Code Part 1075*.

The proposed action consists of a ground mounted solar farm in McHenry County.

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

**Illinois Natural Areas Inventory (INAI)**  
**Harvard East Geological Area INAI**

**State Threatened or Endangered Species**  
**Blanding's Turtle (*Emydoidea blandingii*)**

Due to the project scope and proximity to protected resources the Department recommends the following actions be taken to avoid adversely impacting listed species and or protected natural areas in the vicinity of the project:

**Harvard East Geological Area INAI**

The Department has determined adverse impacts to these sites are unlikely.

**Blanding's Turtle**

EcoCAT has indicated records for the state-listed Blanding's Turtle in vicinity of the project area. The Department recommends:

- Work on the project occurs during the turtle's inactive season from approximately November 1<sup>st</sup> to March 1<sup>st</sup>. If work must occur during the active season:
- Educate personnel working on site about the Blanding's Turtle. Post photos of juvenile and adult Blanding's Turtles at a central location. State-listed species may not be handled without the appropriate permits pursuant to the *Illinois Endangered Species Protection Act*.

- Install exclusionary silt fence by the end of March and maintain it through October (if needed) to prevent turtles from entering the construction area. Conduct daily inspections during construction to ensure that exclusionary fencing is properly installed (dug into the ground) and to check if turtles are present.
- Cover trenches at the end of each workday. Before starting each workday, trenches and excavations should be routinely inspected to ensure no turtles (or other amphibians and reptiles) have become trapped within them.
- If Blanding's turtles are encountered, crews should stop work immediately, allow the turtle to move out of the way and contact IDNR at (217) 785-5500.

Given the above recommendations are adopted the Department has determined that impacts to these protected resources are unlikely. The Department has determined impacts to other protected resources in the vicinity of the project location are also unlikely.

*In accordance with 17 Ill. Adm. Code 1075.40(h), please notify the Department of your decision regarding these recommendations.*

Consultation on the part of the Department is closed, unless the applicant desires additional information or advice related to this proposal. Consultation for Part 1075 is valid for two years unless new information becomes available which was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the action has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal and should not be regarded as a final statement on the project being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are unexpectedly encountered during the project's implementation, the applicant must comply with the applicable statutes and regulations.

This letter does not serve as permission to take any listed or endangered species. As a reminder, no take of an endangered species is permitted without an Incidental Take Authorization or the required permits. Anyone who takes a listed or endangered species without an Incidental Take Authorization or required permit may be subject to criminal and/or civil penalties pursuant to the *Illinois Endangered Species Act*, the *Fish and Aquatic Life Act*, the *Wildlife Code* and other applicable authority.

The Department also offers the following conservation measures be considered to help protect native wildlife and enhance natural areas in the project area:

- The Department strongly recommends that the project proponent establish pollinator-friendly habitat as groundcover wherever feasible. Solar Site Pollinator Establishment Guidelines can be found here: <https://dnr.illinois.gov/conservation/pollinatorscorecard.html>
- The site should be de-compacted before planting.
- Long term management of the site should be planned for prior to development to ensure successful native pollinator habitat establishment and prevent the spread of invasive species throughout the lifetime of this project. An experienced ecological management consultant should be hired to assist with long-term management.
- If tree clearing is necessary, the Department recommends removing trees between November 1st and March 31<sup>st</sup> to avoid impacts to the state-listed bats and birds.

If temporary or permanent lighting is required, the Department recommends the following lighting recommendation to minimize adverse effects to wildlife:

- All lighting should be fully shielded fixtures that emit no light upward.
- Only “warm-white” or filtered LEDs (CCT < 3,000 K; S/P ratio < 1.2) should be used to minimize blue emission.
- Only light the exact space with the amount (lumens) needed to meet facility safety requirement.
- If LEDs are to be used, avoid the temptation to over-light based on the higher luminous efficiency of LEDs.

If erosion control blanket is to be used, the Department also recommends that wildlife-friendly plastic-free blanket be used around wetlands and adjacent to natural areas, if not feasible to implement project wide, to prevent the entanglement of native wildlife.

Please contact Isabella Newingham ([Isabella.newingham@illinois.gov](mailto:Isabella.newingham@illinois.gov)) with any questions about this review.

Sincerely,



Bradley Hayes  
Manager, Impact Assessment Section  
Division of Real Estate Services and Consultation  
Office of Realty & Capital Planning  
Illinois Department of Natural Resources  
One Natural Resources Way  
Springfield, IL 62702  
Bradley.Hayes@Illinois.gov  
Phone: (217) 782-0031



1057 Shore Rd.,  
Naperville, IL 60563  
Tel: 630-566-5101

QAP-04/2020

February 3, 2026

Ms. Kim Scharlow,  
Planner  
McHenry County Department of Planning and Development  
2200 N. Seminary Avenue  
Woodstock, Illinois 60098

**Subject:**      **Z26-0009 Conditional Use Permit (Commercial Solar Energy Facility)**  
**3 A Energy, LLC.**  
**Parcel: 02-33-300-012**  
**Proposed Ground-Mounted Solar Farm**  
**3 A Solar Farm.**  
**Green Rd.**  
**Harvard, IL, 60033**  
**42°25'15"N, 88°31'35"W**

Dear Ms. Scharlow

On behalf of our client 3 A Energy, LLC., kindly find our conditional use permit (CUP) application, Owner's purchase agreement, project narrative description, application fee and supporting documents as required for Conditional Use Permit request and Site Plan Review.

The property lies within the County's A-1 Agricultural Zoning District.

The property is sized at 10 Acres centered on *42°25'15"N, 88°31'35"W* comprising of Property Identification Numbers (PINs) 02-33-300-012.

3 A Energy, LLC, purchased the property, identified by the above PIN number. A copy of the deed and Plat of Survey are attached to this communication.

**Project Narrative:**

WCP Solar Services, LLC, d/b/a WCP Solar is requesting a Conditional Use Permit to allow for the development of a 2.43-MWp (DC) and 2.2-MW (AC) ground-mounted Community solar farm facility on the subject property. As proposed, the entire site will be fenced in accordance with the established guidelines.

To assist in your review of this Conditional Use Permit request, a Site Use Plan Set has been provided which illustrates the proposed solar farm use and site improvements. Project proposed uses and improvements include:

1. Fixed-Tilt Solar panel arrays at maximum *13-0 ft.* in height with string inverters.

2. Concrete pad-mounted transformers/switch gear.
3. Data Acquisition System (DAS) for remote monitoring.
4. Equipment poles and riser poles with overhead power lines for interconnection point on Green Rd, Harvard, IL, 60033. On-site power lines shall be placed underground to the maximum extent possible until Commonwealth Edison's point of connection. This scope of work is per ComEd's requirements; thus, the final design is pending a utility study.
5. Underground trenching/cabling.
6. Perimeter security fencing at *7-0 ft.* height as required, per National Electric Code (NEC). The fenced area of the proposed project is approximately 10-acres and will include a gated main entry with additional man-doors for access. We are proposing chain-link fencing around all four sides of the array field.
  1. It should be noted that the McHenry County prefers an Agricultural-style woven wire fence and where possible this type of fencing will be installed on this site.
7. A limited area of gravel/paved drive for site access and maintenance is included in the plans.
8. No formal parking stalls are provided as post-construction, there will be no buildings and no employees on site other than occasional visits for mowing and/or maintenance, likely 3 to 4 times per year.
9. An estimate of truck/vehicle use analysis is also included in this submission which addresses the anticipated number of vehicles that will be using the access drive during construction please see attached.
10. The estimated maximum number of workers on-site at one time during construction will be 60 people
11. Drainage flow through the property will be maintained and there will be very little grading necessary for development of this project.
12. The post-construction site area will be seeded with low-mow seed mix in accordance with the Landscaping Plan.
13. The property is be owned by the Client; however, a decommissioning plan will be also included for completeness of the application. An Engineer's Estimate and the required bond will be provided by the Owner to satisfy this requirement.

### **Supplemental Information**

1. A wetland delineation study has been commissioned and will be performed by a County-certified Wetland consultant and will be uploaded as soon as completed.
2. No grading will be necessary on this site except for the grubbing necessary to remove the overgrown vegetation and left over corn stack from the recent harvest. Accordingly, marginal impact is anticipated in the wetland conditions of the site.
3. NRI report was requested and was sent to the County to be reviewed with this application.

### **Compliance with SPRC Narrative Checklist:**

**Proposed Uses:** It is WCP Solar intention that the site, once constructed, would be used solely for the purpose of passive solar collection. Once construction is complete, there will be minimal activity on the site other than mowing (3 to 4 times per season) and occasional equipment maintenance as needed.

**Existing Site Conditions and Proposed Site Modifications:** The current use of the site is agricultural. The installation of the proposed solar farm does not hinder or negate existing and/or adjacent agricultural uses. Site modifications are minimal, with minor grade changes and less soil erosion impact than traditional farming. A gravel access road will be provided to deliver the equipment for construction as well as to provide access for mowing/routine maintenance.

**Project Parameters:** During the initial construction timeframe of approximately 1 to 2 years, there will be a mix of trucks ranging from semis, flatbed trucks, dump trucks, and various delivery type trucks, averaging 1-4 per week. Based on much of what is described above and limited area on site for parking multiple trucks, along with the expected delivery times, we have developed temporary, on-site locations for truck staging. Access to the site will be available each day during work hours 7:30 am – 5:00 pm. We will be able to accommodate as many as fifteen (15) tractor-trailer trucks on site for deliveries. Any truck that will not be off-loaded will not be allowed to idle for more than five minutes. No idling sign(s) will be placed at appropriate locations.

In addition to material and equipment deliveries, workers will be arriving to the site each weekday using personal vehicles. For similar projects of this scale, approximately 60 personal vehicles may be on site at one time. These vehicles will arrive each day in the morning and leave in the afternoon. The total number of vehicles on site will fluctuate depending on the phase of the project.

Construction includes the installation of ground mounted solar racking and panels with a gravel access drive. There is no water connection or restroom needs however, a temporary construction trailer and portable restroom facilities will be on site until the completion of construction. Since the property will be owned by 3 A Energy, LLC., the

unused areas may be developed by the client under separate applications that will be submitted to the County for consideration, as needed.

**Compliance with Standards for Conditional Uses (Sec. §16.56.030, PP):**

Regarding *Principal Use Standards outlined in §16.56.030.PP of the McHenry County Unified Development Ordinance*. It is our opinion that granting a Conditional Use Permit for the proposed project will not be injurious to the neighborhood, detrimental to the public welfare, or in conflict with the County's Comprehensive Plan for development. Additionally, it is our hope that the County will consider granting this Conditional Use Permit, finding evidence of the following:

*1. §16.56.030. PP.1. Application*

*a. A threatened and endangered species consultation (EcoCAT) from the Illinois Department of Natural Resources is required at the time of conditional use permit application for any site that is five (5) acres or greater in size and currently in agricultural use or undeveloped.*

i. The EcoCAT for the subject site has been developed and is attached to this application.

*b. A site plan shall be provided showing all improvements, including structures, fencing, power lines (above and below ground), lighting, and landscaping, at a detail sufficient to understand the location, height, appearance, and area.*

i. A Site Plan has been developed showing the all the above applicable requirements and is attached to this application.

*c. All other application submittal requirements outlined in the Planning and Development Department Zoning Application Packet as published on the McHenry County Website.*

i. We intend to satisfy all the permit requirements of the County.

*2. §16.56.030. PP.2. Site Design*

*a. Solar panels, structures, and electrical equipment, excluding fences and power lines for interconnection, shall be erected no less than fifty (50) feet from any lot line and no less than one hundred fifty (150) feet from any residence, other than a residence on the same ownership parcel*

i. Please see the attached site plan for the details as required by this section.

*b. Solar panels, structures, and electrical equipment, excluding fences and power lines for interconnection, shall be erected no less than fifty (50) feet from any lot line and no less.*

i. This requirement is outlined in the attached site plans. Please see attached site plans for details.

- c. *Lighting must comply with § 16.60.020 (Exterior Lighting).*
- i. No lighting will be installed in this application
- d. *Solar panels shall have a surface that minimizes glare and shall comply with § 16.60.040D. (Lighting and Glare).*
- i. The solar panels installed in this application will comply with the requirements above.
- e. *The facility shall be situated as to minimize impacts to woodlands, savannas, wetlands, drainage tiles, and encroachment into flood plains. All site development shall comply with the Stormwater Management Ordinance. Any damaged drainage tiles shall be repaired.*
- i. This requirement is outlined in the attached site plans. Please see attached site plans for details.
  - ii. No drain tiles are observed on the site.
- f. *In order prevent erosion, manage run-off, and provide ecological benefit, the facility shall be planted with “low-profile” native prairie species, using a mix appropriate for the region and soil conditions per Illinois Department of Natural Resources (IDNR) standards, as amended from time to time.*
- i. This requirement is outlined in the attached Landscaping plans. Please see attached site plans for details.
- g. *In Fencing shall be provided in compliance with the National Electrical Code, as applicable. The use of barbed wire must comply with § 16.56.050H.1.c. of this Ordinance.*
- i. This requirement is outlined in the attached Fencing plans. Please see attached plans for details.
- h. *Any part of the facility that is within five hundred (500) feet of a NONPARTICIPATING RESIDENCE, or road right-of-way, shall be landscaped with an arrangement of native shrubs, subject to approval by the County Board, unless the facility is screened from view by existing vegetation.*
- i. This requirement is outlined in the attached Landscaping plans. Please see attached site plans for details.
- i. *Prior to building permit issuance, the operator shall prepare a landscape monitoring and maintenance plan to ensure the establishment and continued maintenance of the native prairie species, all installed landscape screening, and all existing vegetation that provides required landscape screening.*
- i. This requirement is outlined in the attached Landscaping Monitoring and Maintenance Plan. Please see attached site plans for details.

*j. Prior to scheduled public hearing, the operator shall enter into an Agricultural Impact Mitigation Agreement with the Illinois Department of Agriculture (IDOA), as required by that department.*

i. This requirement is outlined in the attached Agricultural Impact Mitigation Agreement. Please see attached AIMA for details.

*k. Prior to building permit issuance, the operator shall provide an executed road use agreement between the Applicant and the appropriate governing road and highway jurisdictions or the Illinois Department of Transportation (IDOT), showing approved entrances.*

i. This requirement will be provided upon approval by the appropriate AHJ prior to the issuance of the permit.

**3. §16.56.030. PP.2. Safety**

*a. Prior to construction, the operator shall prepare an emergency management plan acceptable to the County and the local fire district and shall be responsible for training of emergency personnel, as needed*

i. An Emergency Management Plan will be provided as a part of the application for the building permit.

*b. A sign shall be posted providing the name of the operator and a phone number to be used in case of an on-site emergency.*

i. This requirement is outlined in the attached design plans. Please see attached plans for details.

*c. Access shall be granted, provided appropriate advance notice, for periodic inspection of the site by the County or the local fire district.*

i. Site access is controlled at the security gate to the facility and will be accommodated with arranged appointments.

*d. Damaged solar panels shall be removed, repaired, or replaced within sixty (60) days of the damage. The ground shall remain free of debris from damaged solar panels at all times.*

i. This requirement will be followed as a part of the general operation of the facility.

**4. §16.56.030. PP.2. Abandonment**

*a. The COMMERCIAL SOLAR ENERGY FACILITY shall be considered abandoned if the operator fails to pay rent as specified in the Agricultural Impact Mitigation Agreement, or it ceases to generate electricity for a period of twelve (12) consecutive months. Reports of electrical power production shall be provided to the County upon request. An abandoned COMMERCIAL SOLAR ENERGY FACILITY must be decommissioned and removed within*

*twelve (12) months from the time it is deemed abandoned. The operator may appeal in writing to the Zoning Enforcement Officer for an extension of time in order to remove the facility or to bring the solar farm back into operation.*

- i. The facility is owned by the operator of the solar facility and all requirements, as related to the decommissioning of the site will be followed.

**5. §16.56.030. PP.2. Decommissioning**

- a. *Prior to building permit issuance, the operator shall prepare a decommissioning plan which shows the final site conditions after the COMMERCIAL SOLAR ENERGY FACILITY has been removed from the property. Decommissioning plans shall require removal of all solar panels, electrical equipment, poles, piles, foundations, and conduits (above and below ground). Access roads, fencing, groundcover, and landscaping may remain only by agreement of property owner.*

- i. Please see the attached site Decommissioning plans.

- b. *Prior to building permit issuance, the operator shall submit an engineer's estimate of cost for decommissioning the facility and restoring the site in accordance with the approved decommissioning plan. Upon review and approval by the Zoning Enforcement Officer of the estimate, the operator shall obtain a bond, letter of credit, or other form of surety acceptable to the County to be held by the Department of Planning and Development in the amount of one hundred percent (100%) of the estimate. Provision of this financial assurance shall be phased in over the first eleven (11) years of the project's operation or as otherwise provided in accordance with the executed Agricultural Impact Mitigation Agreement.*

- i. An Engineering Estimate will be provided as a part of the building permit application and the appropriate bond provided.

- c. *During the operation of the facility, a new engineer's estimate of cost for decommissioning shall be submitted every ten (10) years to the Department of Planning and Development. Upon approval of the estimated costs by the Zoning Enforcement Officer, a revised surety shall be provided to the Department of Planning and Development in the amount of one hundred percent (100%) of the new estimate.*

- i. This requirement will be complied with during the operational phase of the facility.

Consequently, it is our opinion that the potential public benefits of the proposed Conditional Use to allow for this Utility-Scale Solar Farm development as outlined herewith far outweigh any potential or perceived adverse impacts. It is our hope that County staff, Members of the Zoning Board of Appeals, and the County Board will find in favor of this Conditional Use request.

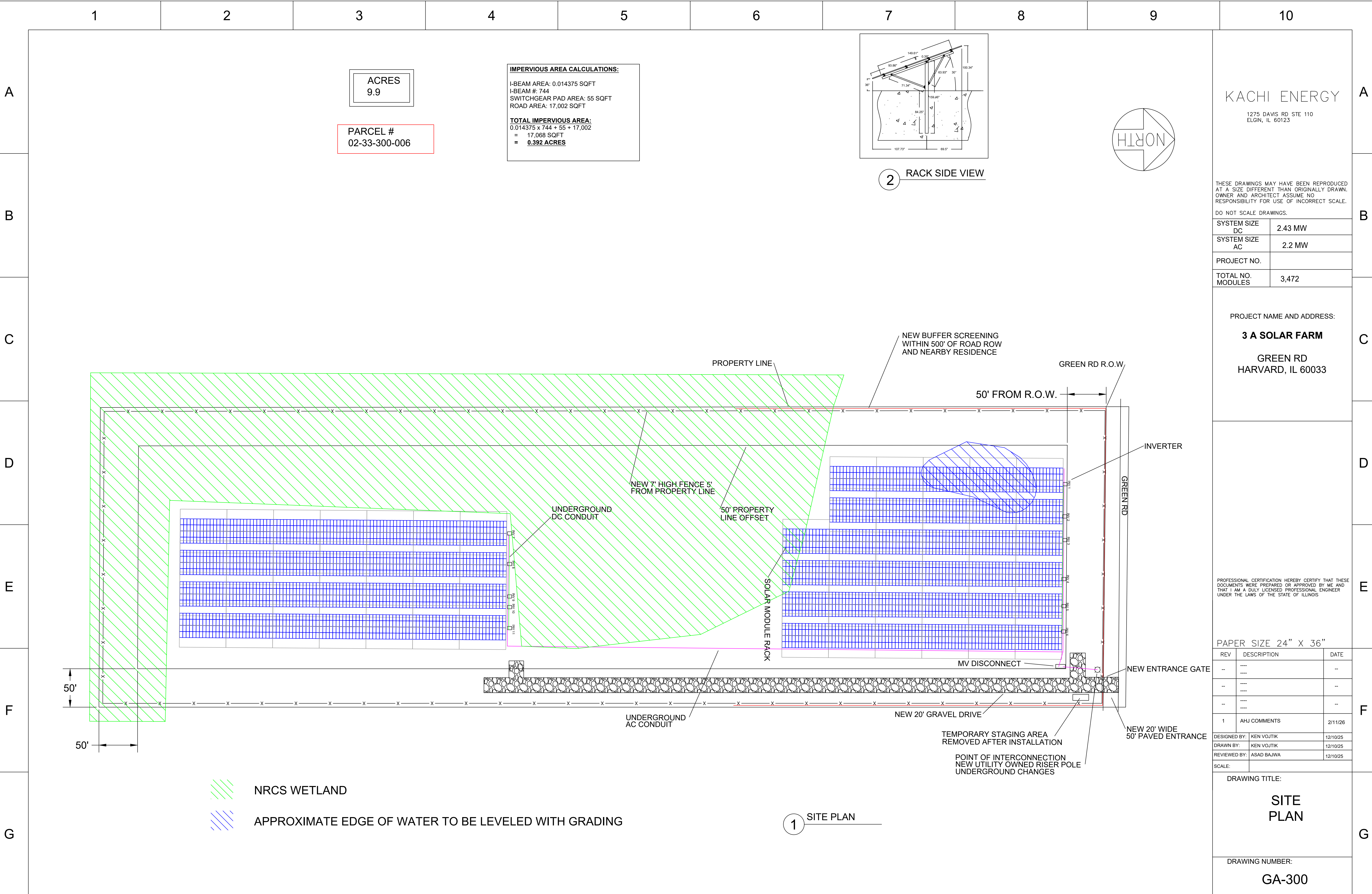
Please contact WCP Solar at 630-566-5101 for any clarifications that you may need in respect of this application or email me at [drwally@wcpsolar.com](mailto:drwally@wcpsolar.com).

Kind regards



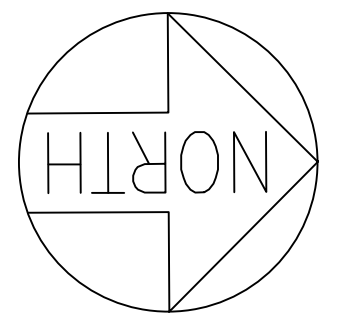
Dr. Everton Walters  
President/CEO

Enclosure



**KACHI ENERGY**

1275 DAVIS RD STE 110  
ELGIN, IL 60123



THESE DRAWINGS MAY HAVE BEEN REPRODUCED AT A SIZE DIFFERENT THAN ORIGINALLY DRAWN. OWNER AND ARCHITECT ASSUME NO RESPONSIBILITY FOR USE OF INCORRECT SCALE.

DO NOT SCALE DRAWINGS.

SYSTEM SIZE DC	2.43 MW
SYSTEM SIZE AC	2.2 MW
PROJECT NO.	
TOTAL NO. MODULES	3,472

PROJECT NAME AND ADDRESS:

**3 A SOLAR FARM**  
  
GREEN RD  
HARVARD, IL 60033

PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF ILLINOIS

PAPER SIZE 24" X 36"

REV	DESCRIPTION	DATE
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1	AHJ COMMENTS	2/11/26
DESIGNED BY:	KEN VOJTIK	12/10/25
DRAWN BY:	KEN VOJTIK	12/10/25
REVIEWED BY:	ASAD BAJWA	12/10/25
SCALE:		

DRAWING TITLE:

**SITE PLAN**

DRAWING NUMBER:

**GA-300**



Brighter, Richer, Cleaner



PROJECT SITE

**3 A SOLAR FARM  
SITE RESTORATION & VEGETATION  
MANAGEMENT PLANS  
COUNTY OF MCHENRY, ILLINOIS**

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Brighter, Richer, Cleaner

**3 A SOLAR FARM  
SITE RESTORATION & VEGETATION  
MANAGEMENT PLANS  
COUNTY OF MCHENRY, ILLINOIS**

SUBMITTED ON:  
DECEMBER 29, 2025

BY:  
DR. EVERTON WALTERS  
PRESIDENT/CEO  
WCP SOLAR, LLC  
BRISTOL, • IL • 60512 • USA  
(630) 566-5101 (PHONE)

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**3 A SOLAR FARM  
SITE RESTORATION & VEGETATION  
MANAGEMENT PLANS  
COUNTY OF MCHENRY, ILLINOIS**

**SUBMITTED  
DECEMBER 29, 2025**

This document contains proprietary information and is submitted for the expressed purposes of securing a bid to provide Engineering Procurement and Construction (EPC) Services for the installation of a Photovoltaic System.

WCP Solar Services, LLC  
5 Royal Oaks Ct  
Bristol IL 60512  
630.566-5101 (Office)

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## **§1.1 Introduction**

3 A ENERGY, LLC is proposing to install a solar farm at the above-referenced property. In accordance with the McHenry County Unified Development Ordinance, solar farms are required to install and maintain native vegetation within the facility (including beneath and between the panels but excluding the access roads and equipment buildings).

The property is sized at 10 Acres centered on 42°25'11"N 88°32'38"W comprising of Property Identification Number (PIN) namely: 02-33-300-12.

The Property will be used to develop a 2.43-MWp (DC) and 2.2-MW (AC) ground-mounted utility-scale solar farm facility on the subject property.

McHenry County requires that native vegetation meet the performance standards set forth in this document and shall be maintained to those standards throughout the life of the project. The applicable sections of the Unified Development Ordinance are Section PP. Solar Farm, 2. Site Design (§16.56.030.PP.2)

## **§1.2 Site Conditions and Restoration Plan for 3 A Solar Farm**

The project area, located in the western portion of McHenry County, is relatively level and contains a narrow gravel driveway running along the northern and western perimeter of the proposed area. The entrance of the driveway is bordered by existing commercial properties. However, the entire site will be grubbed prior to construction of the solar array and restoration of the site. It should be noted that there are no drain tiles on the site as reported from the drain tile study of the site.

Existing trees on the perimeter to the east and west of the site be removed to avoid undue shading of the solar array. There is a wetland area to the southeastern end of the property. The trees in this area will not be removed and these will be maintained as is for the life of the project.

The species contained in our recommended seed mixes are tolerant of and compatible with the loam, sandy loam and gravelly loam found throughout the site. Additionally, since there is a section of the site that is demarked as wetland, we have selected recommended seed mixes that is also suitable for this area as indicated in the Figure 1 below.

It is important to note that species are also selected based on their ability to successfully establish from seed as well as on their ability to thrive within the unique conditions found on solar sites. From a practical standpoint, the species contained in these mixes are generally available in the marketplace and, as whole, have reasonable price points. These may be obtained from the listing in Table 1 and Table 2 below.

Ultimately, the list is a combination of well-performing, workhorse species coupled with smaller amounts of more unique species for a robust mixture.

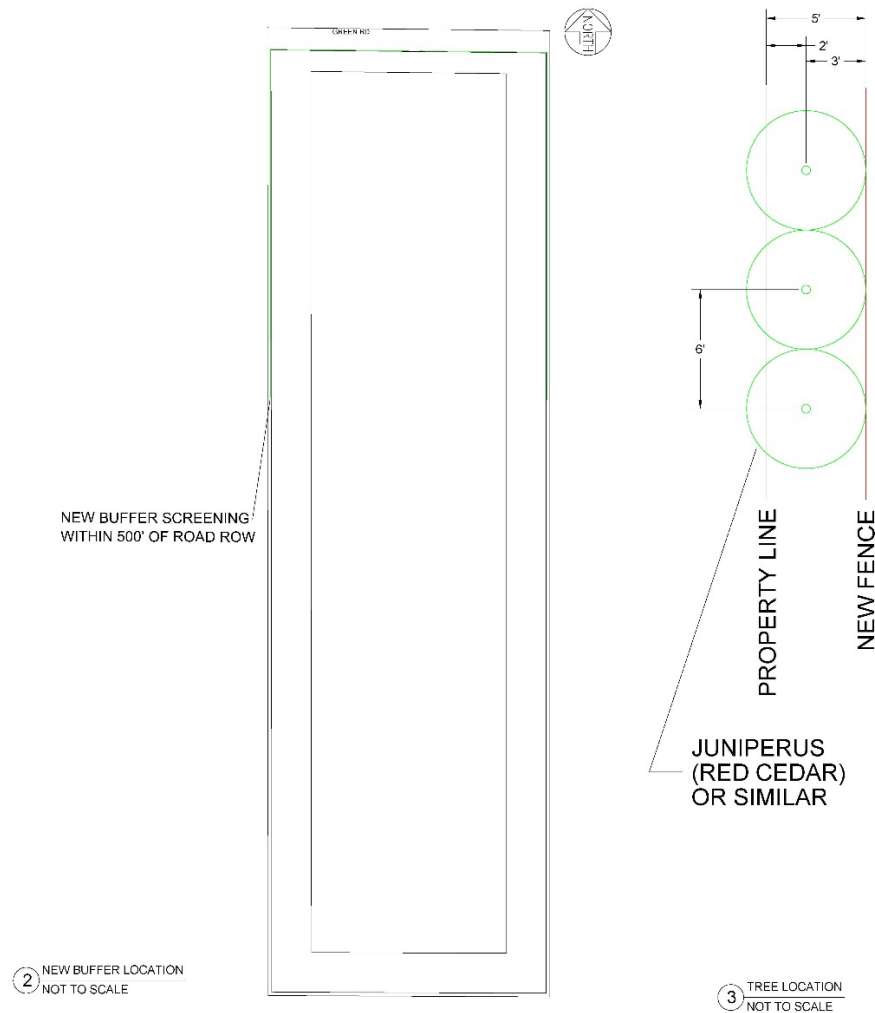


Figure 1 - Proposed Mix for Planting Areas

With any properly designed mix, there is a healthy balance between the grass/sedge component and the forb (flowering plants) component. Grasses and sedges provide long-term stability and structure to the landscape and help fill voids that would otherwise be ripe for weed invasion. Not insignificantly, grasses/sedges also provide excellent habitat for birds and nesting insects.

The forb component contains a diverse blend of species that provide blossoms throughout the growing season. This aspect is especially important for the bees and other insects that rely on these blooms at critical stages during their life cycles.

The soil types in any particular region impact the success of a plant community and it is important to closely match species with soil data and hydrology to ensure planting success. Equally important, the recommended species are native to this region and these soil types, which helps ensure authenticity and long-term success of the landscape while providing an economically stable vegetative cover on a solar site.

Table 1 – Proposed Prairie Seed Mix

MESIC PRAIRIE SEED MIX			
Type	Species	Common Name	Seeding Rate PLS (lbs/ac)
Forbs	Allium Cernuum	Nodding Onion	0.3750
	Asclepias Tuberosa	Butterfly Weed	0.6250
	Asclepias Verticillata	Whorled Milkweed	0.2500
	Chamaecrista Fasciculata	Partridge Pea	0.7500
	Coreopsis Lanceolata	Lance-Leaf Coreopsis	0.1875
	Dalea Candida	White Prairie Clover	0.1875
	Dalea Purpurea	Purple Prairie Clover	0.1875
	Echinacea Pallida	Pale Purple Coneflower	0.6250
	Monarda Fistulosa	Wild Bergamot	0.1250
	Penstemon Digitalis	Foxglove Beardtongue	0.1250
	Potentilla Arguta	Prairie Cinquefoil	0.0625
	Pycnanthemum Virginianum	Mountain Mint	0.0625
	Rudbeckia Hirta	Black-Eyed Susan	0.1250
	Aster Laevis	Smooth Blue Aster	0.0625
	Aster Oolentangiense	Sky Blue Aster	0.0625
	Tradescantia Ohiensis	Ohio Spiderwort	0.3750
	Verbena Stricta	Hoary Vervain	0.1875
	Zizia Aurea	Golden Alexanders	0.2500
		Sub Total	4.6250
Grasses & Sedges	Bouteloua Curtipendula	Side-Oats Grama	1.500
	Carex Bicknellii	Copper-Shouldered Oval Sedge	0.125
	Carex Brevior	Plains Oval Sedge	0.188
	Carex Granularis	Pale Sedge	0.250
	Elymus Virginicus	Virginia Wild Rye	2.000
	Elymus Canadensis	Canada Wild Rye	2.500
	Schyzachyrium Scoparium	Little Bluestem	2.500
	Sporobolus Heterolepis	Prairie Dropseed	0.250
		Sub Total	9.313
		Total Permanent Species:	13.938
Cover	Avena Sativa	Seed Oats	32.000

Table 2 – Proposed Sedge Meadow Prairie Seed Mix

Sedge Meadow Prairie Seed Mix			
Type	Species	Common Name	Seeding Rate Pls (Lbs/Ac)
Forbs	Asclepias Incarnata	Rose Milkweed	0.37500
	Bidens Cernua	Nodding Bur Marigold	0.12500
	Boltonia Asteroides	False Aster	0.06250
	Epilobium Coloratum	Cinnamon Willow Herb	0.03125
	Euthamia Graminifolia	Grass-Leaved Goldenrod	0.03125
	Eutrochium Maculatum	Joe Pye Weed	0.12500
	Helenium Autumnale	Sneezeweed	0.06250
	Liatrix Pycnostachya	Prairie Blazing Star	0.25000
	Lobelia Cardinalis	Cardinal Flower	0.03125
	Lobelia Siphilitica	Great Blue Lobelia	0.03125
	Lythrum Alatum	Winged Loosestrife	0.00500
	Mimulus Ringens	Monkey Flower	0.01563
	Oligoneuron Riddellii	Riddell's Goldenrod	0.06250
	Physostegia Virginiana	Obedient Plant	0.25000
	Pycnanthemum Virginianum	Mountain Mint	0.06250
	Senna Hebecarpa	Wild Senna	0.75000
	Symphotrichum Novae-Angliae	New England Aster	0.12500
	Verbena Hastata	Blue Vervain	0.18750
	Veronia Fasciculata	Common Ironweed	0.12500
			Sub Total
Grasses, Sedges & Rushes	Carex Hystericina	Porcupine Sedge	0.125000
	Carex Lacustris	Common Lake Sedge	0.500000
	Carex Stipata	Common Fox Sedge	0.125000
	Carex Stricta	Common Tussock Sedge	0.125000
	Carex Vulpinoidea	Brown Fox Sedge	0.125000
	Elymus Virginicus	Virginia Wild Rye	3.000000
	Glyceria Striata	Fowl Manna Grass	0.125000
	Juncus Dudleyi	Dudley's Rush	0.015625
	Juncus Torreyi	Torrey's Rush	0.015625
	Leersia Oryzoides	Rice Cut Grass	0.250000
	Panicum Virgatum	Switch Grass	1.500000
	Schoenoplectus Fluvialis	River Bulrush	0.750000
	Schoenoplectus Tabernaemontani	Great Bulrush	0.125000
	Scirpus Atrovirens	Dark-Green Bulrush	0.062500
	Scirpus Cyperinus	Wool Grass	0.031250
	Scirpus Pendulus	Rufous Bulrush	0.125000
	Spartina Pectinata	Cord Grass	1.000000
		Sub Total	8.000
		Total Permanent Species:	10.708
Cover	Avena Sativa	Seed Oats	32.000

### **§1.3 Prep and Seeding**

Given the site's recent history as row crops and due to the extensive soil disturbance as a result of the driveway and tree removal, there may be a flush of annual and biennial weeds. These may need to be mowed prior to and construction influenced by when site construction begins.

Dependent on the overall construction schedule, seeding an annual temporary cover crop of oats or wheat may be advisable prior to the start of construction activities. This can help keep weeds at bay, reduce erosion, and help deter muddy construction conditions.

Following construction of the site but prior to drive shaft installation, herbicide should be applied to the entire site. Prior experience on nearby sites in McHenry County have demonstrated a second, full site herbicide treatment may be advantageous for short and long term vegetation success.

The first herbicide treatment should take place five to six weeks prior to seeding dates to allow for adequate die-back, observation of the site, regrowth and a second herbicide treatment if necessary. Site preparation information with herbicide application dates shall be included in annual field reports to the County. A commonly used herbicide is glyphosate unless unusual perennial weed species are present, requiring weed specific herbicides.

Following vegetation die-back, the soil will be lightly prepped with disks and harrows in order to create a viable seedbed. In some cases of extreme compaction, the site should be decompacted with the use of soil rippers to break up the soil.

Within the array, seeding is typically accomplished using tractor mounted broadcasters. This ensures adequate coverage including areas under the panels. Along with permanent native mixes, a cover crop will be simultaneously sown to provide immediate "green up" to help protect against water and wind erosion.

The forbs chosen are native to this region of Illinois and will provide economical vegetative cover for the site as well as critical habitat for native butterflies, insects and songbirds for the life of the array. The forbs and grasses selected for this site will be seeded between and under the panels.

McHenry County Performance Standards require that by the end of the first growing season, planted areas will have 90% vegetative cover. The cover crop may be used to meet this requirement. By end of year two, 50% of the vegetation present must be native non-invasive, and at the end of year three, 60% native with no non-native/invasive species being among the three most dominant species found on the site.

### **§1.4 NATIVE SEEDING SPECIFICATIONS**

**Description.** This work consists of preparing the seed bed, furnishing, transporting, and placing the seed, of the various mixes on predetermined areas. All work, materials, equipment, and incidentals shall conform to Section 250 and 1081 of the Illinois Department of Transportation – Standard Specifications for Road and Bridge Construction, most recent edition, except as modified herein and as directed by the Engineer.

**Seed Specifications.** The seed mix shall be supplied in pounds of Pure Live Seed. Only local genotypes shall be used; that is, seed shall be harvested from plants whose origin is within 150 miles of the site. If the seed listed is not available within 150 miles the Engineer may allow seed sourced from locations no more than 300 miles. The seed mix shall be supplied with appropriate inoculants. Fertilizer is not required.

- **Species Substitutions or Quantity Deviations.** Prior to installation, the Engineer will review any species substitutions or quantity deviations submitted by the CONTRACTOR and reserves the authority to deny use of any species, if deemed unacceptable for the site and evaluate requested deviations in the listed quantities. The Engineer may consult with the OWNER regarding the suitability of the requested substitution.

All seed materials shall conform to the following requirements:

1. All supplied seed shall meet the requirements of Article 1081.04 of the Standard Specifications
2. Any seed received that does not meet these Specifications will be rejected by the ENGINEER and returned at the Contractor's expense.
3. All seed furnished by the Contractor shall be true to species name and variety for each seed mix tabulated in the plans.
4. All seed shall be guaranteed by the Contractor to be in a vigorous growing condition through three growing cycles (including three summer and two winter seasons). The guarantee period shall begin at the time of final acceptance.
5. The original (wild) source of seed shall be guaranteed within a 150-mile radius of McHenry County, Illinois. If the seed listed is not available within 150 miles the Engineer may allow seed sourced from locations no more than 300 miles. Any seed that is not shall be specified by geographic location and distance from McHenry County, Illinois, by the Vendor. Preference will be given to seed that originates within 150 miles of McHenry County, Illinois.
  - a) All species with dispersal appendages (e.g. Asclepias, Aster, Liatris, Solidago, etc.) are being requested on a "de-fluffed" (DF) basis. The Vendor must indicate if their seed is not available on a de-fluffed basis. Preference will be given to de-fluffed seed rather than bulk seed.
  - b) All "hulled" species (e.g. Desmodium, Lespedeza, Petalostemum, etc.) are being requested on a de-hulled (DH) basis. Vendor must indicate if their seed is not available on a de-hulled basis. Preference will be given to de-hulled seed rather than bulk seed.
6. Packaging for all species shall be clearly labeled on the outside with the following information:
  - a) Scientific name of species;
  - b) PLS value, PLS weight, and bulk weight;
  - c) Pure weight and bulk weight if seed is not available as PLS;

- d) Seed tests must be attached to the packaging for all species at time of delivery;
  - e) Year of seed production and date of seed tests.
7. The Vendor shall provide (upon request) to the Engineer, a written description of the seed materials provided by the Vendor. This description shall include any or all the following:
    - a) Provenance of the various species of seed;
    - b) Name and location of seed supplier, if not from Vendor's nursery;
    - c) Certificate of compliance from appropriate regulatory agencies indicating approval of seeds.
  8. All legume species shall have the appropriate inoculants supplied with them.
  9. The CONTRACTOR shall provide proof of acquisition of seed and associated seed tests as outlined prior to placement. There shall be no seed delivered to the project site or received by the Engineer on Fridays or holidays without prior approval.
  10. All deliveries of seeds shall be packaged and delivered to ensure the viability of the seed material upon delivery. All seed shall be packed and covered in such a manner as to insure adequate protection against leakage, damage and to maintain dormancy while in transit.
  11. Any delivery/shipping costs shall be integrated into the seed price per oz./lb. and the itemized cost. Do not give both a seed cost and a separate shipping/delivery cost.
  12. Invoices shall directly reflect the quantities, price per unit, and itemized cost submitted to the Vendor in the form of Purchase Order and/or Attachment.

**Mycorrhizal Inoculum:** All native seed mixes shall be combined with an appropriate endomycorrhizal inoculant, such as AM 120 Mycorrhizal Inoculum (or comparable). The inoculants shall contain a diverse mixture of glomales fungal species (*Glomus* spp.) in pelletized form. The Application rate shall be in accordance with the selected manufacturers recommendations. All seed shall be mixed with a granular form of endomycorrhizal inoculant prior to installation.

**Seeding Method.** The primary method for seeding is broadcasting with carrier agent via a mechanical spreader. Hydroseeding can be used for areas with erosion issues, or other hard to access areas, as allowed by the Engineer. Other methods may be presented to Engineer for consideration. The Engineer will have final approval of the installation method.

Areas to be seeded shall be firm but not compacted and shall be fine graded to a smooth and natural contour prior to seeding. All rocks, sticks, roots, clods, and debris greater than one inch in diameter shall be removed and disposed on site in locations approved by the Engineer.

Immediately after rolling seeded area, place erosion control blanket on all slope's steeper than 3 feet horizontal to 1 foot vertical on the bottom of all ditches and adjacent to all trail and pavement edges. See Typical Section for type.

**Schedule.** Seeding is to be performed between April 1 and June 15 or August 1 and November 1 when it may be broadcast on top of the ground using traditional broadcast seeding equipment that has been cleaned to prevent the spread of weed seed from another site.

Dormant seeding may be allowed following consultation and approval by the Engineer.

Coverage shall mean a uniform coverage of vegetation at least 2 inches tall from the grade planted for any square yard planted. If the Contractor does not meet the above performance standard by the end of two growing seasons, the Contractor must complete appropriate tasks (additional seeding, prescribed burns, mowing, and/or selective herbicide application) to comply with the performance criteria. No payment will be made until performance is met.

## **§1.5 MAINTENANCE AND MONITORING PLAN:**

The OWNER shall contract qualified contractors to install and maintain the native plantings for the life of the project. The installation contractor shall be required to achieve the performance standards listed in this document within 5 years. Follow-on contractors shall be required to maintain the vegetation to the 5-year standards.

**Mowing:** Mowing will be completed initially 3 or four times per growing season to discourage weedy and invasive species presence and the establishment of woody vegetation. Once the native vegetation has established mow frequency will be reduced and completed strategically to control woody species and invasive or weedy herbaceous vegetation.

Annual mowing will be carefully timed and kept to a minimum to avoid disturbance of wildlife and native vegetation but frequent enough to prevent the establishment of weeds/trees/shrubs that may be introduced by seed over time.

Contractors and the Owner may alter the schedule as needed to meet required goals and standards. The following is a suggested mowing frequency approach.

Annual mowing is recommended once a year, after October 15, since most native plants have flowered and gone to seed by this time, and before April 15, which is the typical start of prime nesting season for birds. If invasive or weedy species need to be targeted outside of this time frame, the use of high mowing (mower blade over 12" high) or properly timed use of brush cutter/weed whip can be implemented to target specific species and prevent the formation weed seed without harming native plants. To prevent smothering of native plants, the cut material should be chopped into small enough parts or cut material should be collected, removed, and properly disposed of.

**Chemical Control:** Chemical pesticides/herbicides shall be applied selectively (e.g., spot application rather than routine broadcast spraying) unless part of an approved adaptive management strategy to address selected problem areas (e.g., areas with a dominance of invasive plant species that do not respond well to mechanical control measures).

Pesticide/herbicide applications are to be performed by a licensed professional applicator in strict compliance with all warning labels and applicable codes, standards, and best management practices.

**Fertilizer Use:** Fertilizers shall not be used in areas planted with native vegetation.

**Erosion Control:** No area on the vegetated portion of the site greater than 1 square meter shall be devoid of vegetation, as measured by aerial coverage. The site shall have no rills or gullies greater than four inches wide by four inches deep.

**Supplemental Seeding/Revegetation:** Remedial actions may be needed as site conditions warrant. Such actions may include reseeding or planting live plugs of native plant species. Installation of supplemental plugs and/or seed should be consistent with the approved seed mix and appropriate for the habitat conditions, or as approved by McHenry County P&D.

**Tree/Shrub Replacement:** At least 80% of the trees/shrubs identified in the permitted plan must remain alive and healthy throughout the life of the solar farm. The Long-Term Maintenance Plan shall include a discussion of how trees/shrubs will be monitored and replaced.

**Adaptive Management:** To maintain the ecological quality of the site, the applicant must be prepared to adapt management practices if site conditions change. For instance, an outbreak of an invasive species may require more intensive management and reseeding to restore habitat. The earlier a problem is identified, and adaptive strategies are implemented, the less corrective action is typically required. The Plan shall include a brief discussion of how adaptive management strategies would be established and implemented.

## **§1.6 INSPECTIONS:**

McHenry County P&D reserves will have the right to request access to the site to complete visual inspections and assess the condition of the native planting areas.

## **§1.7 ANNUAL MONITORING AND MAINTENANCE REPORTS:**

A monitoring and maintenance report shall be submitted to McHenry County P&D annually for the first five years or until compliance approval is provided by McHenry County P&D. See the compliance approval sub-section of this document for information on performance standards associated with compliance approval. The reports shall be submitted to McHenry County P&D by December 31st of each year. The monitoring and Maintenance report shall be prepared by a qualified ecological/environmental consultant. The Annual Report shall include, at a minimum:

1. Project name and geographic location
2. Map location and description of each plant community present on-site
3. Description of the general condition of each plant community including any issues or
4. deficiencies from the performance standards
  - a) List of all species observed in each plant community, including scientific and common names, based on a minimum of 2 meander searches completed by an ecologist, botanist, or other qualified personnel during the growing season (1 meander search in the spring and 1 in the summer)
  - b) List the 5 most dominant species present in each plant community, estimated based on visual observation during the meander searches, including scientific and common names
  - c) Discussion of maintenance activities completed during the current year being reported on

- d) Summary of maintenance activities planned for the coming year, including any “adaptive management” strategies proposed to address issues or to correct deficiencies from the performance standards
- e) Color photos representing each plant community and their general condition including any issues observed or deficiencies in performance standards.

## **§1.8 PERFORMANCE STANDARDS**

### **§1.8.1 Upon Completion of Construction:**

A temporary cover crop shall be planted to aid in the establishment of the native species and prevent erosion. Cover crop may include species such as Oats (*Avena sativa*).

- NOTE: Perennial Rye (*Lolium perenne*) and Barnyard Grass (*Echinochloa crusgalli*), which are identified as a cover crop on some regional species lists, **shall not be used.**

### **§1.8.2 Within Three Months of Seeding:**

At least 70% of the project site (excluding access road(s) and equipment pad(s)), as measured by aerial coverage, shall be vegetated, or otherwise stabilized against erosion. The cover crop may be used to accomplish this requirement.

### **§1.8.3 Year 1:**

By the end of the first full growing season, planted areas shall have 90% vegetation cover. The cover crop may be used to accomplish this requirement. Any planted tree s/shrubs that are dead or trees/shrubs with 50% or more dead branches shall be replaced.

### **§1.8.4 Year 2:**

By the end of the second growing season at least 50% of the vegetation present shall be native, non-invasive species. No area on the vegetated portion of the site greater than 1 square meter shall be devoid of vegetation, as measured by aerial coverage. Any planted trees/shrubs that are dead or trees/shrubs with 50% or more dead branches shall be replaced.

None of the 3 most dominant species within the planted communities shall be non-native or invasive species including, but not limited to the set listed in Table 2 below:

### **§1.8.1 Year 3:**

By the end of the third growing season at least 60% of the vegetation present shall be native, non-invasive species. No non-native or invasive species shall be among the 3 most dominant species. No area on the vegetated portion of the site greater than 1 square meter shall be devoid of vegetation, as measured by aerial coverage. Any planted trees/shrubs that are dead or trees/shrubs with 50% or more dead branches shall be replaced.

### §1.8.2 Year 4:

By the end of the fourth growing season at least 70% of the vegetation present shall be native, non-invasive species. No non-native or invasive species shall be among the 3 most dominant species. No area on the vegetated portion of the site greater than 1 square meter shall be devoid of vegetation, as measured by aerial coverage. Any planted trees/shrubs that are dead or trees/shrubs with 50% or more dead branches shall be replaced.

Table 3 - Non-Native or Invasive Species

Scientific Name	Common Name
<i>Abutilon theophrasti</i>	Velvet Leaf
<i>Agropyron repens</i>	Quackgrass
<i>Alliaria petiolata</i>	Garlic Mustard
<i>Amaranthus spp.</i>	Amaranth Species
<i>Ambrosia spp.</i>	Ragweed - Common and Giant
<i>Arctium minus</i>	Burdock
<i>Cirsium spp., Cardus spp.</i>	Thistle - Non-Native
<i>Conium maculatum</i>	Poison Hemlock
<i>Dipsacus spp.</i>	Teasel - Cut-Leaved and Common
<i>Echinochloa crusgali</i>	Barnyard Grass
<i>Elaeagnus spp.</i>	Olive – Russian and Autumn
<i>Euphorbia esula</i>	Leafy Spurge
<i>Fallopia japonica</i>	Japanese Knotweed
<i>Heracleum mantegazzianum</i>	Giant Hogweed
<i>Hesperis matronalis</i>	Dame’s Rocket
<i>Lotus corniculatus</i>	Birdsfoot Trefoil
<i>Melilotus spp.</i>	Sweet Clover - White and Yellow
<i>Pastinaca sativa</i>	Wild Parsnip
<i>Phalaris arundinacea</i>	Reed Canary Grass
<i>Phragmites australis</i>	Common Reed
<i>Poa pratensis</i>	Kentucky Bluegrass
<i>Pueraria lobata</i>	Kudzu
<i>Rhamnus spp.</i>	Buckthorn
<i>Rosa multiflora</i>	Multiflora Rose
<i>Setaria spp.</i>	Foxtail Species
<i>Sonchus arvensis</i>	Perennial Sowthistle
<i>Sorghum almum Parodi</i>	Columbus Grass
<i>Sorghum halepense</i>	Johnsongrass

### §1.8.3 Year 5:

By the end of the fifth growing season at least 75% of the vegetation present shall be native, non-invasive species. No non-native or invasive species shall be among the 3 most dominant species. No area on the vegetated portion of the site greater than 1 square meter shall be devoid of vegetation, as measured by aerial coverage. A minimum 80% of all trees/shrubs identified in the approved plans must be alive and healthy.

#### **§1.8.4 Compliance Approval:**

After the Year 5 performance standards have been achieved, the applicant can submit a written request for compliance approval from McHenry County P&D. McHenry County P&D Staff will visit the site to evaluate if performance criteria have been met. If performance standards are confirmed to have been met, McHenry County P&D will provide written confirmation. Once compliance approval has been obtained, the applicant is responsible for implementing the Long-Term

Maintenance Plan and maintaining the Year 5 performance standards throughout the life of the solar farm.

#### **§1.8.5 Post Compliance Approval Reporting:**

At each 5-year interval after compliance approval, a brief monitoring report shall be submitted to McHenry County P&D for review and acceptance. The format of the report shall follow the format of the Annual Monitoring and Maintenance Report. If the report shows that the site does not meet or exceed the Year 5 performance standards, additional maintenance shall be performed during subsequent years to achieve the Year 5 standards. Monitoring reports shall be submitted annually until such standards are achieved, at which point the 5-year reporting period shall be repeated.

### **§1.9 LONG-TERM MAINTENANCE AND MONITORING PLAN REQUIREMENTS**

Following signoff from McHenry County P & D, the Owner shall be required to continue maintenance and monitoring of the site for the life of the project. McHenry County requires that native vegetation meet the performance standards set forth in this document and shall be maintained to those standards throughout the life of the project. The applicable sections of the Unified Development Ordinance are Section PP. Solar Farm, 2. Site Design (§16.56.030.PP.2).

The OWNER shall commit to performance of long-term maintenance and monitoring such that the herbaceous vegetative performance standards for Year 5, listed above, are met for the life of the development.

# McHENRY~LAKE COUNTY SOIL & WATER CONSERVATION DISTRICT

## NATURAL RESOURCES INFORMATION REPORT

**26-007-4790**

February 3, 2026



This report has been prepared for:  
3-A Energy LLC

Contact Person:  
Ebrahim Mamsa

PREPARED BY:  
McHENRY-LAKE COUNTY SOIL & WATER CONSERVATION  
DISTRICT

1648 S. EASTWOOD DR.

WOODSTOCK, IL 60098

PHONE: (815) 338-0444

[www.mchenryswcd.org](http://www.mchenryswcd.org)

The McHenry-Lake County Soil & Water Conservation District  
is an equal opportunity provider and employer.

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## EXECUTIVE SUMMARY OF NRI REPORT #26-007-4790

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*It is the opinion of the McHenry-Lake County Soil and Water Conservation District Board of Directors that this report as summarized on these pages are pertinent to the requested zoning change.*

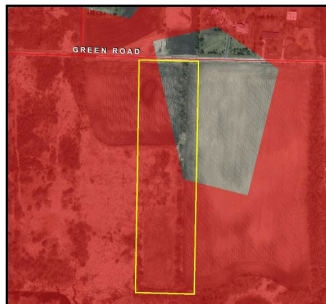




Site Picture: Looking south from Green Road.



**Aquifer Sensitivity Map** (\*This is the area beneath the soil profile down to bedrock)  
The Geologic features map indicates the parcel is comprised of B2 geologic limitations which has a moderately high contamination potential.



**Sensitive Aquifer Recharge Areas** (Includes the soil profile and underlying geology).  
The Sensitive Aquifer Recharge Map indicates 7.48 acres of the parcel is within an area designated as Sensitive Aquifer Recharge (identified in red).



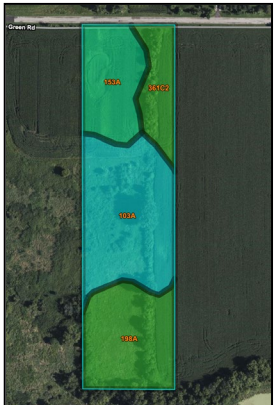
**Soil Leachability Map** (This is only the soil profile within the parcel from the surface down to approx. 5 feet).  
 The Soil Leachability Index indicates 3.9 acres or 40.0% of the parcel has high leachable soils, for fertilizers (identified in red).

**Soil Permeability** (This is only the soil profile within the parcel from the surface down to approx. 5 feet. Soil permeability is a reflection of the speed in which water (with or without pollutants) can move through the soil profile.)  
 The USDA-NRCS Soil Survey Map of the area indicates there are no highly permeable soils on the parcel.

**Soil Limitations (This evaluates the parcel from the surface down to approximately 5 feet.):**

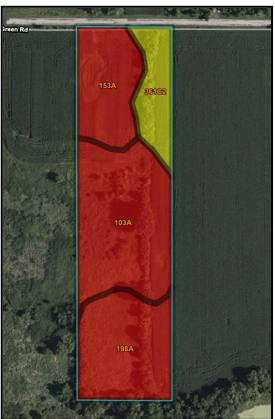
**Erosion Ratings**

The NRCS Soils Survey indicates 1.2 acres or 12.4% of the parcel is comprised of highly erodible soils.



**Prime Farmland Soils**

The Natural Resources Conservation Service (NRCS) Soil Survey indicates 3.9 acres or 40.0% of the parcel is comprised of prime farmland soil (identified in green) and 2.0 acres or 20.1% of the parcel is comprised of prime farmland if drained soils (identified in blue).



**Ground-Based Solar Arrays**

The Natural Resources Conservation Service (NRCS) Soil Survey indicates 8.6 acres or 87.6% of the parcel has very limited soils for ground-based solar arrays (identified in red).



**Hydric Soils**

The NRCS Soil Survey indicates 5.9 acres or 60.0% of the parcel contains hydric soils (identified in orange and red).

**Floodplain Information:**

**The Flood Insurance Rate Map**

Indicates the parcel is outside of the 100-year floodplain.

**Flood of Record Map (Hydrologic Atlas)**

The Flood of Record Map for this area indicates the parcel has not previously flooded.

**Wetland Information:**



**USDA-NRCS Wetland Inventory**

The NRCS Wetlands Inventory indicates FWP: Farmed Wetland Pasture on 3.30 acres of the parcel (identified in red).



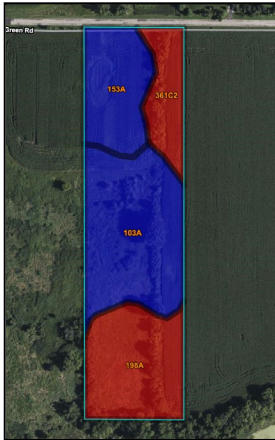
**ADID Wetland Inventory**

The ADID Wetland Study indicates 3.38 acres of High Quality Wetland K62 on the parcel.

\*It is unclear if a wetland delineation has been completed on the parcel or if the inventory boundaries were utilized for the site plan. Due to the high quality of the wetland, including being a McHenry County Natural Areas Inventory site, it is imperative to know where the exact boundaries are to ensure avoidance. Additionally, the farmed wetland within the northwest corner should be evaluated to determine potential impacts.

**Flooding Frequency**

The NRCS Soil Survey indicates flooding is not probable. The chance of flooding is nearly 0 percent in any year. Flooding occurs less than once in 500 years.



**Ponding Frequency**

The NRCS Soil Survey indicates that frequent ponding occurs on 5.9 acres or 60.0% of the parcel (identified in blue). Ponding occurs, on the average, more than once in 2 years. The chance of ponding is more than 50 percent in any year.

**Cultural Resources:** None identified



**Preserved or Recognized Ecological Sites:** Office maps indicate McHenry County Natural Areas Inventory Site - Giugni/Kessler Wetlands is located partially on the southern portion of the parcel. Giugni/Kessler Wetlands is comprised of mesic silt loam prairie, wet silt loam prairie, basin marshes, and sedge meadow. The site is threatened by water table alteration, brush encroachment, and Reed Canary Grass.

**Woodlands:** None Identified

**Agricultural Areas:** Office Maps indicate there are no State designated agricultural areas on the parcel in question.

**Land Evaluation Site Assessment (LESA)**

The Land Evaluation Score for the parcel is 90.44 and the Site Assessment Score is 120, for a total LESA Score of 210.44 indicating the parcel should maintain its existing land use.

**Vegetation:** Information provided by the applicant indicates the site will be revegetated with native plantings. A management and monitoring plan will need to be developed in accordance with guidance from the Illinois Department of Natural Resources and the McHenry County Department of Planning & Development. It is recommended that early coordination with the McHenry County Department of Planning & Development occur to ensure the planting and monitoring plan adequately reflect the site conditions.

**Agricultural Impact Mitigation Agreement:** We have not received notice from the Illinois Department of Agriculture that an Agricultural Impact Mitigation Agreement has been filed. Please reach out to Sean McIntyre, IDOA, for more information.



**Sean McIntyre | AGRICULTURAL LAND & WATER RESOURCE SPECIALIST I**  
Land and Water Resources

Illinois Department of Agriculture

John R. Block Building | 801 E. Sangamon Ave., P.O. Box 19281 | Springfield, IL 62794-9281  
(O) 217-558-8095 | [sean.m.mcintyre@illinois.gov](mailto:sean.m.mcintyre@illinois.gov)



## NATURAL RESOURCE INFORMATION REPORT (NRI)

NRI Report Number	26-007-4790	
Applicant's Name	3-A Energy LLC	
Size of Parcel	9.906 acres	
Zoning Change	Conditional Use - Solar Facility	
Parcel Index Number(s)	02-33-300-012	
Common Location	Undefined	
Contact Person	Ebrahim Mamsa	
<i>Copies of this report or notification of the proposed land-use change were provided to:</i>	<i>yes</i>	<i>no</i>
The Applicant	x	
The Applicant's Legal Representation/Consultant		x
The Village/City/County Planning and Zoning Department or Appropriate Agency	x	

Report Prepared By: *Spring M. Duffey*

Position: *Executive Director*

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## PURPOSE AND INTENT

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The purpose of this report is to inform officials of the local governing body and other decision-makers with natural resource information. This information may be useful when undertaking land use decisions concerning variations, amendments or relief of local zoning ordinances, proposed subdivision of vacant or agricultural lands and the subsequent development of these lands. This report is a requirement under Section 22.02a of the Illinois Soil and Water Conservation Districts Act.

The intent of this report is to present the most current natural resource information available in a readily understandable manner. It contains a description of the present site conditions, the present resources, and the potential impacts that the proposed change may have on the site and its resources. The natural resource information was gathered from standardized data, on-site investigations and information furnished by the petitioner. This report must be read in its entirety so that the relationship between the natural resource factors and the proposed land use change can be fully understood.

Due to the limitations of scale encountered with the various resource maps, the property boundaries depicted in the various exhibits in

this report provide a generalized representation of the property location and may not precisely reflect the legal description of the PIQ (Parcel in Question).

This report, when used properly, will provide the basis for proper land use change decisions and development while protecting the natural resource base of the county. It should not be used in place of detailed environmental and/or engineering studies that are warranted under most circumstances, but in conjunction with those studies.

The conclusions of this report in no way indicate that a certain land use is not possible, but it should alert the reader to possible problems that may occur if the capabilities of the land are ignored. Any questions on the technical data supplied in this report or if anyone feels that they would like to see more additional specific information to make the report more effective, please contact:

**McHenry-Lake County Soil & Water  
Conservation District  
1648 S. Eastwood Dr.  
Woodstock, IL 60098  
Phone: (815) 338-0444 ext. 3  
[www.mchenryswed.org](http://www.mchenryswed.org)  
E-mail: [Spring.Duffey@il.nacdnet.net](mailto:Spring.Duffey@il.nacdnet.net)**

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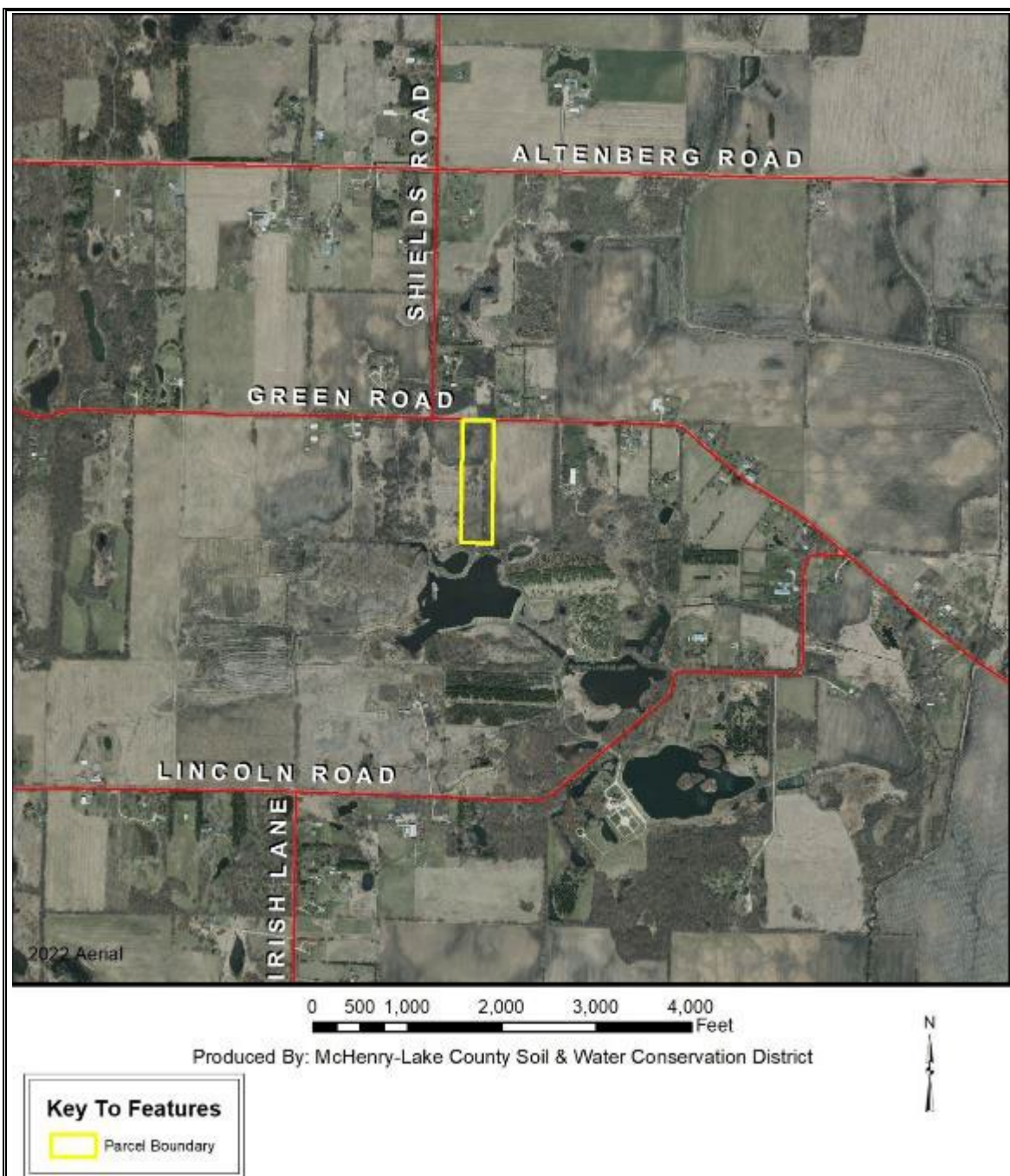
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**PARCEL LOCATION**

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**Location Map for Natural Resources Information Report # 26-007-4790**  
**In the Southwest Quarter of Section 33, Township 46 North, Range 6 East, on 9.906 acres.**  
**This parcel is located on the south side of Green Road, east of the intersection of Green Road and Shields Road, McHenry County, IL.**



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## ARCHAEOLOGIC/CULTURAL RESOURCES

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Simply stated, cultural resources are all the past activities and accomplishments of people. They include the following: buildings; objects made or used by people; locations; and less tangible resources, such as stories, dance forms, and holiday traditions. The Soil and Water Conservation District most often encounters cultural resources as historical properties. These may be prehistoric or historical sites, buildings, structures, features, or objects. The most common type of historical property that the Soil and Water Conservation District may encounter is non-structural archaeological sites. These sites often extend below the soil surface, and must be protected against disruption by development or other earth moving activity if possible. Cultural resources are *non-renewable* because there is no way to “grow” a site to replace a disrupted site.

Landowners with historical properties on their land have ownership of that historical property. However, the State of Illinois owns all of the following: human remains, grave markers, burial mounds, and artifacts associated with graves and human remains.

Non-grave artifacts from archaeological sites and historical buildings are the property of the landowner. The landowner may choose to disturb a historical property, but may not receive federal or state assistance to do so. If an earth moving activity disturbs human remains, the landowner must contact the county coroner within 48 hours.

*Office maps indicate there are no known cultural/historical features on the parcel in question. (PIQ)*

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## ECOLOGICALLY SENSITIVE AREAS

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### ***What is Biological Diversity and Why Should it be Conserved?<sup>1</sup>***

Biological diversity, or biodiversity, is the range of life on our planet. A more thorough definition is presented by botanist Peter H. Raven: “At the simplest level, biodiversity is the sum total of all the plants, animals, fungi and microorganisms in the world, or in a particular area; all of their individual variation; and all of the interactions between them. It is the set of living organisms that make up the fabric of the planet Earth and allow it to function as it does, by capturing energy from the sun and using it to drive all of life’s processes; by forming communities of organisms that have, through the several billion years of life’s history on Earth, altered the nature of the atmosphere, the soil and the water of our Planet; and by making possible the sustainability of our planet through their life activities now.” (Raven 1994)

It is not known how many species occur on our planet. Presently, about 1.4 million species have been named. It has been estimated that there are perhaps 9 million more that have not been identified. What is known is that they are vanishing at an unprecedented rate. Reliable estimates show extinction occurring at a rate several orders of magnitude above “background” in some ecological systems. (Wilson 1992, Hoose 1981)

The reasons for protecting biological diversity are complex, but they fall into four major categories.

First, loss of diversity generally weakens entire natural systems. Healthy ecosystems tend to have many natural checks and balances. Every species plays a role in maintaining this system. When simplified by the loss of diversity, the system becomes more susceptible to natural and artificial perturbations. The chances of a system-wide collapse increase. In parts of the

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<sup>1</sup>Taken from *The Conservation of Biological Diversity in the Great Lakes Ecosystem: Issues and Opportunities*, prepared by the Nature Conservancy Great Lakes Program 79W, Monroe Street, Suite 1309, Chicago, IL 60603, January 1994

midwestern United States, for example, it was only the remnant areas of natural prairies that kept soil intact during the dust bowl years of the 1930s. (Roush 1982)

Simplified ecosystems are almost always expensive to maintain. For example, when synthetic chemicals are relied upon to control pests, the target species are not the only ones affected. Their predators are almost always killed or driven away, exasperating the pest problem. In the meantime, people are unintentionally breeding pesticide-resistant pests. A process has begun where people become perpetual guardians of the affected area, which requires the expenditure of financial resources and human ingenuity to keep the system going.

A second reason for protecting biological diversity is that it represents one of our greatest untapped resources. Great benefits can be reaped from a single species. About 20 species provide 90% of the world's food. Of these 20, just three, wheat, maize and rice-supply over one half of that food. American wheat farmers need new varieties every five to 15 years to compete with pests and diseases. Wild strains of wheat are critical genetic reservoirs for these new varieties.

Further, every species is a potential source of human medicine. In 1980, a published report identified the market value of prescription drugs from higher plants at over \$3 billion. Organic alkaloids, a class of chemical compounds used in medicines, are found in an estimated 20% of plant species. Yet only 2% of plant species have been screened for these compounds. (Hoose 1981)

The third reason for protecting diversity is that humans benefit from natural areas and depend on healthy ecosystems. The natural world supplies our air, our water, our food and supports human economic activity. Further, humans are creatures that evolved in a diverse natural environment between forest and grasslands. People need to be reassured that such places remain. When people speak of "going to the country," they generally mean more than getting out of town. For reasons of their own sanity and well being, they need a holistic, organic experience. Prolonged exposure to urban

monotony produces neuroses, for which cultural and natural diversity cure.

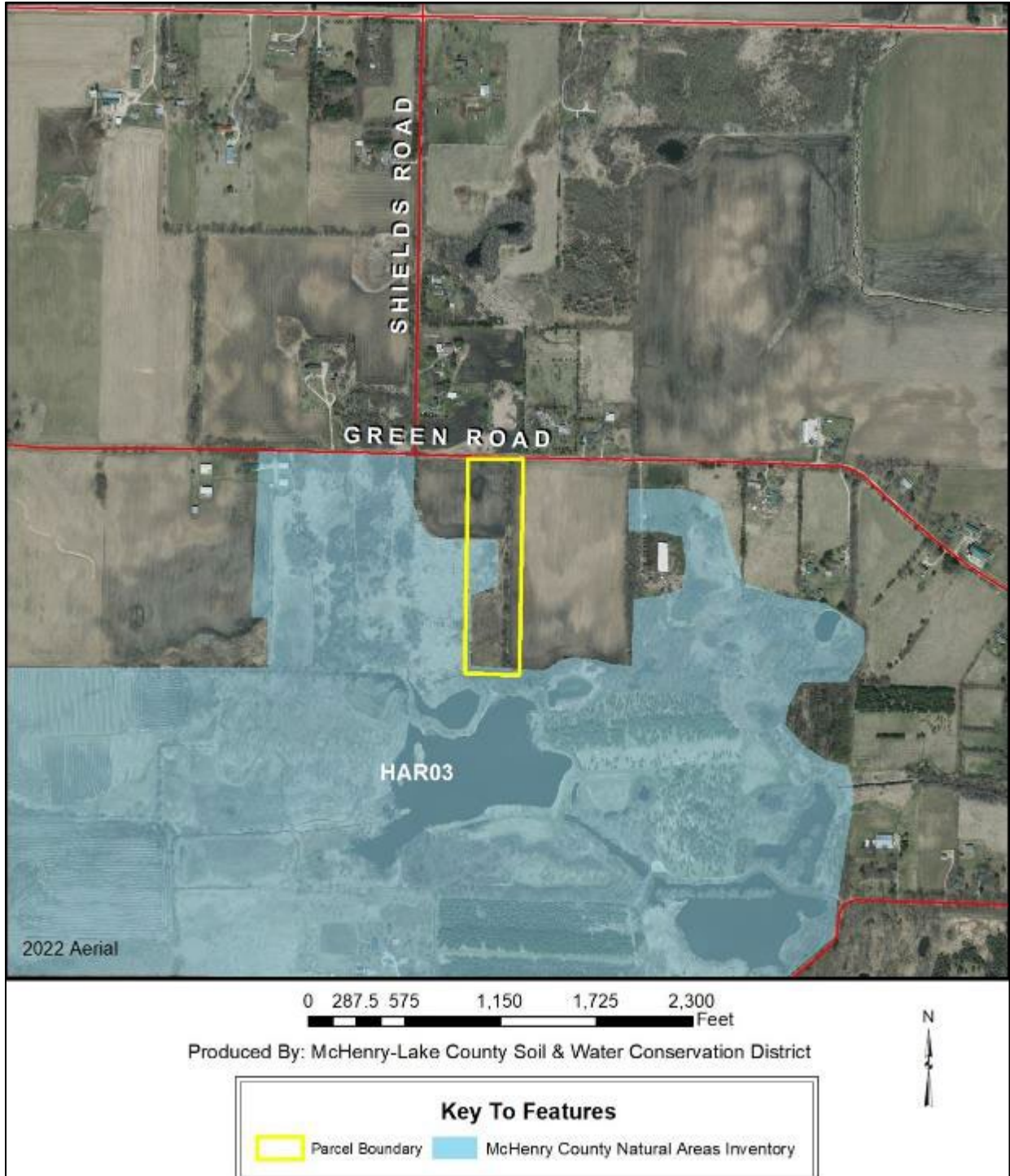
Historically, the lack of attention to biological diversity, and the ecological processes it supports, has resulted in economic hardships for segments of the basin's human population.

The final reason for protecting biological diversity is that species and natural systems are intrinsically valuable. The above reasons have focused on the benefits of the natural world to humans. All things possess intrinsic value simply because they exist.

### **Biological Resources Concerning the Subject Parcel**

As part of the Natural Resources Information Report, staff checks office maps to determine if any nature preserves are within 500 feet of the parcel in question. If there is a nature preserve in the area, then that resource will be identified as part of the report. The SWCD recommends that every effort be made to protect that resource. Such efforts should include, but are not limited to erosion control, sediment control, stormwater management, and groundwater monitoring.

Office maps indicate McHenry County Natural Areas Inventory Site – Giugni/Kessler Wetlands is located partially on the southern portion of the parcel. Giugni/Kessler Wetlands is comprised of mesic silt loam prairie, wet silt loam prairie, basin marshes, and sedge meadow. The site is threatened by water table alteration, brush encroachment, and Reed Canary Grass.

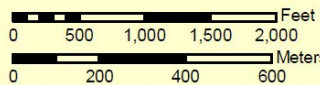


# Giugni/Kessler Wetlands

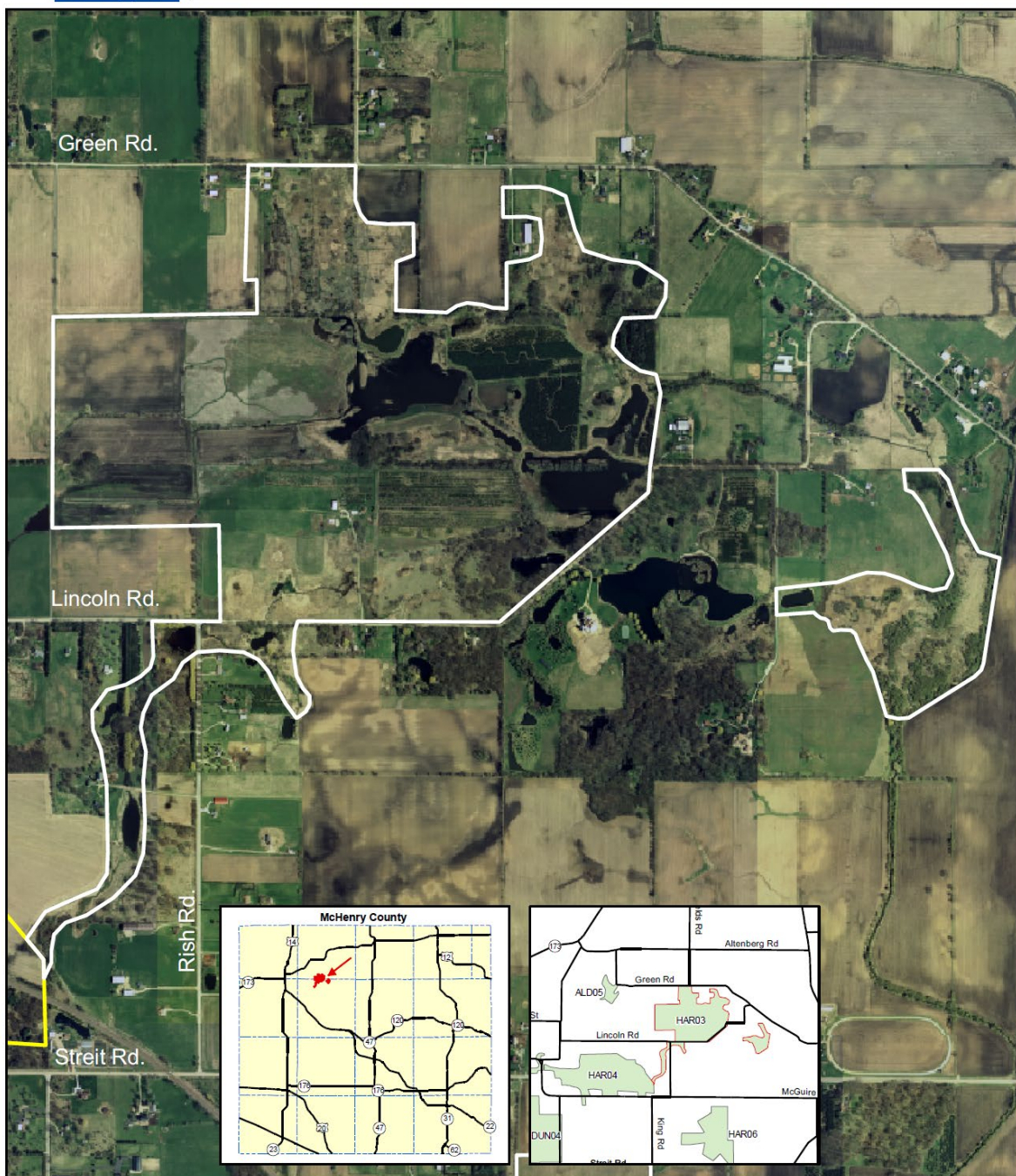
HAR03



MCCD-NRM  
Base map: 2001 aerial photo  
Site last visited: 1998  
Map Date: 2/14/05



Townships: Hartland, Alden  
Sections: 3-5; 32-33  
Former ID: K62



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## WOODLANDS

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Existing mature trees should be preserved whenever possible. Woodlands provide a large number of benefits such as wildlife habitat, erosion control, air and water quality improvements, as well as aesthetic values. Construction activities can indirectly destroy trees. Oak trees are particularly susceptible to long term, permanent damage caused by construction activities and require special consideration. It is also recommended that invasive non-native species be removed whenever possible.

Native woodlands are no longer a common occurrence throughout much of McHenry County. Although forests originally covered nearly 40% of Illinois, today only about 12% of the state is forested, with most of this being secondary growth (Ill. Natural History Survey Reports, Nov/Dec 1993, No. 324). The composition of Illinois forests has changed markedly over the past three decades. 97% of the timberland is classified as hardwood forest. The forest acreage continues to increase from 4.2 million acres in 1985 to 4.3 million acres in 1998. (IL Forest Development Council News, IL DNR, Winter 2001/Volume 2, No. 1). Oak-hickory forests, which had made up half of the acreage, have declined by 14%, and make up 2.1 million acres. This decline is largely a result of wildfire suppression that allows maples to take over. Thus, the acres of maple-beech forest have risen more than 40-fold from 1962 to 1985, to one quarter of the total forest area, 696 thousand acres. Dutch elm disease and the conversion of forested bottomlands to agriculture have resulted in huge declines in the elm-ash-cottonwood forests, 906 thousand acres, falling from one third - one sixth of the Illinois forest area. Elm accounts for the greatest number of individual trees – 412 million. Other species groups with more than 100 million trees include hickory, red oak, sugar/black maple, ash, hackberry, and black cherry.

Woodlands provide many benefits such as wildlife habitat, erosion control, air and water quality improvements, and aesthetic values. Forests are responsible for much of the biological diversity in the state. Many species are dependent upon forests for food & shelter, including threatened/endangered species.

One of the most serious problems facing Illinois forests is the invasion of exotic plants and animals. Some of the most damaging plants includes European buckthorn, multiflora rose, honeysuckle, purple loosestrife, and garlic mustard.

Many trees, particularly hardwoods (especially oaks) are extremely sensitive to construction-induced disturbances. The area most susceptible to damage is within the "drip radius," the ground surface directly beneath the leafy canopy of the tree. Many trees have an extensive system of feeder roots, located within one foot of the surface, and supply the tree with the majority of its moisture and nutrient needs.

Construction activities can negatively impact trees in several different ways. Earth-moving activities that stockpile soil near trees can suffocate tree roots that, although buried, require oxygen. Vehicle traffic can compact the soil to a point where the roots no longer function effectively. Grading activities for road cuts and foundations can cause a localized drop in the water table, placing the trees under stress. The placement of pavement or stormwater management facilities near established trees can also radically change soil moisture. The removal of the accumulated organic materials normally present on a woodland floor, and the subsequent establishment of turf lawns, can drastically affect the soil temperature and nutrient balance. Injury to the bark of a tree can increase the chance of the tree being subjected to a potentially harmful disease.

If existing trees are to be maintained in a healthy state, the appropriate planning is necessary. Someone with a working knowledge of forestry should assess existing trees to determine which trees should be protected. Some tree species are not considered desirable due to their aggressive growth, behavior, and limited value to local wildlife. Proper management of woodlands and open space includes the selective elimination of such trees and replacement by more desirable species. **Trees that are to be saved should be marked and protected with snow fencing or similar material, installed around the drip radius, to prevent root damage,** and vehicle traffic should

be minimized around the drip line. Contractors should be informed of the intention to preserve trees and be expected to conduct their work accordingly.

Tree damage resulting from construction activities may not be apparent for a number of

years. While it is recognized that some tree loss is unavoidable, this should be minimized to the extent possible. It is highly recommended that trees lost to development activity be replaced by younger specimens of the native trees now found on the PIQ.

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## GEOLOGIC INFORMATION

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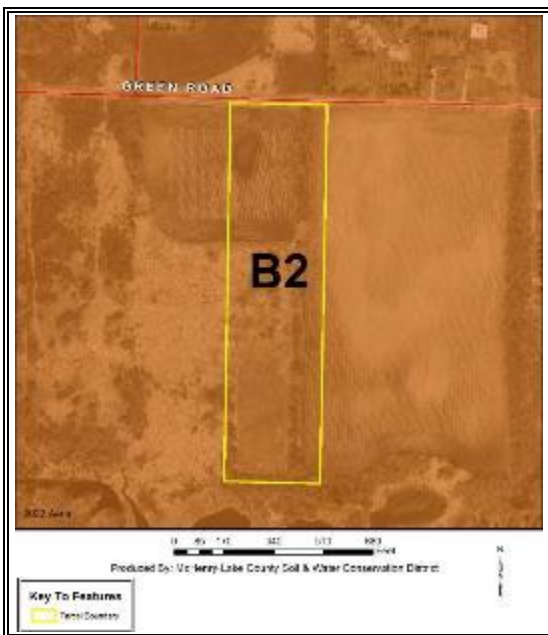
### Geology and the Proposed Land Use

As density of septic systems increases, the concern for pollution potential of local groundwater rises. Local geology plays an important role in determining the pollution potential. Groundwater pollution potential is an important factor when determining a specific area's suitability for a given land use. The local geology, is an important element of the natural resource base. This information, when compared to soils information, gives a clearer picture of conditions on this parcel.

Geological data comes from the Illinois State Geological Survey Circular 559, *Geologic Mapping for Environmental Planning, McHenry County, Illinois*.

The Geologic features map indicates the parcel is comprised of B2 geologic limitations.

**B-2:** Geologic limitations. The potential for contamination is moderately high. Groundwater in these thin sand and gravel deposits is not commonly tapped for water resource; however, contaminated groundwater may flow into aquifers of adjoining units, or it may migrate through the sand and gravel, especially along the contact with underlying fine-grained deposits, and discharge on slopes or into surface-water bodies. (Contains less than 20 feet Henry sandy diamicton overlying less than 20 feet Henry sand and gravel.)



Aquifer Sensitivity, McHenry County, Illinois  
(e.g., septic systems) (Vaiden et al.)

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## SENSITIVE AQUIFER RECHARGE AREAS

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Developed for McHenry County in 2008 and revised in 2018 is the “McHenry County Sensitive Aquifer Recharge Areas” map. Because McHenry County is 100% reliant on groundwater and has been experiencing groundwater quantity/quality issues, the county board in 1995 authorized a groundwater investigation/report titled “County of McHenry Groundwater Resources Management Plan”. Many facts in that report startled decision makers. For example, the report found that in 2000, one township was withdrawing groundwater at unsustainable rates and by 2030 if status-quo, three townships would be doing the same and that three other townships would be approaching that un-sustainability. In 2007, the County Board hired a full time Water Resources Manager and authorized the creation of the McHenry County Groundwater Task Force. The Recharge Subcommittee of the Groundwater Task Force was charged with identifying areas within the county that could be considered to have high potential for recharge of shallow groundwater and develop recommendations for protecting those areas in terms of both quantity and quality. The original main basis for the map identifying recharge is areas of high or moderately high potential for aquifer contamination as identified in the Illinois State Geological Survey’s Circular 559, “Geologic Mapping for Environmental Planning, McHenry County, IL”. In a meeting of the recharge subcommittee, Illinois State Geological Survey and Illinois State Water Survey, it was determined that the areas of high or moderately high potential for aquifer contamination could be qualified by using soil properties. The plan was to remove from the high and moderately high areas those soils with slow permeability, steep slopes and hydric soils that discharge groundwater. Using Table 6 of the Soil Survey of McHenry County a digital layer was developed of soil properties:

- Restricted permeability
- Slopes 4% or greater (except if the soil had excessive permeability, it was not included)

Also digitized were groundwater discharge hydric soils. NRCS Illinois Area 3 Resource Soil Scientists in 2002 developed a hydric soil recharge/flow through/discharge guide to use when designing wetland restoration. Because recharge/flow through/discharge is very complex and changes depending on the year only soils that were thought to be generally only groundwater discharge were used.

Subsequent to the original map development, 3D groundwater modeling has occurred and provided more precise groundwater flow data and thus was the basis for the 2018 map update. *(Information Courtesy of the McHenry County Groundwater Taskforce – Recharge Subcommittee.)*



*\*The map indicates 7.48 acres of the parcel is within a Sensitive Aquifer Recharge Area.*

## SOILS INFORMATION

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### **Importance of Soils Information**

Soils information comes from Natural Resources Conservation Service Soil Maps and Descriptions for McHenry County. This information is important to all parties involved in determining the suitability of the proposed land use change.

Each soil polygon is given a number, which represents its soil type. The letter found after the soil type number indicates the soils slope class.

Each soil map unit has limitations for a variety of land uses such as septic systems, buildings with basements, and buildings without basements. It is important to remember that soils do not function independently of each other. The behavior of a soil depends upon the physical properties of adjacent soil types, the presence of artificial drainage, soil compaction, and its position in the local landscape.

The limitation categories (slight, moderate or severe) indicate the potential for difficulty in using that soil unit for the proposed activity and, thus, the degree of need for thorough soil borings and engineering studies. A limitation does not

necessarily mean that the proposed activity cannot be done on that soil type. It does mean that the reasons for the limitation need to be thoroughly understood and dealt with in order to complete the proposed activity successfully. A severe limitation indicates that the proposed activity will be more difficult and costly to do on that soil type than on a soil type with a moderate or slight rating.

Soil survey interpretations are predictions of soil behavior for specified land uses and specified management practices. They are based on the soil properties that directly influence the specified use of the soil. Soil survey interpretations allow users of soil surveys to plan reasonable alternatives for the use and management of soils.

Soil interpretations do not eliminate the need for on-site study and testing of specific sites for the design and construction for specific uses. They can be used as a guide for planning more detailed investigations and for avoiding undesirable sites for an intended use. The scale of the maps and the range of error limit the use of the soil delineations.

Soil Map—McHenry County, Illinois



Map Unit Symbol	Map Unit Name	Acres	Percent
103A	Houghton muck, 0 to 2 percent slopes	3.9	39.9%
153A	Pella silty clay loam, cool, 0 to 2 percent slopes	2.0	20.1%
198A	Elburn silt loam, cool, 0 to 2 percent slopes	2.7	27.6%
361C2	Kidder loam, 4 to 6 percent slopes, eroded	1.2	12.4%

## Soil Interpretations Explanation

### Nonagricultural

#### General

These interpretative ratings help engineers, planners, and others to understand how soil properties influence behavior when used for nonagricultural uses such as building site development or construction materials. This report gives ratings for proposed uses in terms of limitations and restrictive features. The tables list only the most restrictive features. Other features may need treatment to overcome soil limitations for a specific purpose.

Ratings come from the soil's "natural" state, that is, no unusual modification occurs other than that which is considered normal practice for the rated use. Even though soils may have limitations, an engineer may alter soil features or adjust building plans for a structure to compensate for most degrees of limitations. Most of these practices, however, are costly. The final decision in selecting a site for a particular use generally involves weighing the costs for site preparation and maintenance.

Soil properties influence development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Soil limitation ratings of slight, moderate, and severe are given for the types of proposed improvements that are listed or inferred by the petitioner as entered on the report application and/or zoning petition. The most

common types of building limitation that this report gives limitations ratings for is: septic systems. It is understood that engineering practices can overcome most limitations for buildings with and without basements, and small commercial buildings. Limitation ratings for these types of buildings are not commonly provided. Organic soils, when present on the parcel, are referenced in the hydric soils section of the report. This type of soil is considered to be unsuitable for all types of construction.

#### Limitations Ratings

1. **Slight** - This soil has favorable properties for the use. The degree of limitation is minor. The people involved can expect good performance and low maintenance.
2. **Moderate** - This soil has moderately favorable properties for the use. Special planning, design, or maintenance can overcome this degree of limitation. During some part of the year, the expected performance is less desirable than for soils rated slight.
3. **Severe or Very Severe** - This soil has one or more properties that are unfavorable for the rated use. These may include the following: steep slopes, bedrock near the surface, flooding, high shrink-swell potential, a seasonal high water table, or low strength. This degree of limitation generally requires major soil reclamation, special design, or intensive maintenance, which in most situations is difficult and costly.

## SOIL LEACHABILITY

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This interpretation is designed to evaluate the potential for nitrate-nitrogen to be transmitted through the soil profile below the root zone by percolating water under nonirrigated conditions. Leaching nitrates have the potential to contaminate shallow and deep aquifers used for drinking water. The ratings are based on inherent soil and climate properties that affect nitrate leaching and do not account for management practices, such as crop rotation and rates and timing of nitrogen fertilizer applications.

The following soil and climate factors are used in the interpretation criteria:

1. Mean annual precipitation minus potential evapotranspiration - This factor provides an estimate of the amount of water that is available to move through the soil profile on an annual basis. Potential evaporation is estimated from mean annual air temperature using an algorithm (developed by the National Soil Survey Center) that employs the Hamon potential evapotranspiration method.
2. Water travel time through the entire soil profile - This factor uses the saturated hydraulic conductivity (Ksat) and thickness of each soil horizon to estimate the number of hours that would be required for a given volume of water to move through the entire soil profile. One advantage of this method for estimating the rate of water movement is that the properties and thickness of each soil horizon are accounted for instead of using an average saturated hydraulic conductivity for the entire profile. This method accounts for subtle differences between soils in texture, structure, horizon thickness, and depth to water-restricting layers.
3. Available water capacity - This factor accounts for the cumulative amount of water available to plants that the entire soil profile can hold at field capacity to a depth of 150 cm. The more water the soil profile can hold, the less water is available for deep leaching.
4. Depth to and duration of a water table - This factor uses a water table index based on the minimum average depth to a water table and the number of months that the water table is present during the period from April through October. The factor is used to account for the loss of nitrates to the atmosphere as nitrous oxide or nitrogen gas due to denitrification under anaerobic conditions caused by water saturation. The higher the water table and the longer its duration, the larger the quantity of nitrates that would potentially be lost to the atmosphere and therefore would not be available for deep leaching.
5. Slope gradient adjusted for hydrologic soil group - The steeper the slope gradient, the higher the potential for surface runoff and the lower the amount of water available to move through the soil profile. The following adjustments are made to the slope gradient by hydrologic group to account for differences in potential for surface runoff:

Hydrologic group A-slope % x 0.75

Hydrologic group B-slope % x 0.85

Hydrologic group C-slope % x 0.95

Hydrologic group D-no adjustment

The ratings are both verbal and numerical. The ratings for Nitrate Leaching Potential, Nonirrigated Areas, are calculated as follows:

- The Mean Annual Precipitation minus Potential Evapotranspiration subrule is weighted by multiplying by 0.60.
- The Water Travel Time subrule is weighted by multiplying by 0.25.
- The Available Water Capacity subrule is weighted by multiplying by 0.15.
- The sum of these three weighted subrules results in a value between 0.00 and 1.00.
- Adjustments are then made for water table depth and duration and for slope gradient adjusted for hydrologic group. The sum of the values from these subrules is subtracted from the sum in step 4 above. The maximum reduction is 0.50 for the water table index subrule and 0.30 for the slope gradient subrule.

The following rating classes for Nitrate Leaching Potential, Nonirrigated Areas, are assigned based on the final calculation from the factors above:

Low: 0.00 to 0.25

Moderate: 0.26 to 0.50

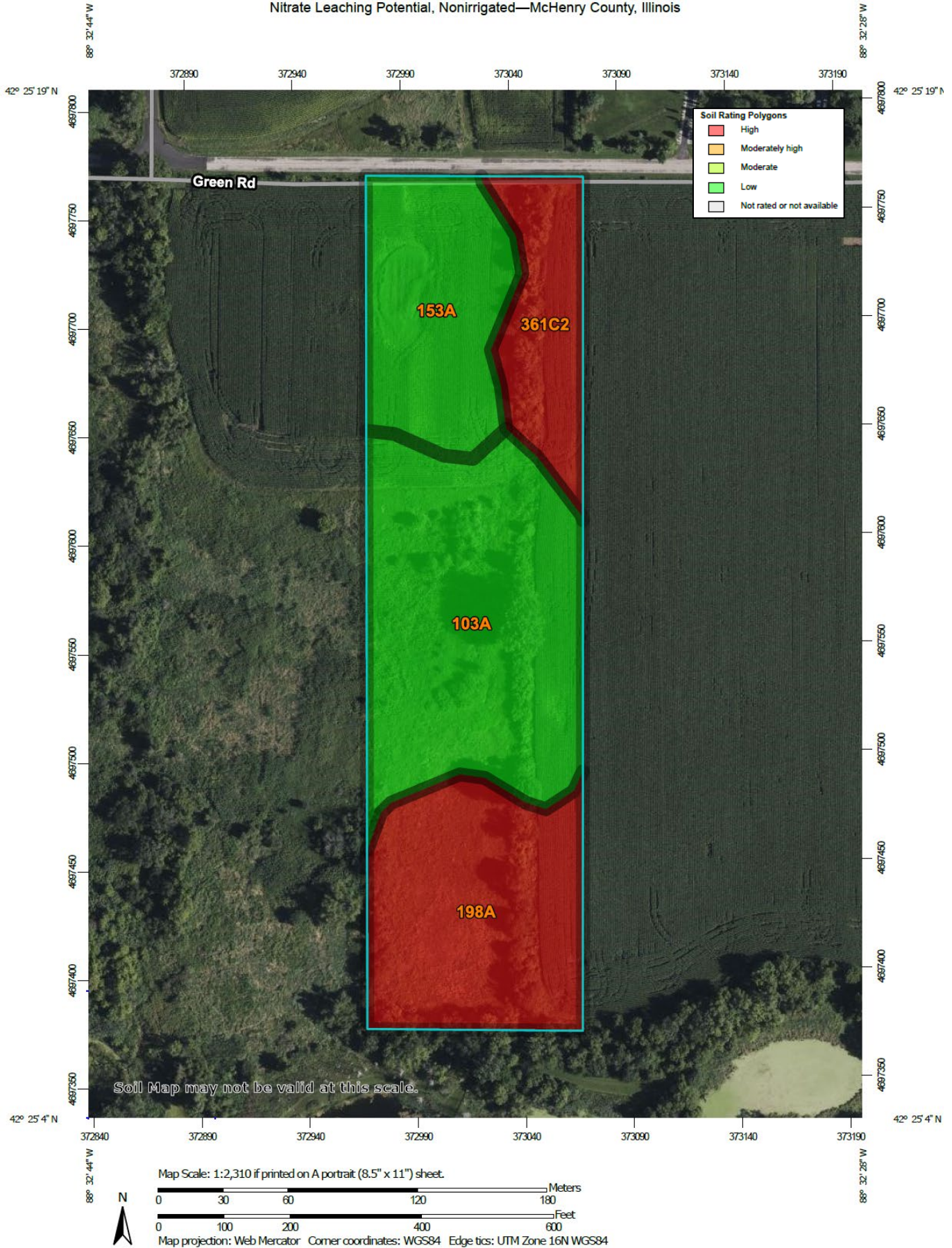
Moderately high: 0.51 to 0.75 High: 0.76 to 1.00

The ratings indicate the potential for nitrate leaching below the root zone, based on inherent soil and climate properties. A "low" rating indicates a low potential for leaching of nitrates below the root zone. A "high" rating indicates a high potential for leaching of nitrates below the root zone. The "moderate" and "moderately high" ratings indicate intermediate potential.

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Nitrate Leaching Potential, Nonirrigated—McHenry County, Illinois



Nitrate Leaching Potential, Nonirrigated											
Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres	Percent					
103A	Houghton muck, 0 to 2 percent slopes	Low	Houghton, muck (90%)	Water travel time (1.00)	3.9	39.9%					
				Water quantity available for leaching (0.98)							
				Denitrification due to saturation (0.50)							
				Anion exchange capacity (0.20)							
			Houghton, ponded (4%)	Water travel time (1.00)							
				Water quantity available for leaching (1.00)							
				Denitrification due to saturation (0.50)							
				Anion exchange capacity (0.20)							
			Willette, muck (1%)	Water quantity available for leaching (0.98)							
				Denitrification due to saturation (0.50)							
			153A	Pella silty clay loam, cool, 0 to 2 percent slopes			Low	Pella, cool (85%)	Water quantity available for leaching (0.99)	2.0	20.1%
									Denitrification due to saturation (0.50)		
198A	Elburn silt loam, cool, 0 to 2 percent slopes	High	Elburn, cool (90%)	Water quantity available for leaching (1.00)	2.7	27.6%					
				Water travel time (0.85)							
361C2	Kidder loam, 4 to 6 percent slopes, eroded	High	Kidder, eroded (95%)	Water quantity available for leaching (1.00)	1.2	12.4%					

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres	Percent
				Water travel time (0.95)		
				Water holding capacity (0.43)		
			Fox (3%)	Water quantity available for leaching (1.00)		
				Water travel time (0.76)		
				Water holding capacity (0.67)		
Rating		Acres		Percent		
Low				5.9		60.0%
High				3.9		40.0%

## SOIL PERMEABILITY

Soil permeability is the quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality.

For the purposes of the NRI Report, those soils which have “rapid” to “very rapid” permeability, have been identified as “highly permeable.”

Terms describing permeability, measured in inches per hour, are as follows:

Extremely slow ..... 0.0 to 0.01 inch  
 Very slow ..... 0.01 to 0.06 inch  
 Slow ..... 0.06 to 0.2 inch  
 Moderately slow ..... 0.2 to 0.6 inch  
 Moderate ..... 0.6 inch to 2.0 inches  
 Moderately rapid ..... 2.0 to 6.0 inches  
 Rapid ..... 6.0 to 20 inches  
 Very rapid ..... more than 20 inches

<b>Highly Permeable Soils</b>			
Map Unit Symbol	Highly Permeable	Acres	Percent
103A	Houghton muck, 0 to 2 percent slopes - No	3.9	39.9%
153A	Pella silty clay loam, cool, 0 to 2 percent slopes - No	2.0	20.1%
198A	Elburn silt loam, cool, 0 to 2 percent slopes - No	2.7	27.6%
361C2	Kidder loam, 4 to 6 percent slopes, eroded – No	1.2	12.4%
<b>Total Highly Permeable Soils</b>		<b>0.0</b>	<b>0.0%</b>

## SOIL EROSION & SEDIMENT CONTROL

Erosion is the wearing away of the soil by water, wind, and other forces. Soil erosion threatens the Nation's soil productivity and contributes the most pollutants in our waterways. Water causes about two thirds of erosion on agricultural land. Four properties, mainly, determine a soil's erodibility:

1. Texture
2. Slope
3. Structure
4. Organic matter content

**Slope** has the most influence on soil erosion potential when the site is under construction. Erosivity and runoff increase as slope grade increases. The runoff then exerts more force on the particles, breaking their bonds more readily and carrying them farther before deposition. The longer water flows along a slope before reaching a major waterway, the greater the potential for erosion.

Soil erosion during and after this proposed construction can be a primary non-point source of water pollution. Eroded soil during the construction phase can create unsafe conditions on roadways, decrease the storage capacity of lakes, clog streams and drainage channels, cause

deterioration of aquatic habitats, and increase water treatment costs. Soil erosion also increases the risk of flooding by choking culverts, ditches and storm sewers, and by reducing the capacity of natural and man-made detention facilities.

The general principles of erosion and sedimentation control measures include:

- reducing or diverting flow from exposed areas, storing flows or limiting runoff from exposed areas,
- staging construction in order to keep disturbed areas to a minimum,
- establishing or maintaining or temporary or permanent groundcover,
- retaining sediment on site and
- properly installing, inspecting and maintaining control measures.

Erosion control practices are useful controls only if they are properly located, installed, inspected and maintained.

The SWCD recommends an erosion control plan for all building sites, especially if there is a wetland or stream nearby.

### Highly Erodible Soils (HEL)

Map Unit Symbol	HEL	Acres	Percent
103A	Houghton muck, 0 to 2 percent slopes – Non-HEL	3.9	39.9%
153A	Pella silty clay loam, cool, 0 to 2 percent slopes – Non-HEL	2.0	20.1%
198A	Elburn silt loam, cool, 0 to 2 percent slopes – Non-HEL	2.7	27.6%
361C2	Kidder loam, 4 to 6 percent slopes, eroded – HEL	1.2	12.4%
<b>Total Highly Erodible Soils</b>		<b>1.2</b>	<b>12.4%</b>

## PRIME FARMLAND SOILS

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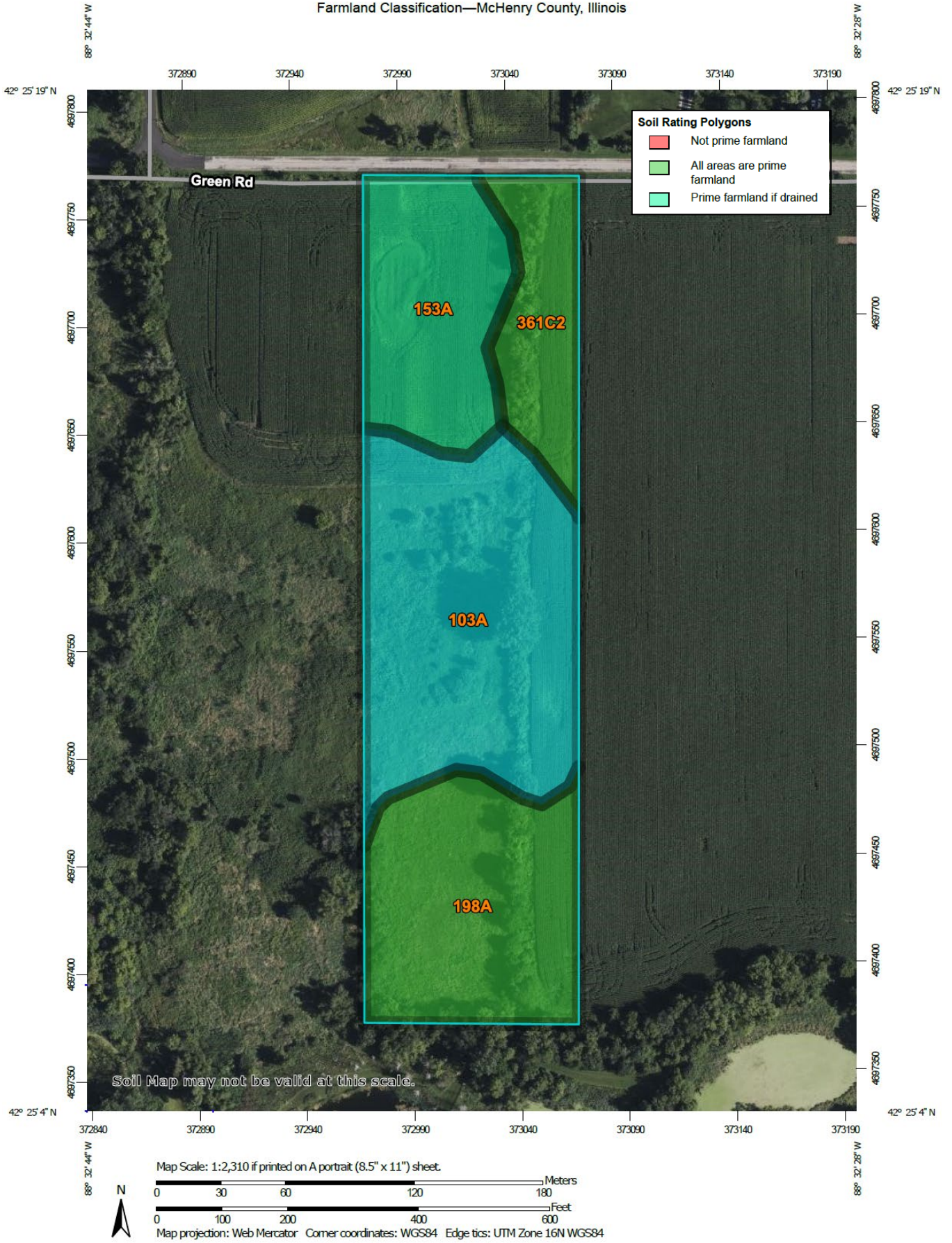
Prime farmland soils are an important resource to McHenry County. Some of the most productive soils in the United States occur locally. Each soil map unit in the United States is assigned a prime or non-prime rating. Prime agricultural land does not need to be in the production of food & fiber.

Section 310 of the NRCS general manual states that urban or built-up land on prime farmland soils is not prime farmland. The percentages of soils map units on the parcel reflect the determination that urban or built up land on prime farmland soils is not prime farmland.

### Prime Farmland Soils

Map unit symbol	Map unit name	Rating	Acres	Percent
103A	Houghton muck, 0 to 2 percent slopes	Farmland of statewide importance	3.9	39.9%
153A	Pella silty clay loam, cool, 0 to 2 percent slopes	Prime farmland if drained	2.0	20.1%
198A	Elburn silt loam, cool, 0 to 2 percent slopes	All areas are prime farmland	2.7	27.6%
361C2	Kidder loam, 4 to 6 percent slopes, eroded	All areas are prime farmland	1.2	12.4%
<b>Total Prime Farmland</b>			<b>3.9</b>	<b>40.0%</b>
<b>Total Prime Farmland if Drained</b>			<b>2.0</b>	<b>20.1%</b>

Farmland Classification—McHenry County, Illinois



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## GROUND-BASED SOLAR ARRAYS, SOIL-PENETRATING ANCHOR SYSTEMS

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### Description

Ground-based solar arrays are sets of photovoltaic panels that are not situated on a building or pole. These installations consist of a racking system that holds the panel in the desired orientation and the foundation structures that hold the racking system to the ground. Two basic methods are used to hold the systems to the ground, based on site conditions and cost. One method employs driven piles, screw augers, or concrete piers that penetrate into the soil to provide a stable foundation. The ease of installation and general site suitability of soil-penetrating anchoring systems depends on soil characteristics such as rock fragment content, soil depth, soil strength, soil corrosivity, shrink-swell tendencies, and drainage. The other basic anchoring system utilizes precast ballasted footings or ballasted trays on the soil surface to make the arrays too heavy to move. The site considerations that impact both basic systems are slope, slope aspect, wind speed, land surface shape, flooding, and ponding. Other factors that will contribute to the function of a solar power array include daily hours of sunlight and shading from hills, trees or buildings.

Soil-penetrating anchoring systems can be used where the soil conditions are not limited. Installation of these systems requires some power equipment for hauling components and either driving piles, turning helices, or boring holes to install the anchoring apparatus.

Soils can be a non-member, partial member or complete members of the set of soils that are limited for "Ground-based Solar Panel Arrays". If a soil's property within 150 cm (60 inches) of the soil surface has a membership indices greater than zero, then that soil property is limiting and the soil restrictive feature is identified. The overall interpretive rating assigned is the maximum membership indices of each soil interpretive property that comprise the "Ground-based Solar Panel Array" interpretive rule. Minor restrictive soil features are identified but not considered as part of the overall rating process. These restrictive features could be important factors where the major restrictive features are overcome through

design application.

Soils are placed into interpretive rating classes per their rating indices. These are not limited (rating index = 0), somewhat limited (rating index greater than 0 and less than 1.0), or very limited (rating index = 1.0).

Numerical ratings indicate the degree of limitation. The ratings are shown in decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil has the least similarity to a good site (1.00) and the point at which the soil feature is very much like known good sites (0).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

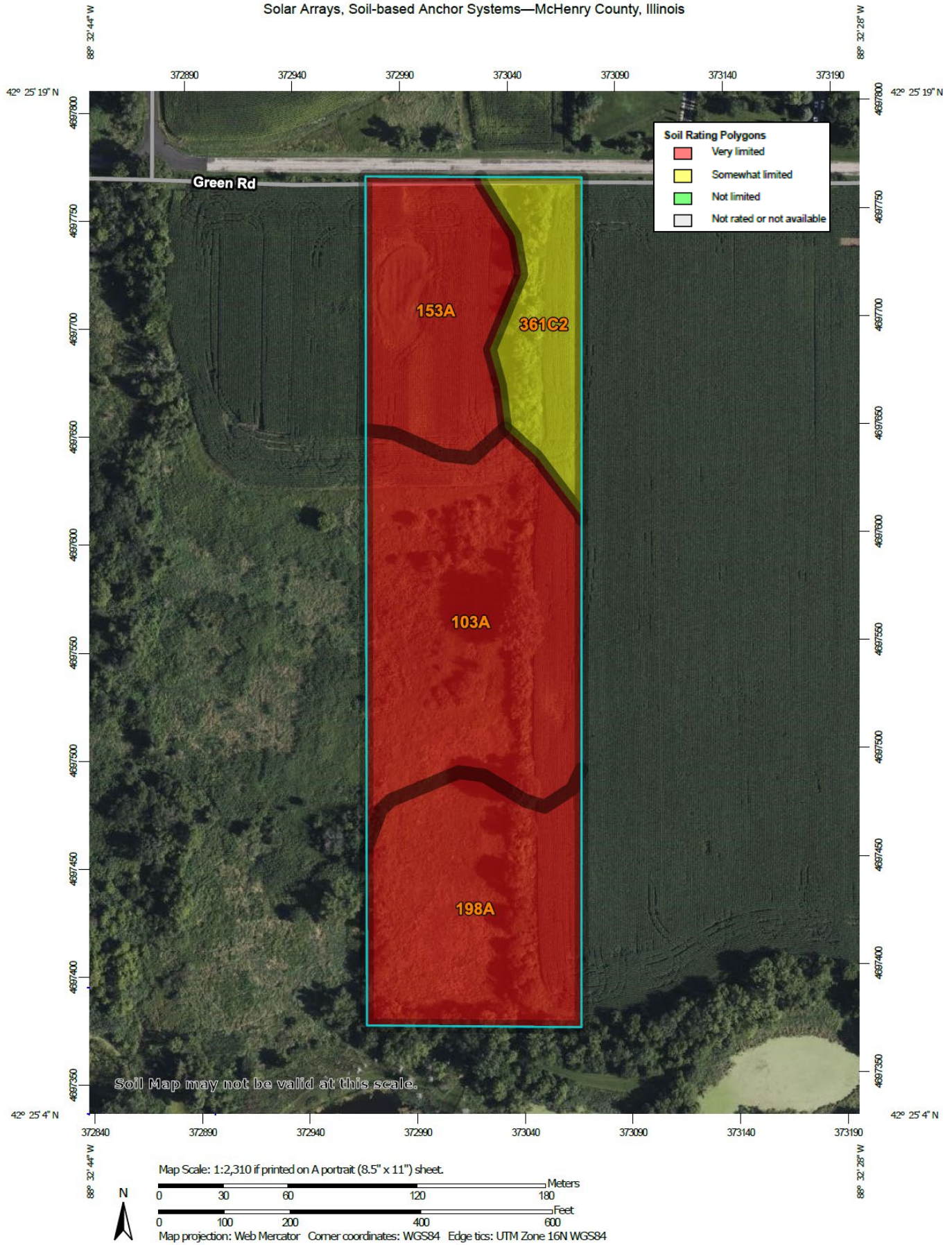
Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

#### References:

Canada, S. 2012. Corrosion impacts on steel piles. Solarpro. Solarprofessional.com.

Romanoff, Melvin. 1962. Corrosion of Steel Pilings in Soils. *Journal of Research of the National Bureau of Standards*. (Volume 66C, No. 3). July/September, 1962.

Solar Arrays, Soil-based Anchor Systems—McHenry County, Illinois



## Solar Arrays, Soil-based Anchor Systems

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres	Percent
103A	Houghton muck, 0 to 2 percent slopes	Very limited	Houghton, muck (90%)	Ponding (1.00)	3.9	39.9%
				Depth to saturated zone (1.00)		
				Frost action (1.00)		
				Low strength (1.00)		
				Steel corrosion (0.75)		
			Houghton, ponded (4%)	Ponding (1.00)		
				Depth to saturated zone (1.00)		
				Frost action (1.00)		
				Low strength (1.00)		
				Steel corrosion (0.75)		
			Palms (2%)	Ponding (1.00)		
				Depth to saturated zone (1.00)		
				Frost action (1.00)		
				Low strength (1.00)		
				Steel corrosion (0.75)		
			Willette, muck (1%)	Ponding (1.00)		
				Depth to saturated zone (1.00)		
				Frost action (1.00)		
				Low strength (1.00)		
				Steel corrosion (0.75)		
153A	Pella silty clay loam, cool, 0	Very limited	Pella, cool (85%)	Ponding (1.00)	2.0	20.1%

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres	Percent
	to 2 percent slopes			Depth to saturated zone (1.00)		
				Frost action (1.00)		
				Low strength (0.70)		
				Slope shape across (0.30)		
198A	Elburn silt loam, cool, 0 to 2 percent slopes	Very limited	Elburn, cool (90%)	Frost action (1.00)	2.7	27.6%
				Low strength (0.77)		
				Steel corrosion (0.75)		
				Shrink-swell (0.48)		
				Depth to saturated zone (0.19)		
			Drummer, drained (5%)	Ponding (1.00)		
				Depth to saturated zone (1.00)		
				Frost action (1.00)		
				Low strength (0.76)		
				Steel corrosion (0.75)		
			Pella, drained (5%)	Ponding (1.00)		
				Depth to saturated zone (1.00)		
				Frost action (1.00)		
				Steel corrosion (0.75)		
				Low strength (0.34)		
361C2	Kidder loam, 4 to 6 percent slopes, eroded	Somewhat limited	Kidder, eroded (95%)	Frost action (0.50)	1.2	12.4%
				Slope shape across (0.20)		
				Hillslope position (0.13)		

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres	Percent
			Fox (3%)	Steel corrosion (0.75)		
				Frost action (0.50)		
				Slope shape across (0.20)		
				Hillslope position (0.13)		
Rating		Acres		Percent		
Very limited				8.6	87.6%	
Somewhat limited				1.2	12.4%	

## AGRICULTURAL AREAS

The Agricultural Areas Conservation and Protect Act became effective July 1, 1980. The purpose of the Act is to provide a means by which agricultural land may be protected and enhanced as a viable segment of the State’s economy and as an economic and environmental resource of major importance. Established Ag Areas tend to influence adjacent and surrounding land use changes since they are voluntary in nature and petitioned before the County Board for approval. Ag Areas are considered a high commitment to agriculture. Designated Ag Areas limit land

utilization to specified agricultural uses within their designated boundaries. Ag Areas allow landowners limited benefits such as immunity from locally enacted ordinances, which would limit farming operations and immunity from special tax assessments from local units of government.

Office Maps indicate there are no State Designated agricultural areas on or adjacent to the parcel in question.

## LAND EVALUATION & SITE ASSESSMENT (LESA)

The Land Evaluation and Site Assessment system is a tool designed to evaluate the viability of agricultural lands where changes in land-use are proposed. LESA was developed as a decision-making tool used by the Zoning Board of Appeals, City Councils or County Boards to help make unbiased decisions of proper land-use. The LESA system was developed by the USDA-NRCS and takes into consideration local conditions such as physical characteristics of the land, compatibility of surrounding land-uses, urban growth factors, and land-use policies determined by local government. LESA was designed to be used in conjunction with the county’s land-use plan, zoning ordinances, and other policies being used to decide land-use changes.

Decision makers use the Land Evaluation and Site Assessment (LESA) System to determine the suitability of a land use change and/or a zoning request as it relates to agricultural land. The LESA System is a two step procedure that includes:

- ◆ Land Evaluation (LE), soils value
  - ◆ Site Assessment (SA), land use
- Land Evaluation (**LE**) encompasses information regarding soils found on the site and their suitability for agricultural purposes. McHenry

County soils consist of 73 different soil series ranging from gravely loams to wet muck soils and from highly productive agricultural soils to high quality gravel deposits. For purposes of the Land Evaluation portion of the LESA system, each soil is assigned a relative value number, from 0 to 100, a 0 being the worst soils for crop production, 100 the best. Parcels containing higher percentages of higher valued soils will rate higher on the overall LESA score while those containing higher percentages lowered value soils will rate lower in the overall LESA score. McHenry County SWCD provides a weighted average of the soils using a simple, mechanical, unbiased method of determining agricultural suitability of soils on site.

provide a rational, consistent, and unbiased determination of the impact to agriculture from the proposed land use and zoning changes.

Site Assessment (SA) identifies and weighs 10 criteria, other than soils information, that contributes to the quality of a site for agricultural uses. The determination to include the specific site assessment factors directly resulted from the following:

- ◆ McHenry County Zoning Ordinance,
- ◆ 2030 Land Use Plan,
- ◆ Other adopted county policies.

In summary, the LESA evaluation addresses all factors, including soils information, together to

**LAND EVALUATION (LE) WORKSHEET**

Map Unit Symbol	Map Unit Name	LE Score	Acres	Percent	Weighted Ave.
103A	Houghton muck, 0 to 2 percent slopes	90	3.9	39.9%	35.91
153A	Pella silty clay loam, cool, 0 to 2 percent slopes	94	2.0	20.1%	18.89
198A	Elburn silt loam, cool, 0 to 2 percent slopes	99	2.7	27.6%	27.32
361C2	Kidder loam, 4 to 6 percent slopes, eroded	67	1.2	12.4%	8.31
<b>Land Evaluation Score</b>					<b>90.44</b>

Explanation of the LE Worksheet:
<p><b>Symbol:</b> is the soil type of the polygon on the soils map.</p> <p><b>Percentage and Acreage:</b> the percentages of the parcel, and the area that the soil polygon represents.</p> <p><b>LE Score:</b> the numeric value from 0 - 100 that is assigned that soil unit</p> <p><b>Weighted Ave:</b> The acreage multiplied by the value of that soil unit.</p>

**SITE ASSESSMENT (SA) WORKSHEET:**

FACTORS CONSIDERED		MAX POINTS	POINTS GIVEN	COMMENTS
1.	Percent of the same zoning classification within one and one-half (1.5) miles of the property in question.	20	0	75% or more
2.	Percent of the same zoning classification adjacent to the property in question.	20	0	75% or more
3.	Existence of natural, historic and/or cultural resources on or adjacent to the property in question.	20	20	yes
4.	Consistency of proposed use with surrounding land uses within a quarter (1/4) mile of the property in question.	20	20	Different use/ inconsistent
5.	Consistency of proposed use the McHenry County Comprehensive Plan.	20	0	Consistent with plan map and text
6.	Distance from a municipal boundary.	20	20	More than one and one-half (1.5) miles
7.	Level of emergency service.	20	20	Volunteer fire/rescue distric
8.	Type of wetland(s) on the property in question.	20	20	ADID high quality wetland or ADID high functional value wetland
9.	Type of regulatory floodplain on the property in question.	20	0	No floodplain present
10.	Percentage of hydric soils on the property in question.	20	20	More than 30%

**LESA SUMMARY TABLE:**

<b>LAND EVALUATION TOTAL:</b>	90.44	<b>300 – 201 Maintain existing land use</b>
<b>SITE ASSESSMENT TOTAL:</b>	120	200 – 151 High impact to existing land use and resources
<b>TOTAL LESA SCORE:</b>	210.44	150 – 101 Moderate impact to existing land use and resources 100 – 0 Low impact to existing land use and resources

## LAND USE PLANS

Many counties, municipalities, villages and townships have developed land-use plans. These plans are intended to reflect the existing and future land-use needs of a given community.

This parcel is within the McHenry County 2030 Land Use Plan Map and is identified as agriculture and environmentally sensitive.



## DRAINAGE, RUNOFF AND FLOOD INFORMATION

U.S.G.S Topographic maps give information on elevations, which are important mostly to determine slopes, drainage directions, and watershed information.

Elevations determine the area of impact of floods of record. Slope information determines steepness and erosion potential. Drainage directions determine where water leaves the PIQ, possibly impacting surrounding natural resources.

Watershed information is given for changing land use to a subdivision type of development on parcels greater than 10 acres.

### What is a watershed?

Simply stated, a watershed is the area of land that contributes water to a certain point. The point that we use on these reports is usually the point where water exits the parcel. The point is marked with a "O." The watershed boundary is drawn in using the following marking: (— ● —). Often times, water will flow off the parcel in two or more directions. In that case, there is a watershed break on the parcel. (— ● ● —), and there are two or more watersheds on the parcel.

The watershed boundary is important because the area of land in the watershed can now be

calculated using an irregular shape area calculator such as a dot counter or planimeter.

Using regional storm event information, and site specific soils and land use information, the peak stormwater flow through the point marked "O" for a specified storm event can be calculated. This value is called a "Q" value (for the given storm event), and is measured in cubic feet per second (CFS).

When construction occurs, the Q value naturally increases because of the increase in impermeable surfaces. This process decreases the ability of soils to accept and temporarily hold water. Therefore, more water runs off and increases the Q value.

Theoretically, if each development, no matter how large or small, maintains their preconstruction Q value after construction by the installation of stormwater management systems, the streams and wetlands and lakes will not suffer damage from excessive urban stormwater.

For this reason, the McHenry County SWCD recommends that the developer for intense uses such as a subdivision calculate the preconstruction Q value for the exit point(s). A stormwater management system should be designed, installed, and maintained to limit the

postconstruction Q value to be at or below the preconstruction value.

### **Importance of Flood Information**

A floodplain is defined as land adjoining a watercourse (riverine) or an inland depression (non-riverine) that is subject to periodic inundation by high water. Floodplains are important areas demanding protection since they have water storage and conveyance functions which affect upstream and down stream flows, water quality and quantity, and suitability of the land for human activity. Since floodplains play distinct and vital roles in the hydrologic cycle, development that interferes with their hydrologic and biologic functions should be carefully considered.

Flooding is both dangerous to people and destructive to their properties. The following maps, when combined with wetland and topographic information, can help developers and future homeowners to “sidestep” potential flooding or ponding problems.

FIRM is the acronym for the Flood Insurance Rate Map, produced by the Federal Emergency Management Agency. These maps define flood elevation adjacent to tributaries and major bodies of water, and superimpose that onto a simplified USGS topographic map. The scale of the FIRM maps is generally dependent on the size and density of parcels in that area. (This is to correctly determine the parcel location and flood plain location.) The FIRM map has three (3) zones. A is the zone of 100 year flood, zone B is the 100 to 500 year flood, and zone C is outside the flood plain.

The Hydrologic Atlas (H.A.) Series of the Flood of Record Map is also used for the topographic information. This map is different from the FIRM map mainly because it will show isolated, or pocketed flooded areas. McHenry County uses both these maps in conjunction with each other for flooded area determinations. The Flood of Record maps, show the areas of flood for various years. Both of these maps stress that the

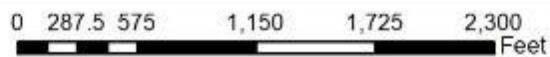
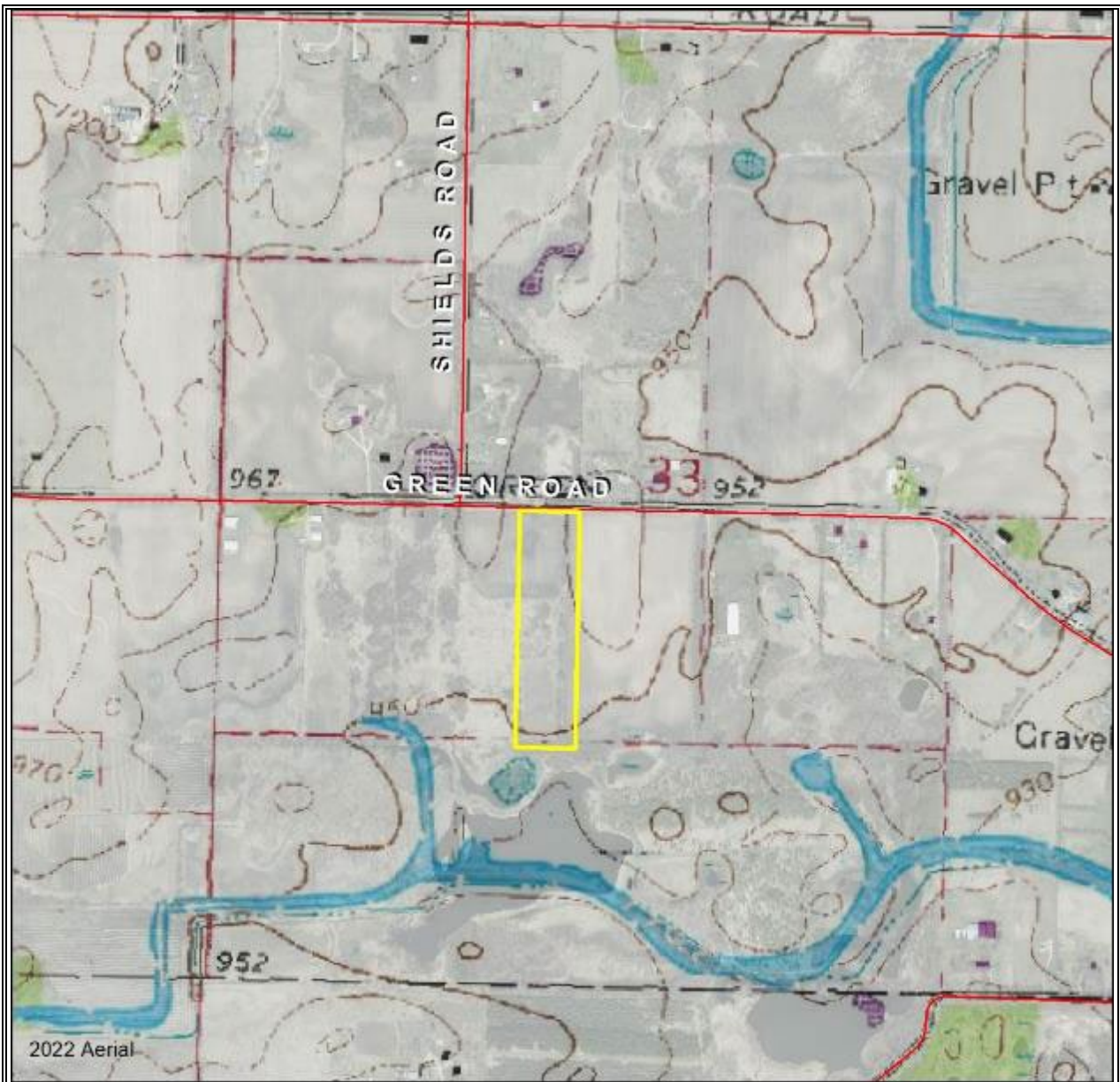
recurrence of flooding is merely statistical. That is to say a 100-year flood may occur twice in one year, or twice in one week, for that matter.

It should be noted that greater floods than those shown on the two maps are possible. The flood boundaries indicated provide a historic record only until the map publication date. Additionally, these flood boundaries are a function of the watershed conditions existing when the maps were produced. Cumulative changes in runoff characteristics caused by urbanization can result in an increase in flood height of future flood episodes.

Floodplains play a vital role in reducing the flood damage potential associated with an urbanizing area and, when left in an undisturbed state, also provide valuable wildlife habitat benefits. If it is the petitioner's intent to conduct floodplain filling or modification activities, the petitioner and the Unit of Government responsible need to consider the potentially adverse effects this type of action could have on adjacent properties. The change or loss of natural floodplain storage often increases the frequency and severity of flooding on adjacent property.

If the available maps indicate the presence of a floodplain on the PIQ, the petitioner should contact the IDOT-DWR and FEMA to delineate a floodplain elevation for the parcel. If a portion of the property is indeed floodplain, applicable state, county and local regulations will need to be reflected in the site plans.

Another indication of flooding potential can be found in the soils information. Hydric soils indicate the presence of drainageways, areas subject to ponding, or a naturally occurring high water table. These need to be considered along with the floodplain information when developing the site plan and the stormwater management plan. If the site does include these hydric soils and development occurs, thus raising the concerns of the loss of water storage in these soils and the potential for increased flooding in the area.



Produced By: McHenry-Lake County Soil & Water Conservation District



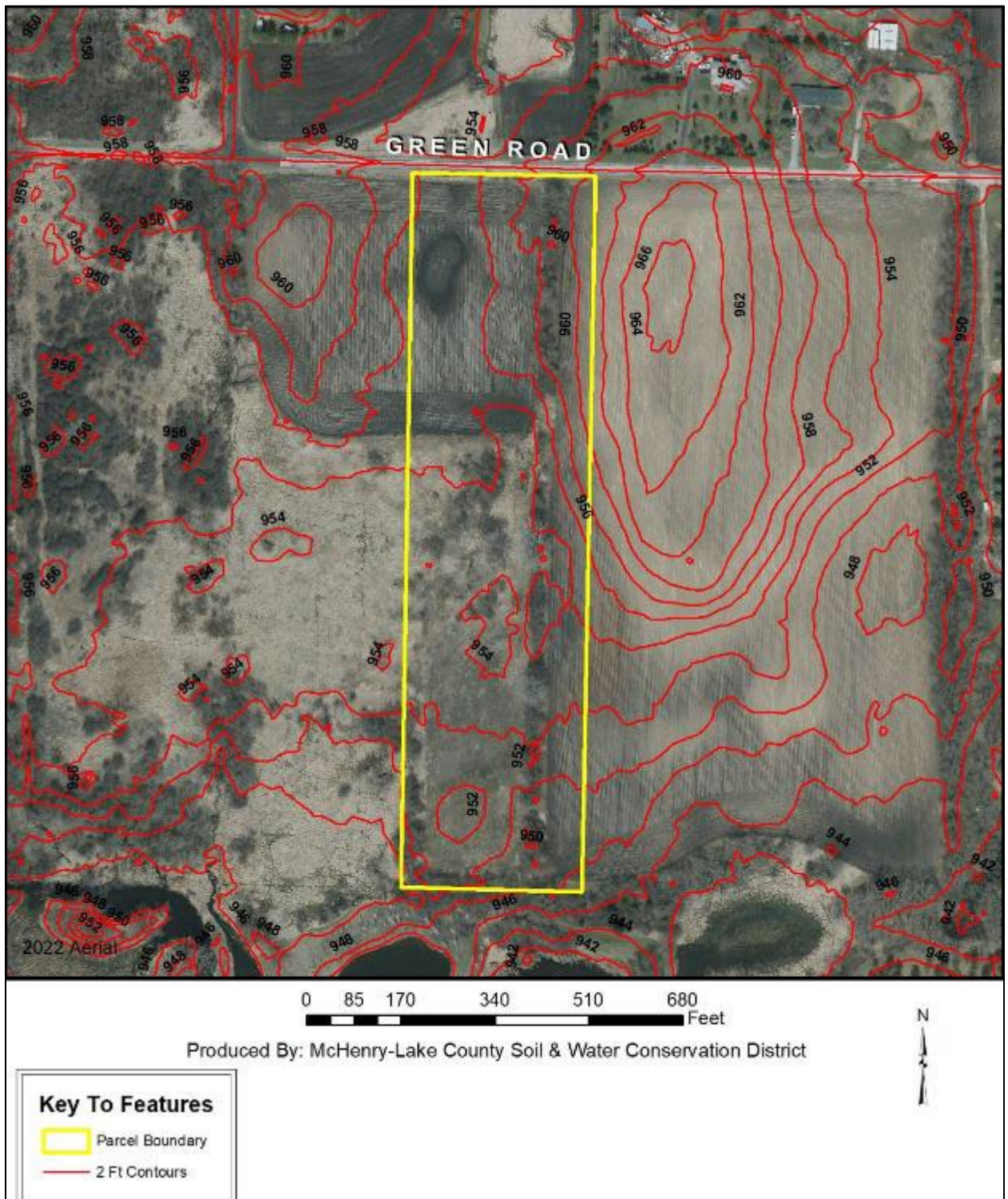
Key To Features	
	Parcel Boundary

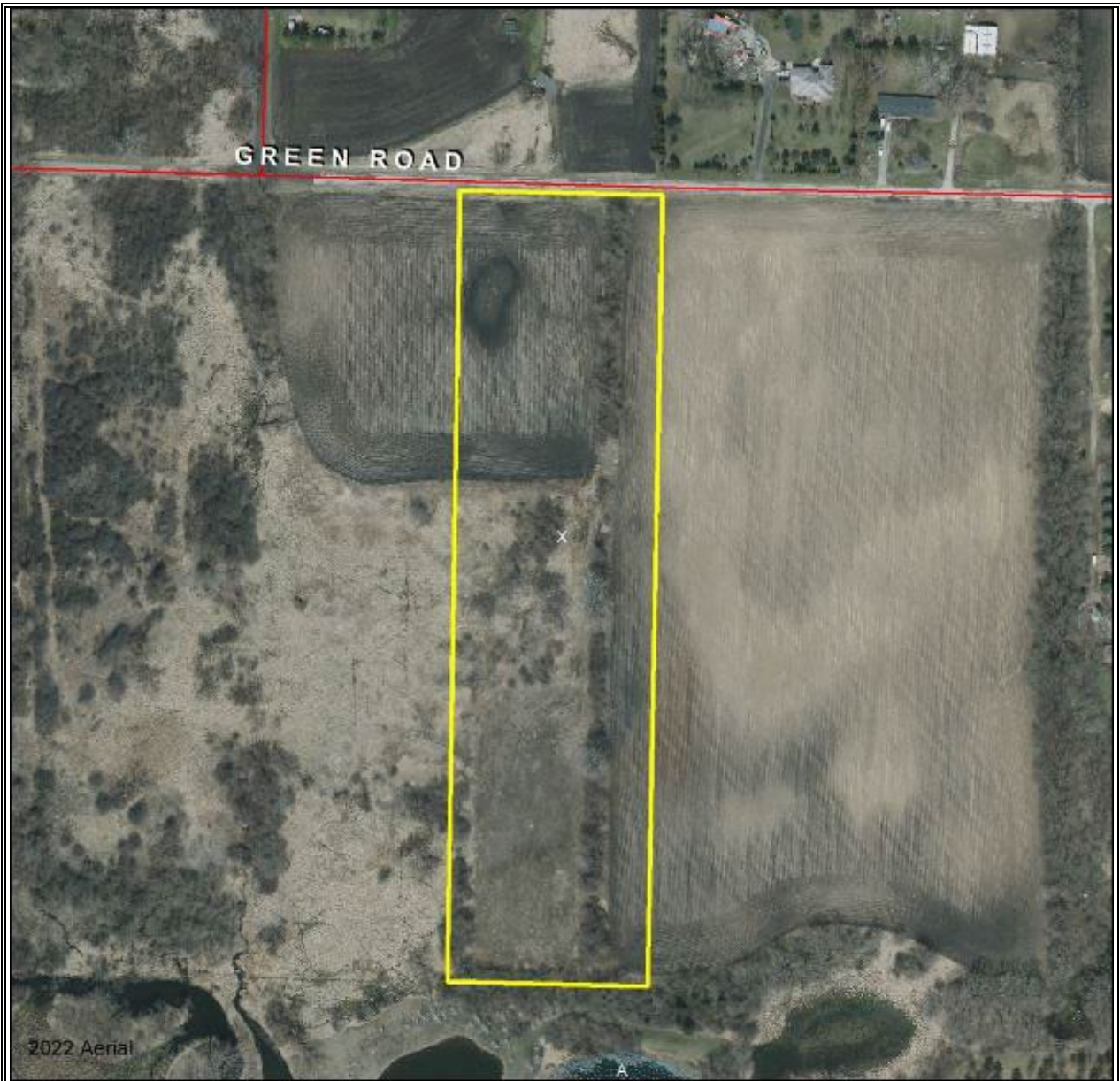
**Flood of Record Map Showing Topographic Information**

This parcel is located on gently sloping topography (slopes 0 to 6%) involving high and low areas (elevation ranges from 948' above sea level to 960' above sea level). An erosion control system should include a sedimentation basin to address these exiting concentrated flows during construction. The same area used for a sedimentation basin during construction can be used for a stormwater retention system after construction.

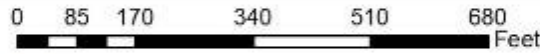
During construction, temporary vegetation can decrease erosion on the slopes if the area is to be mass graded.

Also, the flood of record for this area indicates the parcel has not previously flooded.











2022 Aerial



Produced By: McHenry-Lake County Soil & Water Conservation District



Key To Features	
	Parcel Boundary
<b>FEMA Floodplain</b>	
<b>Flood Zone</b>	
	0.2 PCT ANNUAL CHANCE FLOOD HAZARD
	100 yr
	100 yr with base flood elevations determined
	100 yr with 1-3 ft. flood depths
	100 yr usually sheet flow

Federal Emergency Management Agency: Flood Insurance Rate Map Panel 17111C0050J

The map indicates the parcel is outside of the 100-year floodplain.

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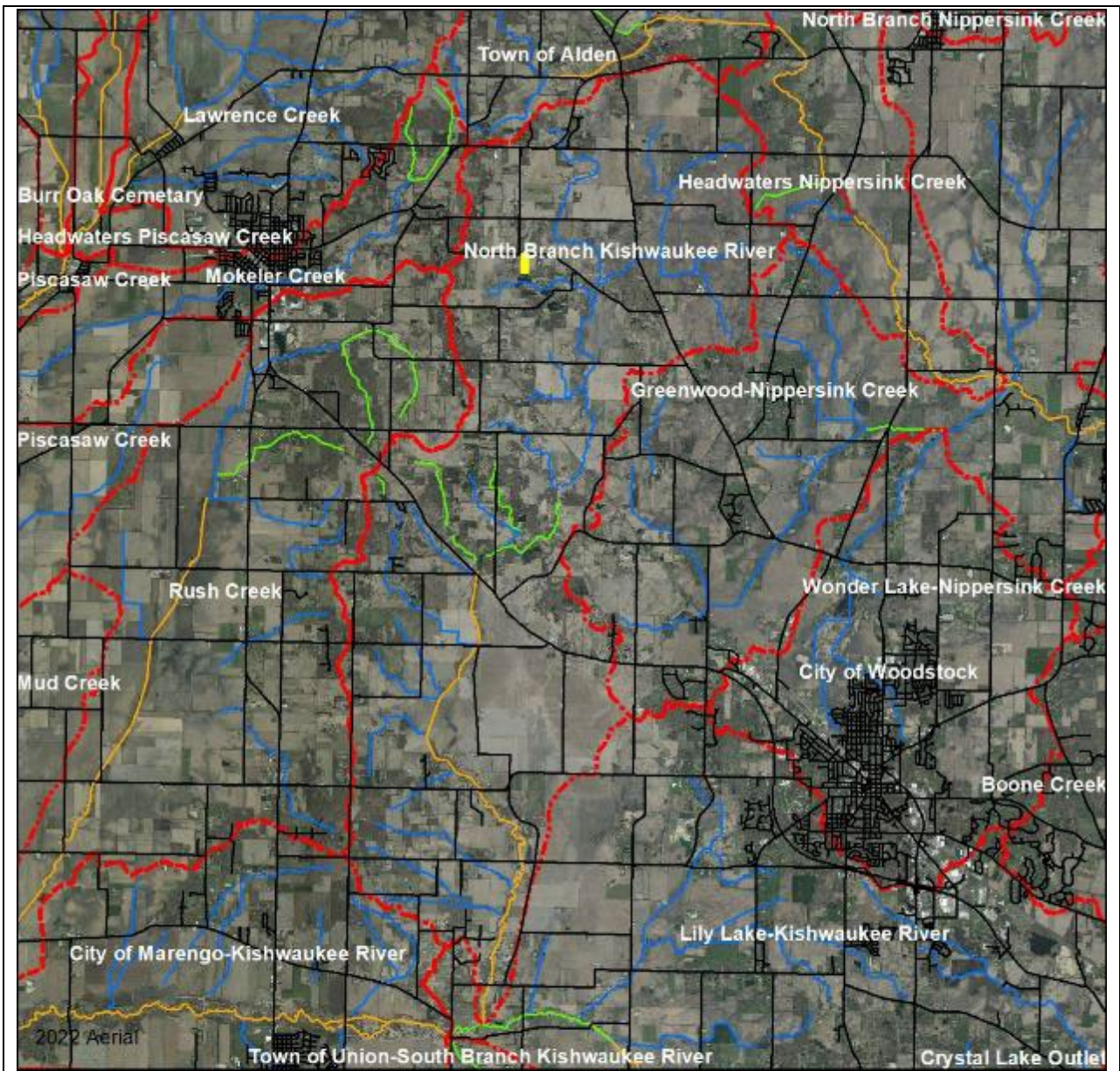
## WATERSHED PLANS

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### Watershed and Subwatershed Information

A watershed is the area of land that drains into a specific point including a stream, lake or other body of water. High points on the Earth's surface, such as hills and ridges define watersheds. When rain falls in the watershed, it flows across the ground towards a stream or lake. Rainwater carries any pollutants it comes in contact with such as oils, pesticides, and soil. Everyone lives in a watershed. Their actions can impact natural resources and people living downstream. Residents can minimize this impact by being aware of their environment and implications of their activities, implementing practices recommended in watershed plans and educating others about their watershed.







The parcel is within the North Branch Subwatershed (HUC 12 – 070900060204) of the Kishwaukee River Watershed, which encompasses 124,802.04 acres of McHenry County. This watershed has an active planning group, which can help the petitioner to limit negative impacts to the watershed from activities performed on this parcel. The petitioner is encouraged to contact the Kishwaukee River Ecosystem Partnership.



Produced By: McHenry-Lake County Soil & Water Conservation District



**Key To Features**

 Parcel Boundary	 HUC 12 Watersheds	<b>Rivers &amp; Streams</b>
		<b>High Quality Streams</b>
		 Stream
		 High Quality Aerial Score
		 High Quality IBI
		 High Quality T&E Species

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## WETLAND INFORMATION

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### Importance of Wetland Information

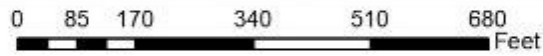
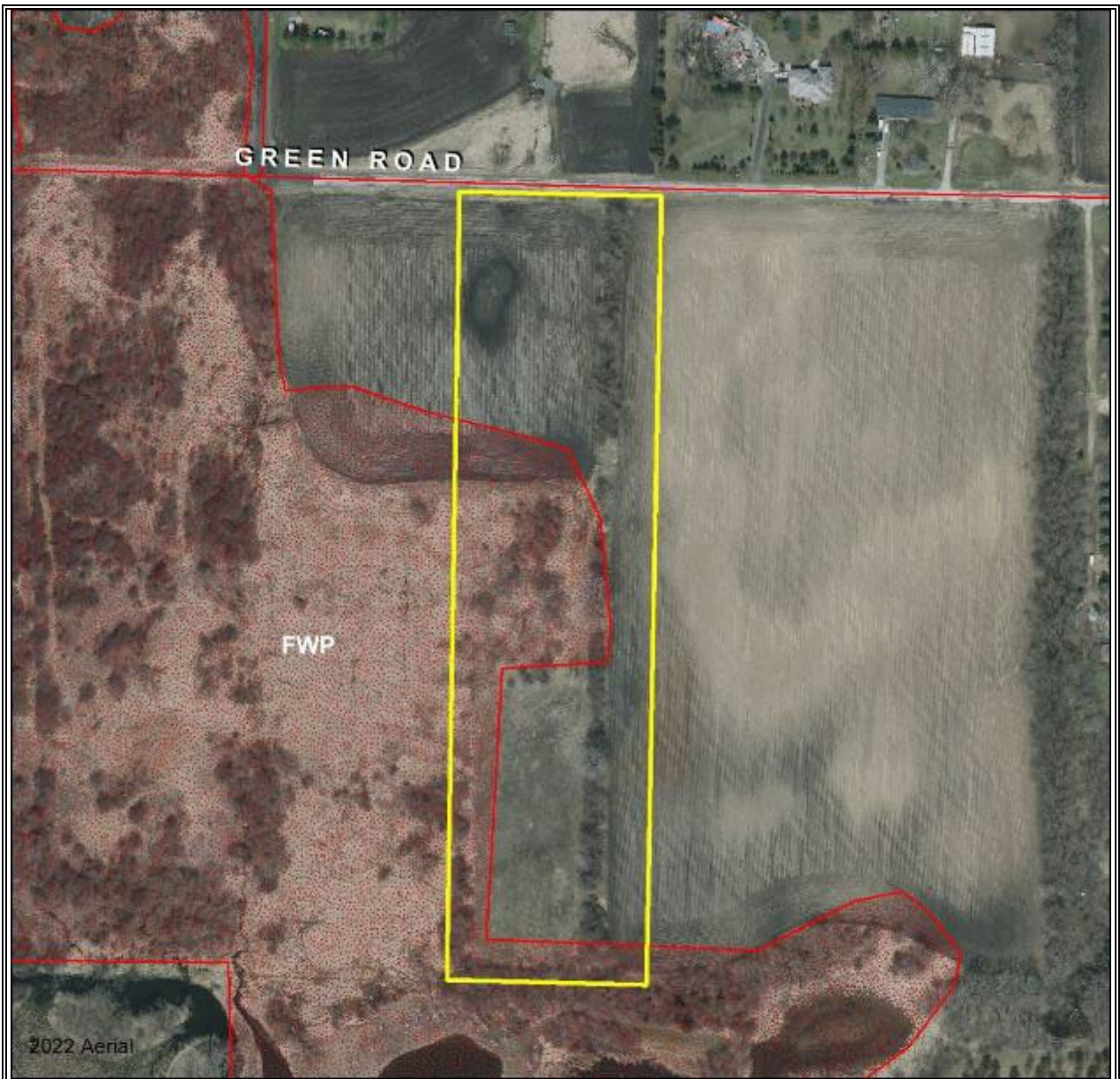
Wetlands function in many ways to provide numerous benefits to society. They control flooding by offering a slow release of excess water downstream or through the soil. They cleanse water by filtering out sediment and some pollutants, and can function as rechargers of our valuable groundwater. They also are essential breeding, rearing, and feeding grounds for many species of wildlife.

These benefits are particularly valuable in urbanizing areas as development activity typically adversely affects water quality, increases the volume of stormwater runoff, and increases the demand for groundwater. In an area where many individual homes rely on shallow groundwater wells for domestic water supplies, activities that threaten potential groundwater recharge areas are contrary to the public good. The conversion of wetlands, with their sediment trapping and nutrient absorbing vegetation, to biologically barren stormwater detention ponds can cause additional degradation of water quality in downstream or adjacent areas.

It has been estimated that over 95% of the wetlands that were historically present in Illinois have been destroyed while only recently has the true environmental significance of wetlands been fully recognized. America is losing 100,000 acres of wetland a year, and has saved 5 million acres total (since 1934). One acre of wetland can filter 7.3 million gallons of water a year. These are reasons why our wetlands are high quality and important.

This section contains the NRCS (Natural Resources Conservation Service) Wetlands Inventory, which is the most comprehensive inventory to date. The NRCS Wetlands Inventory is reproduced from an aerial photo at a scale of 1" equals 660 feet. The NRCS developed these maps in cooperation with U.S. EPA (Environmental Protection Agency,) and the U.S. Fish and Wildlife Service, using the National Food Security Act Manual, 3rd Edition. The main purpose of these maps is to determine wetland areas on agricultural fields and areas that may be wetlands but are in a non-agriculture setting.








The NRCS Wetlands Inventory in no way gives an exact delineation of the wetlands, but merely an outline, or the determination that there is a wetland within the outline. For the final, most accurate wetland **determination** of a specific wetland, a wetland **delineation** must be certified by NRCS staff using the National Food Security Act Manual (on agricultural land.) On urban land, a certified wetland delineator must perform the delineation using the ACOE 1987 Manual. *See the glossary section for the definitions of "delineation" and "determination."*



Produced By: McHenry-Lake County Soil & Water Conservation District



**Key To Features**

 Parcel Boundary	 Farmed Wetland
 Farmed Wetland Pasture	 Non-inventoried Hydric Soil
 Non-inventoried Soil With Hydric Inclusions	 Prior Converted
 Wetland	

Natural Resources Conservation Service: Wetland Inventory Map.

The map indicates FWP: Farmed Wetland Pasture on 3.30 acres of the parcel.

## ADID (ADVANCED IDENTIFICATION OF AQUATIC RESOURCES)

Wetlands are some of the most productive and diverse ecological systems on Earth. The unique characteristics of plants, soils, and water distinguish these systems. Marshes, wet meadows, fens and bogs are some of the common wetland types found within McHenry County. There are also various streams scattered throughout the county, including several that rank among the highest quality in Illinois.

These wetlands, lakes and streams provide needed habitat and food for fish and wildlife. Diverse plants both common and rare are can be found in wetlands, and over 40 percent of Illinois' threatened and endangered plant and animal species rely on wetlands.

Wetlands have many other roles. They are critical to the control of flooding by storing vast quantities of runoff water during floods, and releasing it slowly to rivers and streams as the floodwater recedes. This in turn helps to prevent erosion in downstream channels, aids in groundwater recharge, and stabilizes the baseflow in streams and rivers. Wetlands are also crucial in protecting water quality. Wetlands that border lakes and streams prevent erosion by holding soil in place and deflecting erosive flows and waves.

They also remove sediment, nutrients, and toxic chemicals from runoff water.

Other benefits include groundwater recharge, discharge of clean water, recreation, enhancement of natural aesthetics and serve as buffers between adjacent developments.

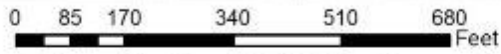
This program designed by the EPA (Environmental Protection Agency), is intended to improve awareness of the functions and values of wetlands and other U.S. waters. It is also intended to inform landowners and developers that high quality sites may not be unsuitable for the disposal of dredged or fill material. These ADID projects can also provide guidance on the long-term protection and management of aquatic resources.

The wetland boundaries shown are not jurisdictional delineations. Any proposed drainage work in wet areas requires a certified wetland determination.

*The ADID study indicates High Quality Wetland K62 on 3.38 acres of the parcel.*



2022 Aerial



Produced By: McHenry-Lake County Soil & Water Conservation District



Key To Features		
Parcel Boundary	farmed wetland	<b>Rivers &amp; Streams</b>
high functional wetland	high quality lake	<b>High Quality Streams</b>
high quality wetland	lake	Stream
wetland	wetland	High Quality Aerial Score
		High Quality IBI
		High Quality T&E Species

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## Hydric Soils

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This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated

or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field.

These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

### References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States. Federal Register. September 18, 2002. Hydric soils of the United States.

Soils information gives another indication of flooding potential. The soils map on this page indicates the soil(s) on the parcel that the Natural Resources Conservation Service indicates as hydric. Hydric soils by definition have seasonal high water at or near the soil surface and/or have potential flooding or ponding problems. All hydric soils range from poorly suited to unsuitable for building. One group of the hydric soils, are the organic soils, which formed from dead organic material. Organic soils are unsuitable for building because of not only the high water table, but also their subsidence problems.

It is also important to add the possibility of hydric inclusions in a soil type. An inclusion is a soil polygon that is too small to appear on these maps. While relatively insignificant for agricultural use, hydric soil inclusions become more important to more intense uses such as a residential subdivision.

While considering hydric soils and hydric inclusions, it is noteworthy to mention that subsurface agriculture drainage tile occurs in almost all poorly drained and somewhat poorly

drained soils. Drainage tile expedites drainage and facilitates farming. It is imperative that these drainage tiles remain undisturbed. A damaged subsurface drainage tile may return original hydrologic conditions to all of the areas that drained through the tile (ranging from less than one acre to many square miles.)

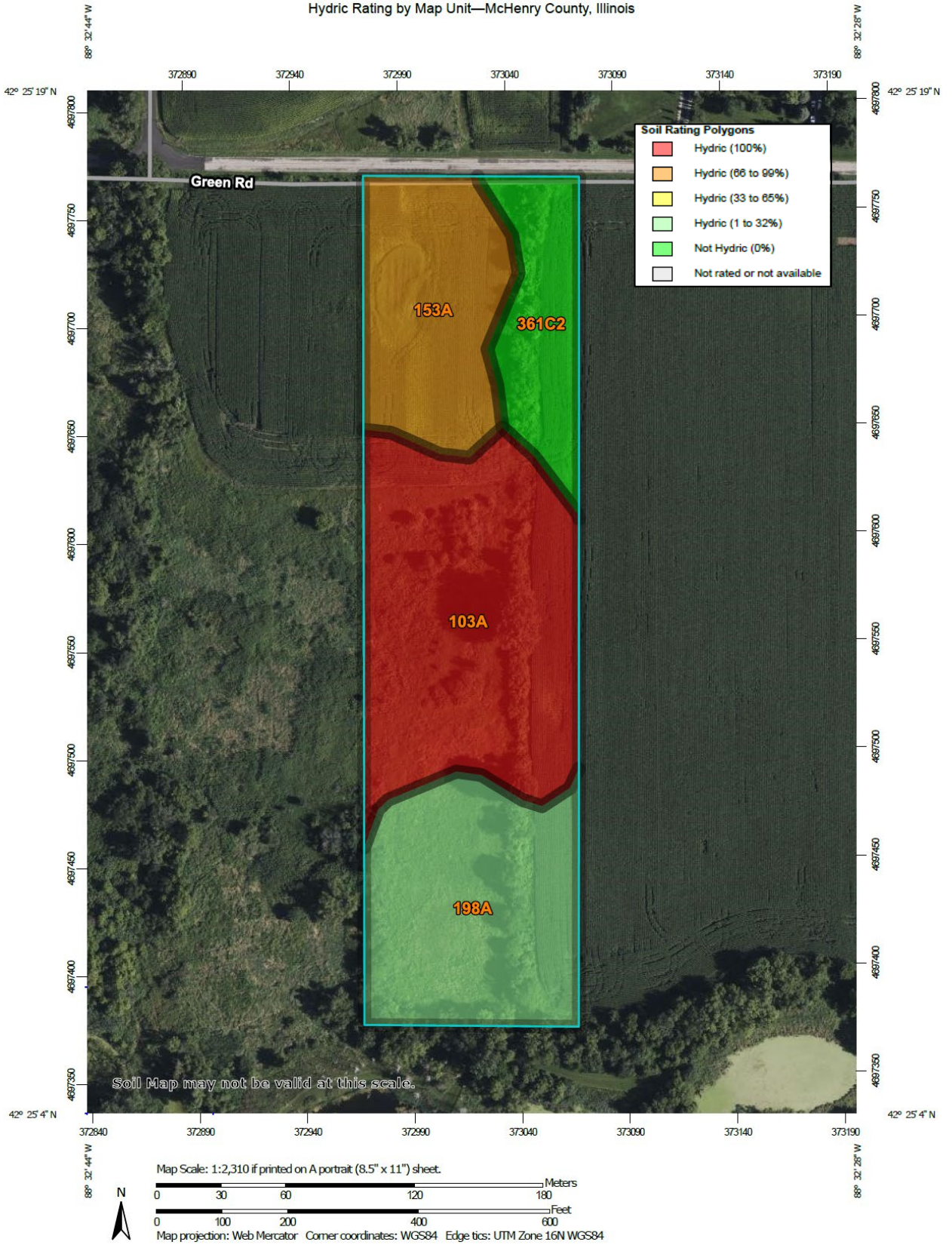
For an intense land use, such as a subdivision, the McHenry County SWCD recommends the following:

1. A topographical survey with 1 foot contour intervals to accurately define the flood area on the parcel.
2. An intensive soil survey to define most accurately the locations of the hydric soils and inclusions
3. A drainage tile survey on the area to locate the tiles that must be preserved.

In general, the District does not recommend building on hydric soils because of the unfavorable properties they exhibit and because of their long term, negative effects on the structures built.

Hydric Rating by Map Unit				
Map unit symbol	Map unit name	Rating	Acres	Percent
103A	Houghton muck, 0 to 2 percent slopes	100 - Hydric	3.9	39.9%
153A	Pella silty clay loam, cool, 0 to 2 percent slopes	87 - Hydric	2.0	20.1%
198A	Elburn silt loam, cool, 0 to 2 percent slopes	10	2.7	27.6%
361C2	Kidder loam, 4 to 6 percent slopes, eroded	0	1.2	12.4%
<b>Total Hydric Soils</b>			<b>5.9</b>	<b>60.0%</b>

Hydric Rating by Map Unit—McHenry County, Illinois



## FLOODING FREQUENCY

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent.

"None" means that flooding is not probable. The chance of flooding is nearly 0 percent in any year. Flooding occurs less than once in 500 years.

"Very rare" means that flooding is very unlikely but possible under extremely unusual weather conditions. The chance of flooding is less than 1 percent in any year.

"Rare" means that flooding is unlikely but possible under unusual weather conditions. The chance of flooding is 1 to 5 percent in any year.

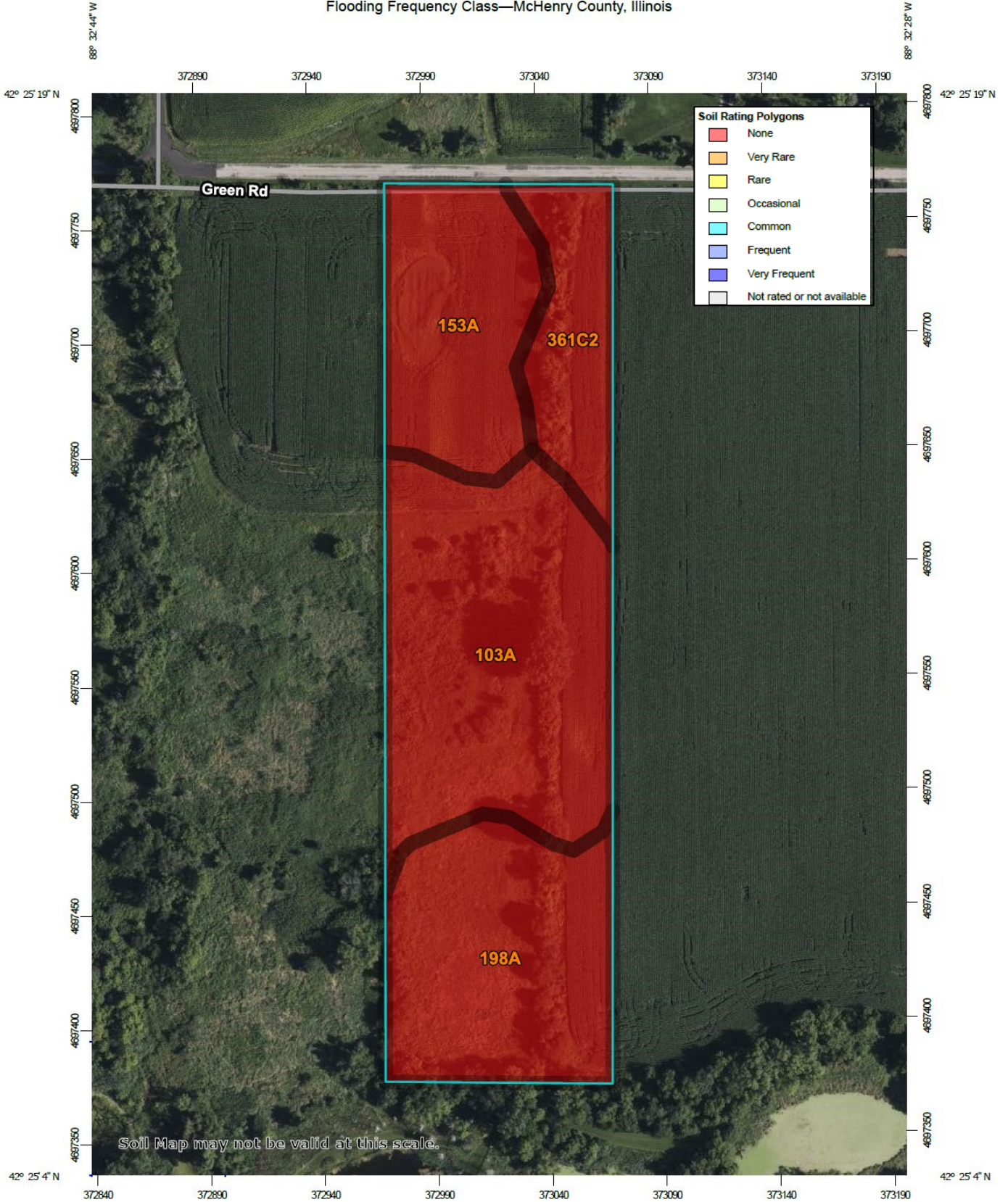
"Occasional" means that flooding occurs infrequently under normal weather conditions. The chance of flooding is 5 to 50 percent in any year.

"Frequent" means that flooding is likely to occur often under normal weather conditions. The chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year.

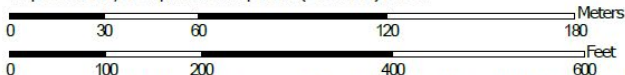
"Very frequent" means that flooding is likely to occur very often under normal weather conditions. The chance of flooding is more than 50 percent in all months of any year.

Flooding Frequency Class				
Map unit symbol	Map unit name	Rating	Acres	Percent
103A	Houghton muck, 0 to 2 percent slopes	None	3.9	39.9%
153A	Pella silty clay loam, cool, 0 to 2 percent slopes	None	2.0	20.1%
198A	Elburn silt loam, cool, 0 to 2 percent slopes	None	2.7	27.6%
361C2	Kidder loam, 4 to 6 percent slopes, eroded	None	1.2	12.4%
<b>Total Flooding</b>			<b>0.0</b>	<b>0.0%</b>

Flooding Frequency Class—McHenry County, Illinois



Map Scale: 1:2,310 if printed on A portrait (8.5" x 11") sheet.



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

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## PONDING FREQUENCY

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Ponding is standing water in a closed depression. The water is removed only by deep percolation, transpiration, or evaporation or by a combination of these processes. Ponding frequency classes are based on the number of times that ponding occurs over a given period. Frequency is expressed as none, rare, occasional, and frequent.

"None" means that ponding is not probable. The chance of ponding is nearly 0 percent in any year.

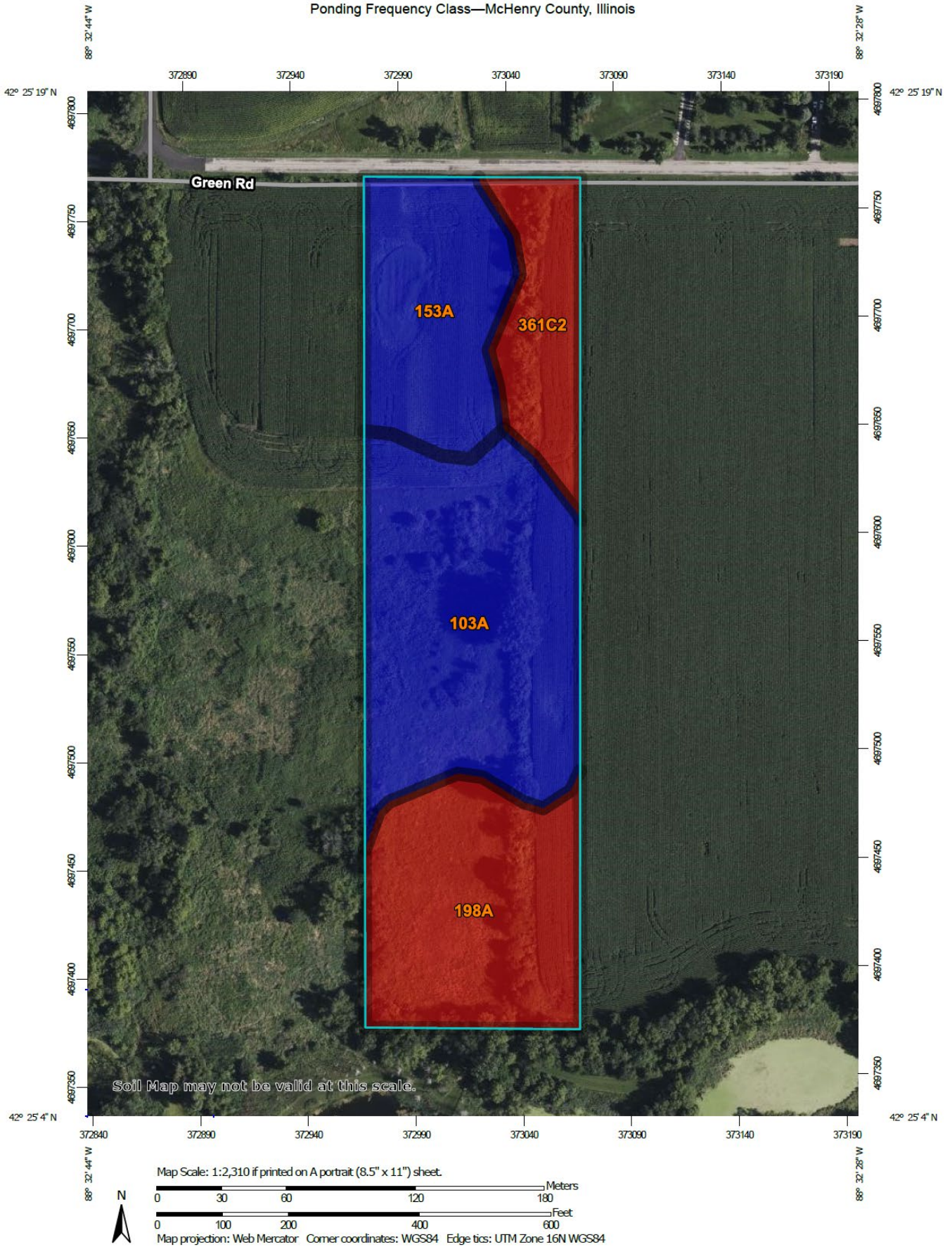
"Rare" means that ponding is unlikely but possible under unusual weather conditions. The chance of ponding is nearly 0 percent to 5 percent in any year.

"Occasional" means that ponding occurs, on the average, once or less in 2 years. The chance of ponding is 5 to 50 percent in any year.

"Frequent" means that ponding occurs, on the average, more than once in 2 years. The chance of ponding is more than 50 percent in any year.

Ponding Frequency Class				
Map unit symbol	Map unit name	Rating	Acres	Percent
103A	Houghton muck, 0 to 2 percent slopes	Frequent	3.9	39.9%
153A	Pella silty clay loam, cool, 0 to 2 percent slopes	Frequent	2.0	20.1%
198A	Elburn silt loam, cool, 0 to 2 percent slopes	None	2.7	27.6%
361C2	Kidder loam, 4 to 6 percent slopes, eroded	None	1.2	12.4%
<b>Total Frequent Ponding</b>			<b>5.9</b>	<b>60.0%</b>

Ponding Frequency Class—McHenry County, Illinois



## WETLAND AND FLOODPLAIN REGULATIONS

**PLEASE READ THE FOLLOWING IF YOU ARE PLANNING TO DO ANY WORK NEAR A STREAM (THIS INCLUDES SMALL UNNAMED STREAMS), LAKE, WETLAND OR FLOODWAY.**

The laws of the United States and the State of Illinois assign certain agencies specific and different regulatory roles to protect the waters within the State's boundaries. These roles, when considered together, include protection of navigation channels and harbors, protection against flood way encroachments, maintenance and enhancement of water quality, protection of fish and wildlife habitat and recreational resources, and, in general, the protection of total public interest. Unregulated use of the waters within the State of Illinois could permanently destroy or alter the character of these valuable resources and adversely impact the public. Therefore, please contact the proper regulatory authorities when planning any work associated with Illinois waters so that proper consideration and approval can be obtained.

### WHO MUST APPLY

Anyone proposing to dredge, fill, rip rap, or otherwise alter the banks or beds of, or construct, operate, or maintain any dock, pier, wharf, sluice, dam, piling, wall, fence, utility, flood plain or flood way subject to County, State or Federal regulatory jurisdiction should apply for agency approvals.

Soil Rating Polygons	
	None
	Rare
	Occasional
	Frequent
	Not rated or not available

### REGULATORY AGENCIES:

#### ◆ Wetlands or U.S. Waters:

- U.S. Army Corps of Engineers, Chicago District,  
231 S. LaSalle St., Suite 1500  
Chicago, IL 60604  
Phone: (312) 846-5330
- ◆ **Isolated Wetlands and Floodplain: McHenry County Department of Planning & Development Stormwater Division,**  
2200 N. Seminary Ave., Woodstock, IL 60098  
Phone: (815) 334-4560
  - ◆ **Flood plains: Illinois Department of Natural Resources \ Office of Water Resources,** 201 W. Center Court, Schaumburg, IL 60196-1096,  
phone (847).705.
  - ◆ **Water Quality \ Erosion Control: Illinois Environmental Protection Agency,** Division of Water Pollution Control, Permit Section, Watershed Unit, 2200 Churchill Road, Springfield, IL 62706, phone (217).782.0610.

### COORDINATION

We recommend Early coordination with the regulatory agencies BEFORE finalizing work plans. This allows the agencies to recommend measures to mitigate or compensate for adverse impacts. Also, the agency can make possible environmental enhancement provisions early in the project planning stages. This could reduce time required to process necessary approvals.

**CAUTION: Contact with the United States Army Corps of Engineers is strongly advised before commencement of any work in or near a water of the United States. This could save considerable time and expense. Persons responsible for willful and direct violation of Section 10 of the River And Harbor Act of 1899 or Section 404 of the Federal Water Pollution Control Act are subject to fines ranging up to \$27,500 per day of violation and imprisonment for up to one year or both.**

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## THREATENED & ENDANGERED SPECIES

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The State of Illinois provides habitat for 500 threatened and endangered species, including 356 plants and 144 animals. Twelve counties in Illinois have 50 or more endangered species, 5 of which are in northeastern Illinois. ("Endangered Species of Illinois," by the U.S. Fish & Wildlife Service, IDOC Division of Natural Heritage & Endangered Species Protection Board).

Approximately 40% of the state's listed species depend on wetlands for survival. The two main causes for species decline are the loss of habitat and the degradation of habitat. While habitat loss is the primary reason species become endangered, the effects of habitat change are not always seen overnight. It is seldom simply a case of individual animals or plants being killed. More often, habitat loss and the resulting species declines are indirectly caused and are the result of cumulative impacts over a period of time.

It is because of this slow encroachment of habitat degradation, fragmentation and loss that wildlife habitat must be looked at on a greater scale than just

the site. Cumulative impacts occur because a small amount of damage is being done over here and little over there and no one is looking at the whole picture. Thus, the villages and county are strongly encouraged to look at habitat management on a regional scale.

THERE IS A POSSIBILITY FOR ENDANGERED SPECIES ON THE SITE. IF A REQUEST HAS NOT ALREADY BEEN SUBMITTED, THE PETITIONER SHOULD ASK THE ILLINOIS DEPARTMENT OF NATURAL RESOURCES TO CHECK THIS PARCEL FOR THE PRESENCE OF THREATENED OR ENDANGERED SPECIES. SHOULD ANY SUCH SPECIES BE IDENTIFIED AS UTILIZING THIS PARCEL, THE PETITIONER WILL BE NOTIFIED ACCORDINGLY. FOR MORE INFORMATION ON HOW TO REQUEST AN ENDANGERED SPECIES CHECK ON THIS PARCEL, PLEASE VISIT [www.dnrecocat.state.il.us/ecopublic](http://www.dnrecocat.state.il.us/ecopublic).

## GLOSSARY

**AGRICULTURAL PROTECTION AREAS (AG AREAS)** - Allowed by P.A. 81-1173. An AG AREA consists of a minimum of 350 acres of farmland, as contiguous and compact as possible. Petitioned by landowners, AG AREAS protect for a period of ten years initially, then reviewed every eight years thereafter. AG AREA establishment exempts landowners from local nuisance ordinances directed at farming operations, and designated land can not receive special tax assessments on public improvements that do not benefit the land, e.g. water and sewer lines.

**AGRICULTURE** - The growing, harvesting and storing of crops including legumes, hay, grain, fruit and truck or vegetable including dairying, poultry, swine, sheep, beef cattle, pony and horse production, fur farms, and fish and wildlife farms; farm buildings used for growing, harvesting and preparing crop products for market, or for use on the farm; roadside stands, farm buildings for storing and protecting farm machinery and equipment from the elements, for housing livestock or poultry and for preparing livestock or poultry products for market; farm dwellings occupied by farm owners, operators, tenants or seasonal or year around hired farm workers.

**B.G.** - Below Grade. Under the surface of the Earth.

**BEDROCK** - Indicates depth at which bedrock occurs. Also lists hardness as rippable or hard.

**FLOODING** - Indicates frequency, duration, and period during year when floods are likely to occur.

**HIGH LEVEL MANAGEMENT** - The application of effective practices adapted to different crops, soils, and climatic conditions. Such practices include providing for adequate soil drainage, protection from flooding, erosion and runoff control, near optimum tillage, and planting the correct kind and amount of high quality seed. Weeds, diseases, and harmful insects are controlled. Favorable soil reaction and near optimum levels of available nitrogen, phosphorus, and potassium for individual crops are maintained. Efficient use is made of available crop residues, barnyard manure, and/or green manure crops. All operations, when combined efficiently and timely, can create favorable growing conditions and reduce harvesting losses -- within limits imposed by weather.

**HIGH WATER TABLE** - A seasonal high water table is a zone of saturation at the highest average

depth during the wettest part of the year. May be apparent, perched, or artesian kinds of water tables.

**Water Table, Apparent** - A thick zone of free water in the soil. An apparent water table is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil.

**Water Table, Artesian** - A water table under hydrostatic head, generally beneath an impermeable layer. When this layer is penetrated, the water level rises in an uncased borehole.

**Water Table, Perched** - A water table standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

**DELINEATION** - For Wetlands: A series of orange flags placed on the ground by a certified professional that outlines the wetland boundary on a parcel.

**DETERMINATION** - A polygon drawn on a map using map information that gives an outline of a wetland.

**HYDRIC SOIL** - This type of soil is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part (USDA Natural Resources Conservation Service 1987)

**INTENSIVE SOIL MAPPING** - Mapping done on a smaller more intensive scale than a modern soil survey to determine soil properties of a specific site, e.g. mapping for septic suitability.

### **LAND EVALUATION AND SITE**

**ASSESSMENT (L.E.S.A.)** - LESA is a systematic approach for evaluating a parcel of land and to determine a numerical value for the parcel for farmland preservation purposes.

**MODERN SOIL SURVEY** - A soil survey is a field investigation of the soils of a specific area, supported by information from other sources. The kinds of soil in the survey area are identified and their extent shown on a map, and an accompanying report describes, defines, classifies, and interprets the soils. Interpretations predict the behavior of the soils under different used and the soils' response to management. Predictions are made for areas of soil at specific places. Soils information collected in a soil survey is useful in developing land-use plans and alternatives involving soil management systems and in evaluating and predicting the effects of land use.

**PALUSTRINE** - Name given to inland fresh water wetlands

**PERMEABILITY** - Values listed estimate the range (in rate and time) it takes for downward movement of water in the major soil layers when saturated, but allowed to drain freely. The estimates are based on soil texture, soil structure, available data on permeability and infiltration tests, and observation of water movement through soils or other geologic materials.

**PIQ** - Parcel in question

**POTENTIAL FROST ACTION** - Damage that may occur to structures and roads due to ice lens formation causing upward and lateral soil movement. Based primarily on soil texture and wetness.

**PRIME FARMLAND** - Prime farmland soils are lands that are best suited to food, feed, forage, fiber and oilseed crops. It may be cropland, pasture, woodland, or other land, but it is not urban and built up land or water areas. It either is used for food or fiber or is available for those uses. The soil qualities, growing season, and moisture supply are those needed for a well managed soil economically to produce a sustained high yield of crops. Prime farmland produces in highest yields with minimum inputs of energy and economic resources, and farming the land results in the least damage to the environment.

Prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation. The temperature and growing season are favorable. The level of acidity or alkalinity is acceptable. Prime farmland has few or no rocks and is permeable to water and air. It is not excessively erodible or saturated with water for long periods and is not frequently flooded during the growing season. The slope ranges mainly from 0 to 5 percent. (Source USDA Natural Resources Conservation Service)

**PRODUCTIVITY INDEXES** - Productivity indexes for grain crops express the estimated yields of the major grain crops grown in Illinois as a single percentage of the average yields obtained under basic management from several of the more productive soils in the state. This group of soils is composed of the Muscatine, Ipava, Sable, Lisbon, Drummer, Flanagan, Littleton, Elburn and Joy soils. Each of the 425 soils found in Illinois are found in Circular 1156 from the Illinois Cooperative Extension Service.

**SEASONAL** - When used in reference to wetlands indicates that the area is flooded only during a portion of the year.

**SHRINK-SWELL POTENTIAL** - Indicates volume changes to be expected for the specific soil material with changes in moisture content.

**SOIL MAPPING UNIT** - A map unit is a collection of soil areas of miscellaneous areas delineated in mapping. A map unit is generally an aggregate of the delineations of many different bodies of a kind of soil or miscellaneous area but may consist of only one delineated body. Taxonomic class names and accompanying phase terms are used to name soil map units. They are described in terms of ranges of soil properties within the limits defined for taxa and in terms of ranges of taxadjuncts and inclusions.

**SOIL SERIES** - A group of soils, formed from a particular type of parent material, having horizons that, except for texture of the A or surface horizon, are similar in all profile characteristics and in arrangement in the soil profile. Among these characteristics are color, texture, structure, reaction, consistence, and mineralogical and chemical composition.

**SUBSIDENCE** - Applies mainly to organic soils after drainage. Soil material subsides due to shrinkage and oxidation.

**TERRAIN** - The area or surface over which a particular rock or group of rocks is prevalent.

**TOPSOIL** - That portion of the soil profile where higher concentrations of organic material, fertility, bacterial activity and plant growth take place. Depths of topsoil vary between soil types.

**WATERSHED** - An area of land that drains to an associated water resource such as a wetland, river or lake. Depending on the size and topography, watersheds can contain numerous tributaries, such as streams and ditches, and ponding areas such as detention structures, natural ponds and wetlands.

**WETLAND** - An area that has a predominance of hydric soils and that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances does support, a prevalence of

hydrophytic vegetation typically adapted for life in saturated soil conditions.

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Natural Resources Conservation Service, United States Department of Agriculture.

**STANDARD AGRICULTURAL IMPACT MITIGATION AGREEMENT**

between  
**3 A Energy LLC**

and the  
**ILLINOIS DEPARTMENT OF AGRICULTURE**  
Pertaining to the Construction of a Commercial Solar Energy Facility  
in  
McHenry County, Illinois

Pursuant to the Renewable Energy Facilities Agricultural Impact Mitigation Act (505 ILCS 147), the following standards and policies are required by the Illinois Department of Agriculture (IDOA) to help preserve the integrity of any Agricultural Land that is impacted by the Construction and Deconstruction of a Commercial Solar Energy Facility. They were developed with the cooperation of agricultural agencies, organizations, Landowners, Tenants, drainage contractors, and solar energy companies to comprise this Agricultural Impact Mitigation Agreement (AIMA).

3 A Energy LLC, hereafter referred to as Commercial Solar Energy Facility Owner, or simply as Facility Owner, plans to develop and/or operate a 2.4-MWp Commercial Solar Energy Facility in McHenry County [GPS Coordinates: 42°25'12" N, -88°32'39" W ], which will consist of up to 10 acres that will be covered by solar facility related components, such as solar panel arrays, racking systems, access roads, an onsite underground collection system, inverters and transformers and any affiliated electric transmission lines. This AIMA is made and entered between the Facility Owner and the IDOA.

If Construction does not commence within four years after this AIMA has been fully executed, this AIMA shall be revised, with the Facility Owner's input, to reflect the IDOA's most current Solar Farm Construction and Deconstruction Standards and Policies. This AIMA, and any updated AIMA, shall be filed with the County Board by the Facility Owner prior to the commencement of Construction.

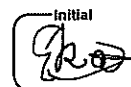
The below prescribed standards and policies are applicable to Construction and Deconstruction activities occurring partially or wholly on privately owned agricultural land.

**Conditions of the AIMA**

The mitigative actions specified in this AIMA shall be subject to the following conditions:

- A. All Construction or Deconstruction activities may be subject to County or other local requirements. However, the specifications outlined in this AIMA shall be the minimum standards applied to all Construction or Deconstruction activities. IDOA may utilize any legal means to enforce this AIMA.
- B. Except for Section 17. B. through F., all actions set forth in this AIMA are subject to modification through negotiation by Landowners and the Facility Owner, provided such changes are negotiated in advance of the respective Construction or Deconstruction activities.
- C. The Facility Owner may negotiate with Landowners to carry out the actions that Landowners wish to perform themselves. In such instances, the Facility Owner shall offer Landowners the area commercial rate for their machinery and labor costs.

*Standard Solar AIMA V.8.19.19*



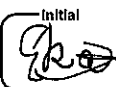
3 A Energy LLC  
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- D. All provisions of this AIMA shall apply to associated future Construction, maintenance, repairs, and Deconstruction of the Facility referenced by this AIMA.
- E. The Facility Owner shall keep the Landowners and Tenants informed of the Facility's Construction and Deconstruction status, and other factors that may have an impact upon their farming operations.
- F. The Facility Owner shall include a statement of its adherence to this AIMA in any environmental assessment and/or environmental impact statement.
- G. Execution of this AIMA shall be made a condition of any Conditional/Special Use Permit. Not less than 30 days prior to the commencement of Construction, a copy of this AIMA shall be provided by the Facility Owner to each Landowner that is party to an Underlying Agreement. In addition, this AIMA shall be incorporated into each Underlying Agreement.
- H. The Facility Owner shall implement all actions to the extent that they do not conflict with the requirements of any applicable federal, state and local rules and regulations and other permits and approvals that are obtained by the Facility Owner for the Facility.
- I. No later than 45 days prior to the Construction and/or Deconstruction of a Facility, the Facility Owner shall provide the Landowner(s) with a telephone number the Landowner can call to alert the Facility Owner should the Landowner(s) have questions or concerns with the work which is being done or has been carried out on his/her property.
- J. If there is a change in ownership of the Facility, the Facility Owner assuming ownership of the Facility shall provide written notice within 90 days of ownership transfer, to the Department, the County, and to Landowners of such change. The Financial Assurance requirements and the other terms of this AIMA shall apply to the new Facility Owner.
- K. The Facility Owner shall comply with all local, state and federal laws and regulations, specifically including the worker protection standards to protect workers from pesticide exposure.
- L. Within 30 days of execution of this AIMA, the Facility Owner shall use Best Efforts to provide the IDOA with a list of all Landowners that are party to an Underlying Agreement and known Tenants of said Landowner who may be affected by the Facility. As the list of Landowners and Tenants is updated, the Facility Owner shall notify the IDOA of any additions or deletions.
- M. If any provision of this AIMA is held to be unenforceable, no other provision shall be affected by that holding, and the remainder of the AIMA shall be interpreted as if it did not contain the unenforceable provision.

**Definitions**

**Abandonment**

When Deconstruction has not been completed within 12 months after the Commercial Solar Energy Facility reaches the end of its useful life. For purposes of this definition, a Commercial Solar Energy Facility shall be presumed to have reached the end of its useful life if the Commercial Solar Energy Facility Owner fails, for a period of 6 consecutive months, to pay the Landowner amounts owed in accordance with an Underlying Agreement.



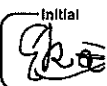
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Aboveground Cable	Electrical power lines installed above ground surface to be utilized for conveyance of power from the solar panels to the solar facility inverter and/or point of interconnection to utility grid or customer electric meter.
Agricultural Impact Mitigation Agreement (AIMA)	The Agreement between the Facility Owner and the Illinois Department of Agriculture (IDOA) described herein.
Agricultural Land	Land used for Cropland, hayland, pastureland, managed woodlands, truck gardens, farmsteads, commercial ag-related facilities, feedlots, livestock confinement systems, land on which farm buildings are located, and land in government conservation programs used for purposes as set forth above.
Best Efforts	Diligent, good faith, and commercially reasonable efforts to achieve a given objective or obligation.
Commercial Operation Date	The calendar date of which the Facility Owner notifies the Landowner, County, and IDOA in writing that commercial operation of the facility has commenced. If the Facility Owner fails to provide such notifications, the Commercial Operation Date shall be the execution date of this AIMA plus 6 months.
Commercial Solar Energy Facility (Facility)	A solar energy conversion facility equal to or greater than 500 kilowatts in total nameplate capacity, including a solar energy conversion facility seeking an extension of a permit to construct granted by a county or municipality before June 29, 2018. "Commercial solar energy facility" does not include a solar energy conversion facility: (1) for which a permit to construct has been issued before June 29, 2018; (2) that is located on land owned by the commercial solar energy facility owner; (3) that was constructed before June 29, 2018; or (4) that is located on the customer side of the customer's electric meter and is primarily used to offset that customer's electricity load and is limited in nameplate capacity to less than or equal to 2,000 kilowatts.
Commercial Solar Energy Facility Owner deemed (Facility Owner)	A person or entity that owns a commercial solar energy facility. A Commercial Solar Energy Facility Owner is not nor shall it be to be a public utility as defined in the Public Utilities Act.
County	The County or Counties where the Commercial Solar Energy Facility is located.
Construction	The installation, preparation for installation and/or repair of a Facility.
Cropland	Land used for growing row crops, small grains or hay; includes land which was formerly used as cropland, but is currently enrolled in a government conservation program; also includes pastureland that is classified as Prime Farmland.



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Deconstruction	The removal of a Facility from the property of a Landowner and the restoration of that property as provided in the AIMA.
Deconstruction Plan	A plan prepared by a Professional Engineer, at the Facility's expense, that includes: <ol style="list-style-type: none"><li>(1) the estimated Deconstruction cost, in current dollars at the time of filing, for the Facility, considering among other things:<ol style="list-style-type: none"><li>i. the number of solar panels, racking, and related facilities involved;</li><li>ii. the original Construction costs of the Facility;</li><li>iii. the size and capacity, in megawatts of the Facility;</li><li>iv. the salvage value of the facilities (if all interests in salvage value are subordinate to that of the Financial Assurance holder if abandonment occurs);</li><li>v. the Construction method and techniques for the Facility and for other similar facilities; and</li></ol></li><li>(2) a comprehensive detailed description of how the Facility Owner plans to pay for the Deconstruction of the Facility.</li></ol>
Department	The Illinois Department of Agriculture (IDOA).
Financial Assurance	A reclamation or surety bond or other commercially available financial assurance that is acceptable to the County, with the County or Landowner as beneficiary.
Landowner	Any person with an ownership interest in property that is used for agricultural purposes and that is party to an Underlying Agreement.
Prime Farmland	Agricultural Land comprised of soils that are defined by the USDA Natural Resources Conservation Service (NRCS) as "Prime Farmland" (generally considered to be the most productive soils with the least input of nutrients and management).
Professional Engineer	An engineer licensed to practice engineering in the State of Illinois.
Soil and Water Conservation District (SWCD)	A unit of local government that provides technical and financial assistance to eligible Landowners for the conservation of soil and water resources.
Tenant	Any person, apart from the Facility Owner, lawfully residing or leasing/renting land that is subject to an Underlying Agreement.
Topsoil	The uppermost layer of the soil that has the darkest color or the highest content of organic matter; more specifically, it is defined as the "A" horizon.
Underlying Agreement	The written agreement between the Facility Owner and the Landowner(s) including, but not limited to, an easement, option, lease, or license under the terms of which another person has constructed, constructs, or intends to construct a Facility on the property of the Landowner.



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Underground Cable	Electrical power lines installed below the ground surface to be utilized for conveyance of power within a Facility or from a Commercial Solar Energy Facility to the electric grid.
USDA Natural Resources Conservation Service (NRCS)	An agency of the United States Department of Agriculture that provides America's farmers with financial and technical assistance to aid with natural resources conservation.

**Construction and Deconstruction Standards and Policies**

**1. Support Structures**

- A. Only single pole support structures shall be used for the Construction and operation of the Facility on Agricultural Land. Other types of support structures, such as lattice towers or H-frames, may be used on nonagricultural land.
- B. Where a Facility's Aboveground Cable will be adjacent and parallel to highway and/or railroad right-of-way, but on privately owned property, the support structures shall be placed as close as reasonably practicable and allowable by the applicable County Engineer or other applicable authorities to the highway or railroad right-of-way. The only exceptions may be at jogs or weaves on the highway alignment or along highways or railroads where transmission and distribution lines are already present.
- C. When it is not possible to locate Aboveground Cable next to highway or railroad right-of-way, Best Efforts shall be expended to place all support poles in such a manner to minimize their placement on Cropland (i.e., longer than normal above ground spans shall be utilized when traversing Cropland).

**2. Aboveground Facilities**

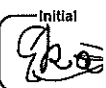
Locations for facilities shall be selected in a manner that is as unobtrusive as reasonably possible to ongoing agricultural activities occurring on the land that contains or is adjacent to the Facility.

**3. Guy Wires and Anchors**

Best Efforts shall be made to place guy wires and their anchors, if used, out of Cropland, pastureland and hayland, placing them instead along existing utilization lines and on land other than Cropland. Where this is not feasible, Best Efforts shall be made to minimize guy wire impact on Cropland. All guy wires shall be shielded with highly visible guards.

**4. Underground Cabling Depth**

- A. Underground electrical cables located outside the perimeter of the (fence) of the solar panels shall be buried with:
  - 1. a minimum of 5 feet of top cover where they cross Cropland.
  - 2. a minimum of 5 feet of top cover where they cross pastureland or other non-Cropland classified as Prime Farmland.
  - 3. a minimum of 3 feet of top cover where they cross pastureland and other Agricultural Land not classified as Prime Farmland.



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4. a minimum of 3 feet of top cover where they cross wooded/brushy land.
- B. Provided that the Facility Owner removes the cables during Deconstruction, underground electric cables may be installed to a minimum depth of 18 inches:
  1. Within the fenced perimeter of the Facility; or
  2. When buried under an access road associated with the Facility provided that the location and depth of cabling is clearly marked at the surface.
- C. If Underground Cables within the fenced perimeter of the solar panels are installed to a minimum depth of 5 feet, they may remain in place after Deconstruction.

**5. Topsoil Removal and Replacement**

- A. Any excavation shall be performed in a manner to preserve topsoil. Best Efforts shall be made to store the topsoil near the excavation site in such a manner that it will not become intermixed with subsoil materials.
- B. Best Efforts shall be made to store all disturbed subsoil material near the excavation site and separate from the topsoil.
- C. When backfilling an excavation site, Best Efforts shall be used to ensure the stockpiled subsoil material will be placed back into the excavation site before replacing the topsoil.
- D. Refer to Section 7 for procedures pertaining to rock removal from the subsoil and topsoil.
- E. Refer to Section 8 for procedures pertaining to the repair of compaction and rutting of the topsoil.
- F. Best Efforts shall be performed to place the topsoil in a manner so that after settling occurs, the topsoil's original depth and contour will be restored as close as reasonably practicable. The same shall apply where excavations are made for road, stream, drainage ditch, or other crossings. In no instance shall the topsoil materials be used for any other purpose unless agreed to explicitly and in writing by the Landowner.
- G. Based on the mutual agreement of the landowner and Facility Owner, excess soil material resulting from solar facility excavation shall either be removed or stored on the Landowner's property and reseeded per the applicable National Pollution Discharge Elimination System (NPDES) permit/Stormwater Pollution Prevention Plan (SWPPP). After the Facility reaches the end of its Useful Life, the excess subsoil material shall be returned to an excavation site or removed from the Landowner's property, unless otherwise agreed to by Landowner.

**6. Rerouting and Permanent Repair of Agricultural Drainage Tiles**

The following standards and policies shall apply to underground drainage tile line(s) directly or indirectly affected by Construction and/or Deconstruction:

- A. Prior to Construction, the Facility Owner shall work with the Landowner to identify drainage tile lines traversing the property subject to the Underlying Agreement to the extent reasonably practicable. All drainage tile lines identified in this manner shall be shown on the Construction and Deconstruction Plans.

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B. The location of all drainage tile lines located adjacent to or within the footprint of the Facility shall be recorded using Global Positioning Systems (GPS) technology. Within 60 days after Construction is complete, the Facility Owner shall provide the Landowner, the IDOA, and the respective County Soil and Water Conservation District (SWCD) with "as built" drawings (strip maps) showing the location of all drainage tile lines by survey station encountered in the Construction of the Facility, including any tile line repair location(s), and any underground cable installed as part of the Facility.

**C. Maintaining Surrounding Area Subsurface Drainage**

If drainage tile lines are damaged by the Facility, the Facility Owner shall repair the lines or install new drainage tile line(s) of comparable quality and cost to the original(s), and of sufficient size and appropriate slope in locations that limit direct impact from the Facility. If the damaged tile lines cause an unreasonable disruption to the drainage system, as determined by the Landowner, then such repairs shall be made promptly to ensure appropriate drainage. Any new line(s) may be located outside of, but adjacent to the perimeter of the Facility. Disrupted adjacent drainage tile lines shall be attached thereto to provide an adequate outlet for the disrupted adjacent tile lines.

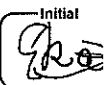
**D. Re-establishing Subsurface Drainage Within Facility Footprint**

Following Deconstruction and using Best Efforts, if underground drainage tile lines were present within the footprint of the facility and were severed or otherwise damaged during original Construction, facility operation, and/or facility Deconstruction, the Facility Owner shall repair existing drainage tiles or install new drainage tile lines of comparable quality and cost to the original, within the footprint of the Facility with sufficient capacity to restore the underground drainage capacity that existed within the footprint of the Facility prior to Construction. Such installation shall be completed within 12 months after the end of the useful life of the Facility and shall be compliant with Figures 1 and 2 to this Agreement or based on prudent industry standards if agreed to by Landowner.

E. If there is any dispute between the Landowner and the Facility Owner on the method of permanent drainage tile line repair, the appropriate County SWCD's opinion shall be considered by the Facility Owner and the Landowner.

F. During Deconstruction, all additional permanent drainage tile line repairs beyond those included above in Section 6.D. must be made within 30 days of identification or notification of the damage, weather and soil conditions permitting. At other times, such repairs must be made at a time mutually agreed upon by the Facility Owner and the Landowner. If the Facility Owner and Landowner cannot agree upon a reasonable method to complete this restoration, the Facility Owner may implement the recommendations of the appropriate County SWCD and such implementation constitutes compliance with this provision.

G. Following completion of the work required pursuant to this Section, the Facility Owner shall be responsible for correcting all drainage tile line repairs that fail due to Construction and/or Deconstruction for one year following the completion of Construction or Deconstruction, provided those repairs were made by the Facility Owner. The Facility Owner shall not be responsible for drainage tile repairs that the Facility Owner pays the Landowner to perform.



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**7. Rock Removal**

With any excavations, the following rock removal procedures pertain only to rocks found in the uppermost 42 inches of soil, the common freeze zone in Illinois, which emerged or were brought to the site as a result of Construction and/or Deconstruction.

- A. Before replacing any topsoil, Best Efforts shall be taken to remove all rocks greater than 3 inches in any dimension from the surface of exposed subsoil which emerged or were brought to the site as a result of Construction and/or Deconstruction.
- B. If trenching, blasting, or boring operations are required through rocky terrain, precautions shall be taken to minimize the potential for oversized rocks to become interspersed in adjacent soil material.
- C. Rocks and soil containing rocks removed from the subsoil areas, topsoil, or from any excavations, shall be removed from the Landowner's premises or disposed of on the Landowner's premises at a location that is mutually acceptable to the Landowner and the Facility Owner.

**8. Repair of Compaction and Rutting**

- A. Unless the Landowner opts to do the restoration work on compaction and rutting, after the topsoil has been replaced post-Deconstruction, all areas within the boundaries of the Facility that were traversed by vehicles and Construction and/or Deconstruction equipment that exhibit compaction and rutting shall be restored by the Facility Owner. All prior Cropland shall be ripped at least 18 inches deep or to the extent practicable, and all pasture and woodland shall be ripped at least 12 inches deep or to the extent practicable. The existence of drainage tile lines or underground utilities may necessitate less ripping depth. The disturbed area shall then be disked.
- B. All ripping and disking shall be done at a time when the soil is dry enough for normal tillage operations to occur on Cropland adjacent to the Facility.
- C. The Facility Owner shall restore all rutted land to a condition as close as possible to its original condition upon Deconstruction, unless necessary earlier as determined by the Landowner.
- D. If there is any dispute between the Landowner and the Facility Owner as to what areas need to be ripped/disked or the depth at which compacted areas should be ripped/disked, the appropriate County SWCD's opinion shall be considered by the Facility Owner and the Landowner.

**9. Construction During Wet Weather**

Except as provided below, construction activities are not allowed on agricultural land during times when normal farming operations, such as plowing, disking, planting or harvesting, cannot take place due to excessively wet soils. With input from the landowner, wet weather conditions may be determined on a field by field basis.

- A. Construction activities on prepared surfaces, surfaces where topsoil and subsoil have been removed, heavily compacted in preparation, or otherwise stabilized (e.g. through cement mixing) may occur at the discretion of the Facility Owner in wet weather conditions.

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- B. Construction activities on unprepared surfaces will be done only when work will not result in rutting which may mix subsoil and topsoil. Determination as to the potential of subsoil and topsoil mixing will be made in consultation with the underlying Landowner, or, if approved by the Landowner, his/her designated tenant or designee.

**10. Prevention of Soil Erosion**

- A. The Facility Owner shall work with Landowners and create and follow a SWPPP to prevent excessive erosion on land that has been disturbed by Construction or Deconstruction of a Facility.
- B. If the Landowner and Facility Owner cannot agree upon a reasonable method to control erosion on the Landowner's property, the Facility Owner shall consider the recommendations of the appropriate County SWCD to resolve the disagreement.
- C. The Facility Owner may, per the requirements of the project SWPPP and in consultation with the Landowner, seed appropriate vegetation around all panels and other facility components to prevent erosion. The Facility Owner must utilize Best Efforts to ensure that all seed mixes will be as free of any noxious weed seeds as possible. The Facility Owner shall consult with the Landowner regarding appropriate varieties to seed.

**11. Repair of Damaged Soil Conservation Practices**

Consultation with the appropriate County SWCD by the Facility Owner shall be carried out to determine if there are soil conservation practices (such as terraces, grassed waterways, etc.) that will be damaged by the Construction and/or Deconstruction of the Facility. Those conservation practices shall be restored to their preconstruction condition as close as reasonably practicable following Deconstruction in accordance with USDA NRCS technical standards. All repair costs shall be the responsibility of the Facility Owner.

**12. Compensation for Damages to Private Property**

The Facility Owner shall reasonably compensate Landowners for damages caused by the Facility Owner. Damage to Agricultural Land shall be reimbursed to the Landowner as prescribed in the applicable Underlying Agreement.

**13. Clearing of Trees and Brush**

- A. If trees are to be removed for the Construction or Deconstruction of a Facility, the Facility Owner shall consult with the Landowner to determine if there are trees of commercial or other value to the Landowner.
- B. If there are trees of commercial or other value to the Landowner, the Facility Owner shall allow the Landowner the right to retain ownership of the trees to be removed and the disposition of the removed trees shall be negotiated prior to the commencement of land clearing.

**14. Access Roads**

- A. To the extent practicable, access roads shall be designed to not impede surface drainage and shall be built to minimize soil erosion on or near the access roads.

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- B. Access roads may be left intact during Construction, operation or Deconstruction through mutual agreement of the Landowner and the Facility Owner unless otherwise restricted by federal, state, or local regulations.
- C. If the access roads are removed, Best Efforts shall be expended to assure that the land shall be restored to equivalent condition(s) as existed prior to their construction, or as otherwise agreed to by the Facility Owner and the Landowner. All access roads that are removed shall be ripped to a depth of 18 inches. All ripping shall be performed consistent with Section 8.

**15. Weed/Vegetation Control**

- A. The Facility Owner shall provide for weed control in a manner that prevents the spread of weeds. Chemical control, if used, shall be done by an appropriately licensed pesticide applicator.
- B. The Facility Owner shall be responsible for the reimbursement of all reasonable costs incurred by owners of agricultural land where it has been determined by the appropriate state or county entity that weeds have spread from the Facility to their property. Reimbursement is contingent upon written notice to the Facility Owner. Facility Owner shall reimburse the property owner within 45 days after notice is received.
- C. The Facility Owner shall ensure that all vegetation growing within the perimeter of the Facility is properly and appropriately maintained. Maintenance may include, but not be limited to, mowing, trimming, chemical control, or the use of livestock as agreed to by the Landowner.
- D. The Deconstruction plans must include provisions for the removal of all weed control equipment used in the Facility, including weed-control fabrics or other ground covers.

**16. Indemnification of Landowners**

The Facility Owner shall indemnify all Landowners, their heirs, successors, legal representatives, and assigns from and against all claims, injuries, suits, damages, costs, losses, and reasonable expenses resulting from or arising out of the Commercial Solar Energy Facility, including Construction and Deconstruction thereof, and also including damage to such Facility or any of its appurtenances, except where claims, injuries, suits, damages, costs, losses, and expenses are caused by the negligence or intentional acts, or willful omissions of such Landowners, and/or the Landowners heirs, successors, legal representatives, and assigns.

**17. Deconstruction Plans and Financial Assurance of Commercial Solar Energy Facilities**

- A. Deconstruction of a Facility shall include the removal/disposition of all solar related equipment/facilities, including the following utilized for operation of the Facility and located on Landowner property:
  - 1. Solar panels, cells and modules;
  - 2. Solar panel mounts and racking, including any helical piles, ground screws, ballasts, or other anchoring systems;
  - 3. Solar panel foundations, if used (to depth of 5 feet);

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4. Transformers, inverters, energy storage facilities, or substations, including all components and foundations; however, Underground Cables at a depth of 5 feet or greater may be left in place;
  5. Overhead collection system components;
  6. Operations/maintenance buildings, spare parts buildings and substation/switching gear buildings unless otherwise agreed to by the Landowner;
  7. Access Road(s) unless Landowner requests in writing that the access road is to remain;
  8. Operation/maintenance yard/staging area unless otherwise agreed to by the Landowner; and
  9. Debris and litter generated by Deconstruction and Deconstruction crews.
- B. The Facility Owner shall, at its expense, complete Deconstruction of a Facility within twelve (12) months after the end of the useful life of the Facility.
- C. During the County permit process, or if none, then prior to the commencement of construction, the Facility Owner shall file with the County a Deconstruction Plan. The Facility Owner shall file an updated Deconstruction Plan with the County on or before the end of the tenth year of commercial operation.
- D. The Facility Owner shall provide the County with Financial Assurance to cover the estimated costs of Deconstruction of the Facility. Provision of this Financial Assurance shall be phased in over the first 11 years of the Project's operation as follows:
1. On or before the first anniversary of the Commercial Operation Date, the Facility Owner shall provide the County with Financial Assurance to cover ten (10) percent of the estimated costs of Deconstruction of the Facility as determined in the Deconstruction Plan.
  2. On or before the sixth anniversary of the Commercial Operation Date, the Facility Owner shall provide the County with Financial Assurance to cover fifty (50) percent of the estimated costs of Deconstruction of the Facility as determined in the Deconstruction Plan.
  3. On or before the eleventh anniversary of the Commercial Operation Date, the Facility Owner shall provide the County with Financial Assurance to cover one hundred (100) percent of the estimated costs of Deconstruction of the Facility as determined in the updated Deconstruction Plan provided during the tenth year of commercial operation.

The Financial Assurance shall not release the surety from liability until the Financial Assurance is replaced. The salvage value of the Facility may only be used to reduce the estimated costs of Deconstruction if the County agrees that all interests in the salvage value are subordinate or have been subordinated to that of the County if Abandonment occurs.

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- E. The County may, but is not required to, reevaluate the estimated costs of Deconstruction of any Facility after the tenth anniversary, and every five years thereafter, of the Commercial Operation Date. Based on any reevaluation, the County may require changes in the level of Financial Assurance used to calculate the phased Financial Assurance levels described in Section 17.D. required from the Facility Owner. If the County is unable to its satisfaction to perform the investigations necessary to approve the Deconstruction Plan filed by the Facility Owner, then the County and Facility may mutually agree on the selection of a Professional Engineer independent of the Facility Owner to conduct any necessary investigations. The Facility Owner shall be responsible for the cost of any such investigations.
- F. Upon Abandonment, the County may take all appropriate actions for Deconstruction including drawing upon the Financial Assurance.

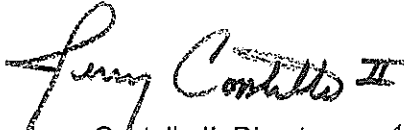
**Concurrence of the Parties to this AIMA**

The Illinois Department of Agriculture and 3 A Energy LLC concur that this AIMA is the complete AIMA governing the mitigation of agricultural impacts that may result from the Construction and Deconstruction of the solar farm project in McHenry County within the State of Illinois.

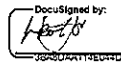
The effective date of this AIMA commences on the date of execution.

**STATE OF ILLINOIS  
DEPARTMENT OF AGRICULTURE**

**3 A Energy LLC**



By: Jerry Costello II, Director 4

DocuSigned by:  


By brahim mamsa Manager



By Clay Nordsiek, Deputy General Counsel

1816 S MAIN STREET  
LOMBARD, IL 60148

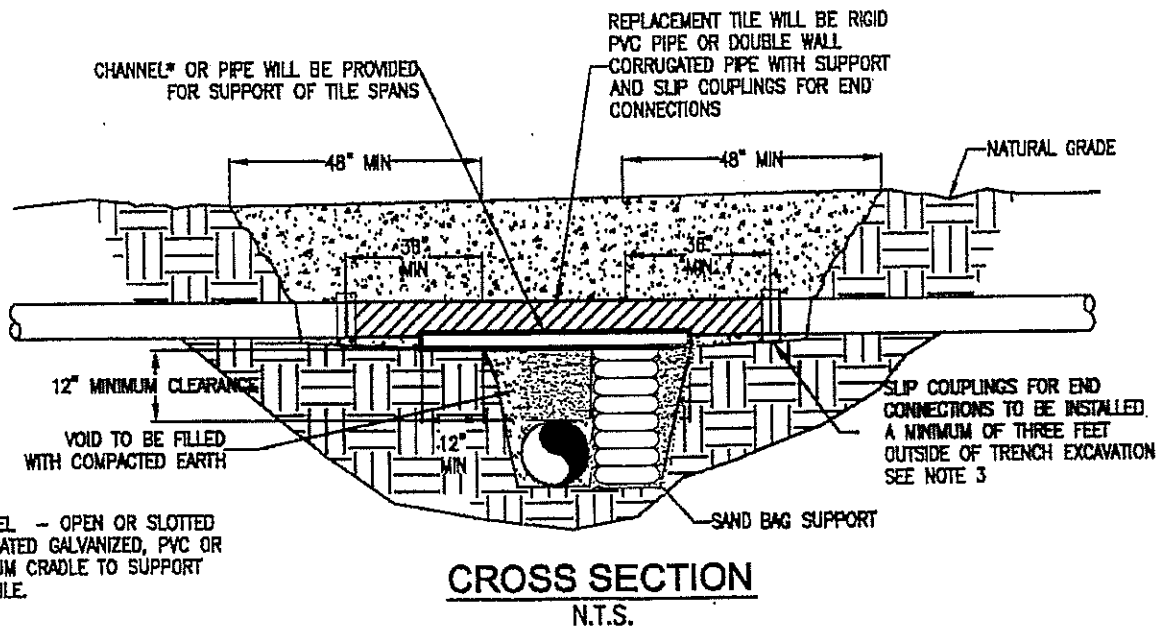
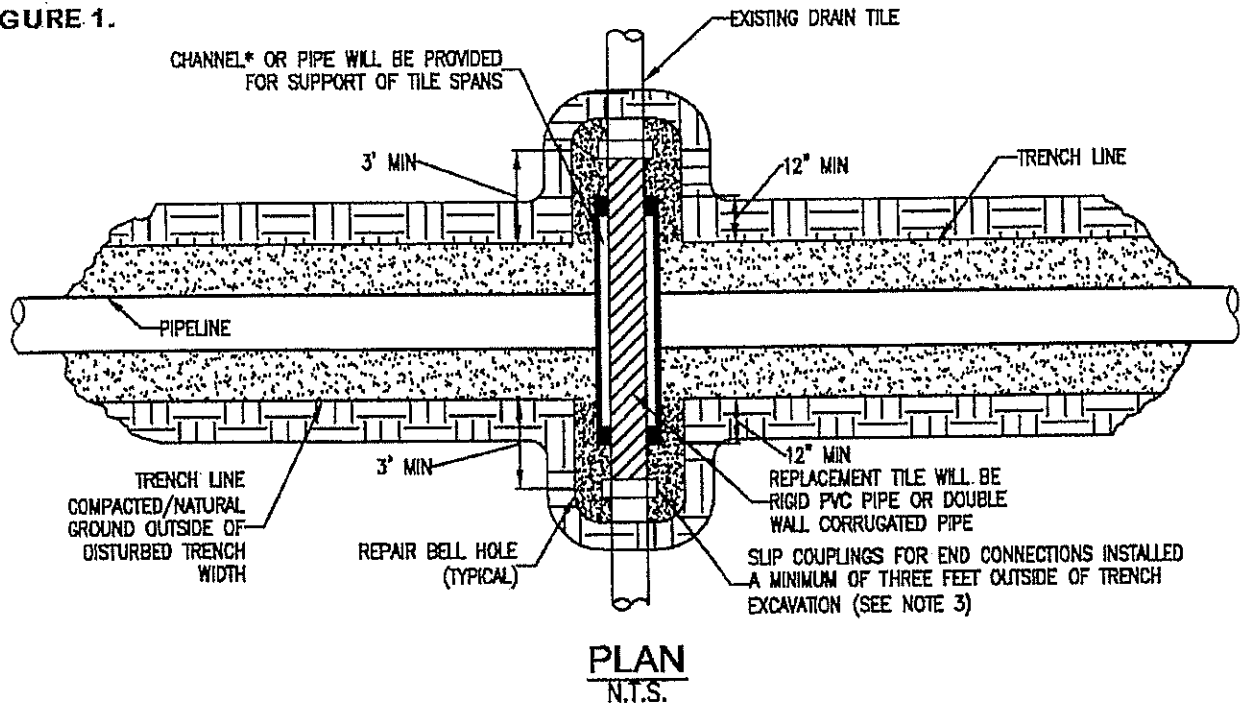
Address

801 E. Sangamon Avenue,  
State Fairgrounds, POB 19281  
Springfield, IL 62794-9281

1/28/2026, 20  

2/18, 2026

**FIGURE 1.**



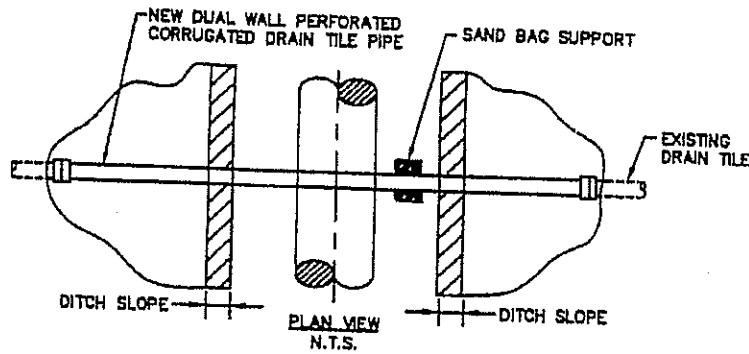
\*CHANNEL - OPEN OR SLOTTED CORRUGATED GALVANIZED, PVC OR ALUMINUM CRADLE TO SUPPORT DRAIN TILE.

**NOTE:**

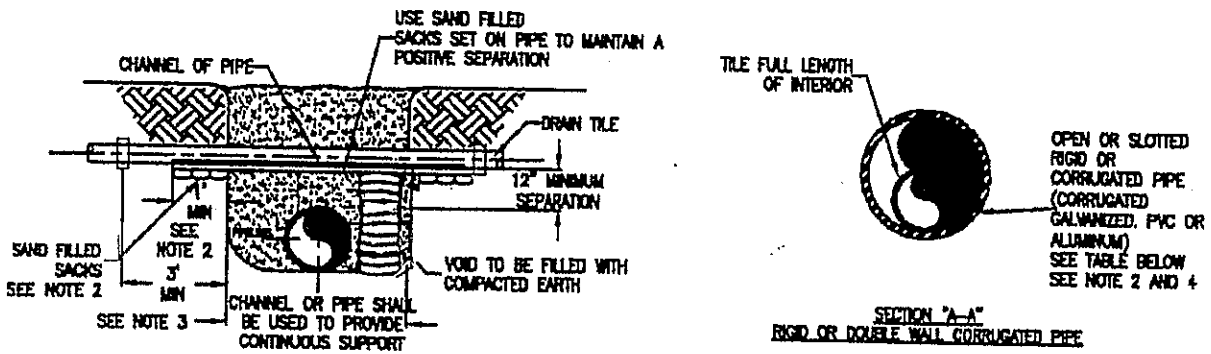
1. IMMEDIATELY REPAIR TILE IF WATER IS FLOWING THROUGH TILE AT TIME OF TRENCHING. IF NO WATER IS FLOWING AND TEMPORARY REPAIR IS DELAYED, OR NOT MADE BY THE END OF THE WORK DAY, A SCREEN OR APPROPRIATE 'NIGHT CAP' SHALL BE PLACED ON OPEN ENDS OF TILE TO PREVENT ENTRAPMENT OF ANIMALS ETC.
2. CHANNEL OR PIPE (OPEN OR SLOTTED) MADE OF CORRUGATED GALVANIZED PIPE, PVC OR ALUMINUM WILL BE USED FOR SUPPORT OF DRAIN TILE SPANS.
3. INDUSTRY STANDARDS SHALL BE FOLLOWED TO ENSURE PROPER SEAL OF REPAIRED DRAIN TILES.

**TEMPORARY DRAIN TILE REPAIR**

**FIGURE 2.**



**PLAN VIEW**



**END VIEWS**

MINIMUM SUPPORT TABLE		
TILE SIZE	CHANNEL SIZE	PIPE SIZE
3"	4" @ 5.4 #/ft	4" STD. WT.
4"-5"	5" @ 6.7 #/ft	6" STD. WT.
6"-8"	7" @ 9.8 #/ft	8"-10" STD. WT.
10"	10" @ 15.3 #/ft	12" STD. WT.

**NOTE:**

1. TILE REPAIR AND REPLACEMENT SHALL MAINTAIN ORIGINAL ALIGNMENT GRADIENT AND WATER FLOW TO THE GREATEST EXTENT POSSIBLE. IF THE TILE NEEDS TO BE RELOCATED, THE INSTALLATION ANGLE MAY VARY DUE TO SITE SPECIFIC CONDITIONS AND LANDOWNER RECOMMENDATIONS.
2. 1'-0" MINIMUM LENGTH OF CHANNEL OR RIGID PIPE (OPEN OR SLOTTED CORRUGATED GALVANIZED, PVC OR ALUMINUM CRADLE) SHALL BE SUPPORTED BY UNDISTURBED SOIL, OR IF CROSSING IS NOT AT RIGHT ANGLES TO PIPELINE, EQUIVALENT LENGTH PERPENDICULAR TO TRENCH. SHIM WITH SAND BAGS TO UNDISTURBED SOIL FOR SUPPORT AND DRAINAGE GRADIENT MAINTENANCE (TYPICAL BOTH SIDES).
3. DRAIN TILES WILL BE PERMANENTLY CONNECTED TO EXISTING DRAIN TILES A MINIMUM OF THREE FEET OUTSIDE OF EXCAVATED TRENCH LINE USING INDUSTRY STANDARDS TO ENSURE PROPER SEAL OF REPAIRED DRAIN TILES INCLUDING SLIP COUPLINGS.
4. DIAMETER OF RIGID PIPE SHALL BE OF ADEQUATE SIZE TO ALLOW FOR THE INSTALLATION OF THE TILE FOR THE FULL LENGTH OF THE RIGID PIPE.
5. OTHER METHODS OF SUPPORTING DRAIN TILE MAY BE USED IF ALTERNATE PROPOSED IS EQUIVALENT IN STRENGTH TO THE CHANNEL/PIPE SECTIONS SHOWN AND IF APPROVED BY COMPANY REPRESENTATIVES AND LANDOWNER IN ADVANCE. SITE SPECIFIC ALTERNATE SUPPORT SYSTEM TO BE DEVELOPED BY COMPANY REPRESENTATIVES AND FURNISHED TO CONTRACTOR FOR SPANS IN EXCESS OF 20', TILE GREATER THEN 10" DIAMETER, AND FOR "HEADER" SYSTEMS.
6. ALL MATERIAL TO BE FURNISHED BY CONTRACTOR.
7. PRIOR TO REPAIRING TILE, CONTRACTOR SHALL PROBE LATERALLY INTO THE EXISTING TILE TO FULL WIDTH OF THE RIGHTS OF WAY TO DETERMINE IF ADDITIONAL DAMAGE HAS OCCURRED. ALL DAMAGED/DISTURBED TILE SHALL BE REPAIRED AS NEAR AS PRACTICABLE TO ITS ORIGINAL OR BETTER CONDITION.

**PERMANENT DRAIN TILE REPAIR**



January 14, 2026

Dr. Everton Walters  
1816 S Main St  
Lombard, IL 60512

**RE: 3 A SOLAR FARM  
Consultation Program  
EcoCAT Review #2609063  
McHenry County**

Dear Applicant:

The Department has received your submission for this project for the purposes of consultation pursuant to the *Illinois Endangered Species Protection Act* [520 ILCS 10/11], the *Illinois Natural Areas Preservation Act* [525 ILCS 30/17], and Title 17 *Illinois Administrative Code* Part 1075.

The proposed action consists of a ground mounted solar farm in McHenry County.

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

**Illinois Natural Areas Inventory (INAI)**  
**Harvard East Geological Area INAI**

**State Threatened or Endangered Species**  
**Blanding's Turtle (*Emydoidea blandingii*)**

Due to the project scope and proximity to protected resources the Department recommends the following actions be taken to avoid adversely impacting listed species and or protected natural areas in the vicinity of the project:

**Harvard East Geological Area INAI**

The Department has determined adverse impacts to these sites are unlikely.

**Blanding's Turtle**

EcoCAT has indicated records for the state-listed Blanding's Turtle in vicinity of the project area. The Department recommends:

- Work on the project occurs during the turtle's inactive season from approximately November 1<sup>st</sup> to March 1<sup>st</sup>. If work must occur during the active season:
- Educate personnel working on site about the Blanding's Turtle. Post photos of juvenile and adult Blanding's Turtles at a central location. State-listed species may not be handled without the appropriate permits pursuant to the *Illinois Endangered Species Protection Act*.

- Install exclusionary silt fence by the end of March and maintain it through October (if needed) to prevent turtles from entering the construction area. Conduct daily inspections during construction to ensure that exclusionary fencing is properly installed (dug into the ground) and to check if turtles are present.
- Cover trenches at the end of each workday. Before starting each workday, trenches and excavations should be routinely inspected to ensure no turtles (or other amphibians and reptiles) have become trapped within them.
- If Blanding's turtles are encountered, crews should stop work immediately, allow the turtle to move out of the way and contact IDNR at (217) 785-5500.

Given the above recommendations are adopted the Department has determined that impacts to these protected resources are unlikely. The Department has determined impacts to other protected resources in the vicinity of the project location are also unlikely.

*In accordance with 17 Ill. Adm. Code 1075.40(h), please notify the Department of your decision regarding these recommendations.*

Consultation on the part of the Department is closed, unless the applicant desires additional information or advice related to this proposal. Consultation for Part 1075 is valid for two years unless new information becomes available which was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the action has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal and should not be regarded as a final statement on the project being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are unexpectedly encountered during the project's implementation, the applicant must comply with the applicable statutes and regulations.

This letter does not serve as permission to take any listed or endangered species. As a reminder, no take of an endangered species is permitted without an Incidental Take Authorization or the required permits. Anyone who takes a listed or endangered species without an Incidental Take Authorization or required permit may be subject to criminal and/or civil penalties pursuant to the *Illinois Endangered Species Act*, the *Fish and Aquatic Life Act*, the *Wildlife Code* and other applicable authority.

The Department also offers the following conservation measures be considered to help protect native wildlife and enhance natural areas in the project area:

- The Department strongly recommends that the project proponent establish pollinator-friendly habitat as groundcover wherever feasible. Solar Site Pollinator Establishment Guidelines can be found here: <https://dnr.illinois.gov/conservation/pollinatorscorecard.html>
- The site should be de-compacted before planting.
- Long term management of the site should be planned for prior to development to ensure successful native pollinator habitat establishment and prevent the spread of invasive species throughout the lifetime of this project. An experienced ecological management consultant should be hired to assist with long-term management.
- If tree clearing is necessary, the Department recommends removing trees between November 1st and March 31<sup>st</sup> to avoid impacts to the state-listed bats and birds.

If temporary or permanent lighting is required, the Department recommends the following lighting recommendation to minimize adverse effects to wildlife:

- All lighting should be fully shielded fixtures that emit no light upward.
- Only “warm-white” or filtered LEDs (CCT < 3,000 K; S/P ratio < 1.2) should be used to minimize blue emission.
- Only light the exact space with the amount (lumens) needed to meet facility safety requirement.
- If LEDs are to be used, avoid the temptation to over-light based on the higher luminous efficiency of LEDs.

If erosion control blanket is to be used, the Department also recommends that wildlife-friendly plastic-free blanket be used around wetlands and adjacent to natural areas, if not feasible to implement project wide, to prevent the entanglement of native wildlife.

Please contact Isabella Newingham ([Isabella.newingham@illinois.gov](mailto:Isabella.newingham@illinois.gov)) with any questions about this review.

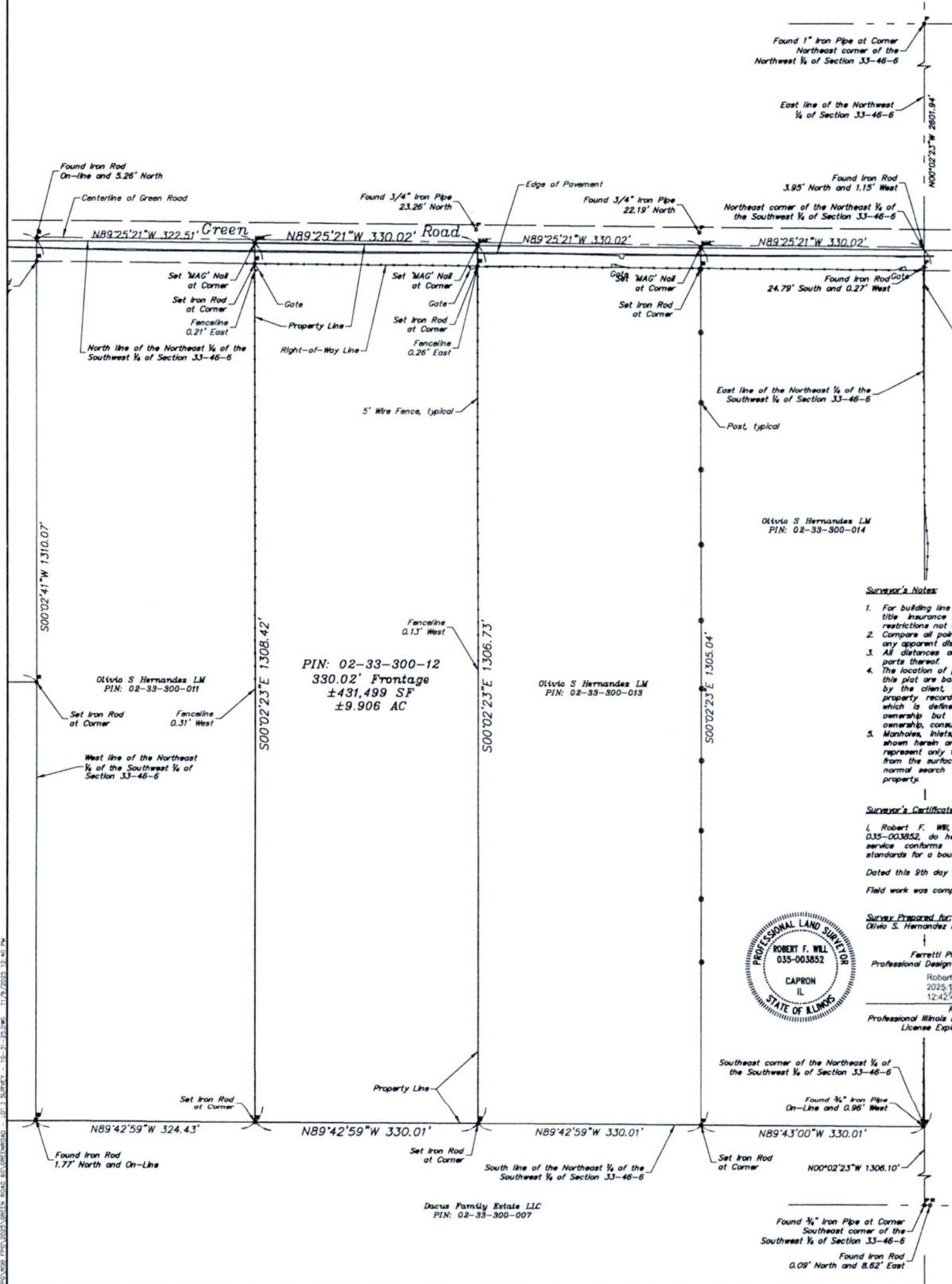
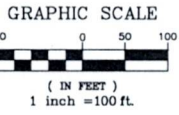
Sincerely,



Bradley Hayes  
Manager, Impact Assessment Section  
Division of Real Estate Services and Consultation  
Office of Realty & Capital Planning  
Illinois Department of Natural Resources  
One Natural Resources Way  
Springfield, IL 62702  
Bradley.Hayes@Illinois.gov  
Phone: (217) 782-0031

# Plat of Survey

The West 330.00 feet of the East 990.00 feet of the Northeast 1/4 of the Southwest 1/4 of Section 33, Township 46 North, Range 6 East of the Third Principal Meridian, in McHenry County, Illinois.



PIN: 02-33-300-12  
330.02' Frontage  
±431,499 SF  
±9.906 AC

Olivia S. Hernandez LM  
PIN: 02-33-300-013

Olivia S. Hernandez LM  
PIN: 02-33-300-011

Dacia Family Estate LLC  
PIN: 02-33-300-007

**Surveyor's Notes**

- For building line restrictions and easements refer to title insurance policy and local ordinances for restrictions not shown.
- Compare all points by same and immediately report any apparent discrepancy.
- All distances are measured in feet and decimal parts thereof.
- The location of property lines shown on the face of this plat are based on information furnished by the client, together with cursory research of property records and field evidence. The parcel which is defined herein may not reflect actual ownership but reflects what was surveyed. For ownership, consult your title company.
- Manholes, inlets, and other utility rims or grates shown herein are from field location of such, and represent only the improvements which were visible from the surface at the time of survey through a normal search and walk through of the surveyed property.

**Surveyor's Certificate**

I, Robert F. Will, Professional Land Surveyor No. 035-003852, do hereby certify that this professional service conforms to the current Illinois minimum standards for a boundary survey.  
Dated this 9th day of November, 2025.  
Field work was completed on November 8, 2025.

**Survey Prepared for:**

Olivia S. Hernandez LM.  
Ferratti Professional Group, Inc.  
Professional Design Firm License No. 184-008961  
Robert F. Will  
2025-11-09-11:44  
12:42:44-05:00  
Robert F. Will  
Professional Illinois Land Surveyor No. 035-003852  
License Expires November 30, 2026



Ferretti Professional Group, Inc.  
Surveying and Engineering  
11207 Angling Road  
Capron, IL 61012  
847-989-6928  
IL Design Firm No. 184-008961



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Plat of Survey  
PIN 02-33-300-012  
Green Road  
Harvard, IL 60033

DRAWN BY: R. WILL	SHEET NUMBER:
CHECKED BY:	1
DATE: 11/9/2025	
FPG PRJ. #	
SCALE: 1" = 100'	OF 1 SHEETS

IN THE MATTER OF THE APPLICATION OF )  
**3A ENERGY LLC, APPLICANT** )  
FOR AN AMENDMENT OF THE UNIFIED DEVELOPMENT ) LEGAL NOTICE OF PUBLIC HEARING  
ORDINANCE OF McHENRY COUNTY, ILLINOIS FOR A ) Z26-0009  
**CONDITIONAL USE** )

Notice is hereby given in compliance with the McHenry County Unified Development Ordinance, that a public hearing will be held before the **McHenry County Zoning Board of Appeals**, in connection with this Ordinance, which would result in a **CONDITIONAL USE** for the following described real estate:

THE WEST 330.00 FEET OF THE EAST 990.00 FEET OF THE NORTHEAST ¼ OF THE SOUTHWEST ¼ OF SECTION 33, TOWNSHIP 46 NORTH, RANGE 6 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN MCHENRY COUNTY, ILLINOIS.

**PIN 02-33-300-012**

The subject property is located on the south side of Green Road approximately three hundred twenty-three (323) feet east of the intersection of Shields and Green Roads, **with a common address Green Road, Harvard, Illinois, in Alden Township.**

The subject property is presently zoned **“A-1” Agriculture District** and consists of approximately **9.906 acres** with **“A-1” Agriculture District zoning to the North, East, South and West.**

The Applicant is requesting a **CONDITIONAL USE of the subject property to allow for a commercial solar energy facility.**

The members of 3A Energy LLC, the applicant, are: Aisha Mamsa, Aamna Mamsa and Ebrahim Mamsa. They can be reached at 1816 Main Street, Lombard, Illinois. The property owner is Aamna Mamsa.

A hearing on this Petition will be held on the 18<sup>th</sup> day of March 2026 at 1:30 P.M. in the County Board conference room at the McHenry County Government Center Administration Building 667 Ware Rd, Woodstock, Illinois at which time and place any person desiring to be heard may be present. The McHenry County Government Center Mailing address is 2200 N. Seminary Avenue, Woodstock, Illinois 60098.

DATED THIS 26<sup>TH</sup> DAY OF FEBRUARY 2026.

By: Linnea Kooistra, Chair  
McHenry County Zoning Board of Appeals  
2200 N. Seminary Avenue  
Woodstock, IL 60098

*Petitions for all Zoning Board of Appeals hearings can be accessed at the following link: [www.mchenrycountyil.gov/county-government/new-meeting-portal](http://www.mchenrycountyil.gov/county-government/new-meeting-portal) and choosing the “Agenda” link for the specific meeting date.*

*Live audio streams of all Zoning Board of Appeals hearings can be accessed at the following link: [www.mchenrycountyil.gov/county-government/new-meeting-portal](http://www.mchenrycountyil.gov/county-government/new-meeting-portal) and choosing the “Video” link for the specific meeting date.*

# **Aquatic Resource Delineation Report Green Road Solar Project**

**Harvard, McHenry County, Illinois**

**Project No. 25-0392**

Prepared For:  
3 A Energy LLC  
1816 Main Street  
Lombard, Illinois 60148

*Hey and Associates, Inc.*

Engineering, Ecology and Landscape Architecture

**Main Office:**

26575 W. Commerce Dr., Ste 601  
Volo, Illinois 60073  
847-740-0888 (phone)  
847-740-2888 (fax)

**Additional Offices:**

Chicago, IL

8755 W. Higgins Rd., Ste 835  
Chicago, Illinois 60631  
773-693-9200 (phone)  
847-740-2888 (fax)

Richland Center, WI

20442 County Highway G  
Richland Center, Wisconsin 53581  
847-740-0888 (phone)  
847-740-2888 (fax)

Illinois Professional Design Firm 184.002429 / Wisconsin Architectural and Engineering License # 2340-11  
Staff licensed to practice in Illinois, Indiana, Iowa, Michigan, and Wisconsin  
IDOT and WisDOT Prequalified

**April 3, 2026**

# Green Road Solar Aquatic Resource Delineation Report

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## Exhibits

- Exhibit 1 – Project Location
- Exhibit 2 – USGS Topographic Map
- Exhibit 3 – National Wetland Inventory
- Exhibit 4 – McHenry County ADID Study
- Exhibit 5 – FEMA Flood Hazard Zones
- Exhibit 6 – USGS Hydrologic Atlas
- Exhibit 7 – NRCS McHenry County Soil Survey
- Exhibit 8 – Aquatic Resources Delineation Map
- Exhibit 9 – Floristic Quality Assessments
- Exhibit 10 – Wetland Determination Data Sheets
- Exhibit 11 – Representative Photographs
- Exhibit 12 – Antecedent Precipitation Tool
- Exhibit 13 – WETS Table – McHenry/Stratton Dam
- Exhibits 14A to 14F – Farmed Wetland Aerials

# Green Road Solar Aquatic Resource Delineation Report

## **Introduction**

A wetland delineation of the project site, as outlined in Exhibit 1, was conducted at the request of 3 A Energy and Kachi Energy. The review area encompasses approximately 9.63 acres and is located along the south side of Green Road, just east of Shields Road in unincorporated McHenry County near Harvard, Illinois. The site is geographically located within Section 33, Township 46 North, Range 6 East of the Third Principal Meridian (Latitude 42.420370, Longitude -88.543691).

The site currently consists of agricultural fields, wooded fence rows, and wetland. The surrounding area is characterized by agricultural land, private open space, and rural residential.

## **Maps and Review Area Information**

Prior to the field investigation, the project area was remotely evaluated to identify potential areas of interest and assess environmental conditions. A review of publicly available online resources was conducted to examine site topography, mapped soils, vegetation patterns, proximity to surface water features (e.g., streams, ditches, or ponds), and the classification of nearby waterways based on stream order. Historical aerial imagery was also reviewed to determine whether the site had experienced any recent or long-term disturbances, or changes in land use. Review of historic aerial photographs from 2010, 2014, 2016, 2018, 2020, 2022, and 2024 which consistently depict the property as being in agricultural land use and fallow/wetland with no significant shifts in vegetation cover or hydrologic features. See Table 1 below for additional information regarding historical aerials.

# Green Road Solar Aquatic Resource Delineation Report

**Table 1: Historical Aerial Review Summary**

Year	Notes
2010	Normal precipitation year, north and southeast portions farmed, remainder wetland/fallow and farmed wetland.
2014	Normal precipitation year, north and southeast portions farmed, remainder wetland/fallow and farmed wetland.
2016	Normal precipitation year, north and southeast portions farmed, remainder wetland/fallow and farmed wetland.
2018	Wet precipitation year though site appears drier than previous normal years; north and southeast portions farmed, remainder wetland/fallow and farmed wetland.
2020	Wet precipitation year, north and southeast portions farmed, remainder wetland/fallow and farmed wetland.
2022	Normal precipitation year, north and southeast portions farmed, remainder wetland/fallow and farmed wetland.
2024	Normal precipitation year, north and southeast portions farmed, remainder wetland/fallow and farmed wetland.

Aerial Sources: Google Earth, ArcOnline – McHenry Co.

The United States Geological Survey (USGS) topographic map did not identify any wetlands, open water bodies, or stream channels within the project boundaries (Exhibit 2). The U.S. Fish & Wildlife Service’s National Wetland Inventory (NWI) map shows one Palustrine Emergent Persistent Seasonally Flooded Partially Drained/Ditched (PEM1Cd) at the southwest corner of the project area (Exhibit 3). The McHenry County ADID Study shows a High Habitat Value wetland extending onto the project site from the west and south (Exhibit 4). The FEMA Flood Hazard Zones map indicates that the project limits are not located within a mapped floodplain or floodway (Exhibit 5). The USGS Hydrologic Atlas does not show a flood of record on the project site but indicates it is in the North Branch Kishwaukee River watershed (Exhibit 6). The Natural Resources Conservation Service (NRCS) Soil Survey McHenry County (Exhibit 7) identified the presence of two hydric soil mapping units within the project limits: Pella silty clay loam, 0 to 2 percent slopes (153A) and Houghton muck, 0-2 percent slopes.

## **Aquatic Resource Delineation Methods**

Wetlands within the project area were delineated on March 30, 2026 by Jeffrey Mengler, PWS, of Hey and Associates, Inc. using a combination of remote sensing techniques and field procedures consistent with the *U.S. Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual* and the *2012 Northcentral and Northeast Regional Supplement*. Level 3

## Green Road Solar Aquatic Resource Delineation Report

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routine wetland determination methodology, as outlined in the 1987 Manual, was applied to this site.

Upon arrival, the entire project area was visually surveyed, with priority given to areas exhibiting vegetation indicative of potential wetland conditions. Areas where wetland plant species appeared to comprise more than 50% of the dominant vegetative cover were noted for further analysis, including verification of hydric soils and wetland hydrology indicators.

Representative data points were collected in both potential wetland and upland areas. Dominant plant species were documented during the field investigation, and additional species lists were compiled to complete USACE wetland determination data forms. Field indicators of hydric soil were assessed based on USACE-accepted criteria, the NRCS *Field Indicators of Hydric Soils in the United States* manual, and other signs of prolonged soil saturation. Wetland hydrology indicators, as described in the regional supplement, were also evaluated at each data point. Hydrologic criteria were confirmed using visual or physical evidence of saturation or inundation consistent with growing season wetness.

To further assess the ecological integrity of the wetland areas, a Floristic Quality Assessment (FQA) was performed following the methodology outlined in *Swink and Wilhelm's Plants of the Chicago Region* (1994) and updated by *Wilhelm and Rericha's Flora of the Chicago Region* (2017). Each plant species observed was assigned a coefficient of conservatism, which reflects its fidelity to natural habitat conditions. These coefficients were used to calculate the Floristic Quality Index (FQI) for each delineated wetland. FQI values provide a quantitative assessment of vegetative quality: scores between 1–19 indicate low-quality vegetation, 20–35 indicate high-quality vegetation, and scores above 35 are generally representative of “Natural Area” quality.

Wetland flags and data points were surveyed using a Trimble R1 external GNSS receiver with <50cm horizontal accuracy. Data was uploaded using ArcGIS Field Maps and wetland boundaries and areas are calculated using ArcGIS Pro software.

# Green Road Solar Aquatic Resource Delineation Report

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## **Farmed Wetland Determination Methods**

Due to modifications to the Memorandum of Agreement between the USACE and the U.S. Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS), farmed wetland delineations are no longer conducted by NRCS for purposes unrelated to the implementation of the Farm Bill. As a result, the farmed wetland determination was conducted by Hey and Associates, Inc. using USDA-NRCS methodology in conjunction with applicable USACE permitting guidance. A minimum of five years of growing season aerial imagery from years classified as having normal precipitation—based on WETS (Wetland Climate Analysis) tables were reviewed. The nearest WETS station with adequate data for this site was McHenry Stratton Lock/Dam (Exhibit 13). Aerial imagery from normal precipitation years 2010, 2014, 2016, 2022, 2024 was analyzed using GIS software to identify photographic signatures such as persistent ponding, delayed or failed planting, and crop stress. Supplemental imagery from wet precipitation years, including 2018 was also reviewed (Exhibits 14A-14F). Areas were identified as potential farmed wetlands (PFW) if they exhibited wet signatures or crop failure. A PFW was determined to be a farmed wetland only if these indicators appeared in a majority of the normal years reviewed.

Soil conditions were evaluated using NRCS Web Soil Survey, and mapped soil types such as Pella silty clay loam and Houghton muck were cross-referenced for hydric soil classification based on USDA hydric soil criteria. Field investigation included spot soil sampling at representative locations to verify the presence of hydric soil indicators where necessary.

Site drainage features were reviewed using GIS layers and field observations, including surface ditches, swales, or visible tile drainage networks. No onsite drainage features were observed. A large wetland complex was observed on the parcel to the west, and a pond with a wetland fringe to the south.

## **Weather Data**

March 30, 2026, the date of the field visit, was partly sunny and unseasonably warm (77°F). The 72 hours prior to the field visit had spring thunderstorms and seasonable temperatures.

## **Green Road Solar Aquatic Resource Delineation Report**

Last rainfall prior to the field observations was 0.12 inches on March 27, 2026, according to the nearest weather station, Woodstock, Illinois.

Antecedent moisture conditions within the 90 days prior to field work were evaluated using the USACE Antecedent Precipitation Tool (APT), which determined that the three-month period prior to the field visit fell within a normal precipitation range during a moderate drought period (Exhibit 12).

### **Aquatic Resource Delineation Results**

The wetland and waters boundaries are shown on an aerial photograph in Exhibit 8, as surveyed in March 2026. The Floristic Quality Assessments (FQAs) for the wetland areas are provided in Exhibit 9. Additionally, the USACE data forms for wetland and upland areas are presented in Exhibit 10. Representative color photographs of the upland and wetland/waters areas are provided in Exhibit 11. The delineated wetlands are summarized in Table 2.

# Green Road Solar Aquatic Resource Delineation Report

**Table 2: Wetlands Summary.**

Wetland	Latitude	Longitude	Area (acres)	Native FQI <sup>1</sup>	Native Mean C <sup>2</sup>	McHenry County ADID	USACE Chicago District HQAR <sup>3</sup>	Vegetative Community Type	Cowardin Code <sup>4</sup>	Dominant Vegetation
1	42.420352	-88.543801	2.47	6.68	1.79	High Habitat Value	Yes	Emergent Marsh	PEM	Reed Canary Grass ( <i>Phalaris arundinacea</i> ) Sandbar willow ( <i>Salix interior</i> )
FARMED WETLAND 1	42.421385	-88.543815	0.11	n/a	n/a	No	No	Farmed Wetland	POW	n/a farmed
<p>1 The Floristic Quality Index (FQI) is an indication of native vegetative quality for an area: generally 1-19 indicates low vegetative quality, 20-35 indicates high vegetative quality and above 35 indicates "Natural Area" quality.                  2 The Native Mean C is an indication of native vegetative quality for an area. Areas with value of 3.5 or greater are considered high quality.                  3 High Quality Aquatic Resources, January 8, 2026, received from USACE Chicago District                  4 PEM = palustrine emergent, POW = palustrine open water</p>										

# Green Road Solar Aquatic Resource Delineation Report

Wetland 1 is an emergent wetland with some areas of shrub/scrub. A wooded fencerow along its eastern edge had been recently cut down and removed at the time of the field delineation. In addition, some of the woody vegetation within the wetland had also been cut down. Much of the herbaceous vegetation was matted down from snow cover over the winter. The wetland extends off site to the west. It is of low floristic quality and low functional value based on the field conditions observed. Drainage flows offsite to the west.

An assessment of the aquatic resources within the project limits was conducted to determine whether they meet the criteria for high quality under current federal and county definitions. Wetland 1 meets the definition for high quality because they are located within an ADID high habitat wetland (Exhibit 4).

## Farmed Wetland Determination Results

The Farmed Wetland Determination was conducted using a WETS Table from the McHenry Stratton Dam reporting station and growing season aerial photographs. One area was investigated as a Potential Farmed Wetlands (PFW) using the growing season aerial photographs. Table 3 summarizes the evaluation of all PFWs identified.

**Table 3: Potential Farmed Wetland Aerial Review Summary**

Potential Farmed Wetland	2010 Normal	2014 Normal	2016 Normal	2018 Wet	2022 Normal	2024 Normal	Hydric	Farmed Wetland
PFW1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

PFW1 was present in five of five normal precipitation years and in the wet reference year, indicating it is a farmed wetland. It is located in the northern part of the project site in an area mapped as hydric soil (Pella). examined. The Antecedent Precipitation Tool resulted in a finding that the previous three months to the March 2026 field visit were normal precipitation conditions (Exhibit 12). The area was ponded with a fringed of emergent vegetation and crop residue during the field inspection.

# Green Road Solar Aquatic Resource Delineation Report

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## Potential Regulatory Requirements & Conclusions

Permits for impacts to federal jurisdiction wetlands and surface waters in McHenry County are issued by the USACE under Section 404 of the Clean Water Act. Depending on the jurisdictional status of the wetlands and waters identified within the project area, as well as the nature and extent of proposed impacts, additional coordination or authorization may be required from other regulatory agencies. These agencies may include the U.S. Fish and Wildlife Service, the Illinois Environmental Protection Agency, the Illinois Department of Natural Resources, the Illinois State Historic Preservation Office, and McHenry County.

Based on our understanding of the site and knowledge of current wetland regulations, it is our professional opinion that Wetland 1 and Farmed Wetland 1 are not under federal jurisdiction but are isolated waters of McHenry County. While they are in the Kishwaukee River watershed and there is a small tributary south of the project site, there is no apparent continuous surface water connection from the site to the Kishwaukee River. The final determination regarding jurisdictional status can only be made by the USACE in an Approved Jurisdictional Determination (AJD). Currently, a stand-alone jurisdictional determination request is the lowest priority for the USACE, in the absence of a permit application.

It is important to note that this report and the aquatic resource delineation are time sensitive. Field delineations approved by the USACE are generally valid for five years. Wetland and waters boundaries may change as a result of time of year the delineation is conducted, climatic conditions, changes in hydrology, and changes in land use on adjacent parcels, among other factors. The wetland delineation exhibits and results presented in this report are based on the conditions at the time of the field visit and current methodology to delineate wetlands.

Wetlands and waters identified within the project area may not be filled or otherwise impacted without appropriate permit authorization. No work which would result in impacts to wetlands/waters should be undertaken unless approval from the relevant regulatory authorities is first obtained.

# Green Road Solar Aquatic Resource Delineation Report

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## References

- Federal Geographic Data Committee. 2013. *Classification of Wetlands and Deepwater Habitats of the United States Wetlands* (FGDC-STD-004-2013. Second Edition.). Wetlands Subcommittee.
- Natural Resources Conservation Service, United States Department of Agriculture. 2010. *National food security act manual. (5th ed., as amended)*.
- Natural Resources Conservation Service, United States Department of Agriculture. 2021. Title 210 National Engineering Handbook. Part 650 Engineering Field Handbook. Chapter 19 Hydrology Tools for Wetland Identification and Analysis. (210-650-H, 2nd Edition, Feb 2021).
- Natural Resources Conservation Service, United States Department of Agriculture, & National Technical Committee for Hydric Soils. 2024. *Field Indicators of Hydric Soils in the United States: Vol. Version 9.0* (A Guide for Identifying and Delineating Hydric Soils).
- Swink, F., and Wilhelm, G. 1994. *Plants of the Chicago Region*. Indiana Academy of Science.
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- U.S. Army Corps of Engineers. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (ERDC/EL TR-12-1). U.S. Army Engineer Research and Development Center.
- U.S. Army Corps of Engineers. 2022. *National Wetland Plant List*, version 3.6. <https://wetland-plants.sec.usace.army.mil/>

# Green Road Solar Aquatic Resource Delineation Report

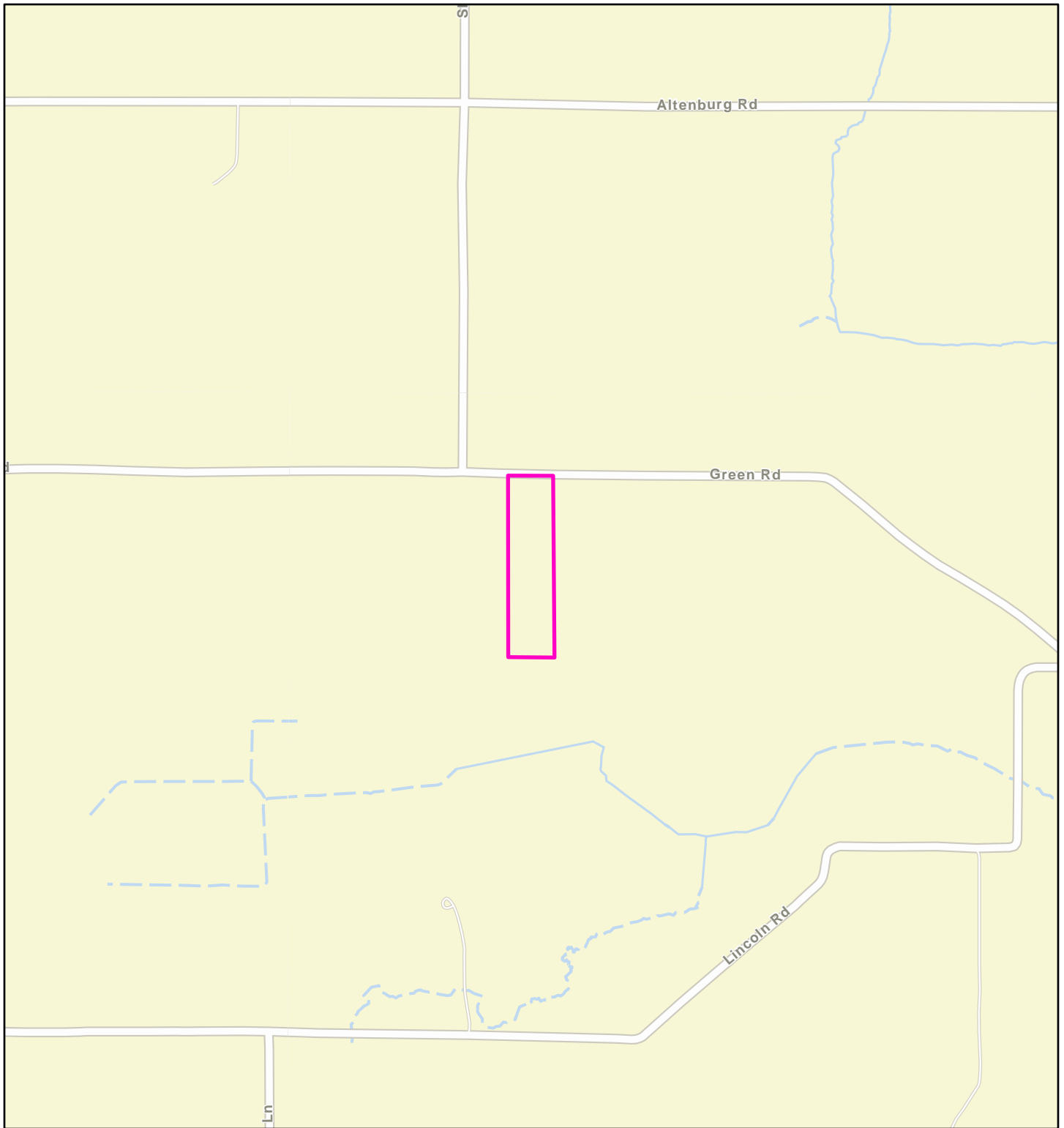
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U.S. Army Corps of Engineers. 2025. *National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams (Final Version)* (ERDC/CRREL TR-25-1). U.S. Army Engineer Research and Development Center. <https://doi.org/10.21079/11681/49526>

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Wilhelm, G. and L. Rericha. 2017. *Flora of the Chicago Region: a floristic and ecological synthesis*. Conservation Research Institute (Cedarburg, WI), Forest Preserve District of Cook County, and Chicago Botanic Garden, Indiana Academy of Science.



Scale:



Project Number: 25-0392

Project Area Acreage: 9.63

Prepared by:

Orientation:



Date: 3/9/2026

Legend:

 Project Boundary

Project Name:

Green Rd - Harvard

Prepared for:

3A Energy

Location Information:

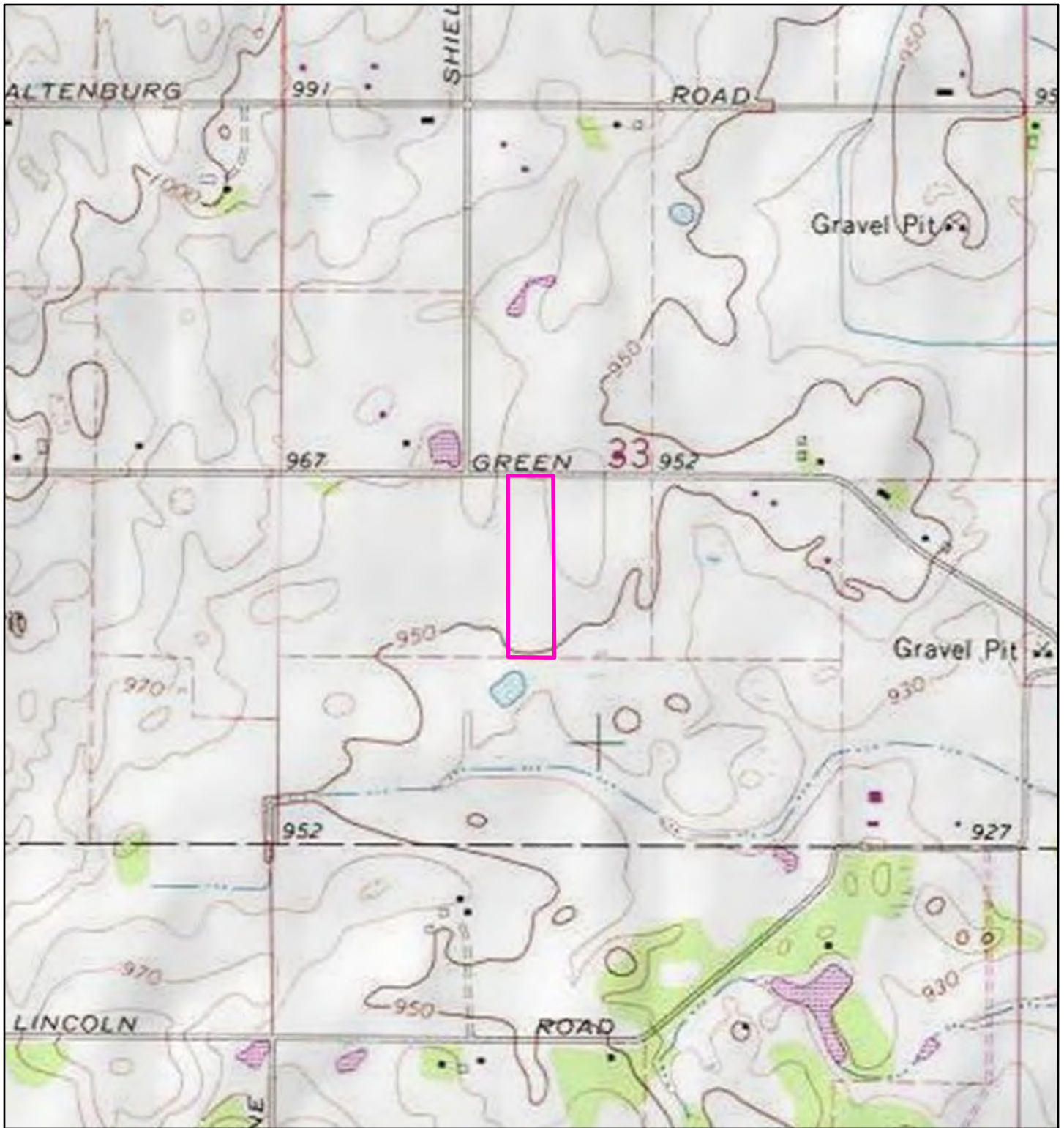
T.46N, R.6E, Sect on 33

Exhibit Title:

Project Location

Exhibit

1



Scale:



Project Number: 25-0392

Prepared by:

Orientat on:



Date: 3/9/2026

Legend:

 Project Boundary

Project Name:

Green Rd - Harvard

Prepared for:

3A Energy

Locat on Informat on:

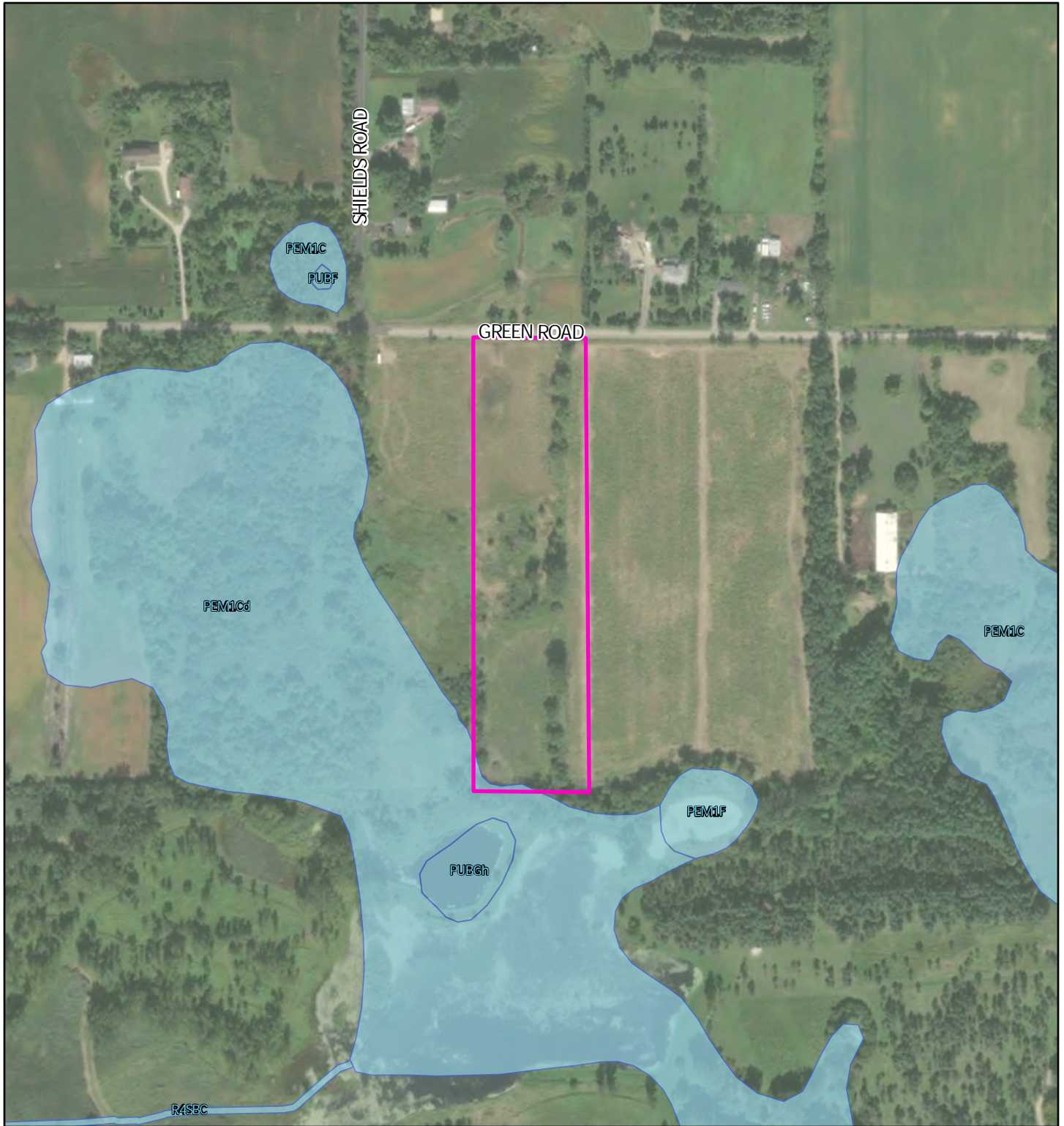
Harvard III Quadrangle

Exhibit Title:

USGS Topographic Map

Exhibit

2



Scale:



Project Number: 25-0392

Orientation:



Date: 3/10/2026

Legend:

- Project Boundary
- National Wetland Inventory

Project Name:

Green Rd - Harvard

Prepared for:

3A Energy

Location Information:

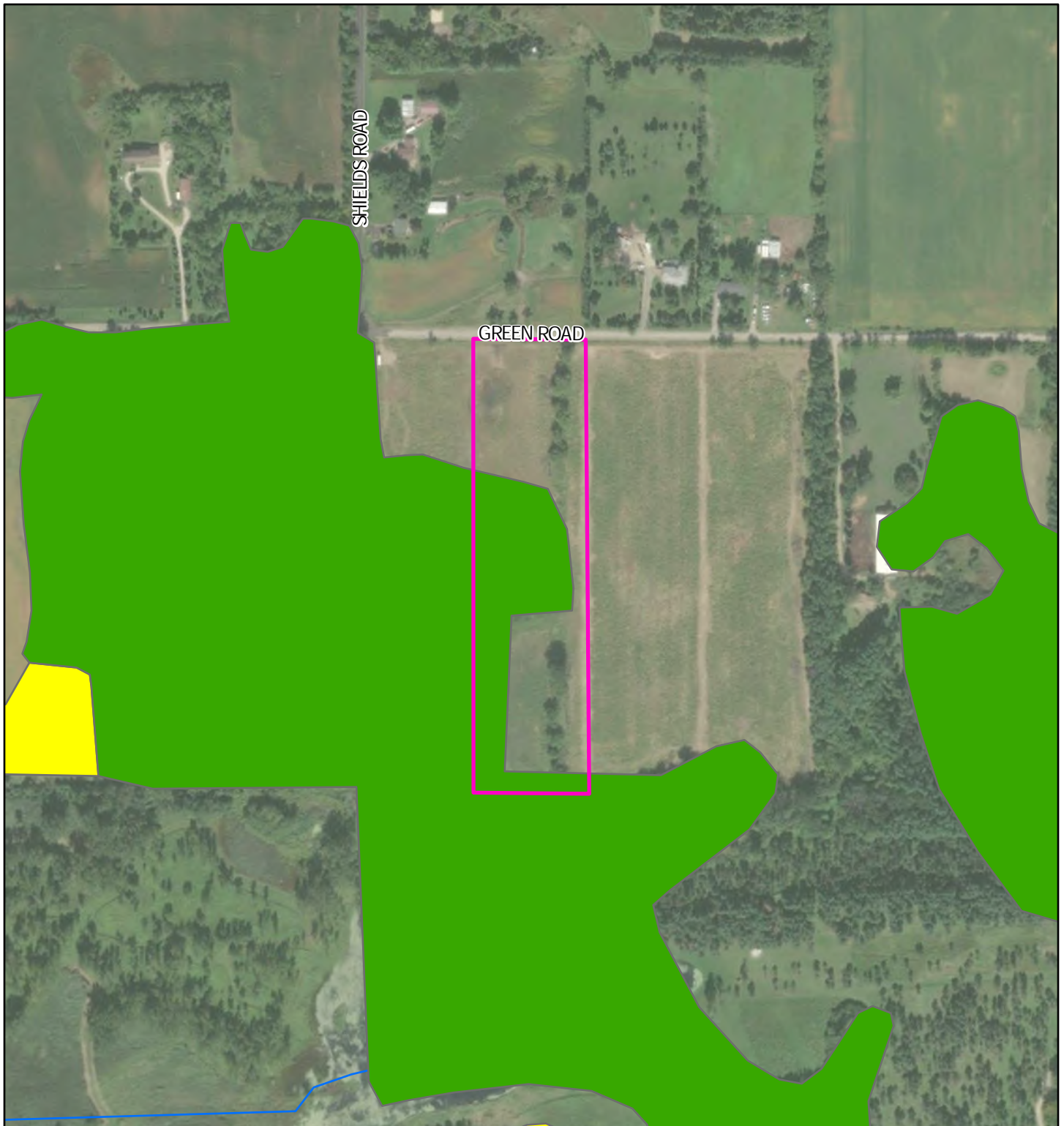
Harvard III Quadrangle

Exhibit Title:

National Wetland Inventory

Exhibit:

3



Scale:



Project Number: 25-0392










Prepared by:

Orientat on:



Date: 3/10/2026

Legend:

-  Project Boundary
-  ADID High Habitat Value
-  ADID High Functional Value
-  Wetland
-  Farmed Wetland
-  Lake High Quality
-  Lake
-  ADID High Quality River/Stream
-  River/Stream

Project Name:

Green Rd - Harvard

Prepared for:

3A Energy

Study Date:

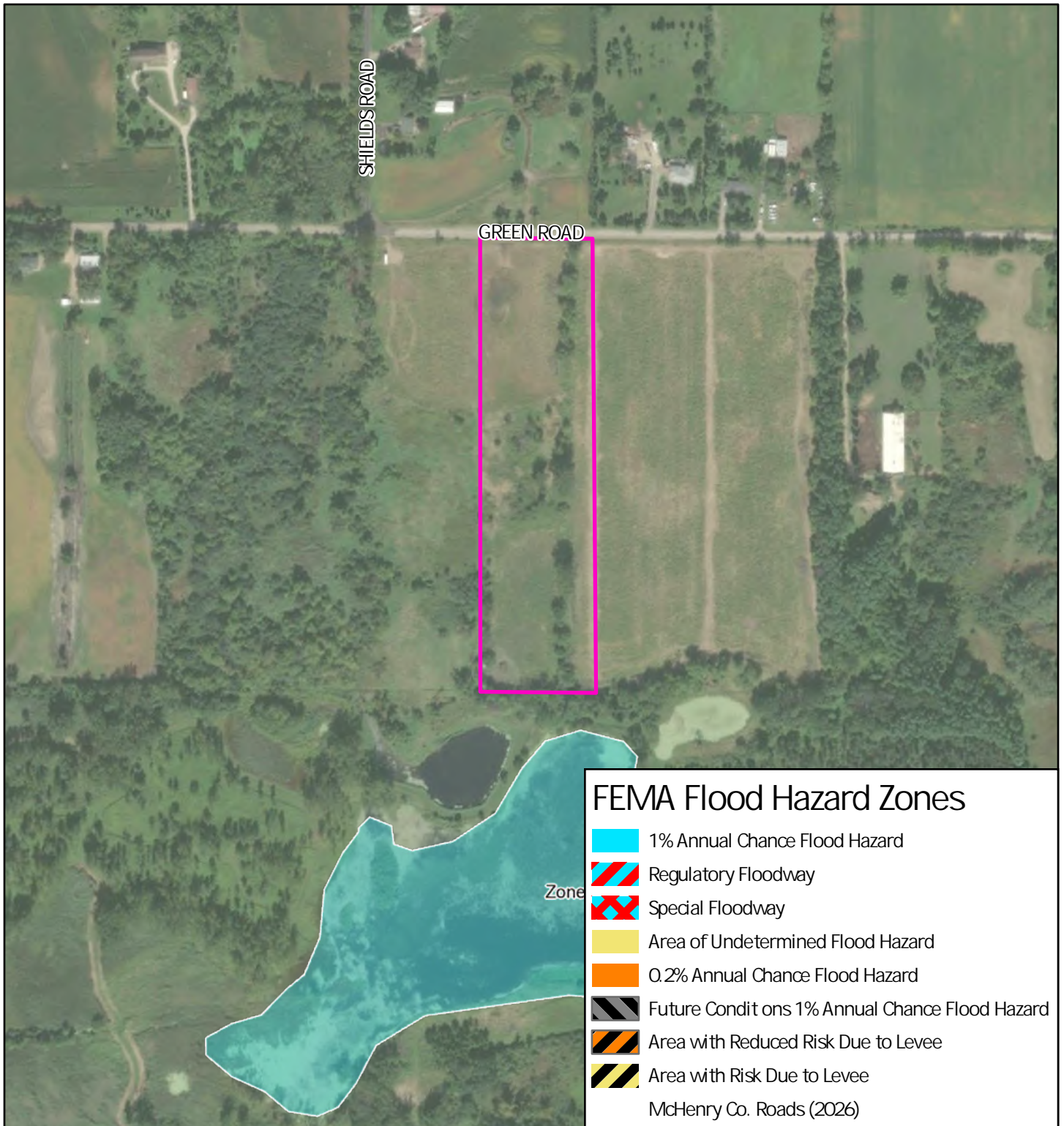
1998

Exhibit Title:









McHenry County ADID Study

Exhibit:

4



### FEMA Flood Hazard Zones

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

McHenry Co. Roads (2026)

Scale:



Orientation:



Legend:

 Project Boundary

Project Name:

Green Rd - Harvard

Prepared for:

3A Energy

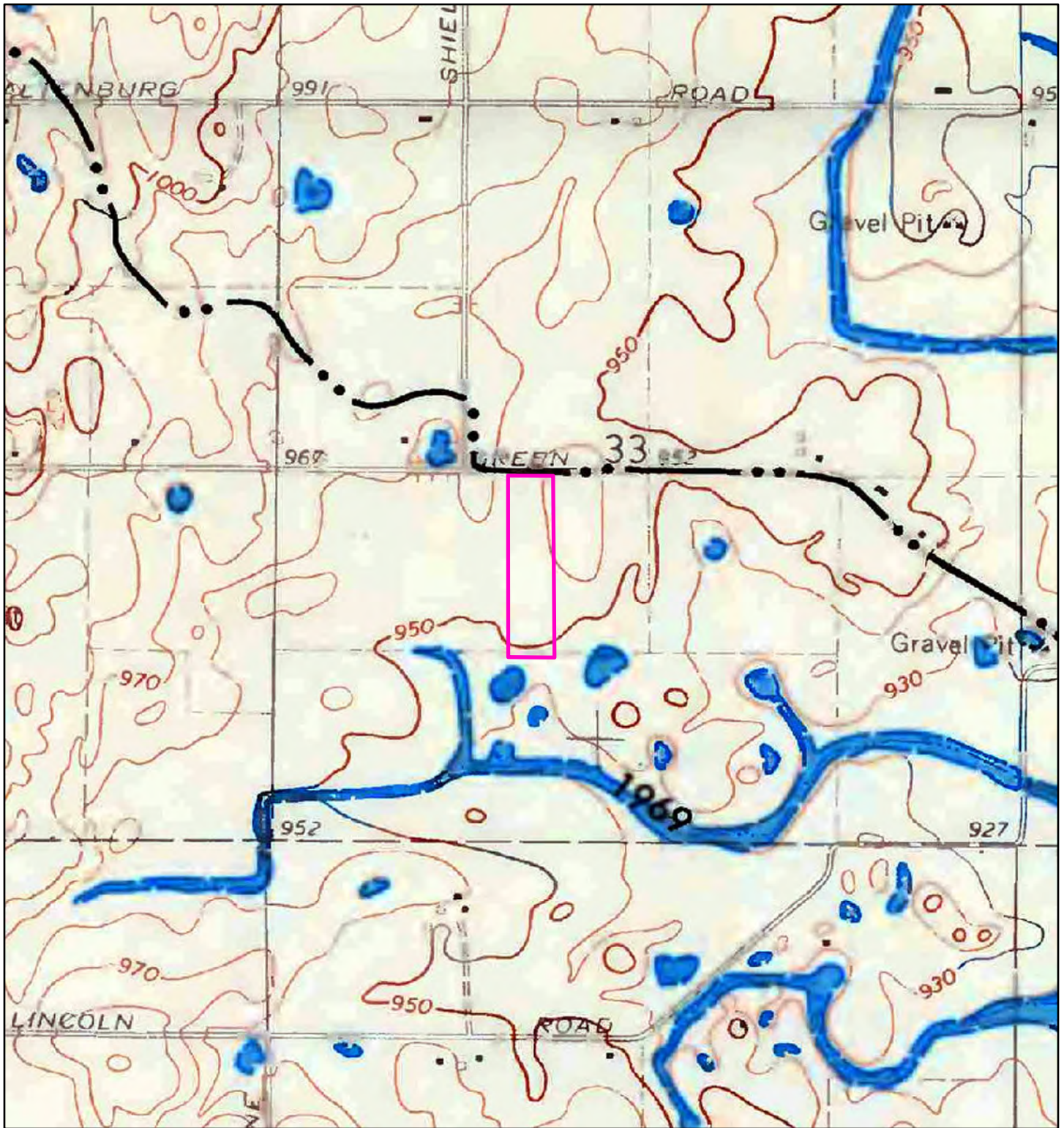
Project Number: 25-0392

Date: 3/10/2026

Effective Date:

10/2/2009

Prepared by:



Scale:



Project Number: 25-0392

Prepared by:

Orientation:



Date: 3/10/2026

Legend:

 Project Boundary

Project Name:

Green Rd - Harvard

Prepared for:

3A Energy

Hydrologic Atlas Date:

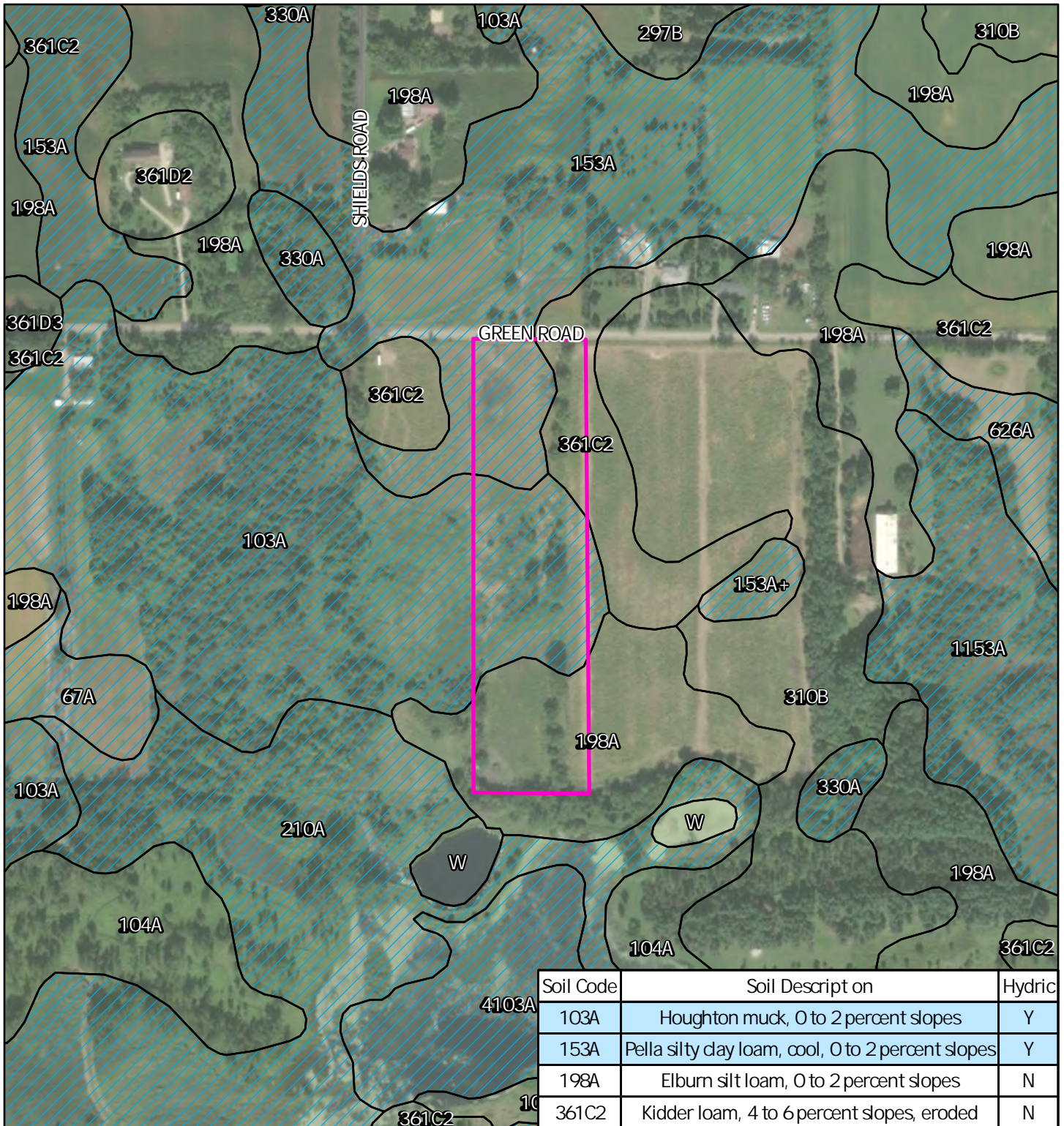
1973

Exhibit Title:

USGS Hydrologic Atlas

Exhibit

6



Soil Code	Soil Description	Hydric
103A	Houghton muck, 0 to 2 percent slopes	Y
153A	Pella silty clay loam, cool, 0 to 2 percent slopes	Y
198A	Elburn silt loam, 0 to 2 percent slopes	N
361C2	Kidder loam, 4 to 6 percent slopes, eroded	N

Scale:



Project Number: 25-0392

Prepared by:

Orientation:



Date: 3/10/2026

Legend:

- Project Boundary
- Soils Units
- Hydric Soils

Project Name:

Green Rd - Harvard

Prepared for:

3A Energy

Soil Survey Date:

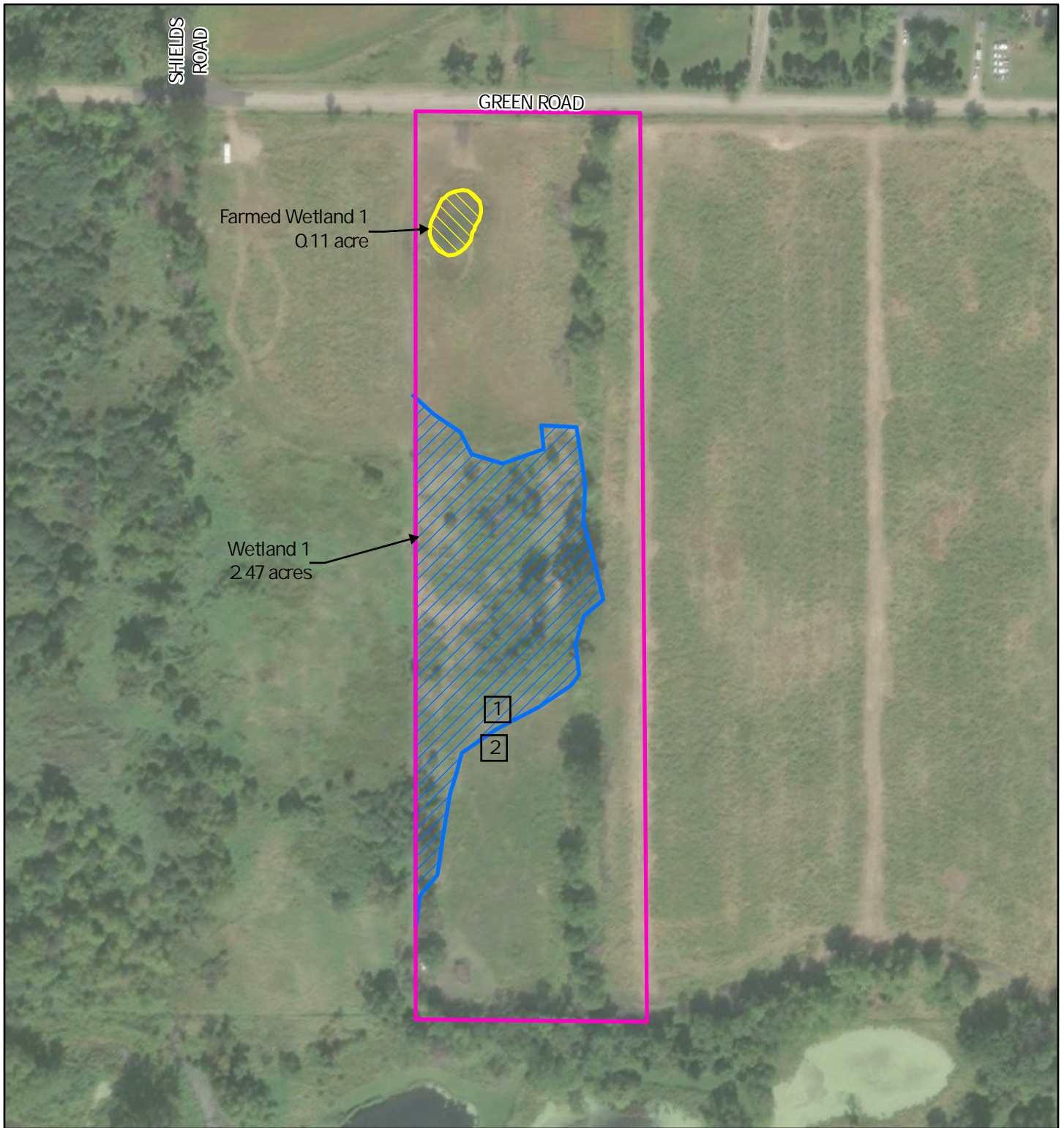
2026

Exhibit Title:

NRCS McHenry Co. Soil Survey

Exhibit:

7



Scale:



Project Number: 25-0392

Prepared by:

Orientation:



Date: 3/31/2026

Legend:

- Project Boundary
- Surveyed Wetland Boundary
- Off-site Surveyed Wetland Boundary
- Farmed Wetland Boundary
- X Data Point Locations

Project Name:

Green Rd - Harvard

Prepared for:

3A Energy

Aerial Date:

2024

Exhibit Title:

Aquatic Resources Delineation Map 8

Exhibit:

The following plant species inventory and floristic quality analysis, prepared by Hey and Associates, Inc., was prepared using the U.S. Army Corps of Engineers Chicago FQA Calculator Version 11, November 2017. It is cited as Herman, B., Sliwinski, R. and S. Whitaker. 2017. Chicago Region FQA (Floristic Quality Assessment) Calculator. U.S. Army Corps of Engineers, Chicago, IL.

Floristic Quality Assessment (FQA) provides a standardized way to rapidly assess the condition of a vegetated area based on the plant species that are present. FQA works by assigning each plant species a value from 0 to 10. This value is called a Coefficient of Conservatism, or C Value. Values of 0 indicate species that are highly tolerant of human activities and have general environmental needs, while higher values represent higher fidelity to a specific habitat and low tolerance to anthropogenic disturbances. Generally, C values are assigned to either an entire inventory or selected plant species in a region, which may be an entire state (e.g., IN), biome (e.g., Interior Plateau), or specific location (e.g., Middle Rio Grande floodplain) by a group of expert regional botanists. As a result, there are numerous regional FQA databases of flora and their associated C Values covering various geographic areas.

In 2022, published, accessible (e.g., Universal FQA Calculator or via Google search with key terms) regional FQA databases were reviewed by the U.S. Army Engineer Research and Development Center's Environmental Laboratory for use during the planning phase of water resource projects. FQA databases that had clear documentation of their methodology of assigning and testing/validating their C Values were recommended for planning model certification. Then the U.S. Army Corps of Engineers' Center of Ecosystem Restoration Expertise certified recommended regional FQA databases for USACE planning purposes. Certified regional FQA databases have been compiled and made available for rapid and consistent calculation of FQA metrics within this web application. Note that *some* of the certified regional FQA databases have been altered slightly from their initial lists to reduce redundancies, indicate which species names are synonyms, or otherwise clarify the data. For a full description of data alterations, see Herman et al., 2023.

Common floristic quality metrics include Mean C (the mean of C Values for all species present in an inventory or along a transect) and the Floristic Quality Index (FQI, the Mean C multiplied by the square root of the total number of species).

This analysis used the Chicago Region 2017 database as cited above and the online USACE FQA calculator. The output has been put into a tabular easy to read form for this report.

The information above the species list provides analysis of the vegetative quality of the site. It shows the total number of species present (species richness), the mean coefficient of conservatism (Mean C), the index (FQI), and mean wetness; calculated separately for native species only and including the adventive species. If the FQAI of an area registers in the middle 30s or higher, one can be relatively certain that there is sufficient native character to be of rather profound environmental importance in terms of a regional natural area prospective. The wetness datum indicates the mean wetness coefficient for all species present, natives only and then with adventives.

Wetland 1, Green Road Solar Site, Harvard, McHenry County, Illinois  
 Jeffrey Mengler, PWS  
 3/30/2026

metrics	values
Total Species Richness	20
Native Species Richness	14
Introduced Species Richness	6
% of Species with no C Value	0
% of Species with 0 C Value	55
% of Species with 1-3 C Value	25
% of Species with 4-6 C Value	20
% of Species with 7-10 C Value	0
Mean C	1.25
Native Mean C	1.79
Total FQI	5.59
Native FQI	6.68
Adjusted FQI	14.94
Mean Wetness	-0.25
Native Mean Wetness	-0.36
% Hydrophytes	45

Physiognomy Metrics		
physiognomy	number	percent
forb	9	45
grass	2	10
sedge	1	5
shrub	6	30
tree	1	5
vine	1	5
rush	0	0
fern	0	0
bryophyte	0	0

Duration Metrics		
duration	number	percent
annual	3	15
biennial	1	5
perennial	16	80

Species Entered

acronym	name	name_origin	accepted_scientific_name	family	nativity	c	w	wetland_indicator	physiognomy	duration	common_name
SETFAB	SETARIA FABERI	accepted_scientific_name	Setaria faberi	POACEAE	introduced	0	1	FACU	grass	annual	Japanese Bristle Grass
SCIFLU	BOLBOSCHOENUS FLUVIATILIS	synonym	Schoenoplectus fluviatilis	CYPERACEAE	native	4	-2	OBL	sedge	perennial	River Club-Rush
JUNDUD	JUNCUS DUDLEYI	accepted_scientific_name	Juncus dudleyi	JUNCACEAE	native	2	-1	FACW	forb	perennial	Dudley's Rush
SALINT	SALIX INTERIOR	accepted_scientific_name	Salix interior	SALICACEAE	native	2	-1	FACW	shrub	perennial	Sandbar Willow
RHACAT	RHAMNUS CATHARTICA	accepted_scientific_name	Rhamnus cathartica	RHAMNACEAE	introduced	0	0	FAC	shrub	perennial	European Buckthorn
PRUSER	PRUNUS SEROTINA	accepted_scientific_name	Prunus serotina	ROSACEAE	native	0	1	FACU	shrub	perennial	Black Cherry
AMBTRI	AMBROSIA TRIFIDA	accepted_scientific_name	Ambrosia trifida	ASTERACEAE	native	0	0	FAC	forb	annual	Great Ragweed
TAROFF	TARAXACUM OFFICINALE	accepted_scientific_name	Taraxacum officinale	ASTERACEAE	introduced	0	1	FACU	forb	perennial	Common Dandelion
SAMCAN	SAMBUCUS NIGRA SSP. CANADENSIS	accepted_scientific_name	Sambucus nigra ssp. canadensis	CAPRIFOLIACEAE	native	4	0	FAC	shrub	perennial	Black Elder
ROSMUL	ROSA MULTIFLORA	accepted_scientific_name	Rosa multiflora	ROSACEAE	introduced	0	1	FACU	shrub	perennial	Rambler Rose

acronym	name	name_origin	accepted_scientific_name	family	nativity	c	w	wetland_indicator	physiognomy	duration	common_name
PHAARU	PHALARIS ARUNDINACEA	accepted_scientific_name	Phalaris arundinacea	POACEAE	introduced	0	-1	FACW	grass	perennial	Reed Canary Grass
VITRIP	VITIS RIPARIA	accepted_scientific_name	Vitis riparia	VITACEAE	native	1	-1	FACW	vine	perennial	River-Bank Grape
ACENEG	ACER NEGUNDO	accepted_scientific_name	Acer negundo	ACERACEAE	native	0	0	FAC	tree	perennial	Ash-Leaf Maple
CIRDIS	CIRSIIUM DISCOLOR	accepted_scientific_name	Cirsium discolor	ASTERACEAE	native	3	1	FACU	forb	biennial	Field Thistle
CORRAC	CORNUS RACEMOSA	accepted_scientific_name	Cornus racemosa	CORNACEAE	native	1	0	FAC	shrub	perennial	Gray Dogwood
SOLGIG	SOLIDAGO GIGANTEA	accepted_scientific_name	Solidago gigantea	ASTERACEAE	native	4	-1	FACW	forb	perennial	Late Goldenrod
ASCSYR	ASCLEPIAS SYRIACA	accepted_scientific_name	Asclepias syriaca	ASCLEPIADACEAE	native	0	1	FACU	forb	perennial	Common Milkweed
POLPEN	POLYGONUM PENNSYLVANICUM	synonym	Persicaria pensylvanica	POLYGONACEAE	native	0	-1	FACW	forb	annual	Pinkweed
TYPGLA	TYPHA X GLAUCA	accepted_scientific_name	Typha X glauca	TYPHACEAE	introduced	0	-2	OBL	forb	perennial	Hybrid Cat-Tail
HELGRO	HELIANTHUS GROSSESERRATUS	accepted_scientific_name	Helianthus grosseserratus	ASTERACEAE	native	4	-1	FACW	forb	perennial	Saw-Tooth Sunflower

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Project Number: 25-0392

Project Name:  
**Green Rd - Harvard**

***Hey and Associates, Inc.***  
Engineering, Ecology and Landscape Architecture

Exhibit Title: **Wetland Determination Data Sheets** Exhibit: **10**

Project/Site: Green Road Solar Site City/County: Harvard / McHenry County Sampling Date: 3/30/2026  
 Applicant/Owner: 3 A Energy ? Kachi Energy State: IL Sampling Point: 1  
 Investigator(s): J. Mengler Section, Township, Range: section 33, T46N, R6E  
 Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): flat Slope %: <1%  
 Subregion (LRR or MLRA): LRR K, MLRA 94A Lat: 42.419505 Long: -88.543593 Datum: WGS84  
 Soil Map Unit Name: Houghton muck (103A) NWI classification: none  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation     , Soil     , or Hydrology      naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u> If yes, optional Wetland Site ID: <u>    </u>
Remarks: (Explain alternative procedures here or in a separate report.)	

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators</u> (minimum of one is required; check all that apply) <table style="width:100%; border: none;"> <tr> <td><u>    </u> Surface Water (A1)</td> <td><u>    </u> Water-Stained Leaves (B9)</td> </tr> <tr> <td><u>    </u> High Water Table (A2)</td> <td><u>    </u> Aquatic Fauna (B13)</td> </tr> <tr> <td><u>X</u> Saturation (A3)</td> <td><u>    </u> Marl Deposits (B15)</td> </tr> <tr> <td><u>    </u> Water Marks (B1)</td> <td><u>    </u> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><u>    </u> Sediment Deposits (B2)</td> <td><u>    </u> Oxidized Rhizospheres on Living Roots (C3)</td> </tr> <tr> <td><u>    </u> Drift Deposits (B3)</td> <td><u>X</u> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><u>    </u> Algal Mat or Crust (B4)</td> <td><u>    </u> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><u>    </u> Iron Deposits (B5)</td> <td><u>    </u> Thin Muck Surface (C7)</td> </tr> <tr> <td><u>    </u> Inundation Visible on Aerial Imagery (B7)</td> <td><u>    </u> Other (Explain in Remarks)</td> </tr> <tr> <td><u>    </u> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<u>    </u> Surface Water (A1)	<u>    </u> Water-Stained Leaves (B9)	<u>    </u> High Water Table (A2)	<u>    </u> Aquatic Fauna (B13)	<u>X</u> Saturation (A3)	<u>    </u> Marl Deposits (B15)	<u>    </u> Water Marks (B1)	<u>    </u> Hydrogen Sulfide Odor (C1)	<u>    </u> Sediment Deposits (B2)	<u>    </u> Oxidized Rhizospheres on Living Roots (C3)	<u>    </u> Drift Deposits (B3)	<u>X</u> Presence of Reduced Iron (C4)	<u>    </u> Algal Mat or Crust (B4)	<u>    </u> Recent Iron Reduction in Tilled Soils (C6)	<u>    </u> Iron Deposits (B5)	<u>    </u> Thin Muck Surface (C7)	<u>    </u> Inundation Visible on Aerial Imagery (B7)	<u>    </u> Other (Explain in Remarks)	<u>    </u> Sparsely Vegetated Concave Surface (B8)		<u>Secondary Indicators</u> (minimum of two required) <table style="width:100%; border: none;"> <tr> <td><u>    </u> Surface Soil Cracks (B6)</td> </tr> <tr> <td><u>X</u> Drainage Patterns (B10)</td> </tr> <tr> <td><u>    </u> Moss Trim Lines (B16)</td> </tr> <tr> <td><u>    </u> Dry-Season Water Table (C2)</td> </tr> <tr> <td><u>    </u> Crayfish Burrows (C8)</td> </tr> <tr> <td><u>    </u> Saturation Visible on Aerial Imagery (C9)</td> </tr> <tr> <td><u>    </u> Stunted or Stressed Plants (D1)</td> </tr> <tr> <td><u>    </u> Geomorphic Position (D2)</td> </tr> <tr> <td><u>    </u> Shallow Aquitard (D3)</td> </tr> <tr> <td><u>    </u> Microtopographic Relief (D4)</td> </tr> <tr> <td><u>X</u> FAC-Neutral Test (D5)</td> </tr> </table>	<u>    </u> Surface Soil Cracks (B6)	<u>X</u> Drainage Patterns (B10)	<u>    </u> Moss Trim Lines (B16)	<u>    </u> Dry-Season Water Table (C2)	<u>    </u> Crayfish Burrows (C8)	<u>    </u> Saturation Visible on Aerial Imagery (C9)	<u>    </u> Stunted or Stressed Plants (D1)	<u>    </u> Geomorphic Position (D2)	<u>    </u> Shallow Aquitard (D3)	<u>    </u> Microtopographic Relief (D4)	<u>X</u> FAC-Neutral Test (D5)
<u>    </u> Surface Water (A1)	<u>    </u> Water-Stained Leaves (B9)																															
<u>    </u> High Water Table (A2)	<u>    </u> Aquatic Fauna (B13)																															
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<b>Field Observations:</b> Surface Water Present? Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Water Table Present? Yes <u>    </u> No <u>X</u> Depth (inches): <u>    </u> Saturation Present? Yes <u>X</u> No <u>    </u> Depth (inches): <u>12</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <u>X</u> No <u>    </u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION** – Use scientific names of plants.

Sampling Point: 1

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
7.	_____	_____	_____	
	=Total Cover			
<b>Sapling/Shrub Stratum</b> (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
7.	_____	_____	_____	
	=Total Cover			
<b>Herb Stratum</b> (Plot size: <u>1 m sq</u> )				
1.	<u><i>Typha X glauca</i></u>	20	Yes	OBL
2.	<u><i>Phalaris arundinacea</i></u>	30	Yes	FACW
3.	<u><i>Solidago gigantea</i></u>	15	Yes	FACW
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
8.	_____	_____	_____	_____
9.	_____	_____	_____	_____
10.	_____	_____	_____	_____
11.	_____	_____	_____	_____
12.	_____	_____	_____	_____
	65 =Total Cover			
<b>Woody Vine Stratum</b> (Plot size: _____)				
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
	=Total Cover			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species <u>20</u>	x 1 = <u>20</u>
FACW species <u>45</u>	x 2 = <u>90</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>65</u> (A)	<u>110</u> (B)
Prevalence Index = B/A = <u>1.69</u>	

**Hydrophytic Vegetation Indicators:**

   1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0<sup>1</sup>

   4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

   Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Vegetation Strata:**

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

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

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

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

**Hydrophytic Vegetation Present?**      Yes       No

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





**VEGETATION** – Use scientific names of plants.

Sampling Point: 2

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b> (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
7.	_____	_____	_____	
	=Total Cover			
<b>Sapling/Shrub Stratum</b> (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
5.	_____	_____	_____	
6.	_____	_____	_____	
7.	_____	_____	_____	
	=Total Cover			
<b>Herb Stratum</b> (Plot size: <u>1 m sq</u> )				
1.	<u>Setaria faberi</u>	80	Yes	FACU
2.	<u>Solidago altissima</u>	10	No	FACU
3.	<u>Poa pratensis</u>	10	No	FACU
4.	<u>Cirsium vulgare</u>	5	No	FACU
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
8.	_____	_____	_____	_____
9.	_____	_____	_____	_____
10.	_____	_____	_____	_____
11.	_____	_____	_____	_____
12.	_____	_____	_____	_____
	105 =Total Cover			
<b>Woody Vine Stratum</b> (Plot size: _____)				
1.	_____	_____	_____	
2.	_____	_____	_____	
3.	_____	_____	_____	
4.	_____	_____	_____	
	=Total Cover			

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

**Prevalence Index worksheet:**

	Total % Cover of:	Multiply by:	
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>0</u>	x 3 =	<u>0</u>
FACU species	<u>105</u>	x 4 =	<u>420</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column Totals:	<u>105</u> (A)		<u>420</u> (B)
Prevalence Index = B/A =			<u>4.00</u>

**Hydrophytic Vegetation Indicators:**

   1 - Rapid Test for Hydrophytic Vegetation

   2 - Dominance Test is >50%

   3 - Prevalence Index is ≤3.0<sup>1</sup>

   4 - Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

   Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

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

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

**Hydrophytic Vegetation Present?**      Yes         No   X

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





Photograph 1:

View northeast of Wetland 1.



Photograph 2:

View of vegetation at Datapoint 1,  
Wetland 1.



Photograph 3:

View of vegetation at Datapoint 2, upland by Wetland 1.



Photograph 4:

View west of Farmed Wetland 1.

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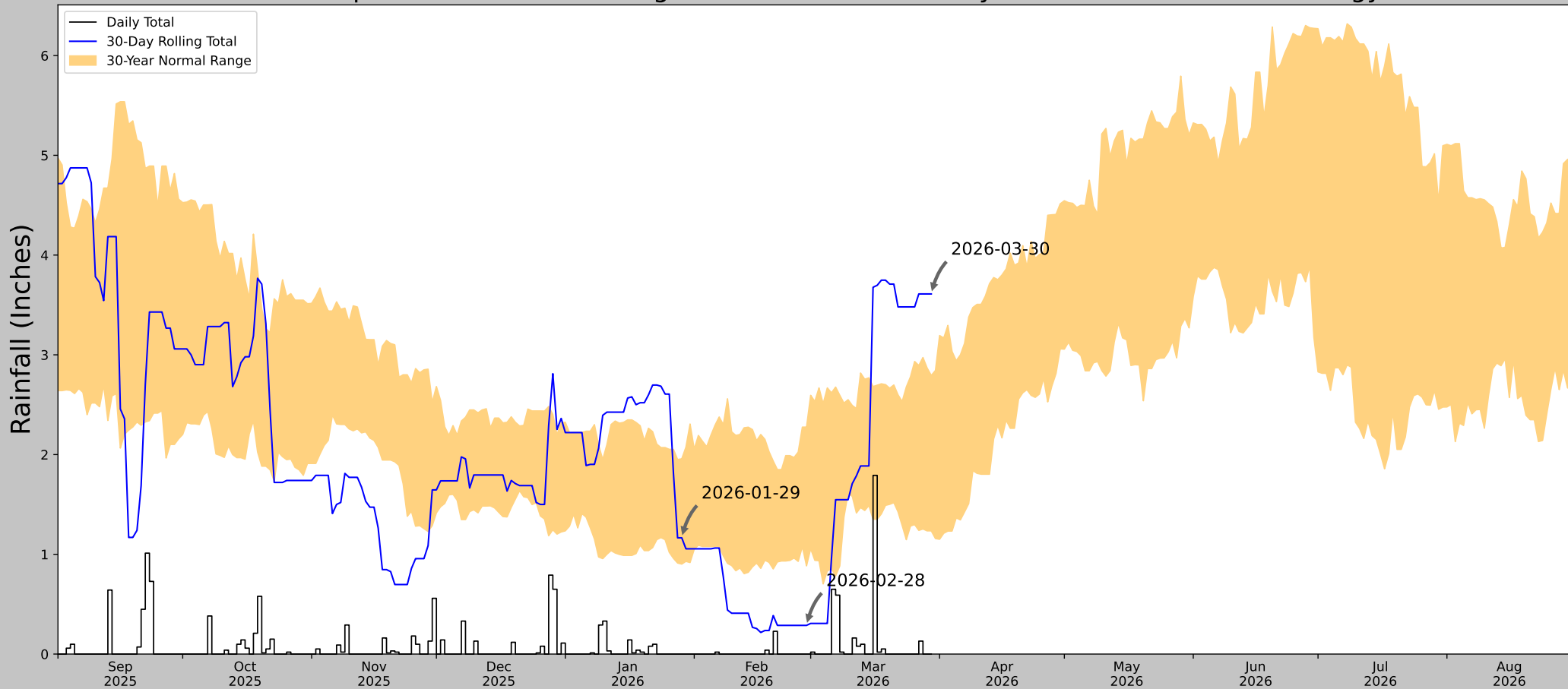
Project Number: 25-0392

Project Name:  
**Green Rd - Harvard**

***Hey and Associates, Inc.***  
Engineering, Ecology and Landscape Architecture

Exhibit Title: Exhibit:  
**USACE Antecedent Precipitation Tool 12**

# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	42.42037, -88.54369
Observation Date	2026-03-30
Elevation (ft)	954.651
Drought Index (PDSI)	Moderate drought (2026-02)
WebWIMP H <sub>2</sub> O Balance	Wet Season

30 Days Ending	30 <sup>th</sup> %ile (in)	70 <sup>th</sup> %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2026-03-30	1.235433	2.792913	3.610236	Wet	3	3	9
2026-02-28	0.883858	2.275197	0.287402	Dry	1	2	2
2026-01-29	0.901969	1.957087	1.165354	Normal	2	1	2
Result							Normal Conditions - 13

Figures and tables made by the  
Antecedent Precipitation Tool  
Version 3.0



US Army Corps  
of Engineers



Developed by:  
U.S. Army Corps of Engineers and  
U.S. Army Engineer Research and  
Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
WOODSTOCK 5NW	42.3628, -88.5314	946.85	4.027	7.801	1.843	8091	90
WOODSTOCK 1.5 WSW	42.3037, -88.4639	956.037	5.344	9.187	2.454	2	0
HARVARD 0.3 E	42.4204, -88.6089	970.144	5.611	23.294	2.656	1	0
HARVARD WWTP	42.4156, -88.6253	916.011	6.022	30.839	2.896	3258	0
MARENGO	42.2636, -88.6078	814.961	7.888	131.889	4.59	1	0

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Project Number: 25-0392

Project Name:  
**Green Rd – Harvard**

***Hey and Associates, Inc.***  
Engineering, Ecology and Landscape Architecture

Exhibit Title: Exhibit:  
**WETS Table – McHenry/Stratton Dam 13**

WETS Station: MCHENRY STRATTON LOCK/DAM, IL

Requested years: 1995 - 2025

Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number days precip 0.10 or more	Avg Snowfall
Jan	29.3	13.4	21.3	1.63	0.99	1.97	4	10.2
Feb	33.3	15.9	24.6	1.6	0.9	1.94	4	7.8
Mar	45.2	26.3	35.8	2.17	1.44	2.6	5	3.8
Apr	57.5	36.8	47.1	3.54	2.61	4.16	7	0.9
May	68.8	47.4	58.1	4.55	3.14	5.42	8	0
Jun	79.1	57.4	68.2	4.66	3.21	5.55	8	0
Jul	82.9	61.6	72.3	3.89	2.5	4.68	6	0
Aug	81.2	60	70.6	3.81	2.57	4.55	6	0
Sep	75.1	51.9	63.5	3.59	1.95	4.38	5	0
Oct	62.1	40.1	51.1	3.19	1.93	3.86	6	0.1
Nov	47.2	29.6	38.4	2	1.17	2.44	4	1.9
Dec	34.6	19.5	27.1	1.83	1.15	2.21	4	7.1
Annual:					<b>32.65</b>	<b>39.67</b>		
Average	58	38.3	48.2	-	-	-	-	-
Total	-	-	-	<b>36.46</b>			68	31.8

GROWING SEASON DATES

Years with missing data: 24 deg = 0 28 deg = 0 32 deg = 0  
 Years with no occurrence: 24 deg = 0 28 deg = 0 32 deg = 0  
 Data years used: 24 deg = 31 28 deg = 31 32 deg = 31  
 Probability 24 F or higher 28 F or higher 32 F or higher  
 4/4 to 11/5: 215 4/20 to 10/19: 5/1 to 10/10: 162  
 50 percent \* days 182 days days  
 3/31 to 11/9: 4/16 to 10/24: 4/28 to 10/13:  
 70 percent \* 223 days 191 days 168 days  
 \* Percent chance of the growing season occurring between the Beginning and Ending dates.

STATS TABLE - total precipitation (inches)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annl	
1995	2.75	0.16	1.68	5.06	3.9	1.85	3.24	4.29	1.89	4.96	3.33	0.55	33.66	normal
1996	1.15	0.79	0.75	2.96	9.5	4.64	5.51	2.67	1.61	2.45	0.95	1.64	34.62	normal
1997	1.46	3.67	1.45	1.46	4.64	2.5	2.96	4.08	2.56	1.56	1.67	0.88	28.89	dry
1998	2.33	1.59	2.79	5.57	3.26	6.47	1.77	4.16	2.86	6.12	1.73	1.36	40.01	wet
1999	3.09	1.16	0.64	6.31	2.17	7.94	2.71	1.94	5.22	1.05	0.4	2.03	34.66	normal
2000	1.15	1.11	1.45	3.86	6.46	7.91	M3.70	1.85	5.49	1.17	3.39	1.58	39.12	normal
2001	0.95	2.37	0	3.05	4.3	3.39	2.1	3.77	5.98	7.35	1.15	0.98	35.39	normal
2002	0.72	1.3	1.54	3.26	2.9	3.36	0.56	7.19	2.25	2.32	M0.60	M0.77	26.77	dry
2003	0.31	0.12	1.44	1.64	M5.78	1.95	6.66	M0.91	2.04	1.74	5.22	M2.51	30.32	dry
2004	0.6	M0.56	4.39	1.99	10.25	4.95	1.96	3.47	0.92	2.65	3.11	1.44	36.29	normal
2005	3.42	1.79	0.74	1.71	3.2	1.6	1.88	3.11	2.96	0.44	2.91	0.56	24.32	dry
2006	M2.43	M0.78	3.35	2.74	5.02	4	3.19	4.38	3.7	4.55	2.41	2.57	39.12	normal
2007	0.67	1.73	2.92	4.1	1.8	5.97	5	12.71	1.35	3.31	0.47	3.17	43.2	wet
2008	1.29	3.46	2.47	4.55	2.84	6.07	4.95	1.93	8.55	2.35	0.96	4.59	44.01	wet
2009	0.81	2.18	3.62	4.17	4.94	6.52	1.67	5.75	1.1	6.76	1.38	3.11	42.01	wet
2010	0.83	0.87	1.48	2.7	5.53	7.1	7.15	2.27	3.02	1.49	1.05	M0.70	34.19	normal
2011	0.71	2.28	3.48	4.88	6.6	3.46	8.41	3.72	2.83	2.23	3.11	2.26	43.97	wet
2012	1.2	1.3	2.12	M3.24	3.11	1.23	2.66	1.68	1.95	2.7	0.46	M1.82	23.47	dry
2013	3.8	2.48	1.88	7.25	2.53	9.69	2.03	2.17	2.67	1.9	2.78	1.45	40.63	wet
2014	1.66	1.87	0.91	3.38	3.23	6.82	3.57	7.16	4.68	3.15	M1.23	M0.54	38.2	normal
2015	1.34	0.79	1.03	3.83	4.46	4.79	4.7	2.63	4.83	1.03	5.5	5.36	40.29	wet
2016	M0.56	M0.89	3.53	2.51	4.22	2.45	5.1	3.53	2.55	3.42	2.64	1.55	32.95	normal
2017	2.32	M1.56	4.42	M4.19	M2.79	M6.49	8.31	2.93	0.06	7.26	1.63	M0.48	42.44	wet
2018	M1.66	M3.01	M0.69	M2.22	5.4	8.11	1.16	6.03	7.26	6.05	M3.04	1.82	46.45	wet
2019	M2.38	3.31	M1.47	M3.88	7.48	3.64	5.77	3.17	12.16	5.94	1.41	2.13	52.74	wet
2020	2.76	0.48	4.55	4.71	8.91	3.8	1.95	2	5.28	2.96	1.87	2.27	41.54	wet
2021	2.28	0.91	0.96	1.05	1.46	3.04	1.32	6.21	1.55	4.08	0.54	M1.10	24.5	dry
2022	0.62	M1.37	2.78	6.14	5.35	2.87	5.16	3.5	4.55	1.78	0.93	2.07	37.12	normal
2023	2.03	3.65	2.55	2.33	1.21	2.05	4.79	1.66	3.93	3.26	1.26	2.33	31.05	dry
2024	2.91	0.5	3.54	M3.27	5.93	6.99	6.2	2.89	1.66	0.9	3.55	0.98	39.32	normal
2025	0.31	0.99	2.62	1.81	1.91	2.91	4.42	4.21	3.93	1.82	1.47	2.06	28.46	dry
2026	0.68	0.13	M4.11										4.92	

Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of precipitation.  
 Data missing for all days in a month or year is blank.  
 Creation date: 2026-03-30

1 2 3 4 5 6 7 8 9 10

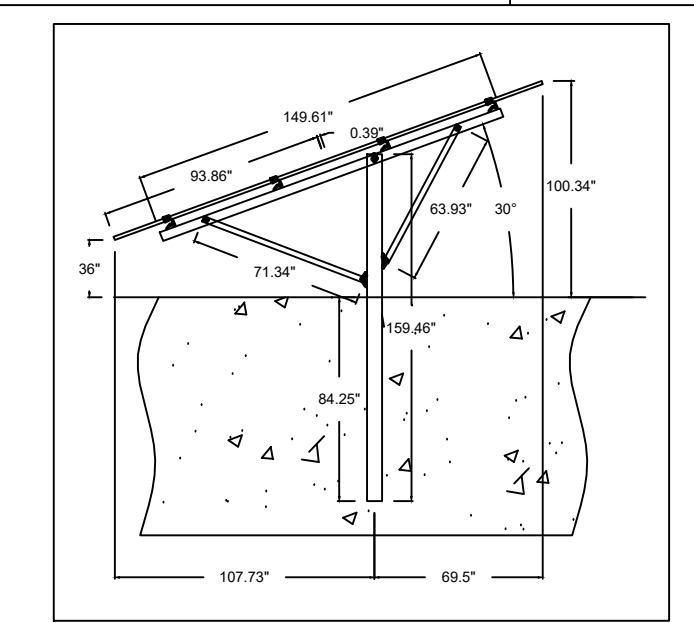
A

COMED FEEDER NUMBER B182

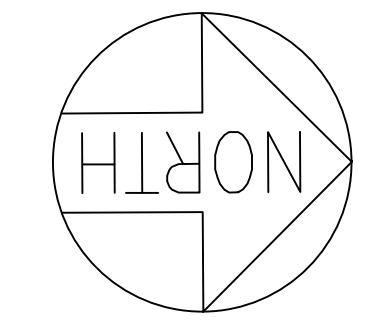
ACRES  
9.9

PARCEL #  
02-33-300-006

**IMPERVIOUS AREA CALCULATIONS:**  
 I-BEAM AREA: 0.014375 SQFT  
 I-BEAM # 744  
 SWITCHGEAR PAD AREA: 55 SQFT  
 ROAD AREA: 17,002 SQFT  
**TOTAL IMPERVIOUS AREA:**  
 0.014375 x 744 + 55 + 17,002  
 = 17,068 SQFT  
 = **0.392 ACRES**



2 RACK SIDE VIEW



KACHI ENERGY  
 1275 DAVIS RD STE 110  
 ELGIN, IL 60123

A

B

THESE DRAWINGS MAY HAVE BEEN REPRODUCED AT A SIZE DIFFERENT THAN ORIGINALLY DRAWN. OWNER AND ARCHITECT ASSUME NO RESPONSIBILITY FOR USE OF INCORRECT SCALE.

DO NOT SCALE DRAWINGS.

SYSTEM SIZE DC	2.43 MW
SYSTEM SIZE AC	2.2 MW
PROJECT NO.	
TOTAL NO. MODULES	3,472

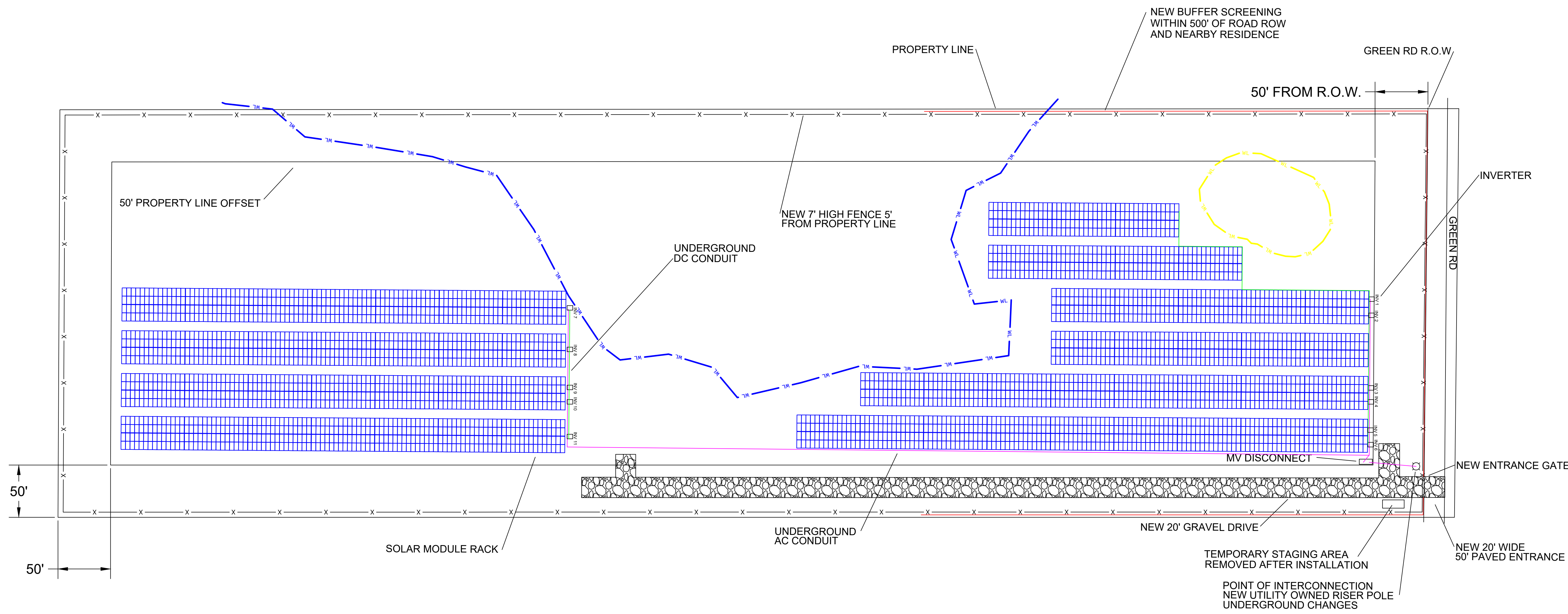
B

C

PROJECT NAME AND ADDRESS:  
**3 A SOLAR FARM**  
 GREEN RD  
 HARVARD, IL 60033

C

D



D

E

PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF ILLINOIS

E

F

PAPER SIZE 24" X 36"

REV	DESCRIPTION	DATE
--	---	--
--	---	--
--	---	--
1	AHJ COMMENTS	2/11/26
DESIGNED BY:	KEN VOJTIK	12/10/25
DRAWN BY:	KEN VOJTIK	12/10/25
REVIEWED BY:	ASAD BAJWA	12/10/25
SCALE:		

F

G

— WL — SURVEYED WETLAND  
 — WL — SURVEYED POND WETLAND

1 SITE PLAN

G

DRAWING TITLE:  
**SITE PLAN**

DRAWING NUMBER:  
**GA-300**

1 2 3 4 5 6 7 8 9 10

Linnea Kooistra:

Okay. So further discussion is not on the agenda, so I'll need a motion to amend the agenda. Do we have a motion to do so?

Charles Eldredge:

I move that we amend the agenda for a discussion and possible passing a resolution, recommending to the county board that the county adopt a tree ordinance of some sort.

Linnea Kooistra:

Is there a second?

Vicki Gartner:

I'll second.

Linnea Kooistra:

I'll call for the vote. Anybody who wants to amend our agenda so we can discuss this? We'll vote aye. All in favor?

Members:

Aye.

Linnea Kooistra:

Any opposed? Okay. So the agenda has been amended. So now I will open up this discussion. Mr. Eldredge, you wanted to purposely discuss this?

Charles Eldredge:

Yes. Yesterday was an example, but we've had any number of examples over the last several years, where there was concern by this board about tree removal as a result of development of one sort or another therefore vacant agricultural parcel. And I think that it would be very valuable for us to have guidance from the county board as to ... It is not our duty to establish county policy. It's theirs, and I would like to have guidance from them as to what the county's policy is with regard to the preservation of trees and remediation where a significant number or notable trees need to be removed. And I simply would wish to urge them to consider this issue and establish whatever policy they think is appropriate for the county.

Linnea Kooistra:

Okay. We'll start just going down the line then. Any other member that has comments? Ms. Beverly, we'll start with you.

Jessica Beverly:

Thanks. Yes, I appreciate Charlie bringing this forward. I've been working on it myself with various county board members and staff and nonprofits. I've spoken with Lisa Hatterline with the Land Conservancy. They've met with the defenders. The MCCD has talked about it. I mean, this is on

everybody's radar and I would appreciate firm guidance in the form of a UDO change establishing what our priorities are with regard to trees.

Linnea Kooistra:

Mr. Schnable?

Kurt Schnable:

I agree with that. And I'd also like to emphasize that whatever formulation or position they gets established is not going to be too complex, too hard to enforce, too hard to interpret. Whatever they come up with, I'd recommend. Keep it simple, please. That's all. Thank you.

Linnea Kooistra:

Ms. Gartner.

Vicki Gartner:

Yeah, I agree with that. Not getting too complicated because I know there was some discussion, there was concern on some of the PED members that any tree ordinance that they would put into effect would affect homeowners and other people just cutting trees down in their yard, for instance. And they'd be subject to all these rules and regulations, which isn't the intent of where we are with this. I mean, yesterday's petition made me feel like, "Wow, we are running out of room for solar farms in this county." They're looking at everything now and I don't want to see that happen. So yeah, I think we definitely need some kind of, even if it's pinpointed to solar farms, I don't care.

Linnea Kooistra:

Can't do that.

Vicki Gartner:

I know.

Kurt Schnable:

When I have an opportunity, aren't we really looking for mitigation overall?

Jessica Beverly:

All development. I mean, it's come up in various cases when we've had truck stops and other development in the county that we ask them to avoid the trees. And we ask them to preserve the integrity of the surrounding woodlands and things like that.

Vicki Gartner:

I mean, mitigation is fine, but mitigation is always in the future. I mean, it's never really replaced.

Linnea Kooistra:

Well, let's hear from everybody else and then we'll open it back up. Ms. Donner.

Mary Donner:

I agree that we need to have some guidance. And I'm of the opinion that everybody doesn't have the same idea of what a tree to be saved is. Do we go by inches? Do we go by feet? Do we go by the length of time that they've been a tree the way they're supposed to ... like an oak tree has a life of about a hundred years. When an oak tree dies, all the other oak trees around it die too, because they were all acorns at the same time.

I had three acres of land that was very much forested in a sensitive area, and there were times when we had to cut stuff down. I wouldn't have wanted somebody telling me that. They already told me I couldn't do what I wanted to do with some other things, just because we had it in our bylaws that something else had to be happening. You got to be really careful on how stuff is worded so that it doesn't become cumbersome, but otherwise I do agree with you.

Linnea Kooistra:

Mr. Kosin.

Robert Kosin:

Thank you, Madam Chairman. We are almost missing a 40-year anniversary because it was in 1987 that Mr. T went out that proverbial backyard and began cutting down trees in Lake Forest. I appreciate that the first stop of this discussion begins with the policymakers because we could be searching through the forest for years to come on what direction, what species. But I would also ask that the powers to be take a look at the wonderful work that has been done by the McHenry County Conservation District during the last 20 years of documenting and evaluating the forestry and the landscape of this county, to which we even had an applicant under oath tell us that that was even a more valuable tool than the tool that has been referenced to the county to the east of us. And so I'm glad we support this discussion and passing it on to the county board. Thank you.

Linnea Kooistra:

Okay. And I would just say I concur that I would like some guidance from the county board as well. It's not our purview to try and determine what is appropriate. We have in our UDO to try and minimize impacts to woodlands and wetlands, but there's no specifics to that. And it puts us in a bad situation when we don't have guidance from the county. And so a tree ordinance would be really helpful to us and to petitioners coming forward to us to know it's expected of them. So I think that would be an appropriate move on our part to recommend a tree ordinance. So yes, Mr. Eldredge.

Charles Eldredge:

Yeah. I'd like to add, I agree with those who argued for simplicity. I think we do not wish to have something that is going to interfere with a person in an urban lot who's got a tree that needs to be removed in his backyard. We don't want to interfere with private property unduly. We do want to see if we can cause some mitigation where trees are required to be destroyed in large quantity and particularly when they are of notable species.

But I think it is also something to be considered if there are areas that are so valuable that at least certain kinds of development are inappropriate on those sites. And if the county does not feel that that's true, then we should have that as policy. If they do feel it is true, we should have some guidelines as to how we would identify those parcels.

Linnea Kooistra:

Okay. Any other item for discussion?

Mary Donner:

I do have one more thing. One of the things that has come up, and it's always coming up with solar farms, is they get to a certain point and then we say, "Do a tree study." Well, it's in the process to do a tree study. We have to put the process, caddy walkers and say that's one of the things that you have to have right to begin with as opposed to the end of the property, as opposed to the end so that we can address it when we're doing it.

I don't know how you do that because that's an expense that they're willing to have to do. There's a lot of things that they still have to do. I've said this before. This is only the beginning of a process and we're asking for them to do something ahead of time that they wouldn't be doing until somebody else stormwater or the planning department or somebody else is looking at it first after we've approved it. So how do you-

Jessica Beverly:

The application process is heavily regulated by state law and we can't make changes to it. We as a body have had developers cooperate with getting a tree study for the good of their application, but you can't codify that in the UDO because the application and the hearing process are heavily regulated by the state law itself. However, that said, in counties that have a tree ordinance, all development is expected to adhere to that and mitigate it. And so they know they need a tree study at some point in the process and it's just understood.

So if a tree ordinance itself did exist, this would be a red flag similar to when they come in with wetland studies, because they know that we have a very strong stormwater management ordinance and they know it's going to come up, they produce it out of the good of their hearts to begin with. And that's with other development, we have seen that in addition to solar farms. I mean, we have to keep in mind that a tree ordinance would apply to all development blanket. You can't just say this only applies to battery and solar because that's, one, legal and doesn't make any sense. I think this would be a valuable tool in curbing this sort of development that we're seeing more repeatedly.

We've had five or six cases now where they want to do clear cutting on valuable species and our arms are tied. And the one wanted to negotiate mitigation with us in a zoning hearing. Do you remember that one? And we can't do that. The county board has to direct guidance and do it and we can't.

Linnea Kooistra:

Is there any other discussion?

Robert Kosin:

I'm sorry. I think from being one of the newer members sitting here, the word and phrase in previous considerations of my past life have been avoiding circumstances of ad hockery, of picking and choosing whenever the crisis seems to arise and favoring others over or not. And some of this is borderline on that. I like this species, but I don't know that area of the county and it's only one tree and it's not 500, but I'm among my peers, so you all understand that. Thank you.

Linnea Kooistra:

Okay. Any other discussion? Thank you. Okay. And I'm going to for a vote on this. I'll do it by ... I think I know how the vote's going to go, but I will put it on here anyhow.

Robert Kosin:

They just came out.

Linnea Kooistra:

Okay. So this, if you're moving to recommended tree ordinance, you'll be voting aye. Mr. Eldredge?

Charles Eldredge:

Yes.

Linnea Kooistra:

Ms. Gartner?

Vicki Gartner:

Yes.

Linnea Kooistra:

Mr. Kosin?

Robert Kosin:

Yes.

Linnea Kooistra:

Mr. Schnable?

Kurt Schnable:

Yes.

Linnea Kooistra:

Ms. Beverly?

Jessica Beverly:

Yes.

Linnea Kooistra:

Ms. Donner.

Mary Donner:

Aye.

Linnea Kooistra:

And I'll vote yes. So this will go to the county board, seven to zero, recommending they develop a tree ordinance. Okay. Seen as there's nothing else to come before this body, this meeting is now adjourned.

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# **ZONING BOARD OF APPEALS RESOLUTION**

**RECOMMENDING THAT THE COUNTY BOARD CONSIDER AND ADOPT A TREE PRESERVATION ORDINANCE**

**WHEREAS, the Zoning Board of Appeals (ZBA) is charged with conducting public hearings and making recommendations to the County Board on land use and development matters; and**

**WHEREAS, the ZBA has, on multiple occasions, reviewed development proposals involving the removal of significant numbers of trees, including but not limited to agricultural, commercial, and energy-related developments; and**

**WHEREAS, the ZBA has identified a lack of specific standards within the Unified Development Ordinance (UDO) regarding the preservation, removal, and mitigation of trees and woodlands; and**

**WHEREAS, the absence of clear policy guidance has resulted in challenges for the ZBA in evaluating applications consistently and providing predictable expectations to applicants; and**

**WHEREAS, the ZBA finds that the establishment of clear, countywide policy regarding tree preservation and mitigation would:**

- Promote consistency and transparency in land use decisions;
- Provide guidance to applicants early in the development process; and
- Support the protection and responsible management of the County's natural resources; and

**WHEREAS, the ZBA further finds that any such policy should:**

- Be clearly defined and practical to administer and enforce;
- Avoid undue burden on individual property owners, particularly in residential contexts; and
- Consider reasonable mitigation measures where tree removal is necessary, especially for significant or notable trees and woodlands; and

**WHEREAS, the ZBA recognizes that the authority to establish such policy resides with the County Board and not with the ZBA;**

**NOW, THEREFORE, BE IT RESOLVED that the Zoning Board of Appeals hereby recommends that the County Board evaluate, develop, and consider adoption of a tree preservation ordinance or similar regulatory framework**

**addressing tree removal, preservation, and mitigation in the context of development within the County; and**

**BE IT FURTHER RESOLVED that the ZBA respectfully requests that the County Board provide clear policy direction to guide future land use decisions, including consideration of:**

- Standards for identifying significant or protected trees and woodlands;
- Appropriate mitigation measures where removal is unavoidable; and
- Applicability to development activities in a manner that is equitable and enforceable; and

**BE IT FURTHER RESOLVED that this recommendation is intended to assist the County Board in establishing consistent policy and is not intended to impose specific regulatory language or requirements; and**

**PASSED AND ADOPTED by the Zoning Board of Appeals this 15th day of April 2026.**

**NAYS:**

**ABSENT:**

**ABSTAIN:**

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Linnea Kooistra, Chair - McHenry County Zoning Board of Appeals

**ATTEST:**

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Joseph J. Tirio, County Clerk