Madison County Government
Madison County Administration Building
157 N. Main Street, Edwardsville, IL 62025
Phone: (618) 692-6200
Website: madisoncountyil.gov

Chris Slusser
County Board Chairman

LINDA A. ANDREAS
COUNTY CLERK OF MADISON COUNTY
EDWARDSVILLE, ILLINOIS

MADISON COUNTY BOARD
JULY 15, 2026
5:00 PM

To the members of the Madison County Board:

The following is the Agenda for the County Board Meeting on Wednesday, July 15, 2026 to be held at the Nelson "Nellie" Hagnauer County Board Room in the Administration Building in the City of Edwardsville, in the county and state aforesaid to be discussed and considered for approval.

1. Monthly Reports of Circuit Clerk, County Clerk, Recorder, Regional Office of Education, Sheriff, and Treasurer
2. Public Comment
3. Awards/Recognitions/Proclamations
4. Approval of Minutes

A. APPOINTMENTS:

1. Madison County Regional Office of Education

    a. Resolution Filling a Vacancy in the Office of Regional Superintendent of Schools, Nancy Werden

2. Madison County Emergency Telephone System Board

    a. Brendan McKee for reappointment to the Madison County Emergency Telephone System Board for a 4-Year Term Expiring June 30, 2030

3. Madison County Government Ethics Advisor

    a. Bruce Mattea for reappointment to the Madison County Government Ethics Advisor for a 2-Year Term Expiring June 1, 2028

4. Madison County Sanitary District

    a. Robert Bassett for reappointment to the Marine Sanitary District for a 3-Year Term Expiring May 2029

B. BUILDING AND ZONING COMMITTEE:

1. Resolution Z26-0050 Petition of Austria Sanchez, owner of record with Ramon Mata, requesting a Special Use Permit in order to continue placement of a mobile home on site for the occupancy of Austria Sanchez and family for a period not to exceed 5 years. This is located in an "A" Agricultural District in Pin Oak Township at 8602 Fruit Rd. Edwardsville. County Board District #11 **(ZBA recommended approval with conditions 5-0)**

2. Resolution Z26-0056 Petition of Josh Stafford, owner of record, requesting a Special Use Permit in order to construct a single-family dwelling. This is located in an "M-3" Heavy Manufacturing District in Venice Township at 2513 North St, Granite City. County Board District #10 **(ZBA recommended approval with conditions 5-0)**

3. Resolution Z26-0057 Petition of Patrick Meyer, owner of record, requesting a variance in order to construct an accessory structure that would be 40 feet from the front (east) property line instead of the required 50 feet. This is located in an "A" Agricultural District in Ft. Russell Township at 6611 W. Liberty Prairie Ln. Edwardsville. County Board District #5 **(ZBA recommended approval 5-0)**

4. Resolution Z26-0061 Petition of Carl and Cynthia McGaughey, owners of record requesting a Special Use Permit in order to continue placement of a mobile home on site for occupancy of Tara Johnson for a period not to exceed 5 years. This is located in an "R-3" Single-Family Residential District in Wood River at 76 Circle Dr. Cottage Hills. County Board District #13 **(ZBA recommended approval with conditions 5-0)**

5. Resolution Z26-0065 Petition of Mary Goode, owner of record, requesting a zoning map amendment to rezone an approximately 2.60 acre tract of land from "B-3" Highway Business District to "R-6" Mobile Home Park District. This is located in Nameoki Township at 4534 State Route 162, Granite City. County Board District #16 **(ZBA recommended approval 4-0)**

6. Discharge Building and Zoning Committee From Further Review and Consideration of Resolution Z26-0062

7. Resolution Z26-0062 Petition of Arena Navigator 1 Solar, LLC, applicant on behalf of Fosterburg 255, LLC, owner of record, requesting a Special Use Permit in order to develop a Commercial Solar Energy Facility on site. This is located in an "A" Agricultural District in Foster Township along Fosterburg Rd and Harris Ln, Alton. County Board District #5 **(ZBA recommended approval with conditions 5-0)**

C. CENTRAL SERVICES COMMITTEE & FINANCE AND GOVERNMENT OPERATIONS COMMITTEE:

1. Resolution to Purchase a Three-Year Renewal of Arctic Wolf for the Madison County Information Technology Department
   Vendor: Secure Data Technologies, Inc.
   Amount: $481,180.30
   Term: 3 years

2. Resolution to Purchase Aruba Network Core Refresh for the Madison County Information Technology Department
   Vendor: ConvergeOne, Inc.
   Amount: Not to exceed $511,906.18

3. Resolution to Purchase Next Generation Firewall Maintenance Renewal for the Madison County Information Technology Department
   Vendor: ConvergeOne, Inc.
   Amount: $51,796.08
   Term: 7/2026-7/2027

4. Resolution to Purchase the Solarwinds Renewal for the Madison County Information Technology Department
   Vendor: Insight Public Sector, Inc.
   Amount: $67,166.68
   Term: 7/23/2026-7/23/2029

D. EXECUTIVE COMMITTEE:

1. Resolution Regarding the Review and Release or Retention of Closed Session Minutes and Destruction of Closed Session Recordings for all Periods Prior to June 30, 2026

E. FINANCE AND GOVERNMENT OPERATIONS COMMITTEE:

1. Claims and Transfers Report

2. Resolution Authorizing Payment to the Village of Bethalto for Water Line Installation Assistance

3. FY 2026 Immediate Emergency Appropriation 2027 Juvenile Redeploy Grant $495,447.00

4. FY 2026 Immediate Emergency Appropriation 2026 Health Dept. DIS Workforce Grant $32,000.00

5. FY 2026 Resolution to Approve Commitment of Fund Balance and Immediate Emergency Appropriation ARPA Investment Income Fund $353,989.00

6. Resolution to Purchase USL Financials Software Maintenance & Support Renewal for the Auditor
   Amount: $49,736.80
   Term: 7/1/2026-7/30/2027

7. Resolution Authorizing Settlement of Tort Liability File #19-20-041

8. Property Trustee Report

F. GOVERNMENT RELATIONS COMMITTEE

1. Resolution to Submit an Advisory Public Question to the Voters of Madison County, Illinois Regarding Voter Identification Requirements

2. Resolution to Submit an Advisory Public Question to the Voters of Madison County, Illinois Regarding Local Zoning Control of Wind and Solar Farm Developments

3. Resolution to Submit an Advisory Public Question to the Voters of Madison County, Illinois Regarding Property Tax Reform

G. GRANTS COMMITTEE:

1. Resolution Authorizing the Submission of the 2027 Emergency Solutions Grant Application to the Illinois Department of Human Services for the County of Madison, Illinois

2. Resolution Authorizing the Submission of the 2027 Community Services Block Grant (CSBG) Grant Application

3. Resolution Authorizing the Submission of the 2026 Community Development Annual Action Plan

H. GRANTS COMMITTEE & FINANCE AND GOVERNMENT OPERATIONS COMMITTEE:

1. Resolution to Purchase Four New HVAC Units for Soup N' Share for the Madison County Community Development Department
   Vendor: Energy Stars Heating and Cooling Co.
   Amount: $67,070.00

2. Resolution to Purchase Professional Services for Technical Assistance for the Madison County Community Development Department
   Vendor: Homebase
   Amount: Not to exceed $49,975.00
   Term: July 1, 2026-June 30, 2027

3. Resolution to Purchase Two Pick-Up Trucks for the Weatherization Program for the Madison County Community Development Department
   Vendor: Serra Chevrolet Buick GMC
   Amount: $94,000.00

I. PUBLIC SAFETY COMMITTEE & ETSB & FINANCE AND GOVERNMENT OPERATIONS COMMITTEE:

1. Resolution to Purchase Reimbursement to PSAP's for 911 Calls for the Madison County 911 Emergency Department
   Amount: $758,004.00

J. PUBLIC SAFETY COMMITTEE & JUDICIARY COMMITTEE & FINANCE AND GOVERNMENT OPERATIONS COMMITTEE

1. Resolution to Purchase Police and Corrections Academy Training for the Madison County Sheriff's Department
   Vendor: Southwestern Illinois College
   Amount: $36,708.30

K. SEWER FACILITIES COMMITTEE & FINANCE AND GOVERNMENT OPERATIONS COMMITTEE:

1. Resolution to Purchase Replacement Sewer Billing Software for the Madison County Special Service Area Department

Vendor: Muni-Link
Amount: $54,440.00

L. TRANSPORTATION COMMITTEE:

1. Supplemental Agreement for Engineering Services — Maple Grove Road over Wendell Branch, Hosto Bridge Section 23-20112-00-BR, Section 33 Pin Oak Township

2. Resolution Authorizing the County Engineer to Negotiate for the Acquisition of Property for Future Road Improvements

3. Resolution Authorizing the Sale of Real Estate Located in Godfrey Township

4. Resolution Authorizing the County Board Chairman and/or County Engineer to Negotiate and Execute Documents with the Illinois Department of Transportation for the Direct Acceptance and/or Purchase of State-Owned Property

5. Resolution Authorizing Reimbursement to the City of Troy for Force Account Work Associated with the Installation of a Drainage Inlet on Troy O'Fallon Road (CH 50)

M. UNFINISHED BUSINESS:

N. NEW BUSINESS:

O. CLOSED SESSION:

1. Closed Session, if necessary, for any lawful exemption pursuant to Section 2(c) of the Illinois Open Meetings Act

P. ADJOURNMENT:

The next regularly scheduled meeting of the County Board will be August 19, 2026.

If you have a disability and require a reasonable accommodation to attend this meeting, please contact the County's Compliance Coordinators within 3 business days prior to the scheduled meeting at 618/296-4546 or 618/296-4027 or by email hr@madisoncountyil.gov.

RESOLUTION FILLING A VACANCY IN THE OFFICE OF REGIONAL SUPERINTENDENT OF SCHOOLS

WHEREAS, a vacancy exists in the office of Regional Superintendent of Schools for the Madison County Service Region due to the resignation of Dr. Robert Werden as of July 14, 2026; and

WHEREAS, Section 3A-6 of the Illinois School Code (105 ILCS 5/3A-6) provides that, when a vacancy occurs in the office of regional superintendent of schools of any single county educational service region which is not located in a county which is a home rule unit, such vacancy shall be filled within 60 days by appointment of the chairman of the county board, with the advice and consent of the county board; and

WHEREAS, under the circumstances, and in accordance with Section 3A-6 of the Illinois School Code, the appointee shall serve for the remainder of the term which shall expire on June 30, 2027; and

WHEREAS, Nancy Werden, possessing all statutory qualifications for this appointment, has been recommended for appointment by the Chairman of the County Board to fill this vacancy, effective July 15, 2026.

NOW, THEREFORE, BE IT RESOLVED by the County Board of Madison County that, effective July 15, 2026, Nancy Werden, 8867 Prairietown Road, Dorsey, IL, 62021 be appointed to the vacancy in the office of Madison County Regional Superintendent of Schools for the remainder of the term of Dr. Robert Werden expiring on June 30, 2027.

ADOPTED AND APPROVED this 15th day of July, 2026 by the County Board of Madison County, Illinois.

ATTEST:

_____	_____
Chris Slusser, Chairman	**Linda Andreas, Madison County Clerk**

Madison County Emergency Telephone System Board
Resolution

WHEREAS, the term of Brendan McKee, Member of the Madison County Emergency Telephone System Board has become vacant on June 30, 2026, due to the term expiring and,

WHEREAS, Brendan McKee is recommended for consideration and reappointment.

NOW, THEREFORE BE IT RESOLVED that Brendan McKee be reappointed to a 4-year term that will expire on June 30, 2030.

Dated at Edwardsville Illinois, this 15th day of July 2026.

_____

Madison County Board Chairman

Madison County Government Ethics Advisor
Resolution

WHEREAS, the term of Bruce Mattea, Member of the Madison County Government Ethics Advisor has become vacant on June 1, 2026, due to the term expiring and,

WHEREAS, Bruce Mattea is recommended for consideration and reappointment.

NOW, THEREFORE BE IT RESOLVED that be appointed to a 2-year term that will expire on June 1, 2028.

Dated at Edwardsville Illinois, this 15th day of July 2026.

_____

Madison County Board Chairman

Madison County Sanitary District
Resolution

WHEREAS, the term of Robert Bassett, Member of the Marine Sanitary District has become vacant on May 1, 2026, due to the term expiring and,

WHEREAS, Robert Bassett is recommended for consideration and reappointment.

NOW, THEREFORE BE IT RESOLVED that Robert Bassett be reappointed to a 3-year term that will expire on May 1, 2029.

Dated at Edwardsville Illinois, this 15th day of July 2026.

_____
Madison County Board Chairman

RESOLUTION – Z26-0050

WHEREAS, on the 23rd day of June 2026, a public hearing was held to consider the petition of Austria Sanchez, owner of record with Ramon Mata, requesting a Special Use Permit as per §93.023, Section D, Item 20 of the Madison County Zoning Ordinance in order to continue placement of a mobile home on site for the occupancy of Austria Sanchez and family for a period not to exceed 5 years. This is located in an "A" Agricultural District in Pin Oak Township at 8602 Fruit Rd, Edwardsville, Illinois, County Board District #11, PIN# 10-1-16-03-00-000-003; and,

WHEREAS, the Madison County Zoning Board of Appeals submitted its Findings for the aforesaid petition; and,

WHEREAS, it was recommended in the aforesaid Report of Findings of the Madison County Zoning Board of Appeals that the petition of Austria Sanchez be approved with conditions.

WHEREAS, it is the opinion of the County Board of Madison County that the Petition of Austria Sanchez should be **Approved with Conditions** as follows:

1. This Special Use Permit is granted for the sole usage of Austria Sanchez for a period not to exceed five (5) years, but may be extended either through an amendment to this Special Use Permit or through an administrative review process, if qualified, as long as Austria Sanchez and family occupy the structure, notwithstanding any violations, nuisance, or change in occupancy. The owner shall remove the mobile home from the site or apply for a new Special Use Permit once Austria Sanchez and family vacate the structure.

NOW, THEREFORE BE IT RESOLVED that this Resolution is approved and shall take effect immediately upon its adoption.

s/ Mick Madison
Building & Zoning Committee Certification of Votes
July 7, 2026

Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Frank Dickerson	**AYE✓ NAY☐ ABSTAIN☐**
Terry Eaker	**AYE✓ NAY☐ ABSTAIN☐**
John Janek	**AYE✓ NAY☐ ABSTAIN☐**
Fred Michael	**AYE✓ NAY☐ ABSTAIN☐**
Nick Petrillo	**AYE✓ NAY☐ ABSTAIN☐**
Bobby Ross	**AYE✓ NAY☐ ABSTAIN☐**

Madison County Government
Building & Zoning Department
Chris Doucleff · Administrator
Madison County Administration Building
157 N. Main Street, Suite 254 · Edwardsville, IL 62025-1964
Phone: (618) 692-7040 ext. 4468
Email: zoning@madisoncountyil.gov

Chris Slusser
County Board Chairman

Zoning Board of Appeals Staff Report

Application Number: **Z26-0050**

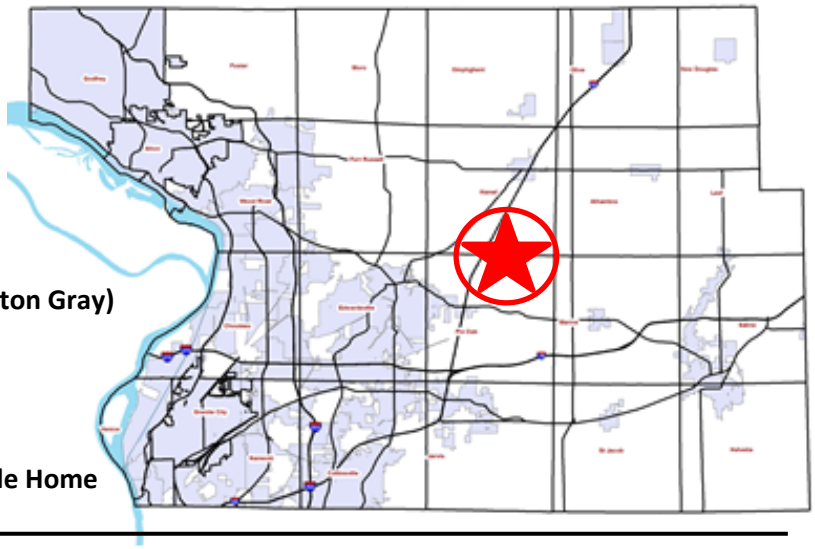
Meeting Date: **June 23, 2026**

From: **Jen Hurley**
Zoning Coordinator

Location: **8602 Fruit Rd**
Edwardsville, IL
County Board District #11 (Dalton Gray)
PIN: 10-1-16-03-00-000-003

Zoning Request: **Special Use Permit**

Description: **Continued Placement of Mobile Home**



Proposal Summary
The applicant is Austria Sanchez. The subject property, which is zoned "A" Agricultural District, is located at 8602 Fruit Rd, Edwardsville, in Pin Oak Township. The applicant is requesting a Special Use Permit (SUP) as per §93.023, Section D, Item 20 of the Madison County Zoning Ordinance in order to continue placement of a mobile home on site for a period not to exceed 5 years. Austria Sanchez and family are the proposed occupants of the existing mobile home. In order for this request to be permitted, the ZBA must review and approve the application as per §93.176, Section A, Item 2 of the Madison County Zoning Ordinance.

Planning & Zoning Considerations

- *Land Use and Zoning of Surrounding Properties*

Direction	Land Use	Zoning
North	Single-Family Dwelling	"A" Agricultural
South	Row Crops/Farm	"A" Agricultural
East	Single-Family Dwelling	"A" Agricultural
West	Single-Family Dwelling	"A" Agricultural

- *Zoning History* – In 2015, a zoning request was approved to rezone the subject property from "B-3" Highway Business District to "A" Agricultural District. Variances were granted at that time for the tract of land being less than two acres in size, and also to have a private sewage system on a lot less than 40,000 square feet. The only other zoning requests on the subject property have been Special Use Permits for the existing mobile home. There are no outstanding violations on the property.

- *SUP Mobile Home Renewal* – The applicant is requesting to continue the placement of a mobile home on the subject property for the occupancy of Austria Sanchez and family. If the petition is approved, the applicant may

continue placement of the mobile home on the property for 5 years for the sole occupancy of Austria Sanchez and family. The applicant will be eligible for administrative review for continued placement after 5 years if there is not a change in occupancy or property ownership. See page 4 for a photo of the existing mobile home.

Staff Review

When reviewing an application, the following should be taken into consideration; (1) precedent, (2) standards of review and (3) public input.

1. Over the past 15 years, we have received over 300 requests for Special Use Permits for mobile homes, including both new placements and continued placements. Most were approved.
2. The below Standards of Review for Special Use Permits should be taken into consideration for this request. If the ZBA feels the request does not meet the below Standards of Review, the ZBA has the authority to place additional conditions of approval to the SUP or recommend denial of the request.
3. Public input during the hearing has value and should be considered by staff and the ZBA when making a recommendation. Staff will provide a formal recommendation based on the outcome of the public hearing.

Standard of Review for Special Use Permits

Below are the items listed in the Zoning Ordinance that the Zoning Board of Appeals shall take into account while reviewing a SUP request.

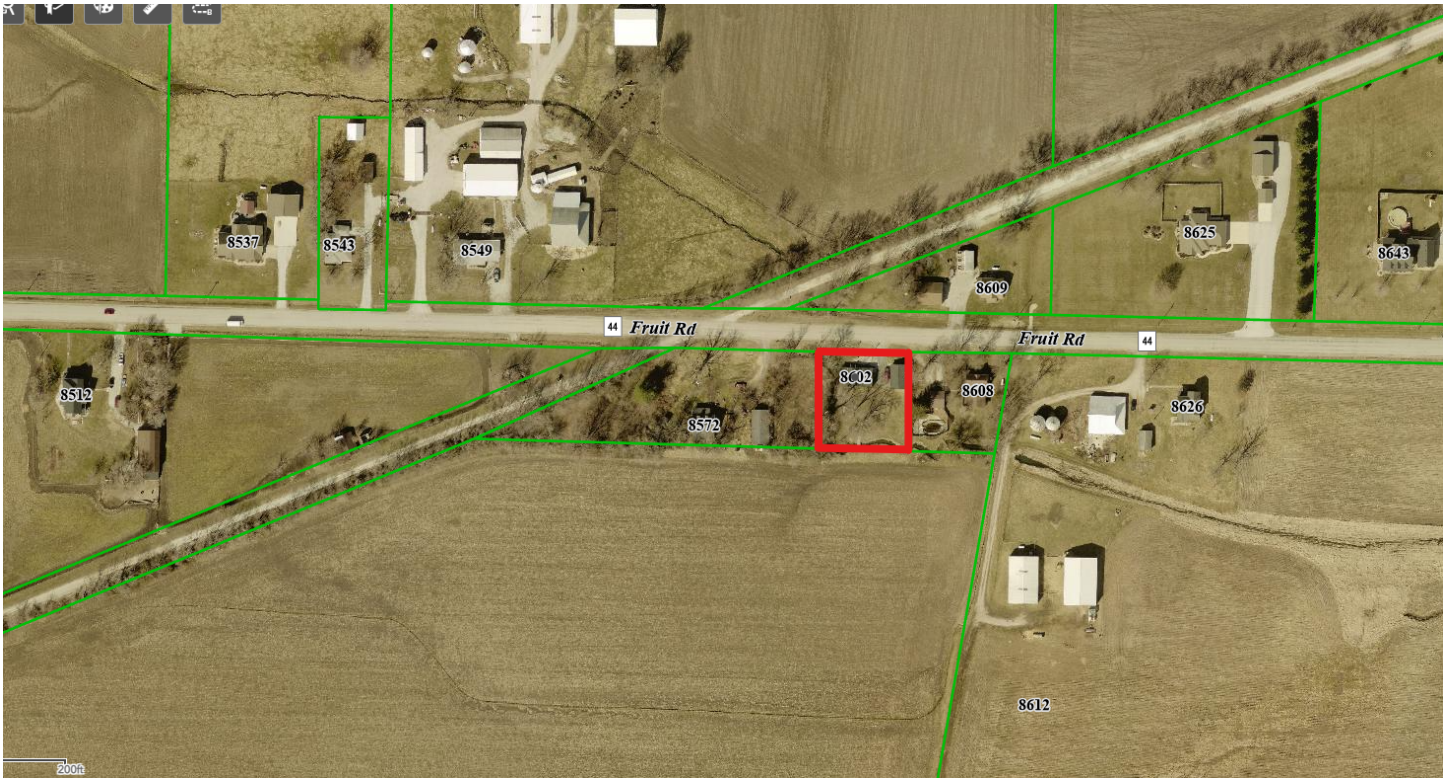
1. The effect the development would have on schools, traffic, streets, shopping, public utilities, and adjacent properties;
2. Whether the application is necessary for the public convenience at that location;
3. In the case of an existing nonconforming use, whether a special use permit would make the use more compatible with its surroundings;
4. Whether the application is designed, located, and proposed to be operated in a manner that protects the public health, safety, and welfare;
5. Whether the application will cause injury to the value of other property in the neighborhood in which it is located; and,
6. Whether the special use would be detrimental to the essential character of the district in which it is located.

Conditions of Approval

If the Zoning Board of Appeals chooses to recommend approval for the special use permit, staff recommends the following conditions:

1. This Special Use Permit is granted for the sole usage of Austria Sanchez for a period not to exceed five (5) years, but may be extended either through an amendment to this Special Use Permit or through an administrative review process, if qualified, as long as Austria Sanchez and family occupy the structure, notwithstanding any violations, nuisance, or change in occupancy. The owner shall remove the mobile home from the site or apply for a new Special Use Permit once Austria Sanchez and family vacate the structure.

Aerial Photograph



The subject property is outlined in red. Please note property lines are skewed to imagery.

Site Photographs





Narrative Statement

4/28/26

I, Austria Sanchez owner am requesting continuation of a special use permit for a double wide manufactured home on site at 8602 Fruit Road Edwardsville for the occupancy of Austria Sanchez and family for a period not to exceed five years. I bought this property Nov 2025.

Austria Sanchez

RESOLUTION – Z26-0056

WHEREAS, on the 23rd day of June 2026, a public hearing was held to consider the petition of Josh Stafford, owner of record, requesting a Special Use Permit as per §93.036, Section D, Item 2 of the Madison County Zoning Ordinance in order to construct a single-family dwelling. This is located in an "M-3" Heavy Manufacturing District in Venice Township at 2513 North St, Granite City, Illinois, County Board District #10, PIN# 21-2-19-12-04-401-001; and,

WHEREAS, the Madison County Zoning Board of Appeals submitted its Findings for the aforesaid petition; and,

WHEREAS, it was recommended in the aforesaid Report of Findings of the Madison County Zoning Board of Appeals that the petition of Josh Stafford be approved with conditions.

WHEREAS, it is the opinion of the County Board of Madison County that the Petition of Josh Stafford should be **Approved with Conditions** as follows:

1. This Special Use Permit is for a single-family dwelling, frame construction only, and is granted for the current owner of the property and shall be transferrable to subsequent owners, so that a change of property ownership will not require an updated Special Use Permit.
2. The owner shall keep the property in compliance with all Madison County Ordinances, including but not limited to the Madison County Zoning Ordinance.

NOW, THEREFORE BE IT RESOLVED that this Resolution is approved and shall take effect immediately upon its adoption.

s/ Mick Madison
Building & Zoning Committee Certification of Votes
July 7, 2026

Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Frank Dickerson	**AYE✓ NAY☐ ABSTAIN☐**
Terry Eaker	**AYE✓ NAY☐ ABSTAIN☐**
John Janek	**AYE✓ NAY☐ ABSTAIN☐**
Fred Michael	**AYE✓ NAY☐ ABSTAIN☐**
Nick Petrillo	**AYE✓ NAY☐ ABSTAIN☐**
Bobby Ross	**AYE✓ NAY☐ ABSTAIN☐**

Finding of Fact and Recommendations
Hearings Z26-0056

Petition of Josh Stafford, owner of record, requesting a Special Use Permit as per §93.036, Section D, Item 2 of the Madison County Zoning Ordinance in order to construct a single-family dwelling. This is located in an "M-3" Heavy Manufacturing District in Venice Township at 2513 North St, Granite City, Illinois, County Board District #10, PIN# 21-2-19-12-04-401-001.

Members Present: Gary Carruthers, George Ellis, Mary Goode, Joe Pattan, Bruce Riedle, Sharon Sherrill
Members Absent: Curtis Stephens

A **motion** was made by Joe Pattan and **seconded** by Bruce Riedle that the petition of Josh Stafford be **Approved with Conditions** as follows:

1. This Special Use Permit is for a single-family dwelling, frame construction only, and is granted for the current owner of the property and shall be transferrable to subsequent owners, so that a change of property ownership will not require an updated Special Use Permit.
2. The owner shall keep the property in compliance with all Madison County Ordinances, including but not limited to the Madison County Zoning Ordinance.

The Finding of Fact of the Board of Appeals: **I.** The zoning file, staff report, and Madison County Code of Ordinances were submitted for the record; **II.** The notice of public hearing was posted on the property in accordance with the terms of the ordinance; **III.** The legal notice appeared in the newspaper and meets the requirements of the ordinance for publication; **IV.** The adjoining property owners were notified by mail of the time, date, and location of the public hearing; **V.** Josh Stafford spoke about his request; **VI.** Zoning Board Member Mary Goode asked if there was any opposition. Chairperson Sherrill stated there was no opposition; **VII.** Zoning Board Member Joe Pattan asked Mr. Stafford what kind of house he was planning to build. Mr. Stafford stated he intends to build a small home that will be about 800 square feet. Building and Zoning Administrator Chris Doucleff stated that would meet the minimum square footage requirements.

Roll call vote.

Ayes to the motion: Gary Carruthers, George Ellis, Mary Goode, Joe Pattan, Bruce Riedle
Nays to the motion: None

Whereupon the Chairperson declared the motion duly adopted.

_____
Chairperson, Madison County Zoning Board of Appeals

_____
Secretary, Zoning Administrator

Madison County Government
Building & Zoning Department
Chris Doucleff · Administrator
Madison County Administration Building
157 N. Main Street, Suite 254 · Edwardsville, IL 62025-1964
Phone: (618) 692-7040 ext. 4468
Email: zoning@madisoncountyil.gov

Chris Slusser
County Board Chairman

Zoning Board of Appeals Staff Report

Application Number: **Z26-0056**

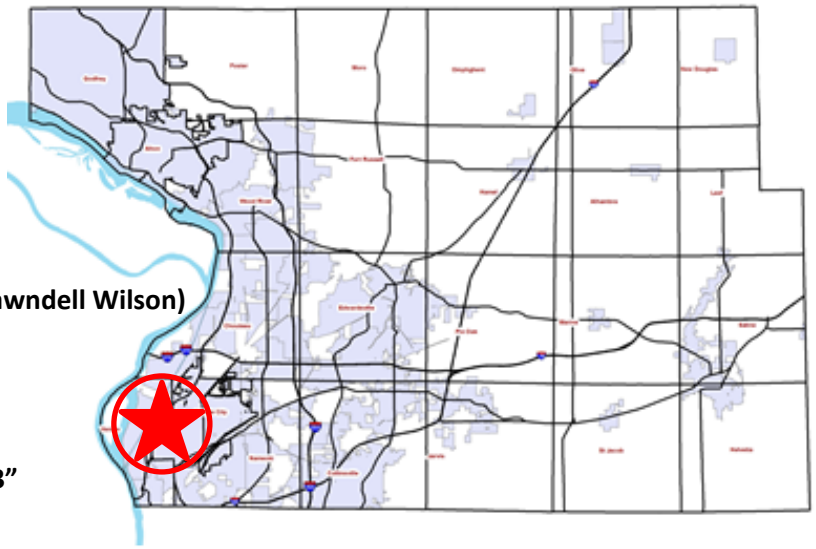
Meeting Date: **June 23, 2026**

From: **Jen Hurley**
Zoning Coordinator

Location: **2513 North St**
Granite City, Illinois
County Board District #10 (Shawndell Wilson)
PIN: 21-2-19-12-04-401-001

Zoning Request: **Special Use Permit**

Description: **Single-Family Dwelling in "M-3"**
Heavy Manufacturing District



Proposal Summary
The applicant is Josh Stafford, owner of record. The subject property, which is zoned "M-3" Heavy Manufacturing District, is located in Venice Township at 2513 North St, Granite City, County Board District #10. The applicant is requesting a Special Use Permit (SUP) as per §93.036, Section D, Item 2 of the Madison County Zoning Ordinance for a single-family dwelling. In order for this request to be permitted, the ZBA must review and approve the application as per §93.176, Section A, Item 2 of the Madison County Zoning Ordinance.

Planning & Zoning Considerations

- *Land Use and Zoning of Surrounding Properties*

Direction	Land Use	Zoning
North	Row Crops	"M-3" Heavy Manufacturing
South	School District	City of Granite City
East	Single-Family Dwelling	"M-3" Heavy Manufacturing
West	State Rte 3	City of Granite City

- *Zoning History* – There have been no other zoning requests on the subject property, and there are no outstanding violations on the property.

- *SUP for Single-Family Dwelling in "M-3" Heavy Manufacturing District* – The applicant states in their narrative statement on page 6 that they intend to construct a new single-family residence on the property. See page 4 for site photos and page 5 for the site plan.

Staff Review

When reviewing an application, the following should be taken into consideration; (1) precedent, (2) standards of review and (3) public input.

1. Over the past 15 years, we have received five (5) requests for a Special Use Permit for a dwelling in a Manufacturing District. All five were approved.
2. The below Standards of Review for Special Use Permits should be taken into consideration for this request. If the ZBA feels the request does not meet the below Standards of Review, the ZBA has the authority to place additional conditions of approval to the SUP or recommend denial of the request.
3. Public input during the hearing has value and should be considered by staff and the ZBA when making a recommendation. Staff will provide a formal recommendation based on the outcome of the public hearing.

Standard of Review for Special Use Permits

Below are the items listed in the Zoning Ordinance that the Zoning Board of Appeals shall take into account while reviewing a SUP request.

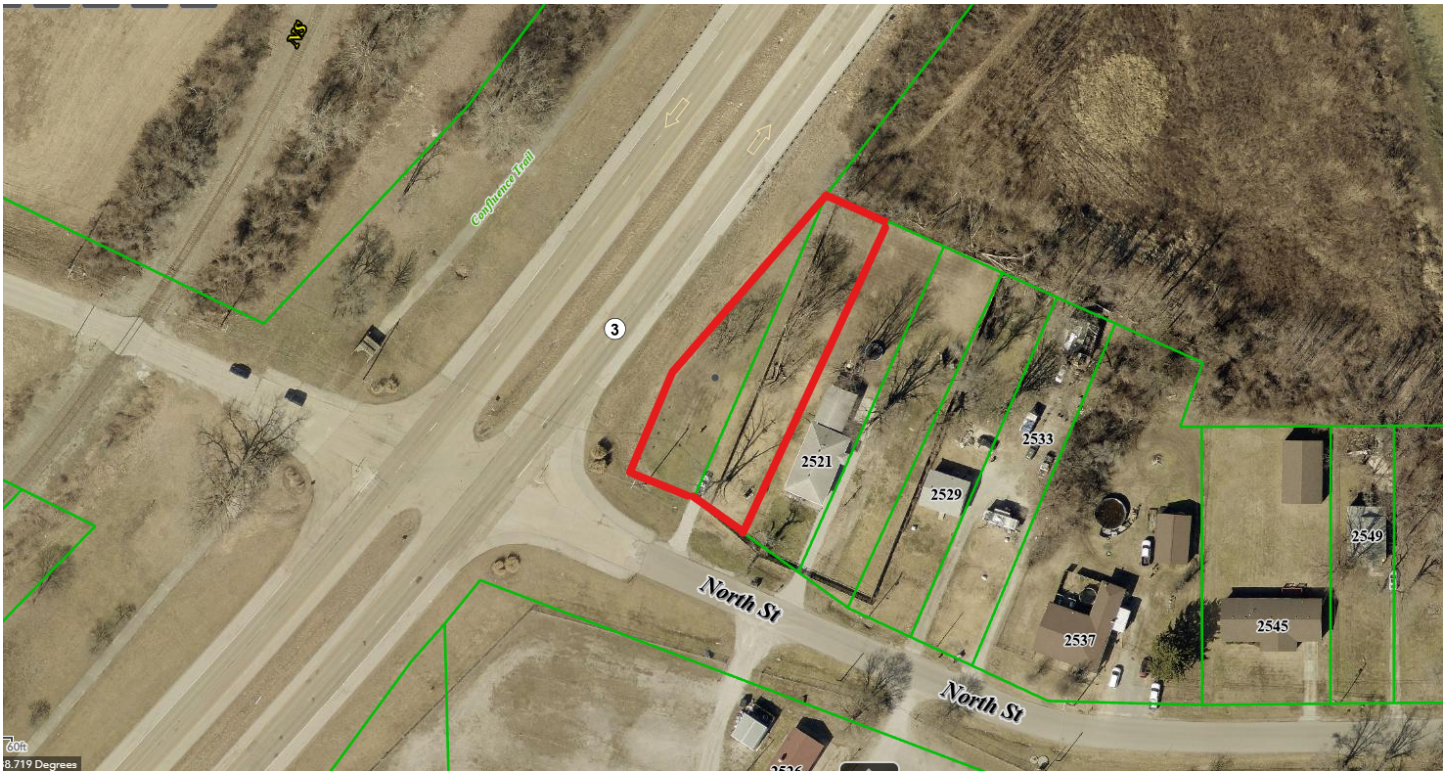
1. The effect the development would have on schools, traffic, streets, shopping, public utilities, and adjacent properties;
2. Whether the application is necessary for the public convenience at that location;
3. In the case of an existing nonconforming use, whether a special use permit would make the use more compatible with its surroundings;
4. Whether the application is designed, located, and proposed to be operated in a manner that protects the public health, safety, and welfare;
5. Whether the application will cause injury to the value of other property in the neighborhood in which it is located; and,
6. Whether the special use would be detrimental to the essential character of the district in which it is located.

Conditions of Approval

If the Zoning Board of Appeals chooses to recommend approval for the special use permit, staff recommends the following conditions:

1. This Special Use Permit is for a single-family dwelling, frame construction only, and is granted for the current owner of the property and shall be transferrable to subsequent owners, so that a change of property ownership will not require an updated Special Use Permit.
2. The owner shall keep the property in compliance with all Madison County Ordinances, including but not limited to the Madison County Zoning Ordinance.

Aerial Photograph



The subject property is outlined in red. Please note property lines may be skewed to imagery.

Note: Applicant completed a Tax Parcel Combination to combine the two parcels outlined in red.

Site Photographs



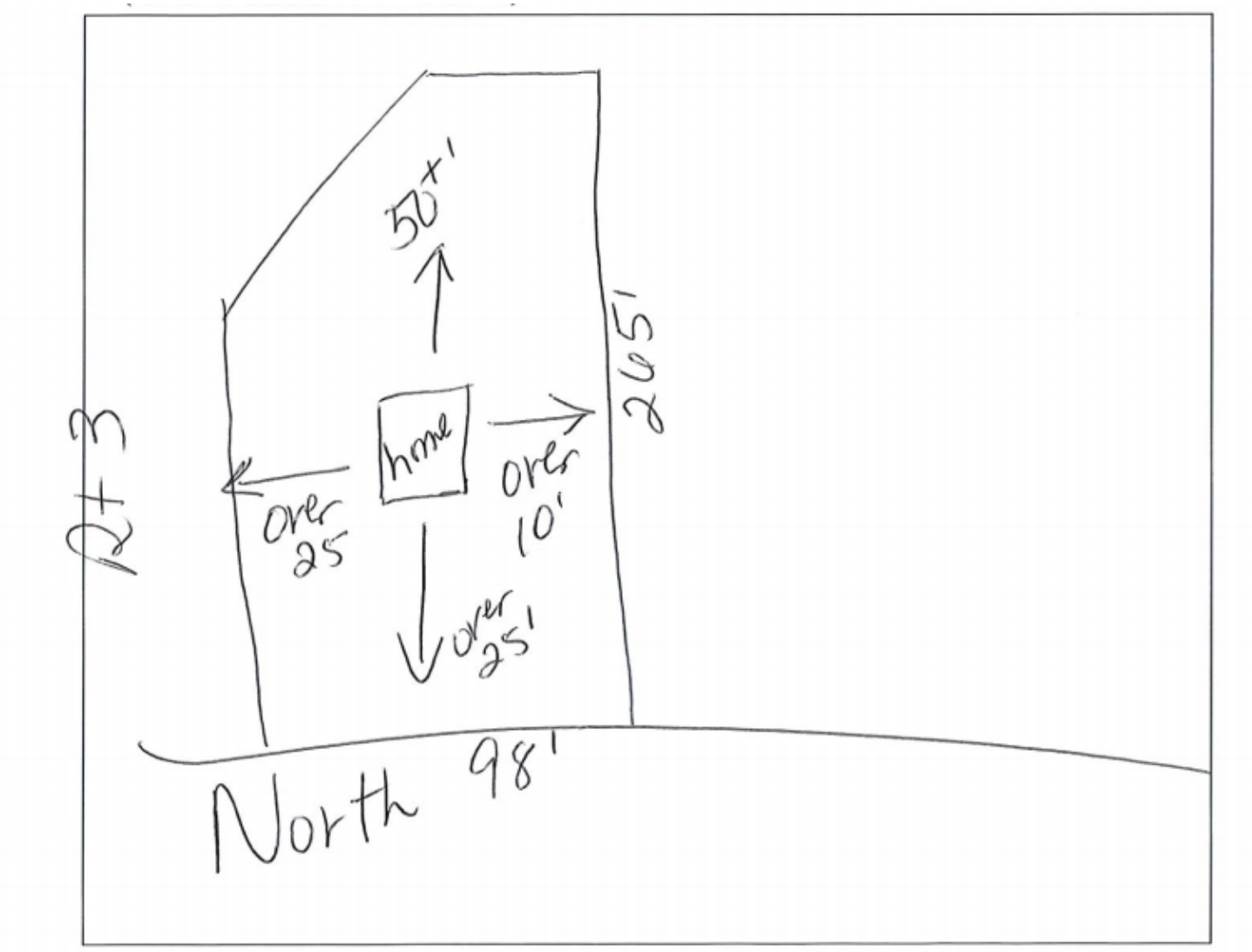








Site Plan



Narrative Statement

May 11, 2026

I, Josh Stafford, owner of record am requesting a special use permit in order to construct a residence in a M3 zoning district. I would rezone if necessary to R-3.

2513 North, Granite City

Josh Stafford

RESOLUTION – Z26-0057

WHEREAS, on the 23rd day of June 2026, a public hearing was held to consider the petition of Patrick Meyer, owner of record, requesting a variance as per §93.051, Section A, Item 3, Subsection (c) in order to construct an accessory structure that would be 40 feet from the front (east) property line instead of the required 50 feet. This is located in an "A" Agricultural District in Ft Russell Township at 6611 W Liberty Prairie Ln, Edwardsville, Illinois, County Board District #5, PIN# 15-1-09-11-00-000-004.017; and,

WHEREAS, the Madison County Zoning Board of Appeals submitted its Findings for the aforesaid petition; and,

WHEREAS, it was recommended in the aforesaid Report of Findings of the Madison County Zoning Board of Appeals that the petition of Patrick Meyer be approved.

WHEREAS, it is the opinion of the County Board of Madison County that the Petition of Patrick Meyer should be **approved** and this Resolution adopted.

NOW, THEREFORE BE IT RESOLVED that this Resolution is approved and shall take effect immediately upon its adoption.

s/ Mick Madison
Building & Zoning Committee Certification of Votes
July 7, 2026

Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Frank Dickerson	**AYE✓ NAY☐ ABSTAIN☐**
Terry Eaker	**AYE✓ NAY☐ ABSTAIN☐**
John Janek	**AYE✓ NAY☐ ABSTAIN☐**
Fred Michael	**AYE✓ NAY☐ ABSTAIN☐**
Nick Petrillo	**AYE✓ NAY☐ ABSTAIN☐**
Bobby Ross	**AYE✓ NAY☐ ABSTAIN☐**

Finding of Fact and Recommendations
Hearing Z26-0057
Petition of Patrick Meyer, owner of record, requesting a variance as per §93.051, Section A, Item 3, Subsection (c) in order to construct an accessory structure that would be 40 feet from the front (east) property line instead of the required 50 feet. This is located in an "A" Agricultural District in Ft Russell Township at 6611 W Liberty Prairie Ln, Edwardsville, Illinois, County Board District #5, PIN# 15-1-09-11-00-000-004.017.

Members Present: Gary Carruthers, George Ellis, Mary Goode, Joe Pattan, Bruce Riedle, Sharon Sherrill
Members Absent: Curtis Stephens

A **motion** was made by Bruce Riedle and **seconded** by Mary Goode that the petition of Patrick Meyer be **Approved.**

The Finding of Fact of the Board of Appeals: **I.** The zoning file, staff report, and Madison County Code of Ordinances were submitted for the record; **II.** The notice of public hearing was posted on the property in accordance with the terms of the ordinance; **III.** The legal notice appeared in the newspaper and meets the requirements of the ordinance for publication; **IV.** The adjoining property owners were notified by mail of the time, date, and location of the public hearing; **V.** Patrick Meyer spoke about his request for a variance; **VI.** Zoning Board Member Mary Goode asked Mr. Meyer if he had his property surveyed. Mr. Meyer discussed how he did not have the property surveyed recently but he has pin locations from a previous survey and a neighbor who recently had their property surveyed. Mr. Meyer also discussed how some pins are in the road, which is a County road that the neighbors maintain. He stated he has an alternate plan if this variance isn't approved; **VII.** Chairperson Sharon Sherrill asked about the pins and Mr. Meyer discussed the location of the three pins he was able to locate. Chairperson Sherrill discussed the road and the easement on the property. Mr. Meyer stated he may also have to adjust his intended location after JULIE comes out to mark the underground utilities on his property, and he also plans to stay as far away from the power pole with overhead lines as Ameren recommends; **VIII.** Zoning Board Member Gary Carruthers asked if Mr. Meyer anticipated any grading issues. Mr. Meyer discussed the location of the structure being far away from the grading of the land and how it shouldn't affect the drainage; **IX.** Zoning Board Member Mary Goode asked for more specifics on the location of the structure in relation to the right-of-way. Mr. Meyer stated he measured 40 feet from the end of the road. A discussion ensued.

Roll-call vote.

Ayes to the motion: Gary Carruthers, George Ellis, Mary Goode, Joe Pattan, Bruce Riedle
Nays to the motion: None

Whereupon the Chairperson declared the motion duly adopted.

_____
Chairperson, Madison County Zoning Board of Appeals

_____
Secretary, Zoning Administrator

Madison County Government
Building & Zoning Department
Chris Doucleff · Administrator
Madison County Administration Building
157 N. Main Street, Suite 254 · Edwardsville, IL 62025-1964
Phone: (618) 692-7040 ext. 4468
Email: zoning@madisoncountyil.gov

Chris Slusser
County Board Chairman

Zoning Board of Appeals Staff Report

Application Number: **Z26-0057**

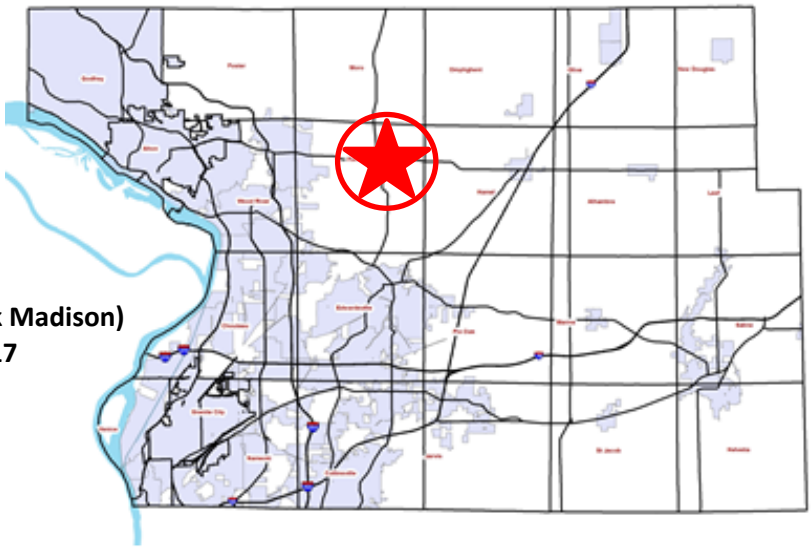
Meeting Date: **June 23, 2026**

From: **Jen Hurley**
Zoning Coordinator

Location: **6611 W Liberty Prairie Ln**
Edwardsville, Illinois
County Board District #5 (Mick Madison)
PIN: 15-1-09-11-00-000-004.017

Zoning Request: **Variance**

Description: **Accessory Structure Setback**



Proposal Summary
The applicant is Patrick Meyer, owner of record. The subject property is zoned "A" Agricultural District and is located in Ft Russell Township at 6611 W Liberty Prairie Ln, Edwardsville, County Board District #5. The applicant is requesting a variance as per §93.051, Section A, Item 3, Subsection (c) of the Madison County Zoning Ordinance in order to construct an accessory structure that would be 40 feet from the front (east) property line instead of the required 50 feet. The subject variance must be reviewed and approved by the Zoning Board of Appeals (ZBA) as per §93.176, Section A, Item 1 of the Madison County Zoning Ordinance.

Planning and Zoning Considerations

- *Land Use and Zoning of Surrounding Properties*

Direction	Land Use	Zoning
North	Single-Family Dwelling	"A" Agricultural
South	Single-Family Dwelling/Farmland/Row Crops	"A" Agricultural
East	Row Crops	"A" Agricultural
West	Single-Family Dwelling/Timber	"A" Agricultural

- *Zoning History* – There have been no other zoning requests on the property, and there are no outstanding violations.

- *Variance for Accessory Structure Setback* – The applicant is requesting to build a pole barn for personal use on the subject property that would be 40 feet from the front (east) property line instead of the required 50 feet. See page 6 for the narrative statement.

Staff Review

When reviewing an application, the following should be taken into consideration: (1) the precedent, (2) the Standards of Review, and (3) public input.

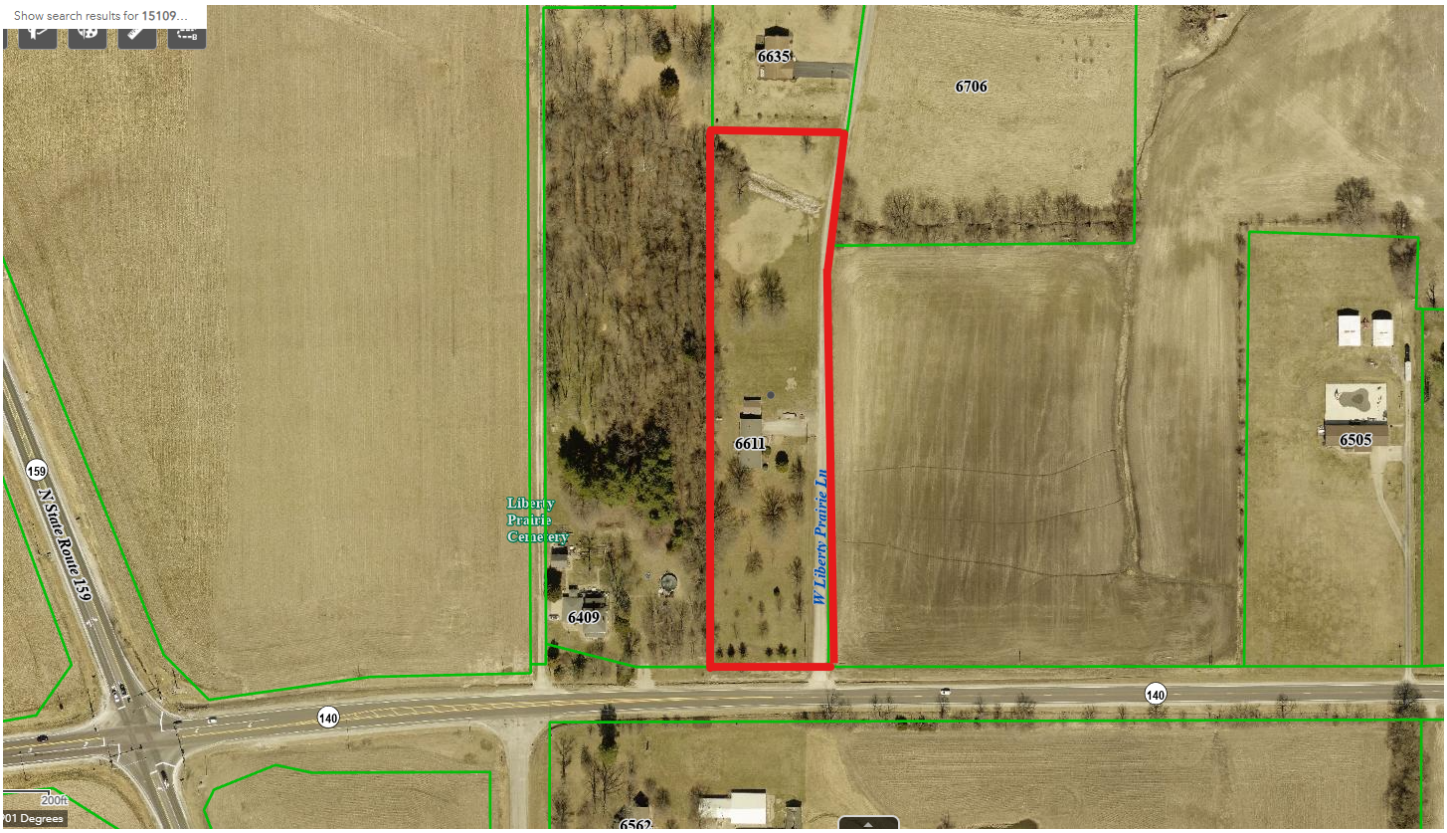
1. In the past 15 years, there have been 40 variance requests for the setback of an accessory structure. Only one 1 was denied.
2. The below Standards of Review for Variances should be taken into consideration for this request. The ZBA has the authority to add conditions of approval to the variance request or recommend denial of the request if the ZBA feels it does not meet the below Standards of Review.
3. Public input during the hearing has value and should be considered by staff and the ZBA when making a recommendation. Staff will provide a formal recommendation based on the outcome of the public hearing.

Standards of Review for Variances

Per §93.177, Section (I), Items 1-4 of the Madison County Zoning Ordinance, the Zoning Board of Appeals shall ensure that the following conditions are met when considering a Variance request:

1. That there are special circumstances or conditions as fully described in the findings, applying to the land or buildings for which the variance is sought, which circumstances or conditions are peculiar to such land or building and do not apply generally to the land or buildings in the surrounding area, and that circumstances or conditions are such that strict application of this Zoning Code would deprive the applicant of a reasonable permitted use of the land or building; and,
2. That, for reasons fully set forth in the findings, the granting of the variance is necessary for the reasonable use of land or buildings, and that the variance is the minimum variance that will accomplish this purpose; and,
3. That the granting of this variance would be in harmony with the general purpose and intent of this Zoning Code, and will not be injurious to the surrounding area or otherwise detrimental to the character and use of adjoining buildings and those in the vicinity, the Board, in making its findings, shall take into account whether the condition of the subject premises is peculiar to the lot or tract described in the petition or is merely part of the general condition of the area.
4. No Variance shall be approved that constitutes a variation in use not permitted in the district.

Aerial Photograph



The subject property is outlined in red. Please note property lines may be skewed to imagery.

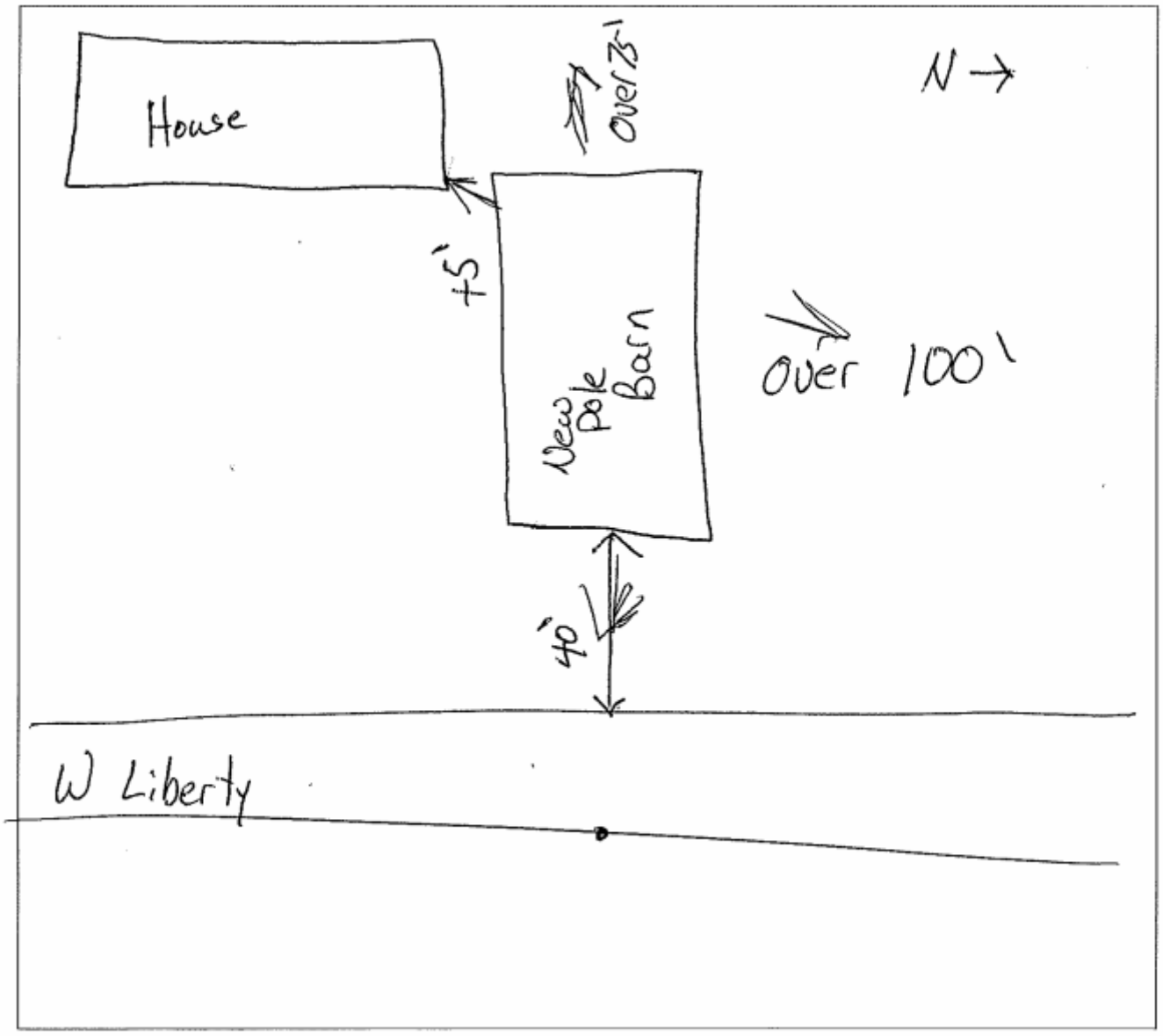
Site Photographs







Site Plan



Narrative Statement

I am requesting a variance for set back instead of 50' I am requesting 40'. For Front Yard for a Pole Barn Located at 6611 W Liberty Prairie Lane

Patrick B Meyer 5/19/26

RESOLUTION – Z26-0061

WHEREAS, on the 23rd day of June 2026, a public hearing was held to consider the petition of Carl and Cynthia McGaughey, owners of record, requesting a Special Use Permit as per §93.025, Section G, Item 9, in order to continue placement of a mobile home on site for the occupancy of Tara Johnson for a period not to exceed 5 years. This is located in an "R-3" Single-Family Residential District in Wood River Township at 76 Circle Dr, Cottage Hills, Illinois, County Board District #13, PIN# 19-2-08-11-01-107-013.001; and,

WHEREAS, the Madison County Zoning Board of Appeals submitted its Findings for the aforesaid petition; and,

WHEREAS, it was recommended in the aforesaid Report of Findings of the Madison County Zoning Board of Appeals that the petition of Carl and Cynthia McGaughey be approved with conditions.

WHEREAS, it is the opinion of the County Board of Madison County that the Petition of Carl and Cynthia McGaughey should be **Approved with Conditions** as follows:

1. This Special Use Permit is granted for the sole usage of Carl and Cynthia McGaughey for a period not to exceed five (5) years, but may be extended either through an amendment to this Special Use Permit or through an administrative review process, if qualified, as long as Tara Johnson occupies the structure, notwithstanding any violations, nuisance, or change in occupancy. The owner shall remove the mobile home from the site or apply for a new Special Use Permit once Tara Johnson vacates the structure.

NOW, THEREFORE BE IT RESOLVED that this Resolution is approved and shall take effect immediately upon its adoption.

s/ Mick Madison
Building & Zoning Committee Certification of Votes
July 7, 2026

Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Frank Dickerson	**AYE✓ NAY☐ ABSTAIN☐**
Terry Eaker	**AYE✓ NAY☐ ABSTAIN☐**
John Janek	**AYE✓ NAY☐ ABSTAIN☐**
Fred Michael	**AYE✓ NAY☐ ABSTAIN☐**
Nick Petrillo	**AYE✓ NAY☐ ABSTAIN☐**
Bobby Ross	**AYE✓ NAY☐ ABSTAIN☐**

Finding of Fact and Recommendations
Hearing Z26-0061
Petition of Carl and Cynthia McGaughey, owners of record, requesting a Special Use Permit as per §93.025, Section G, Item 9, in order to continue placement of a mobile home on site for the occupancy of Tara Johnson for a period not to exceed 5 years. This is located in an "R-3" Single-Family Residential District in Wood River Township at 76 Circle Dr, Cottage Hills, Illinois, County Board District #13, PIN# 19-2-08-11-01-107-013.001.

Members Present: Gary Carruthers, George Ellis, Mary Goode, Joe Pattan, Bruce Riedle, Sharon Sherrill
Members Absent: Curtis Stephens

A **motion** was made by Mary Goode and **seconded** by George Ellis that the petition of Carl and Cynthia McGaughey be **Approved with Conditions** as follows:

1. This Special Use Permit is granted for the sole usage of Carl and Cynthia McGaughey for a period not to exceed five (5) years, but may be extended either through an amendment to this Special Use Permit or through an administrative review process, if qualified, as long as Tara Johnson occupies the structure, notwithstanding any violations, nuisance, or change in occupancy. The owner shall remove the mobile home from the site or apply for a new Special Use Permit once Tara Johnson vacates the structure.

The Finding of Fact of the Board of Appeals: **I.** The zoning file, staff report, and Madison County Code of Ordinances were submitted for the record; **II.** The notice of public hearing was posted on the property in accordance with the terms of the ordinance; **III.** The legal notice appeared in the newspaper and meets the requirements of the ordinance for publication; **IV.** The adjoining property owners were notified by mail of the time, date, and location of the public hearing; **V.** Carl McGaughey spoke about his request and discussed his plan to keep the mobile home for Tara Johnson to live in and he will remove the home when she no longer needs it. He said he intends to remove the home and sell the parcel to the nearby car wash at that point; **VI.** Zoning Board Member Mary Goode asked if Ms. Johnson currently lived in the home. Mr. McGaughey stated she does.

Roll-call vote.

Ayes to the motion: Gary Carruthers, George Ellis, Mary Goode, Joe Pattan, Bruce Riedle
Nays to the motion: None

Whereupon the Chairperson declared the motion duly adopted.

_____
Chairperson, Madison County Zoning Board of Appeals

_____
Secretary, Zoning Administrator

Madison County Government
Building & Zoning Department
Chris Doucleff · Administrator
Madison County Administration Building
157 N. Main Street, Suite 254 · Edwardsville, IL 62025-1964
Phone: (618) 692-7040 ext. 4468
Email: zoning@madisoncountyil.gov

Chris Slusser
County Board Chairman

Zoning Board of Appeals Staff Report

Application Number: **Z26-0061**

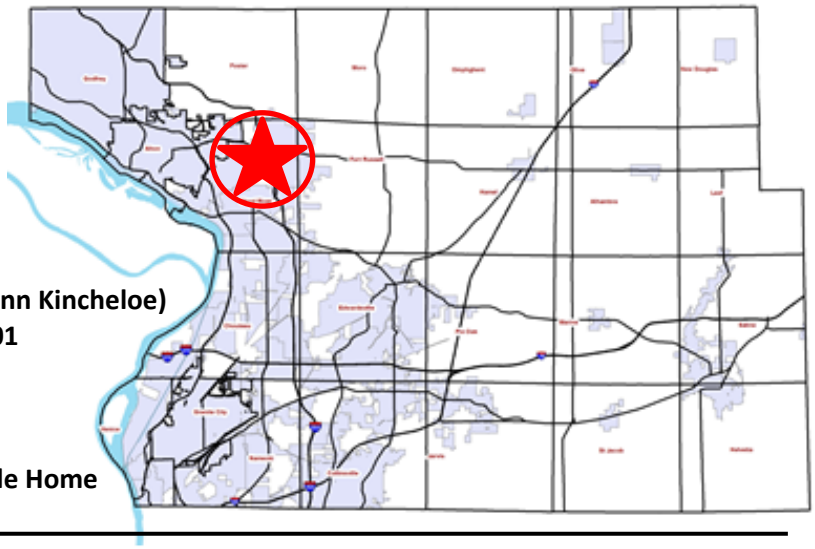
Meeting Date: **June 23, 2026**

From: **Jen Hurley**
Zoning Coordinator

Location: **76 Circle Dr**
Cottage Hills, IL
County Board District #13 (Brynn Kincheloe)
PIN: 19-2-08-11-01-107-013.001

Zoning Request: **Special Use Permit**

Description: **Continued Placement of Mobile Home**



Proposal Summary
The applicants are Carl and Cynthia McGaughey. The subject property, which is zoned "R-3" Single-Family Residential District, is located at 76 Circle Dr, Cottage Hills, in Wood River Township. The applicants are requesting a Special Use Permit (SUP) as per §93.025, Section G, Item 9 of the Madison County Zoning Ordinance in order to continue placement of a mobile home on site for a period not to exceed 5 years. Tara Johnson is the proposed occupant of the existing mobile home. In order for this request to be permitted, the ZBA must review and approve the application as per §93.176, Section A, Item 2 of the Madison County Zoning Ordinance.

Planning & Zoning Considerations

- *Land Use and Zoning of Surrounding Properties*

Direction	Land Use	Zoning
North	Single-Family Dwelling	"B-3" Highway Business
South	Vacant	"R-3" Single-Family Residential
East	Single-Family Dwelling	"R-3" Single-Family Residential
West	Vacant	"B-4" Wholesale Business

- *Zoning History* – The only other zoning requests on the subject property have been Special Use Permits for the existing mobile home. There are no outstanding violations on the property.

- *SUP Mobile Home Renewal* – The applicants are requesting to continue the placement of a mobile home on the subject property for the occupancy of Tara Johnson. If the petition is approved, the applicants may continue placement of the mobile home on the property for 5 years for the sole occupancy of Tara Johnson. The surrounding area is mostly made up of small single-family dwellings. The existing mobile home that is the subject of this hearing does not seem to conflict with the character of the area. The applicants will be eligible for

administrative review for continued placement after 5 years if there is not a change in occupancy or property ownership. See page 4 for site plan and page 5 for photo of the existing mobile home.

Staff Review

When reviewing an application, the following should be taken into consideration; (1) precedent, (2) standards of review and (3) public input.

1. Over the past 15 years, we have received over 300 requests for Special Use Permits for mobile homes, including both new placements and continued placements. Most were approved.
2. The below Standards of Review for Special Use Permits should be taken into consideration for this request. If the ZBA feels the request does not meet the below Standards of Review, the ZBA has the authority to place additional conditions of approval to the SUP or recommend denial of the request.
3. Public input during the hearing has value and should be considered by staff and the ZBA when making a recommendation. Staff will provide a formal recommendation based on the outcome of the public hearing.

Standard of Review for Special Use Permits

Below are the items listed in the Zoning Ordinance that the Zoning Board of Appeals shall take into account while reviewing a SUP request.

1. The effect the development would have on schools, traffic, streets, shopping, public utilities, and adjacent properties;
2. Whether the application is necessary for the public convenience at that location;
3. In the case of an existing nonconforming use, whether a special use permit would make the use more compatible with its surroundings;
4. Whether the application is designed, located, and proposed to be operated in a manner that protects the public health, safety, and welfare;
5. Whether the application will cause injury to the value of other property in the neighborhood in which it is located; and,
6. Whether the special use would be detrimental to the essential character of the district in which it is located.

Conditions of Approval

If the Zoning Board of Appeals chooses to recommend approval for the special use permit, staff recommends the following conditions:

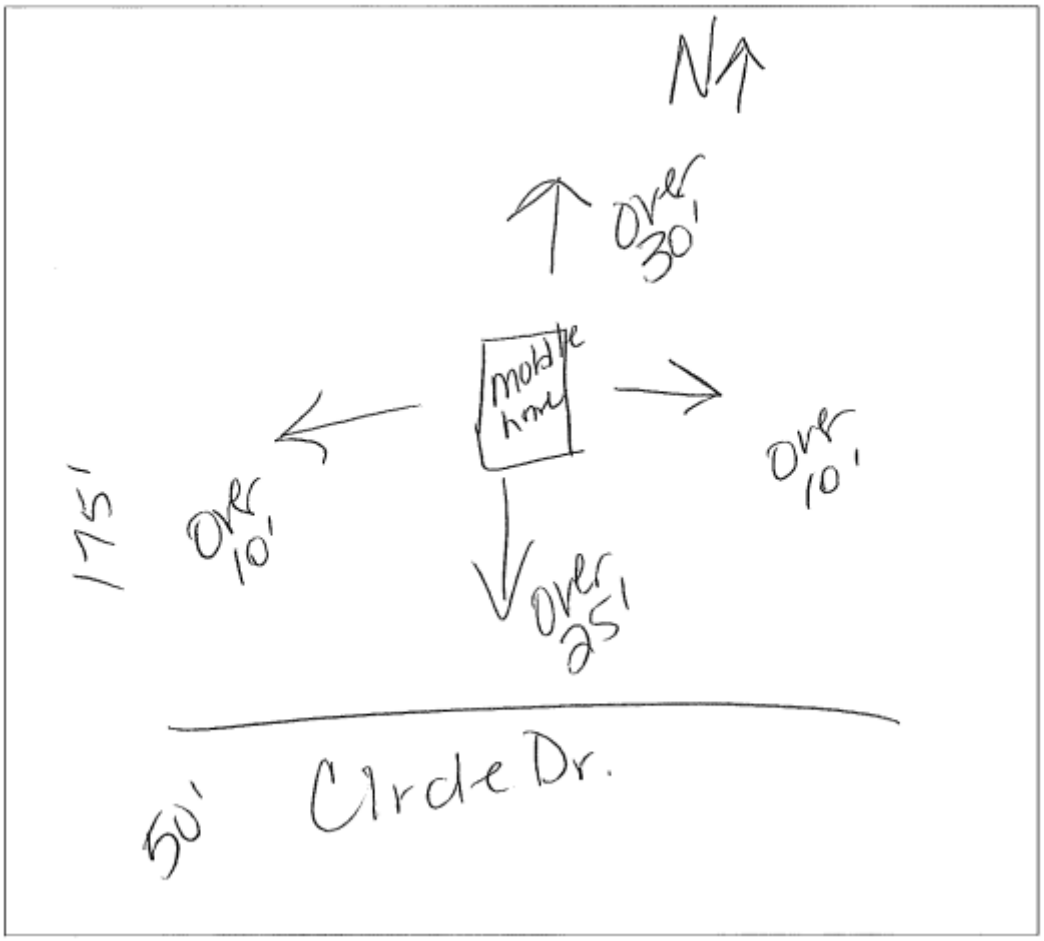
1. This Special Use Permit is granted for the sole usage of Carl and Cynthia McGaughey for a period not to exceed five (5) years, but may be extended either through an amendment to this Special Use Permit or through an administrative review process, if qualified, as long as Tara Johnson occupies the structure, notwithstanding any violations, nuisance, or change in occupancy. The owner shall remove the mobile home from the site or apply for a new Special Use Permit once Tara Johnson vacates the structure.

Aerial Photograph



The subject property is outlined in red. Please note property lines are skewed to imagery.

Site Plan



Site Photo







Narrative Statement

5/29/26

I, Carl McGaughey, am requesting a special use permit in order to continue placement of a single wide manufactured home for the occupancy of Tara Johnson, who is terminally-ill with cancer. After she passes the mobile home will be removed and property sold to car wash nearby. Property is 76 Circle Dr. Cottage Hills. Property was from an inheritance

C. McGaughey

RESOLUTION – Z26-0065

WHEREAS, on the 23rd day of June 2026, a public hearing was held to consider the petition of Mary Goode, owner of record, requesting a zoning map amendment to rezone an approximately 2.60 acre tract of land from "B-3" Highway Business District to "R-6" Mobile Home Park District. This is located in Nameoki Township at 4534 State Route 162, Granite City, Illinois, County Board District #16, PIN# 17-1-20-12-00-000-010; and,

WHEREAS, the Madison County Zoning Board of Appeals submitted its Findings for the aforesaid petition; and,

WHEREAS, it was recommended in the aforesaid Report of Findings of the Madison County Zoning Board of Appeals that the petition of Mary Goode be approved.

WHEREAS, it is the opinion of the County Board of Madison County that the Petition of Mary Goode should be **approved** and this Resolution adopted.

NOW, THEREFORE BE IT RESOLVED that this Resolution is approved and shall take effect immediately upon its adoption.

s/ Mick Madison
Building & Zoning Committee Certification of Votes
July 7, 2026

Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Frank Dickerson	**AYE✓ NAY☐ ABSTAIN☐**
Terry Eaker	**AYE✓ NAY☐ ABSTAIN☐**
John Janek	**AYE✓ NAY☐ ABSTAIN☐**
Fred Michael	**AYE✓ NAY☐ ABSTAIN☐**
Nick Petrillo	**AYE✓ NAY☐ ABSTAIN☐**
Bobby Ross	**AYE✓ NAY☐ ABSTAIN☐**

Hearing Z26-0065
Petition of Mary Goode, owner of record, requesting a zoning map amendment to rezone an approximately 2.60 acre tract of land from "B-3" Highway Business District to "R-6" Mobile Home Park District. This is located in Nameoki Township at 4534 State Route 162, Granite City, Illinois, County Board District #16, PIN# 17-1-20-12-00-000-010.

Members Present: Gary Carruthers, George Ellis, Mary Goode, Joe Pattan, Bruce Riedle, Sharon Sherrill
Members Absent: Curtis Stephens

A **motion** was made by Joe Pattan and **seconded** by Bruce Riedle that the petition of Mary Goode be **Approved.**

The Finding of Fact of the Board of Appeals: **I.** The zoning file, staff report, and Madison County Code of Ordinances were submitted for the record; **II.** The notice of public hearing was posted on the property in accordance with the terms of the ordinance; **III.** The legal notice appeared in the newspaper and meets the requirements of the ordinance for publication; **IV.** The adjoining property owners were notified by mail of the time, date, and location of the public hearing; **V.** Zoning Coordinator Jen Hurley read aloud the following two letters: (1) "To the Zoning Board, My name is Carl Ropac, my address is 4538 State Rt. 162, Granite City, Il. I live at the property adjacent to 4536 & 4534 State Rt. 162, Granite City, with my mother, Pauline Ropac. Mary Goode has been our neighbor now since 2010, when she purchased the Vault Co. building, located at 4560 State Rt 162 Granite City, Il. We watched them transform the old concrete Vault Co. building into a beautiful Warehouse facility. We was excited to see that she had purchased the park. Since Mary purchased the park and house, she has done more to enhance the area in a few months than the previous owners did in twenty years. She offered & removed trees and cleared brush behind and alongside my trailer at no cost to us. The area continues to improve under her ownership. My mother and I fully support her request for rezoning and have no objections. Thank you for your time and consideration. Sincerely, Carl & Pauline"; (2) "To whom it may concern: I am unable to make the meeting for the zoning hearing for 4534 State Route 162 this evening, but I would like to let my concerns be known. I have no concerns about the current mobile home park that already exists being there as long as it is not turned into an RV park. Mary has made the property look very good and we are happy for that. My biggest concern is the amount of rock and dirt that is being brought in. With my property laying lower than hers this sets me up to have more issues as more water drainage will be added to my property. Elizabeth Grant, 4528 State Route 162, and Michelle Ward, 4532 State Route 162"; **VI.** Applicant Mary Goode spoke about her request. She discussed the history of the surrounding parcels and the subject parcel. She described how she has been cleaned up and maintained the properties. Ms. Goode said her original plan was to get rid of the trailers and have an RV-Park on the subject property but has since changed her mind and is keeping the trailers and there will be no RV's on site. She discussed how she works with the tenants in the trailer park to help maintain the property; **VII.** Zoning Board Member Gary Carruthers asked if there were sewer mains on the property. Ms. Goode discussed the property being on a private sewage system and how she had everything inspected and everything passed. She also stated that she is not adding anything, just maintaining what is already on the property at this point; **VIII.** Zoning Board Member Bruce Riedle asked if these trailers have just been there without the proper zoning. Ms. Goode stated the property is zoned "Business". Randy from the audience stated the trailer park has been there since 1957. Building and Zoning Administrator Chris Doucleff discussed this property being a legal non-conforming use, and Ms. Goode is asking for the correct zoning for the property going forward.

Roll-call vote.

Ayes to the motion: Gary Carruthers, George Ellis, Joe Pattan, Bruce Riedle
Nays to the motion: None
Abstain: Mary Goode, Sharon Sherrill

Whereupon the Chairperson declared the motion duly adopted.

_____
Chairperson, Madison County Zoning Board of Appeals

_____
Secretary, Zoning Administrator

Madison County Government
Building & Zoning Department
Chris Doucleff · Administrator
Madison County Administration Building
157 N. Main Street, Suite 254 · Edwardsville, IL 62025-1964
Phone: (618) 692-7040 ext. 4468
Email: zoning@madisoncountyil.gov

Chris Slusser
County Board Chairman

Zoning Board of Appeals Staff Report

Application Number: **Z26-0065**

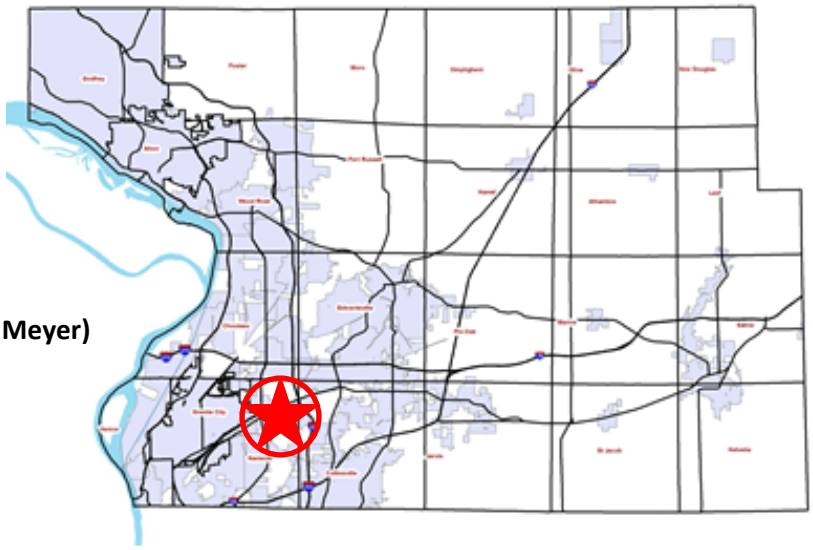
Meeting Date: **June 23, 2026**

From: **Jen Hurley**
Zoning Coordinator

Location: **4534 State Rte 162**
Granite City, Illinois
County Board District #16 (Bob Meyer)
PIN: 17-1-20-12-00-000-010

Zoning Request: **Zoning Map Amendment**

Description: **Rezoning from "B-3" to "R-6"**



Proposal Summary
The applicant is Mary Goode, owner of record. The subject property is located in Nameoki Township at 4534 State Route 162, Granite City, County Board District #16. The applicant is requesting to rezone the approximately 2.60 acre tract of land from "B-3" Highway Business District to "R-6" Mobile Home Park District. The request to rezone the lot must be reviewed and approved by the Zoning Board of Appeals (ZBA) as per §93.176, Section A, Item 3 of the Madison County Zoning Ordinance.

Planning and Zoning Considerations

- *Land Use and Zoning of Surrounding Properties*

Direction	Land Use	Zoning
North	Single-Family Dwellings	"R-2" Single-Family Residential & Village of Pontoon Beach
South	Timber	Village of Pontoon Beach
East	Commercial Warehouse/Timber	"M-2" General Manufacturing & Village of Pontoon Beach
West	Single-Family Dwellings/Timber	Village of Pontoon Beach

- *Zoning History* – There have been no other zoning requests on the subject property, and there are no outstanding violations.

- *Rezoning from "B-3" to "R-6"* – The applicant is requesting to rezone the approximately 2.60 acre tract of land from "B-3" Highway Business District to "R-6" Mobile Home Park District for a 10-lot mobile home park. See page 3 for the aerial photo and zoning map, and page 4 for site photos.

Staff Review

When reviewing an application, the following should be taken into consideration: (1) the precedent, (2) the Standards of Review, and (3) public input.

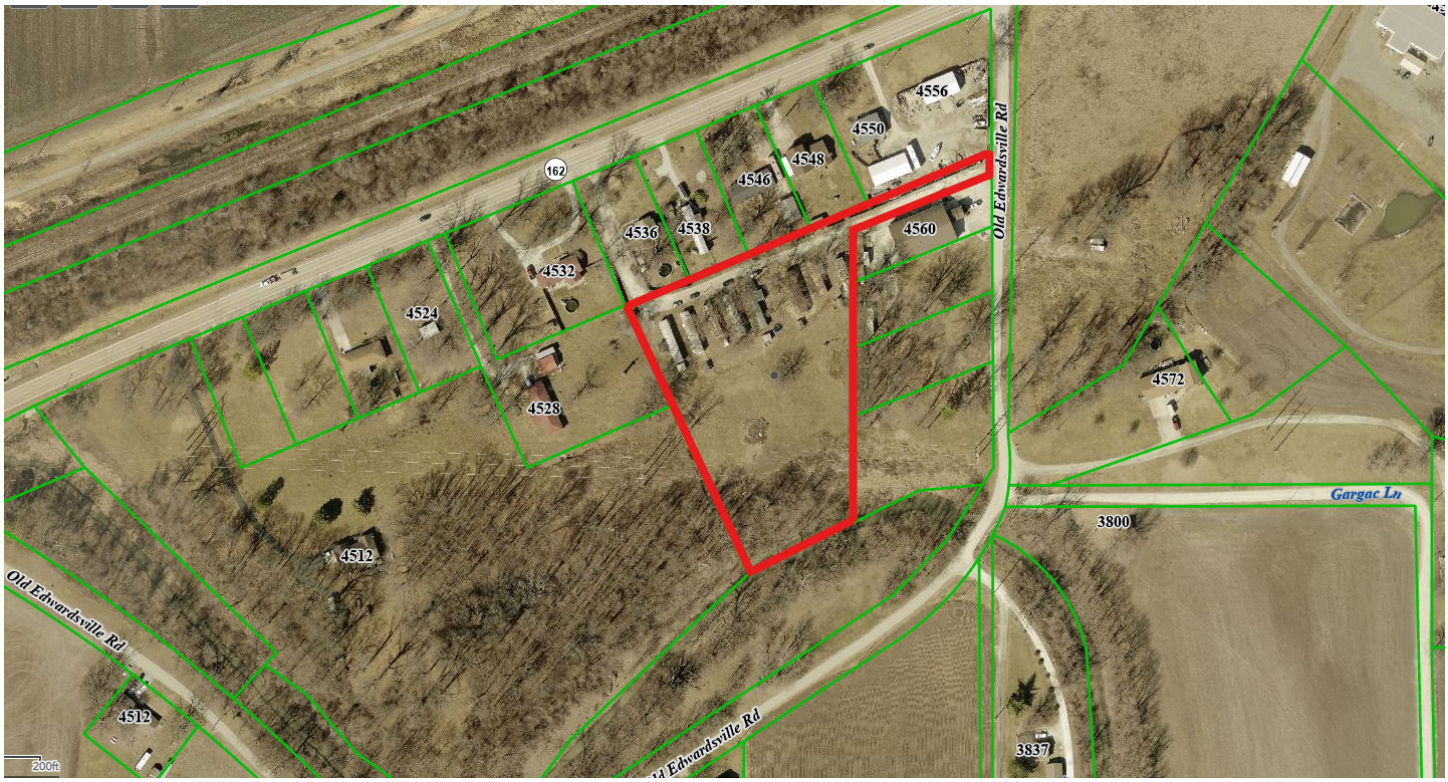
1. In the past 15 years, there have been over 100 requests for zoning map amendments, most of which have been approved.
2. The below Standards of Review for Zoning Amendments should be taken into consideration for this request. The ZBA has the authority to recommend denial of the request if the ZBA feels it does not meet the below Standards of Review.
3. Public input during the hearing has value and should be considered by staff and the ZBA when making a recommendation. Staff will provide a formal recommendation based on the outcome of the public hearing.

Standard of Review for Zoning Amendments

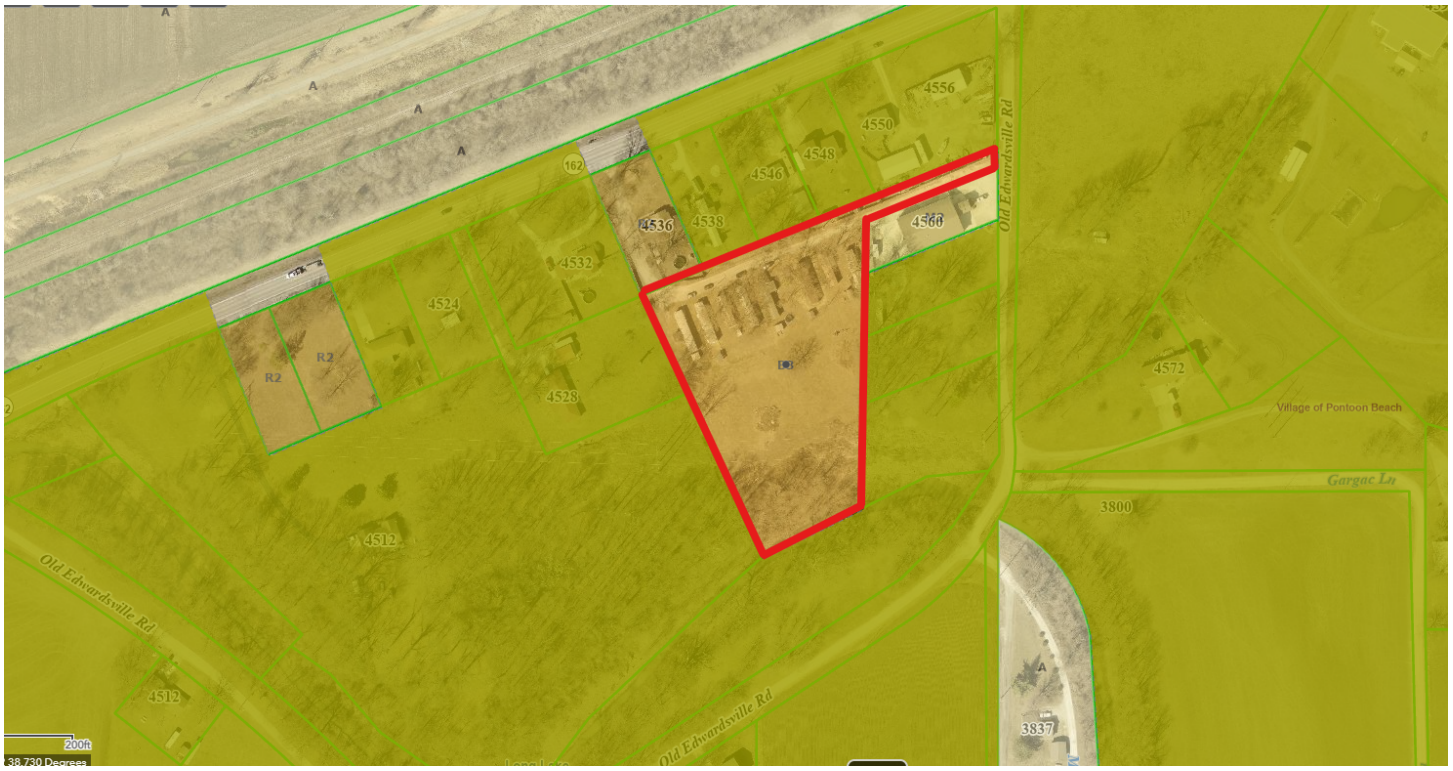
Per §93.178, Section (F), Items 1-7 of the Madison County Zoning Ordinance, the Zoning Board of Appeals shall consider the following items when reviewing a Zoning Map Amendment:

1. The effect the development would have on schools, traffic, streets, shopping, public utilities, and adjacent properties;
2. Is the application necessary for the public convenience at that location;
3. In the case of an existing nonconforming use, will a special use permit/map amendment make the use more compatible with its surroundings;
4. Is the application so designed, located, and proposed to be operated that the public health, safety, and welfare will be protected;
5. Will the application cause injury to the value or other property in the neighborhood in which it is located; and,
6. Will the special use/map amendment be detrimental to the essential character of the district in which it is located?
7. Will the application, if granted, otherwise be in compliance with this Code and the Madison County Code of Ordinances.

Aerial Photograph & Zoning Map



The subject property is outlined in red. Please note property lines may be skewed to imagery.



Site Photographs





June 20th, 2026

To the Zoning Board,

My name is Carl Ropac, my address is 4538 State Rt. 162, Granite City, Il. I live at the property adjacent to 4536 & 4534 State Rt. 162, Granite City, with my mother, Pauline Ropac. Mary Goode has been our neighbor now since 2010, when she purchased the Vault Co. building, located at 4560 State Rt 162 Granite City, Il. We watched them transform the old concrete Vault Co. building into a beautiful Warehouse facility.

We was excited to see that she had purchased the park. Since Mary purchased the park and house, she has done more to enhance the area in a few months than the previous owners did in twenty years. She offered & removed trees and cleared brush behind and alongside my trailer at no cost to us.

The area continues to improve under her ownership. My mother and I fully support her request for rezoning and have no objections.

Thank you for your time and consideration.

Sincerely,

Carl & Pauline

To whom it may concern:

I am unable to make the meeting for the zoning hearing for 4534 State Route 162this evening, but I would like to let my concerns be known. I have no concerns about the current mobile home park that already exists being there as long as it is not turned into an RV park. Mary has made the property look very good and we are happy for that. My biggest concern is the amount of rock and dirt that is being brought in. With my property laying lower than hers this sets me up to have more issues as more water drainage will be added to my property.

Elizabeth Grant

4528 State Route 162

Michelle Ward

4532 State Route 162

RESOLUTION – Z26-0062

WHEREAS, on the 23rd day of June 2026, a public hearing was held to consider the petition of Arena Navigator 1 Solar, LLC, applicant on behalf of Fosterburg-255, LLC, owner of record, requesting a Special Use Permit as per §93.023, Section D, Item 41 of the Madison County Zoning Ordinance in order to develop a Commercial Solar Energy Facility on site. This is located in an "A" Agricultural District in Foster Township along Fosterburg Rd and Harris Ln, Alton, Illinois, County Board District #5, PIN#s 20-1-02-33-00-000-010 & 20-1-02-33-04-401-009; and,

WHEREAS, the Madison County Zoning Board of Appeals submitted its Findings for the aforesaid petition; and,

WHEREAS, it was recommended in the aforesaid Report of Findings of the Madison County Zoning Board of Appeals that the petition of Arena Navigator 1 Solar, LLC, on behalf of Fosterburg-255, LLC, be Approved with Conditions.

WHEREAS, on review of the aforesaid Report of Findings of the Madison County Zoning Board of Appeals by the Building & Zoning Committee, the Madison County Board hereby finds that the petition of Arena Navigator 1 Solar, LLC, on behalf of Fosterburg-255, LLC, be **Approved with Conditions** as follows:

1. This special use permit is granted for the sole usage of Arena Navigator 1 Solar, LLC for a 3.60 megawatt commercial solar energy facility inside the project area.
2. Applicant has proposed, and shall adhere to, the submitted site plan attached hereto, which provides a minimum setback of 200 feet from the nearest dwelling, as well as landscape screening along property boundaries, and a woven wire fence enclosing the facility.
3. Applicant has proposed and shall adopt a decommissioning plan which includes posting 100% of the Project decommissioning bond upon issuance of a building permit, through a surety bond or equivalent financial instrument acceptable to the County.
4. If at any point in the future the current owner of the underlying property or Arena Navigator 1 Solar, LLC intend to transfer their/its interest in the property or facility, the Madison County Building & Zoning Administrator shall be notified in writing and be provided all necessary information pertaining to the new entities or parties involved.
5. All vegetation, shrubbery, or other planting shall be well-maintained and kept free of noxious weeds and invasive plants.
6. Applicant shall keep the property in compliance with all Madison County Ordinances.
7. The owner's failure to adhere to the conditions of the Special Use Permit will cause revocation of the same, and require immediate removal of the solar project from the site.

WHEREAS, it is the opinion of the County Board of Madison County that the petition should be approved with conditions stated herein and Resolution adopted.

NOW, THEREFORE BE IT RESOLVED that this Resolution is approved and shall take effect immediately upon its adoption.

Building & Zoning Committee Certification of Votes
July 7, 2026

Mick Madison	**AYE☐ NAY☐ ABSTAIN☐**
Frank Dickerson	**AYE☐ NAY☐ ABSTAIN☐**
Terry Eaker	**AYE☐ NAY☐ ABSTAIN☐**
John Janek	**AYE☐ NAY☐ ABSTAIN☐**
Fred Michael	**AYE☐ NAY☐ ABSTAIN☐**
Nick Petrillo	**AYE☐ NAY☐ ABSTAIN☐**
Bobby Ross	**AYE☐ NAY☐ ABSTAIN☐**

Finding of Fact and Recommendations
Hearing Z26-0062
Petition of Arena Navigator 1 Solar, LLC, applicant on behalf of Fosterburg-255, LLC, owner of record, requesting a Special Use Permit as per §93.023, Section D, Item 41 of the Madison County Zoning Ordinance in order to develop a Commercial Solar Energy Facility on site. This is located in an "A" Agricultural District in Foster Township along Fosterburg Rd and Harris Ln, Alton, Illinois, County Board District #5, PIN#s 20-1-02-33-00-000-010 & 20-1-02-33-04-401-009.

Members Present: Gary Carruthers, George Ellis, Mary Goode, Joe Pattan, Bruce Riedle, Sharon Sherrill
Members Absent: Curtis Stephens

A **motion** was made by Joe Pattan and **seconded** by Bruce Riedle that the petition of Arena Navigator 1 Solar, LLC, applicant on behalf of Fosterburg-255, LLC, be **Approved with Conditions** as follows:

1. This special use permit is granted for the sole usage of Arena Navigator 1 Solar, LLC for a 3.60 megawatt commercial solar energy facility inside the project area.
2. Applicant has proposed, and shall adhere to, the submitted site plan **attached** hereto, which provides a minimum setback of 200 feet from the nearest dwelling, as well as landscape screening along property boundaries, and a woven wire fence enclosing the facility.
3. Applicant has proposed and shall adopt a decommissioning plan which includes posting 100% of the Project decommissioning bond upon issuance of a building permit, through a surety bond or equivalent financial instrument acceptable to the County.
4. If at any point in the future the current owner of the underlying property or Arena Navigator 1 Solar, LLC intend to transfer their/its interest in the property or facility, the Madison County Building & Zoning Administrator shall be notified in writing and be provided all necessary information pertaining to the new entities or parties involved.
5. All vegetation, shrubbery, or other planting shall be well-maintained and kept free of noxious weeds and invasive plants.
6. Applicant shall keep the property in compliance with all Madison County Ordinances.
7. The owner's failure to adhere to the conditions of the Special Use Permit will cause revocation of the same, and require immediate removal of the solar project from the site.

The Finding of Fact of the Board of Appeals: **I.** The zoning file, staff report, and Madison County Code of Ordinances were submitted for the record; **II.** The notice of public hearing was posted on the property in accordance with the terms of the ordinance; **III.** The legal notice appeared in the newspaper and meets the requirements of the ordinance for publication; **IV.** The adjoining property owners were notified by mail of the time, date, and location of the public hearing; **V.** Zoning Coordinator Jen Hurley read aloud two letters of opposition: (1) "Being a resident on Wolf Road, Foster Twp, we are on opposition to the application for a solar farm on Harris Lane, Alton, Illinois. This property is in very close proximity to home owners who will join in the opposition along with us. Steve and Dona Rickert."; (2) "Good evening, Zoning Appeals Board. My name is Julie Hamilton and I'm sending this email of opposition to petition Z26-0062, Arena Navigator 1 Solar LLC, applicant on behalf of Fosterburg – 255 LLC, requesting a special use permit to develop a commercial solar energy facility on Parcel ID 20-1-02-33-04-401-009. I send my comments on behalf of residents living in the Wolf/Drexelius/Vonnahmen Rd. neighborhood, which is approximately a 0.5 mile from the proposed site. As you may recall, your board heard from several of us in July of 2025, when petitions Z25-0044 and Z25-0045 were requesting a special use permit to develop commercial solar energy facilities. I want to remind you that this Board denied them their permit, as well as, the Zoning Board and County Board. My family, as well as the residents of Foster Township, still strongly oppose solar facilities in this township. We are all very committed to keeping our township a semi-residential agricultural community. I urge you all to vote to deny Navigator their special use permit! Respectfully, Julie Hamilton."; **VI.** Sean Pluta, an Attorney on behalf of Arena Navigator 1 Solar, LLC, spoke about the request. He discussed the proposed location of the solar project and stated he did not represent the Wolf Road projects, and this project site is not connected to the Wolf Road projects. He stated that this is a 16-acre space that will be converted on the 24-acre parcel, and this project is a little over half the size as most projects he has previously represented before the Board. Mr. Pluta discussed the State laws and regulations for Special Use Permits for solar projects. He stated that the application for this project meets all the regulations required, and it exceeds the required setback from residential homes of 150 feet by an additional 50 feet to the fenceline. Mr. Pluta said the project will be enclosed with a fence and have landscaping and vegetative screening around the project's perimeter. He stated that the application also includes the EcoCAT report, an Agricultural Impact Mitigation Agreement with the Illinois Department of Agriculture as well as the decommissioning process and bond. He stated the decommissioning bond phases in over a 10-year period after the project has been constructed, however they are providing to offer that right away in full even before beginning construction because they know from previous projects that is a common concern from Board Members. Mr. Pluta discussed the zoning factors listed in the "Standard of Review for Special Use Permits" that were considered for compatibility of this project; **VII.** Sam Walch, the Project Developer with Arena Renewables, spoke about his company and how they plan to own and operate this project. He also discussed how the project would be 3.60 megawatts, have no battery storage on site, and

the project would bring in extra tax revenue for the County. Mr. Walch also explained how community solar works for Ameren subscribers and the credits they could receive on their bills. He discussed the concessions for this project, including the landscaping, the increased setbacks, the fully funded decommissioning bond prior to construction, the community benefit agreement, pollinator friendly vegetation and a visually pleasing fence; **VIII.** Daniel Blalock, with Kimley-Horn Engineering Firm, spoke about the design aspects of the project. He discussed stormwater management, the pollinator-friendly vegetation that will be used, and the drain tiles on the property. Mr. Blalock also explained how the panels will be made of tempered glass and have a very low risk of any soil contaminants; **IX.** Sam Walch spoke again about the visual aspects of the project. He explained how the evergreen trees will be 6 to 8 feet tall when planted and will grow to about 30 feet tall after five years at maturity, and shrubs will be placed between them. He also discussed some details of the AIMA and the decommissioning bond; **X.** Zoning Board Member Mary Goode asked how many facilities the company has installed. Sam Walch responded that they have not completed construction on any facilities yet, but there are two that will be completed this year, and this is approximately the fifteenth or twentieth project for the company. Ms. Goode asked who they will be selling this project to, and Mr. Walch stated that they are not selling this project. A discussion ensued; **XI.** Zoning Board Member Gary Carruthers asked about the drainage tiles. Mr. Walch discussed the remediation that would occur to keep the same drainage pattern; **XII.** Zoning Board Member Joe Pattan spoke about the location of the subject parcels and the high visibility of the project, and a solar project possibly being an underutilization of the site. Mr. Walch stated that the important thing about solar projects is that they are somewhat temporary in nature, so after 30 to 40 years, the subject parcels will return to agricultural use or other developments. Mr. Pattan asked if it would be 30 or 40 years. Mr. Walch stated that this project is aimed at having a 40-year life. Sean Pluta stated he has visited the site and there is also opportunity for development to the north of the subject parcels. Mr. Pluta also discussed the accessibility of electricity and how these projects keep in mind the future expansion of cities. Mr. Pluta also stated that this parcel was leased and not purchased for the project, so the landowner must think that this is the best offer for development; **XIII.** Zoning Board Member Mary Goode spoke about this location being a better fit for this type of project than some of the other locations brought before the Board. She questioned the savings program through Ameren. Mr. Walch stated the discount is roughly 10% off subscribers bills through the State-funded program. Zoning Board Member Gary Carruthers asked for additional details. Mr. Walch explained how the energy is sold to Ameren and Ameren sells it to customers as energy credits; **XIV.** Zoning Board Member Bruce Riedle asked if the subject parcels were considered prime farm ground by the State. Mr. Walch stated that he did not know; **XV.** Josh Stafford asked if the solar project would harm the crops. Sean Pluta discussed the area and stated that solar farms do not create noxious gas, and there is no leaching from the panels that would affect groundwater, and the drain tile remediation would prevent different runoff patterns that could affect drainage on other parcels.

Roll-call vote.

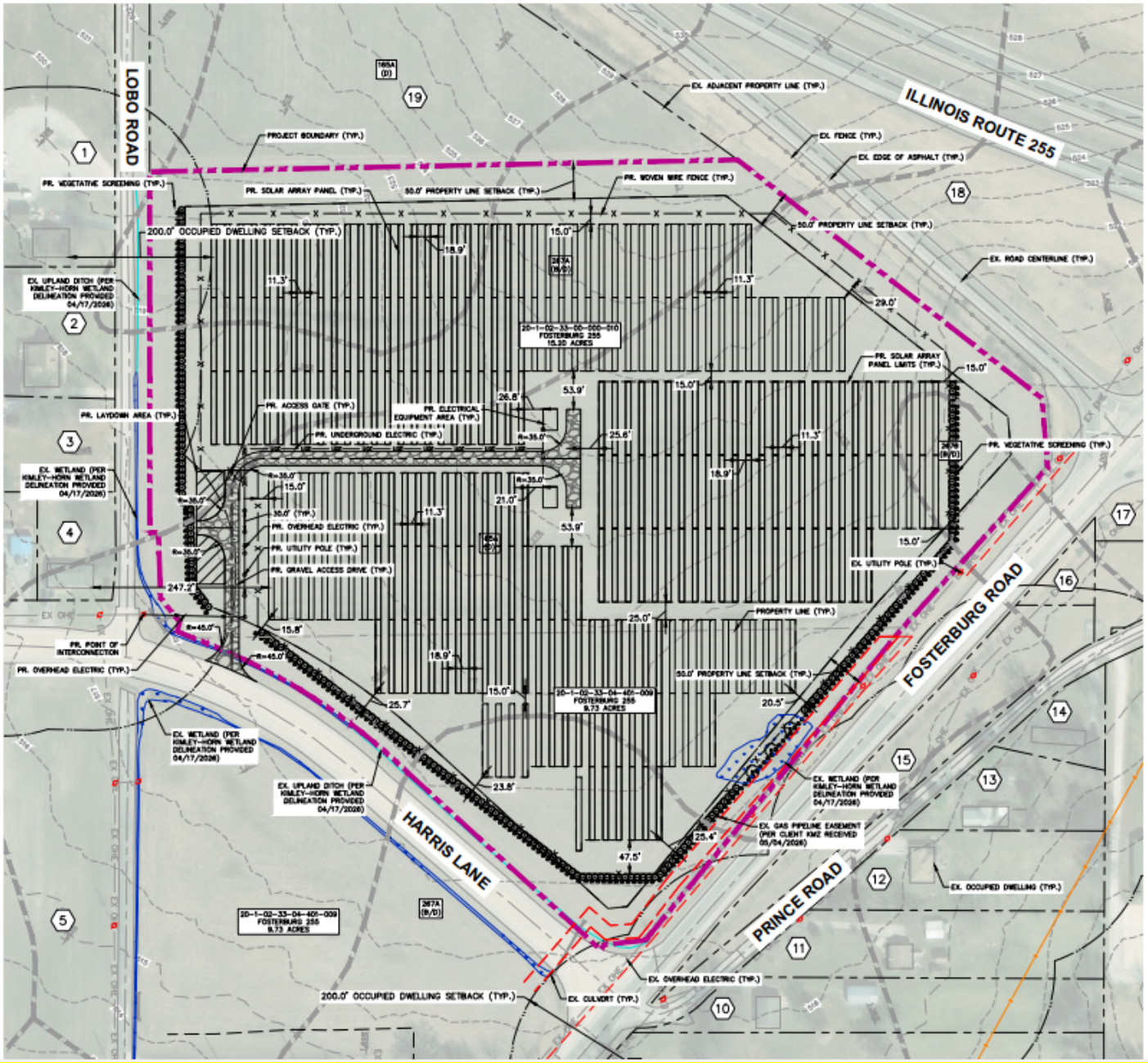
Ayes to the motion: Gary Carruthers, George Ellis, Mary Goode, Joe Pattan, Bruce Riedle
Nays to the motion: None

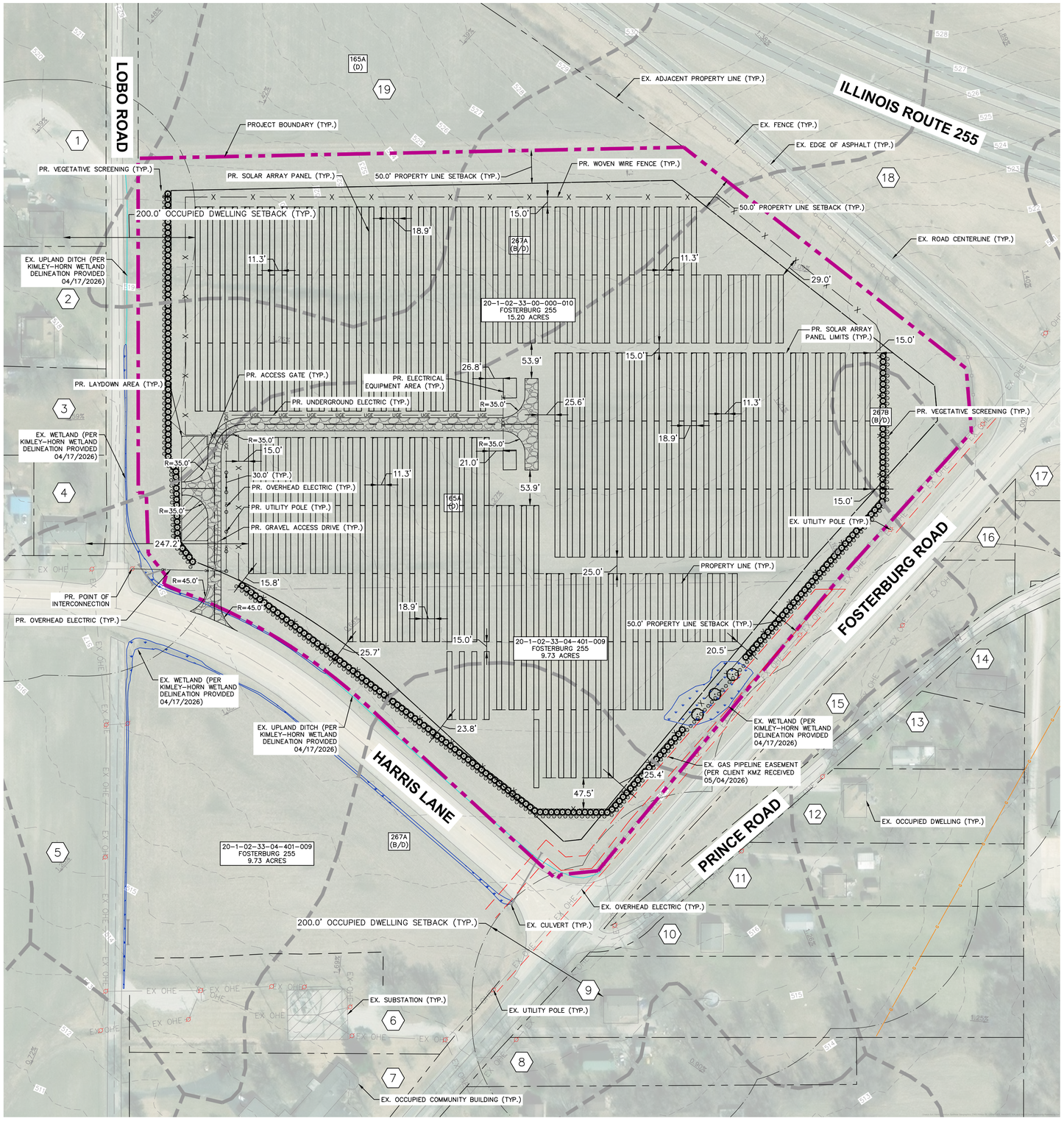
Whereupon the Chairperson declared the motion duly adopted.

_____
Chairperson, Madison County Zoning Board of Appeals

_____
Secretary, Zoning Administrator

Hearing Z26-0062: Attached Site Plan:


LOBO ROAD
ILLINOIS ROUTE 255
FOSTERBURG ROAD
HARRIS LANE
PRINCE ROAD
PROJECT BOUNDARY (TYP.)
EX. ADJACENT PROPERTY LINE (TYP.)
EX. FENCE (TYP.)
EX. EDGE OF ASPHALT (TYP.)
PR. VEGETATIVE SCREENING (TYP.)
PR. SOLAR ARRAY PANEL (TYP.)
50.0' PROPERTY LINE SETBACK (TYP.)
PR. WOVEN WIRE FENCE (TYP.)
200.0' OCCUPIED DWELLING SETBACK (TYP.)
EX. ROAD CENTERLINE (TYP.)
EX. UPLAND DITCH (PER KIMLEY-HORN WETLAND DELINEATION PROVIDED 04/17/2026)
PR. SOLAR ARRAY PANEL LIMITS (TYP.)
PR. ACCESS GATE (TYP.)
PR. ELECTRICAL EQUIPMENT AREA (TYP.)
PR. LAYDOWN AREA (TYP.)
PR. UNDERGROUND ELECTRIC (TYP.)
EX. WETLAND (PER KIMLEY-HORN WETLAND DELINEATION PROVIDED 04/17/2026)
PR. OVERHEAD ELECTRIC (TYP.)
PR. UTILITY POLE (TYP.)
PR. GRAVEL ACCESS DRIVE (TYP.)
EX. UTILITY POLE (TYP.)
PROPERTY LINE (TYP.)
PR. POINT OF INTERCONNECTION
EX. GAS PIPELINE EASEMENT (PER CLIENT KMZ RECEIVED 05/04/2026)
EX. OCCUPIED DWELLING (TYP.)
EX. OVERHEAD ELECTRIC (TYP.)
EX. CULVERT (TYP.)
20-1-02-33-00-000-010 FOSTERBURG 255 15.20 ACRES
20-1-02-33-04-401-009 FOSTERBURG 255 9.73 ACRES



GRAPHIC SCALE IN FEET
0 40 80 160

NORTH

LEGEND

ROAD LABEL	ROAD NAME
PROJECT BOUNDARY	
PROPERTY LINE	
PROPERTY LINE SETBACK	
EX. ADJACENT PROPERTY LINE	
EX. CONTOURS	XXX
EX. FLOW (DIRECTION AND SLOPE)	XX%
EX. ROAD CENTERLINE	
EX. EDGE OF ASPHALT	
EX. CULVERT (PER KIMLEY-HORN WETLAND DELINEATION PROVIDED 04/17/2026)	
EX. OVERHEAD ELECTRIC	EX OHE
ASSUMED OVERHEAD ELECTRIC EASEMENT	
EX. GAS PIPELINE EASEMENT (PER CLIENT KMZ RECEIVED 05/04/2026)	
EX. UTILITY POLE	
EX. FENCE	
EX. OCCUPIED COMMUNITY BUILDING /DWELLING	
EX. OCCUPIED COMMUNITY BUILDING /DWELLING SETBACK	
EX. SUBSTATION	
EXISTING STRUCTURE CONSTRUCTABILITY BUFFER	
EX. SOILS	
EX. WETLANDS (PER KIMLEY-HORN WETLAND DELINEATION PROVIDED 04/17/2026)	
EX. LINEAR WATER FEATURE (PER KIMLEY-HORN WETLAND DELINEATION PROVIDED 04/17/2026)	
PR. WOVEN WIRE FENCE	X X
PR. UTILITY POLE	
PR. OVERHEAD ELECTRIC	OH
PR. UNDERGROUND ELECTRIC	UGE UGE
PR. ELECTRICAL EQUIPMENT AREA	
PR. ACCESS GATE	
PR. GRAVEL ACCESS ROAD	
PR. LAYDOWN AREA	
PR. SOLAR ARRAY PANEL	
PR. SOLAR ARRAY PANEL LIMITS	
PR. VEGETATIVE SCREENING	

SOILS DATA TABLE

MAP UNIT SYMBOL	MAP UNIT NAME	HYDROLOGIC SOIL GROUP
165A	WEIR SILT LOAM, 0 TO 2 PERCENT SLOPES	D
267A	CASEYVILLE SILT LOAM, 0 TO 2 PERCENT SLOPES	B/D
267B	CASEYVILLE SILT LOAM, 2 TO 5 PERCENT SLOPES	B/D

CONCEPT PLANT SCHEDULE

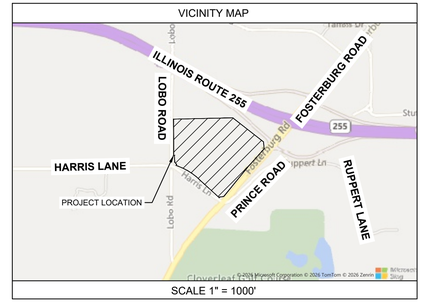
EVERGREEN TREE		232
ORNAMENTAL TREE		3
DECIDUOUS SHRUB		249

NOTES

1. SETBACKS PER MADISON COUNTY CODE OF ORDINANCE § 93.106 AND ILLINOIS SOLAR CODE 55 ILCS 5/5-12020:
   - 1.1. NON-PARTICIPATING COMMUNITY BUILDING AND OCCUPIED DWELLING SETBACK: 150 FT*
   - 1.2. NON-PARTICIPATING PROPERTY LINE SETBACK: 50 FT
   - 1.3. PUBLIC ROAD RIGHTS-OF-WAY SETBACK: 50 FT
2. KIMLEY-HORN ASSUMED CONSTRUCTABILITY BUFFERS:
   - 2.1. ASSUMED OVERHEAD ELECTRIC EASEMENT: 50 FT
   - 2.2. EXISTING STRUCTURE CONSTRUCTABILITY BUFFER: 30 FT
3. PARCEL INFORMATION WAS OBTAINED FROM THE MADISION COUNTY, IL GEOGRAPHIC INFORMATION SYSTEM (GIS) MAP DATA ACCESSED 04/20/2026.
4. SITE LINEWORK WAS GATHERED VIA THE TRACING OF DESKTOP RESOUCES AND IS SUBJECT TO CHANGE BASED ON FINDINGS OF A FORMAL ALTA SURVEY.
5. ON-SITE WETLANDS/WATERWAYS HAVE BEEN OBTAINED FROM KIMLEY-HORN WETLAND DELINEATION PROVIDED 04/17/2026.
6. SOILS HAVE BEEN OBTAINED FROM THE NATURAL RESOURCES CONSERVATION SERVICE (NRCS) WEB SOIL SURVEY ON 04/20/2026.
7. PER THE UNIVERSITY OF ILLINOIS WATER GIS MAP, NO WELLS EXISTS WITHIN THE SITE. ACCESSED ON 04/22/2026.
8. PER THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), THE SUBJECT PARCEL EXISTS WITHIN FLOOD ZONE C – UNSHADED (MINIMAL FLOOD HAZARD). FEMA SPECIAL FLOOD HAZARD AREAS AND REGULATORY FLOODWAYS DO NOT EXIST WITHIN THE SUBJECT PARCEL. THE SITE RESIDES ON FEMA PANELS (1704360125B AND 1704360105B) EFFECTIVE DATE 04/15/1982.

* A 200-FT RESIDENTIAL SETBACK HAS BEEN ADOPTED AND USED FOR DESIGN AT CLIENT DIRECTION; COUNTY CODE REQUIRES A MINIMUM 150-FT SETBACK.

VICINITY MAP



SCALE 1" = 1000'

ADJACENT PARCEL INFORMATION

1. 20-2-02-33-02-201-006 COOK, CASEY H 3.58 ACRES
2. 20-2-02-33-02-201-007.001 TYLER, SCHERYL 1.23
3. 20-2-02-33-02-201-007 TIS DIRT LLC 0.85 ACRES
4. 20-1-02-33-02-201-010 MURRAY, CHASE 0.33 ACRES
5. 20-1-02-33-04-401-001 HARRIS, JERRY 34.66 ACRES
6. 20-1-02-33-04-401-008 CENTRAL ILLINOIS PUBLIC SERVICE COMPANY 1.23 ACRES
7. 20-2-02-33-04-401-007 TARRANT AND HARMAN PROPERTIES LLC 2.00 ACRES
8. 20-1-02-33-04-401-016 CLARK, TODD S 1.00 ACRES
9. 20-1-02-33-04-401-015 GUTHRIE, CARRIE 2.00 ACRES
10. 20-1-02-33-04-401-014 RUPPERT, STEVEN D AND SARAH M 1.20 ACRES
11. 20-1-02-33-04-401-013 KELLY, OLIVIA 1.20 ACRES
12. 20-1-02-33-04-401-012 WALLS, TREVOR 1.20 ACRES
13. 20-1-02-33-04-401-011 HETTICK, TOMMY D AND WILMA G 0.67 ACRES
14. 23-71-227-00600 2010 BUILDING PARTNERSHIP LLP 1.97 ACRES
15. 20-1-02-33-04-401-009.002 FOSTERBURG 255 1.26 ACRES
16. 20-1-02-33-00-000-010.002 FOSTERBURG 255 0.19 ACRES
17. 20-1-02-34-01-101-037.001 FOSTERBURG 255 3.32 ACRES
18. NO INFORMATION AVAILABLE
19. 20-1-02-33-00-000-009 HARRIS, LOLA TRUSTEE 12.11 ACRES

SITE DATA TABLE

PIN #	20-1-02-33-00-000-010 & 20-1-02-33-04-401-009
APPLICANT	ARENA NAVIGATOR 1 SOLAR, LLC
PROPERTY OWNER	FOSTERBURG 255
SITE ADDRESS	HARRIS LANE, MADISON COUNTY IL 62002
ZONING JURISDICTION	MADISON COUNTY
CURRENT LAND USE	FARMLAND
PROPOSED AREA	COMMERCIAL SOLAR ENERGY FACILITY
TOTAL PARCEL AREA	24.63 ± AC
PRELIMINARY DISTURBED AREA	16.87 ± AC (AREA WITHIN FENCE)
PRELIMINARY SOLAR AREA	12.58 ± AC
PROPERTY LINE SETBACK	50'
RIGHT-OF-WAY SETBACK	50'
OCCUPIED COMMUNITY BUILDING/DWELLING SETBACK	150'
TOTAL POWER OUTPUT (DC)	3.95 MW
TOTAL POWER OUTPUT (AC)	3.60 MW
DC/AC RATIO	1.10
GCR	40%

*THE PURPOSE OF THIS PLAN IS FOR SPECIAL USE PERMIT REVIEW AND APPROVAL BY MADISON COUNTY, IL.

NOT FOR CONSTRUCTION

Call Before You Dig JULIE 1-800-892-0123

No.	REVISIONS	DATE

ARENA RENEWABLES

Kimley»Horn

© 2026 KIMLEY-HORN AND ASSOCIATES, INC.
570 LAKE COOK RD SUITE 200
DEERFIELD, IL 60015
WWW.KIMLEY-HORN.COM

PRELIMINARY- NOT FOR CONSTRUCTION

KHA PROJECT 266865034
DATE 05/28/2026
SCALE AS SHOWN
DESIGNED BY JEM
DRAWN BY JEM
CHECKED BY DRB

ZONING SITE PLAN

ARENA NAVIGATOR 1 SOLAR, LLC

MADISON COUNTY, IL

SHEET NUMBER
EX C

Drawing name: K:\CHS_LOC\V\266865038_Arena Renewables_Navigator 1_a\V2 Design\V2\CAD\Exhibits\ZSP\Navigator 1_Zoning Site Plan.dwg ZSP May 28, 2026 1:47pm by: Daniel.Blalock
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Being a resident on Wolf Road, Foster Twp, we are on opposition to the application for a solar farm on Harris Lane, Alton, Illinois. This property is in very close proximity to homeowners who will join in the opposition along with us. Steve and Dona Rickert

---

Good evening, Zoning Appeals Board.

My name is Julie Hamilton and I'm sending this email of opposition to petition Z26-0062, Arena Navigator 1 Solar LLC, applicant on behalf of Fosterburg – 255 LLC, requesting a special use permit to develop a commercial solar energy facility on Parcel ID 20-1-02-33-04-401-009.

I send my comments on behalf of residents living in the Wolf/Drexelius/Vonnahmen Rd. neighborhood, which is approximately a 0.5 mile from the proposed site. As you may recall, your board heard from several of us in July of 2025, when petitions Z25-0044 and Z25-0045 were requesting a special use permit to develop commercial solar energy facilities. I want to remind you that this Board denied them their permit, as well as, the Zoning Board and County Board.

My family, as well as the residents of Foster Township, still strongly oppose solar facilities in this township. We are all very committed to keeping our township a semi-residential agricultural community.

I urge you all to vote to deny Navigator their special use permit!

Respectfully,

Julie Hamilton

Arena Navigator 1 Solar, LLC

SPECIAL USE PERMIT APPLICATION FOR

MADISON COUNTY, ILLINOIS PINS #:

20-1-02-33-00-000-010 & 20-1-02-33-04-401-009



JUNE 2026 | VERSION 2

Prepared By: **Daniel Blalock, P.E.** of Kimley-Horn & Associates, Inc. and

Sam Walch of Arena Renewables, LLC & Arena Navigator 1 Solar, LLC

Kimley»Horn

ARENA RENEWABLES

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1.0 INTRODUCTION

Arena Renewables, LLC (Arena Navigator 1 Solar, LLC) is a community and distributed generation solar and storage developer. We deliver lower power bills and clean energy to customers and communities across the United States. Our agile, policy-led approach to developing valuable projects draws on the leadership team's nearly three decades of experience in renewables, utilities, and real estate.

The Arena team has over 600 MW under development throughout Illinois, with similar pipelines in states such as Maryland, Pennsylvania, New York and others.

Arena strives to make a positive local impact by working with the community to ensure success and deliver the benefits of solar with each project we develop.

Visit us at www.arenarenewables.com

Who We Are



Matt Kozey

CEO



Geoff Johnson

President & CDO



Carson Weinand

Sr. Director



Sam Walch

Project Developer

Sincerely,

Sam Walch

Project Developer

Phone: 860-466-0489

Email: swalch@arenarenew.com

Arena Navigator 1 Solar, LLC (Applicant) of Arena Renewables, LLC hereby submits this Special Use Permit application (Application) for a 3.60 MW_{AC} commercial solar energy facility (Project), sited over approximately 24.63 (Total Parcel Area) acres of property along Fosterburg Road and Harris Lane on parcels with PINs: 20-1-02-33-00-000-010 and 20-1-02-33-04-401-009 in unincorporated Madison County. The Project has partnered with Fosterburg-255, LLC, the property owner, to secure a Lease agreement. The Project Site (Site) is currently in use as agricultural land. As shown on the Zoning Site Plan in **Exhibit B**, the Project's site layout meets the required minimum road right-of-way and property line setbacks outlined in Section 93.106 of the Madison County Code of Ordinances.

At the time of submittal, the Project is proposed on 16.87 (Project Area) acres of the 24.63-acre project parcel. The Site is currently used for agricultural purposes. The Project is located north of Harris Lane, west of Fosterburg Road and east of Lobo Road with parcel PINs 20-1-02-33-00-000-010 and 20-1-02-33-04-401-009. Arena Navigator 1 Solar, LLC is a fully-owned subsidiary of Arena Renewables, LLC. Arena Navigator 1 Solar, LLC's interest in the property is defined by a lease agreement with Fosterburg-255, LLC provided in **Exhibit C**. Access to the Project is proposed via the construction of a new driveway along Harris Lane. Harris Lane is under the jurisdiction of Foster Township at the proposed access drive location, and as such, the Project will coordinate with the Foster Township Highway Department to secure any necessary permits. The Project will deliver power to the electrical grid through one point of interconnection near the southwestern corner of the Project boundary. The Project has a fully executed and paid interconnection agreement dated April 2026 and included in **Exhibit G**. The Project has the capacity to generate up to 3.60 MW_{AC} of electricity which could power up to approximately 864 Ameren customer homes.

The Applicant has considered the Madison County Code of Ordinances to ensure the Project qualifies for a Special Use Permit. As such, the completed Special Use Permit Application form is provided as **Exhibit A**. The Project has been sited to comply with all local setback requirements as outlined in Section 93.106.A in the Madison County Code of Ordinances. If the Special Use Permit Application is approved and a Building Permit is subsequently secured, construction of the Project is scheduled to commence in the first half of 2027 at the earliest.

Over the Project's 40-year useful life, the Project will generate over $2,400,000 in energy savings to Ameren customers via discounts on their monthly utility bills, approximately $602,000 in property tax, and $261,000 in sales tax paid at the start of construction. The Project will also produce over 8,000,000 kWh of clean energy each year, which is equivalent to the carbon sequestered by 6,941 mature acres of US forests in one year.

We look forward to presenting our Project, soliciting the County's feedback, and beginning construction in the near future. Thank you very much, from Arena Navigator 1 Solar, LLC and Kimley-Horn & Associates Inc. (Kimley-Horn).

2.0 PROJECT DESCRIPTION

The Site is currently used for agricultural purposes and zoned 0021 - Farmland Use in unincorporated Madison County, Illinois. Adjacent properties surrounding the Project Area are zoned 0083 - Utility with Improvements, 0021 - Farmland, 0011 - Farm with Home or Buildings, and 0040 - Improved Lots in unincorporated Madison County.

The Project, if approved, will be a commercial solar energy facility comprised of solar photovoltaic (PV) modules, a racking system, inverters, and underground electrical conduits connecting PV array blocks with inverters.

Access to the Site is proposed via a new driveway off Harris Lane, as shown on the Zoning Site Plan in **Exhibit B**. Security fencing will enclose the perimeter of the Project, with road access secured through a locked metal gate. The internal access road will be used to provide access to Project equipment for future maintenance. The proposed access road will be gravel and verified upon final design with the geotechnical engineer recommendations.

2.1 PROJECT BENEFITS

Energy savings

The Project will generate approximately 8,000,000 kWh of clean energy annually, which is enough to power approximately 864 residential homes or a few commercial users. With commercial solar energy facilities, Ameren customers can subscribe directly to the Project to receive an approximately 10% discount on their monthly utility bills for the next 25 years with no signup or termination fees. This discount will drive approximately $2,400,000 in total energy cost savings across subscribers over 25 years. The 25-year term is the term in with which Ameren provides community solar credits, after which the project will sell electricity on the wholesale markets.

Tax Revenue

The Project will pay property taxes on the land and improvements during its useful life. The Project will be assessed according to the Illinois Department of Revenue Commercial Solar Energy Systems Valuation Methodology and taxed at local rates. Total property tax revenue will be over $602,000 during the useful life of the Project.

The Project will pay sales tax on equipment totaling approximately $261,000 due during construction.

All tax revenue comes without any additional strain on local services, such as no additional children in the school system, no additional traffic, no need for police, no pollution, and no expansion of water and sewer.

Environmental Benefits (source: EPA Greenhouse Gas Equivalencies Calculator)

The Project will generate approximately 8,000,000 kWh of clean energy annually, equivalent to greenhouse gas emissions from approximately 17,600,000 miles driven by a gasoline vehicle. Additionally, this is equivalent to the carbon greenhouse gas emissions from over 7,600,000 million pounds of coal burned.

Additional measures have been taken to ensure local and state requirements are not only met but exceeded for the Project.

- Increased setbacks from adjacent homes from 150 feet required per ordinance to 200 feet
- Inclusion of landscape screening along property boundaries
- Inclusion of an aesthetically pleasing, wildlife friendly, woven wire fence
- Commitment to post 100% of Project decommissioning bond ahead of start of construction
- Offering Madison County a Community Benefit Agreement for $50,000 (included as **Exhibit W**)

2.2 MADISON COUNTY ZONING FACTORS

In addition to the community and environmental benefits, this project aligns with the following Madison County Zoning Factors outlined in the Madison County Code of Ordinances:

The effect the development would have on schools, traffic, streets, shopping, public utilities, and adjacent properties;

- The Project will generate increased property taxes, a significant amount of sales tax, and energy savings for the community, all in addition to the environmental benefits of solar. These taxes and benefits would be accretive to the local budget, as there would be no public utilities required for the site, and traffic will be very minimal during operations.

- The Project will be enclosed by a locked fence and screened with landscaping along all perimeters. The project will be an unmanned, quiet neighbor that creates jobs.

Is the application necessary for the public convenience at that location;

- Renewable energy is a key aspect of the state of Illinois's long-term goals, with the recent Climate and Equitable Jobs Act (CEJA) calling for 100% clean energy by the year 2050. Furthermore, this project will allow local energy subscribers to receive a 10% credit on their monthly electric utility bill.

- The Project parcel's current use is primarily agriculture, and solar projects are held compliant with the Standard Solar AIMA, which sets robust standards to ensure that the farmland is not damaged. The planting of pollinator friendly vegetation, the remediation of drain tile, the limited ground disturbance, and the decommissioning plan & bond all allow for the site to return to agricultural use after a project's life.

In the case of an existing nonconforming use, will a special use permit make the use more compatible with its surroundings;

- This site is not a case of an existing nonconforming use.

Is the application so designed, located, and proposed to be operated that the public health, safety, and welfare will be protected;

- Yes, solar projects are designed to protect the health and safety of the surrounding area. The Project will comply with all applicable regulations regarding access, utilities, drainage, and any

other facilities requirements. The Project will not cause for a long-term increase in traffic, does not require sewer, water, police, or fire under normal operating conditions, and will benefit the local electric utility by providing additional clean energy to the grid.

Will the application cause injury to the value or other property in the neighborhood in which it is located;

- No, it is a common misconception that solar projects impact local property values. The Project will be surrounded by vegetative screening, will not violate noise ordinances, and will be an unmanned, quiet neighbor. Furthermore, studies have shown that solar facilities have a negligible effect on local property values.

Will the special use be detrimental to the essential character of the district in which it is located;

- No, as this solar project is compatible with the district in which it is located in. This Solar Project is sited along a major interstate, on a current agricultural field. The project will be screened from any local traffic and businesses with landscaping along multiple project perimeters.

2.3 INTERCONNECTION FACILITIES

Electricity generated by the Project will be provided to the Ameren electric grid via existing Ameren utility lines located near the southwestern corner of the Project boundary. Approximately six (6) new aboveground utility poles will be installed to facilitate connection to the Ameren electric grid. Utility lines will run underground along the access road to the Project's equipment pads within the fenced-in area.

2.4 PROJECT CONSTRUCTION

Dust and noise from construction will be mitigated with industry standard best management practices. Construction hours will be limited to 8am – 6pm, Monday through Friday, or as otherwise directed by the County. Below is a high-level construction schedule including number of vehicle trips.

Estimated Vehicles During Construction				
Time Period	**Construction Activity**	**Estimated Increase in Vehicles (All Vehicles)**	**Estimated Total Vehicles Per Day**	**Estimated Total Heavy Vehicles Per Month**
Month 1	Mobilization, Site Clearing, Erosion Control, and Initial Access Drive Improvements	8 – 10 personal vehicles per work day, 3 – 6 contractor vehicles per work day, 1 – 2 material deliveries (tractor-trailer trucks, tandem dump trucks) per work day, 1 – 2 equipment delivery (30-foot bed, box trucks) per week	13 – 20	24 – 48
Months 2 – 5	Fence, Solar Array, and Final Access Road Improvements	20 – 30 personal vehicles per work day, 6 – 8 contractor vehicles per work day, 3 – 4 material deliveries (tractor-trailer truck) per work day, and 1 – 2 equipment deliveries (30-foot bed, box trucks, concrete trucks) per work day.	30 – 44	80 – 120
Month 6	Commissioning and Demobilization	6 – 8 personal vehicles per work day, 3 – 6 contractor vehicles per work day, and approx. 1 equipment removal (tractor-trailer truck) per week.	9 - 14	4

All equipment uses and operations will be conducted to avoid impeding the flow of traffic on adjacent roadways. The Contractor shall maintain access to adjacent landowners for the duration of the Project construction. The Contractor shall be fully responsible to provide signs, barricades, warning lights, guard rails, and employ flaggers as necessary when construction endangers either vehicular or pedestrian traffic. The Contractor shall also follow all applicable IDOT requirements for traffic mitigation. These devices shall remain in place until the traffic may proceed normally again. Equipment will operate in the road right-of-way only to make minor improvements to proposed site access driveways. Project construction shall ensure all equipment is properly maintained and equipped with manufacturers' standard noise control devices.

See **Exhibit U** for the Project Transportation and Access Plan which details the specific access routes proposed to be utilized for construction and maintenance of traffic.

2.5 HEALTH AND SAFETY

During the Building Permit process, the Project will coordinate with the appropriate fire safety personnel to ensure adequate plans and systems are in place in the unlikely event a safety issue emerges. Appropriate signage containing necessary contact and safety information for the commercial solar energy facility will be displayed in accordance with local code and coordination with staff. Upon request, a walk-through of the site with the local authorities and emergency agencies will be scheduled once construction is complete. Emergency personnel will be given means of access to the Site by methods agreed upon prior to completion of construction.

Commercial solar energy facilities do not raise concern for fire and explosive hazards. The solar panels and racking, which comprise most of the Project's equipment, are not flammable. Tempered glass offers protection from heat and the elements, and the panels are designed to absorb heat as solar energy. From a study titled Health and Safety Impacts of Solar Photovoltaics by North Carolina State University:

> *"…Concern over solar fire hazards should be limited because only a small portion of materials in the panels are flammable, and those components cannot self-support a significant fire. Flammable components of PV panels include the thin layers of polymer encapsulates surrounding the PV cells, polymer back sheets (framed panels only), plastic junction boxes on rear of panel, and insulation on wiring. The rest of the panel is composed of non-flammable components, notably including one or two layers of protective glass that make up over three quarters of the panel's weight."* (Cleveland, 2017, p.16).

There are no toxic substances in the panels. The Project will incorporate Tier 1 silicon-based PV panels, which have been analyzed as follows by North Carolina State University:

> *Well over 80% (by weight) of the content of a PV panel is tempered glass front and the aluminum frame, both of which are common building materials. Most of the remaining portion are common plastics, including polyethylene terephthalate in the back sheet, EVA encapsulation of the PV cells, polyphenol ether in the junction box, and polyethylene insulation on the wire leads. The active, working components of the system are the silicon photovoltaic cells, the small electrical leads connecting them together, and to the wires coming out of the back of the panel. The electricity generating and conducting components make up less than 5% of the weight of most panels. The PV cell itself is nearly 100% silicon, and silicon is the second most common element in the Earth's crust. The silicon for PV cells is obtained by high-temperature processing of quartz sand (SiO2) that removes its oxygen molecules. The refined silicon is converted to a PV cell by adding extremely small amounts of boron and phosphorus, both of which are common and of very low toxicity.*

Stray voltage issues and remedies are detailed in the USDA's Agriculture Handbook Number 696. While the vast majority of stray voltage concerns are caused by the existing farm's electrical system and wiring, some may be caused by off-site utility issues, including the following, per the Iowa State Dairy Association's *Stray Voltage Guide:*

- Loose neutral wire connection
- Damaged neutral wires
- Poor grounding
- Undersized neutral wires
- Load imbalances on three phase lines
- Improperly functioning utility equipment
- Ground faults at nearby locations

While malfunction of utility equipment may cause stray voltage issues for local livestock, these threats are pre-existing as the new PV generation facility will tie into existing utility-owned distribution lines. The addition of the PV facility has no bearing on these concerns. The utility is responsible for maintenance of these lines and any existing stray voltage concerns should be addressed directly with the utility provider. Note that the utility will install power quality meters and recloser devices at the new point of interconnection for the PV generation, which will assist in the identification of any issues on the local circuit, if they are present.

Undersized distribution neutral wires carrying electrical current may cause excessive neutral-to-earth voltage (NEV) which may be detectable on local premises. Unbalanced customer electrical load between the three voltage phases on a distribution circuit cause these currents to appear in the neutral wire, increasing NEV. It is the utility's responsibility to maximize the balance of customer loads across the three circuits and also ensure a properly sized neutral wire. However, electrical generators, including PV and other inverter-based generation, operate as balanced three-phase sources, meaning that all current is directed through the three phase conductors, not the neutral conductor. These PV sites in particular have no connection to the distribution neutral, as they are designed with a "delta" connection to only the three phase lines in the circuit. Thus, the addition of a PV generation facility on the circuit has no impact on NEV induced from existing circuit imbalances or an undersized neutral conductor.

PV generation is not designed to direct electric current to the earth during normal operations. Excess power produced by the PV array is managed by inverter controllers but is not directed into the ground. However, electrical line-to-ground faults may occasionally occur in the local electrical circuit including downed power lines or transformer internal faults. These fault conditions may cause temporary rises in NEV due to current flowing through the neutral and/or to ground. The electrical protection system and site grounding system at the PV generating facility is designed to isolate ground faults in the alternating-current, high-voltage and low-voltage power systems within seconds of initiation to prevent further equipment damage. The protection system has multiple layers including UL1741/IEEE1547 compliant inverters, fuses, circuit breakers, digital relays, and reclosers, which will isolate faults and/or disconnect the site from the grid. The utility will also provide a second recloser to trip the site offline in the event of abnormal behavior.

Ground faults at the direct-current PV modules themselves have no effect on other local properties as they are electrically isolated from the distribution circuit, in addition to the fact that the modules produce relatively low-voltage and that they are unable to generate short-circuit currents of any significance. The site grounding plan developed by qualified engineers and installed by qualified electricians prevents significant ground voltage rise during a ground fault.

Stray voltage is a concern that may affect livestock behavior and dairy production. While most stray voltage concerns are due to on-farm electrical and wiring issues, issues on the utility's distribution circuit causing high neutral-to-earth voltage (NEV) may contribute to stray voltage on local farms. However, the addition of local PV generation on the distribution circuit has no impact on the neutral-to-earth stray voltage seen by these farms.

Refer to **Exhibit Q** for the North Carolina State University Health and Safety Impacts of Solar Photovoltaics study and **Exhibit F** for product cut sheets for the proposed Project equipment.

2.6 OPERATIONS AND MAINTENANCE

Once constructed, the commercial solar energy facility will operate throughout the year, passively generating renewable energy. The Site and equipment will be designed, approved, maintained, and inspected to ensure safety and security. Maintenance activities during operation are expected to be minimal with occasional service for inverters and transformers. Solar panels are monitored remotely. Once operational, traffic associated with the development will decrease significantly as compared to during construction.

Maintenance operations will be completed rarely and with minimal traffic as only one vehicle will likely be needed to conduct tasks and maintenance several times a year. To prevent shading of the panels for solar energy production, an on-going vegetation maintenance program will be implemented for all vegetated areas within the fenced boundary and buffer areas. The Project will include pollinator-friendly vegetation to be planted throughout the Project area. The pollinator friendly vegetation will consist of native grasses and flowers and will be maintained via mowing or livestock grazing at least twice per year. The pollinator-friendly vegetation improves onsite drainage, erosion and stormwater management, promotes onsite biodiversity and improves aesthetics. The Project's Vegetative Management Plan is included in **Exhibit N**.

After construction is complete and stabilized vegetation has been established within the fenced Project Area, the Project will conduct vegetative management at appropriate frequency based on weather and moisture conditions. This management schedule would continue each year until implementation of the Decommissioning Plan. The estimated costs for decommissioning are included in **Exhibit M.**

A Decommissioning Plan is included to ensure the commercial solar energy facility elements will be properly removed after it is inoperable for twelve (12) months. The Decommissioning Plan and associated costs were developed in accordance with the Madison County, IL Code of Ordinances Section 93.106.G and the Agricultural Impact Mitigation Agreement (AIMA). The Decommissioning Plan outlines a strategy for the removal of Project components such as panels, roads, fences, and racking, including any applicable recyclable items once the facility is no longer in use. The Decommissioning Plan also includes the removal of landscaping elements and the restoration of natural soil and vegetation. The combination of the native grasses and pollinator-friendly seed mix established during the Project's life and temporary reuse of the soils from agricultural planning will promote soil restoration and more productive farmland after decommissioning.

Prior to commercial operation, the Applicant shall provide Madison County with a decommissioning bond to ensure proper decommissioning at the end of the Project life.

3.0 FEDERAL AND STATE APPROVALS, PERMITS, AND AGREEMENTS

3.1 FEDERAL AVIATION ADMINISTRATION (FAA)

To verify that the Project will not violate FAA airspace restrictions and regulations, the Project has submitted to the FAA Obstruction Evaluation / Airport Airspace Analysis (OE/AAA) office. A confirmation

letter from the OE/AAA Office verifying that the Project does not exceed obstruction standards and does not violate FAA airspace restrictions and regulations is included in **Exhibit K**.

3.2 FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) portal was consulted to determine if any FEMA Special Flood Hazard Areas are on the site. Per the FEMA FIRMettes, there are no FEMA floodplains or regulatory floodways within the subject parcel. The site is on FEMA Panels 1704360105B and 1704360125B, effective date 04/15/1982. The FEMA FIRMettes are included in **Exhibit O**.

3.3 SOUND STUDY

Kimley-Horn has prepared a Sound Study for the Project, included as **Exhibit E.** As explained in the Sound Study, the maximum operational sound levels at the Project boundary adjacent to an existing residential use are anticipated to remain near or below approximately 48.9 dB, which is lower than the Illinois Pollution Control Board limit of 69 dB. Therefore, noise mitigation is not recommended at this time.

3.4 WETLAND AND WATERBODY DELINEATION REPORT

A wetland and waterbody investigation was performed by Kimley-Horn on 05/01/2026. The wetland and waterbody investigation concluded three non-jurisdictional wetlands, and two upland ditches are present within the Project parcels. Wetland and upland ditch locations are shown in the Wetland Delineation Report, **Exhibit S**.

3.5 U.S. FISH & WILDLIFE SERVICE (USFWS)

The Project has been designed such that federally listed species will not be significantly impacted. Solar projects typically impose only minimal impacts on wildlife species. Arena Navigator 1 Solar, LLC evaluated the Project's potential to impact federally protected species via the USFWS Information for Planning and Consultation (IPaC) tool. The assessment identified eight threatened or endangered species that may be present within the Project Area: *Myotis grisescens* (Gray Bat), *Myotis sodalis* (Indiana Bat), *Myotis septentrionalis* (Northern Long-eared Bat), *Perimyotis subflavus* (Tricolored Bat), *Sistrurus catenatus* (Eastern Massasauga Rattlesnake), *Danaus Plexippus* (Monarch Butterfly), *Boltonia decurrens* (Decurrent False Aster), and *Plantanthera leucophaea* (Eastern Prairie Fringed Orchid). Please see the Ecosphere Information for Planning and Consulting (IPaC), **Exhibit I,** for more information on mitigation efforts and details of each species. It should be noted that tree removal is not proposed as part of the Project.

3.6 ILLINOIS DEPARTMENT OF NATURAL RESOURCES (IDNR) STATE ECOLOGICAL REVIEW

The Applicant consulted with the IDNR for potential impacts to state threatened or endangered species. This consultation is conducted pursuant to the IDNR's EcoCAT process. EcoCAT refers to the IDNR's Ecological Compliance Assessment Tool (EcoCAT). EcoCAT contains the Section, Township, and Range data of the Project and generates a Project map. Species of concern within the identified Project Area

(and/or which may be affected by migrating through or, by reason of the Project, avoiding the identified area) are examined as part of the EcoCAT review process.

EcoCAT requires that state agencies and units of local governments consider the potential adverse effects of proposed actions on Illinois endangered and threatened species and sites listed on the Illinois Natural Areas Inventory.

The Applicant submitted an EcoCAT review request to the IDNR in April 2026. The Applicant received a formal response letter dated 04/17/2026 from the IDNR's EcoCAT review, provided in **Exhibit H**. The review indicated that the following protected resources may be in the vicinity of the Project location: *Myotis sodalis* (Indiana Bat). Typical habitat associated with the Indiana Bat is established forested land. The Project is sited over existing farmland which is not associated with typical Indiana Bat habitat. The Department recommends establishing pollinator-friendly groundcover wherever feasible.

State-listed plant species belong to the landowner, and their fate resides with the landowner's conservation decisions. If interference is unavoidable, written permission from the landowner will be obtained complying with the Illinois Endangered Species Protection Act.

3.7 ILLINOIS HISTORIC PRESERVATION REVIEW (SHPO)

Under the Illinois State Agency Historic Resources Protection Act, the State Historic Preservation Office (SHPO) division at the IDNR is responsible for studying possible Project effects on archaeological and/or architectural (cultural) resources. Agencies requiring SHPO evaluation concurrent with their review include the Illinois Environmental Protection Agency, IDNR, and USACE. As shown in **Exhibit J**, the Project was submitted to SHPO for review on May 13, 2026.

3.8 ILLINOIS ENVIRONMENTAL PROTECTION AGENCY (IEPA) – STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

IEPA's Bureau of Water is responsible for overseeing the issuance of permits within the National Pollutant Discharge Elimination System (NPDES) program that regulates construction stormwater discharges. Permits require a Storm Water Pollution Prevention Plan (SWPPP), which is a site-specific document that outlines the measures a project will take to reduce pollutants in the stormwater discharges from a construction site. Stormwater controls reduce silt transport and sedimentation during precipitation events.

During final engineering, the pre- and post-development drainage areas shall be analyzed for quantity of runoff in the 10-year and 100-year storm events. This analysis is anticipated to show an overall decrease in runoff quantity in the post-development condition. This expectation is supported by the Hydrologic Response of Solar Farms, included in **Exhibit R**, an article accepted by the American Society of Civil Engineers which analyzes the hydrologic patterns of a typical commercial solar energy facility. The industry standard follows this study and assumes that a change in use from row crop to meadow in developing a commercial solar energy facility will reduce runoff.

Prior to construction, a SWPPP will be prepared for the Project as well as sediment and erosion control plans for submittal and approval for an NPDES Permit through the IEPA. The SWPPP will ensure construction activity compliance with guidelines and regulations for controlling sediment and erosion runoff.

3.9 ILLINOIS DEPARTMENT OF AGRICULTURE (IDOA)

The Illinois Renewable Energy Facilities Agricultural Impact Mitigation Act (505 ILCS 147/1 et seq.) requires the owner of a commercial solar energy facility to have a fully executed Agricultural Impact Mitigation Agreement (AIMA) in place within 45 days prior to the commencement of Project construction. The intent of the AIMA is to preserve and/or restore the integrity of affected agricultural land during construction and decommissioning activities. Illinois State Legislature passed Public Act 102-1123 requiring that facility owners enter into an AIMA prior to the date of the required public hearing. The Project entered into an AIMA on 04/16/2026 and a copy of the executed AIMA is included as **Exhibit D**.

3.10 FARMLAND DRAINAGE PLAN

Per Illinois Public Act 103-0580, commercial solar energy facilities must file a Farmland Drainage Plan with the county in which they are located. As such, existing drain tile on site was primarily located and mapped as part of the Desktop Draintile Memo, prepared by Pinion and dated 05/27/2026. The Desktop Draintile Memo is included in **Exhibit T**. This information was used to complete the Farmland Drainage Plan, included as **Exhibit L**.

In summary, increases in site runoff volume or rate are not anticipated.

3.11 PHASE I ENVIRONMENTAL SITE ASSESSMENT (ESA)

A Phase I Environmental Site Assessment (ESA) was prepared by Kimley-Horn and dated 05/27/2026. The assessment revealed that there are no Recognized Environmental Conditions (RECs), Controlled Recognized Environmental Conditions (CRECs), or Historical Recognized Environmental Conditions (HRECs) on site. One Business Environmental Risk (BRE) associated with the agricultural use and application of herbicides and pesticides on the Site was identified as part of the study. The Phase I ESA is included as **Exhibit V**.

4.0 CONCLUSION

The Applicant understands this Special Use Permit application with accompanying exhibits is the first step in the process towards being granted a Special Use Permit. Following a Public Hearing with the Madison County Board and the issuance of an approved Special Use Permit, a formal Building Permit application will be submitted to the County for final design approval before construction. The Applicant has ensured that the Project's design is in compliance with the Madison County Code of Ordinances.

The Applicant believes the Special Use should be approved, considering the Project:

- Provides utility cost savings to local Ameren customers
- Provides additional tax revenue without any strain on public services
- Minimizes traffic and environmental impacts as compared to alternate types of development

A commercial solar energy facility is a low-intensity, low impact and harmonious use of the property. Thank you for your time and attention to this matter. We look forward to working with Madison County and the community as this Project progresses in its development. Arena Navigator 1 Solar, LLC, a wholly-owned entity of Arena Renewables, LLC, seeks a Special Use Permit that can be transferred if Arena Navigator 1 Solar, LLC is sold by Arena Renewables.

EXHIBIT A: SPECIAL USE PERMIT (SUP) APPLICATION

MADISON COUNTY
BUILDING & ZONING

Madison County Building & Zoning
157 N Main Street Suite 254
Edwardsville, IL 62025
Phone: (618) 296-4468
Email: zoning@co.madison.il.us

REZONING, SPECIAL USE PERMIT, BULK/AREA VARIANCE, OR APPEAL OF AN ADMINISTRATIVE DECISION

All rezoning (Zoning Map and Text Amendments), Variances, and Special Use Permits require a public hearing before the Zoning Board of Appeals (ZBA). The ZBA then produces a findings of fact and makes a recommendation to the Madison County Board. Recommendations of the Zoning Board of Appeals are presented to the Building and Zoning Committee of the County Board. This Committee meets the first and third Thursday of each month. The County Board can either approve or deny the request. The County Board's decision is final unless an appeal is made through the courts. Ordinance requirements stipulate that a notice must be placed in the local newspaper at least fifteen (15) days before the hearing. All adjoining property owners must be notified by mail at least ten (10) days prior to the hearing. The Zoning Board of Appeals usually makes its findings and recommendation on the day of the hearing. The County Board holds regularly scheduled meetings on the third Wednesday of each month.

Fee Schedule (paid by applicant):

Agricultural District	$300.00
Residential District plus $5 per Acre	$325.00
Business District plus $40 per Acre	$325.00
Manufacturing District plus $40 per Acre	$325.00
Special Use Permit	$300.00
Bulk/Area Variance	$300.00
Sanitary Landfill or Solid Waste Disposal Site or Surface or Shafting Mining plus $40 per Acre	$750.00
Mobile Home Parks/Courts plus $40 per Acre (Includes Over-Night Campgrounds and Modular Parks)	$750.00
Fill Permits	$75.00
Minor Bulk/Area Variance	$100.00

MADISON COUNTY
BUILDING & ZONING

Madison County Building & Zoning
157 N Main Street Suite 254
Edwardsville, IL 62025
Phone: (618) 296-4468
Email: zoning@co.madison.il.us

ZONING HEARING APPLICATION

Please note:

Appeals of Administrative Decisions also require a public hearing and follow the same procedure as all zoning actions. The Zoning Board of Appeals makes the finding of fact and either grants or rejects the rezoning (Zoning Map or Text Amendment), Variance, or Special Use Permit, and finds in favor the applicant or the administrator. Any further appeal must be taken through the courts. A notice must be placed in the newspaper not less than fifteen (15) days before the hearing is scheduled. All adjoining property owners of the subject property must be notified by mail at least ten (10) days before the hearing. The Zoning Board of Appeals meets when it has cases to hear. If you have any further questions, please do not hesitate to contact the Planning and Development Department at (618)296-4468.

Instructions:

Applications for a zoning hearing can be filed Monday through Friday 8:30 am to 4:00 pm. Applications will not be processed until all of the required information has been submitted. It is up to the discernment of the Administrator and designated staff as to which meeting date(s) the case will be presented before the Zoning Board of Appeals. All cases before the Zoning Board of Appeals are scheduled on as needed basis. Prior consultation with Building & Zoning Department office staff is strongly encouraged prior to completing the application for land use change. Applications are accepted on a first come, first served basis. The Zoning Board of Appeals meets once it has a docket of cases to hear.

Responsibilities

1. Madison County Building & Zoning staff will process the legal notice requirements including providing proper notice to the newspaper, notifying adjacent property owners, and preparing the official posting notice for the site.
2. Applicants for a Land Use change are responsible for providing a completed application, paying all appropriate fees, and meeting requirements.
3. Provide for the proper on-site notice requirement, and be present at the Zoning Board of Appeals Hearing to present your case.

Please Include the Following Information with your Application:

1. A current plat, site plan, survey, or other professional illustration that illustrates existing building and structures, adjoining roadways with their names, natural features such as flood plain, wetlands, lakes, ponds, etc.
2. A detailed written statement explaining the reason for the request (the narrative statement should address the standards of review listed on page 3)
3. Four-Six photos of the property involved in the proposed zoning change
4. Legal Description and Warranty Deed including recorded easements and known utilities on property
5. Completed application with the appropriate signatures
6. Application fee submitted as listed on the attached fee schedule
7. NRI report or letter from the Soil and Water Conservation District, if applicable
8. Any other information required by planning staff (i.e. landscaping plan, elevation plan, exterior lighting plan, etc.)

Standard of Review for Zoning Amendments

Per §93.178, Section (F), Items 1-7 of the Madison County Zoning Ordinance, the Zoning Board of Appeals shall consider the following items when reviewing a Zoning Map Amendment:

1. The effect the proposal would have on the county comprehensive plan;
2. The effect the development would have on schools, traffic, streets, shopping, public utilities, and adjacent properties;
3. Is the application necessary for the public convenience at that location;
4. In the case of an existing nonconforming use, will a special use permit/map amendment make the use more compatible with its surroundings;
5. Is the application so designed, located, and proposed to be operated that the public health, safety, and welfare will be protected;
6. Will the application cause injury to the value or other property in the neighborhood in which it is located; and,
7. Will the special use be detrimental to the essential character of the district in which it is located?

Standard of Review for Special Use Permits

As per §93.178, Section (F), Items (1-7), below are the seven (7) consideration items listed in the Zoning Ordinance that the Zoning Board of Appeals shall take into account while reviewing a SUP request:

1. The effect the proposal would have on the county comprehensive plan;
2. The effect the development would have on schools, traffic, streets, shopping, public utilities, and adjacent properties;
3. Whether the application is necessary for the public convenience at that location;
4. In the case of an existing nonconforming use, whether a special use permit would make the use more compatible with its surroundings;
5. Whether the application is designed, located, and proposed to be operated in a manner that protects the public health, safety, and welfare;
6. Whether the application will cause injury to the value of other property in the neighborhood in which it is located; and,
7. Whether the special use would be detrimental to the essential character of the district in which it is located.

Standard of Review for Variances

Per §93.177, Section (I), Items 1-4 of the Madison County Zoning Ordinance, the Zoning Board of Appeals shall ensure that the following conditions are met when considering a Variance request:

1. That there are special circumstances or conditions as fully described in the findings, applying to the land or buildings for which the variance is sought, which circumstances or conditions are peculiar to such land or building and do not apply generally to the land or buildings in the surrounding area, and that circumstances or conditions are such that strict application of this Zoning Code would deprive the applicant of a reasonable permitted use of the land or building; and,
2. That, for reasons fully set forth in the findings, the granting of the variance is necessary for the reasonable use of land or buildings, and that the variance is the minimum variance that will accomplish this purpose; and,
3. That the granting of this variance would be in harmony with the general purpose and intent of this Zoning Code, and will not be injurious to the surrounding area or otherwise detrimental to the character and use of adjoining buildings and those in the vicinity, the Board, in making its findings, shall take into account whether the condition of the subject premises is peculiar to the lot or tract described in the petition or is merely part of the general condition of the area.
4. No Variance shall be approved that constitutes a variation in use not permitted in the district.

MADISON COUNTY
BUILDING & ZONING

Madison County Building & Zoning
157 N Main Street Suite 254
Edwardsville, IL 62025
Phone: (618) 296-4468
Email: zoning@co.madison.il.us

ZONING HEARING APPLICATION

Project Information

File Number: _____ Submittal Date: _____

Address/General Location of the property: Fosterburg Rd and Harris Ln, Bethalto, IL 62010

Parcel I.D. Number: 20-1-02-33-00-000-010, 20-1-02-33-04-401-009 Legal Description: Lot _____ Block_____ Tract_____

Subdivision Name: n/a

Contact Information

Applicant Name: Arena Navigator 1 Solar, LLC

Mailing Address: 15051 N Kierland Blvd Floor 3 #222, Scottsdale, Arizona 85254

Daytime Phone: 224.487.6311 Cell Phone: _____ Fax Number: _____

Email: central@arenarenew.com

Property Owner Name: Fosterburg 225, LLC

Mailing Address: 12647 Olive Blvd., Suite 510 Creve Coeur, Missouri 63141

Daytime Phone: (314) 852-7000 Cell Phone: _____ Fax Number: _____

Email: Rthomas@tristarproperties.com

Project Manager/Representative: In order to reduce confusion, planning staff request that one contact person be designated to discuss issues concerning this petition.

Project Manager/Representative Name: Sam Walch

Mailing Address: 500 W Madison St, Ste 1000, Chicago, IL 60661

Daytime Phone: 8604660489 Cell Phone: _____ Fax Number: _____

Email: swalch@arenarenew.com

Type of Zoning Request (fill in what applies)

Variance:

Minor Bulk Variance: Yes ____ No ____

Proposed Bulk Variance(s):_____

_____

Special Use Permit:

Proposed Special Use Permit(s): Special Use Permit to construct, operate, and maintain the Arena Navigator 1 Solar, LLC Solar Project

_____

Zoning Map Amendment (Rezoning)

Existing Zoning: _____ Proposed Zoning: _____

Size of parcel involved in the zoning change: _____

Describe existing use of property: _____

_____

Describe proposed use of property: _____

_____

Flood Zone: Yes ____ No____ If yes, which zone? _____ Panel Number: _____

Declaration

I, the applicant, of the above legally described property on which the zoning change is proposed, has provided answers to the questions herein that are true to the best of my knowledge. I have been granted permission by the property owner(s) of the above legally described property to apply for a zoning change on said property. By virtue of my application for a zoning change, I do hereby declare that the appropriate appointed and elected officials responsible for the review of my application are given permission to visit and inspect the property proposed for a zoning change in order to determine the suitability of the request.

Sam Walch	5/11/26
Applicant Signature	Date
Rodney H. Thomas, Manager	5-11-2026
Owner Signature	Date
Owner Signature	Date
Staff Signature	Date

Office Use Only:

Intake Clerk: _____ Fee Amount: $_____ Payment Type: _____

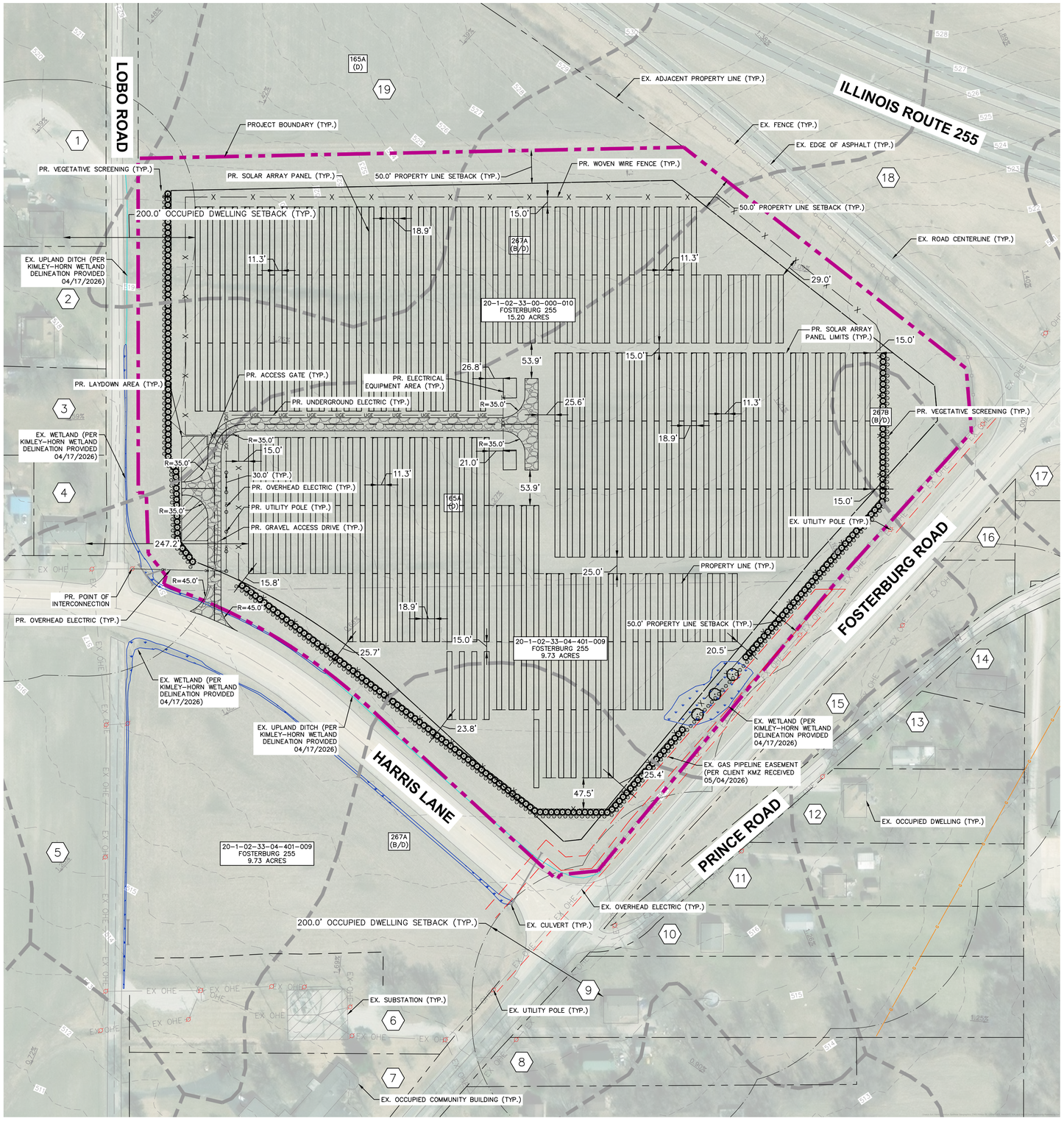
ZBA Date: _____ P&D Date: _____ County Board Date: _____

Plot Plan

Please show the following items on the plot plan below:

- North arrow
- Sketch of property with exact dimensions
- Location of roadways (public and private)
- Location of all existing and proposed structures (show distance to property lines and between structures)
- Utility locations, including water line and overhead or underground electric lines
- Location of sewer treatment systems and lateral lines for lots without public sewers
- Supplemental information or details relevant to the zoning petition

EXHIBIT B: ZONING SITE PLAN



Drawing name: K:\CHS_LOC\V\268685034_Arena Renewables_Navigator 1_a\V2 Design\V2\AD\Exhibits\ZSP\Navigator 1_Zoning Site Plan.dwg ZSP May 28, 2026 1:47pm by: Daniel.Blalock
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

NORTH

GRAPHIC SCALE IN FEET
0 40 80 160

LEGEND

ROAD LABEL	ROAD NAME
PROJECT BOUNDARY	
PROPERTY LINE	
PROPERTY LINE SETBACK	
EX. ADJACENT PROPERTY LINE	
EX. CONTOURS	XXX
EX. FLOW (DIRECTION AND SLOPE)	XX%
EX. ROAD CENTERLINE	
EX. EDGE OF ASPHALT	
EX. CULVERT (PER KIMLEY-HORN WETLAND DELINEATION PROVIDED 04/17/2026)	
EX. OVERHEAD ELECTRIC	EX OHE
ASSUMED OVERHEAD ELECTRIC EASEMENT	
EX. GAS PIPELINE EASEMENT (PER CLIENT KMZ RECEIVED 05/04/2026)	
EX. UTILITY POLE	
EX. FENCE	
EX. OCCUPIED COMMUNITY BUILDING /DWELLING	
EX. OCCUPIED COMMUNITY BUILDING /DWELLING SETBACK	
EX. SUBSTATION	
EXISTING STRUCTURE CONSTRUCTABILITY BUFFER	
EX. SOILS	
EX. WETLANDS (PER KIMLEY-HORN WETLAND DELINEATION PROVIDED 04/17/2026)	
EX. LINEAR WATER FEATURE (PER KIMLEY-HORN WETLAND DELINEATION PROVIDED 04/17/2026)	
PR. WOVEN WIRE FENCE	X X
PR. UTILITY POLE	
PR. OVERHEAD ELECTRIC	OH
PR. UNDERGROUND ELECTRIC	UGE UGE
PR. ELECTRICAL EQUIPMENT AREA	
PR. ACCESS GATE	
PR. GRAVEL ACCESS ROAD	
PR. LAYDOWN AREA	
PR. SOLAR ARRAY PANEL	
PR. SOLAR ARRAY PANEL LIMITS	
PR. VEGETATIVE SCREENING	

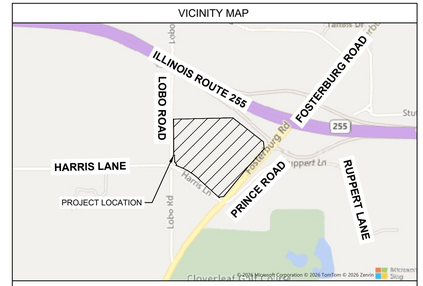
SOILS DATA TABLE

MAP UNIT SYMBOL	MAP UNIT NAME	HYDROLOGIC SOIL GROUP
165A	WEIR SILT LOAM, 0 TO 2 PERCENT SLOPES	D
267A	CASEYVILLE SILT LOAM, 0 TO 2 PERCENT SLOPES	B/D
267B	CASEYVILLE SILT LOAM, 2 TO 5 PERCENT SLOPES	B/D

CONCEPT PLANT SCHEDULE

EVERGREEN TREE	EVERGREEN TREE	232
ORNAMENTAL TREE	ORNAMENTAL TREE	3
DECIDUOUS SHRUB	DECIDUOUS SHRUB	249

VICINITY MAP



SCALE 1" = 1000'

ADJACENT PARCEL INFORMATION

1. 20-2-02-33-02-201-006 COOK, CASEY H 3.58 ACRES
2. 20-2-02-33-02-201-007.001 TYLER, SCHERYL 1.23
3. 20-2-02-33-02-201-007 TIS DIRT LLC 0.85 ACRES
4. 20-1-02-33-02-201-010 MURRAY, CHASE 0.33 ACRES
5. 20-1-02-33-04-401-001 HARRIS, JERRY 34.66 ACRES
6. 20-1-02-33-04-401-008 CENTRAL ILLINOIS PUBLIC SERVICE COMPANY 1.23 ACRES
7. 20-2-02-33-04-401-007 TARRANT AND HARMAN PROPERTIES LLC 2.00 ACRES
8. 20-1-02-33-04-401-016 CLARK, TODD S 1.00 ACRES
9. 20-1-02-33-04-401-015 GUTHRIE, CARRIE 2.00 ACRES
10. 20-1-02-33-04-401-014 RUPPERT, STEVEN D AND SARAH M 1.20 ACRES
11. 20-1-02-33-04-401-013 KELLY, OLIVIA 1.20 ACRES
12. 20-1-02-33-04-401-012 WALLS, TREVOR 1.20 ACRES
13. 20-1-02-33-04-401-011 HETTICK, TOMMY D AND WILMA G 0.67 ACRES
14. 23-71-227-00600 2010 BUILDING PARTNERSHIP LLP 1.97 ACRES
15. 20-1-02-33-04-401-009.002 FOSTERBURG 255 1.26 ACRES
16. 20-1-02-33-00-000-010.002 FOSTERBURG 255 0.19 ACRES
17. 20-1-02-34-01-101-037.001 FOSTERBURG 255 3.32 ACRES
18. NO INFORMATION AVAILABLE
19. 20-1-02-33-00-000-009 HARRIS, LOLA TRUSTEE 12.11 ACRES

SITE DATA TABLE

PIN #	20-1-02-33-00-000-010 & 20-1-02-33-04-401-009
APPLICANT	ARENA NAVIGATOR 1 SOLAR, LLC
PROPERTY OWNER	FOSTERBURG 255
SITE ADDRESS	HARRIS LANE, MADISON COUNTY IL 62002
ZONING JURISDICTION	MADISON COUNTY
CURRENT LAND USE	FARMLAND
PROPOSED AREA	COMMERCIAL SOLAR ENERGY FACILITY
TOTAL PARCEL AREA	24.63 ± AC
PRELIMINARY DISTURBED AREA	16.87 ± AC (AREA WITHIN FENCE)
PRELIMINARY SOLAR AREA	12.58 ± AC
PROPERTY LINE SETBACK	50'
RIGHT-OF-WAY SETBACK	50'
OCCUPIED COMMUNITY BUILDING/DWELLING SETBACK	150'
TOTAL POWER OUTPUT (DC)	3.95 MW
TOTAL POWER OUTPUT (AC)	3.60 MW
DC/AC RATIO	1.10
GCR	40%

*THE PURPOSE OF THIS PLAN IS FOR SPECIAL USE PERMIT REVIEW AND APPROVAL BY MADISON COUNTY, IL.

NOTES

1. SETBACKS PER MADISON COUNTY CODE OF ORDINANCE § 93.106 AND ILLINOIS SOLAR CODE 55 ILCS 5/5-12020:
   - 1.1. NON-PARTICIPATING COMMUNITY BUILDING AND OCCUPIED DWELLING SETBACK: 150 FT*
   - 1.2. NON-PARTICIPATING PROPERTY LINE SETBACK: 50 FT
   - 1.3. PUBLIC ROAD RIGHTS-OF-WAY SETBACK: 50 FT
2. KIMLEY-HORN ASSUMED CONSTRUCTABILITY BUFFERS:
   - 2.1. ASSUMED OVERHEAD ELECTRIC EASEMENT: 50 FT
   - 2.2. EXISTING STRUCTURE CONSTRUCTABILITY BUFFER: 30 FT
3. PARCEL INFORMATION WAS OBTAINED FROM THE MADISION COUNTY, IL GEOGRAPHIC INFORMATION SYSTEM (GIS) MAP DATA ACCESSED 04/20/2026.
4. SITE LINEWORK WAS GATHERED VIA THE TRACING OF DESKTOP RESOUCES AND IS SUBJECT TO CHANGE BASED ON FINDINGS OF A FORMAL ALTA SURVEY.
5. ON-SITE WETLANDS/WATERWAYS HAVE BEEN OBTAINED FROM KIMLEY-HORN WETLAND DELINEATION PROVIDED 04/17/2026.
6. SOILS HAVE BEEN OBTAINED FROM THE NATURAL RESOURCES CONSERVATION SERVICE (NRCS) WEB SOIL SURVEY ON 04/20/2026.
7. PER THE UNIVERSITY OF ILLINOIS WATER GIS MAP, NO WELLS EXISTS WITHIN THE SITE. ACCESSED ON 04/22/2026.
8. PER THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), THE SUBJECT PARCEL EXISTS WITHIN FLOOD ZONE C – UNSHADED (MINIMAL FLOOD HAZARD). FEMA SPECIAL FLOOD HAZARD AREAS AND REGULATORY FLOODWAYS DO NOT EXIST WITHIN THE SUBJECT PARCEL. THE SITE RESIDES ON FEMA PANELS (1704360125B AND 1704360105B) EFFECTIVE DATE 04/15/1982.

* A 200-FT RESIDENTIAL SETBACK HAS BEEN ADOPTED AND USED FOR DESIGN AT CLIENT DIRECTION; COUNTY CODE REQUIRES A MINIMUM 150-FT SETBACK.

NOT FOR CONSTRUCTION

Call Before You Dig JULIE 1-800-892-0123

No.	REVISIONS	DATE

ARENA RENEWABLES

Kimley»Horn
© 2026 KIMLEY-HORN AND ASSOCIATES, INC.
570 LAKE COOK RD SUITE 200
DEERFIELD, IL 60015
WWW.KIMLEY-HORN.COM

PRELIMINARY- NOT FOR CONSTRUCTION

KHA PROJECT 268685034
DATE 05/28/2026
SCALE AS SHOWN
DESIGNED BY JEM
DRAWN BY JEM
CHECKED BY DRB

ZONING SITE PLAN

ARENA NAVIGATOR 1 SOLAR, LLC

MADISON COUNTY, IL

SHEET NUMBER
EX C

EXHIBIT C: LEASE AGREEMENT

AGREEMENT FOR SOLAR ENERGY GROUND LEASE

BASIC TERMS SUMMARY

Effective Date	The date that this Agreement has been fully executed by both Landlord and Tenant as reflected on the signature page(s).
Landlord	Fosterburg-255, LLC, a Missouri limited liability company
Tenant	Arena Development, LLC, a Delaware limited liability company
Land	The parcels of real property located along I-255 and Fosterburg Rd., in the City of Fosterburg, Madison County (the "**County**"), Illinois, Parcel ID Numbers 20-1-02-33-00-000-010 and 20-1-02-33-04-401-009.
Premises (Section 2)	The Land, consisting of approximately 25 acres, as approximately depicted on Exhibit A attached hereto (subject to modification pursuant to the provisions of Section 2 below). The Premises are more particularly described and defined in Section 2.
Initial Diligence Period (Section 3)	180 days
Initial Diligence Period Fee (Section 3)	[redacted]
Extended Diligence Period(s) (Section 3)	One (1) additional 365 day period after the expiration of the Initial Diligence Period ("**First Extended Diligence Period**"); plus one (1) additional 365 day period after the expiration of the First Extended Diligence Period ("**Second Extended Diligence Period**"); plus one (1) additional 365 day period after the expiration of the Second Extended Diligence Period ("**Third Extended Diligence Period**"). Notwithstanding the foregoing or anything else contained in this Agreement, the Diligence Period (as defined herein) shall be deemed to have expired as of the Lease Commencement Date.
Extended Diligence Period Fee(s) (Section 3)	[redacted]
Lease Commencement Date (Section 4)	The earlier of: (i) the expiration of the Diligence Period, (ii) the date upon which Tenant begins construction of the System, or (iii) the date upon which Tenant delivers written notice to Landlord electing to commence the Construction Period.
Construction Period (Section 4)	The initial period of the Lease, commencing upon the Lease Commencement Date and expiring on the earlier of (i) the first

	anniversary of the Lease Commencement Date, or (ii) the Operations Date.
Operations Date (Section 4)	The date upon which the System begins generating electrical energy in greater than test quantities. Tenant shall notify Landlord in writing as of the date the Operations Date occurs.
Initial Term (Section 4)	240 full calendar months commencing upon the expiration of the Construction Period.
Renewal Terms (Section 4)	Four (4) successive renewal terms of five (5) years each.
Rent (Section 6)	[redacted]
Rent Escalation Date (Section 6)	The date which is the first anniversary of the Rent Payment Date of the Initial Term.
Rent Escalation Percentage (Section 6)	[redacted]
Additional Charges (Sections 11, 14, 23)	The Agreement (and Lease created thereby) is an "absolute triple net" lease, pursuant to which Tenant is solely responsible for paying for all maintenance, repairs, replacements, taxes, utilities, and other charges or costs relating to the Premises during the Term.
Landlord's Notice Address (Section 19)	Fosterburg-255, LLC Attn: Rodney H. Thomas 12647 Olive Blvd., Suite 510 Creve Coeur, Missouri 63141 Email: rthomas@tristarproperties.com
Tenant's Notice Address (Section 19)	Arena Renewables Geoff Johnson 15051 N Kierland Blvd, Floor 3 #222 Scottsdale, Arizona 85254 Email: land@arenarenew.com

AGREEMENT FOR SOLAR ENERGY GROUND LEASE

THIS AGREEMENT FOR SOLAR ENERGY GROUND LEASE (this "**Agreement**") is made and entered into by and between Landlord and Tenant, effective as of the Effective Date.

RECITALS

A. Landlord is the owner of the Land.

B. Tenant is in the business of developing, siting, operating, and maintaining solar energy generation and transmission facilities and desires to investigate the feasibility of such solar operations on the Land, and to lease the Land following such investigations upon the terms and conditions set out in this Agreement.

C. Landlord is willing to grant Tenant the right to investigate the feasibility of solar operations on the Land and to lease the Land on the terms and conditions set out in this Agreement.

NOW THEREFORE, in consideration of the amounts to be paid to Landlord by Tenant and the other mutual promises and covenants set forth herein, the receipt and sufficiency of which is hereby conclusively established, Landlord and Tenant hereby agree as follows:

1. **Basic Terms Summary.** References in the body of this Agreement to a portion of the Basic Terms Summary (e.g., the defined terms in the left-hand column of the Basic Terms Summary) shall be deemed and construed to incorporate all the terms provided under each such referenced portion of the Basic Terms Summary. References in the Basic Terms Summary to a portion of the body of this Agreement (e.g., Section references in the left-hand column of the Basic Terms Summary) shall be deemed and construed to incorporate all the terms provided under each such referenced portion of the body of this Agreement. Notwithstanding anything set forth above, if there is any inconsistency between the Basic Terms Summary and another portion of this Agreement, the terms of the Basic Terms Summary shall control.

2. **Grant by Landlord; Lease; Leased Premises**.

(a) Landlord hereby grants to Tenant an exclusive right during the Diligence Period to conduct those activities described in Section 3 below. Landlord hereby agrees to lease the Premises (as defined in Section 2(b) below) to Tenant effective upon the Lease Commencement Date, and Tenant hereby agrees to lease the Premises from Landlord effective upon the Lease Commencement Date, all upon the terms and subject to the conditions set forth herein. The lease of the Premises created by this Agreement (the "**Lease**") shall commence immediately upon the Lease Commencement Date. The parties hereby agree that all of the covenants and agreements contained in this Agreement, including, without limitation, the rights, duties, and obligations of the parties during the Diligence Period, touch and concern the Land and are expressly intended to, and shall, be covenants running with the Land. This Agreement shall burden the Land and the Premises and shall run with the Land and the Premises. To the extent any covenant, right, or obligation set out in this Agreement is not enforceable as a covenant running

with the land, such provision shall be deemed an equitable servitude.

(b) The "**Premises**" as used herein shall be an area consisting of either (1) all the Land (referred to herein as the "**Entire Land**"), or (2) that portion of the Land which is located to the north of Harris Lane and consisting of approximately twenty (20) acres, as generally depicted on **Exhibit A** attached hereto (referred to herein as the "**Modified Land**"); together with all personal property, improvements and fixtures located on the Entire Land or the Modified Land (as applicable) as of the Effective Date and all other appurtenances, tenements, hereditaments, rights and easements pertaining to the Entire Land or the Modified Land (as applicable). During the Diligence Period (as defined in Section 3(b) below), Tenant shall assess the Land to determine whether it elects to lease the Entire Land or the Modified Land, and shall notify Landlord in writing of the same. Thereafter, all references in this Agreement to the "Premises" and/or the "Land" shall mean the Entire Land or the Modified Land, as applicable, depending on whether Tenant has elected to lease the Entire Land or the Modified Land. The parties acknowledge and agree that the exact size and boundaries of the area of the Land that will comprise the Premises (i.e., either the Entire Land or the Modified Land) (the "**Lease Boundary Line**") has not yet been determined, and any maps or depictions which Tenant has shown or will show to Landlord (including, without limitation, Exhibit A attached hereto) are approximations only and are subject to change. In the event Tenant elects (by written notice delivered to Landlord during the Due Diligence Period) to lease the Modified Land, then Tenant thereafter shall have no interest in the balance of the Entire Land (i.e., other than the Modified Land), this Agreement shall have no applicability thereto, and if the parties have recorded a memorandum of this Agreement against the entire Land, then the parties shall promptly execute and record an amendment to such memorandum to release the same from title to the balance of the Entire Land (i.e., other than the Modified Land).

(c) Prior to the expiration of the Construction Period, Tenant shall obtain and deliver to Landlord an ALTA survey consistent with the requirements of Illinois Public Act 100-0781 – 35 ILCS 200/10-740 (the "**Survey**"), which shall set forth and conclusively establish (1) the metes and bounds legal description of the Lease Boundary Line (consisting of either the Entire Land or the Modified Land, as provided in Section 2(b) above), and (2) the net acreage (the "**Acreage**", and each such acre, an "**Acre**") of the Premises, being the total Acreage located within the Lease Boundary Line. The parties agree that (A) the Lease Boundary Line and Acreage set forth in the Survey shall be incorporated into this Agreement as if fully set forth herein without amendment to this Agreement, and (B) the Acreage set forth in the Survey shall be the Acreage used for purposes of computing Rent. The parties acknowledge and agree that the final Acreage of the Premises as established by the Survey may be more or less than the approximate acreage of the Premises set forth in the Basic Terms Summary, which would have the effect of increasing or reducing the Rent payable under this Agreement accordingly. If requested by either party, the parties shall provide written consent to the foregoing or an amendment to this Agreement expressly incorporating the Survey into this Agreement as provided in this Section 2(c) and to establish the Acreage of the Premises and any corresponding modifications to the Rent.

3. **Diligence Period; Diligence Period Fee**.

(a) The Initial Diligence Period shall commence on the Effective Date. Within thirty (30) days after the Effective Date, Tenant shall pay to Landlord the Initial Diligence Period Fee. Landlord and Tenant acknowledge and agree that the Initial Diligence Period Fee (and the Extended Diligence Period Fees, if applicable) have been bargained for and agreed to as consideration for the Diligence Period (as defined below), Tenant's right to terminate this Agreement pursuant to Section 3(f), and for Landlord's execution and delivery of this Agreement. Such consideration is in addition to and independent of all other consideration provided in this Agreement, and is nonrefundable in all events. If the Lease Commencement Date occurs prior to the end of the Initial Diligence Period, then the Diligence Period shall be deemed to have expired as of the Lease Commencement Date, and any unamortized portion of the Initial Diligence Period Fee shall be applied against the initial Rent payment. This Section 3(a) shall survive termination of this Agreement.

(b) Unless the Lease Commencement Date has occurred (in which event the Diligence Period shall be deemed to have expired), the Initial Diligence Period shall be automatically extended for each and every Extended Diligence Period (without any action or notice required from Tenant), unless Tenant delivers a Termination Notice (as defined in Section 3(f)) to Landlord prior to the expiration of the Initial Diligence Period or the then applicable Extended Diligence Period. If Tenant has not sent a Termination Notice in accordance with the previous sentence, Tenant shall pay to Landlord the applicable Extended Diligence Period Fee within thirty (30) days after the commencement of each Extended Diligence Period. For the avoidance of doubt, if Tenant delivers a Termination Notice to Landlord prior to expiration of the Initial Diligence Period or any Extended Diligence Period, then no subsequent Extended Diligence Period Fee shall be payable to Landlord for any unexercised Extended Diligence Periods. If the Lease Commencement Date occurs prior to the expiration of any Extended Diligence Period, then the Diligence Period shall be deemed to have expired as of the Lease Commencement Date, and any unamortized portion of the applicable Extended Diligence Period Fee for such Extended Diligence Period shall be applied against the initial Rent payment. The Initial Diligence Period and the Extended Diligence Periods, if exercised, shall be collectively referred to as the "**Diligence Period**".

(c) During the Diligence Period, Tenant (and its agents, representatives, employees, contractors, consultants and affiliates) shall be permitted access to the Land, at reasonable times and upon reasonable notice to Landlord, for purposes of conducting (at Tenant's expense) any and all investigations or testing of the Land as Tenant may deem necessary, appropriate or convenient, including without limitation, the surveying or investigation of environmental, soils, biological, cultural, historical, boundary or geotechnical matters. Tenant agrees, at its own expense, to repair any physical damage caused to the Land by Tenant or Tenant's agents, representatives, employees, contractors, consultants or affiliates in connection with such investigations and testing. Tenant shall indemnify, defend, and hold Landlord free and harmless from all damages to persons or property directly resulting from such inspection or investigations of the Land, or any liens arising in connection with the same, which indemnification obligation shall survive expiration or termination of this Agreement. Tenant is hereby authorized to undertake direct discussions and/or negotiations with any governmental entity or other agency, body or organization that has jurisdiction over the Premises (including, without limitation, any city, county

state or federal agency) in regard to the Premises and the Permitted Use (as defined in Section 7 below). Notwithstanding the foregoing, Tenant shall not effectuate any rezoning of the Property or otherwise cause any governmental approvals which are binding upon the Property to be enacted or otherwise effectuated without Landlord's prior written consent.

(d) Landlord shall provide to Tenant any of the following in Landlord's possession or control, within five (5) days following the Effective Date: (1) any notice of violation of any law or regulation, including zoning laws applicable to the Land, (2) any "Phase I" and other environmental assessment reports regarding the Land, (3) Landlord's most recent survey and title insurance policy relating to the Land, (4) any governmental permits, licenses or approvals for the Land, (5) tax bills, contracts and agreements relating to the Land, and (6) any other surveys, physical condition reports, notices regarding zoning or government action with respect to the Land.

(e) Landlord acknowledges that Tenant may obtain, at Tenant's expense, a title insurance policy insuring Tenant's leasehold interest in the Premises. Landlord agrees to reasonably assist Tenant in obtaining such title policy by supplying any information reasonably requested by the title insurance company in connection with issuing such title policy and to cooperate with Tenant in attempting to cure any title defects which may affect Tenant's use of the Premises for the Permitted Use, all at no cost to Landlord.

(f) During the Diligence Period, Tenant may terminate this Agreement and Tenant's right hereunder to lease the Premises, for any reason or no reason, exercisable upon written notice from Tenant to Landlord of its election to terminate (a "**Termination Notice**") delivered on or before the expiration of the Diligence Period (as may be extended pursuant to Section 3(b) above), in which event Landlord and Tenant shall have no further rights or obligations under this Agreement except as otherwise expressly provided in this Agreement. Notwithstanding the foregoing, if Tenant terminates this Agreement during the Diligence Period, then at the time of such termination and as condition thereto (unless Landlord otherwise elects, in its sole discretion), Tenant shall execute and deliver to Landlord a written agreement pursuant to which Tenant transfers and assigns to Landlord all of Tenant's right, title and interest in and to any Interconnection Rights to the extent benefiting or otherwise relating to the Land. As used herein, "Interconnection Rights" shall mean any agreements, licenses, consents, permits, or other instruments or rights relating to the development, construction, operation, maintenance, repair and replacement of the System (or any similar system for the generation, collection, conversion, storage, interconnection, transmission and distribution of solar electricity) on the Land, as may then have been issued, granted, or otherwise agreed to by any governmental authority, quasi-governmental authority, or other third party (including, without limitation, Ameren Illinois). The assignment of the Interconnection Rights to Landlord shall be effectuated by a commercially reasonable written assignment and assumption agreement executed by Landlord and Tenant within ten (10) days after the delivery of a Termination Notice by Tenant. Tenant shall be solely responsible for obtaining any required consent of any grantor(s) of the Interconnection Rights with respect to the transfer and assignment of such Interconnection Rights to Landlord, at Tenant's sole cost.

(g) Landlord shall furnish Tenant with a signed, completed form W-9 on the Effective Date and thereafter within ten (10) days of any event causing a change in any of the information set forth in the previously-delivered W-9, including any transfer or assignment of Landlord's interest in this Agreement. Tenant shall be entitled to delay delivery of Rent or any other payment due under this Agreement, including the Initial Diligence Period Fee, until it receives such W-9.

4. **Lease Term**.

(a) Unless this Agreement is earlier terminated, Tenant's leasehold interest in the Premises shall commence on the Lease Commencement Date and shall continue for the entire Construction Period and the remainder of the Term unless modified or earlier terminated pursuant to the terms hereof. For the avoidance of doubt, the Lease Commencement Date shall not be deemed triggered by: (1) Tenant's due diligence activities on the Premises (including, without limitation, any surveying, soil or environmental testing or similar work) or (2) any work performed by or on behalf of any servicing utility company. Unless the Lease is earlier terminated, the Initial Term shall commence automatically upon the expiration of the Construction Period and shall continue for the entire Initial Term unless modified or earlier terminated pursuant to the terms hereof. If the Initial Term does not commence on the first day of a month, then the Initial Term shall not end until the last day of the last month of the Initial Term.

(b) Tenant shall have the option to extend the Initial Term for each of the Renewal Terms by providing Landlord with written notice no later than ninety (90) days prior to the expiration of the Initial Term (or the then-current Renewal Term, as applicable), failing which the Term shall expire as of the last day of the Initial Term or the then-current Renewal Term, as applicable. The Renewal Terms shall be subject to all the terms and provisions of this Agreement. The Construction Period, the Initial Term and any Renewal Terms, if exercised, shall be collectively referred to as the "**Term**".

5. **Termination of Agreement**.

(a) Without limiting any other termination rights of Tenant as set forth in this Agreement, Tenant shall have the right to terminate this Agreement as follows: (i) at any time during the Construction Period, upon Tenant's determination, in Tenant's sole and absolute discretion, that it would not be commercially reasonable to proceed with the construction and operation of the System, or (ii) at any time during the Term pursuant to the failure of any condition described in Section 5(b) below.

(b) Without limiting any other termination rights of Tenant as expressly set forth in this Agreement, during the Term, Tenant's obligation to continue this Agreement is at all times expressly subject to satisfaction of each of the following conditions: (i) Tenant's obtaining and maintaining all necessary or required approvals from state, federal and local authorities, (ii) Tenant's obtaining and maintaining any agreement that is necessary for the operation of the System and the sale and delivery of the electricity generated by it, including without limitation an interconnection agreement and power purchase agreement with the applicable utility company,

and (iii) Tenant's ability to continuously operate the System and utilize the Premises for the Permitted Use. If any of the foregoing conditions are not satisfied at any time during the Term, Tenant shall have the right to terminate this Agreement upon written notice to Landlord.

6. **Rent Commencement; Rent; Payment Schedule; Rent Escalation**.

(a) Tenant's obligation to pay Rent shall commence on the Lease Commencement Date.

(b) Rent shall be payable in advance in semi-annual installments due on each January 15 and July 15 during the Term (each, a "**Rent Payment Date**"); provided, that the first installment of Rent shall be due on the Lease Commencement Date and shall be prorated, on a daily basis, for the period between the Lease Commencement Date and the first Rent Payment Date. If Tenant elects to terminate this Agreement prior to the Lease Commencement Date in accordance with the terms of this Agreement, no Rent shall be due or payable. For the avoidance of doubt, Rent payable for any partial period shall be prorated for the number of days in such partial period.

(c) Beginning on the Rent Escalation Date, and on each anniversary thereafter during the Term, the annual Rent shall increase over the annual Rent payable for the immediately preceding year by the Rent Escalation Percentage.

(d) If any overdue installment of Rent is not received by Landlord within ten (10) days after Landlord provides Tenant written notice of the delinquency, Tenant will pay a late fee to Landlord in the amount of five percent (5%) of the unpaid delinquent Rent amount, and Tenant shall pay interest of one and one-half percent (1.5%) per month on the unpaid balance due from the date of Landlord's notice until the principal and the interest is paid in full.

(e) If the Lease Commencement Date occurs prior to the establishment of the Acreage pursuant to Section 2 above, then the Rent payable on and after the Lease Commencement Date until the date that the Acreage is established (such period, the "**Interim Rent Period**") shall be computed based on the approximate acreage of the Premises set forth in the Basic Terms Summary above. Once the Acreage is established, the Rent payable on and after such date shall be computed based on the final Acreage set forth in the Survey (and the Rent shall be increased or decreased accordingly). If the Rent is increased as a result of an increase in the final Acreage as set forth in the Survey, Tenant shall make a one-time payment to Landlord on the next Rent Payment Date equal to the difference between (i) the amount of Rent which would have been payable during the Interim Rent Period if computed based on the final Acreage set forth in the Survey, *minus* (ii) the amount of Rent actually paid during the Interim Rent Period. If the Rent is decreased as a result of a decrease in the final Acreage as set forth in the Survey, Tenant shall deduct from the next Rent payment(s) owing to Landlord an amount equal to the difference between (i) the amount of Rent actually paid during the Interim Rent Period, *minus* (ii) the amount of Rent which would have been payable during the Interim Rent Period if computed based on the final Acreage set forth in the Survey.

(f) For purposes of clarification only, Tenant and Landlord acknowledge and agree that Rent shall be determined in accordance with this Section 6 during the entire Term of the Lease, including any Renewal Term.

7. **Use and Occupancy**. During the Term, Tenant shall use the Premises for the development, construction, operation, maintenance, repair and replacement of the System (the "**Permitted Use**"), including all lawful uses that are incidental or related to the Permitted Use, and for no other use without Landlord's prior written consent, which consent may be granted or withheld in Landlord's sole and absolute discretion. The "**System**" shall mean one or more facilities for the generation, collection, conversion, storage, interconnection, transmission and distribution of solar electricity, including, without limitation, solar panels and other components of a solar photovoltaic power array, other facilities for the conversion of solar energy into electricity and the storage of electricity, and related equipment and facilities, including, without limitation, overhead and underground power transmission lines, poles, anchors, support structures, overhead and underground cables (including but not limited to fiber optic cables for communications and data transmission purposes), substations, distribution and interconnection facilities, and associated equipment and appurtenances, and roads, driveways, fences, gates, signage and other security devices, and utility and other improvements, equipment, and facilities servicing or supporting the same. During the Term, Tenant shall comply with all federal, state, county, and municipal laws, ordinances, regulations, and requirements applicable to Tenant's use of the Premises (collectively, "**Laws**"); provided, however Tenant shall not be responsible for, and Landlord shall retain full responsibility for, any violation of Laws caused by Landlord or by Landlord's affiliates, officers, employees, agents, contractors, or licensees.

8. **Crops**. As of the Effective Date, the Premises are subject to a farm lease (the "**Farm Lease**") pursuant to which the Premises are farmed in accordance with the annual schedule attached hereto as Exhibit B (the "**Farming Schedule**"). During the Diligence Period, but prior to the Lease Commencement Date, Landlord (or its tenant under the Farm Lease) may plant farm crops on the Premises in accordance with the Farming Schedule, subject to the following terms and conditions. Tenant shall have until the sixtieth (60th) day prior to the date for the commencement of planting of crops for the next-ensuing season (as shown on the Farming Schedule) ("**Farming Activities**") to elect one of the following options: (i) cause the Lease Commencement Date to occur at the end of such sixty (60) day period, in which event Landlord shall not commence or permit any Farming Activities, or (ii) allow Landlord to proceed with such Farming Activities, in which event, Tenant shall be entitled to delay the Lease Commencement Date, if necessary, until the date that any crops actually planted on the Premises are harvested; provided, however, Tenant shall at all times have the right to commence construction of the System and pay the owner of any crops actually planted such amount as may be required to be paid to the tenant under the Farm Lease, which may include the fair market value of the portion of any harvest-ready crop or agricultural input such as herbicides or fertilizer that cannot reasonably be harvested and sold solely as a result of the construction of the System, less the reasonable cost of harvesting such crops. In no event shall Landlord (a) plant any farm crops which cannot be fully harvested within one (1) year from the date of planting, and (b) enter into any farm lease (excluding the Farm Lease) which has a term longer than one (1) year. Even if farm crops are planted on the Premises prior to the Lease Commencement Date, Tenant shall nevertheless have

the right to enter onto the Premises to extract soil samples, perform geotechnical tests, and conduct such other tests, studies, inspections and analyses on the Premises as Tenant deems necessary, useful or appropriate; provided, however, that Tenant shall be solely responsible for any damage to then-planted crops to the extent required by the terms of the Farm Lease. For the avoidance of doubt, this Section 8 shall not apply to timber or timbering activities, which shall be governed exclusively by Section 9 below.

9. **Timber**. During the Diligence Period, but prior to the Lease Commencement Date, if Landlord desires to cut, clear, grub or otherwise remove any timber from the Land (collectively, "**Timbering Activities**"), Landlord shall first send a written request to Tenant, which request shall set forth the area of the Land in which Landlord intends to conduct such proposed Timbering Activities, and Landlord shall provide Tenant with any additional information which Tenant may reasonably request in connection with such proposed Timbering Activities. Landlord shall not proceed with any Timbering Activities unless and until Tenant has provided its prior written approval to such Timbering Activities, and if requested by Tenant, Landlord shall coordinate with Tenant at all times during such Timbering Activities and comply with any procedures, limitations or requirements which Tenant may impose in connection with such Timbering Activities. Following the Lease Commencement Date, Landlord shall not commence any Timbering Activities on or within the Premises and Landlord shall have no right or claim to any timber located therein, it being agreed that Tenant may remove any such timber and retain the proceeds from same.

10. **Tenant's Property**.

(a) The System and its constituent parts, together with any and all improvements or other features constructed on, or personal property installed or placed on the Premises and/or Landlord's adjacent property by or for Tenant, including without limitation, machinery, fixtures, trade fixtures, equipment, racking, inverters, cables, solar panels and other personal property (collectively, "**Tenant's Property**") are personal property within the meaning of Article 9 of the Illinois Uniform Commercial Code found at 810 ILCS 5/9 et seq., or any replacement or successor statute or code (the "**UCC**") regardless of the manner of attachment to the Premises and/or Landlord's adjacent property. Tenant's Property is and shall at all times during the Term be deemed to be the property of Tenant (subject to any Pledge in accordance with Section 26(a)), which shall be removed by Tenant at Tenant's expense upon the expiration or earlier termination of the Term in accordance with Section 13. The creation, attachment and perfection of security interests in Tenant's Property shall be governed exclusively by Article 9 of the UCC. Tenant shall cause any financing statements or other instruments or liens evidencing any UCC security interests which are filed in the land records with respect to the Premises to be released of record on or prior to the expiration or termination of this Lease. For the avoidance of doubt and without limiting the foregoing, Landlord hereby waives any lien, security interest, rights to levy, distraint, possession, landlord's lien and all other claims of any nature that Landlord now has or may hereafter have by statute, rule, regulation, common law, agreement or otherwise, in and to Tenant's Property, if any, and Landlord shall not cause the creation of, or attachment to, Tenant's Property of any liens (including mechanics' and judgment liens) or other encumbrances. For the avoidance of doubt, Landlord is not responsible for payment of any personal property taxes

assessed on Tenant's Property. Landlord further agrees to notify any purchaser of the Land and any subsequent mortgagee or other encumbrance holder of the existence of the foregoing waiver of Landlord's lien rights, which shall be binding upon the executors, administrators, successors and transferees of Landlord, and shall inure to the benefit of the successors and assigns of Tenant and any Additional Notice Party (as defined in Section 27).

(b) The parties hereto acknowledge that the Premises consist of land only and do not include Tenant's Property. Any claim to a lien or encumbrance upon the Premises, arising from any act or omission of Landlord, shall accrue only against the real estate owned by Landlord, and not against Tenant's Property, and shall be subject to this Agreement. If any such lien or encumbrance shall be filed against Tenant's Property as a result of Landlord's actions, Landlord shall, without cost or expense to Tenant, promptly and within a reasonable time cause such lien or encumbrance to be discharged of record by payment, statutory lien release bond, court order or otherwise as provided by law. Landlord shall not permit any sale, foreclosure or forfeiture of the Premises by reason of nonpayment of a lien caused by Landlord or anyone claiming by or through Landlord. Landlord shall immediately notify Tenant of, and send Tenant a copy of, any notice Landlord receives claiming that Landlord is late or in default regarding any obligation Landlord has to pay money to any lender or third party holding a mortgage or other lien affecting the Premises.

(c) Without limiting the definition of Tenant's Property set forth in Section 10(a) above, Tenant's Property shall include, without limitation, all output and products of the System, including, without limitation, the electrical output, the Environmental Attributes, and the Solar Incentives therefrom or associated therewith. The term "**Environmental Attributes**" shall include, without limitation, any renewable energy credits or certificates, emissions reduction credits, emissions allowances, carbon trading credits, green tags, and tradable renewable credits. The term "**Solar Incentives**" shall include, without limitation, any tax credit, benefit, or incentive for alternative energy expenditure established by any federal, state, or local government for the production of electricity, including any federal, state, or local accelerated depreciation, installation, or production-based incentives, investment tax credits, and subsidies. Tenant's Property shall also include, without limitation, all insurance and condemnation proceeds (or payments in lieu thereof) in respect of Tenant's Property.

11. **Utilities; Maintenance**. During the Term, (a) Tenant shall arrange and pay for all public utility services used on the Premises by Tenant, and (b) Tenant shall be responsible for the repair and maintenance of the entire Premises, at Tenant's sole cost and expense. Tenant acknowledges that this Agreement and the Lease created thereby is an "absolute triple net" lease, pursuant to which Tenant is solely responsible for paying for all maintenance, repairs, replacements, taxes, utilities, and other charges or costs relating to the Premises during the Term.

12. **Alterations and Construction Rights**. During the Term (i.e., after the expiration of the Diligence Period), Tenant may, at its expense and without the consent of Landlord, remove and/or alter any existing improvements on the Premises, and make any alterations, additions, improvements and changes to the Premises that Tenant deems reasonably necessary in the operation of its business and the Permitted Use, including, without limitation, installation of the

System, fencing, security devices and/or signage, and excavating, grading, leveling or otherwise modifying the Premises; provided, that such alterations, additions, improvements and changes are made in compliance with applicable Laws. Landlord shall sign and deliver all applications and other documents, and shall take all such other actions, as are reasonably requested by Tenant in connection with obtaining any re-zonings, variances or other approvals as Tenant shall deem necessary or desirable in connection with Tenant's operations in the Premises, all at no expense to Landlord; provided, however, that Tenant shall not effectuate any rezoning of the Property or otherwise cause any governmental approvals which are binding upon the Property to be enacted or otherwise effectuated without Landlord's prior written consent.

13. **Effect of Termination**. Within one (1) year after the expiration or earlier termination of the Term, Tenant shall completely remove all of Tenant's Property and vacate the Premises, and Tenant shall be granted such access and other rights in or to the Land during such one (1) year period as may be reasonably necessary to allow Tenant to complete the same. Tenant's obligation for the payment of Rent shall continue at the same rate as the previous year until all of Tenant's Property is removed and the Premises are vacated, with the Rent to be prorated to the date of vacancy. The removal of Tenant's Property shall be completed in a manner that does not unreasonably and adversely affect the suitability of the Premises to be used for the same purposes existing as of the Effective Date, and Tenant shall leave the Premises free of any conditions created by Tenant which present a current unreasonable risk of harm to Landlord or members of the public. For the avoidance of doubt, Tenant shall have no obligation to restore any improvements demolished and removed from the Premises as permitted under Section 12 and shall not be required to replant any trees or farm crops removed in connection with the construction of the System. If Tenant fails to vacate the Premises in accordance with this Section 13, Landlord shall be entitled to holdover rent in the amount equal to one hundred twenty-five percent (125%) of the Rent for the final year of the Term, prorated on a daily basis, for each day that Tenant fails to so vacate the Premises. Any such holdover shall be construed as a tenancy from month-to-month. This Section 13 shall survive the termination of this Agreement.

14. **Taxes**.

(a) During the Diligence Period, Tenant shall have no obligation to pay any taxes on or assessments against the Land. During the Term, Tenant shall pay Tenant's Portion (calculated in accordance with this Section 14(a)) of the Tax Bill applicable to each tax year or part thereof which falls within the Term, directly to the taxing authority(ies) prior to the due date thereof, and shall provide evidence to Landlord of the same. Landlord shall provide Tenant with copies of all invoices, bills and notices (collectively, "**Tax Bills**") regarding all real estate and ad valorem taxes and assessments imposed or levied on the Premises by any applicable government taxing authority (each, a "**Tax**", and collectively, "**Taxes**"), within thirty (30) days of Landlord's receipt of any such Tax Bill. Notwithstanding the foregoing, unless otherwise required pursuant to Illinois Public Act 100-0781 – 35 ILCS 200/10-745, Landlord may elect to remit payment of Tax Bills directly to the taxing authority for the entire amount of any Tax Bill and, within thirty (30) days after Landlord notifies Tenant that such payment has been made, Tenant shall reimburse Landlord for the portion of the Tax Bill allocable to the Premises (such portion, "**Tenant's Portion**"), which portion shall be as follows: (1) if the Premises consists of the Entire Land, then

100%, and (2) if the Premises consists of the Modified Land, then such portion shall bear the same relationship to the total Tax Bill as the square footage of the Modified Land bears to the Entire Land. Once Premises (consisting of either the Entire Land or the Modified Land) is established, upon request of Tenant, the parties shall confirm Tenant's Portion in a written confirmation. Notwithstanding the foregoing, if the Premises consists of the Modified Land, then at either party's request, the parties shall cooperate in good faith to cause the Premises (i.e., the Modified Land) to be subdivided (or otherwise made a separate tax parcel) from the balance of the Entire Land at Tenant's expense, and in the event of such subdivision (or separation of tax parcels), Tenant shall thereafter be responsible for 100% of the Tax Bill applicable to the Premises (i.e., Modified Land), and Landlord thereafter shall be responsible for 100% of the Tax Bill for the balance of the Entire Land.

(b) Without limiting Section 14(a), if, during the Term, Tenant's use of the Premises results in the revocation of a classification of the Premises as "agricultural land", "forestry land" or similar classification, thereby triggering liability for "rollback" taxes, Tenant shall pay such rollback tax liability, together with any related interest or penalties, other than interest and/or penalties arising from Landlord's failure to timely provide Tenant with a copy of such Tax Bill.

(c) Upon Tenant's reasonable request, Landlord shall take such reasonable actions and do such things as are necessary or desirable to facilitate any action by Tenant to contest any Tax Bill or the assessed value of the property on which they are levied, or to otherwise seek the abatement of Taxes applicable to the Premises, or to seek the separate assessment of the Premises as a distinct tax parcel if the Premises are included within a larger tax parcel, all at no cost to Landlord. Tenant shall have the right, but not the obligation to pursue any such action.

(d) Notwithstanding anything contained in this Agreement, Tenant shall not be under any obligation to pay any part of any franchise, excise, estate, inheritance, income or similar tax which is or may become payable by Landlord or which may be imposed against the income or profits of Landlord by reason of any law now in force or later enacted.

15. **Fire or Other Casualty**. If during the Term, all or part of the Premises or Tenant's Property are damaged by fire, wind, flood, earthquake or other casualty, with the result that, in Tenant's sole and absolute discretion, it would not be commercially or economically reasonable or desirable to repair and restore the Premises and/or Tenant's Property, as applicable, then Tenant may terminate this Agreement and the Lease created hereby by providing Landlord with written notice of the same and vacating the Premises in compliance with Section 13 hereof. Tenant, or its successor in interest, shall be entitled to one hundred percent (100%) of any proceeds from casualty insurance policies maintained by Tenant.

16. **Condemnation**.

(a) If all or part of the Premises and/or Tenant's Property shall be subject to condemnation, the exercise of the power of eminent domain, or other governmental taking (the foregoing, collectively, a "**Taking**") with the result that, in Tenant's sole and absolute discretion,

the unaffected portion of the Premises is insufficient or otherwise unsuitable for Tenant's continued use of the Premises for the Permitted Use or such other use as existed at the time of the Taking (a "**Total Taking**"), then Tenant may terminate this Agreement by providing Landlord with written notice of the Total Taking, this Agreement shall terminate effective as of the date set forth in such notice, and Tenant shall vacate the Premises in accordance with Section 13.

(b) If a part of the Premises and/or Tenant's Property shall be subject to a Taking that, in Tenant's sole and absolute discretion, does not constitute a Total Taking (a "**Partial Taking**") then (i) concurrently with such Taking this Agreement shall terminate with respect to the affected portion of the Premises, which Tenant shall vacate in accordance with Section 13, (ii) this Agreement shall continue in full force and effect with respect to the unaffected portion of the Premises and (iii) the Acreage shall be reduced for each Acre (or portion thereof) subject to the Taking, and the Rent shall be reduced accordingly as of the date of such Taking. For purposes of clarification only, Tenant shall be entitled to remove Tenant's Property from any portion of the Premises that is subject to a Taking.

(c) Tenant shall have the right but not the obligation to participate in any proceedings with respect to a Taking; in such event Landlord shall cooperate with Tenant to facilitate such participation. Neither Landlord nor Tenant shall enter voluntarily into any binding agreement or settlement related to a Taking without the prior consent of the other party, which consent shall not be unreasonably withheld, conditioned or delayed.

(d) The proceeds of any Taking shall be apportioned as between Landlord and Tenant as follows: Landlord shall receive an amount equal to the fair market value of the Land subject to the Taking and calculated with reference to the value of the Land for its use as of the Effective Date, but not the improvements constructed or placed by Tenant thereon, and Tenant shall receive such amounts as are necessary to compensate Tenant for the loss of use of the Premises affected by the Taking, including any improvements constructed or placed by Tenant on the Land, and the loss or interruption of Tenant's business and the cost of any restoration or repair necessitated by such Taking, including consequential losses. If after giving effect to the foregoing there remain any un-apportioned proceeds, they will be equitably apportioned as between Landlord and Tenant.

17. **Default; Remedies**. The failure by a party hereto to perform its obligations under this Agreement, if not remedied within thirty (30) calendar days of written notice of such failure from the other party (or, with respect to defaults of a non-monetary nature only, if such failure is not capable of being remedied within thirty (30) days, remedial action is not commenced within such thirty (30) day period and thereafter diligently pursued to completion within a period not exceeding an additional thirty (120) days), shall constitute a default hereunder (a "**Default**"). Following an event of Default, the non-defaulting party may pursue any available remedies at law or in equity, subject to Section 27(b). Notwithstanding the foregoing, the non-defaulting party shall take commercially reasonable measures to mitigate damages resulting from such Default.

18. **Indemnifications**. Tenant shall indemnify, defend and hold Landlord harmless for, from and against any and all damages, causes of action, demands, liabilities, bodily injury,

property damages, penalties, costs, losses, expenses or claims caused by Tenant's negligence or willful misconduct, or Tenant's breach of this Agreement, or otherwise arising out of any other act or occurrence within the Premises during the Term, that Landlord may be compelled to pay or defend or that otherwise may arise in connection with this Agreement or Tenant's use of the Premises, except to the extent such damages or claims are directly attributable to the gross negligence or willful misconduct of Landlord or any of Landlord's agents or employees. The indemnification obligations set forth in this Section 18 shall survive expiration or termination of this Agreement for a period equal to the applicable statute of limitations.

19. **Notices**. All notices, elections, demands, requests, and other communications hereunder shall be in writing, signed by the party making the same and shall be sent by certified or registered United States mail, postage prepaid, or by national overnight courier service which provides tracking and acknowledgement of receipts or by email transmission, addressed to the party to be served at the address indicated in the Basic Terms Summary above or at such other address as may hereafter be designated in writing by either party hereto, or by any other method if actually received. The time and date on which mail is postmarked shall be the time and date on which such communication is deemed to have been given or delivered.

20. **Easements**. Landlord hereby grants to Tenant during the Term (a) an easement for light, solar energy resources, access (including vehicular and pedestrian ingress and egress) and utility access over, under and across the Land and all other property owned by Landlord which is adjacent to or in the vicinity of the Land as reasonably necessary for Tenant's conduct of the Permitted Use on the Premises and to access the Premises, (b) an easement for any and all encroachments of Tenant's Property onto the Land or any of Landlord's adjacent property, and (c) an easement over, under and across the Land and any of Landlord's adjacent property for audio, visual, view, light, flicker, noise, vibration and any other effects attributable to the Permitted Use of the Premises. Without limiting the foregoing, Landlord agrees to execute and deliver any separate easement agreements for the benefit of Tenant, the Premises or the utility to which the System is interconnected (the "**Utility**") as Tenant or the Utility may reasonably request to facilitate the construction, operation and removal of the System, or otherwise in connection with Tenant's or the Utility's use of the Premises during the Term (collectively, the "**Easements**"). Landlord and Tenant (and the Utility, as applicable) shall in good faith establish the location and terms of such Easements within twenty (20) days of the request therefor, and any such Easements shall be confirmed in writing, signed by the parties and recorded in the County records against the Land and/or any property adjacent to or in the vicinity of the Land and shall run with the Lease and the Land and inure to the benefit of Tenant (or the Utility, as applicable) and its transferees, successors and assigns hereunder, including any Additional Notice Party.

21. **Non-Disturbance Agreement; Subordination**. Upon Tenant's request, Landlord shall execute, and shall use commercially reasonable efforts to cause any current beneficiaries of any mortgages/deeds of trust, or any other parties with rights in, or interests secured by Landlord's interest in, the Land or any other property owned by Landlord which is subject to an easement benefiting Tenant (collectively, "**Landlord's Land**"), to enter into an agreement with Tenant confirming that such party will not disturb or extinguish Tenant's interest in Landlord's Land and in this Agreement so long as Tenant is not in Default hereunder and attorns to the record owner of

the Premises (an "**SNDA**"). This Agreement is and shall be expressly subject and subordinate at all times to the lien of any present or future mortgage or deed of trust encumbering fee title to the Premises (each, a "**Mortgage**"). If any such Mortgage be foreclosed, upon request of the mortgagee or beneficiary ("**Landlord's Mortgagee**"), as the case may be, Tenant will attorn to the purchaser at the foreclosure sale. The foregoing provisions are declared to be self-operative and no further instruments shall be required to effect such subordination and/or attornment; provided, however, that Tenant shall execute and deliver, within ten (10) days after written request therefor by Landlord or any such Landlord's Mortgagee or purchaser at foreclosure, as the case may be, and in a form reasonably requested by such party, any additional documents evidencing such subordination and attornment; and further provided, however, that such subordination of this Agreement to any future Mortgage shall be conditioned upon Landlord's Mortgagee or purchaser at foreclosure, as the case may be, agreeing that Tenant's occupancy of the Premises and other rights under this Agreement shall not be disturbed by reason of the foreclosure of such Mortgage so long as Tenant is not in default under this Lease. Such agreement shall be in form and substance reasonably agreeable to Landlord, Landlord's lender, Tenant and any Additional Notice Party (defined in Section 27). If Tenant and Landlord are unable to obtain such agreements from any third party holding an interest in Landlord's Land, Tenant shall be entitled (but not obligated) to make payments or performance in fulfillment of Landlord's obligations to such third party and may offset the amount of such payments or performance from amounts due Landlord under this Agreement; provided, that if such obligations cannot be satisfied by the payment of money or performance by Tenant, Tenant shall have the right to immediately terminate this Agreement.

22. **Landlord's Representations and Warranties**.

(a) Landlord hereby represents and warrants to Tenant that: (i) Landlord owns the Land in fee simple, and has all requisite right, power and authority to enter into this Agreement and the Lease, without the consent or joinder of any party not joining in the execution hereof (including spouses); (ii) the execution of this Agreement and the granting of the Lease to Tenant will not constitute a violation of nor be in conflict with nor constitute a default under any term or provision of any agreement or instrument to which Landlord is a party or by which the Land or any part thereof is bound; (iii) to Landlord's knowledge, no hazardous or toxic substances have been released or manufactured, or are present on the Land in amounts in excess of the lawful limit absent a permit, and no underground storage tanks (whether or not abandoned) exist on or under the Land; (iv) Landlord has not received any notice of any pending or threatened Taking, zoning change or legal, regulatory or other noncompliance relating to the Land, or of any possible widening of the streets abutting the Land; (v) Landlord has not received any notice of proposed curtailment of utility services to the Land; (vi) the Land is free from any unrecorded use or occupancy restrictions or declarations of restrictive covenants, and there are no existing liens, mortgages, or deeds of trust encumbering all or any part of the Land; (vii) there are no service or maintenance contracts affecting the Land; (viii) there are no delinquent or outstanding Taxes, liens or other impositions levied or assessed against the Land; (ix) except for the Lease granted in this Agreement and the Farm Lease, there are no leases, options to purchase, license agreements or other third party rights to use or possess the Land, whether written or oral, recorded or unrecorded; (x) Landlord is not in the hands of a receiver nor is an application for such a receiver pending, nor has Landlord made an assignment for the benefit of creditors, nor filed, or had filed against it, any

petition in bankruptcy nor is Landlord a defendant in any ongoing or pending litigation proceedings; (xi) if Landlord is a limited partnership, trust, limited liability company, corporation or other business entity, Landlord is in good standing under the laws of the state of its incorporation and the state in which the Land is located, and the undersigned representatives of Landlord have full power and authority to execute and deliver this Agreement; (xii) if Landlord is one or more natural persons, except for the spouse identified on the signature page to this Agreement, such natural persons are unmarried, (xiii) to Landlord's knowledge, there is no underground septic system or leach field located upon the Land; (xiv) to Landlord's knowledge, there are no wells, dry wells, exploration wells or monitoring wells on the Land; (xv) to Landlord's knowledge, no person or entity has buried any refuse, construction materials, garbage or any other matter of any kind or nature below the surface of the Land, (xvi) to Landlord's knowledge, the Land does not support or affect any endangered species and is not within an area that is subject to any "environmentally sensitive" or "non-disturbance" designation under any law or zoning ordinance, and (xvii) to Landlord's knowledge, no portion of the Land includes any archeological site, burial site, artifact or other condition of archeological, tribal or historical significance. As used herein, "Landlord's knowledge" means the actual, current knowledge of Rodney H. Thomas (the "Knowledge Party") as of the Effective Date, without any duty of inquiry or investigation. The Knowledge Party shall have no obligations or liabilities under this Agreement whatsoever.

(b) The provisions of this Section 22 will survive the termination or expiration of this Agreement. All of Landlord's representations and warranties contained in this Agreement shall be true as of the Effective Date and shall be subject to any state of facts arising during the duration of this Agreement without the direct or indirect, active or passive, involvement of Landlord.

23. **Insurance; Waiver of Claims/Subrogation**. During the Diligence Period (from and after the date on which Tenant or any of its employees, contractors, or representatives first enters the Property) and thereafter throughout the Term, Tenant shall maintain, or cause to be maintained, insurance on the terms set forth below, at Tenant's cost and expense:

(a) Commercial general liability insurance covering Tenant and System operations, written on "occurrence" policy forms, including coverage for premises/operations, products/completed operations, broad form property damage, blanket contractual liability, and personal injury, with no exclusions for explosion, collapse and underground perils, or fire (including wild fire), with coverage limits of no less than $1,000,000 for injuries or death to one or more persons or damage to property resulting from any one occurrence, a $2,000,000 general aggregate, and a products and completed operations liability aggregate limit of not less than $2,000,000. The commercial general liability policy shall also include a severability of interest clause with no exclusions or limitations on cross liability.

(b) Automobile liability insurance covering Tenant, including coverage for owned, leased, non-owned and hired automobiles for both bodily injury and property damage in accordance with statutory legal requirements, with combined single limits of no less than $1,000,000 per accident with respect to bodily injury, property damage or death. To the extent Tenant does not own any automobiles, contingent liability for hired, leased and non-owned

automobiles may be obtained through endorsement to the general liability policy required in Section 23(a) above.

(c) Workers' compensation insurance in accordance with statutory requirements at any time in which Tenant has employees, including coverage for employer's liability with a limit of not less than $1,000,000 and such other forms of insurance which Tenant is required by applicable law to provide for loss resulting from injury, sickness, disability or death of each of their employees.

(d) Umbrella or excess liability insurance with limits of not less than $5,000,000 per occurrence and annual aggregate (inclusive of the coverage requirements and limits in Sections 23(a), (b) and (c)) covering Tenant and System operations, and with a term concurrent with that of the commercial general liability insurance and automobile liability insurance required in Sections 23(a) and (b) above.

(e) Special Form Insurance in the amount of the full replacement cost of the System and other Tenant's Property, which insurance shall include an agreed amount endorsement waiving coinsurance limitations. A waiver of subrogation in favor of Landlord shall apply.

(f) All liability policies required in Sections 23(a), (b), and (d) above that are maintained by Tenant or on behalf of Tenant shall expressly provide that all provisions thereof, except the limits of liability (which shall be applicable to all insureds as a group) shall operate in the same manner as if there were a separate policy covering each such insured and shall not contain an exclusion for cross liability.

(g) Landlord shall be included as additional insureds under the commercial general liability insurance and umbrella/follow form excess insurance required above, which coverage shall be primary and non-contributory with any policy carried by Landlord. All insurance required from Tenant hereunder shall (i) be issued by one or more insurance companies licensed to do business in the State in which the Premises is located and having an AM Best's rating of A IX or better, and (ii) provide that said insurance shall not be materially changed, canceled or permitted to lapse on less than thirty (30) days' prior written notice to Landlord (ten (10) days in the event of cancellation due to nonpayment), and Tenant shall promptly forward any such notice to Landlord.

(h) Insurance coverage limits required in this Agreement in no way serve as a limitation of Tenant's or Tenant's insurance carrier(s)' legal liability.

(i) Upon Landlord's request from time to time (and in any event prior to the date on which Tenant or any of its employees, contractors, or representatives first enters the Property), Tenant will promptly furnish Landlord with certificates of insurance evidencing the insurance required to be maintained under this Section 23.

(j) Landlord and Tenant each hereby waives any right of recovery against the other and the authorized representatives of the other for any loss or damage that is covered or

required by this Agreement to be covered by any policy of insurance maintained with respect to the Land, the Premises or any operations therein, the System, and/or Tenant's Property, even though such loss or damage might have been occasioned by the negligence of such party. Each party shall cause its insurers issuing insurance policies relating to this Agreement, the Land, the Premises, or the System and Tenant's Property to provide that such insurers waive all right of recovery by way of subrogation against the other party in connection with any claim, loss or damage covered by such policies.

24. **Landlord Covenants**. From and after the Effective Date until the expiration or earlier termination of this Agreement:

(a) Landlord shall not, without the prior written consent of Tenant, (i) institute or consent to any rezoning of the Land; (ii) intentionally deleted; (iii) grant any option, leasehold, easement or any right of any kind, or cause or permit any activities or conditions, that would interfere with Tenant's rights hereunder or impair operation of the System (including, without limitation, by erecting or permitting to be erected any cell towers, water towers, billboards, silos, trees or any other natural or man-made structures to be placed, constructed, or to otherwise exist on any property owned or controlled by Landlord that may diminish the quantity of sunlight that otherwise would reach the Premises or that may cause shade or shadows upon the Premises or any portion thereof, and Landlord shall not emit or permit the emission of suspended particulate matter, smoke, fog or steam or other air-borne impediments to insolation on the Premises, or burn or permit the burning of garbage, plant, shrub, and yard trimmings or other vegetation that could adversely affect insolation levels on the Premises), and, upon written notice from Tenant, Landlord shall promptly remove any existing uses or improvements on any property adjacent to or in the vicinity of the Premises which Tenant reasonably determines will impair Tenant's use of the Premises; provided, however, that in no event shall the provisions of this Section 24(a) prohibit or otherwise affect the right or ability of Landlord (or any successor thereto) to construct or use (or permit the construction or use of) any building(s) on any real property owned by Landlord (or any successor thereto), excluding the Premises, so long as such building(s) are not greater than two (2) stories in height; (iv) cause or permit the violation of any laws, rules, regulations or ordinances applicable to the Land; or (v) commence (or have commenced against it) any voluntary or involuntarily proceedings in bankruptcy, insolvency or similar proceedings with respect to Landlord.

(b) Landlord shall promptly give Tenant a copy of any notice of any kind received by Landlord regarding the Land or any Taxes.

(c) Landlord shall comply with and perform all of its covenants, agreements and obligations to third parties, including, but not limited to, payment of government property taxes and assessments (to the extent required under this Agreement), and payment and performance of any mortgage or other financing obligations owed to lenders, which affect or relate to the Land.

(d) Landlord shall not permit the discharge of (and shall not itself discharge) any hazardous or toxic substances or materials on the Land or any property of Landlord adjacent to

or in the vicinity of the Land.

25. **Memorandum of Agreement**. This Agreement shall not be recorded; however, within five (5) days following Tenant's request, Landlord and Tenant shall execute a memorandum of this Agreement in recordable form, setting forth the following provisions of this Agreement, including, without limitation: (a) all information required by law, (b) restrictions on transfers, (c) any unexercised Renewal Term options, (d) rights of first offer or of first refusal of Tenant with respect to the Land, (e) Tenant's Exclusivity Right as set forth in Section 41, (f) the easement rights granted to Tenant hereunder, and (g) such other provisions of this Agreement as the parties may mutually agree to incorporate therein. Tenant shall cause the memorandum of this Agreement to be recorded in the County records against the Land. Upon expiration or termination of this Agreement, at Landlord's request, Tenant shall execute and deliver a recordable release of such memorandum.

26. **Assignments; Transfers**. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their legal representatives, successors and assigns, subject to the following terms and conditions:

(a) Except as hereinafter set forth in this Section 26(a), Tenant may not assign this Agreement, in whole or in part, or, during the Term, sublet the Premises, or any part thereof, without Landlord's prior consent. If Landlord consents to Tenant assigning its entire interest in this Agreement, the assignee shall expressly assume in writing all obligations of Tenant under this Agreement arising after the effective date of the assignment. In any event, Tenant shall not be released or discharged from any of its covenants and obligations under this Agreement, unless Landlord expressly agrees to the same in writing. Notwithstanding the foregoing, so long as the Assignment Conditions (as hereinafter are met), then Tenant shall have the right to assign its entire interest in this Agreement to a Permitted Transferee (as hereinafter defined), in which event Tenant shall be released and discharged from all of its covenants and obligations under this Agreement as of the effective date of such assignment (except such obligations as shall have accrued prior to the effective date of such assignment), and Landlord thereafter shall look solely to the Permitted Transferee for performance of such obligations. As used herein, (1) "Assignment Conditions" shall mean that the following conditions have been satisfied or waived by Landlord in writing: (A) the transferee to which Tenant shall have assigned its entire interest in this Agreement shall be a Permitted Transferee, as established to Landlord's reasonable satisfaction, and (B) the Permitted Transferee shall have assumed in writing all obligations of Tenant under this Agreement arising after the effective date of the assignment; and (2) "Permitted Transferee" shall mean an entity that has either (a) demonstrated experience in developing, managing and operating commercial solar energy facilities reasonably similar to Tenant's intended use of the Land and adequate financial resources to perform Tenant's payment and other obligations of Tenant under this Agreement and such documentation of experience and financial resources are confirmed to be acceptable to Landlord's reasonable satisfaction, or (b) is an affiliate of Tenant.

(b) Landlord shall use good faith efforts to give Tenant at least thirty (30) days' prior notice of any conveyance, assignment or other transfer by Landlord of its interest in the Land or in this Agreement. In addition, any such Transfer shall be expressly subject to this Agreement,

and Landlord shall not transfer the fee interest in the Land unless the assignee assumes all of Landlord's obligations under this Agreement and the Lease, any easements granted to Tenant (as applicable) and any consents granted to Tenant's lenders. For transfers pursuant to the death or disability of Landlord, Landlord's executor or successor in interest should endeavor to provide notice of such transfer (or proceedings that will result in such a transfer) to Tenant as promptly as possible under the circumstances. Landlord shall notify Tenant of the closing of such transfer, and if applicable, the name and contact information of the successor to Landlord's interest hereunder and payment instructions for future payments of Rent and other amounts due under this Agreement. From and after the date of any transfer by Landlord of its interest in the Land or in this Agreement and the assumption by the assignee of Landlord's obligations under this Agreement and the Lease, the assigning Landlord shall be released from liability under this Agreement and the Lease.

27. **Third Party Protections**. Tenant may pledge or mortgage (each, a "**Pledge**") this Agreement or Tenant's leasehold interest in the Premises, in whole or in part, without Landlord's prior consent, in connection with the financing or re-financing of Tenant's Property. If Tenant shall notify Landlord in writing of the existence of, and contact information for, any third party (including, without limitation, any tax-credit equity providers) providing debt, equity or other financing (including, but not limited to, tax equity or sale-leaseback or similar financing) to or for the benefit of Tenant, directly or indirectly, whether secured or unsecured (and if secured, whether via a collateral Pledge, mortgage, deed of trust, or otherwise) (any such third party, an "**Additional Notice Party**"), then the following provisions shall apply until such time as Landlord shall receive written confirmation that such Additional Notice Party's interests in this Agreement, the System or the Premises are released:

(a) Without limiting Section 31, no assignment, amendment, election to terminate or other modification of this Agreement (except to the extent such assignment, amendment, election to terminate or other modification is expressly permitted by the terms of this Agreement as of the Effective Date) shall be effective unless approved by the Additional Notice Party in writing. In the event Tenant acquires fee ownership of the Land, or in the event of Tenant's voluntary surrender of the leasehold estate, there shall be no merger of the leasehold estate created by this Agreement with the fee without the prior written consent of the Additional Notice Party, which consent may be granted, conditioned or withheld in the Additional Notice Party's sole and absolute discretion.

(b) If any event of Default by Tenant remains uncured following the applicable cure period under Section 17, Landlord shall send written notice of such uncured Default to each Additional Notice Party at the address provided therefor, whereupon the Additional Notice Party shall have an additional thirty (30) days during which it may, in its sole and absolute discretion, cure such Default on Tenant's behalf. Landlord may not pursue any remedy for such Default unless it remains uncured following the expiration of such Additional Notice Party's thirty (30) day cure period. No notice shall be effective against an Additional Notice Party unless and until actually received by such Additional Notice Party. Notwithstanding the foregoing, the aforesaid thirty (30) day cure period shall be extended for the time reasonably required to complete any such cure (not to exceed 90 days), including the time required for any Additional Notice Party to perfect

its right to cure any non-monetary default by obtaining possession of the Premises (including possession by a receiver), provided such Additional Notice Party acts with reasonable and continuous diligence.

(c) Intentionally Deleted.

(d) If this Agreement is terminated pursuant to a Tenant Default, including, but not limited to, any Default not cured by an Additional Notice Party within the cure period allowed therefor, or if this Agreement is terminated pursuant to a rejection or disaffirmance in bankruptcy or other similar proceeding with respect to Landlord or Tenant, then Landlord, or its successor in interest to the Land, if any, shall enter into a new lease with the Additional Notice Party or its nominee (a "**Successor Tenant**") on the same terms as set forth herein, and for a term equal to the then-unelapsed portion of the Term of this Agreement, with an option to extend for any then-remaining Renewal Term(s). From the effective date of the termination, rejection or disaffirmance of this Agreement, to the date of execution and delivery of the new lease, Successor Tenant may use and enjoy the Premises and any easements granted hereunder without hindrance by Landlord or any party claiming by, through, or under Landlord. Such new lease shall be effective as of the date of termination, rejection or disaffirmance of this Agreement and shall have the same priority as this Agreement. If more than one Additional Notice Party makes a request for a new lease pursuant hereto, then unless all such Additional Notice Parties direct otherwise, the new lease shall be delivered to the Additional Notice Party with a security interest in this Agreement which is prior in lien (or, if no such Additional Notice Party has a security interest in this Agreement, the new lease shall be delivered to the Additional Notice Party whose contact information was sent to Landlord (in accordance with the introduction to this Section 27) earliest in time. This Section will survive any termination, rejection or disaffirmance of this Agreement, as described above.

(e) An Additional Notice Party shall have the right, subject to the terms and conditions of this Agreement: (1) to assign its security interest; (2) to enforce its lien and acquire title to the leasehold estate by any lawful means; (3) to take possession of and operate the Tenant's Property, the leasehold estate or any portion thereof and to perform all obligations to be performed by Tenant hereunder, or to cause a receiver to be appointed to do so; and (4) to acquire the leasehold estate by foreclosure or by an assignment in lieu of foreclosure and thereafter to assign or transfer the leasehold estate to a third party. Landlord's consent shall not be required for the acquisition of the encumbered leasehold estate or subleasehold estate by a third party who acquires the same by or subsequent to foreclosure or assignment in lieu of foreclosure. During any period of possession of the Premises by an Additional Notice Party (or a receiver requested by such Additional Notice Party) and/or during the pendency of any foreclosure proceedings instituted by an Additional Notice Party, the Additional Notice Party shall pay or cause to be paid all other monetary charges payable by Tenant hereunder which have accrued and are unpaid at the commencement of said period and those which accrue thereafter during said period. Following acquisition of Tenant's leasehold estate by the Additional Notice Party or its assignee or designee as a result of either foreclosure or acceptance of an assignment in lieu of foreclosure, or by a purchaser at a foreclosure sale and subject to the provisions of this Section 27(e), this Agreement and the Lease created hereby shall continue in full force and effect and the Additional Notice Party or party acquiring title to Tenant's leasehold estate shall, within thirty (30) days, commence the

cure of all defaults hereunder, to the extent reasonably susceptible to cure, and thereafter diligently process such cure to completion.

(f) Without limiting the terms of Section 10 above, Landlord recognizes and acknowledges that any claim or claims that an Additional Notice Party has or may have against Tenant's Property are superior to any lien, security interest, or claim of any nature that Landlord now has or may hereafter have in and to Tenant's Property by statute, rule, regulation, common law, agreement or otherwise. Landlord hereby irrevocably agrees and consents to refrain from taking any action to bar, restrain or otherwise prevent an Additional Notice Party from the Premises for the purpose of inspecting the System, Tenant's Property and the Premises; provided, however, that prior to any entry onto the Premises by any such Additional Notice Party, such Additional Notice Party shall deliver to Landlord evidence of the liability insurance required to be maintained by Tenant hereunder, and shall execute and deliver a commercially reasonable agreement pursuant to which such Additional Notice Party agrees to the indemnification obligations set forth in this Agreement to the extent relating to the entry onto the Premises by such Additional Notice Party.

(g) Landlord agrees to execute and deliver such documents and instruments, including, without limitation, an amendment to this Agreement or an amendment to any recorded memorandum of this Agreement, as may be reasonably requested by an Additional Notice Party or in furtherance of a Pledge related to the financing or re-financing of the System, to allow such Additional Notice Party reasonable means to protect or preserve the System or its collateral interest in this Agreement and the Lease created hereby; provided, that Landlord shall not be required to amend this Agreement in any way that would alter the Term, decrease the Rent or otherwise in any material respect adversely affect the economic benefits to which Landlord is entitled under this Agreement; and further provided, that Landlord shall not be required to subordinate its interest in the Premises or this Agreement, or to cause the subordination of any mortgage now or hereafter granted by Landlord to any third party, to the leasehold interest of Tenant pursuant to this Agreement or to the interest of any Additional Notice Party pursuant to a Pledge. Tenant shall bear any expenses, including legal expenses, in connection with any request for the execution and delivery of additional documents and instruments in accordance with this Section 27(g).

28. **Estoppel**. Upon the request of either party (or any Additional Notice Party), the non-requesting party shall deliver to the requesting party a certificate setting forth the material terms of this Agreement, the existence of any Default under this Agreement, the date through which Rent has been paid and any amounts on deposit with Landlord, the current Rent rate, and such other reasonable terms requested by the requesting party. The failure by the non-requesting party to respond to such request within ten (10) days shall constitute an event of Default, and in addition, shall result in the deemed acceptance, approval and confirmation of the truth of the matters set forth in the certificate sent with the original request.

29. **Brokerage Commission**. Except as pursuant to a separate agreement between Tenant and Tenant's broker, if any (to whom Tenant shall pay a commission to such broker pursuant to such separate agreement, if applicable), Landlord and Tenant each represent and

warrant to the other that they have not dealt with any real estate agent or broker in connection with this transaction. Landlord and Tenant each hereby indemnify and save the other harmless for, from and against all losses, costs and expenses incurred by reason of a breach of such representation and warranty.

30. **Governing Law**. This Agreement shall be construed and enforced in accordance with the laws of the state in which the Land is located, and any disputes arising from or relating to this Agreement shall be construed, governed and interpreted and regulated under the laws of such state.

31. **Interpretation; Amendment**. The terms of this Agreement shall not be amended, restated, changed or otherwise modified except in a writing signed by Landlord, Tenant and any Additional Notice Party. If any term or provision of this Agreement shall to any extent be invalid or unenforceable, the remainder of this Agreement shall not be affected thereby and each other term and provision of this Agreement shall be valid and enforced to the fullest extent permitted by law.

32. **Integration; Anti-Merger**. This instrument, including the attached Exhibits, contains the complete agreement of the parties regarding the subject matter of this Agreement, and there are no oral or written conditions, terms, understandings or other agreements pertaining thereto which have not been incorporated herein. This instrument creates only the relationship of landlord and tenant between the parties as to the Premises; and nothing in this Agreement shall in any way be construed to impose upon either party any obligations or restrictions not expressly set forth in this Agreement. This Agreement shall continue until the expiration or termination of the Agreement and Term, and shall not be extinguished by operation of law pursuant to the acquisition by a single party of the interests in both Tenant and Landlord hereunder.

33. **Exclusive Control; Quiet Enjoyment**. Throughout the Term, and so long as Tenant is not in Default hereunder, Tenant shall have exclusive control, possession, occupancy, use and management of the Premises, and Landlord shall warrant and defend Tenant's right to quietly hold and enjoy the Premises. Tenant, and its agents, guests, subtenants and designees, and any Additional Notice Party, shall have access to the Premises at all times during the Term, and neither Landlord nor any agent of Landlord shall, without a Tenant representative, enter upon any portion of the Premises except as specifically permitted hereunder. For the avoidance of doubt, this Agreement does not convey any subsurface oil, gas, mineral, liquid or other subsurface rights (collectively, "**Mineral Rights**") to Tenant; provided, however, that Landlord shall not engage in, and shall not permit, any activity, including, without limitation, the extraction of minerals, oil, gas, liquid or other substances, if such activity could result, in Tenant's sole and absolute discretion, in a failure of subsurface support for the Premises or otherwise impair or adversely affect Tenant's Property or Tenant's use of the Premises. The foregoing sentence shall be a covenant running with the Land binding upon any party owning any interest in, or having rights to develop or use such Mineral Rights. To the knowledge of Landlord, Landlord is the sole owner of the Mineral Rights and Landlord holds good, indefeasible and insurable title to the Mineral Rights.

34. **Waiver**. The waiver by any party of any instance of a breach of any covenant or

agreement herein shall not be deemed to constitute waiver of any subsequent breach of the same or any other covenant or agreement under this Agreement.

35. **Nonrecourse**. The parties' obligations under this Agreement (including any actual or alleged Default by a party) do not constitute personal obligations of the individual partners, members, managers, directors, officers, affiliates or shareholders of either party, and neither party shall seek recourse against the individual partners, members, managers, directors, officers, affiliates or shareholders of the other party, or any of its or their personal assets, for the satisfaction of any liability with respect to this Agreement. If Landlord shall fail to perform any term, condition, covenant, or obligation required to be performed by it under this Agreement and if Tenant shall, as a consequence thereof, recover a money judgment against Landlord, Tenant agrees that it shall look solely to Landlord's right, title and interest in and to the Land for the collection of such judgment; and Tenant further agrees that no other assets of Landlord shall be subject to levy, execution or other enforcement process for the satisfaction of Tenant's judgment against Landlord.

36. **Consents; Further Assurances**. Each party shall execute and deliver such further documents and perform such other acts, as may be reasonably necessary to achieve the parties' intent in entering into this Agreement. The parties further agree that, to the extent the consent or approval of either of them is required, requested or appropriate under this Agreement, such consent or approval shall not be unreasonably or unduly withheld, delayed, or conditioned, and except as may otherwise be expressly provided for herein, each party shall bear its own costs and expenses, including legal costs, in connection with such consent or approval.

37. **Counterparts**. This Agreement may be executed in any number of counterparts, each of which shall be deemed an original once executed and delivered. In the event that any signature is delivered by facsimile transmission or by e-mail delivery of a ".pdf" format data file, such signature shall create a valid and binding obligation of the party executing with the same force and effect as if such facsimile were an original thereof.

38. **Survival**. Upon the expiration or earlier termination of this Agreement in accordance with its terms, this Agreement shall cease to have force and effect, unless the context requires otherwise to achieve the parties' intent with respect thereto.

39. **First Refusal to Lease.** Without limiting Tenant's rights to renew or extend the Term as set forth in this Agreement, Landlord hereby grants to Tenant a right of first refusal to lease the Premises for a term commencing at the expiration or termination of this Agreement, as extended, upon the terms and conditions as contained in any valid, acceptable, bona fide lease offer Landlord or any subsequent Landlord may receive prior to the cancellation or termination of this Agreement, as extended. Tenant shall have twenty (20) days after receipt from Landlord of written notice of such offer, with a certified full written statement of such offer and copy of the proposed lease (the "**Proposed Lease**"), to exercise its option to lease and accept such lease terms. Landlord agrees to promptly notify Tenant of receipt of any such acceptable offer to lease. Tenant shall exercise such right of first refusal by delivery of written notice to Landlord accepting such offer. Thereafter, Tenant shall be deemed to have extended this Agreement upon the economic

terms of the Proposed Lease (i.e. rent, payment of taxes and expenses, options to extend, etc.). Tenant and Landlord shall be bound by all of the economic terms of the Proposed Lease. Landlord and Tenant shall enter into an amendment of this Agreement extending the Term and incorporating the other economic terms of the Proposed Lease. Notwithstanding Tenant's failure to exercise such right of first refusal on a single occasion, such right of first refusal shall be a continuing right throughout the balance of the Term and Landlord shall be obligated to submit any future offers to Tenant.

40. **Intentionally Deleted**.

41. **Exclusivity**. During the Term and so long as Tenant is not in Default hereunder, Landlord covenants that it will not (i) use or lease or permit any tenant to use or lease or (ii) permit any occupant or subtenant or assignee of a tenant or occupant to use any other property in which Landlord has an interest and which is located within a radius of one (1) mile of the Premises, for the purpose of conducting a business that is engaged in the solar power generation business and/or a use similar to the Permitted Use ("**Tenant's Exclusivity Right**").

42. **Confidentiality**. Landlord agrees to hold all information of Tenant, including, without limitation, the terms of this Agreement, in strict confidence, and will not disclose the same to any person, other than to Landlord's professional advisers and lenders or buyers, or as required by applicable law, rule, or regulation. Landlord acknowledges and stipulates that Tenant may suffer irreparable harm in the event of a breach of this confidentiality agreement, for which Tenant has no adequate remedy at law. Therefore, in addition to all other remedies available pursuant to the terms of this Agreement or at law, Tenant shall have the right to obtain immediate injunctive or other equitable relief upon a breach of this confidentiality agreement by Landlord, without the necessity of giving any notice of such default or opportunity to cure the same.

43. **Attorneys' Fees**. In the event of any dispute under this Agreement, the party against whom any final judgment is entered agrees to pay the prevailing party all reasonable costs, charges, and expenses, including attorneys' fees, expended or incurred in connection therewith.

44. **Tax Credits**. If under applicable law the holder of a leasehold interest in the nature of that held by Tenant or Tenant's assignee becomes ineligible for any tax credit, benefit or incentive for alternative energy expenditure established by any local, state or federal government, then, at Tenant's option, Landlord and Tenant shall cooperate in good faith in an effort to amend this Agreement or replace it with a different instrument so as to convert Tenant's interest in the Premises to a substantially similar interest that makes Tenant eligible for such tax credit, benefit or incentive.

45. **Marketing**. During the Term, Landlord gives and grants to Tenant and Tenant's affiliates, and each of their respective licensees, agents, representatives, employees, successors and assigns (collectively, the "**Licensed Parties**"), the right and license to photograph, publish and use photographs (whether still or moving) of the Land in all media and types of advertising and promotion by the Licensed Parties. Landlord agrees that all images of the Land used and taken by the Licensed Parties are owned by the Licensed Parties and that the Licensed Parties may

obtain copyright in material containing same. If Landlord should receive any print, negative or other copy thereof, Landlord shall not authorize its use by anyone else. Landlord agrees that no advertisement, promotion or other material utilizing or containing the Land need be submitted to Landlord for approval and the Licensed Parties shall be without liability to Landlord for any distortion or illusionary effect resulting from the publication of the Land. Landlord represents and warrants that the license granted hereunder (a) does not and will not violate or infringe upon the rights of any third party and entity, and (b) does not in any way conflict with any existing commitment on Landlord's part. Nothing herein shall constitute any obligation on the Licensed Parties to make use of any of the rights set forth in this Section 45.

46. **Hazardous Substances**. Tenant shall not cause or permit the use, generation, release, manufacture, refining, production, processing, storage, or disposal of any Hazardous Substances (as hereinafter defined) on, under or about the Premises, or the transportation to or from the Premises of any Hazardous Substances, except as necessary and appropriate for its Permitted Use in which case the use, storage, or disposal of such Hazardous Substances shall be performed in compliance with the Environmental Laws (as hereinafter defined) and the highest standards prevailing in the industry. Tenant shall immediately (a) notify Landlord of (i) any violation by Tenant, its employees, agents, representatives, customers, invitees or contractors of any Environmental Laws on, under or about the Premises, or (ii) the presence or suspected presence of any Hazardous Substances on, under or about the Premises, and (b) deliver to Landlord any notice received by Tenant relating to (a)(i) and (a)(ii) above from any source. Tenant otherwise shall cooperate with Landlord in determining whether any remediation of Hazardous Substances at the Premises is required following any release or other violation of Environmental Laws, and if such release or other violation is due to Tenant's breach of the provisions of this Section 46, Landlord shall have the right, in its sole discretion, either to (1) remediate such Hazardous Substances (at Tenant's cost), or (2) require Tenant to remediate such Hazardous Substances, at Tenant's cost, in compliance with applicable laws and to Landlord's reasonable satisfaction. Tenant shall indemnify, defend, and hold Landlord harmless from any and all claims, losses, liabilities, costs, expenses, and damages, including attorneys' fees and costs, the costs of testing, and all remediation costs, which may be incurred by Landlord in connection with any breach by Tenant of its obligations under this Section 46. Tenant's covenants and obligations under this Section 46 shall survive the expiration or earlier termination of this Lease. As used herein, the following terms shall have the following meanings:

(a) "Environmental Laws" shall mean all present or future federal, state and municipal laws, ordinances, rules and regulations applicable to the environmental and ecological condition of the Premises, and the rules and regulations of the Federal Environmental Protection Agency and any other federal, state or municipal agency or governmental board or entity having jurisdiction over the Premises.

(b) "Hazardous Substances" shall mean those substances included within the definitions of "hazardous substances," "hazardous materials," "toxic substances" "solid waste" or "infectious waste" under Environmental Laws and petroleum products.

[*end of text*]

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement as of the later of the dates indicated below.

LANDLORD: FOSTERBURG-255, LLC,
a Missouri limited liability company

Rodney H. Thomas
By:_____
Printed Name/Title: Rodney H. Thomas, Manager
Date: October 11, 2024

TENANT: Arena Development, LLC

Geoff Johnson
By:_____

Printed Name/Title: Geoff Johnson, President &

Chief Development Officer

Date: October 11, 2024

Exhibit A

Depiction of the Premises (approximate acreage to be confirmed)

If the Premises consists of the Entire Land, then the Premises shall be all of Parcels 20-1-02-33-00-000-010 and 20-1-02-33-04-401-009. If the Premises consists of the Modified Land, then the Premises shall be all of Parcel 20-1-02-33-00-000-010 and the portion of Parcel 20-1-02-33-04-401-009 that is located to the north of Harris Lane. (The hatched area below is not part of the Premises).



Exhibit B

Farming Schedule

Per farmer: “Row crops are typically planted in April or May. With that being said, the weather can cause delays. We have seen years when crops don’t get planted until June.”

EXHIBIT D: AGRICULTURAL IMPACT MITIGATION AGREEMENT (AIMA)

STANDARD AGRICULTURAL IMPACT MITIGATION AGREEMENT
between
Arena Navigator 1 Solar, LLC

and the
ILLINOIS DEPARTMENT OF AGRICULTURE
Pertaining to the Construction of a Commercial Solar Energy Facility
in
Madison 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).

Arena Navigator 1 Solar, LLC, hereafter referred to as Commercial Solar Energy Facility Owner, or simply as Facility Owner, plans to develop and/or operate a 3.6 MWac Commercial Solar Energy Facility in **Madison** County [GPS Coordinates: 38°55'52.6"N 90°06'06.8"W], which will consist of up to 25 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.

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.

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.

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: (1) the estimated Deconstruction cost, in current dollars at the time of filing, for the Facility, considering among other things: i. the number of solar panels, racking, and related facilities involved; ii. the original Construction costs of the Facility; iii. the size and capacity, in megawatts of the Facility; 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); v. the Construction method and techniques for the Facility and for other similar facilities; and (2) a comprehensive detailed description of how the Facility Owner plans to pay for the Deconstruction of the Facility.
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.

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.

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.

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.

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.

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.

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);

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.

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 **Arena Navigator 1 Solar, 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 **Madison** County within the State of Illinois.

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

STATE OF ILLINOIS
DEPARTMENT OF AGRICULTURE

Jerry Costello II

By: Jerry Costello II, Director 4

Clay Nordsiek

By Clay Nordsiek, Deputy General Counsel

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

4/16, 2026

Arena Navigator 1 Solar, LLC

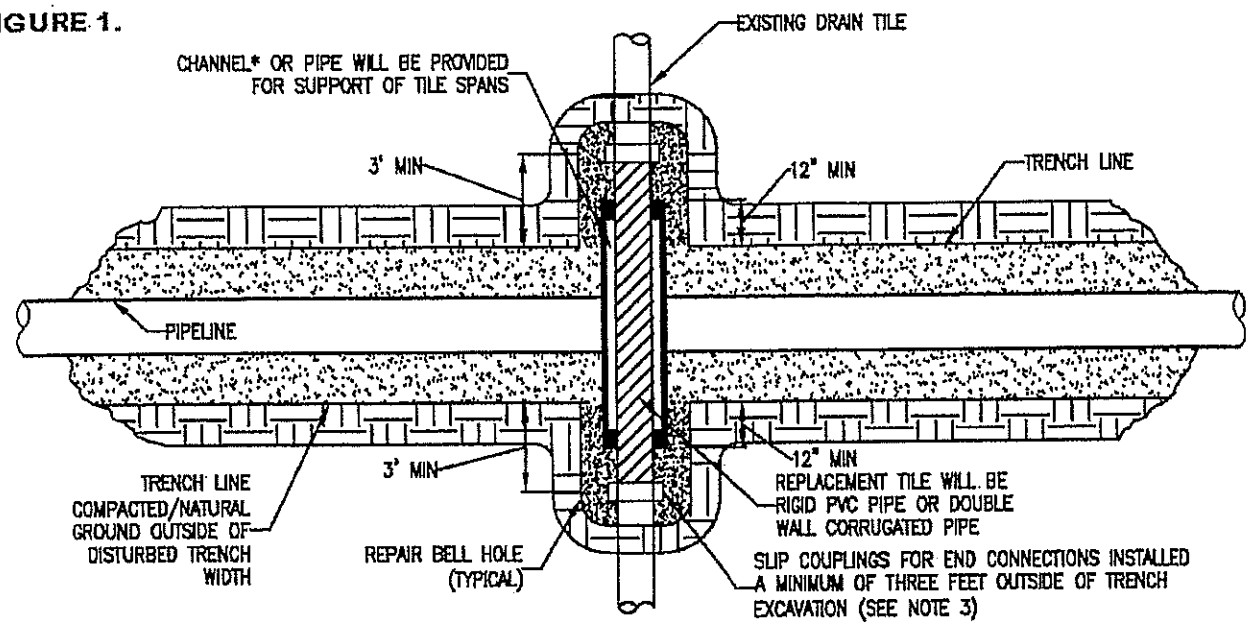
By Carson Weinand

15051 N Kierland Blvd, Floor 3
Scottsdale, AZ 85254

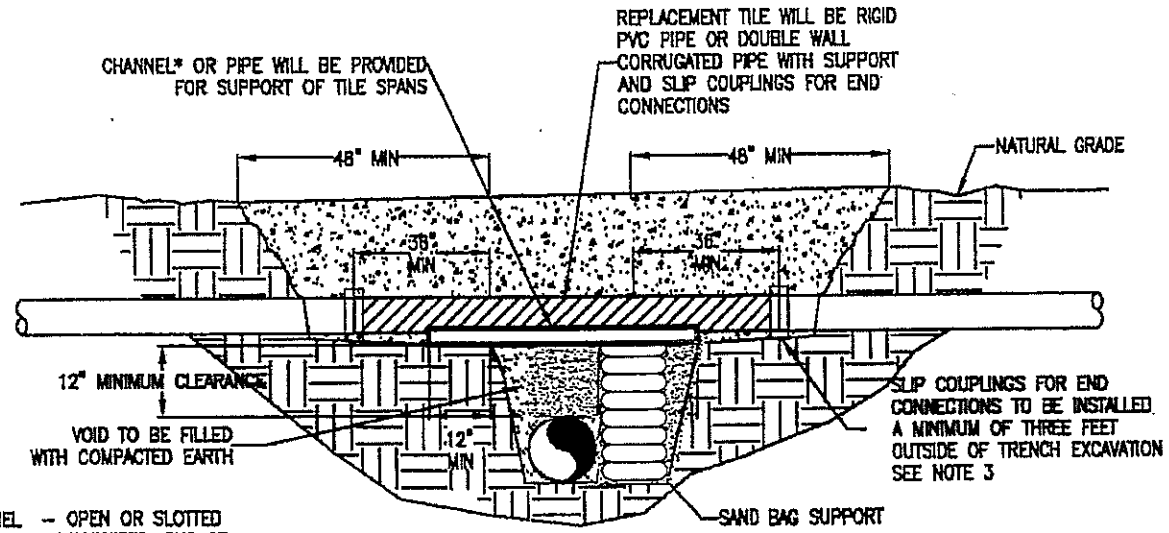
Address

March 25th, 2026

FIGURE 1.



PLAN
N.T.S.



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

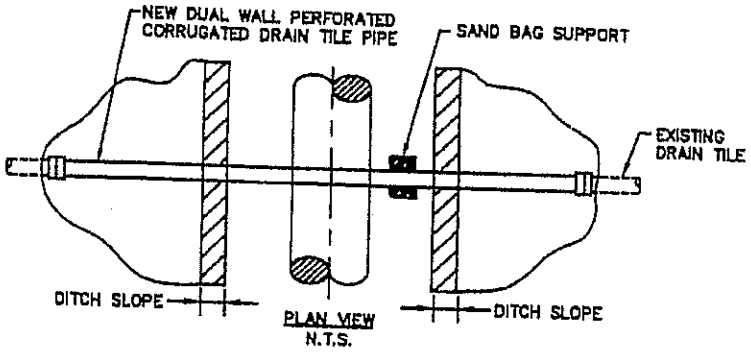
CROSS SECTION
N.T.S.

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.

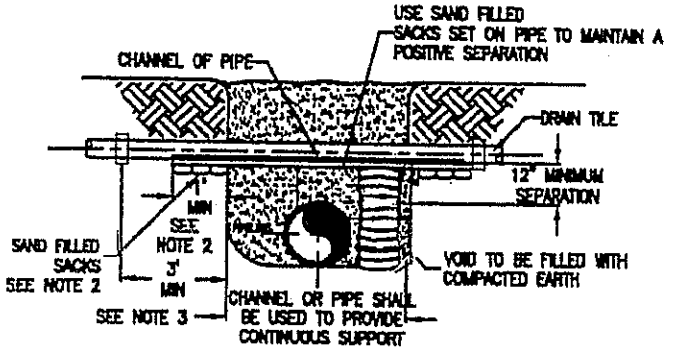
TEMPORARY DRAIN TILE REPAIR

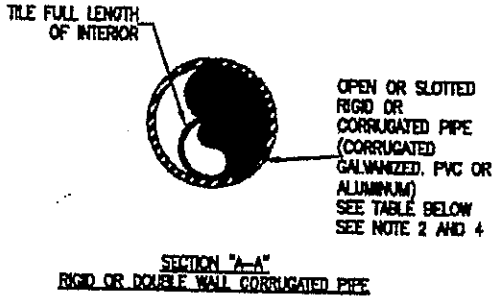
FIGURE 2.



PLAN VIEW
N.T.S.

PLAN VIEW





SECTION "A–A"
RIGID OR DOUBLE WALL CORRUGATED PIPE

END VIEWS

MINIMUM SUPPORT TABLE			
TILE SIZE	CHANNEL SIZE	PIPE SIZE	
3"	4" @ 5.4 #/ft	4"	STD. W.T.
4"-5"	5" @ 6.7 #/ft	6"	STD. W.T.
8"-9"	7" @ 9.8 #/ft	9"-10"	STD. W.T.
10"	10" @ 15.3 #/ft	12"	STD. W.T.

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

EXHIBIT E: SOUND STUDY

Kimley»Horn

May 27, 2026

Carson Weinand
Arena Renewables

Subject: ***Arena Navigator 1 Solar, LLC - Sound Study***
Madison County, Illinois

Executive Summary

The purpose of this technical memorandum is to summarize the evaluated sound levels associated with the operational equipment to be located throughout the proposed Arena Navigator 1 Solar, LLC Site in Madison County, IL. The proposed solar photovoltaic project site is located just northeast of Alton, approximately 2 miles northwest of Rosewood Heights, approximately 2 miles east of Godfrey, and approximately 10 miles southwest. The site is generally located south of IL-255, northwest of Fosterburg Road, north of Harris Lane, and east Lobb Road. The solar site will be located on agricultural land with a place of worship to the southeast, rural residential properties to the west, south, and east, and an existing substation to the south. Additionally, the St. Louis Regional Airport is located approximately 3.5 miles southeast of the site. The location of the proposed Arena Navigator 1 Solar, LLC Site is shown in **Figure 1**.

Analysis Findings

- *The solar photovoltaic project will be located on agricultural land with a place of worship to the southeast, rural residential properties to the west, south, and east, an existing substation to the south, and an airport to the southeast. The Illinois Pollution Control Board (IPCB) noise regulations are based on allowable octave band sound pressure levels that vary depending on the category of land the noise is generated from and the category of land the noise is received at. It is to be noted that there are no established maximum octave band sound pressure levels for noise emissions from Class C properties (i.e., agricultural uses) to Class C properties. Modeled operational octave band sound pressure levels at surrounding Class A properties (i.e., residences and places of worship) are not anticipated to exceed the octave band sound pressure level limits established by IPCB.*

Project Description

The proposed Arena Navigator 1 Solar, LLC Site will be developed on nearly 17 acres of an approximately 27-acre parcel of agricultural land in an unincorporated portion of Madison County, IL. The solar site will consist of solar arrays throughout the project area with thirty-two (32) string inverters located on two (2) equipment pads near the central portion of the site with sixteen (16) string inverters on each equipment pad. Additionally, two (2) 2,500 kilo-volt ampere (kVA) rated transformers will be located on the equipment pads with one (1) transformer on each equipment pad.

Figure 1: Site Location and Vicinity



Characteristics of Noise

Noise is generally defined as unwanted sound. It is emitted from many natural and man-made sources. Sound pressure levels are usually measured and expressed in decibels (dB). The decibel scale is logarithmic and expresses the ratio of the sound pressure unit being measured to a standard reference level. Most sounds occurring in the environment do not consist of a single frequency, but rather a broad band of differing frequencies. The intensities of each frequency add together to generate sound. Because the human ear does not respond to all frequencies equally, the method commonly used to quantify environmental noise consists of evaluating all of the frequencies of a sound according to a weighting system. It has been found that the A-weighted decibel [dB(A)] filter on a sound level meter, which includes circuits to differentially measure selected audible frequencies, best approximates the frequency response of the human ear.

The degree of disturbance from exposure to unwanted sound – noise – depends upon three factors:

1. The amount, nature, and duration of the intruding noise
2. The relationship between the intruding noise and the existing sound environment; and
3. The situation in which the disturbing noise is heard

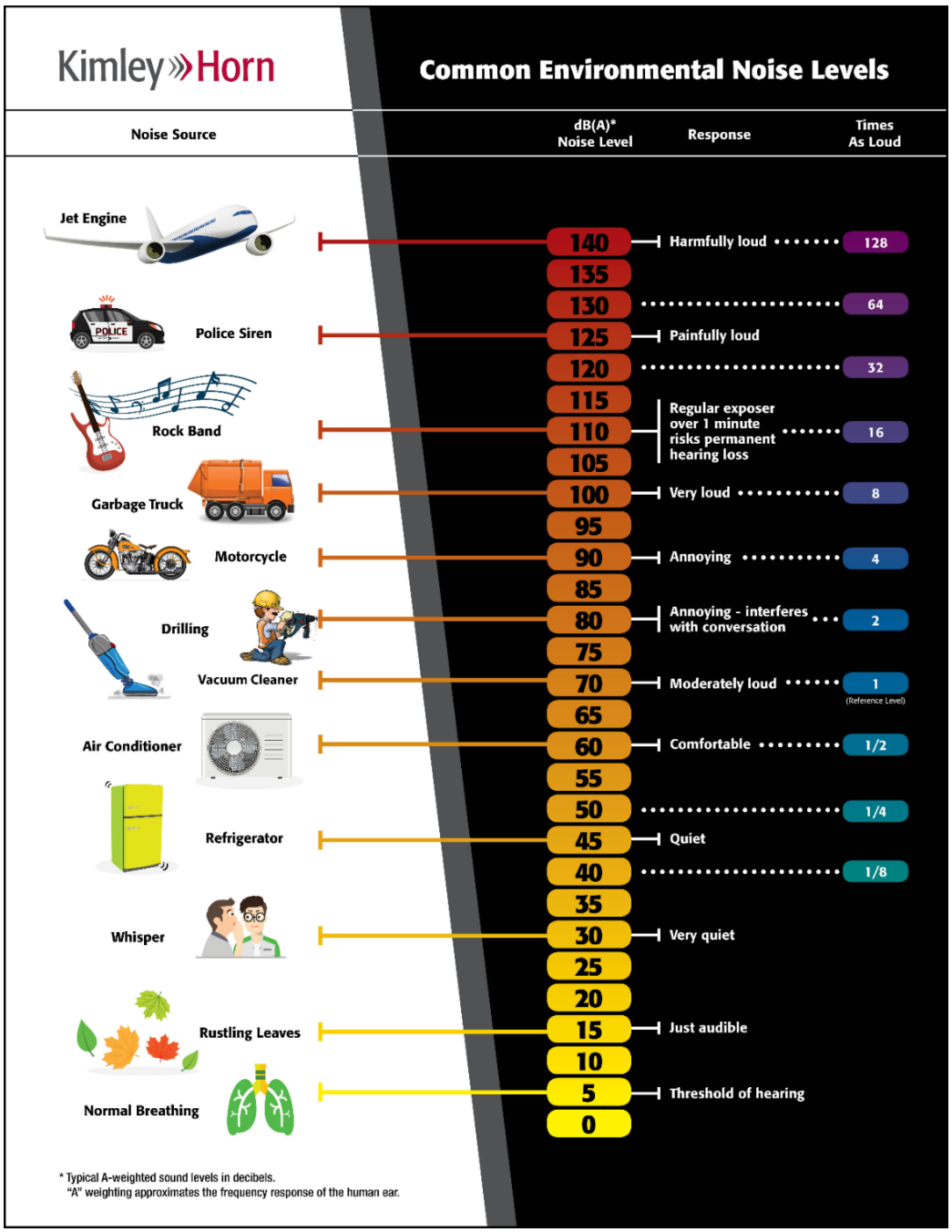
In considering the first of these factors, it is important to note that individuals have varying sensitivity to noise. Loud noises bother some people more than other people, and some individuals become increasingly upset if an unwanted noise persists. The time patterns and durations of noise(s) also affect perception as to whether or not it is offensive. For example, noises that occur during nighttime (sleeping) hours are typically considered to be more offensive than the same noises in the daytime.

With regard to the second factor, individuals tend to judge the annoyance of an unwanted noise in terms of its relationship to noise from other sources (background noise). A car horn blowing at night when background noise levels are low would generally be more objectionable than one blowing in the afternoon when background noise levels are typically higher. The response to noise stimulus is analogous to the response to turning on an interior light. During the daytime an illuminated bulb simply adds to the ambient light, but when eyes are conditioned to the dark of night, a suddenly illuminated bulb can be temporarily blinding.

The third factor – situational noise – is related to the interference of noise with activities of individuals. In a 60 dB(A) environment such as is commonly found in a large business office, normal conversation would be possible, while sleep might be difficult. Loud noises may easily interrupt activities that require a quiet setting for greater mental concentration or rest; however, the same loud noises may not interrupt activities requiring less mental focus or tranquility.

As shown in **Figure 2**, most individuals are exposed to fairly high noise levels from many sources on a regular basis. To perceive sounds of greatly varying pressure levels, human hearing has a non-linear sensitivity to sound pressure exposure. Doubling the sound pressure results in a three decibel change in the noise level; however, variations of three decibels [3 dB(A)] or less are commonly considered “barely perceptible” to normal human hearing. A five decibel [5 dB(A)] change is more readily noticeable. A ten-fold increase in the sound pressure level correlates to a 10 decibel [10 dB(A)] noise level increase; however, it is judged by most people as only sounding “twice as loud”.

Figure 2: Common Noise Levels



Over time, individuals tend to accept the noises that intrude into their lives on a regular basis. However, exposure to prolonged and/or extremely loud noise(s) can prevent use of exterior and interior spaces and has been theorized to pose health risks.

Local Regulations

The Arena Navigator 1 Solar, LLC Site is located in an unincorporated portion of Madison County, IL. §93.106(E) of the Madison County Zoning Ordinance states that "Noise levels from the facility shall be in compliance with applicable Illinois Pollution Control Board (IPCB) regulations."

The IPCB noise regulations are based on allowable octave band sound pressure levels during daytime and nighttime hours. The site will be located on Class C (i.e., agricultural use) land with Class A (i.e., residences and places of worship) and Class C land surrounding the site. It is to be noted that there are no established maximum octave band sound pressure levels for noise emissions from Class C to Class C land uses.

According to Title 35 (Environmental Protection), Subtitle H (Noise), Chapter I (Pollution Control Board), Part 901 (Sound Emission Standards and Limitations for Property Line-Noise Sources), a facility operating in an agricultural field (Class C Land) cannot cause an exceedance of sound levels at any point within a residential or place of worship land use (Class A Land) during daytime hours as shown in **Table 1**.

Table 1: Maximum Allowable Sound Emitted to Class A Land During Daytime Hours

Octave Band Center Frequency (Hertz)	Allowable Octave Band Sound Pressure Levels (dB) of Sound Emitted to any Receiving Class A Land from		
	Class C Land	Class B Land	Class A Land
31.5	**75**	72	72
63	**74**	71	71
125	**69**	65	65
250	**64**	57	57
500	**58**	51	51
1000	**52**	45	45
2000	**47**	39	39
4000	**43**	34	34
8000	**40**	32	32

The IPCB has also established the allowable octave band sound pressure levels for nighttime hours shown in **Table 2**. However, these values are not applicable to the proposed solar site, as it will not be operational during nighttime hours. These values are included for reference purposes only.

Table 2: Maximum Allowable Sound Emitted to Class A Land During Nighttime Hours

Octave Band Center Frequency (Hertz)	Allowable Octave Band Sound Pressure Levels (dB) of Sound Emitted to any Receiving Class A Land from		
	Class C Land	Class B Land	Class A Land
31.5	**69**	63	63
63	**67**	61	61
125	**62**	55	55
250	**54**	47	47
500	**47**	40	40
1000	**41**	35	35
2000	**36**	30	30
4000	**32**	25	25
8000	**32**	25	25

Noise Analysis

Sound levels from the proposed Arena Navigator 1 Solar, LLC Site were evaluated using SoundPLAN. This program computes predicted sound levels at noise-sensitive areas through a series of adjustments to reference sound levels. SoundPLAN also accounts for topography, groundcover type, and intervening structures. Sound levels generated from the inverter and transformer equipment are anticipated to be the main source of sound from the proposed solar photovoltaic project site.

It should be noted that noise from surrounding roadways was not modeled in this analysis although IL-255, Fosterburg Road, Harris Lane, Lobb Road, and other rural roadways are anticipated to contribute to the ambient noise environment throughout the entire day. Additionally, operational noise from the St. Louis Regional Airport is anticipated to contribute to the ambient noise environment but was also not modeled in this analysis.

Inverters

Photovoltaic (PV) inverter equipment can generate steady, unvarying sound that may create issues when located near noise-sensitive areas. It was assumed that thirty-two (32) PV string inverters will be located on two (2) equipment pads near the central portion of the site with sixteen (16) string inverters on each equipment pad. Noise emission levels for the SunGrow SG200HX-US inverters were not available for reference. Therefore, based on typical noise emission levels for similar inverter equipment (SunGrow SG250HX-US), a maximum operational sound level of 74 dB(A) at 1 meter for each of the PV string inverters was used. **Table 3** shows the octave band emission levels for a single PV string inverter used for reference. The sound from the simultaneous operation of the PV string inverter equipment was calculated at the closest noise-sensitive receptors surrounding the project area using SoundPLAN.

Table 3: Sound Emissions for PV String Inverter

Octave Band Center Frequency	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz	16k Hz
Frequency Sound Level	72.8	71.5	68.3	67.6	73.5	72.1	70.8	65.8	60.6	53.9	57.4

Sound generated by the string inverters is not anticipated to significantly contribute to the existing environmental sound levels surrounding the site. Also, sound generated by the string inverters is expected to mostly be mitigated by providing sufficient offsets between the string inverters and surrounding noise-sensitive land uses as well as by the physical presence of the solar arrays, which are anticipated to shield and disperse some of the sound generated by the string inverters.

Transformers

Transformer equipment can also generate steady, unvarying sound that may create issues when located near noise-sensitive areas. It was assumed that two (2) 2,500 kilo-volt-ampere (kVA) transformers would be located on the equipment pads towards the central portion of the site with one (1) transformer located on each equipment pad. Based on the National Electrical Manufacturers Association (NEMA) average decibel rating for a 2,500 kVA transformer, a reference sound level of 63 dB(A) at 1 meter was used for the transformers. **Table 4** shows the octave band emission levels for the proposed transformers. It should be noted that different transformer equipment may be used as the project design progresses. The maximum sound from the operation of the transformer equipment was also calculated at the closest noise-sensitive receptors surrounding the project area using SoundPLAN.

Table 4: Sound Emissions for a 2,500 kVA Transformer

Octave Band Center Frequency	16 Hz	31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz	16k Hz
Frequency Sound Level	72.8	71.5	68.3	67.6	73.5	72.1	70.8	65.8	60.6	53.9	57.4

Sound generated by the transformer equipment is not anticipated to significantly contribute to the existing environmental sound levels surrounding the site. Also, sound generated by the transformer equipment is expected to be mitigated by providing sufficient offsets between the transformer equipment and the project property boundary as well as by the physical presence of the solar arrays, which are anticipated to shield and disperse some of the sound generated by the transformers.

Results

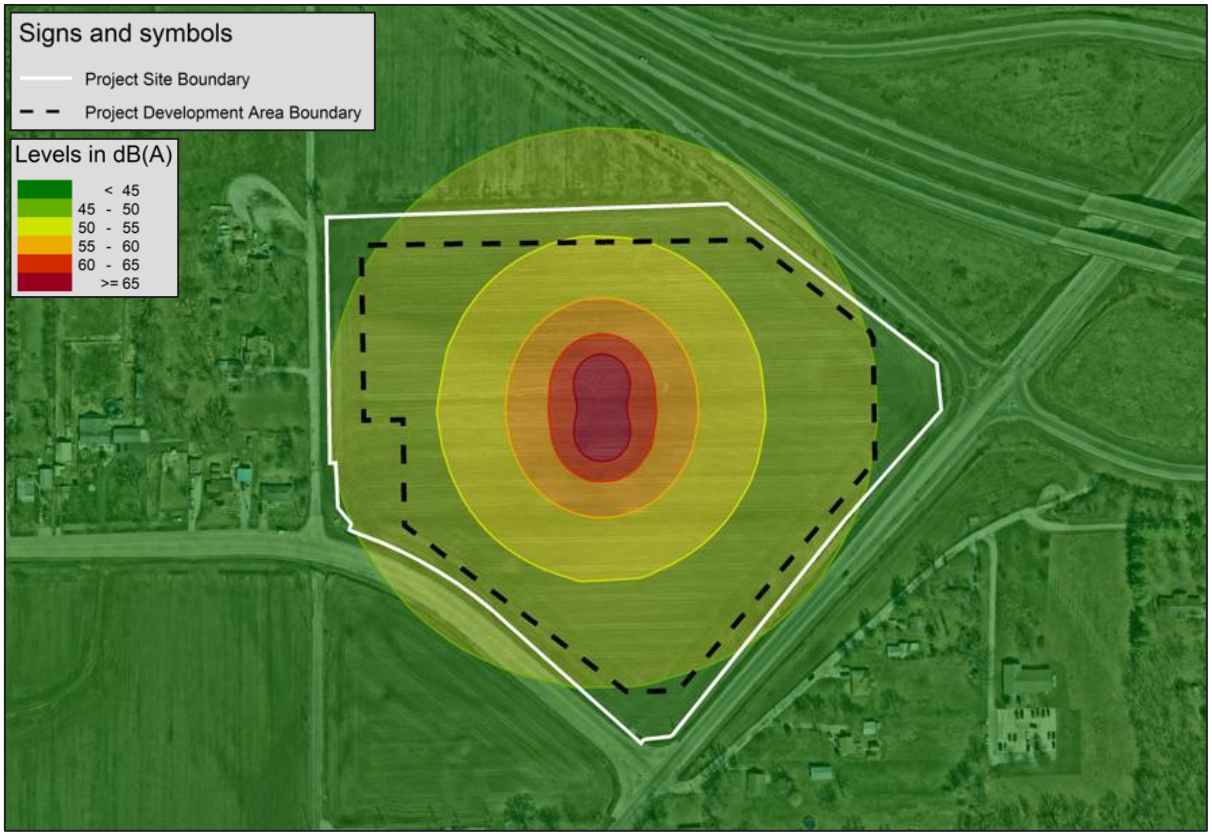
The SoundPLAN-predicted maximum octave band noise levels at surrounding Class A land uses during daytime hours are not anticipated to exceed the octave band limits established by IPCB; therefore, noise mitigation measures do not need to be included in the project design at this time. It is to be noted that there are no established maximum octave band sound pressure levels for noise

emissions from Class C uses (i.e., agricultural uses) to Class C uses. The maximum predicted octave band emissions at Class A uses are shown in **Table 5**. The anticipated operational sound contours during daytime hours are shown in **Figure 3**.

Table 5: Predicted Maximum Sound Emissions at Class A Properties

Octave Band Center Frequency	31 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Maximum Octave Band SPLs from Inverters	48.9	45.7	37.9	32.2	34.7	41.5	36.6	26.8	3.2

Figure 3: Operational Sound Contours



Conclusions

The site is generally located south of IL-255, northwest of Fosterburg Road, north of Harris Lane, and east Lobb Road. The solar site will be located on agricultural land with a place of worship to the southeast, rural residential properties to the west, south, and east, and an existing substation to the south. Additionally, the St. Louis Regional Airport is located approximately 3.5 miles southeast of the site.

After modeling and analyzing the anticipated operational sound levels throughout the proposed solar site, it was determined that noise mitigation measures are not needed at this time since the predicted operational sound levels are anticipated to remain below the IPCB permissible octave band sound pressure level limits at Class A land uses during daytime hours. It is to be noted that there are no established maximum octave band sound pressure levels for noise emissions from Class C uses (i.e., agricultural uses) to Class C uses.

EXHIBIT F: PROPOSED PRODUCT CUT SHEETS

Q.PEAK DUO ML-G12S SERIES

660 - 680 Wp | 132 Cells
21.9 % Maximum Module Efficiency

MODEL Q.PEAK DUO ML-G12S.3 / BFG Q.PEAK DUO ML-G12S.7 / BFG
Q.PEAK DUO ML-G12S.d / BFG



Highest Power Class Module

With the new G12, Qcells heralds the next generation of solar modules' enabling more power generation than ever before.

Bifacial energy yield gain of up to 20%

Bifacial Q.ANTUM solar cells make efficient use of light shining on the module rear-side for radically improved LCOE.

Low electricity generation costs

Q.ANTUM DUO technology with optimized module layout to boost module power and improve LCOE.

A reliable investment

Double glass module design enables extended lifetime with 12-year product warranty and improved 30-year performance warranty[1].

Enduring high performance

Long-term yield security with Anti LID and Anti PID Technology[2], Hot-Spot Protect.

Frame for versatile mounting options

High-tech aluminum alloy frame protects from damage, enables use of a wide range of mounting structures and is certified regarding IEC for high snow (5400 Pa) and wind loads (2600 Pa)[3].

Innovative all-weather technology

Optimal yields, whatever the weather with excellent low-light and temperature behavior.

[1] See data sheet on rear for further information.
[2] APT test conditions according to IEC / TS 62804-1:2015 method B (–1500 V, 168 h) including post treatment according to IEC 61215-1-1 Ed. 2.0 (CD)
[3] See Installation Manual for instructions

The ideal solution for:

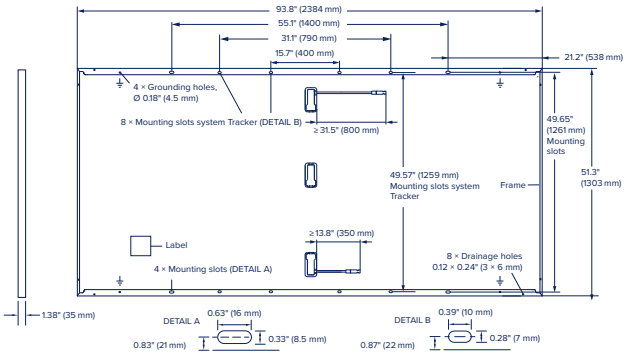
Ground-mounted solar power plants

Solar power plants with tracker

Q.PEAK DUO ML-G12S SERIES

Mechanical Specification

Format	93.8 in × 51.3 in × 1.38 in (including frame) (2384 mm × 1303 mm × 35 mm)
Weight	84.2 lbs (38.2kg)
Front Cover	0.08 in (2.0 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	0.08 in (2.0 mm) semi-tempered glass
Frame	Anodized aluminum
Cell	6 × 22 monocrystalline Q.ANTUM solar half cells
Junction box	2.09-3.98 × 1.26-2.36 × 0.59-0.71 in (53-101 mm × 32-60 mm × 15-18 mm), Protection class IP68, with bypass diodes
Cable	4 mm² Solar cable; (+) ≥31.5 in (800 mm), (−) ≥13.8 in (350 mm)
Connector	Stäubli MC4; Stäubli MC4-Evo2; - IP68



Electrical Characteristics

POWER CLASS				660		665		670		675		680	
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC¹ (POWER TOLERANCE +5 W / −0 W)					BSTC*		BSTC*		BSTC*		BSTC*		BSTC*
Minimum	Power at MPP¹	P_{MPP}	[W]	660	721.9	665	727.4	670	732.9	675	738.4	680	743.8
	Short Circuit Current¹	I_{SC}	[A]	18.36	20.10	18.39	20.13	18.42	20.16	18.45	20.20	18.48	20.23
	Open Circuit Voltage¹	V_{OC}	[V]	45.68	45.84	45.70	45.86	45.72	45.88	45.74	45.90	45.76	45.92
	Current at MPP	I_{MPP}	[A]	17.39	19.03	17.45	19.09	17.51	19.16	17.56	19.22	17.62	19.28
	Voltage at MPP	V_{MPP}	[V]	37.94	37.94	38.11	38.10	38.27	38.26	38.43	38.42	38.59	38.58
	Efficiency¹	η	[%]	≥21.2		≥21.4		≥21.6		≥21.7		≥21.9	

Bifaciality of P_{MPP} and I_{SC} 70 % ± 5 % • Bifaciality given for rear side irradiation on top of STC (front side) • According to IEC 60904-1-2

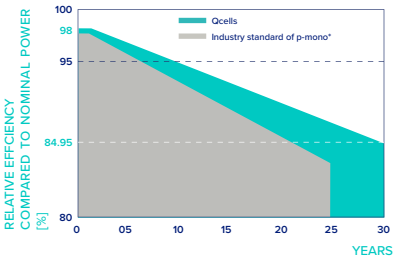
¹Measurement tolerances P_{MPP} ±3 %; I_{SC}, V_{OC} ±5 % at STC: 1000 W/m²; *at BSTC: 1000 W/m² + φ × 135 W/m², φ = 72 %, 25 ± 2 °C, AM 1.5 according to IEC 60904-3

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT²

Minimum	Power at MPP	P_{MPP}	[W]	496.9	500.7	504.4	508.2	512.0
	Short Circuit Current	I_{SC}	[A]	14.79	14.81	14.84	14.86	14.89
	Open Circuit Voltage	V_{OC}	[V]	43.20	43.22	43.24	43.26	43.28
	Current at MPP	I_{MPP}	[A]	13.67	13.73	13.78	13.83	13.88
	Voltage at MPP	V_{MPP}	[V]	36.34	36.48	36.62	36.75	36.89

¹Measurement tolerances P_{MPP} ±3 %; I_{SC}; V_{OC} ±5 % at STC: 1000 W/m², 25 ± 2 °C, AM 1.5 according to IEC 60904-3 • ²800 W/m², NMOT, spectrum AM 1.5

Qcells PERFORMANCE WARRANTY

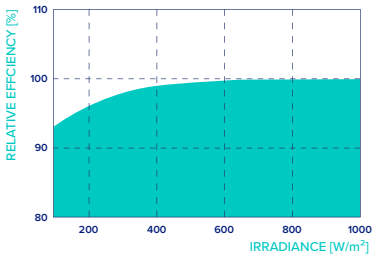


At least 98 % of nominal power during first year. Thereafter max. 0.45 % degradation per year. At least 93.95 % of nominal power up to 10 years. At least 84.95 % of nominal power up to 30 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Qcells sales organization of your respective country.

*Standard terms of guarantee for the 5 PV companies with the highest production capacity in 2021 (February 2021)

PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²).

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I_{SC}	α	[%/K]	+0.04	Temperature Coefficient of V_{OC}	β	[%/K]	−0.27
Temperature Coefficient of P_{MPP}	γ	[%/K]	−0.34	Nominal Module Operating Temperature	NMOT	[°F]	108 ± 5.4 (42 ± 3 °C)

Properties for System Design

Maximum System Voltage	V_{SYS}	[V]	1500	PV module classification	Class II
Maximum Series Fuse Rating		[A DC]	35	Fire Rating based on ANSI / UL 61730	TYPE 29⁴
Max. Push Load³, Test / Design		[lbs / ft²]	113 (5400 Pa) / 75 (3600 Pa)	Permitted Module Temperature on Continuous Duty	−40 °F up to +185 °F (−40 °C up to +85 °C)
Max. Pull Load³, Test / Design		[lbs / ft²]	54 (2600 Pa) / 36 (1730 Pa)		

³ See Installation Manual for instructions

⁴ New Type is similar to Type 3 but with metallic frame

Qualifications and Certificates

UL 61730, CE-compliant,
IEC 61215:2016,
IEC 61730:2016,
U.S. Patent No. 9,893,215
(solar cells)

www.tuv.com
ID 1111220277

Specifications subject to technical changes © Qcells Q.PEAK_DUO_ML-G12S-BFG_series_660-680_2025-04_Rev05_NA

Qcells pursues minimizing paper output in consideration of the global environment.

Note: Installation instructions must be followed. Contact our technical service for further information on approved installation of this product.
*Contact your Qcells Sales Representative for details regarding the module's eligibility to be Buy American Act (BAA) compliant.

Hanwha Q CELLS USA Corp. 300 Spectrum Center Drive, Suite 500, Irvine, CA 92618, USA | TEL +1 949 748 59 96 | EMAIL na.support@qcells.com | WEB www.qcells.com/us

SG200HX-US

Multi-MPPT String Inverter for 1500 Vdc System



HIGH YIELD

- Up to 12 MPPTs with max. efficiency 98.8%
- 20A per string, compatible with 500Wp+ module
- Data exchange with tracker system, improving yield

GRID SUPPORT

- SCR ≥ 1.15 stable operation in extremely weak grid
- Reactive power response time < 30 ms

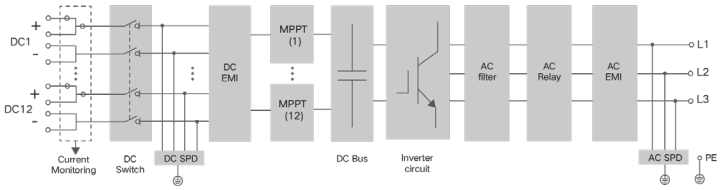
LOW COST

- Q at night function, save investment
- Power line communication (PLC)
- Smart IV Curve diagnosis, active O&M

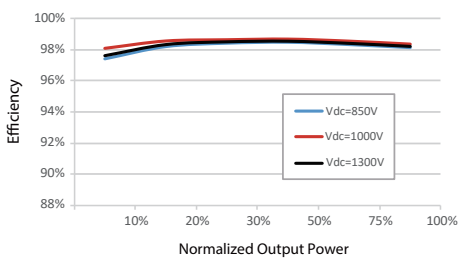
PROVEN SAFETY

- 2 strings per MPPT, no fear of string reverse connection
- 24h real-time AC and DC insulation monitoring

CIRCUIT DIAGRAM



EFFICIENCY CURVE



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SUNGROW
Clean power for all

Type designation	SG200HX-US
Input (DC)	
Max. PV input voltage	1500 V
Min. PV input voltage / Startup input voltage	500 V / 550 V
Nominal PV input voltage	1000 V
MPP voltage range	500 V – 1500 V
Full Power MPP Voltage Range @ 40 ℃	850 V -1300 V*
No. of independent MPP inputs	12
Max. number of input connector per MPPT	2
Max. PV input current	12 * 40 A
Max. DC short-circuit current per MPPT	60 A
Output (AC)	
AC output power	200 KVA @ 40 ℃
Max. AC output current	193 A
Nominal AC voltage	3 / PE, 600 V
AC voltage range	528 V – 660 V
Nominal grid frequency / Grid frequency range	60 Hz / 55 – 65 Hz
THD	< 3 % (at nominal power)
DC current injection	< 0.5 % In
Power factor at nominal power / Adjustable power factor	> 0.99 / 0.8 leading – 0.8 lagging
Feed-in phases / connection phases	3 / 3
Efficiency	
Max. efficiency / CEC efficiency	98.8 % / 98.5 %
Protection	
DC reverse connection protection	Yes
AC short circuit protection	Yes
Leakage current protection	Yes
Grid monitoring	Yes
Ground fault monitoring	Yes
DC switch / AC switch	Yes / No
PV String current monitoring	Yes
Q at night function	Yes
Anti-PID and PID recovery function	Optional (EMU200A)
Surge protection	DC Type II / AC Type II
General data	
Dimensions (W*H*D)	1166 mm * 870 mm * 361 mm (45.9'' * 34.3'' * 14.2'')
Weight	≤ 122 kg (≤ 269 lbs)
Isolation method	Transformerless
Degree of protection	IP66 (NEMA 4X)
Power consumption at night	< 6 W
Operating ambient temperature range	- 30 to 60 ℃ (- 22 to 140 °F)
Allowable relative humidity range	0 % – 100 %
Cooling method	Smart forced air cooling
Max. operating altitude	4000 m (> 3000 m derating) / 13123 ft (> 9843 ft derating)
Display	LED, Bluetooth+APP
Communication	RS485, SunSpec, Modbus
DC connection type	MC4 (Max. 10AWG， Optional 8AWG)
AC connection type	Support OT / DT terminal (Max. 750Kcmil)
Compliance	UL1741, UL62109-1, CSA C22.2 No.107.1-16, IEEE1547-2018, IEEE1547.1-2020, UL1741 SA/SB, California Rule21,and FCC Part 15 Class A Limit
Grid Support	Q at night function, LVRT, HVRT,active & reactive power control and power ramp rate control, Q-U control, P-f control

* Full power MPP range is temperature dependent, check the characteristic curve of the inverter for more information.

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Nameplate

SG200HX-US

V 1

1 Introduction

This document describes the nameplate of SG200HX-US string inverter.

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2 Nameplate

Nameplates are pasted on the outside of the inverter packing box and the side of the inverter. The nameplate provides information such as model, the most important parameters, and certification marks of the inverter. Nameplates on SG200HX-US are made of silver paper. The specific nameplate information is as follows.

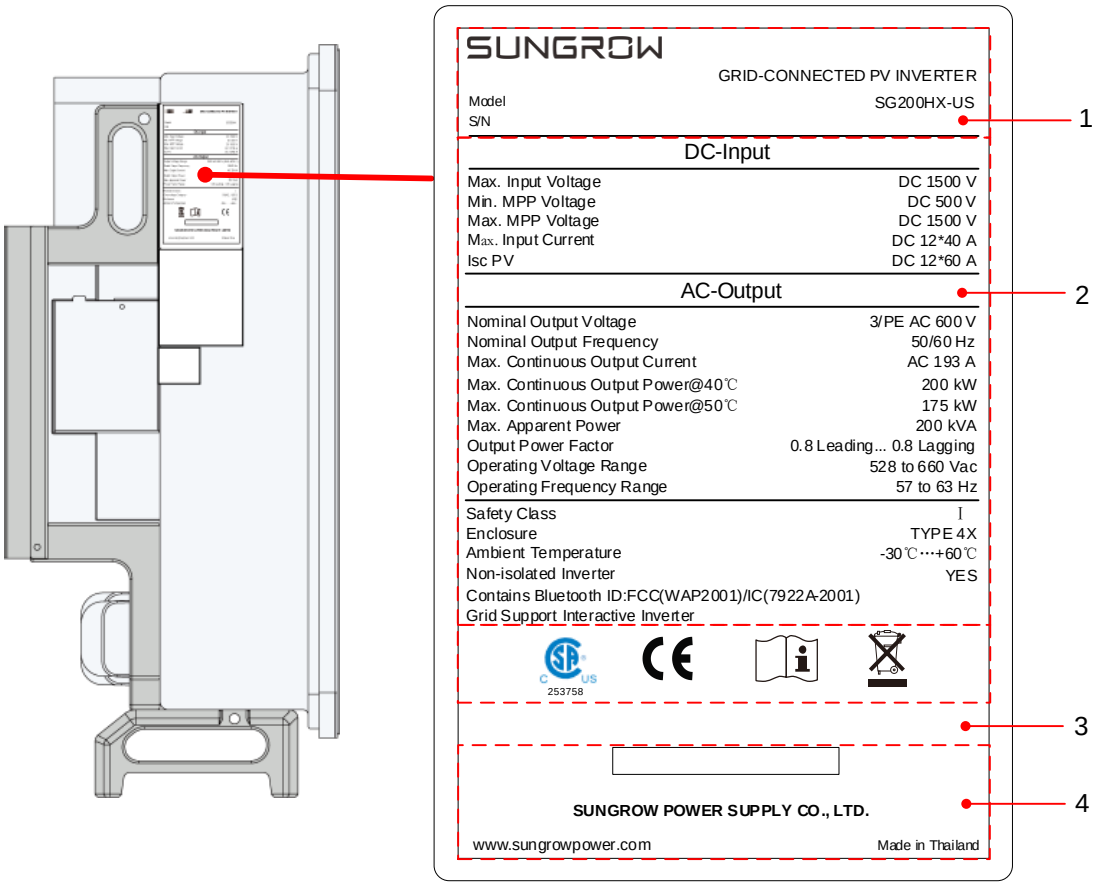

Fig. 1 Nameplate (Made in Thailand)

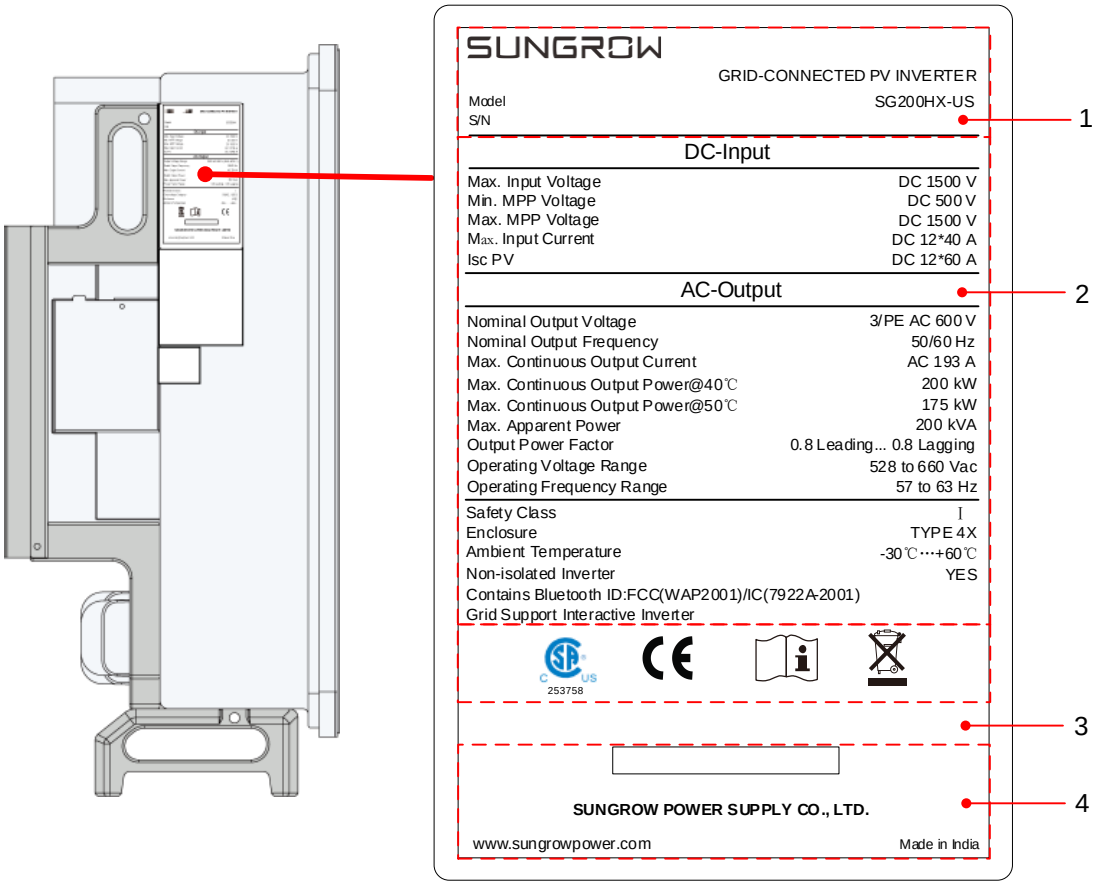

Fig. 2 Nameplate (Made in India)

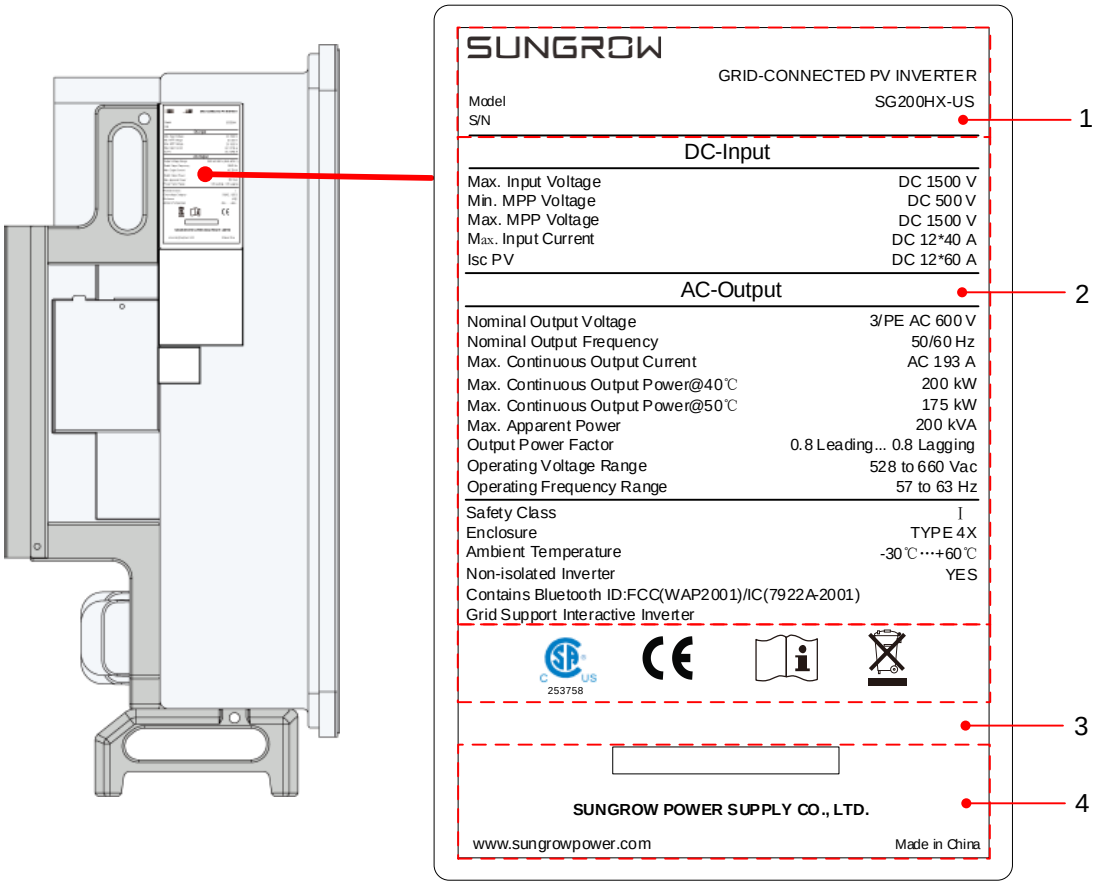

Fig. 3 Nameplate (Made in China)

Tab. 1 Description of Item on the Nameplate

Item	Description
1	SUNGROW trademark and product model
2	Inverter technical data
3	Authentication system that the inverter complies with
4	Company name, website, and place of origin

Tab. 2 Description of Icons on the Nameplate

Icon	Description
	Comply with CSA certification.
	Comply with CE certification.
	Please refer to the User Manual.

	Do not dispose of the inverter as household waste.

EXHIBIT G: INTERCONNECTION AGREEMENT

STANDARD AGREEMENT FOR INTERCONNECTION OF DISTRIBUTED ENERGY RESOURCES FACILITIES WITH A CAPACITY LESS THAN OR EQUAL TO 10 MVA

This agreement (together with all attachments, the "Agreement") is made and entered into this 09 day of April 2026, by and between Arena Navigator 1 Solar, LLC ("interconnection customer"), as a limited liability company organized and existing under the laws of the State of Illinois and Ameren Illinois Company, ("Electric Distribution Company" or "EDC"), a corporation existing under the laws of the State of Illinois. Interconnection customer and EDC each may be referred to as a "Party", or collectively as the "Parties".

Recitals:

Whereas, interconnection customer is proposing to install or direct the installation of a distributed energy resources (DER) facility, or is proposing a generating capacity addition to an existing distributed energy resources (DER) facility, consistent with the interconnection request application form completed by interconnection customer on 10/24/2024; and

Whereas, the interconnection customer will operate and maintain, or cause the operation and maintenance of, the DER facility; and

Whereas, interconnection customer desires to interconnect the DER facility with EDC's electric distribution system.

Now, therefore, in consideration of the premises and mutual covenants set forth in this Agreement, and other good and valuable consideration, the receipt, sufficiency and adequacy of which are hereby acknowledged, the Parties covenant and agree as follows:

Article 1. Scope and Limitations of Agreement

1.1 This Agreement shall be used for all approved interconnection requests for DER facilities that fall under Levels 2, 3 and 4 according to the procedures set forth in Part 466 of the Commission's rules (83 Ill. Adm. Code 466) (referred to as the Illinois Distributed Energy Resources Interconnection Standard).

1.2 This Agreement governs the terms and conditions under which the DER facility will interconnect to, and operate in parallel with, the EDC's electric distribution system.

1.3 This Agreement does not constitute an agreement to purchase or deliver the interconnection customer's power.

1.4 Nothing in this Agreement is intended to affect any other agreement between the EDC and the interconnection customer.

1.5 Terms used in this agreement are defined as in Section 466.20 of the Illinois Distributed Energy Resources Interconnection Standard unless otherwise noted.

1.6 Responsibilities of the Parties

1.6.1 The Parties shall perform all obligations of this Agreement in accordance with all applicable laws and regulations.

1.6.2 The EDC shall construct, own, operate, and maintain its interconnection facilities in accordance with this Agreement.

1.6.3 The interconnection customer shall construct, own, operate, and maintain its distributed energy resources (DER) facility and interconnection facilities in accordance with this Agreement.

1.6.4 Each Party shall operate, maintain, repair, and inspect, and shall be fully responsible for, the facilities that it now or subsequently may own unless otherwise specified in the attachments to this Agreement. Each Party shall be responsible for the safe installation, maintenance, repair and condition of its respective lines and appurtenances on its respective sides of the point of interconnection.

1.6.5 The interconnection customer agrees to design, install, maintain and operate its DER facility so as to minimize the likelihood of causing an adverse system impact on the electric distribution system or any other electric system that is not owned or operated by the EDC.

1.7 Parallel Operation Obligations
Once the DER facility has been authorized to commence parallel operation, the interconnection customer shall abide by all operating procedures established in IEEE Standard 1547 and any other applicable laws, statutes or guidelines, including those specified in Attachment 4 of this Agreement.

1.8 Metering
The interconnection customer shall be responsible for the cost to purchase, install, operate, maintain, test, repair, and replace metering and data acquisition equipment specified in Attachments 5 and 6 of this Agreement.

1.9 Reactive Power

1.9.1 Interconnection customers with a DER facility larger than or equal to 1 MVA shall design their DER facilities to maintain a power factor at the point of interconnection between .95 lagging and .95 leading at all times. Interconnection customers with a DER facility smaller than 1 MVA shall design their DER

facility to maintain a power factor at the point of interconnection between .90 lagging and .90 leading at all times.

1.9.2 Any EDC requirements for meeting a specific voltage or specific reactive power schedule as a condition for interconnection shall be clearly specified in Attachment 4. Under no circumstance shall the EDC's additional requirements for voltage or reactive power schedules exceed the normal operating capabilities of the DER facility.

1.9.3 If the interconnection customer does not operate the distributed energy resources (DER) facility within the power factor range specified in Attachment 4, or does not operate the distribute generation facility in accordance with a voltage or reactive power schedule specified in Attachment 4, the interconnection customer is in default, and the terms of Article 6.5 apply.

1.10 Standards of Operations

The interconnection customer must obtain all certifications, permits, licenses and approvals necessary to construct, operate and maintain the facility and to perform its obligations under this Agreement. The interconnection customer is responsible for coordinating and synchronizing the DER facility with the EDC's system. The interconnection customer is responsible for any damage that is caused by the interconnection customer's failure to coordinate or synchronize the DER facility with the electric distribution system. The interconnection customer agrees to be primarily liable for any damages resulting from the continued operation of the DER facility after the EDC ceases to energize the line section to which the DER facility is connected. In Attachment 4, the EDC shall specify the shortest reclose time setting for its protection equipment that could affect the DER facility. The EDC shall notify the interconnection customer at least 10 business days prior to adopting a faster reclose time on any automatic protective equipment, such as a circuit breaker or line recloser, that might affect the DER facility.

Article 2. Inspection, Testing, Authorization, and Right of Access

2.1 Equipment Testing and Inspection

The interconnection customer shall test and inspect its DER facility including the interconnection equipment prior to interconnection in accordance with IEEE Standard 1547 (2003) and IEEE Standard 1547.1 (2005). The interconnection customer shall not operate its DER facility in parallel with the EDC's electric distribution system without prior written authorization by the EDC as provided for in Articles 2.1.1-2.1.3.

2.1.1 The EDC shall perform a witness test after construction of the DER facility is completed, but before parallel operation, unless the EDC specifically waives the witness test. The interconnection customer shall provide the EDC at least 15 business days' notice of the planned commissioning test for the DER facility. If the EDC performs a witness test at a time that is not concurrent with the commissioning test, it shall contact the interconnection customer to schedule the witness test at a mutually agreeable time within 10 business days after the scheduled commissioning test designated on the application. If the EDC does not perform the witness test within 10 business days after the commissioning test, the witness test is deemed waived unless the Parties mutually agree to extend the date for scheduling the witness test, or unless the EDC cannot do so for good cause, in which case, the Parties shall agree to another date for scheduling the test within 10 business days after the original scheduled date. If the witness test is not acceptable to the EDC, the EDC shall deliver in writing a detailed technical description of all deficiencies of the DER facility identified by the EDC during the witness test. The interconnection customer has 30 business days after receipt of the written description to address and resolve any deficiencies. This time period may be extended upon agreement between the EDC and the interconnection customer. If the interconnection customer fails to address and resolve the deficiencies to the satisfaction of the EDC, the applicable cure provisions of Article 6.5 shall apply. The interconnection customer shall, if requested by the EDC, provide a copy of all documentation in its possession regarding testing conducted pursuant to IEEE Standard 1547.1.

2.1.2 If the interconnection customer conducts interim testing of the DER facility prior to the witness test, the interconnection customer shall obtain permission from the EDC before each occurrence of operating the DER facility in parallel with the electric distribution system. The EDC may, at its own expense, send qualified personnel to the DER facility to observe such interim testing, but it cannot mandate that these tests be considered in the final witness test. The EDC is not required to observe the interim testing or precluded from requiring the tests be repeated at the final witness test. During and leading up to the witness test, the EDC shall not limit the interconnection customer's ability to test the DER facility during normal working hours except for safety and reliability reasons.

2.1.3 After the DER facility passes the witness test, the EDC shall affix an authorized signature to the certificate of completion and return it to the interconnection customer approving the interconnection and authorizing parallel operation. The authorization shall not be conditioned or delayed and the EDC shall return the signed certificate of completion to the interconnection customer no more than 10 business days after the date that the DER facility passes the witness test.

2.2 Commercial Operation
The interconnection customer shall not operate the DER facility, except for interim testing as provided in Article 2.1, until such time as the certificate of completion is signed by all Parties.

2.3 Right of Access
The EDC must have access to the disconnect switch and metering equipment of the DER facility at all times. When practical, the EDC shall provide notice to the customer prior to using its right of access.

Article 3. Effective Date, Term, Termination, and Disconnection

3.1 Effective Date
This Agreement shall become effective upon execution by all Parties.

3.2 Term of Agreement
This Agreement shall become effective on the effective date and shall remain in effect unless terminated in accordance with Article 3.3 of this Agreement.

3.3 Termination

3.3.1 The interconnection customer may terminate this Agreement at any time by giving the EDC 30 calendar days prior written notice.

3.3.2 Either Party may terminate this Agreement after default pursuant to Article 6.5.

3.3.3 The EDC may terminate, upon 60 calendar days' prior written notice, for failure of the interconnection customer to complete construction of the DER facility within 12 months after the in-service date as specified by the Parties in Attachment 2, which may be extended by agreement between the Parties.

3.3.4 The EDC may terminate this Agreement, upon 60 calendar days' prior written notice, if the interconnection customer has abandoned, cancelled, permanently disconnected or stopped development, construction, or operation of the DER facility, or if the interconnection customer fails to operate the DER facility in parallel with the EDC's electric system for three consecutive years.

3.3.5 Upon termination of this Agreement, the DER facility will be disconnected from the EDC's electric distribution system. Terminating this Agreement does not

relieve either Party of its liabilities and obligations that are owed or continuing when the Agreement is terminated.

3.3.6 If the Agreement is terminated, the interconnection customer loses its position in the interconnection queue.

3.4 Temporary Disconnection

A Party may temporarily disconnect the DER facility from the electric distribution system in the event one or more of the following conditions or events occurs:

3.4.1 Emergency conditions – shall mean any condition or situation: (1) that in the judgment of the Party making the claim is likely to endanger life or property; or (2) that the EDC determines is likely to cause an adverse system impact, or is likely to have a material adverse effect on the EDC's electric distribution system, interconnection facilities or other facilities, or is likely to interrupt or materially interfere with the provision of electric utility service to other customers; or (3) that is likely to cause a material adverse effect on the DER facility or the interconnection equipment. Under emergency conditions, the EDC or the interconnection customer may suspend interconnection service and temporarily disconnect the DER facility from the electric distribution system. The EDC must notify the interconnection customer when it becomes aware of any conditions that might affect the interconnection customer's operation of the DER facility. The interconnection customer shall notify the EDC when it becomes aware of any condition that might affect the EDC's electric distribution system. To the extent information is known, the notification shall describe the condition, the extent of the damage or deficiency, the expected effect on the operation of both Parties' facilities and operations, its anticipated duration, and the necessary corrective action.

3.4.2 Scheduled maintenance, construction, or repair – the EDC may interrupt interconnection service or curtail the output of the DER facility and temporarily disconnect the DER facility from the EDC's electric distribution system when necessary for scheduled maintenance, construction, or repairs on EDC's electric distribution system. The EDC shall provide the interconnection customer with notice no less than 5 business days before an interruption due to scheduled maintenance, construction, or repair, or the EDC shall provide notice immediately if the scheduled maintenance, construction, or repair is scheduled less than 5 business days in advance. The EDC shall coordinate the reduction or temporary disconnection with the interconnection customer; however, the interconnection customer is responsible for out-of-pocket costs incurred by the EDC for deferring or rescheduling maintenance, construction or repair at the interconnection customer's request.

3.4.3 Forced outages – The EDC may suspend interconnection service to repair the EDC's electric distribution system. The EDC shall provide the interconnection customer with prior notice, if possible. If prior notice is not possible, the EDC shall, upon written request, provide the interconnection customer with written documentation, after the fact, explaining the circumstances of the disconnection.

3.4.4 Adverse system impact – the EDC must provide the interconnection customer with written notice of its intention to disconnect the DER facility, if the EDC determines that operation of the DER facility creates an adverse system impact. The documentation that supports the EDC's decision to disconnect must be provided to the interconnection customer. The EDC may disconnect the DER facility if, after receipt of the notice, the interconnection customer fails to remedy the adverse system impact, unless emergency conditions exist, in which case, the provisions of Article 3.4.1 apply. The EDC may continue to leave the generating facility disconnected until the adverse system impact is corrected.

3.4.5 Modification of the DER facility – The interconnection customer must receive written authorization from the EDC prior to making any change to the DER facility, other than a minor equipment modification. If the interconnection customer modifies its facility without the EDC's prior written authorization, the EDC has the right to disconnect the DER facility until such time as the EDC concludes the modification poses no threat to the safety or reliability of its electric distribution system.

3.4.6 The EDC's compliance with Article 3 shall preclude any claim for damages for any lost opportunity or other costs incurred by the interconnection customer as a result of an interruption of service under Article 3. Any dispute over whether the EDC complied with Article 3 shall be resolved in accordance with the dispute resolution mechanism set forth in Article 8.

Article 4. Cost Responsibility for Interconnection Facilities and Distribution Upgrades

4.1 Interconnection Facilities

4.1.1 The interconnection customer shall pay, or reimburse the EDC, as applicable, for the cost of the interconnection facilities itemized in Attachment 3. The EDC shall identify the additional interconnection facilities necessary to interconnect the DER facility with the EDC's electric distribution system, the cost of those facilities, and the time required to build and install those facilities, as well as an estimated date of completion of the building or installation of those facilities.

4.1.2 The interconnection customer is responsible for its expenses, including overheads, associated with owning, operating, maintaining, repairing, and replacing its interconnection equipment.

4.2 Distribution Upgrades

The EDC shall design, procure, construct, install, and own any distribution upgrades. The actual cost of the distribution upgrades, including overheads, shall be directly assigned to the interconnection customer whose distributed energy resources (DER) facility caused the need for the distribution upgrades.

Article 5. Billing, Payment, Milestones, and Financial Security

5.1 Billing and Payment Procedures and Final Accounting (Applies to supplemental reviews conducted under Level 2 or 3 review with EDC construction necessary for accommodating the DER facility, and Level 4 reviews)

5.1.1 The EDC shall bill the interconnection customer for the design, engineering, construction, and procurement costs of EDC-provided interconnection facilities and distribution upgrades contemplated by this Agreement as set forth in Attachment 3. The billing shall occur on a monthly basis, or as otherwise agreed to between the Parties. The interconnection customer shall pay each bill within 30 calendar days after receipt, or as otherwise agreed to between the Parties.

5.1.2 Unless waived by the interconnection customer, within 90 calendar days after completing the construction and installation of the EDC's interconnection facilities and distribution upgrades described in Attachments 2 and 3 to this Agreement, the EDC shall provide the interconnection customer with a final accounting report of any difference between (1) the actual cost incurred to complete the construction and installation of the EDC's interconnection facilities and distribution upgrades; and (2) the interconnection customer's previous deposit and aggregate payments to the EDC for the interconnection facilities and distribution upgrades. If the interconnection customer's cost responsibility exceeds its previous deposit and aggregate payments, the EDC shall invoice the interconnection customer for the amount due and the interconnection customer shall pay the EDC within 30 calendar days. If the interconnection customer's previous deposit and aggregate payments exceed its cost responsibility under this Agreement, the EDC shall refund to the interconnection customer an amount equal to the difference within 30 calendar days after the final accounting report. Upon request from the interconnection customer, if the difference between the budget estimate and the actual cost exceeds 20%, the EDC will provide a written explanation for the difference.

5.1.3 If a Party disputes any portion of its payment obligation pursuant to this Article 5, the Party shall pay in a timely manner all non-disputed portions of its invoice, and the disputed amount shall be resolved pursuant to the dispute resolution provisions contained in Article 8. A Party disputing a portion of an Article 5 payment shall not be considered to be in default of its obligations under this Article.

5.2 Interconnection Customer Deposit

Within 15 business days after signing and returning the interconnection agreement to the EDC, the interconnection customer shall provide the EDC with a deposit equal to 100% of the estimated, non-binding cost to procure, install, or construct any such facilities. However, when the estimated date of completion of the building or installation of facilities exceeds three months from the date of notification, pursuant to Article 4.1.1 of this Agreement, this deposit may be held in escrow by a mutually agreed-upon third-party, with any interest to inure to the benefit of the interconnection customer. To the extent that this interconnection agreement is terminated for any reason, the EDC shall return all deposits provided by the interconnection customer, less any actual costs incurred by the EDC.

Article 6. Assignment, Limitation on Damages, Indemnity, Force Majeure, and Default

6.1 Assignment

This Agreement may be assigned by either Party. If the interconnection customer attempts to assign this Agreement, the assignee must agree to the terms of this Agreement in writing and such writing must be provided to the EDC. Any attempted assignment that violates this Article is void and ineffective. Assignment shall not relieve a Party of its obligations, nor shall a Party's obligations be enlarged, in whole or in part, by reason of the assignment. An assignee is responsible for meeting the same obligations as the assignor.

6.1.1 Either Party may assign this Agreement without the consent of the other Party to any affiliate (including mergers, consolidations or transfers, or a sale of a substantial portion of the Party's assets, between the Party and another entity), of the assigning Party that has an equal or greater credit rating and the legal authority and operational ability to satisfy the obligations of the assigning Party under this Agreement.

6.1.2 The interconnection customer can assign this Agreement, without the consent of the EDC, for collateral security purposes to aid in providing financing for the DER facility.

6.2 Limitation on Damages

Except for cases of gross negligence or willful misconduct, the liability of any Party to this Agreement shall be limited to direct actual damages and reasonable attorney's fees,

and all other damages at law are waived. Under no circumstances, except for cases of gross negligence or willful misconduct, shall any Party or its directors, officers, employees and agents, or any of them, be liable to another Party, whether in tort, contract or other basis in law or equity for any special, indirect, punitive, exemplary or consequential damages, including lost profits, lost revenues, replacement power, cost of capital or replacement equipment. This limitation on damages shall not affect any Party's rights to obtain equitable relief, including specific performance, as otherwise provided in this Agreement. The provisions of this Article 6.2 shall survive the termination or expiration of the Agreement.

6.3 Indemnity

6.3.1 This provision protects each Party from liability incurred to third parties as a result of carrying out the provisions of this Agreement. Liability under this provision is exempt from the general limitations on liability found in Article 6.2.

6.3.2 The interconnection customer shall indemnify and defend the EDC and the EDC's directors, officers, employees, and agents, from all damages and expenses resulting from a third party claim arising out of or based upon the interconnection customer's (a) negligence or willful misconduct or (b) breach of this Agreement.

6.3.3 The EDC shall indemnify and defend the interconnection customer and the interconnection customer's directors, officers, employees, and agents from all damages and expenses resulting from a third party claim arising out of or based upon the EDC's (a) negligence or willful misconduct or (b) breach of this Agreement.

6.3.4 Within 5 business days after receipt by an indemnified Party of any claim or notice that an action or administrative or legal proceeding or investigation as to which the indemnity provided for in this Article may apply has commenced, the indemnified Party shall notify the indemnifying Party of such fact. The failure to notify, or a delay in notification, shall not affect a Party's indemnification obligation unless that failure or delay is materially prejudicial to the indemnifying Party.

6.3.5 If an indemnified Party is entitled to indemnification under this Article as a result of a claim by a third party, and the indemnifying Party fails, after notice and reasonable opportunity to proceed under this Article, to assume the defense of such claim, that indemnified Party may, at the expense of the indemnifying Party, contest, settle or consent to the entry of any judgment with respect to, or pay in full, the claim.

6.3.6 If an indemnifying Party is obligated to indemnify and hold any indemnified Party harmless under this Article, the amount owing to the indemnified person shall be the amount of the indemnified Party's actual loss, net of any insurance or other recovery.

6.4 Force Majeure

6.4.1 As used in this Article, a force majeure event shall mean any act of God, labor disturbance, act of the public enemy, war, acts of terrorism, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment through no direct, indirect, or contributory act of a Party, any order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A force majeure event does not include an act of gross negligence or intentional wrongdoing by the Party claiming force majeure.

6.4.2 If a force majeure event prevents a Party from fulfilling any obligations under this Agreement, the Party affected by the force majeure event ("Affected Party") shall notify the other Party of the existence of the force majeure event within one business day. The notification must specify the circumstances of the force majeure event, its expected duration, and the steps that the Affected Party is taking and will take to mitigate the effects of the event on its performance. If the initial notification is verbal, it must be followed up with a written notification within one business day. The Affected Party shall keep the other Party informed on a continuing basis of developments relating to the force majeure event until the event ends. The Affected Party may suspend or modify its obligations under this Agreement (other than the obligation to make payments) only to the extent that the effect of the force majeure event cannot be otherwise mitigated.

6.5 Default

6.5.1 No default shall exist when the failure to discharge an obligation (other than the payment of money) results from a force majeure event as defined in this Agreement, or the result of an act or omission of the other Party.

6.5.2 A Party shall be in default ("Default") of this Agreement if it fails in any material respect to comply with, observe or perform, or defaults in the performance of, any covenant or obligation under this Agreement and fails to cure the failure within 60 calendar days after receiving written notice from the other Party. Upon a default of this Agreement, the non-defaulting Party shall give written notice of the default to the defaulting Party. Except as provided in Article 6.5.3, the defaulting Party has 60 calendar days after receipt of the default notice to cure the default; provided, however, if the default cannot be cured within 60 calendar days, the defaulting Party shall commence the cure within 20 calendar days after original

notice and complete the cure within six months from receipt of the default notice; and, if cured within that time, the default specified in the notice shall cease to exist.

6.5.3 If a Party has assigned this Agreement in a manner that is not specifically authorized by Article 6.1, fails to provide reasonable access pursuant to Article 2.3, and is in default of its obligations pursuant to Article 7, or if a Party is in default of its payment obligations pursuant to Article 5 of this Agreement, the defaulting Party has 30 days from receipt of the default notice to cure the default.

6.5.4 If a default is not cured as provided for in this Article, or if a default is not capable of being cured within the period provided for in this Article, the non-defaulting Party shall have the right to terminate this Agreement by written notice, and be relieved of any further obligation under this Agreement and, whether or not that Party terminates this Agreement, to recover from the defaulting Party all amounts due under this Agreement, plus all other damages and remedies to which it is entitled at law or in equity. The provisions of this Article shall survive termination of this Agreement.

Article 7. Insurance

For DER facilities with a nameplate capacity of 1 MVA or above, the interconnection customer shall carry sufficient insurance coverage so that the maximum comprehensive/general liability coverage that is continuously maintained by the interconnection customer during the term shall be not less than $2,000,000 for each occurrence, and an aggregate, if any, of at least $4,000,000. The EDC, its officers, employees and agents shall be added as an additional insured on this policy. The interconnection customer agrees to provide the EDC with at least 30 calendar days advance written notice of cancellation, reduction in limits, or non-renewal of any insurance policy required by this Article.

Article 8. Dispute Resolution

8.1 Parties shall attempt to resolve all disputes regarding interconnection as provided in this Article in a good faith manner.

8.2 If there is a dispute between the Parties about implementation or an interpretation of the Agreement, the aggrieved Party shall issue a written notice to the other Party to the Agreement that specifies the dispute and the Agreement articles that are disputed.

8.3 A meeting between the Parties shall be held within 10 days after receipt of the written notice. Persons with decision-making authority from each Party shall attend the meeting. If the dispute involves technical issues, persons with sufficient technical expertise and familiarity with the issue in dispute from each Party shall also attend the meeting. The meeting may be conducted by teleconference. The informal process between the parties

shall extend 30 days after the receipt of written notice, after which the dispute is deemed resolved and the timeframes for decisions within the interconnection process resume, unless one of the parties seeks resolution through non-binding arbitration procedures described in Article 8.4 or files a formal complaint at the Commission prior to the end of the 30-day period.

8.4 If the parties are unable to resolve the dispute through the process outlined in Article 8.3, either party may submit the interconnection dispute to an Ombudsman for non-binding arbitration. The party electing non-binding arbitration shall notify the other party of the request in writing. The non-binding arbitration process is limited to 60 days, absent mutual agreement of the parties and the Ombudsman to a longer period.

8.5 Each party shall bear its own fees, costs and expenses and an equal share of the expenses of the non-binding arbitration.

8.6 Within 10 days after the conclusion of the procedures in Article 8.4, either party may initiate a formal complaint with the Commission and ask for an expedited resolution of the dispute. If the complaint seeks expedited resolution, any written recommendation of the Ombudsman shall be appended to the complaint. The formal complaint shall proceed as a contested hearing pursuant to the Commission's Rules of Practice.

8.7 A party may, after good faith negotiations have failed, decline to pursue non-binding arbitration and instead initiate a formal complaint with the Commission. The formal complaint shall proceed as a contested hearing pursuant to the Commission's Rules of Practice.

8.8 Pursuit of dispute resolution may not affect an interconnection request or an interconnection applicant's position in the EDC's interconnection queue.

8.9 If the Parties fail to resolve their dispute under the dispute resolution provisions of this Article, nothing in this Article shall affect any Party's rights to obtain equitable relief, including specific performance, as otherwise provided in this Agreement.

Article 9. Miscellaneous

9.1 Governing Law, Regulatory Authority, and Rules

The validity, interpretation and enforcement of this Agreement and each of its provisions shall be governed by the laws of the State of Illinois, without regard to its conflicts of law principles. This Agreement is subject to all applicable laws and regulations. Each Party expressly reserves the right to seek change in, appeal, or otherwise contest any laws, orders or regulations of a governmental authority. The language in all parts of this Agreement shall in all cases be construed as a whole, according to its fair meaning, and not strictly for or against the EDC or interconnection customer, regardless of the involvement of either Party in drafting this Agreement.

9.2 Amendment

Modification of this Agreement shall be only by a written instrument duly executed by both Parties.

9.3 No Third-Party Beneficiaries

This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations in this Agreement assumed are solely for the use and benefit of the Parties, their successors in interest and, where permitted, their assigns.

9.4 Waiver

9.4.1 Except as otherwise provided in this Agreement, a Party's compliance with any obligation, covenant, agreement, or condition in this Agreement may be waived by the Party entitled to the benefits thereof only by a written instrument signed by the Party granting the waiver, but the waiver or failure to insist upon strict compliance with the obligation, covenant, agreement, or condition shall not operate as a waiver of, or estoppel with respect to, any subsequent or other failure.

9.4.2. Failure of any Party to enforce or insist upon compliance with any of the terms or conditions of this Agreement, or to give notice or declare this Agreement or the rights under this Agreement terminated, shall not constitute a waiver or relinquishment of any rights set out in this Agreement, but the same shall be and remain at all times in full force and effect, unless and only to the extent expressly set forth in a written document signed by that Party granting the waiver or relinquishing any such rights. Any waiver granted, or relinquishment of any right, by a Party shall not operate as a relinquishment of any other rights or a waiver of any other failure of the Party granted the waiver to comply with any obligation, covenant, agreement, or condition of this Agreement.

9.5 Entire Agreement

Except as provided in Article 9.1, this Agreement, including all attachments, constitutes the entire Agreement between the Parties with reference to the subject matter of this Agreement, and supersedes all prior and contemporaneous understandings or agreements, oral or written, between the Parties with respect to the subject matter of this Agreement. There are no other agreements, representations, warranties, or covenants that constitute any part of the consideration for, or any condition to, either Party's compliance with its obligations under this Agreement.

9.6 Multiple Counterparts

This Agreement may be executed in two or more counterparts, each of which is deemed an original, but all constitute one and the same instrument.

9.7 No Partnership

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties, or to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

9.8 Severability

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other governmental authority, (1) that portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore insofar as practicable the benefits to each Party that were affected by the ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

9.9 Environmental Releases

Each Party shall notify the other Party of the release of any hazardous substances, any asbestos or lead abatement activities, or any type of remediation activities related to the DER facility or the interconnection facilities, each of which may reasonably be expected to affect the other Party. The notifying Party shall (1) provide the notice as soon as practicable, provided that Party makes a good faith effort to provide the notice no later than 24 hours after that Party becomes aware of the occurrence, and (2) promptly furnish to the other Party copies of any publicly available reports filed with any governmental authorities addressing such events.

9.10 Subcontractors

Nothing in this Agreement shall prevent a Party from using the services of any subcontractor it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing services and each Party shall remain primarily liable to the other Party for the performance of the subcontractor.

9.10.1 A subcontract relationship does not relieve any Party of any of its obligations under this Agreement. The hiring Party remains responsible to the other Party for the acts or omissions of its subcontractor. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of the hiring Party.

9.10.2 The obligations under this Article cannot be limited in any way by any limitation of subcontractor's insurance.

Article 10. Notices

10.1 General

Unless otherwise provided in this Agreement, any written notice, demand, or request required or authorized in connection with this Agreement ("Notice") shall be deemed properly given if delivered in person, delivered by recognized national courier service, or sent by first class mail, postage prepaid, to the person specified below:

If to Interconnection Customer:

Interconnection Customer: Arena Navigator 1 Solar, LLC
Attention: Geoff Johnson
Address: 15051 N Kierland Blvd, Floor 3
City: Scottsdale State: AZ Zip: 85254
Phone: 224.487.6311 Fax: E-Mail: interconnectil@arenarenew.com

If to EDC:

EDC: Ameren Illinois Company
Attention: Ameren Illinois Net Metering Coordinator
Address: 10 Richard Mark Way – Mail Code 910
City: Collinsville State: IL Zip: 62234
Phone: Fax: E-Mail: RenewablesIllinois@ameren.com

Alternative Forms of Notice

Any notice or request required or permitted to be given by either Party to the other Party and not required by this Agreement to be in writing may be given by telephone, facsimile or e-mail to the telephone numbers and e-mail addresses set out above.

10.2 Billing and Payment

Billings and payments shall be sent to the addresses set out below:

If to Interconnection Customer:

Interconnection Customer: Arena Navigator 1 Solar, LLC
Attention: Geoff Johnson
Address: 15051 N Kierland Blvd, Floor 3
City: Scottsdale State: AZ Zip: 85254

If to EDC:

EDC: Ameren Illinois

Attention: Ameren Net Metering Coordinator

Address: 10 Richard Mark Way – Mail Code 910

City: Collinsville State: IL Zip: 62234

10.3 Designated Operating Representative

The Parties may also designate operating representatives to conduct the communications that may be necessary or convenient for the administration of this Agreement. This person will also serve as the point of contact with respect to operations and maintenance of the Party's facilities.

Interconnection Customer's Operating Representative: Arena Navigator 1 Solar, LLC

Attention: Geoff Johnson

Address: 15051 N Kierland Blvd, Floor 3

City: Scottsdale State: AZ Zip: 85254

EDC's Operating Representative: Ameren Illinois

Attention: Ameren Illinois Net Metering Coordinator

Address: 10 Richard Mark Way – Mail Code 910

City: Collinsville State: IL Zip: 62234

10.4 Changes to the Notice Information

Either Party may change this notice information by giving five business days written notice before the effective date of the change.

Article 11. Signatures

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their respective duly authorized representatives.

For the Interconnection Customer: -

Name: Geoff Johnson *Geoff Johnson*

Title: Authorized Person

Date: May 18 2026

For EDC:

Name: _____

Title: _____

Date: _____

Attachment 1

Definitions

Adverse system impact – A negative effect that compromises the safety or reliability of the electric distribution system or materially affects the quality of electric service provided by the electric distribution company (EDC) to other customers.

Applicable laws and regulations – All duly promulgated applicable federal, State and local laws, regulations, rules, ordinances, codes, decrees, judgments, directives, or judicial or administrative orders, permits and other duly authorized actions of any governmental authority, having jurisdiction over the Parties.

Commissioning test – Tests applied to a distributed energy resources (DER) facility by the applicant after construction is completed to verify that the facility does not create adverse system impacts. At a minimum, the scope of the commissioning tests performed shall include the commissioning test specified IEEE Standard 1547 Section 5.4 "Commissioning tests."

Distributed Energy Resources (DER) facility – The equipment used by an interconnection customer to generate or store electricity that operates in parallel with the electric distribution system. A distributed generation facility typically includes an electric generator, prime mover, and the interconnection equipment required to safely interconnect with the electric distribution system or a local electric power system.

Distribution upgrades – A required addition or modification to the EDC's electric distribution system at or beyond the point of interconnection to accommodate the interconnection of a distributed energy resources (DER) facility. Distribution upgrades do not include interconnection facilities.

Electric distribution company or EDC – Any electric utility entity subject to the jurisdiction of the Illinois Commerce Commission.

Electric distribution system – The facilities and equipment used to transmit electricity to ultimate usage points such as homes and industries from interchanges with higher voltage transmission networks that transport bulk power over longer distances. The voltage levels at which electric distribution systems operate differ among areas but generally carry less than 100 kilovolts of electricity. Electric distribution system has the same meaning as the term Area EPS, as defined in 3.1.6.1 of IEEE Standard 1547.

Facilities study – An engineering study conducted by the EDC to determine the required modifications to the EDC's electric distribution system, including the cost and the time required to build and install the modifications, as necessary to accommodate an interconnection request.

Force majeure event – Any act of God, labor disturbance, act of the public enemy, war, acts of terrorism, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment through no direct, indirect, or contributory act of a Party, any order, regulation or

restriction imposed by governmental, military or lawfully established civilian authorities, or any other cause beyond a Party's control. A force majeure event does not include an act of gross negligence or intentional wrongdoing.

Governmental authority – Any federal, State, local or other governmental regulatory or administrative agency, court, commission, department, board, other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that this term does not include the interconnection customer, EDC or any affiliate of either.

IEEE Standard 1547 – The Institute of Electrical and Electronics Engineers, Inc. (IEEE), 3 Park Avenue, New York NY 10016-5997, Standard 1547 (2003), "Standard for Interconnecting Distributed Resources with Electric Power Systems."

IEEE Standard 1547.1 – The IEEE Standard 1547.1 (2005), "Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems."

Interconnection agreement or Agreement – The agreement between the interconnection customer and the EDC. The interconnection agreement governs the connection of the distributed energy resources (DER) facility to the EDC's electric distribution system and the ongoing operation of the distributed generation facility after it is connected to the EDC's electric distribution system.

Interconnection customer – The entity entering into this Agreement for the purpose of interconnecting a distributed energy resources (DER) facility to the EDC's electric distribution system.

Interconnection equipment – A group of components or an integrated system connecting an electric generator with a local electric power system or an electric distribution system that includes all interface equipment, including switchgear, protective devices, inverters or other interface devices. Interconnection equipment may be installed as part of an integrated equipment package that includes a generator or other electric source.

Interconnection facilities – Facilities and equipment required by the EDC to accommodate the interconnection of a distributed energy resources (DER) facility. Collectively, interconnection facilities include all facilities, and equipment between the distributed energy resources (DER) facility and the point of interconnection, including modification, additions, or upgrades that are necessary to physically and electrically interconnect the distributed energy resources (DER) facility to the electric distribution system. Interconnection facilities are sole use facilities and do not include distribution upgrades.

Interconnection request – An interconnection customer's request, on the required form, for the interconnection of a new distributed energy resources (DER) facility, or to increase the capacity or change the operating characteristics of an existing distributed energy resources (DER) facility that is interconnected with the EDC's electric distribution system.

Interconnection study – Any of the following studies, as determined to be appropriate by the EDC: the interconnection feasibility study, the interconnection system impact study, and the interconnection facilities study.

Illinois standard distributed energy resources interconnection rules – The most current version of the procedures for interconnecting distributed energy resources (DER) facilities adopted by the Illinois Commerce Commission. See 83 Ill. Adm. Code 466.

Parallel operation or Parallel – The state of operation that occurs when a distributed energy resources (DER) facility is connected electrically to the electric distribution system.

Point of interconnection – The point where the distributed energy resources (DER) facility is electrically connected to the electric distribution system. Point of interconnection has the same meaning as the term "point of common coupling" defined in 3.1.13 of IEEE Standard 1547.

Witness test – For lab-certified equipment, verification (either by an on-site observation or review of documents) by the EDC that the interconnection installation evaluation required by IEEE Standard 1547 Section 5.3 and the commissioning test required by IEEE Standard 1547 Section 5.4 have been adequately performed. For interconnection equipment that has not been lab-certified, the witness test shall also include verification by the EDC of the on-site design tests required by IEEE Standard 1547 Section 5.1 and verification by the EDC of production tests required by IEEE Standard 1547 Section 5.2. All tests verified by the EDC are to be performed in accordance with the test procedures specified by IEEE Standard 1547.1.

Attachment 2

Construction Schedule, Proposed Equipment & Settings

This attachment is to be completed by the interconnection customer and shall include the following:

1. The construction schedule for the distributed energy resources (DER) facility.

2. A one-line diagram indicating the distributed energy resources (DER) facility, interconnection equipment, interconnection facilities, metering equipment, and distribution upgrades.

3. Component specifications for equipment identified in the one-line diagram.

4. Component settings.

5. Proposed sequence of operations.

6. A three line diagram showing current potential circuits for protective relays.

7. Relay tripping and control schematic diagram.

Attachment 3

Description, Costs and Time Required to Build and Install the EDC's Interconnection Facilities

This attachment is to be completed by the EDC and shall include the following:

1. Required interconnection facilities, including any required metering.

   Per the prior studies - EDC shall build the substation facilities as required to support the interconnection of the interconnection customer proposed facility up to the point of disconnect. The interconnection would consist of upgrades identified in Appendix A. The interconnection customer would be responsible for construction to the point of disconnect. All costs shall be paid for and/or reimbursed by the interconnection customer pursuant to Article 5 of this agreement. The interconnection customer is required to construct all facilities which connect to EDC's facilities or otherwise interface with EDC's facilities, all as determined by EDC's final, detailed engineering, in accordance with EDC's published standards.

   Additional required interconnection facilities and system upgrades may be identified while completing Detailed Engineering.

2. An estimate of itemized costs charged by the EDC for interconnection, including overheads, based on results from prior studies.

   Arena Navigator 1 Solar, LLC: FOSTERBURG RD, Alton, IL- **3600 KW** (PowerClerk DER-53914)

   Queue Position:3

   NOTE: *THE COST ESTIMATE PROVIDED FOR YOUR PROJECT IN THE NEXT SECTION IS CONTINGENT UPON CONSTRUCTION COMPLETION OF ALL SYSTEM UPGRADES REQUIRED OF PROJECT(S) AHEAD OF YOUR PROJECT IN THE QUEUE THAT HAVE AN IMPACT ON THE CONNECTION OF YOUR PROJECT. SHOULD ANY ONE OR MORE OF SUCH PROJECTS WITHDRAW FOR ANY REASON, THE COSTS ASSOCIATED WITH YOUR PROJECT MAY CHANGE TO REFLECT THE COST IMPACT OF SYSTEM UPGRADES THAT NOW MAY BE REQUIRED TO CONNECT YOUR PROJECT AS A RESULT OF THE WITHDRAWAL OF SUCH HIGHER QUEUED PROJECTS.*

An estimate of itemized costs charged by the EDC for interconnection, including overheads.

[redacted]for upgrades identified in Appendix A. This will be subject to a true-up process at the end of the project.

Ameren Illinois reserves the right to revise this estimate prior to and during construction based on the requirements of Good Utility practices not foreseen at the time of the original estimate. The revisions to the estimate may include, but are not limited to, changes in the cost of materials and required labor.

Notwithstanding Section 5.2 of this Agreement, the Parties may agree to other forms of security in lieu of a cash deposit provided such other form of security is acceptable to the EDC.

3. An estimate for the time required to build and install the EDC's interconnection facilities based on results from prior studies and an estimate of the date upon which the facilities will be completed.

   The final construction timeline will be developed during the scoping meeting which will be held with the applicant after the deposit is paid in full and will continue to be updated as the developer and Ameren Illinois work thru the construction process. That notwithstanding, it is anticipated that Ameren Illinois will initiate procurement activities immediately following the scoping meeting. Any revisions to the current scope of construction activities and their timeline will be provided immediately after that discussion. The requested in-service date is dependent on the availability of any long lead time equipment and weather impacts on construction activities.

Attachment 4

Operating Requirements for Distributed Energy Resources Facilities Operating in Parallel

The EDC shall list specific operating practices that apply to this distributed energy resources (DER) interconnection and the conditions under which each listed specific operating practice applies.

1. Customer shall meet requirements specified in Level 2 or 4 study.

Attachment 5

Monitoring and Control Requirements

This attachment is to be completed by the EDC and shall include the following:

1. The EDC's monitoring and control requirements must be specified, along with a reference to the EDC's written requirements documents from which these requirements are derived.

2. An internet link to the requirements documents.

https://www.ameren.com/-/media/files/resources-and-support/construction/service-manual/ameren-electric-service-manual.ashx

http://standards.ieee.org

Attachment 6

Metering Requirements

This attachment is to be completed by the EDC and shall include the following:

1. The metering requirements for the distributed energy resources (DER) facility.

   The specific metering requirements and equipment will be specified as part of the Detailed Engineering.

2. Identification of the appropriate tariffs that establish these requirements.

3. An internet link to these tariffs.

https://www.ameren.com/bill/rates/business

https://www.ameren.com/service/renewables

Attachment 7

As Built Documents

This attachment is to be completed by the interconnection customer and shall include the following:

When it returns the certificate of completion to the EDC, the interconnection customer shall provide the EDC with documents detailing the as-built status of the following:

1. A one-line diagram indicating the distributed generation facility, interconnection equipment, interconnection facilities, and metering equipment.

2. Component specifications for equipment identified in the one-line diagram.

3. Component settings.

4. Proposed sequence of operations.

5. A three-line diagram showing current potential circuits for protective relays.

6. Relay tripping and control schematic diagram.

Appendix A
DER-53914
Supplemental Review Report

Part 466 Level 2 Supplemental Review

Arena Navigator 1 Solar, LLC

3.6 MW Generating Facility

Alton, Illinois

DER-53914

Prepared by: Joshua Seibert

23 March 2026

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1. Overview

1.1 Project Summary

Arena Navigator 1 Solar, LLC (“Customer”) submitted a request to interconnect generation onto the Ameren Illinois (“Ameren”) electric distribution system with a requested in-service date of October 2026. This study was performed to determine the impact on the Ameren electric distribution system for connecting a 3.6 MW solar generation facility, located in the city of Alton in the State of Illinois, to the Ameren 34.5 kV facilities in the area. This request is referred to herein as the Project.

The Ameren electric distribution system represents the Area Electric Power System ("Area EPS"). The Project, including all generation and load facilities, represents the Local Electric Power System ("Local EPS").

This report encompasses the Supplemental Review defined in Title 83 of Illinois Administrative Code under Part 466.100(f)(4).

The Ameren distribution system lines that are operated at 34.5 kV or 69 kV are referred to as "subtransmission" or the "Ameren electric subtransmission system". Lines that are operated above 100 kV are referred to as "transmission" or the "Ameren electric transmission system".

1.2 Process and Scope of Study

The study process follows the guidelines and requirements outlined in Title 83, Part 466.100 of the Illinois Administrative Code. The following items are addressed in this study. See Part 466.100(f)(4) for more details.

a) Minimum Load Screen

b) Voltage and Power Quality Screen

c) Safety and Reliability Screen

1.3 Assumptions and Inputs

a) The Project is a 3.6 MW solar generation facility consisting of 18, 200 kVA SunGrow SG200HX-US inverters.

b) The Project's output is limited to 3.6 MW at the Point of Interconnection ("POI").

c) The Project is capable of providing reactive power that meets IEEE 1547-2018, Category B, capabilities at the Reference Point of Applicability ("RPA").

d) The Project's two (2) step-up transformers have a delta winding on the 34.5 kV side.

e) The total Project auxiliary power is assumed to be negligible.

f) Each Local EPS has a controlling device ("Power Plant Controller") capable of measuring voltage, frequency, active power, and reactive power at the Reference Point of Applicability ("RPA"). The Power Plant Controller ("PPC") governs all applications within the Local EPS. See Exhibit 3: Generation Interconnection Requirements.

1.4 Interconnection Configuration

The "interconnection configuration" is the means in which the Project interconnects to the Area EPS such as a line tap or direct substation connection. The configuration and required components are determined per Ameren Illinois policy and is subject to change throughout the study process.

The Project was studied as a line tap interconnection to the existing Ameren-owned Line 001074. Line 001074 is operated as a looped, radial 34.5 kV line supplied from Mississippi Substation:

- Source 1, 138/34.5 kV Mississippi Substation is approximately 3.65 miles from the Project,

The interconnection configuration shall be a 3-way line tap on Line 001074 with two Ameren-owned main line disconnect switches and a pole-mounted recloser at the Point of Interconnection. See Exhibit 1: Interconnection One-Line Diagram for a representation of this configuration.

1.5 Results Summary

The following items summarize the results of this study:

- The Project has failed the Minimum Load Screen.
- The Project has passed the Voltage and Power Quality Screen.
- The Project has passed the Safety and Reliability Screen.
- The Project does not meet the following requirement per Exhibit 3: Generation Interconnection Requirements:
  - The Project is required to have a Power Plant Controller that governs all applications within the Local EPS. Indication of a PPC on the oneline diagram is required. Please submit documentation for the PPC.
- The initial generation control settings are outlined in Exhibit 2: Planned Generator Control Settings.
- Ameren Illinois cannot meet the customer-requested commercial operation date due to expected lead times of material and construction of required facilities. Ameren Illinois' shortest, estimated lead time required to complete the facility and system upgrades is 30 months after the construction advance payment is posted. See Section 5.2 Construction Schedule for details and common lead times.
- The Project has passed the Level 2 Supplemental Review.

2. Minimum Load Screen

2.1 Introduction

This section provides the minimum load observed in the past 12 months at the upstream automatic sectionalizing device (i.e., substation terminal breaker, pole-mounted recloser). The minimum load data is based on actual, historical meter data.

Solar PV generation systems with no energy storage use daytime minimum load. Daytime hours for fixed panel systems are 10 a.m. to 4 p.m., and daytime hours for tracking systems are 8 a.m. to 6 p.m. All other generation types use absolute minimum load.

2.2 Results

Minimum load data is provided in Table 2.1.

Table 2.1 – Minimum Load Data

Equipment	Source	Load (MW)
Mississippi SS Transformer #1	Source 1	18.99
Mississippi SS Transformer #3	Source 1	19.47
Mississippi SS Breaker 74	Source 1	9.86

3. Voltage and Power Quality Screen

3.1 Frequent Voltage Variations

3.1.1 Introduction

Frequent voltage variation caused by intermittent solar- and wind-based DER output on the electric distribution system shall not exceed 1.5%. This is to limit excessive operation of voltage regulating equipment (e.g., transformer LTCs, regulators, cap-switchers) resulting in loss of life and premature failure. For this analysis, the evaluated drop in output of the Project due to cloud cover or wind variability is 50% of the top-rated, AC MW rating of the plant.

The results of this evaluation are based on the proposed interconnection configuration outlined in Section 1.4 without the proposed system upgrades outlined in Section 5.

This analysis observes the highest absolute measured voltage variation during system peak, spring and fall peak, and light load conditions. These conditions are coupled with normal, planned, and unplanned system switching conditions.

3.1.2 Results

The analysis assessed the Project's impact on local frequent voltage variations after the aggregate generation dips from 100% to 50% total rated output.

The intermittent performance of the Project is not expected to exceed the limit of 1.5% voltage variation before considering system upgrades and utilizing the Planned Control Settings.

Table 3.1 – Expected Frequent Voltage Variations before System Upgrades

System Condition	Area Load	Unity Power Factor Control	Planned Control Settings[1]	
		Greatest Observed Voltage Variation	Generator Output at POI After Dip (MVAR)	Greatest Observed Voltage Variation
Normal System Conditions	Peak Load	1.02 %	0	0.82%
Normal System Conditions	Light Load	0.89%	-0.6	0.62%
Fault at Mississippi line 74 and restore to Mississippi 77	Peak Load	1.72%	0	1.5%
Fault at Mississippi line 74 and restore to Mississippi 77	Light Load	1.42%	-0.6	1.01%

[1] See Exhibit 2: Planned Generator Control Settings.

Volt-Var control modes are required on projects ahead in queue.

3.2 Infrequent Voltage Variations

3.2.1 Introduction

The Project can have infrequent events such as switching, unplanned tripping, fault restoration, or maintenance. The instantaneous response of the electric distribution system to one of these infrequent events can cause significant swings in system voltage before the voltage regulating equipment and capacitor bank controls can respond. These events can potentially cause a voltage sag.

The analysis for infrequent voltage variations assumes that the worst case is a trip of the Project's generation at 100% rated MW output. Voltage variation on the Ameren electric distribution system shall not exceed 10% for generator infrequent events.

The results of this evaluation are based on the proposed interconnection configuration outlined in Section 1.4 without the proposed system upgrades outlined in Section 5.

This analysis observes the highest absolute measured voltage variation during system peak, spring and fall peak, and light load conditions. These conditions are coupled with normal and planned system switching conditions.

3.2.2 Results

An unplanned tripping of the Project is not expected to exceed the limit of 10% voltage variation.

4. Safety and Reliability Screen

4.1 Load Flow Analysis

4.1.1 Introduction

A steady-state load flow analysis of Ameren's electric subtransmission system is performed to determine the Project's impact during normal, single contingency, maintenance outage, and light load system conditions. The analysis will identify the following:

a) Thermal overloads and voltage violations caused by the addition of the Project.

   1) Substation transformer reverse power flow is limited to 90% of top nameplate rating.

   2) Line conductor, line equipment, and other substation equipment is limited to 90% of the top nameplate rating.

b) Reverse power flow violations on substation transformers, terminal breakers, and other protective and regulating devices.

Normal and single contingency conditions are evaluated during system peak and light load. Maintenance outage conditions coupled with single contingency events are evaluated during spring and fall system peak. The load flow results of this analysis are provided from the perspective of the POI.

The Ameren Transmission Planning department is informed of every proposed generation interconnection on the Ameren electric subtransmission system. A load flow analysis of Ameren's electric transmission system (138 kV and higher) is performed on a case-by-case basis. Generation interconnection requests resulting in an increase of power flow into the transmission system may require a MISO DER Affected System Study ("AFS"). This may require the generation interconnection request to wait for the next iteration of the MISO AFS cycle.

4.1.2 Subtransmission Results

This section details the results of the subtransmission load flow analysis. The results of this evaluation are based on the proposed interconnection configuration outlined in Section 1.4 without the proposed system upgrades outlined in Section 5. The Project is evaluated using the projected electric distribution system load for the summer of 2026.

During normal and contingency system conditions, the load flow analysis identified no thermal violations, no voltage violations, and no reverse flow violations due to the addition of the Project's proposed generation.

4.1.3 Transmission Results

Submission of this Project to MISO for consideration in the next AFS cycle is not required.

4.2 Stability Analysis

4.2.1 Introduction

Interconnection of inverter-based resources ("IBR") to weak grids may cause various stability issues. Likewise, interconnection of multiple electrically close and independently controlled IBRs may result in uncontrollable system operation. Ameren applies a short circuit ratio ("SCR") metric for relatively electrically isolated IBRs and a weighted short circuit ratio ("WSCR") metric for independently controlled and electrically close IBRs. The SCR and WSCR at the POI must be greater than 10 during both normal and contingency system conditions.

4.2.2 Results

Table 4.1 provides a list of the calculated Weighted SCR during normal and contingency system conditions. The results of this evaluation are based on the proposed interconnection configuration without proposed system upgrades.

Per the results of Table 4.4, the WSCR is greater than 10 during normal and contingency system conditions.

Table 4.1 – Weighted Short Circuit Ratio before System Upgrades

System Condition	Short Circuit MVA at the Project POI	Project's Nameplate Capacity (MW)	Additional Aggregate Generation (MW)	Weighted Short Circuit Ratio
Normal System Conditions	176	3.6	10	12.45
Fault at Mississippi line 74 and restoration to Mississippi line 77	200	3.6	10	14.06

4.3 System Protection Review

4.3.1 Introduction

The relaying and protective device coordination analysis identifies all Customer-owned and Ameren-owned relaying, control, and protective devices needing upgraded or changed due to the addition of the Project. Examples include bi-directional relaying and LTC controllers, direct transfer trip schemes, and additional protective devices. See E3.8 System Protection for general requirements.

4.3.2 Results

- A Customer-owned, relay controlled main protective device is required at the point of interconnect. The Customer owned protective device at the point of interconnect shall at a minimum be capable of phase and ground overcurrent, over/under frequency, over/under voltage, zero sequence overvoltage and sync. check relaying. The Customer-owned zero sequence voltage relaying must trip for single line-to-ground faults on the Ameren Line in 0.2 seconds. With breaker clearing time, the line is to be de-energized in 0.3 seconds. The inverters must be able to detect an unintentional island, and the Customer-owned protective devices must trip within 2 seconds of detection. Automatic reclosing of the Customer's protective device is permitted when qualified by healthy voltage and frequency on the Ameren side and de-energized conditions on the Customer side.

- Ameren relaying may not be set sensitive enough to provide backup tripping for all faults in the Project's plant. Mississippi substation relaying will need to be reset to prevent tripping for faults in the Project's facilities. The Project's inverter must be set to clear the plant contribution to Ameren system faults. The plant contribution may be too small to be detected by Ameren system relays.

5. Facilities and System Upgrades, Initial Estimated Cost, and Construction Schedule

5.1 Initial Interconnection Facilities and Upgrade Costs

The estimated total cost to interconnect to Ameren's electric distribution system includes all required interconnection facilities and system upgrades of which Ameren is responsible for procuring the dollar amount. This is an estimated costs based on available information. If the Customer deems these costs acceptable along with the results of the study, then the Customer may accept the results of the study and advance the application to an Interconnection Agreement. The estimate provided in this study is a good faith, non-binding estimate. All costs provided to the Customer are subject to change and true-up.

Table 5.1 – Initial Interconnection Cost Estimate

#	Description	Reference	Cost
	Required Interconnection Facilities		
1	3Ø, 3-wire, 34.5 kV meter (instrument transformers, cabinet, etc.)	Interconnection Standard	[redacted]
2	34.5 kV meter pole	Interconnection Standard	
3	Ameren-owned, 34.5 kV ITR at the POI	Interconnection Standard	
4	(1) main line disconnect switches at Tap	Interconnection Standard	
5	DTT communications	Interconnection Standard	
	Required System Upgrades		
	Subtotal		
	Tax Gross Up		
	Estimated Total Cost		

The Project is dependent on the system upgrades outlined in Table 5.2. These upgrades are required to be complete and in-service prior to the interconnection of the Project. The Project is subject to incurring these costs in the event that the presently responsible application withdraws. The estimated costs are based on available information and are subject to change upon review. This list of contingent system upgrades may be incomplete and is based on best available information.

Table 5.2 – Contingent System Upgrades

#	Application	Contingent System Upgrade	Estimated Cost
1	DER-52748	Mississippi Terminal 77 protection upgrades (voltage transformer, relays, communications equipment)	[redacted]
2	DER-52748	Main line disconnect switches at line extension tap	
3	DER-52748	34.5 kV line extension	
2	DER-52749	Mississippi Terminal 74 protection upgrades (voltage transformer, relays, communications equipment)	

5.2 Construction Schedule

The construction scheduled begins at the time the Customer provides Ameren with security and prepayment as required per the Interconnection Agreement. The overall lead time for material procurement is also affected by the actual project timing and schedule. Ameren will avoid construction that requires taking facilities out of service during peak summer or winter months.

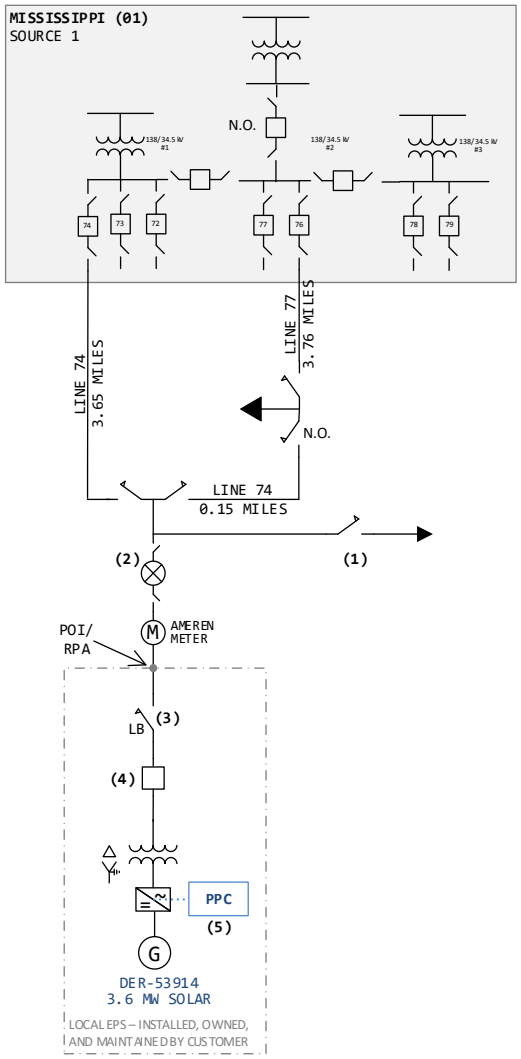
The lead time to order and install the required interconnection facilities such as the tap position, meter equipment, main line switches, and pole-mounted protective devices is 12-24 months. The lead time to order and install substation interconnection equipment is 18-

30 months. Other major system upgrades such as subtransmission line rebuilds and construction of a new switching station may range from 24-30 months depending on several factors such as but not limited to condition of land, criticality of equipment needing temporarily removed from service, and special permitting. The lead time to order and install bulk supply transformers may range from 36-48 months.

6. Disclaimer

Any changes to the facility data provided by the applicant for this study may nullify the study findings. All provisions contained herein are subject to revision to maintain Ameren's compliance with NERC. The information contained herein was developed, in part, based upon information provided by, or caused to be provided by, the intended recipient and user of this information. Use of the information contained herein should be undertaken after an independent review of the facts and circumstances of the particular project for which this information was developed. Although Ameren has made all commercially reasonable efforts to develop the information in an accurate manner consistent with the exercise of good utility practice, no guarantees or warranties of any kind, including express or implied warranties of merchantability or fitness are made with respect to the information by Ameren company, its affiliates, its officers, directors, employees or agents, who also assume no legal responsibility for the accuracy of the information contained herein. In addition, no liability is assumed, and all liability is expressly disclaimed for negligence or damages of any kind, any decisions, contracts, commitments, obligations or any other actions undertaken or made on the basis of the information contained herein.

Exhibit 1: Interconnection One-Line Diagram



(1) Ameren-owned load-break switch required and paid for by the Customer.
(2) Ameren-owned interconnection protective device for system protection is required and paid for by the Customer.
(3) Customer Tap Switch shall be gang-operated, load-break capable, lockable, and controllable by Ameren for visible isolation of the DER from the Ameren system.
(4) The Customer installed protective device must be a relay-controlled device and must prevent overvoltage during a single phasing event by opening for loss of phase.
(5) All performance and operating requirements of the Project apply at the RPA.

Exhibit 2: Planned Generator Control Settings

DER Control Mode: Volt-Var

Power Factor Set Point: N/A

Volt-VAR Set Points: IEEE 1547-2018 Category B, Vref = 1.00 pu.

High/Low Voltage Ride-through (IEEE 1547a-2020 Category III): ON

High/Low Frequency Ride-through (IEEE 1547-2018 Category III): ON

DER Plant/Inverter Anti-Islanding: ON

Generation Control Settings apply at the RPA. See E3.2.

Ameren reserves the right to modify control settings after operational experience is gained. See Exhibit 3: Generation Interconnection Requirements for more information.

Exhibit 3: Generation Interconnection Requirements

E3.1 Introduction

This section provides the Customer with all general requirements regarding the interconnection facilities. These requirements apply to both remotely located generation ("RLG") and behind-the-meter ("BTM") generation, except where explicitly stated otherwise. The Customer must address any concerns before an Interconnection Agreement is signed and must meet all requirements before the Project connects to Ameren's electric distribution system.

The Area Electric Power System ("Area EPS") is an electric system between premises and operated by the Utility.

The Local Electric Power System ("Local EPS") is an electric system contained within a premise, or group of premises, and operated by the Customer.

E3.2 Point of Interconnection

For RLG interconnections, the Point of Interconnection ("POI") is the point at which the Customer's generation connects to the Area Electric Power System. The Point of Delivery ("POD") is the location of the Ameren revenue meter. The POI is the Reference Point of Applicability ("RPA"), unless otherwise noted. The RPA is the location that performance requirements, including voltage schedules and reactive schedules, shall be met unless otherwise noted. The Point of Measure ("POM") shall be at the utility delivered voltage on the utility side of the Customer installed protective device(s) unless otherwise noted.

For BTM interconnections, the POI is located at the existing ownership demarcation point established between Ameren and the Customer.

Cease to energize requirements shall apply at the Point of Connection ("POC") of the DER unit(s).

E3.3 Right of Way, Easements, and Property Purchases

Consistent with Section 2.F of the Ameren IL Standards and Qualifications for Electric Service filed with the Illinois Commerce Commission, the Interconnection Customer is responsible for securing all right of way, easements, and property needed to build and maintain interconnection facilities and system upgrades required for the interconnection to the Ameren IL system, including all necessary environmental, zoning, and/or special use permits. This includes building and maintaining a road suitable for accessing the Ameren-owned meter pole for operations, maintenance, testing, and inspection. Easements secured by the Interconnection Customer from the POI to the point of ownership change and for any system upgrades shall be transferred to Ameren and shall include all appropriate rights. The Interconnection Customer will grant to Ameren all necessary easements for Ameren facilities on Customer property. Documents for all easements that will contain Ameren owned facilities for the purpose of making the interconnection and system upgrades will be prepared by Ameren and provided to the Interconnection Customer. The Interconnection Customer is responsible for contacting property owners and managing appointments to secure easements. Ameren is responsible to answer any questions concerning Ameren easements and may attend Interconnection Customer's meetings with property owners. Ameren will make all payments for Ameren easements and then be reimbursed by the Interconnection Customer. Any payments deemed by Ameren to be over and above Ameren's standard easement consideration will be paid directly by the Interconnection Customer.

Land required for Ameren-owned substations and existing substation expansions shall be purchased by the Interconnection Customer and full ownership transferred to Ameren. Before signing an Interconnection Agreement, the Interconnection Customer must show proof of site control with the current landowner's acknowledgement to sell. The location of the land and placement and orientation of the substation shall be coordinated between the Interconnection Customer and Ameren Illinois. Ameren Illinois shall have the final decision on the selection of the land and will require a full Civil Engineering review of the site before approving the purchase. A preliminary review of the potential site(s) may be conducted before signing an Interconnection Agreement.

E3.4 Connection Equipment

E3.4.1 Customer Tap Switch

The Customer Tap Switch is required for all interconnections. The Customer Tap Switch is required to be three phase gang-operated with load break capability and is used to isolate the Customer's facilities from Ameren's electrical distribution system. The purchase, construction and maintenance of the Customer Tap Switch are the customer's responsibility. The Customer will extend and maintain the line from their facility to the structure.

The Customer's Tap Switch must provide a visible means of disconnection, have a means for locking the device in the open position with Ameren IL padlocks, and can be operated by either entity. In cases where the customer locks the tap switch closed with their own lock, or in the case that the switch is behind a customer-locked gate, Ameren IL requires a lock box containing the key to the customer's lock to be present within 5' of the first customer padlock barring Ameren IL access to the Tap Switch (mounted to the switch pole, if applicable). The lock box will be provided by Ameren IL, installed by the customer, and will be locked with an Ameren IL padlock. Combination locks will not be acceptable. Any deviation from this procedure must be approved by Ameren IL DER Integration and Strategies Team. In the event that non-Ameren IL first responders need to open the Customer's Tap Switch, it is the responsibility of the customer and local authorities to coordinate and facilitate this action.

The Customer Tap Switch shall normally be located within three spans of the Ameren IL pole tapped to run conductors toward the customer's property. The Customer Tap Switch must be the first customer device downstream of the Ameren IL meter. Ameren IL will extend the line conductor from the Ameren IL tap pole to the meter point. Ameren IL will own and maintain the line conductor and intervening meter pole from the tap pole to the meter point. The meter pole is designed for no or minimal line tension. For 34.5 kV & 69 kV tap connections, the point of ownership changes at the dead-end clamps on the primary meter pole. If the DER facilities are not adjacent to the existing Ameren IL line or substation being interconnected to, the customer is financially responsible for building the necessary line to reach the POI. Ameren IL will construct and own any required line extensions to the POI.

The Customer Tap Switch shall be installed at a location accessible to Ameren IL personnel on a 24-hour basis.

E3.4.2 Main Line Switches

The installation of two three-phase gang-operated disconnect switches with load break capability in the main line on either side of the tap point will allow the generation to be transferred to the alternate source for an outage of the primary source(s) and is required for high voltage distribution 69 kV or 34.5 kV interconnections. On a radial 69 kV or 34.5 kV line that is not designed for loop operation, only one main line switch is recommended on the downstream side of the tap to facilitate sectionalizing to restore service following an outage or to perform system maintenance.

The Customer Tap Switch is required for all interconnections. The customer is responsible for all costs associated with installation of the main line switches. Ameren IL will own, operate, and maintain the main line switches.

In some instances, Ameren may require the main line switches be SCADA controlled reclosers.

Ameren IL will retain sole authority over the Ameren IL-owned main line switches (if applicable). Ameren IL and the customer will both have authority to operate the customer tap switch, on the condition that Ameren IL and the customer will honor any hold tags or other clearances given to the tap switch.

Main line switches are optional for existing retail customers adding behind the meter generation.

E3.4.3 Substation Bus Connection

All equipment located within an Ameren Illinois substation will be owned and maintained by Ameren Illinois.

E3.5 Metering

Bi-directional metering is required at the point of interconnection to the Ameren IL system for all generation interconnections.

E3.5.1 Remotely Located Generation

Metering will be located on the source side of the Customer Tap Switch for connections made to high voltage distribution lines and distribution feeders. The metering and meter pole/structure will be installed and owned by Ameren IL, and it is required that the meter be connected directly to Ameren IL's distribution system at the point of interconnection voltage level.

For interconnection in a substation, the metering may be located in the substation or on a meter pole/structure located outside of the substation. The location of the metering will be determined by Ameren IL based on the available room and cost of the structures for mounting the equipment. The metering location will be based on good engineering practice and design.

The meter and associated instrument transformers shall be owned by Ameren IL, and responsibility for the costs for installing and maintaining this equipment will be addressed consistent with how load customers (without generation) reimburse Ameren IL for their required metering equipment. Ameren IL will install the meters, perform final wiring connections and verify proper meter installation. Seals, maintenance, access, etc. to the meters will be consistent with Ameren IL's metering practices and policies.

E3.5.2 Behind the Meter Generation

For Behind the Meter installations larger than 200 kW AC, a SCADA-capable meter shall be installed to allow Ameren to monitor the output of the generation. This meter will connect to Ameren approved, customer-installed PT's and CT's. The assembled meter cabinet will be provided to the customer to be mounted and connected to their instruments. The meter will be installed and programmed during the witness test by Ameren personnel.

In some cases, BTM DER installations with an export capacity of 1MW or greater (including contribution from both generation and energy storage) will require a SCADA-capable electronic recloser upstream of the point of delivery when engineering judgement deems the device necessary. This protective device is intended to prevent EPS issues when a customer installs large generation or energy storage such that the BTM DER could impact the system in a similar manner to remotely located generation (RLG) DER.

For installations interconnecting at distribution voltage or greater, a SCADA-capable recloser shall be installed at the POI. This device will be owned and installed by Ameren to monitor the output of the generation and disconnect the generation in the event of an emergency.

E3.6 Monitoring and Control

The interconnection facilities shall include remote Data Acquisition on any generator or aggregate generator at the POI if the Customer is an IPP, merchant generation, or community solar facility. This Data Acquisition will include KW, KVAR, Amps, and Volts and will be provided to the Ameren Illinois Distribution Control Center. If the interconnection studies determine that a protective device is required at the POI to ensure proper protection/reliability of the electric distribution system or the distributed generation facility is greater than 2 MVA, then supervisory control and data acquisition ("SCADA") will be required to monitor power flow, obtain information on the status of the protective device, operate the protective device (i.e., open/closed), and remotely change the generator control mode (e.g., change power factor or voltage setting). The IL Admin Code, Parts 466 and 467 Distributed Generation interconnection rules allow the electric utility to require monitoring and control of distributed generation facilities when the nameplate rating is greater than 2 MVA.

Electric utility monitoring and control of generation facilities utilizing "smart inverters" and accepting the Distributed Generation rebate (available to 2 MVA and less aggregated net metering and community solar facilities) is also allowed per the terms of the Customer Generation Rebate tariff. Ameren IL will monitor the output of these generation facilities and retain the right to install the equipment needed to enable control.

E3.7 Communication Equipment

Ameren will design, test, install, own, operate, and maintain, all communication equipment necessary to support Supervisory Control and Data Acquisition, including the remote terminal unit ("RTU") if required by Ameren.

E3.8 System Protection

The customer generation installation must meet the requirements as stated in the latest revision of IEEE-1547. If the customer generation interface is inverter based, the installation must meet the requirements of the latest revision of UL-1741.

Ameren IL requires a fault isolating device at the generation connection to ensure the reliability and integrity of the distribution system. For RLG, the customer is required to install a protective device at the tap, preferred, or no farther than 500 feet downstream of the tap. The customer's main protective device shall be owned by the customer, and the customer is responsible for maintenance and replacement of the protective device. For 34kV and above interconnections, the protective device is required to be an electronically controlled recloser or breaker. When installed, this device should be programmed to sense voltage imbalance and loss of phase to disconnect the DER accordingly. The protective device must be capable of detecting faults on the customer's system and on the Ameren IL system and must separate the customer generation from the Ameren IL system either directly or through an auxiliary device such as a circuit breaker. The protective device should coordinate with the Ameren IL protection equipment and be capable of interrupting the available fault current at the device location. The customer is responsible for protecting the customer generation equipment in such a manner that faults or other disturbances on the Ameren IL system do not cause damage to the customer generation. Customer's protective device shall at a minimum be capable of overcurrent, over/under frequency, over/under voltage, and sync. check relaying. Non-inverter-based generation shall have fully redundant utility interface relays installed with built in test provisions to facilitate testing while in service.

Customer shall furnish information to Ameren IL regarding the customer generation equipment and protective devices, including protective relay settings prior to parallel operation, if requested. The Ameren IL System Protection Department will check the adequacy of the proposed equipment and its compatibility with protective devices on the Ameren IL system. If settings information is requested, Ameren IL will review and may either approve as submitted or specify equipment modifications or additions which will be required in order to begin parallel operation.

The customer shall install equipment designed to automatically separate the customer generation from the Ameren IL system upon loss or outage of the Ameren IL system, including single phase conditions. Customer shall be solely responsible for synchronizing with the Ameren IL system including re-synchronizing after an outage or disturbance.

For RLG, in addition to the main line switches on either side of the tap, SCADA controlled reclosers may be specified on either side of the tap as needed to ensure proper protection/reliability.

For three-phase RLG interconnections, a separate Ameren IL owned protective device will be installed and paid for by the customer at the POI. A separate Ameren IL owned protective device may also be required for BTM DER that is 1 MW in AC nameplate capacity or larger (including contribution from both generation and energy storage) when engineering judgement deems the device necessary. This protective device will be installed upstream of the service point of the DER customer. This protective device is intended to prevent distribution system issues when a customer installs large generation or energy storage, such that the BTM DER could impact the system in a similar manner to RLG DER during times that the load is minimal. A protective device may be required in other instances to coordinate with an existing distribution automation scheme, an automation scheme planned within the next five years, or as otherwise deemed necessary for protection of the Ameren IL system. The Ameren IL owned protective device would be paid for by the customer and located ahead of the Customer Tap Switch (for RLG) or Interconnection Transformer (for BTM).

Connections to an Ameren IL substation bus will require a dedicated breaker with associated relaying in all instances. All equipment located within an Ameren IL substation will be owned and maintained by Ameren IL. The customer is responsible for all costs associated with the breaker and relaying.

Ameren IL protective devices will be evaluated for sync. check or dead line reclosing provisions for the addition of subtransmission connected generation and for all non-inverter-based generation.

The customer shall provide lightning protection through either a static wire or lightning arresters for any line section which would cause an outage for Ameren IL facilities. If lightning arresters are used as the primary means of lightning protection, the arrester installation shall meet or exceed Ameren IL's Distribution Construction Standards for the design and installation of lightning arresters.

Ground fault overvoltages can occur on the high side of delta connected distribution substation transformers when the transformer or subtransmission line protective devices operate for ground faults if significant generation exists on the distribution system. If the aggregate generation on the distribution system could exceed 2/3 the minimum load of the subtransmission system that could become islanded, a 59N scheme on the subtransmission system may be required. The ratings of surge arresters on the high side of delta connected Ameren IL substation transformers will be evaluated for suitability during line to ground faults if the transformer could experience reverse power flow under light loading conditions and is protected by a circuit switcher or breaker (three phase tripping device) and may require replacement.

To ensure adequate system voltage is maintained, all voltage regulators or LTCs that experience reverse power flow from DER should be capable of and set to either cogeneration or bias cogeneration mode and equipped with a SCADA communications package. All current controlled capacitor banks between the POD and the feeder head or alternate feeder head should be converted to VAR control or another control scheme.

The contribution from the Project's generation for faults on the Ameren system may be too low to trip Ameren's protective relays. The Project's protective devices and relaying must be able to clear fault contribution for Ameren distribution system faults. The Customer's interconnection breaker should have relaying settings that coordinate with Ameren's Primary and Alternate Source line relaying for generation plant faults.

Auto reclosing of the Ameren-owned protective device closest to the POI shall be one shot after 5 seconds for a dead tie line and hot Ameren electric system for frequency or voltage trips. The tie line is the line between the POI and the Project's main AC bus.

E3.9 Transformer Connections

For 69 kV and 34.5 kV generation interconnections, the customer interconnection transformer should have a delta connected winding on the Ameren IL side. 59N protective schemes are also required to sense and clear ground faults on subtransmission feeders that may be fed from the generation customer.

E3.10 Direct Transfer Trip Requirements

For 34.5 kV and 69 kV connections, Direct Transfer Trip ("DTT") to either customer equipment, Ameren IL-owned equipment, or a combination of both, may be required for the following conditions:

- Generation has ability to back-feed onto the subtransmission system.
- An unintentional islanding condition could be formed with a mix of synchronous, asynchronous, and/or inverter-based generation.
- Aggregate generation capacity exceeds two-thirds of the minimum line loading.
- Generation facility capacity is greater than 10 MVA.

Depending on system configuration, and in an effort to maintain a safe and reliable means of protecting the subtransmission system from adverse events, Ameren IL may elect to require an Ameren IL-owned device at the interconnection point in conjunction with or as an alternative to DTT.

E3.11 Generation Characteristics

Per Part 466.40, the technical standard used in evaluating interconnection requests for generators with nameplate capacities less than 10MW governed by the Illinois Distributed Generation Interconnection Standard is IEEE Standard 1547. Per Part 467.10, the technical standard used in evaluating interconnection requests for generators with nameplate capacities greater than 10MW interconnecting to distribution systems are the relevant technical standards of the Midwest Independent System Operator ("MISO") for generator interconnection.

All Customer generation connections should comply with the recommended practices outlined in latest version of IEEE Standards 519 and 1453 to limit harmonic voltage and current waveform distortion. Inverters shall be rated as IEEE 1547 compliant and UL 1741 safety compliant. Generation Connections shall meet IEEE 1547-2018, Category B performance capabilities. Generation output may be subject to reduction below the maximum rated output if power factor or VAR control is required as a condition for approval to limit voltage rise or voltage deviations. The RPA, as defined in E3.2, shall be the point at which all appropriate voltage, current, frequency, and harmonic thresholds apply, including requirements for meeting a specific voltage or specific aggregate reactive power schedule as a condition for interconnection. The RPA shall be the point that ride-through capabilities are applicable including voltage ride-through and frequency ride-through. The DER shall have frequency droop capability during low-frequency ride-through and high-frequency ride-through. Inverter-based DER shall use a Power Plant Controller with input from the POM to meet requirements at the RPA.

Mitigation measures necessary to comply with these requirements shall be at the Customer's expense.

All inverter-based DER must be capable of and set to disconnect for a loss of utility phase within two seconds.

The prioritization of operating requirements shall follow section 4.7 of IEEE 1547-2018.

E3.11.1 Generation Control

The Project shall be capable of operating with a constant power factor mode, constant reactive power mode, voltage-reactive power mode, voltage-active power mode, and active power-reactive power mode. The constant power factor mode, constant reactive power mode, voltage-reactive power mode, voltage-active power mode, and active power-reactive power mode shall be capable of operating as specified in section 5, and subsections, of IEEE 1547-2018. While the Project is connected and operating, it shall be capable of injecting and absorbing reactive power (Q) defined as $|Q| \geq 0.44 \times P_{max}$ at the POI for all active power levels equal to or greater than $0.20 \times P_{max}$. For active power levels less than $0.20 \times P_{max}$ and greater than $0.05 \times P_{max}$, the Project shall be capable of injecting and absorbing reactive power (Q) defined as $|Q| = (P_{max} \times 0.44 \times P_{active})/(0.20 \times P_{max})$. P_{max} is the aggregate top-rated AC, real power export limit of DER units, that aggregate to the POI. P_{active} is the active power output of the Project at a specific time where active power output is less than $0.20 \times P_{max}$. Reactive power capability shall be met over the continuous operating voltage range of 0.88 per unit to 1.10 per unit. Reactive capability in excess of the required minimum amount shall not be artificially limited and should be available for voltage regulation. The automatic voltage regulation function of the Power Plant Controller shall automatically give priority to reactive power.

Ameren reserves the right to make changes to the Customer's generator control mode and inverter settings as operating experience is gained.

E3.12 Energy Storage Systems

This section addresses interconnections related to Energy Storage Systems ("ESS") that are either standalone (not tied to any onsite energy source) or tied to a qualified (per applicable tariff) energy source.

E3.12.1 Tariff Compliance and Metering

The ability of an ESS to act as both a source and load presents challenges regarding compliance with applicable tariffs, especially for BTM systems. For customers participating in Net Metering (served under Rider NM), any energy exported through the revenue meter by the ESS must have been generated from a renewable source to receive any export compensation.

Similarly, any energy exported through the meter by customers served under Rider QF – Qualified Facilities must originate from a generator using one of the fuel sources approved for QF.

Tariff compliance can be accomplished through the customer's use of:

- Power Control System ("PCS")
- Export limiting relays, or
- Other means approved by Ameren IL.

Tariff compliance for Part 466 Level 2 and above applications may be verified by Ameren IL installing separate revenue-graded meters on the ESS and appropriate generator to ensure only renewable energy sourced exports are credited.

E3.13 Facility Documents and Models

The Customer shall provide, on request, as-built steady state, dynamic, and EMT models and accompanying facility supplementary information and documentation. Models shall be compatible with software specified by Ameren Illinois. Models and supplementary information and documentation shall meet the recommendations of Annex G in the latest revision of IEEE 2800 at the time of the request. Models and supplementary information and documentation shall represent the existing facility at the time of request.

E3.14 DER Operator

The DER Operator is responsible for operating, and maintaining the operation, of all DER facilities contained within the Local EPS to meet performance capabilities and requirements at the RPA.

EXHIBIT H: ILLINOIS DEPARTMENT OF NATURAL RESOURCES (IDNR) ECOLOGICAL COMPLIANCE ASSESSMENT TOOL (ECOCAT)

EcoCAT
Ecological Compliance Assessment Tool

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

Applicant: Arena Renewables, LLC
Contact: Dominic Evenson
Address: 15051 N Kierland Blvd, Floor 3 #222
Scottsdale, AZ 85254

IDNR Project Number: 2613618
Date: 04/16/2026

Project: Arena Navigate Solar, LLC
Address: East of Lobo Rd and North of Harris Ln, Alton

Description: Construction of a solar farm with associated access roads and utilities.

Natural Resource Review Results

Consultation for Endangered Species Protection and Natural Areas Preservation (Part 1075)

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

Indiana Bat *(Myotis sodalis)*

An IDNR staff member will evaluate this information and contact you to request additional information or to terminate consultation if adverse effects are unlikely.

Location

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

County: Madison

Township, Range, Section:
6N, 9W, 33



IL Department of Natural Resources Contact
Adam Rawe
217-785-5500
Division of Ecosystems & Environment

Government Jurisdiction
IL Environmental Protection Agency
Terri LeMasters
1020 North Grand Avenue East
Springfield, Illinois 61944

Disclaimer

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

Terms of Use

By using this website, you acknowledge that you have read and agree to these terms. These terms may be revised by IDNR as necessary. If you continue to use the EcoCAT application after we post changes to these terms, it will mean that you accept such changes. If at any time you do not accept the Terms of Use, you may not continue to use the website.

1. The IDNR EcoCAT website was developed so that units of local government, state agencies and the public could request information or begin natural resource consultations on-line for the Illinois Endangered Species Protection Act, Illinois Natural Areas Preservation Act, and Illinois Interagency Wetland Policy Act. EcoCAT uses databases, Geographic Information System mapping, and a set of programmed decision rules to determine if proposed actions are in the vicinity of protected natural resources. By indicating your agreement to the Terms of Use for this application, you warrant that you will not use this web site for any other purpose.

2. Unauthorized attempts to upload, download, or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act.

3. IDNR reserves the right to enhance, modify, alter, or suspend the website at any time without notice, or to terminate or restrict access.

Security

EcoCAT operates on a state of Illinois computer system. We may use software to monitor traffic and to identify unauthorized attempts to upload, download, or change information, to cause harm or otherwise to damage this site. Unauthorized attempts to upload, download, or change information on this server is strictly prohibited by law.

Unauthorized use, tampering with or modification of this system, including supporting hardware or software, may subject the violator to criminal and civil penalties. In the event of unauthorized intrusion, all relevant information regarding possible violation of law may be provided to law enforcement officials.

Privacy

EcoCAT generates a public record subject to disclosure under the Freedom of Information Act. Otherwise, IDNR uses the information submitted to EcoCAT solely for internal tracking purposes.

EXHIBIT I: UNITED STATES FISH AND WILDLIFE SERVICE (USFWS) INFORMATION FOR PLANNING AND CONSULTATION (IPAC)

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Illinois-Iowa Ecological Services Field Office
Illinois & Iowa Ecological Services Field Office
1511 47th Ave
Moline, IL 61265-7022
Phone: (309) 757-5800 Fax: (309) 757-5807

In Reply Refer To: 04/21/2026 17:08:33 UTC
Project Code: 2026-0079447
Project Name: Arena Navigator Solar, LLC

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The attached species list identifies federally threatened, endangered, proposed and candidate species that may occur within the boundary of your proposed project or may be affected by your proposed project. The list also includes designated critical habitat, if present, within your proposed project area or affected by your project. This list is provided to you as the initial step of the consultation process required under section 7(c) of the Endangered Species Act, also referred to as Section 7 Consultation.

Under 50 CFR 402.12(e) (the regulations that implement Section 7 of the Endangered Species Act) **the accuracy of this species list should be verified after 90 days**. This verification can be completed formally or informally. You may verify the list by visiting the ECOSPHERE Information for Planning and Consultation (IPaC) website https://ipac.ecosphere.fws.gov at regular intervals during project planning and implementation and completing the same process you used to receive the attached list.

Section 7 Consultation

Section 7 of the Endangered Species Act of 1973 requires that actions authorized, funded, or carried out by Federal agencies not jeopardize federally threatened or endangered species or adversely modify designated critical habitat. To fulfill this mandate, Federal agencies (or their designated non-federal representative) must consult with the U.S. Fish and Wildlife Service (Service) if they determine their project “may affect” listed species or designated critical habitat. Under the ESA, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action may affect endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the Service further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the Service to make "no effect" determinations. If you determine that your proposed action will have no effect on threatened or endangered species or their respective designated critical habitat, you do not need to seek concurrence with the Service.

Note: For some species or projects, IPaC will present you with *Determination Keys*. You may be able to use one or

more Determination Keys to conclude consultation on your action.

Technical Assistance for Listed Species

1. For assistance in determining if suitable habitat for listed, candidate, or proposed species occurs within your project area or if species may be affected by project activities, you can obtain information on the species life history, species status, current range, and other documents by selecting the species from the thumbnails or list view and visiting the species profile page.

No Effect Determinations for Listed Species

1. If there are *no* species or designated critical habitats on the Endangered Species portion of the species list: conclude "no species and no critical habitat present" and document your finding in your project records. No consultation under ESA section 7(a)(2) is required if the action would result in no effects to listed species or critical habitat. Maintain a copy of this letter and IPaC official species list for your records.
2. If any species or designated critical habitat are listed as potentially present in the **action area** of the proposed project the project proponents are responsible for determining if the proposed action will have “no effect” on any federally listed species or critical habitat. No effect, with respect to species, means that no individuals of a species will be exposed to any consequence of a federal action or that they will not respond to such exposure.
3. If the species habitat is not present within the action area or current data (surveys) for the species in the action area are negative: conclude “no species habitat or species present” and document your finding in your project records. For example, if the project area is located entirely within a “developed area” (an area that is already graveled/paved or supports structures and the only vegetation is limited to frequently mowed grass or conventional landscaping, is located within an existing maintained facility yard, or is in cultivated cropland conclude no species habitat present. Be careful when assessing actions that affect: 1) rights-of-ways that contains natural or semi-natural vegetation despite periodic mowing or other management; structures that have been known to support listed species (example: bridges), and 2) surface water or groundwater. Several species inhabit rights-of-ways, and you should carefully consider effects to surface water or groundwater, which often extend outside of a project’s immediate footprint.
4. Adequacy of Information & Surveys - Agencies may base their determinations on the best evidence that is available or can be developed during consultation. Agencies must give the benefit of any doubt to the species when there are any inadequacies in the information. Inadequacies may include uncertainty in any step of the analysis. To provide adequate information on which to base a determination, it may be appropriate to conduct surveys to determine whether listed species or their habitats are present in the action area. Please contact our office for more information or see the survey guidelines that the Service has made available in IPaC.

May Effect Determinations for Listed Species

1. If the species habitat is present within the action area and survey data is unavailable or inconclusive: assume the species is present or plan and implement surveys and interpret results in coordination with our office. If assuming species present or surveys for the species are positive continue with the may affect determination process. May affect, with respect to a species, is the appropriate conclusion when a species might be exposed to a consequence of a federal action and could respond to that exposure. For critical habitat, ‘may affect’ is the appropriate conclusion if the action area overlaps with mapped areas of critical habitat and an essential physical or biological feature may be exposed to a consequence of a federal action and could change in response to that exposure.
2. Identify stressors or effects to the species and to the essential physical and biological features of critical habitat that overlaps with the action area. Consider all consequences of the action and assess the potential for each life stage of the species that occurs in the action area to be exposed to the stressors. Deconstruct the action into its component parts to be sure that you do not miss any part of the action that could cause effects to the species or physical and biological features of critical habitat. Stressors that affect species’ resources may have consequences even if the species is not present when the project is implemented.
3. If no listed or proposed species will be exposed to stressors caused by the action, a ‘no effect’ determination may be appropriate – be sure to separately assess effects to critical habitat, if any overlaps with the action

area. If you determined that the proposed action or other activities that are caused by the proposed action may affect a species or critical habitat, the next step is to describe the manner in which they will respond or be altered. Specifically, to assess whether the species/critical habitat is "not likely to be adversely affected" or "likely to be adversely affected."

4. Determine how the habitat or the resource will respond to the proposed action (for example, changes in habitat quality, quantity, availability, or distribution), and assess how the species is expected to respond to the effects to its habitat or other resources. Critical habitat analyses focus on how the proposed action will affect the physical and biological features of the critical habitat in the action area. If there will be only beneficial effects or the effects of the action are expected to be insignificant or discountable, conclude "may affect, not likely to adversely affect" and submit your finding and supporting rationale to our office and request concurrence.
5. If you cannot conclude that the effects of the action will be wholly beneficial, insignificant, or discountable, check IPaC for species-specific Section 7 guidance and conservation measures to determine whether there are any measures that may be implemented to avoid or minimize the negative effects. If you modify your proposed action to include conservation measures, assess how inclusion of those measures will likely change the effects of the action. If you cannot conclude that the effects of the action will be wholly beneficial, insignificant, or discountable, contact our office for assistance.
6. Letters with requests for consultation or correspondence about your project should include the Consultation Tracking Number in the header. Electronic submission is preferred.

For additional information on completing Section 7 Consultation including a Glossary of Terms used in the Section 7 Process, information requirements for completing Section 7, and example letters visit the Midwest Region Section 7 Consultations website at: https://www.fws.gov/office/midwest-region-headquarters/midwest-section-7-technical-assistance.

You may find more specific information on completing Section 7 on communication towers and transmission lines on the following websites:

- Incidental Take Beneficial Practices: Power Lines - https://www.fws.gov/story/incidental-take-beneficial-practices-power-lines
- Recommended Best Practices for Communication Tower Design, Siting, Construction, Operation, Maintenance, and Decommissioning. - https://www.fws.gov/media/recommended-best-practices-communication-tower-design-siting-construction-operation

Tricolored Bat Update

On September 14, 2022, the Service published a proposal in the Federal Register to list the tricolored bat (Perimyotis subflavus) as endangered under the Endangered Species Act (ESA). The Service has up to 12-months from the date the proposal published to make a final determination, either to list the tricolored bat under the Act or to withdraw the proposal. The Service determined the bat faces extinction primarily due to the rangewide impacts of white-nose syndrome (WNS), a deadly fungal disease affecting cave-dwelling bats across North America. Because tricolored bat populations have been greatly reduced due to WNS, surviving bat populations are now more vulnerable to other stressors such as human disturbance and habitat loss. Species proposed for listing are not afforded protection under the ESA; however, as soon as a listing becomes effective (typically 30 days after publication of the final rule in the Federal Register), the prohibitions against jeopardizing its continued existence and “take” will apply. Therefore, if your future or existing project has the potential to adversely affect tricolored bats after the potential new listing goes into effect, we recommend that the effects of the project on tricolored bat and their habitat be analyzed to determine whether authorization under ESA section 7 or 10 is necessary. Projects with an existing section 7 biological opinion may require

reinitiation of consultation, and projects with an existing section 10 incidental take permit may require an amendment to provide uninterrupted authorization for covered activities. Contact our office for assistance.

Other Trust Resources and Activities

Bald and Golden Eagles

Although no longer protected under the Endangered Species Act, be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act, as are golden eagles. Projects affecting these species may require measures to avoid harming eagles or may require a permit. If your project is near an eagle nest or winter roost area, please contact our office for further coordination. For more information on permits and other eagle information visit our website https://www.fws.gov/library/collections/bald-and-golden-eagle-management.
We appreciate your concern for threatened and endangered species. Please feel free to contact our office with questions or for additional information.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

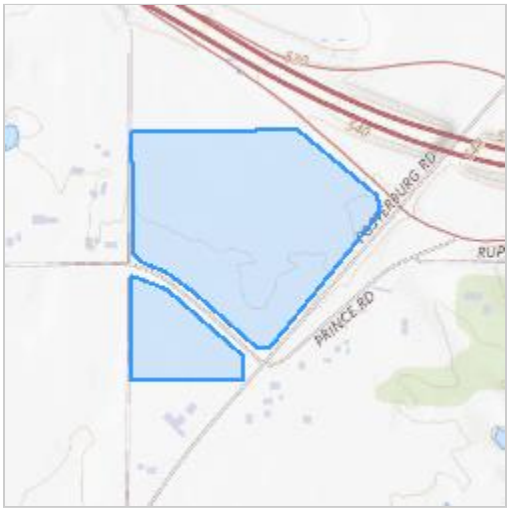
Illinois-Iowa Ecological Services Field Office
Illinois & Iowa Ecological Services Field Office
1511 47th Ave
Moline, IL 61265-7022
(309) 757-5800

PROJECT SUMMARY

Project Code: 2026-0079447
Project Name: Arena Navigator Solar, LLC
Project Type: Power Gen - Solar
Project Description: Arena Renewables, LLC is seeking to build a community scale solar farm within the study area. The solar farm will contain rows of solar modules mounted on posts set in the ground individually as well as access roads and utilities. No tree clearing is anticipated.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.93107075,-90.10175247090447,14z



Counties: Madison County, Illinois

ENDANGERED SPECIES ACT SPECIES

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Gray Bat *Myotis grisescens* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6329	Endangered
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

REPTILES

NAME	STATUS
Eastern Massasauga (=rattlesnake) *Sistrurus catenatus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2202	Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

FLOWERING PLANTS

NAME	STATUS
Decurrent False Aster *Boltonia decurrens* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7705	Threatened
Eastern Prairie Fringed Orchid *Platanthera leucophaea* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/601	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

---

1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act (MBTA). Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their nests, should follow appropriate regulations and implement required avoidance and minimization measures, as described in the various links on this page.

The data in this location indicates that no eagles have been observed in this area. This does not mean eagles are not present in your project area, especially if the area is difficult to survey. Please review the 'Steps to Take When No Results Are Returned' section of the Supplemental Information on Migratory Birds and Eagles document to determine if your project is in a poorly surveyed area. If it is, you may need to rely on other resources to determine if eagles may be present (e.g. your local FWS field office, state surveys, your own surveys).

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

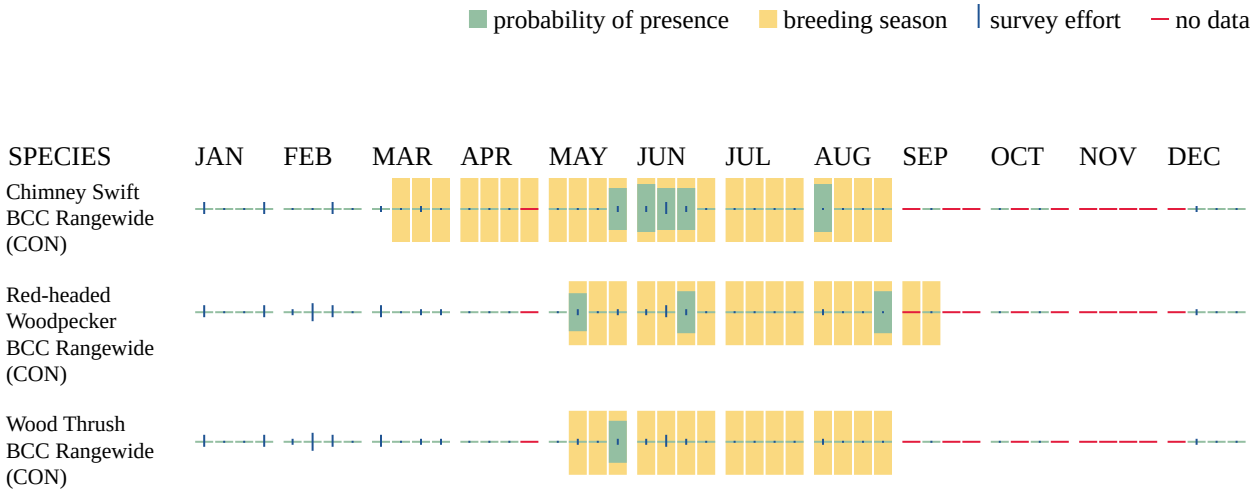
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE VISIT HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

IPAC USER CONTACT INFORMATION

Agency:	Kimley-Horn and Associates
Name:	Dominic Evenson
Address:	11995 Singletree Ln
Address Line 2:	Suite 225
City:	Eden Prairie
State:	MN
Zip:	55344
Email	dominic.evenson@kimley-horn.com
Phone:	6124741595

EXHIBIT J: STATE HISTORIC PRESERVATION OFFICE (SHPO) CORRESPONDENCE

Kimley»Horn

May 13, 2026

Illinois State Historic Preservation Office
Illinois Department of Natural Resources
Attn: Review & Compliance
1 Old State Capitol
Springfield, Illinois 62701

RE: ***Illinois State Historic Preservation Office Project Review***
Arena Renewables, LLC (Arena Navigator Solar 1, LLC)
Intersection of Lobo Rd and Harris Ln, Foster Township, IL

To whom it may concern:

Kimley-Horn and Associates, Inc. is requesting your review of the completed Illinois State Historic Preservation Office Project Review application for a proposed development. We have been contracted by Arena Renewables, LLC to investigate the site near the intersection of Lobo Rd and Harris Ln, Madison County, IL. The proposed project site is approximately 27 acres and is primarily undeveloped agricultural land. The Parcel ID Numbers are 20-1-02-33-00-000-010 and 20-1-02-33-04-401-009. The following items are enclosed with this letter:

- SHPO Permit Application
- USGS Map
- Aerial Exhibit
- IIAS Map
- HARGIS Map
- Photo Locations Map
- Photolog

The required information to go along with the HARGIS map is as follows:

Is this property
Listed on the National Register: Yes__ No_X_
Within a Local Historic District: Yes___ No_X_
A Local Landmark: Yes___ No_X_
Survey ranking, if not designated: _____

If you have any questions or concerns, please feel free to contact me via phone (952.653.0420) or email (cat.maroney@kimley-horn.com).

Sincerely,

Cat Maroney
Environmental Scientist
Kimley-Horn and Associates, Inc.

ILLINOIS STATE HISTORIC PRESERVATION OFFICE PROJECT REVIEW

State Agency Historic Resource Preservation Act
(Ill. Rev. Stat. 1989, Ch. 127, Pas 133c21, et seq.)

PROJECT CHARACTERISTICS

Project Title: Arena Navigator Solar 1, LLC (Arena Renewables, LLC) KHA Project Number 268685038

Project Address or Municipality: Foster Township, IL, 62002

County: Madison Co USGS 7.5' Quadrangle: Bethalto, IL

Sec: 33 Twp: 6 N Range: 9 W

APPLICANT/DEVELOPER

Carson Weinard
Name

Arena Renewables, LLC
Company Name

15051 N Kierland Blvd, Floor 3 #222
Address

Scottsdale, AZ 85254
City, State Zip + four

239-784-8080
Telephone

CONSULTING ENGINEER

Cat Maroney
Name

Kimley-Horn and Associates
Company Name

570 Lake Cook Road, Suite 200
Address

Deerfield, IL 60015
City, State Zip + four

952-653-0420
Telephone

Project Scope

Construction of a solar farm with the associated access roads and utilities.

Acreage and or Lineal Foot: Approximately 27 acres.

Project Type

☐ Public Land ☒ Private Land ☐ Public Undertaking ☒ Private Undertaking

Extent of Project Ground Disturbance

Construction of a new solar farm, access roads, and utilities will occur.

Previous Disturbance to Project Area:

The site currently consists of agricultural land.

PERMITTING

From which State Agencies or funding sources will permit, license, approvals or funds be obtained or required
(check appropriate boxes)?

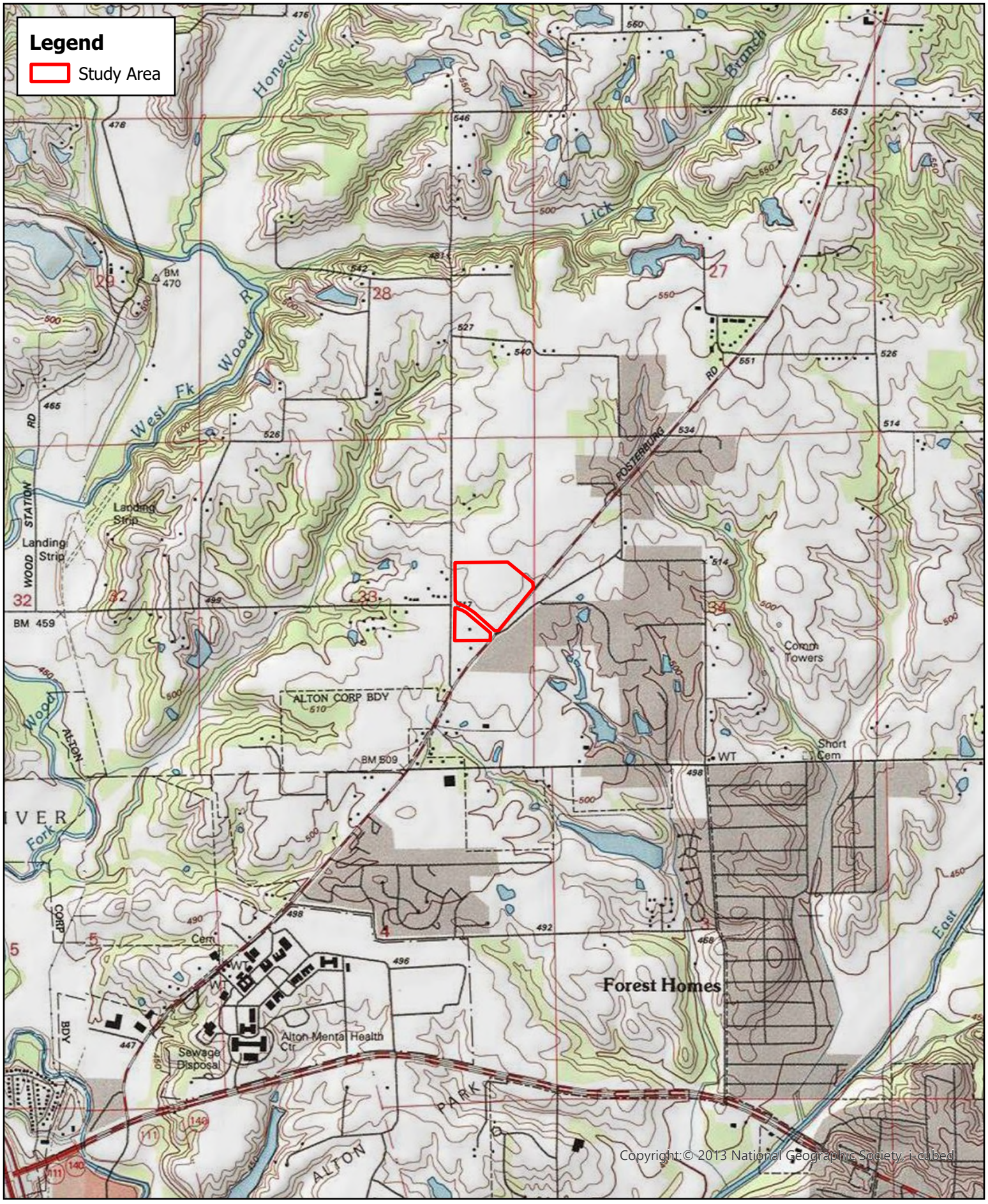
☐ IDOT-Division of Water Resources ☒ IEPA Water Pollution Control ☐ IEPA Public Water Supplies ☐ Other:

Federal Agencies from which permits, licenses, approvals, or funds may be required (i.e., Corps, HUD) ☐ US Army Corps of Engineers

This review process does not exempt your project from compliance with Section 106 of the National Historic Preservation Act of 1966, as amended.

Mandatory Enclosures:

1. USGS 7.5' topographic map or city map clearly indicating project area and street address (if available).
2. Current photographs (no photocopies) of all standing structures; if building is over 40 years old include interior photographs.
3. If this project has been previously reviewed by SHPO, include all pertinent correspondence.
4. Any known historical information, i.e., is structure significant in the community or is it associated with an individual of significance.
5. The names of state and/or federal agencies and entities that are providing funding, licenses, permits, or approvals for your project.
6. Previously assigned SHPO log numbers associated with your project (if any)



Kimley»Horn

0 1,000 2,000 US Feet

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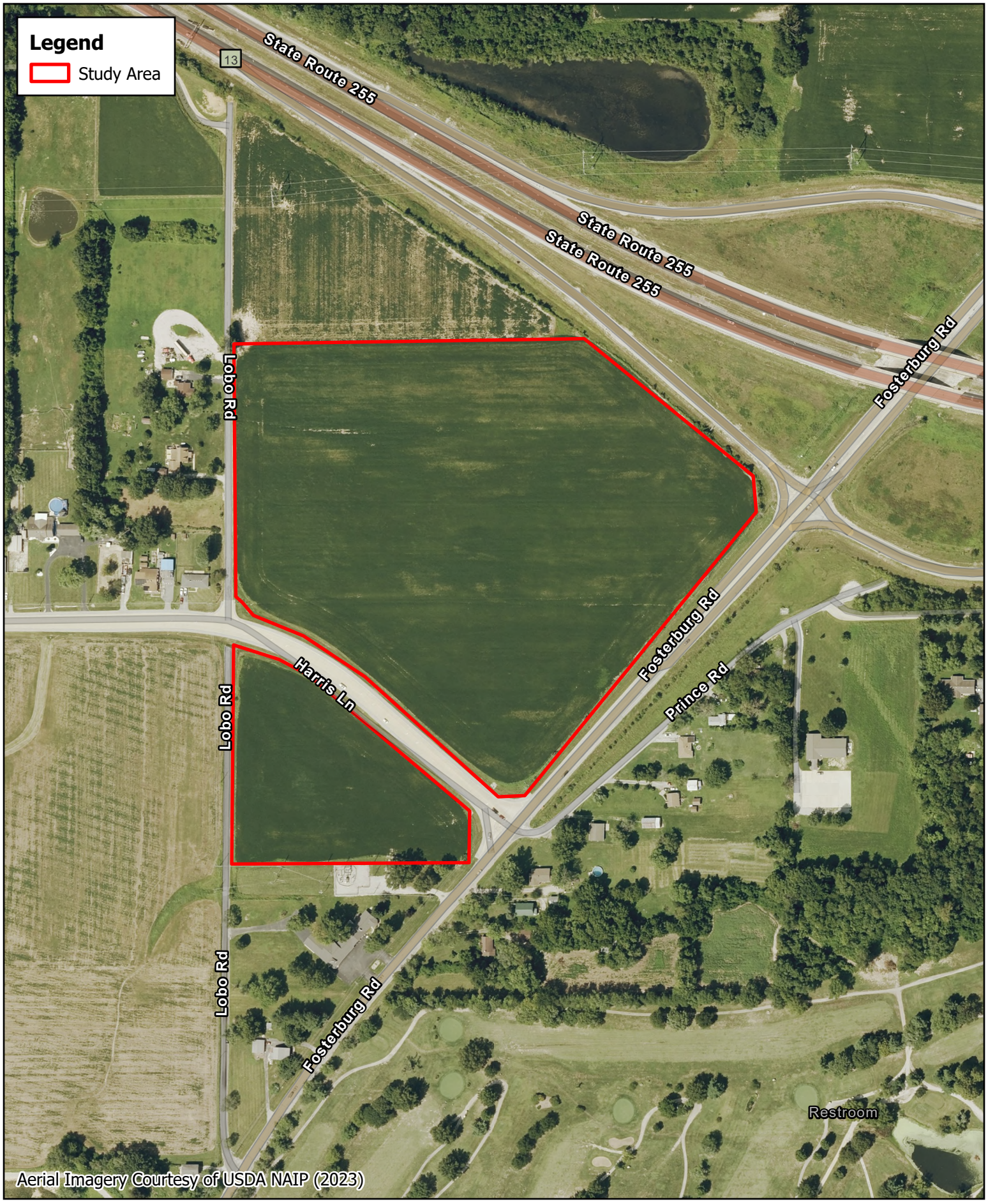
USGS Topographic Map
Foster Township, Madison County
Arena Renewables, LLC



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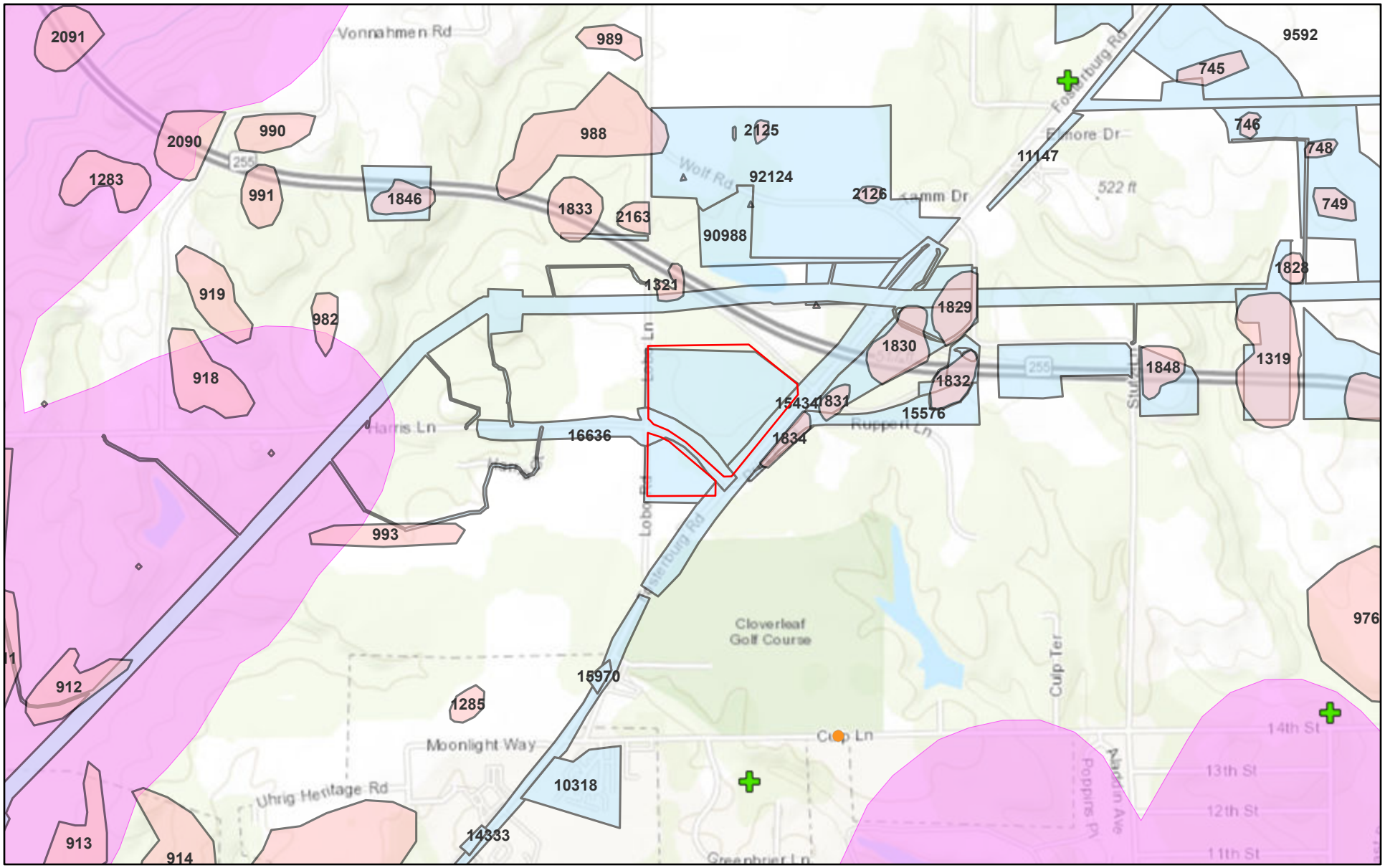
Aerial Exhibit
Foster Township, Madison County
Arena Renewables, LLC

Navigator Solar



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0 0.17 0.35 0.7 km

4

IAS Sites

Surveys

ISM Cemeteries

National Register Properties

Undetermined

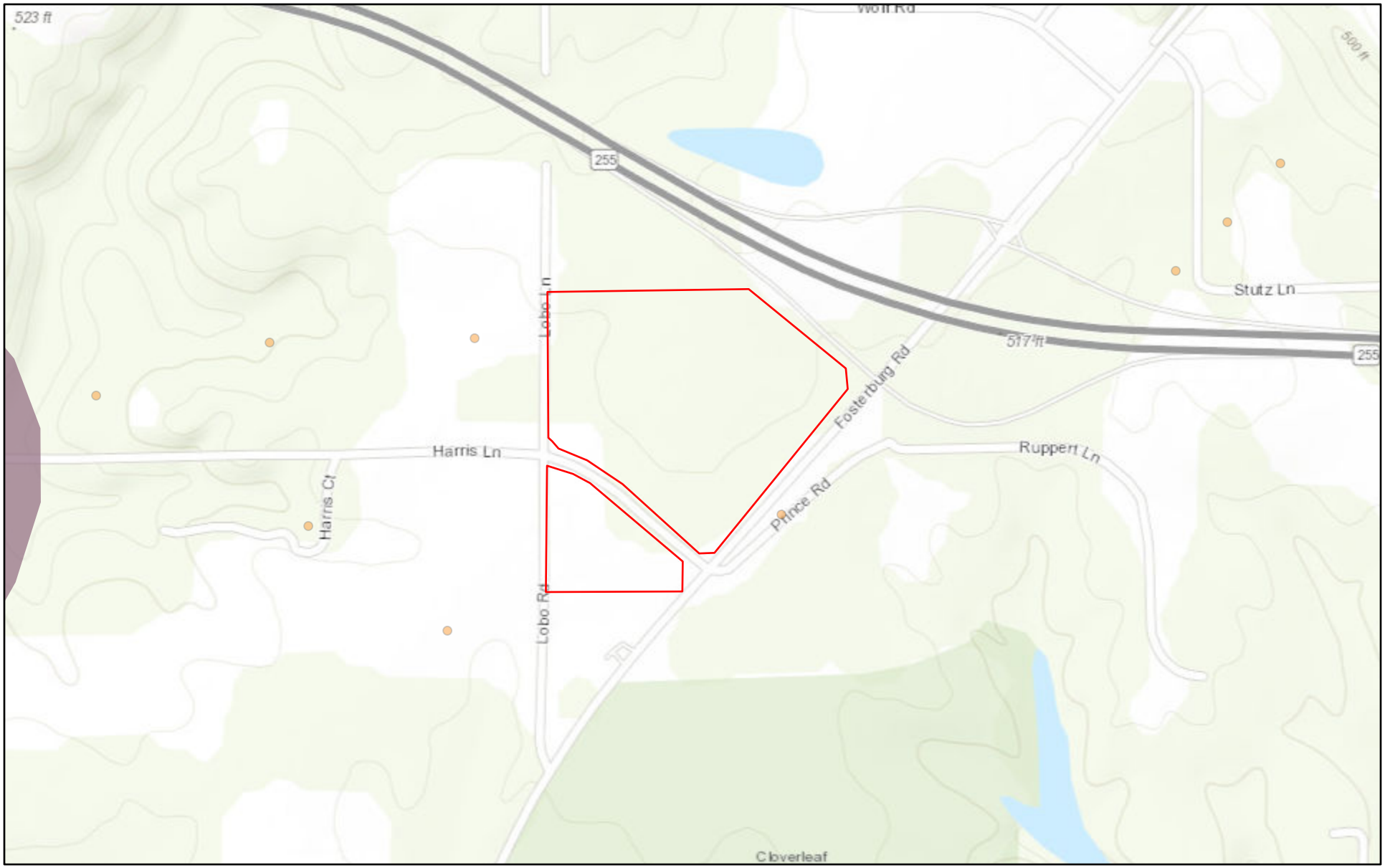
Archaeological Resource Potential

Missouri Dept. of Conservation, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA

ArcGIS Web AppBuilder

Missouri Dept. of Conservation, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA | Data capture, compilation and library maintenance: Marge Bargh, Colin Treworgy, and other ISGS Coal Section staff Compilation of library tiles to create this

Navigator Solar



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0 0.07 0.15 0.3 km

4

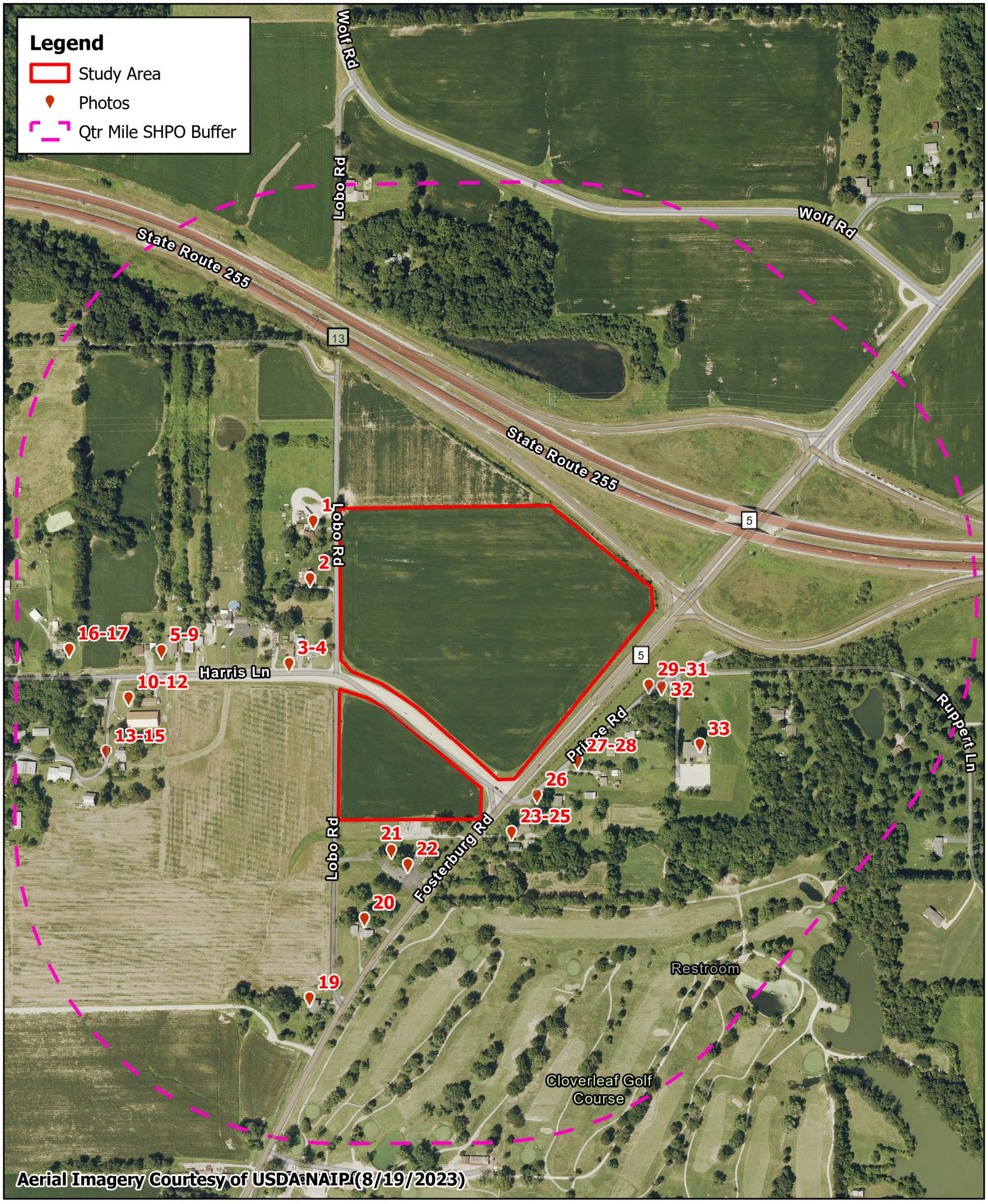
Archaeological Resource Potential

Surveyed, no NR determination

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri

Illinois State Historic Preservation Office

Missouri Dept. of Conservation, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA |



Kimley»Horn

0 250 500 US Feet

N

Photo Locations
Foster Township, Madison County
Arena Renewables, LLC



Photo 1: Structures at 7447 Lobo Rd, facing west.



Photo 2: Structure at 7429 Lobo Rd, facing west.



Photo 3: Structure at 3469 Harris Ln, facing west.



Photo 4: Structure at 3463 Harris Ln, facing north.



Photo 5: Structures at 3457 Harris Ln, facing north.



Photo 6: Additional structures at 3457 Harris Ln, facing north.



Photo 7: Structures at 3443 Harris Ln, facing north.



Photo 8: Structure at 3439 Harris Ln, facing north.



Photo 9: Structure at 3483 Harris Ln, facing north.



Photo 10: Structure at 3433 Harris Ln, facing south.



Photo 11: Structure at 3430 Harris Ln, facing west.



Photo 12: Additional structures at 3430 Harris Ln, facing east.



Photo 13: Structures at 7317 Harris Ct, facing west.



Photo 14: Structure at 7345 Harris Ct, facing south.



Photo 15: Structure at 7323 Harris Ct, facing west.



Photo 16: Structures at 3409 Harris Ln, facing north.



Photo 17: Structures at 3403 Harris Ln, facing north.



Photo 18: Additional structures at 3457 Harris Ln, facing north.



Photo 19: Structure at 3584 Fosterburg Rd, facing west.



Photo 20: Structure at 3632 Fosterburg Rd, facing west.



Photo 21: Structure at 3644 Fosterburg Rd, facing west.



Photo 22: Structures at 3644 Fosterburg Rd, facing west.



Photo 23: Structure at 3675 Fosterburg Rd, facing east.



Photo 24: Structure at 3677 Fosterburg Rd, facing east.



Photo 25: Structures at 3692 Fosterburg Rd, facing east.



Photo 26: Structure at 3501 Prince Rd, facing east.



Photo 27: Structure at 3506 Prince Rd, facing east.



Photo 28: Structures at 3512 Prince Rd, facing east.



Photo 29: Structures at 3518 Prince Rd facing east.



Photo 30: Structures at 3524 Prince Rd, facing east.



Photo 31: Structures at 3536 Prince Rd, facing east.



Photo 32: Structure at 3536 Prince Rd, facing south.



Photo 33: Structure at 3536 Prince Rd, facing south.

EXHIBIT K: FEDERAL AVIATION AGENCY (FAA) OBSTRUCTION EVALUATION/AIRPORT AIRSPACE ANALYSIS (OE/AAA) LETTER

OE/AAA Pre-screening Results

Tue May 12 2026 10:39:03 GMT-0500 (Central Daylight Time)

Structure: Solar Panel

Latitude	Longitude	Height	Site Elevation	AMSL
38 55 59.39 N	90 06 13.78 W	45	523	568
38 55 53.26 N	90 05 56.36 W	45	521	566
38 55 50.20 N	90 06 13.90 W	45	520	565
38 55 45.59 N	90 06 05.17 W	45	518	563

Based on the information you provided, you are not required to file notice with the FAA.

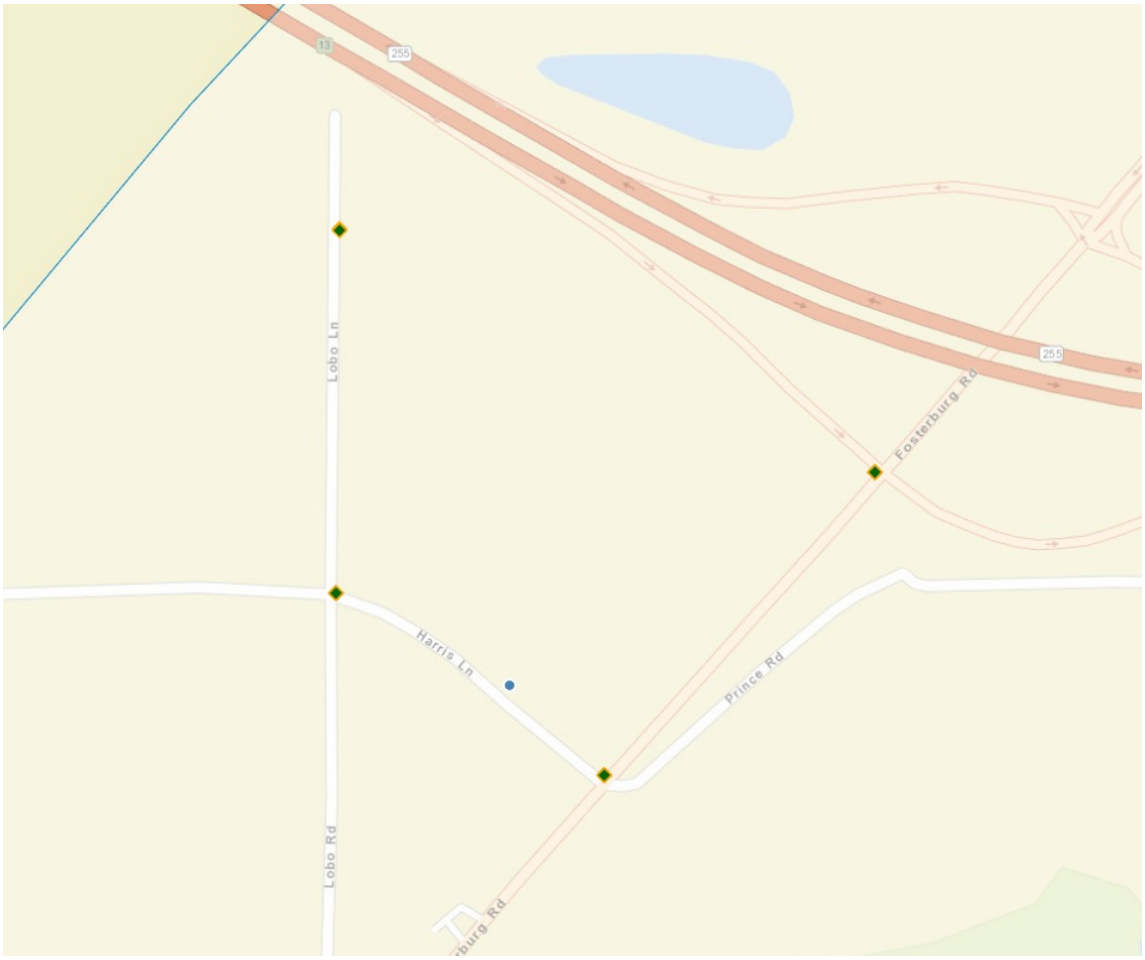


EXHIBIT L: FARMLAND DRAINAGE PLAN

FARMLAND DRAINAGE PLAN

Arena Navigator 1 Solar, LLC

c/o Arena Renewables, LLC

Prepared by:
Kimley-Horn Inc.
570 Lake Cook Road, Suite 200
Deerfield, IL 60015
Contact: Daniel Blalock, P.E.
Phone: (630) 791-3633

Prepared May 2026

PUBLIC ACT 103-0580 FARMLAND DRAINAGE REQUIREMENTS

Per Illinois Public Act 103-0580, "a commercial solar energy facility shall file a farmland drainage plan with the county and impacted drainage districts outlining how surface and subsurface drainage of farmland will be restored during and following construction or deconstruction of the facility."

SURFACE DRAINAGE

The existing drainage patterns of the existing site will be generally maintained and the surface drainage runoff will decrease in the post-development condition. The existing cultivated farmland land use on site will be converted to meadow land use which will provide increased soil stabilization and infiltration, decreasing the overall drainage runoff attributed to the site. Included as **Attachment 1**, an article published in the Journal of Hydrologic Engineering and accepted by the American Society of Civil Engineers details the hydrologic characteristics of solar developments and concludes their minimal effect on drainage patterns or runoff volume with the assistance of well-maintained vegetation. During final engineering, the pre- and post-development drainage areas shall be analyzed for quantity of runoff in the 10-year and 100-year storm events. This analysis is anticipated to show an overall decrease in runoff quantity in the post-development condition.

Prior to construction, a Stormwater Pollution Prevention Plan (SWPPP) will be prepared for the Project that conforms with the Illinois Environmental Protection (IEPA) guidelines. The SWPPP will outline measures to reduce impacts to local and neighboring drainage features. Construction of the Project will not commence until a National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 is received from the IEPA, indicating approval of the Project SWPPP.

SUBSURFACE DRAINAGE

Existing drain tile on site has been preliminary located and mapped by Pinion. **Attachment 2** contains a Desktop Drain Tile Memo which contains this information. As detailed in the Drain Tile Mitigation Plan (Attachment 2), the site design will be preemptively reviewed to identify potential impacts to existing drain tile. If existing drain tile is expected to be impacted, it will be field located and preemptively relocated. If drain tile is impacted during construction, the contractor shall repair as soon as possible and confirm impacts are mitigated to negate upstream impacts. Refer to **Attachment 2** for general construction approaches and drain tile repair details.

The contractor will adhere to all surface drainage and subsurface drainage requirements listed within the Illinois Department of Agriculture's Agriculture Impact Mitigation Agreement.

CONCLUSION

As detailed above, studies have been completed to research the hydrologic impacts of solar energy facilities and have concluded that solar panels themselves have little to no impact on runoff volumes or rates. Rainfall losses, most notably infiltration, are not impacted by the solar panels. Rain that falls directly on a solar panel runs to the pervious areas around and under the surrounding panels.

Based on the proposed development of the project site and the findings of the above-referenced study, increases in runoff volume or rate are not anticipated. The project also meets all County, AIMA, and IEPA requirements.

Exhibit 1 – Hydrologic Response of Solar Farms

Hydrologic Response of Solar Farms

Lauren M. Cook, S.M.ASCE[1]; and Richard H. McCuen, M.ASCE[2]

Abstract: Because of the benefits of solar energy, the number of solar farms is increasing; however, their hydrologic impacts have not been studied. The goal of this study was to determine the hydrologic effects of solar farms and examine whether or not storm-water management is needed to control runoff volumes and rates. A model of a solar farm was used to simulate runoff for two conditions: the pre- and postpaneled conditions. Using sensitivity analyses, modeling showed that the solar panels themselves did not have a significant effect on the runoff volumes, peaks, or times to peak. However, if the ground cover under the panels is gravel or bare ground, owing to design decisions or lack of maintenance, the peak discharge may increase significantly with storm-water management needed. In addition, the kinetic energy of the flow that drains from the panels was found to be greater than that of the rainfall, which could cause erosion at the base of the panels. Thus, it is recommended that the grass beneath the panels be well maintained or that a buffer strip be placed after the most downgradient row of panels. This study, along with design recommendations, can be used as a guide for the future design of solar farms. **DOI: 10.1061/(ASCE)HE.1943-5584.0000530.** © *2013 American Society of Civil Engineers.*

CE Database subject headings: Hydrology; Land use; Solar power; Floods; Surface water; Runoff; Stormwater management.

Author keywords: Hydrology; Land use change; Solar energy; Flooding; Surface water runoff; Storm-water management.

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Introduction

Storm-water management practices are generally implemented to reverse the effects of land-cover changes that cause increases in volumes and rates of runoff. This is a concern posed for new types of land-cover change such as the solar farm. Solar energy is a renewable energy source that is expected to increase in importance in the near future. Because solar farms require considerable land, it is necessary to understand the design of solar farms and their potential effect on erosion rates and storm runoff, especially the impact on offsite properties and receiving streams. These farms can vary in size from 8 ha (20 acres) in residential areas to 250 ha (600 acres) in areas where land is abundant.

The solar panels are impervious to rain water; however, they are mounted on metal rods and placed over pervious land. In some cases, the area below the panel is paved or covered with gravel. Service roads are generally located between rows of panels. Although some panels are stationary, others are designed to move so that the angle of the panel varies with the angle of the sun. The angle can range, depending on the latitude, from 22° during the summer months to 74° during the winter months. In addition, the angle and direction can also change throughout the day. The issue posed is whether or not these rows of impervious panels will change the runoff characteristics of the site, specifically increase runoff volumes or peak discharge rates. If the increases are hydrologically significant, storm-water management facilities may be needed. Additionally, it is possible that the velocity of water draining from the edge of the panels is sufficient to cause erosion of the soil below the panels, especially where the maintenance roadways are bare ground.

The outcome of this study provides guidance for assessing the hydrologic effects of solar farms, which is important to those who plan, design, and install arrays of solar panels. Those who design solar farms may need to provide for storm-water management. This study investigated the hydrologic effects of solar farms, assessed whether or not storm-water management might be needed, and if the velocity of the runoff from the panels could be sufficient to cause erosion of the soil below the panels.

Model Development

Solar farms are generally designed to maximize the amount of energy produced per unit of land area, while still allowing space for maintenance. The hydrologic response of solar farms is not usually considered in design. Typically, the panels will be arrayed in long rows with separations between the rows to allow for maintenance vehicles. To model a typical layout, a unit width of one panel was assumed, with the length of the downgradient strip depending on the size of the farm. For example, a solar farm with 30 rows of 200 panels each could be modeled as a strip of 30 panels with space between the panels for maintenance vehicles. Rainwater that drains from the upper panel onto the ground will flow over the land under the 29 panels on the downgradient strip. Depending on the land cover, infiltration losses would be expected as the runoff flows to the bottom of the slope.

To determine the effects that the solar panels have on runoff characteristics, a model of a solar farm was developed. Runoff in the form of sheet flow without the addition of the solar panels served as the prepaneled condition. The paneled condition assumed a downgradient series of cells with one solar panel per ground cell. Each cell was separated into three sections: wet, dry, and spacer.

The dry section is that portion directly underneath the solar panel, unexposed directly to the rainfall. As the angle of the panel from the horizontal increases, more of the rain will fall directly onto

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Note. This manuscript was submitted on August 12, 2010; approved on October 20, 2011; published online on October 24, 2011. Discussion period open until October 1, 2013; separate discussions must be submitted for individual papers. This paper is part of the ***Journal of Hydrologic Engineering***, Vol. 18, No. 5, May 1, 2013. © ASCE, ISSN 1084-0699/2013/5-536-541/$25.00.

the ground; this section of the cell is referred to as the wet section. The spacer section is the area between the rows of panels used by maintenance vehicles. Fig. 1 is an image of two solar panels and the spacer section allotted for maintenance vehicles. Fig. 2 is a schematic of the wet, dry, and spacer sections with their respective dimensions. In Fig. 1, tracks from the vehicles are visible on what is modeled within as the spacer section. When the solar panel is horizontal, then the length longitudinal to the direction that runoff will occur is the length of the dry and wet sections combined. Runoff from a dry section drains onto the downgradient spacer section. Runoff from the spacer section flows to the wet section of the next downgradient cell. Water that drains from a solar panel falls directly onto the spacer section of that cell.

The length of the spacer section is constant. During a storm event, the loss rate was assumed constant for the 24-h storm because a wet antecedent condition was assumed. The lengths of the wet and dry sections changed depending on the angle of the solar panel. The total length of the wet and dry sections was set equal to the length of one horizontal solar panel, which was assumed to be 3.5 m. When a solar panel is horizontal, the dry section length would equal 3.5 m and the wet section length would be zero. In the paneled condition, the dry section does not receive direct rainfall because the rain first falls onto the solar panel then drains onto the spacer section. However, the dry section does infiltrate some of the runoff that comes from the upgradient wet section. The wet section was modeled similar to the spacer section with rain falling directly onto the section and assuming a constant loss rate.

For the presolar panel condition, the spacer and wet sections are modeled the same as in the paneled condition; however, the cell does not include a dry section. In the prepaneled condition, rain falls directly onto the entire cell. When modeling the prepaneled condition, all cells receive rainfall at the same rate and are subject to losses. All other conditions were assumed to remain the same such that the prepaneled and paneled conditions can be compared.

Rainfall was modeled after an natural resources conservation service (NRCS) Type II Storm (McCuen 2005) because it is an accurate representation of actual storms of varying characteristics that are imbedded in intensity-duration-frequency (IDF) curves. For each duration of interest, a dimensionless hyetograph was developed using a time increment of 12 s over the duration of the storm (see Fig. 3). The depth of rainfall that corresponds to each storm magnitude was then multiplied by the dimensionless hyetograph. For a 2-h storm duration, depths of 40.6, 76.2, and 101.6 mm were used for the 2-, 25-, and 100-year events. The 2- and 6-h duration hyetographs were developed using the center portion of the 24-h storm, with the rainfall depths established with the Baltimore IDF curve. The corresponding depths for a 6-h duration were 53.3, 106.7, and 132.1 mm, respectively. These magnitudes were chosen to give a range of storm conditions.

During each time increment, the depth of rain is multiplied by the cell area to determine the volume of rain added to each section of each cell. This volume becomes the storage in each cell. Depending on the soil group, a constant volume of losses was subtracted from the storage. The runoff velocity from a solar panel was calculated using Manning's equation, with the hydraulic radius for sheet flow assumed to equal the depth of the storage on the panel (Bedient and Huber 2002). Similar assumptions were made to compute the velocities in each section of the surface sections.

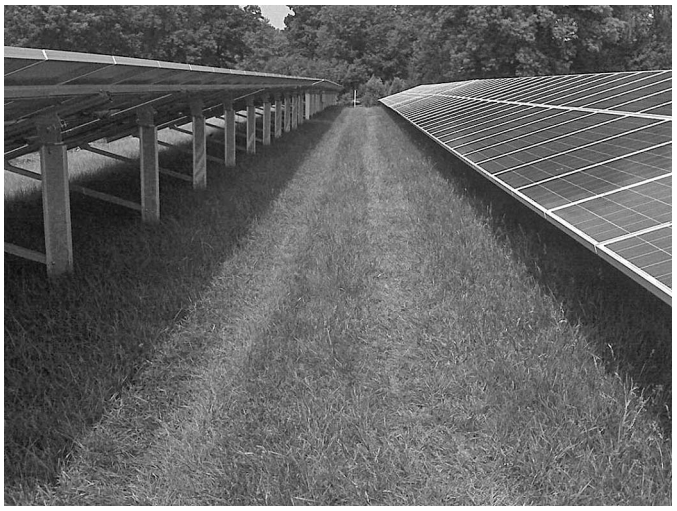

Fig. 1. Maintenance or "spacer" section between two rows of solar panels (photo by John E. Showler, reprinted with permission)

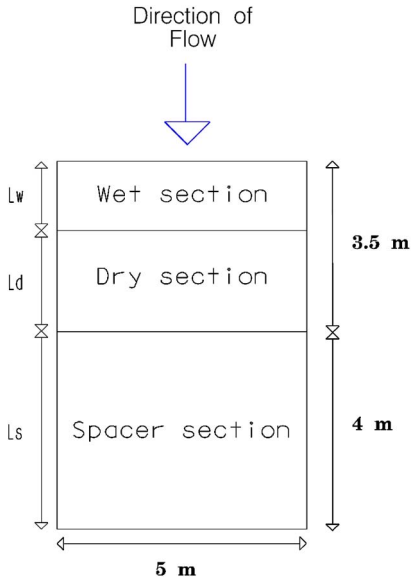

Fig. 2. Wet, dry, and spacer sections of a single cell with lengths *Lw*, *Ls*, and *Ld* with the solar panel covering the dry section

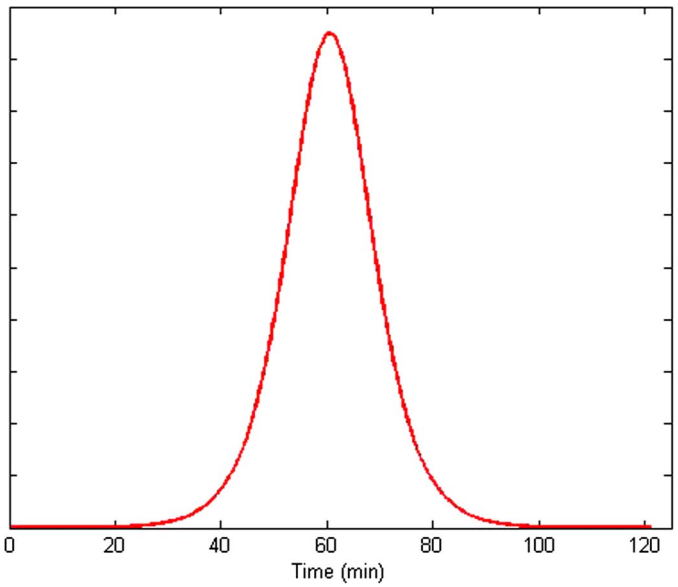

Fig. 3. Dimensionless hyetograph of 2-h Type II storm

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Runoff from one section to the next and then to the next downgradient cell was routed using the continuity of mass. The routing coefficient depended on the depth of flow in storage and the velocity of runoff. Flow was routed from the wet section to the dry section to the spacer section, with flow from the spacer section draining to the wet section of the next cell. Flow from the most downgradient cell was assumed to be the outflow. Discharge rates and volumes from the most downgradient cell were used for comparisons between the prepaneled and paneled conditions.

Alternative Model Scenarios

To assess the effects of the different variables, a section of 30 cells, each with a solar panel, was assumed for the base model. Each cell was separated individually into wet, dry, and spacer sections. The area had a total ground length of 225 m with a ground slope of 1% and width of 5 m, which was the width of an average solar panel. The roughness coefficient (Engman 1986) for the silicon solar panel was assumed to be that of glass, 0.01. Roughness coefficients of 0.15 for grass and 0.02 for bare ground were also assumed. Loss rates of 0.5715 cm/h (0.225 in./h) and 0.254 cm/h (0.1 in./h) for B and C soils, respectively, were assumed.

The prepaneled condition using the 2-h, 25-year rainfall was assumed for the base condition, with each cell assumed to have a good grass cover condition. All other analyses were made assuming a paneled condition. For most scenarios, the runoff volumes and peak discharge rates from the paneled model were not significantly greater than those for the prepaneled condition. Over a total length of 225 m with 30 solar panels, the runoff increased by 0.26 m^3, which was a difference of only 0.35%. The slight increase in runoff volume reflects the slightly higher velocities for the paneled condition. The peak discharge increased by 0.0013 m^3, a change of only 0.31%. The time to peak was delayed by one time increment, i.e., 12 s. Inclusion of the panels did not have a significant hydrologic impact.

Storm Magnitude

The effect of storm magnitude was investigated by changing the magnitude from a 25-year storm to a 2-year storm. For the 2-year storm, the rainfall and runoff volumes decreased by approximately 50%. However, the runoff from the paneled watershed condition increased compared to the prepaneled condition by approximately the same volume as for the 25-year analysis, 0.26 m^3. This increase represents only a 0.78% increase in volume. The peak discharge and the time to peak did not change significantly. These results reflect runoff from a good grass cover condition and indicated that the general conclusion of very minimal impacts was the same for different storm magnitudes.

Ground Slope

The effect of the downgradient ground slope of the solar farm was also examined. The angle of the solar panels would influence the velocity of flows from the panels. As the ground slope was increased, the velocity of flow over the ground surface would be closer to that on the panels. This could cause an overall increase in discharge rates. The ground slope was changed from 1 to 5%, with all other conditions remaining the same as the base conditions.

With the steeper incline, the volume of losses decreased from that for the 1% slope, which is to be expected because the faster velocity of the runoff would provide less opportunity for infiltration. However, between the prepaneled and paneled conditions, the increase in runoff volume was less than 1%. The peak discharge and the time to peak did not change. Therefore, the greater ground slope did not significantly influence the response of the solar farm.

Soil Type

The effect of soil type on the runoff was also examined. The soil group was changed from B soil to C soil by varying the loss rate. As expected, owing to the higher loss rate for the C soil, the depths of runoff increased by approximately 7.5% with the C soil when compared with the volume for B soils. However, the runoff volume for the C soil condition only increased by 0.17% from the prepaneled condition to the paneled condition. In comparison with the B soil, a difference of 0.35% in volume resulted between the two conditions. Therefore, the soil group influenced the actual volumes and rates, but not the relative effect of the paneled condition when compared to the prepaneled condition.

Panel Angle

Because runoff velocities increase with slope, the effect of the angle of the solar panel on the hydrologic response was examined. Analyses were made for angles of 30° and 70° to test an average range from winter to summer. The hydrologic response for these angles was compared to that of the base condition angle of 45°. The other site conditions remained the same. The analyses showed that the angle of the panel had only a slight effect on runoff volumes and discharge rates. The lower angle of 30° was associated with an increased runoff volume, whereas the runoff volume decreased for the steeper angle of 70° when compared with the base condition of 45°. However, the differences (~0.5%) were very slight. Nevertheless, these results indicate that, when the solar panel was closer to horizontal, i.e., at a lower angle, a larger difference in runoff volume occurred between the prepaneled and paneled conditions. These differences in the response result are from differences in loss rates.

The peak discharge was also lower at the lower angle. At an angle of 30°, the peak discharge was slightly lower than at the higher angle of 70°. For the 2-h storm duration, the time to peak of the 30° angle was 2 min delayed from the time to peak of when the panel was positioned at a 70° angle, which reflects the longer travel times across the solar panels.

Storm Duration

To assess the effect of storm duration, analyses were made for 6-h storms, testing magnitudes for 2-, 25-, and 100-year return periods, with the results compared with those for the 2-h rainfall events. The longer storm duration was tested to determine whether a longer duration storm would produce a different ratio of increase in runoff between the prepaneled and paneled conditions. When compared to runoff volumes from the 2-h storm, those for the 6-h storm were 34% greater in both the paneled and prepaneled cases. However, when comparing the prepaneled to the paneled condition, the increase in the runoff volume with the 6-h storm was less than 1% regardless of the return period. The peak discharge and the time-to-peak did not differ significantly between the two conditions. The trends in the hydrologic response of the solar farm did not vary with storm duration.

Ground Cover

The ground cover under the panels was assumed to be a native grass that received little maintenance. For some solar farms, the area beneath the panel is covered in gravel or partially paved because the panels prevent the grass from receiving sunlight. Depending on the

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volume of traffic, the spacer cell could be grass, patches of grass, or bare ground. Thus, it was necessary to determine whether or not these alternative ground-cover conditions would affect the runoff characteristics. This was accomplished by changing the Manning's n for the ground beneath the panels. The value of n under the panels, i.e., the dry section, was set to 0.015 for gravel, with the value for the spacer or maintenance section set to 0.02, i.e., bare ground. These can be compared to the base condition of a native grass ($n = 0.15$). A good cover should promote losses and delay the runoff.

For the smoother surfaces, the velocity of the runoff increased and the losses decreased, which resulted in increasing runoff volumes. This occurred both when the ground cover under the panels was changed to gravel and when the cover in the spacer section was changed to bare ground. Owing to the higher velocities of the flow, runoff rates from the cells increased significantly such that it was necessary to reduce the computational time increment. Fig. 4(a) shows the hydrograph from a 30-panel area with a time increment of 12 s. With a time increment of 12 s, the water in each cell is discharged at the end of every time increment, which results in no attenuation of the flow; thus, the undulations shown in Fig. 4(a) result. The time increment was reduced to 3 s for the 2-h storm, which resulted in watershed smoothing and a rational hydrograph shape [Fig. 4(b)]. The results showed that the storm runoff

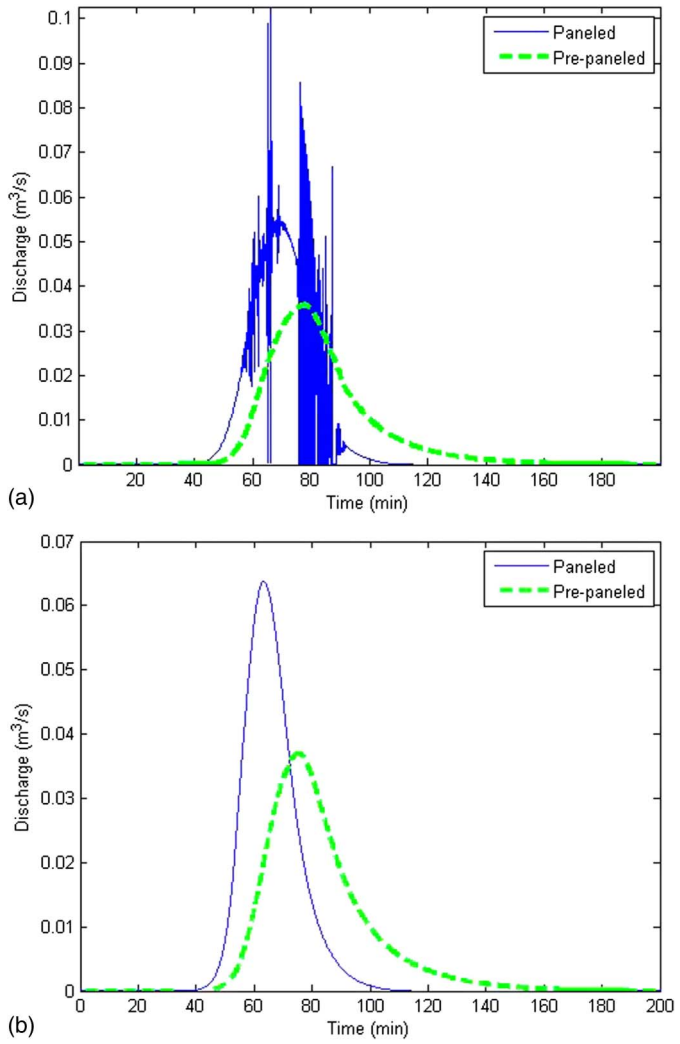

Fig. 4. Hydrograph with time increment of (a) 12 s; (b) 3 s with Manning's n for bare ground

increased by 7% from the grass-covered scenario to the scenario with gravel under the panel. The peak discharge increased by 73% for the gravel ground cover when compared with the grass cover without the panels. The time to peak was 10 min less with the gravel than with the grass, which reflects the effect of differences in surface roughness and the resulting velocities.

If maintenance vehicles used the spacer section regularly and the grass cover was not adequately maintained, the soil in the spacer section would be compacted and potentially the runoff volumes and rates would increase. Grass that is not maintained has the potential to become patchy and turn to bare ground. The grass under the panel may not get enough sunlight and die. Fig. 1 shows the result of the maintenance trucks frequently driving in the spacer section, which diminished the grass cover.

The effect of the lack of solar farm maintenance on runoff characteristics was modeled by changing the Manning's n to a value of 0.02 for bare ground. In this scenario, the roughness coefficient for the ground under the panels, i.e., the dry section, as well as in the spacer cell was changed from grass covered to bare ground ($n = 0.02$).The effects were nearly identical to that of the gravel. The runoff volume increased by 7% from the grass-covered to the bare-ground condition. The peak discharge increased by 72% when compared with the grass-covered condition. The runoff for the bare-ground condition also resulted in an earlier time to peak by approximately 10 min. Two other conditions were also modeled, showing similar results. In the first scenario, gravel was placed directly under the panel, and healthy grass was placed in the spacer section, which mimics a possible design decision. Under these conditions, the peak discharge increased by 42%, and the volume of runoff increased by 4%, which suggests that storm-water management would be necessary if gravel is placed anywhere.

Fig. 5 shows two solar panels from a solar farm in New Jersey. The bare ground between the panels can cause increased runoff rates and reductions in time of concentration, both of which could necessitate storm-water management. The final condition modeled involved the assumption of healthy grass beneath the panels and bare ground in the spacer section, which would simulate the condition of unmaintained grass resulting from vehicles that drive over the spacer section. Because the spacer section is 53% of the cell, the change in land cover to bare ground would reduce losses and decrease runoff travel times, which would cause runoff to amass as it



Fig. 5. Site showing the initiation of bare ground below the panels, which increases the potential for erosion (photo by John Showler, reprinted with permission)

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moves downgradient. With the spacer section as bare ground, the peak discharge increased by 100%, which reflected the increases in volume and decrease in timing. These results illustrate the need for maintenance of the grass below and between the panels.

Design Suggestions

With well-maintained grass underneath the panels, the solar panels themselves do not have much effect on total volumes of the runoff or peak discharge rates. Although the panels are impervious, the rainwater that drains from the panels appears as runoff over the downgradient cells. Some of the runoff infiltrates. If the grass cover of a solar farm is not maintained, it can deteriorate either because of a lack of sunlight or maintenance vehicle traffic. In this case, the runoff characteristics can change significantly with both runoff rates and volumes increasing by significant amounts. In addition, if gravel or pavement is placed underneath the panels, this can also contribute to a significant increase in the hydrologic response.

If bare ground is foreseen to be a problem or gravel is to be placed under the panels to prevent erosion, it is necessary to counteract the excess runoff using some form of storm-water management. A simple practice that can be implemented is a buffer strip (Dabney et al. 2006) at the downgradient end of the solar farm. The buffer strip length must be sufficient to return the runoff characteristics with the panels to those of runoff experienced before the gravel and panels were installed. Alternatively, a detention basin can be installed.

A buffer strip was modeled along with the panels. For approximately every 200 m of panels, or 29 cells, the buffer must be 5 cells long (or 35 m) to reduce the runoff volume to that which occurred before the panels were added. Even if a gravel base is not placed under the panels, the inclusion of a buffer strip may be a good practice when grass maintenance is not a top funding priority. Fig. 6 shows the peak discharge from the graveled surface versus the length of the buffer needed to keep the discharge to prepaneled peak rate.

Water draining from a solar panel can increase the potential for erosion of the spacer section. If the spacer section is bare ground, the high kinetic energy of water draining from the panel can cause soil detachment and transport (Garde and Raju 1977; Beuselinck et al. 2002). The amount and risk of erosion was modeled using the velocity of water coming off a solar panel compared with the velocity and intensity of the rainwater. The velocity of panel runoff was calculated using Manning's equation, and the velocity of falling rainwater was calculated using the following:

$$V_t = 120\, d_r^{0.35} \tag{1}$$

where d_r = diameter of a raindrop, assumed to be 1 mm. The relationship between kinetic energy and rainfall intensity is

$$K_e = 916 + 330 \log_{10} i \tag{2}$$

where i = rainfall intensity (in./h) and K_e = kinetic energy (ft-tons per ac-in. of rain) of rain falling onto the wet section and the panel, as well as the water flowing off of the end of the panel (Wischmeier and Smith 1978). The kinetic energy (Salles et al. 2002) of the rainfall was greater than that coming off the panel, but the area under the panel (i.e., the product of the length, width, and cosine of the panel angle) is greater than the area under the edge of the panel where the water drains from the panel onto the ground. Thus, dividing the kinetic energy by the respective areas gives a more accurate representation of the kinetic energy experienced by the soil. The energy of the water draining from the panel onto the ground can be nearly 10 times greater than the rain itself falling onto the ground area. If the solar panel runoff falls onto an unsealed soil, considerable detachment can result (Motha et al. 2004). Thus, because of the increased kinetic energy, it is possible that the soil is much more prone to erosion with the panels than without. Where panels are installed, methods of erosion control should be included in the design.

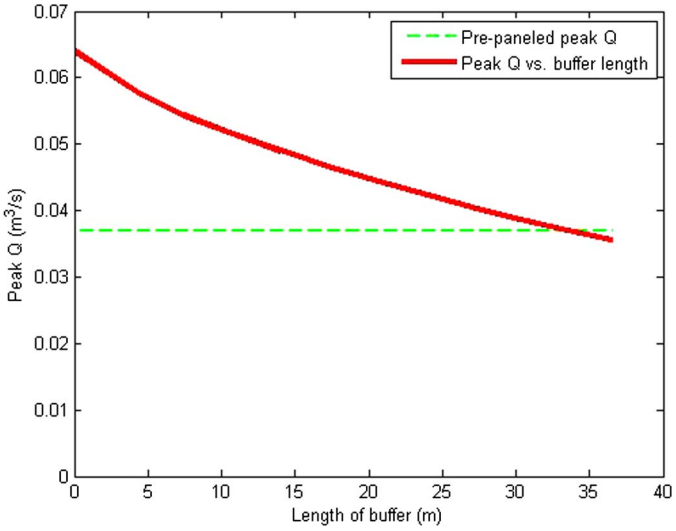

Fig. 6. Peak discharge over gravel compared with buffer length

Conclusions

Solar farms are the energy generators of the future; thus, it is important to determine the environmental and hydrologic effects of these farms, both existing and proposed. A model was created to simulate storm-water runoff over a land surface without panels and then with solar panels added. Various sensitivity analyses were conducted including changing the storm duration and volume, soil type, ground slope, panel angle, and ground cover to determine the effect that each of these factors would have on the volumes and peak discharge rates of the runoff.

The addition of solar panels over a grassy field does not have much of an effect on the volume of runoff, the peak discharge, nor the time to peak. With each analysis, the runoff volume increased slightly but not enough to require storm-water management facilities. However, when the land-cover type was changed under the panels, the hydrologic response changed significantly. When gravel or pavement was placed under the panels, with the spacer section left as patchy grass or bare ground, the volume of the runoff increased significantly and the peak discharge increased by approximately 100%. This was also the result when the entire cell was assumed to be bare ground.

The potential for erosion of the soil at the base of the solar panels was also studied. It was determined that the kinetic energy of the water draining from the solar panel could be as much as 10 times greater than that of rainfall. Thus, because the energy of the water draining from the panels is much higher, it is very possible that soil below the base of the solar panel could erode owing to the concentrated flow of water off the panel, especially if there is bare ground in the spacer section of the cell. If necessary, erosion control methods should be used.

Bare ground beneath the panels and in the spacer section is a realistic possibility (see Figs. 1 and 5). Thus, a good, well-maintained grass cover beneath the panels and in the spacer section is highly recommended. If gravel, pavement, or bare ground is

J. Hydrol. Eng. 2013.18:536-541.

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deemed unavoidable below the panels or in the spacer section, it may necessary to add a buffer section to control the excess runoff volume and ensure adequate losses. If these simple measures are taken, solar farms will not have an adverse hydrologic impact from excess runoff or contribute eroded soil particles to receiving streams and waterways.

Acknowledgments

The authors appreciate the photographs (Figs. 1 and 5) of Ortho Clinical Diagnostics, 1001 Route 202, North Raritan, New Jersey, 08869, provided by John E. Showler, Environmental Scientist, New Jersey Department of Agriculture. The extensive comments of reviewers resulted in an improved paper.

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Exhibit 2 – Drain Tile Mitigation Plan

Drain Tile Mitigation Plan

Arena Navigator 1 Solar, LLC

c/o Arena Renewables, LLC

Prepared by:
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Deerfield, IL 60015
Contact: Daniel Blalock, P.E.
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Prepared May 2026

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REPAIR/INSTALLATION STANDARDS AND POLICIES *6*

POST CONSTRUCTION *7*

CONCLUSION *8*

ATTACHMENTS

Attachment A: Desktop Drain Tile Memo

Attachment B: Sample Drain Tile Repair Details

INTRODUCTION

As required by Illinois Public Act 103-0580, the Arena Navigator 1 Solar, LLC commercial solar energy facility (Project) will be responsible for reasonably prompt repair of damage to public drainage systems stemming from construction, operation or maintenance of the proposed Project. Preserving proper drainage is essential for the Project to safely and reliably generate power. The Project will be responsible for maintaining the integrity of the drainage system so as not to cause drainage issues within the project area or on neighboring properties. The Project will assess and identify drain tile within the project footprint to avoid impacting public drainage systems to the greatest extent possible. In the event of impacts to drain tile systems within the project footprint, the contractor will act immediately to ensure there are no impacts to neighboring properties.

This Drain Tile Mitigation Plan has been prepared for activities associated with the construction of the Arena Navigator 1 Solar, LLC commercial solar energy facility. Arena Navigator 1 Solar, LLC and its associated construction team are dedicated to working with all vested parties to reduce the potential for impacts to drain tile systems and have developed this mitigation plan for use during planning, construction, and restoration of the solar facility in order to manage, mitigate and repair drainage systems impacted by construction activities.

Appropriate advanced planning and mitigation work will be undertaken as practicable to avoid disruption of any surface or subsurface drainage. This will be accomplished through communication with the Project contractor, field personnel, sub-contractors, and landowners. Arena Navigator 1 Solar, LLC will work with all parties to help mitigate and repair drain tile impacts from construction-related activities so that the drainage systems are able to maintain the agricultural character of the land. This mitigation plan will be revised and expanded as appropriate as the Project moves forward and additional site-specific information is obtained.

DRAIN TILE OVERVIEW

Drain tile is used in agricultural areas to improve drainage in soils with high groundwater or poor subsurface drainage by lowering the water table. Drain tile typically removes excess water from the top layer of soil in an attempt to improve crop productivity. Drain tile is typically laid out in a pattern that best fits the soil and topography of the area.

Laterals are smaller drain tile – typically 4” in diameter – aligned with field topography in order to intercept or capture water as it flows downhill. Mains and sub-mains – typically 6” to 18” in diameter – are placed to facilitate the placement of laterals and to convey water to an outlet. Refer to the Desktop Drain Tile Memo, prepared by Pinion dated 05/27/2026, found in **Attachment A**, for approximate existing site system information.

Historically, the most common materials used to manufacture drain tile have been clay, concrete, PVC, and PE. Practically all agricultural drain tile installed today is made from HDPE plastic. Drain tile made from HDPE plastic comes in various wall profiles (e.g. corrugated and smooth), diameters (e.g. 4” – 24” and larger), wall thicknesses (e.g. single and dual wall), and wall perforations (e.g. slotted and non-perforated).

Drain tile can be installed with a backhoe, tile plow, and chain machine or wheel trencher. Drain tile laterals are generally installed at a depth of three-to-five feet, and outlet tile is often installed five-to-six feet deep or deeper in some areas. Installation depths can vary dramatically based on the need to maintain grade through a slope and reach a desired outlet location and depth. The drain tile must be installed deep enough to effectively drain subsurface water from the property, minimizing the need to repair or install additional drain tile in the future.

PRE-CONSTRUCTION/DRAIN TILE ASSESSMENT PHASE

As detailed in the Desktop Drain Tile Memo, Pinion conducted a comprehensive review of data sources which included historical research, topographic data, predictive drainage analytics, and direct consultation with the landowner to provide the preliminary drain tile locations as seen within **Attachment A: Desktop Drain Tile Memo**.

Additional pre-construction drain tile assessments that can be completed to confirm the existing drain tile locations include the following:

1. Perimeter Field Survey and Investigation
   Kimley-Horn recommends obtaining a perimeter drain tile survey. Prior to construction, manual tile locating techniques and a locatable push rodder can be used to identify drain tile in the project area. A drain tile surveyor will stake and silt trench expected areas of drain tile along the perimeter of the project area. As drain tile is encountered, the surveyor will surface probe the tile and geolocate the tile in a map. The perimeter drain tile survey will identify any drain tile that drains off site to neighboring properties. By obtaining basic onsite locations from a perimeter drain tile survey, the project can anticipate potential impacts and plan for mitigation options.
2. Area of Interest Field Survey
   Another more rigorous option is to obtain a complete drain tile survey throughout the full Project area. A drain tile surveyor will go onsite and will stake, and slit trench expected areas of drain tile throughout the project area. As drain tile is encountered, the surveyor will surface probe the tile the entire length of the tile, providing accurate locations for all drain locations onsite.

Kimley-Horn recommends compiling all surveyed information and producing an existing drain tile plan. This plan will depict the existing locations of private drain tile as well as the post development onsite features, ensuring all parties are aware and cautious in locations of the subsurface drainage. This plan should identify areas of potential drain tile impacts and describe the mitigation options, as outlined in the Construction Phase Mitigation Options section below.

CONSTRUCTION PHASE MITIGATION OPTIONS

Using the information gathered during the pre-construction drain tile assessment phase, known locations of existing drain tile will be shared with all site sub-contractors. In some cases, drain tile information may be limited or locations not known.

During construction, drain tile shall be repaired as soon as possible before normal construction and installation resumes. In the event that drain tile has been exposed or damaged, Kimley-Horn recommends the contractor and sub-contractors do the following:

1. Drain Tile Identification and Stop Work
    a. If the drain tile location is not known, the drain tile will be demarked once it has been exposed during construction for all sub-contractors to be aware. The locations shall be added to the drain tile maps available onsite.
    b. Sub-contractors shall immediately notify the contractor and drain tile contractor personnel and stop working in the immediate area of the damaged drain tile. This will prevent additional damages from occurring on the tile run.
2. Documentation and Communication
    a. Photographs and a written memorandum should be prepared outlining the extent of the damage to the line, and how the damage occurred. This should be submitted to the Landowner, the Project Owner, and the drain tile contractor.
    b. Landowner should be contacted with repair or modification plan in compliance with the IDOA's AIMA requirements.
3. Drain Tile Repairs – Temporary
    a. The following should be completed immediately at each location where damage occurs, while the field team waits for the drain tile contractor to arrive onsite:
        i. Cut and temporarily cap or screen if water is not flowing through the drain tile.
        ii. Cut and temporarily repair if water is flowing through the drain tile.
    b. For temporary repairs, a rigid support or pipe will be laid across the full extent of the trench with a 1-foot minimum into undisturbed ground on both sides of the trench. Drain tile will be laid on the support and connected with adapters to the existing drain tile. This process will be utilized throughout the trenching phase to maintain drainage, as necessary.
    c. The temporary drain tile will be disconnected as the pipe is lowered into the trench to approximately 6 to 12-inches below the drain tile. The drain tile connections will be re-established as quickly as possible to reduce the amount of water flowing into the trench.
4. Drain Tile Repair – Permanent
    a. After the pipe is lowered into the trench but before the trench is backfilled, the drain tile shall be permanently repaired:
        i. Where drain tile was temporarily capped or screened, the drain tile will be laid onto a temporary support member (rigid beam, high strength composite material, rigid outer casing pipe etc.) that will keep the repaired drain tile supported the full length of the trench and into undisturbed ground on both sides of the trench. The rigid support will be stabilized, and adapters or couplers will connect the repaired tile to existing drain tile on both sides of the trench, as needed.
        ii. Where drain tile was temporarily repaired in the trench, the drain tile will be fortified based on the above-mentioned requirements. The rigid support will be stabilized. Refer to **Attachment B** for Sample Tile Repair Details.
5. Drain Tile Repair – Relocation and Installation
    a. In the event of new drain tile installation in lieu of drain tile repair, the appointed drain tile contractor, with approval from the contractor, will determine the optimal

methodology and orientation of the new drain tile given the property conditions. The relocation must adhere to the requirements of the IDOA's AIMA.

b. It is recommended a re-route drain tile plan is put into place indicating the following:
    i. Existing drain tile location
    ii. Location of where the drain tile was hit
    iii. The proposed re-route of the drain tile
    iv. Post development drain tile information (including size and material)
    v. Post development locations of observation wells

6. Documentation of Repairs
    a. Once repairs are completed, a write up of what was completed along with photographs shall be submitted to the contractor's Operations team. This information shall be submitted to the Landowner and kept documented onsite.
7. Construction Resumes
    a. Once the drain tile is repaired and documented to the landowner, construction within the affected area may resume.
    b. See Drain Tile Installation Guidelines for more in-depth construction measures of the drain tile installation process.
    c. Once construction of the site is complete, contractor shall replace a minimum of 6-inches of topsoil and reseed the affected areas.

DRAIN TILE INSTALLATION GUIDELINES

1. Excavation
    a. The trench or excavation for the drain tile repair shall be constructed to the depths indicated on the existing drain tile location map or as located in the field. The trench width may be increased above the top of the drain tile at the option of the contractor for better accessibility.
    b. Trench shields, shoring and bracing, or other methods necessary to safeguard construction personnel and to prevent damage to the existing improvements shall be furnished, placed, and subsequently re-moved by the contractor.
2. Preparing the bedding
    a. In stable soils, the tile shall be firmly and uniformly bedded throughout its entire length of the repair to the specified depth and in the specified manner.
    b. When the bottom of the trench does not provide a sufficiently stable or firm foundation for the drain tile, cradles for the tile (constructed of timber or fabricated lumber of a cleat-and-rail type construction), a sand-gravel mix, or other approved material shall be used to stabilize the bottom of the trench.
    c. Drain tile shall not be laid on a rock foundation. In the event that boulders, rocks or ledge rock, or cemented material that prevents satisfactory bedding are encountered at the required grade with the trench cross- section, the trench shall be excavated to a minimum depth of 6 inches below grade and backfilled to grade with a sand-gravel mixture or other approved material. The bedding material shall be shaped to grade and compacted. Alternative measures can be presented for consideration.
3. Laying tile
    a. Inlets/Outlets

i. The ends and inside surface of all tiles shall be kept clean during installation. All earth or other extraneous material within the tile shall be removed before installation of the new tile section. At the end of work each day and when repairs have been temporarily suspended, the open end shall be blocked so that earth or other extraneous material cannot enter the tile. On longer repair runs, the upper end of each tile line shall be blocked with permanent type material following satisfactory completion of tile installation.

b. Connections
   i. Lateral connections are made with manufactured junctions comparable in strength with the specified tile unless otherwise specified.
   ii. Where existing tile lines not shown on the drawings are crossed, they shall be bridged across the new trench or they shall be connected into the new tile lines.

c. Backfilling
   i. Backfilling of the trench shall be completed as rapidly as consistent with the soil conditions.
   ii. Backfill shall extend above the ground surface and be well rounded and centered over the trench.
   iii. Unless otherwise specified, where drain tile is installed under roads and at other designated locations shown on the drawings, the backfill shall be placed in successive layers of not more than 9 inches and each layer shall be compacted before the next layer is placed. The density of the compacted backfill shall not be less than the density of the surrounding adjacent earth material unless otherwise specified.

REPAIR/INSTALLATION STANDARDS AND POLICIES

If the drain tile is damaged during the construction activities for the Project, the drain tile would either be repaired to maintain current drainage operations or re-routed in a new system that preserves the original drainage patterns. The following standards and policies shall apply to the drain tile repair or installation:

A. The drain tile contractor will work under the direction of, and with the direct involvement of, the contractor causing the impact, and the contractor's construction management team.
B. All tile lines that are damaged, cut, or removed shall be staked or flagged with the stakes or flags placed in such a manner they would remain visible until the permanent repairs are completed.
C. Unused or discarded pieces of drain tile will be removed and disposed of promptly and properly.
D. If available during the time of construction, contractor will endeavor to use qualified local drain tile contractors with experience in Illinois to conduct drain tile repairs/replacements. An experienced drain tile expert ready to assist is paramount to a successful repair.

E. The Landowner shall be given the opportunity to observe temporary and permanent repairs on their property. For safety concerns, the contractor's operations team will coordinate with the Landowner to be properly escorted onto the active construction site.
F. Photographs and a written memo will be prepared outlining the extent of the damage to the line, and how the damage occurred. Once repairs are completed, a write-up of what was completed along with photos will be submitted to the contractor's Operations team. This information shall be submitted to the Landowner, County, and local drainage districts.
G. The original drain tile alignment, depth, gradient and water flow shall be maintained to the greatest extent practicable. Repair materials will be equivalent or better than those currently in place for repairing the damaged drain tile and will be joined to existing drain tile by means of adapters or couplers manufactured for that purpose. Measurements shall be used to ensure the proper gradient is maintained. A laser operated tiling machine will be required for segments of 100 feet or more.
H. Where there are repairs, all permanent drain tile repairs shall be completed by replacing the damaged tile across the zone of impact work area. If drain tile are found to be damaged, they must be repaired or replaced, so the drainage functions as well after construction as before the construction began.
I. Following completion of the construction, all repaired and/or newly installed drain tiles shall meet or exceed the industry standard specifications. If construction takes place in the winter, drain tiles, if flowing, would be temporarily repaired. Final repairs or installations drain tiles would be performed in the spring when soils are thawed and the ground is dry enough to limit rutting.

POST CONSTRUCTION

After the replacement of topsoil and reseeding, the drain tile mitigation shall be monitored until construction is complete. Conditions to be monitored during this period include drain tile settling, vegetation production, erosion, and drainage. The monitoring period is intended to allow for effects of weather changes such as frost action, precipitation, settling and changes in the seasons, from which various monitoring determinations can be made. Following the completion of construction and deconstruction, the Project Owner will be responsible for repairing drain tile failures caused by construction or deconstruction. Repairs will be completed using procedures outlined in Section 6 of the Agricultural Impact Mitigation Agreement between Project Owner and the Illinois Department of Agriculture.

CONCLUSION

Arena Navigator 1 Solar, LLC recognizes the importance of agricultural drainage systems in the proposed Project area and is committed to minimizing the potential for impacts to drainage systems as a result of construction-related activities. Pinion conducted a comprehensive review of data sources which included historical research, topographic data, predictive drainage analytics, and direct consultation with the landowner to preliminarily identify the locations of existing drain tile. Arena Navigator 1 Solar, LLC plans to use manual tile locating techniques in the future to ensure accurate locations. If drain tile is encountered, Arena Navigator 1 Solar, LLC and the contractor will work with the landowners to repair or re-route the drain tile to ensure the Project remains in compliance with the IDOA AIMA and this plan. The Project area will maintain its pre-development drainage conditions throughout construction.

Attachment A: Desktop Drain Tile Memo


CAT
pinion

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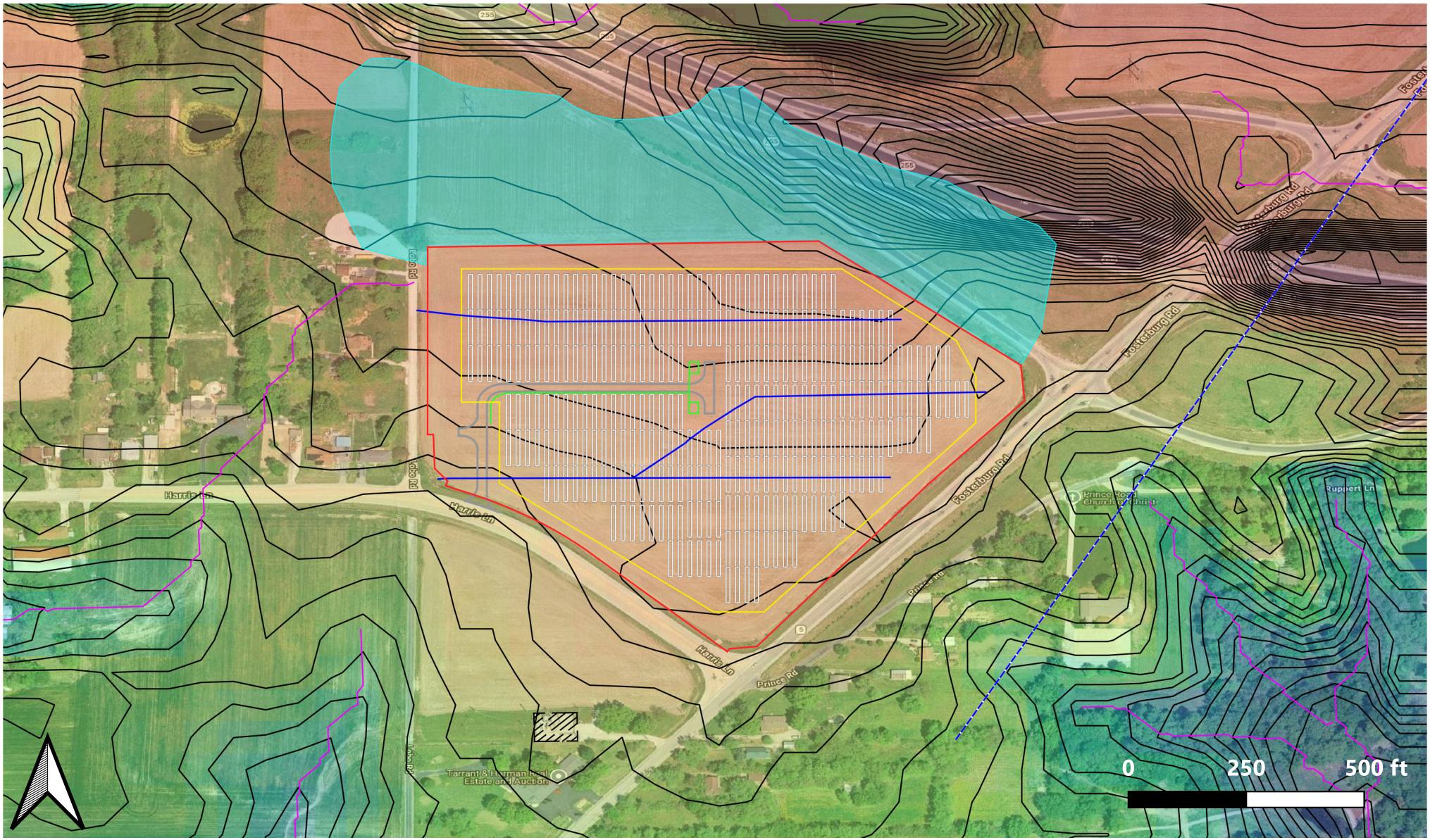
Arena Renewables - Navigator 1 Solar - Summary

During our initial desktop analysis of the Navigator 1 Solar site, we conducted a comprehensive review of the designated site. This assessment included the evaluation of historical research, topographic data, predictive drainage analytics, and direct consultation with the owner, Rod Thomas.

Mr. Thomas has owned the property for 20 years, and since he owned the property there has not been any tile installed. He was not certain if any tile had been installed before his purchase.

To verify if any undocumented drain tile is present withing the project area, we are recommending exploratory trenching be completed in five locations denoted on the Proposed Exploratory Trenching Page. Based on our research and tools, these five areas have the highest likelihood for existing tiles to be present.



GPS Location: 38.93117132996385, -90.1016625103236,

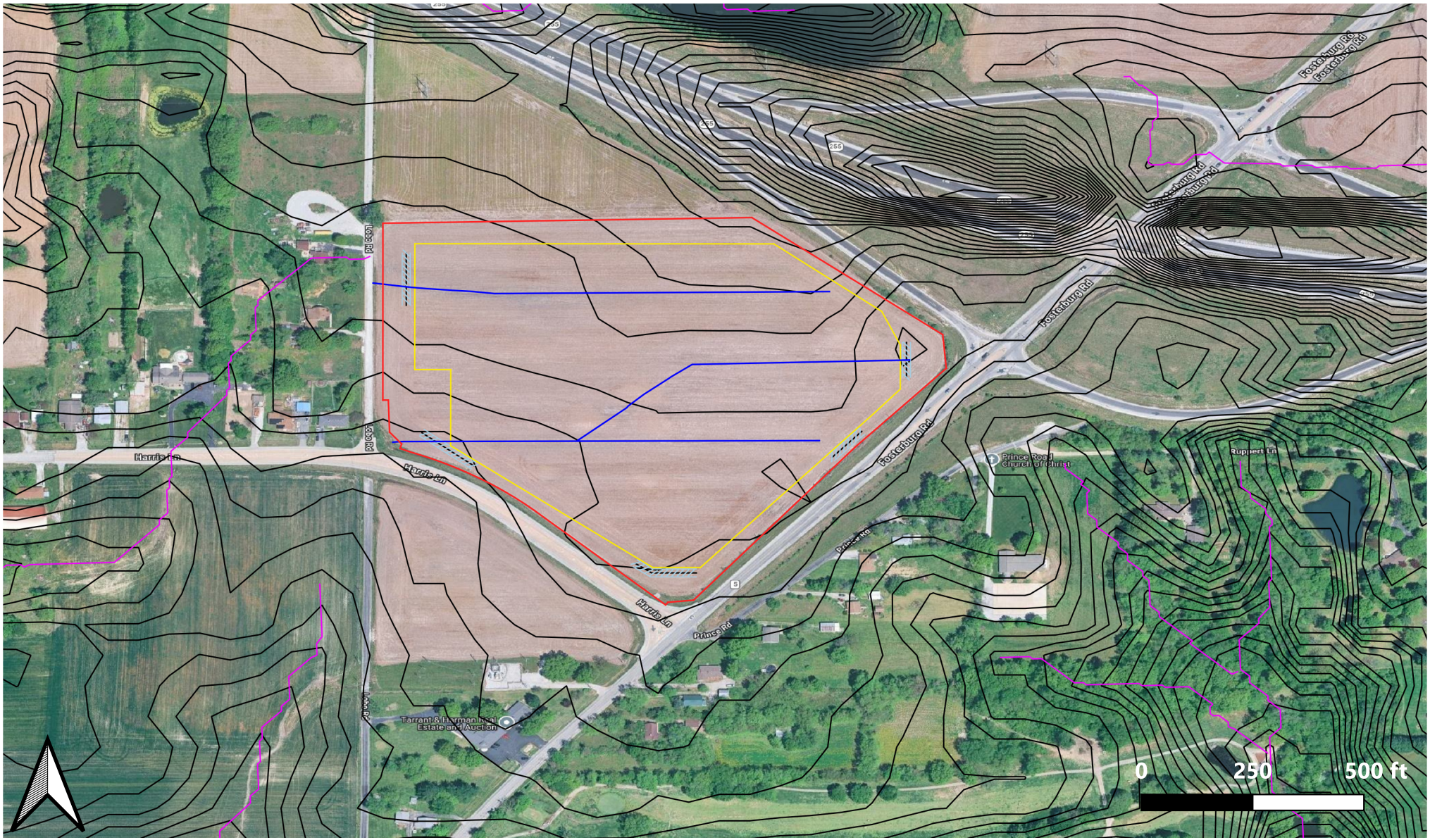
Legend

- Project Boundary
- Fence
- Historical Research
- Predictive Analytics
- Watershed
- Arrays
- Electrical
- Pipeline
- Road
- Substation

pinion

Date Created 05/27/2026

Arena Renewables - Navigator 1 Solar - Proposed Exploratory Trenching



GPS Location: 38.93117132996385, -90.1016625103236,

Legend

- Project Boundary
- Fence
- Exploratory Path
- Historical Research
- Predictive Analytics

Date Created 05/27/2026

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Arena Renewables - Navigator 1 Solar - Contact Log

Navigator 1 Solar									
Name on Plat	Total Acres	Est. Acres in Watershed	Person of Contact	Title	Address	Telephone	Email	Verbal Contact	Comments / Notes
FOSTERBURG 255 20-1-02-33-00-000-010	25	25	Rod Thomas Gene Manis	Owner		Rod: 314-852-7000 Gene: 314-954-1291	Rthomas@tristarproperties.com Gmanis@tristarproperties.com	Y	5/8/2026 JD - Left Voicemail with both Phone numbers 5/11/2026 JD - Spoke with Rod, he has owned the property for 20 years. He is not aware of any drain tile in the field but wasn't completely certain. Gene is Rod's Accountant, he does not have any intimate knowledge of the property.
Non - Participating Landowners									
HARRIS LOLA	6	6	Lola Harris		3373 HARRIS LN BETHALTO, IL 62010		corawalker897@gmail.com		5/12/2026 JD - Sent introductory email 5/19/2026 JD - Follow-up email
Persons of Interest	Contact	Title	Telephone	Email	Comments/Notes				
Drainage District	N/A								
Road Commissioner									
Township, Municipality, Etc									

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Appendix A
Existing Tile Maps

No Existing Tile Maps Were Provided by Landowners

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Appendix B
Historical Imagery Research


Lobo Rd
Lobo Rd
Harris Ln
Harris Ln
Fosterburg Rd
Prince Rd
Prince Rd
Prince Rd
Ruppert Ln
Prince Road Church of Christ
255
5


255
255
Lobo Rd
Lobo Rd
Harris Ln
Harris Ln
Fosterburg Rd
Prince Rd
Prince Rd
Prince Rd
Prince Road C
5
Image © 2025 Maxar Technologies

Glossary

Topography

The blue through red spectrum of contoured lines and shaded areas indicate the topography surrounding the project area. Used to help analyze and create the watershed to discover the area of impact.

Watershed

The blue shaded-outlined area of the results of an in-depth analysis of the topography to show which neighboring parcels will be impacted by the project.

Mapped Drainage Tile (Existing Tile)

The white lines depict the discovered Existing Drainage Tile. These are geo-referenced using landowner provided information such as hand-drawn maps, photo imagery, CAD drawings, GPS files, and other drainage tile map sources.

Assumed Flows (Predictive Analytics)

Deep purple lines depict Assumed Flows. The Assumed Flows are predictive analytics, that incorporate local drainage practices, soil types, topography, and water conveyance, to make strong inferences about the location of unmarked or unmapped drainage tile (8" ID and larger). This analysis will help the development team design infrastructure to coincide with the current and future drainage needs of the footprint. This tool was designed to help guide early through late-stage development and layout.

Assumed & Historical Research Drainage Tile

Royal blue lines depict Historical Research Drainage Tile, drawn based on observable evidence of tile from historical imagery research. Yellow lines depict Assumed Drainage Tile, drawn based on a combination of historical imagery research, predictive analytics, and landowner conversations suggesting the presence of tile, but not yet confirmed. These geo-referenced drainage tile lines are a combination of future drainage plans and strong inferences developed through satellite imagery research. This report is designed to provide the development team with deeper information surrounding the strong possibility of additional drainage tile located within specific areas of the footprint.

Assumed Path

The yellow lines depict Assumed Path, which represents the inferred alignment and flow direction of the existing tile based on field observations and site topography. These lines are added after exploratory trenching is completed and are used to illustrate the assumed alignment of confirmed existing tile between exploratory trench locations where tile was identified. Assumed Path and Assumed Tile are distinct representations and will not typically be shown together on the same map: Assumed Path reflects the inferred path of confirmed tile following exploratory trenching, whereas Assumed Tile is shown prior to trenching and is based on a combination of historical imagery research, predictive analysis, and landowner input suggesting the potential presence of tile.

Drainage District or other Municipal Drainage

Orange lines depict the path of the existing drainage infrastructure that is either publicly owned through the Drainage District or storm drainage through a municipality.

Remediation Plan (Drainage Planned)

The mixed color tile lines typically accompanied by sizes indicate the remediation plan recommended to maintain or improve the current level of drainage within the watershed.

Disclaimer: Desktop Agricultural Mitigation and Drainage Tile Studies

Accuracy: The agricultural mitigation and drainage tile studies provided by our team are based on desktop research and analysis. We do not conduct on-site surveys for these studies. The accuracy of the deliverables is contingent upon the information provided to us, additional research we conduct, and other data we obtain. General Accuracy: Our team strives to deliver highly accurate results. In most cases, our deliverables will be accurate within inches. However, it is important to acknowledge that some data may be less precise and may have a margin of error within feet. Limitations: Due to the reliance on desktop methods, these studies may not capture all drainage conditions or complexities. Recommendation: For the most precise results, we recommend supplementing our desktop studies with a site survey.

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Standard Solar AIMA

(For all Section and Figure references, refer to Standard Solar AIMA v.8.19.19 at https://agr.illinois.gov/resources/aima.html)

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.

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.

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Standard Solar AIMA (cont.)

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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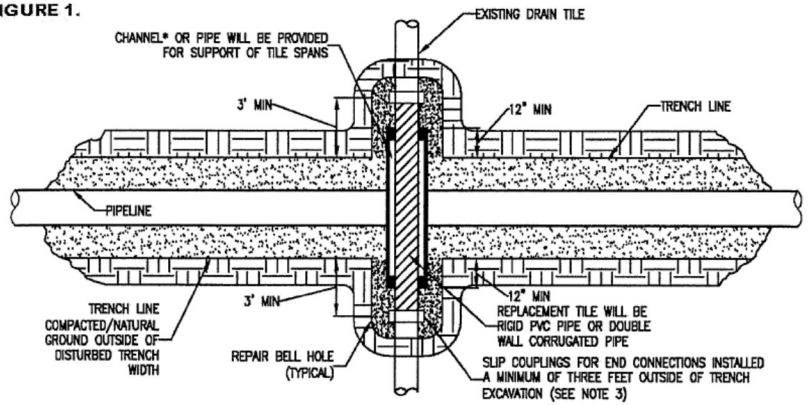
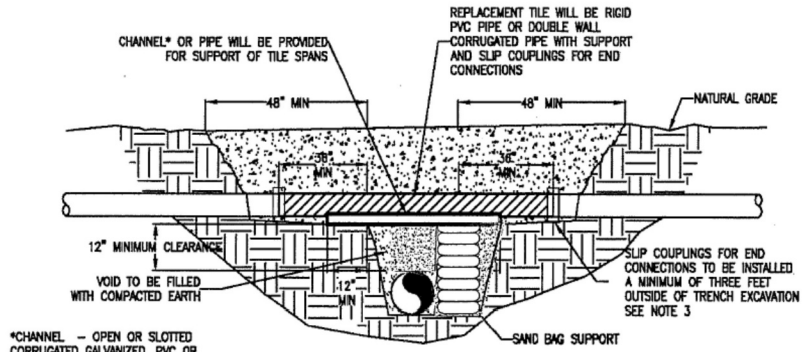
FIGURE 1.



PLAN
N.T.S.



CROSS SECTION
N.T.S.

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

PAGE 1 of 2

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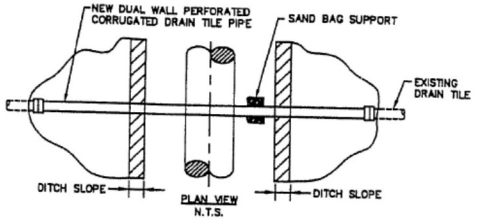
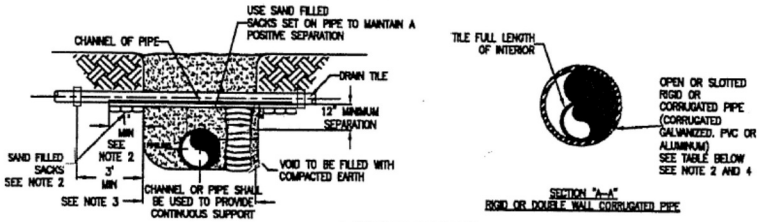
FIGURE 2.



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"-9"	7" @ 9.8 #/ft	9"-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

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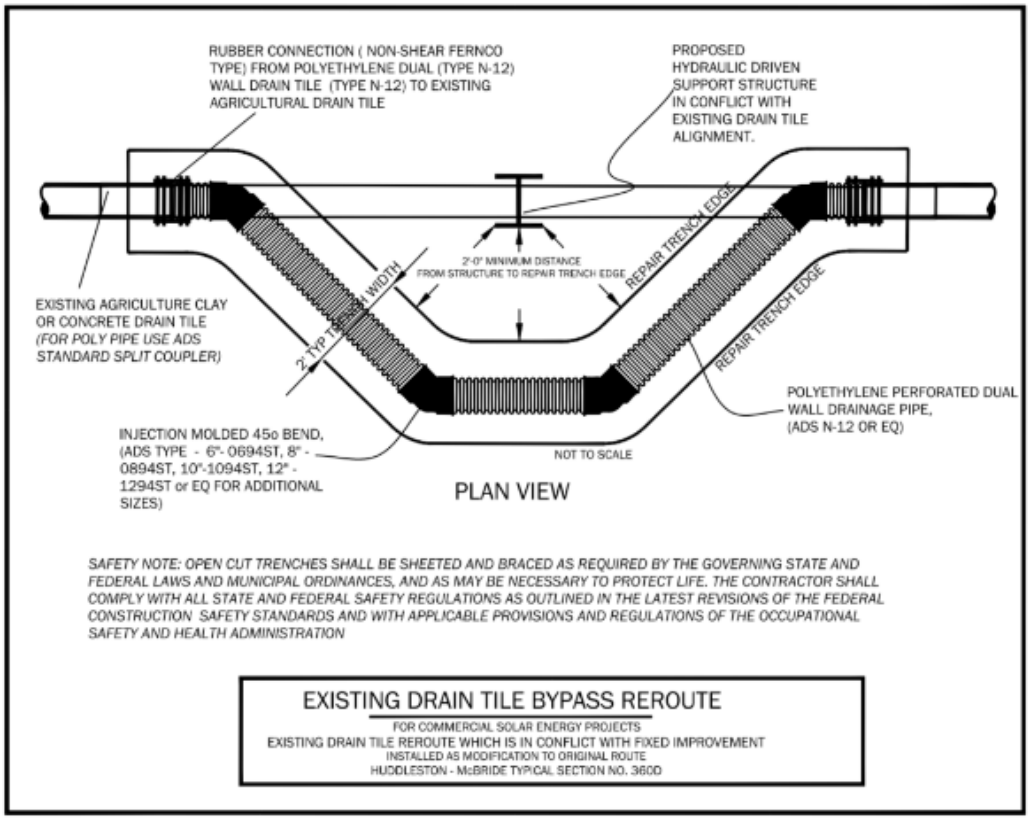
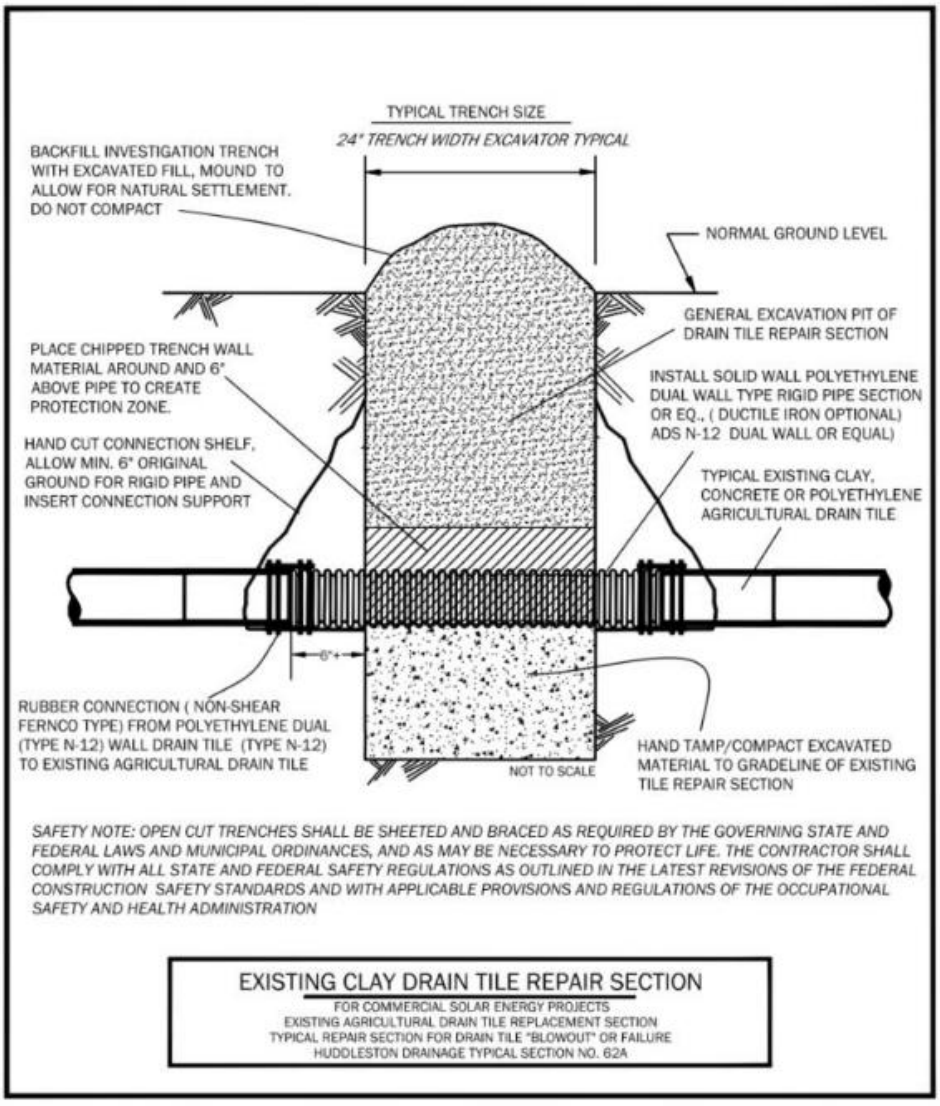
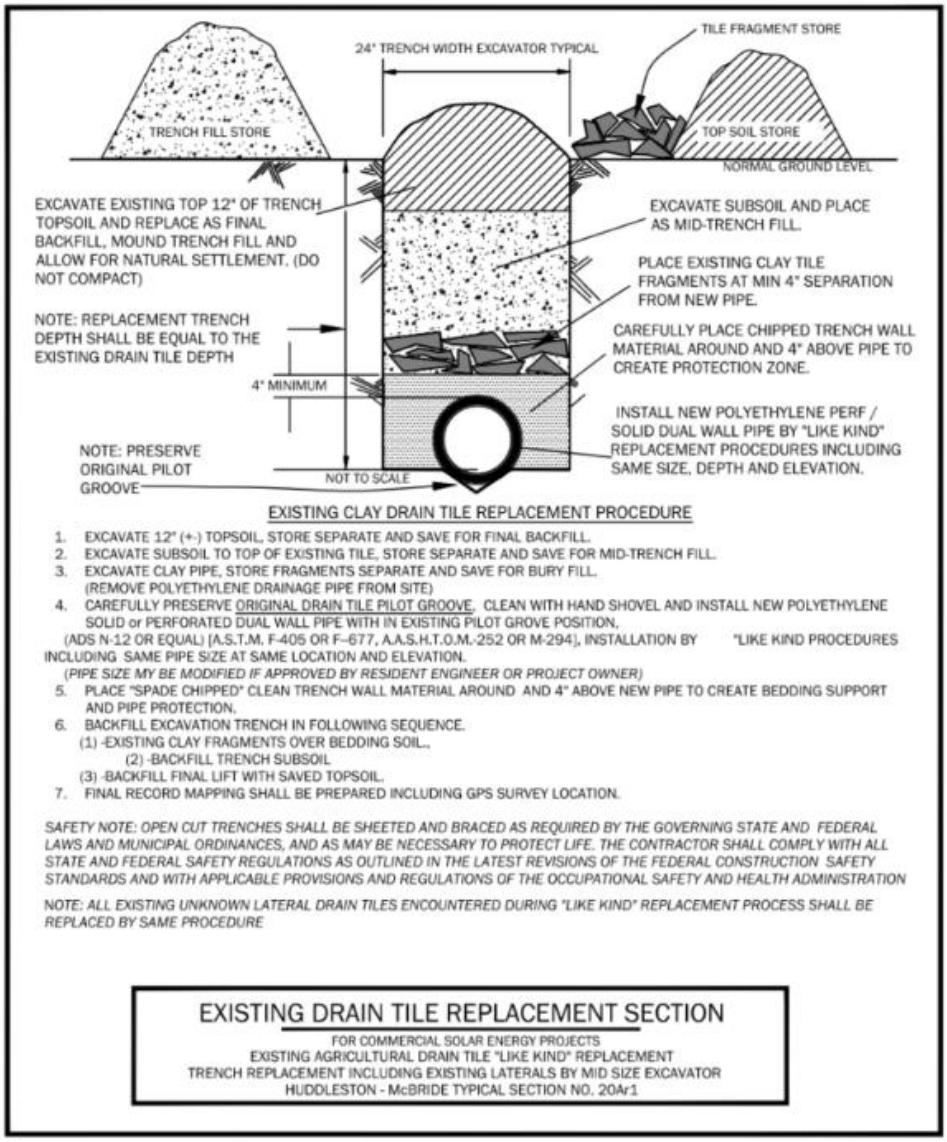
Attachment B: Sample Drain Tile Repair Details


RUBBER CONNECTION (NON-SHEAR FERNCO TYPE) FROM POLYETHYLENE DUAL (TYPE N-12) WALL DRAIN TILE (TYPE N-12) TO EXISTING AGRICULTURAL DRAIN TILE
PROPOSED HYDRAULIC DRIVEN SUPPORT STRUCTURE IN CONFLICT WITH EXISTING DRAIN TILE ALIGNMENT.
EXISTING AGRICULTURE CLAY OR CONCRETE DRAIN TILE (FOR POLY PIPE USE ADS STANDARD SPLIT COUPLER)
2'-0" MINIMUM DISTANCE FROM STRUCTURE TO REPAIR TRENCH EDGE
REPAIR TRENCH EDGE
REPAIR TRENCH EDGE
POLYETHYLENE PERFORATED DUAL WALL DRAINAGE PIPE, (ADS N-12 OR EQ)
INJECTION MOLDED 45o BEND, (ADS TYPE - 6"- 0694ST, 8" - 0894ST, 10"-1094ST, 12" - 1294ST or EQ FOR ADDITIONAL SIZES)
NOT TO SCALE
PLAN VIEW
SAFETY NOTE: OPEN CUT TRENCHES SHALL BE SHEETED AND BRACED AS REQUIRED BY THE GOVERNING STATE AND FEDERAL LAWS AND MUNICIPAL ORDINANCES, AND AS MAY BE NECESSARY TO PROTECT LIFE. THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND FEDERAL SAFETY REGULATIONS AS OUTLINED IN THE LATEST REVISIONS OF THE FEDERAL CONSTRUCTION SAFETY STANDARDS AND WITH APPLICABLE PROVISIONS AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
EXISTING DRAIN TILE BYPASS REROUTE
FOR COMMERCIAL SOLAR ENERGY PROJECTS
EXISTING DRAIN TILE REROUTE WHICH IS IN CONFLICT WITH FIXED IMPROVEMENT
INSTALLED AS MODIFICATION TO ORIGINAL ROUTE
HUDDLESTON - McBRIDE TYPICAL SECTION NO. 3600


TYPICAL TRENCH SIZE
24" TRENCH WIDTH EXCAVATOR TYPICAL
BACKFILL INVESTIGATION TRENCH WITH EXCAVATED FILL, MOUND TO ALLOW FOR NATURAL SETTLEMENT. DO NOT COMPACT
NORMAL GROUND LEVEL
GENERAL EXCAVATION PIT OF DRAIN TILE REPAIR SECTION
PLACE CHIPPED TRENCH WALL MATERIAL AROUND AND 6" ABOVE PIPE TO CREATE PROTECTION ZONE.
INSTALL SOLID WALL POLYETHYLENE DUAL WALL TYPE RIGID PIPE SECTION OR EQ., (DUCTILE IRON OPTIONAL) ADS N-12 DUAL WALL OR EQUAL)
HAND CUT CONNECTION SHELF, ALLOW MIN. 6" ORIGINAL GROUND FOR RIGID PIPE AND INSERT CONNECTION SUPPORT
TYPICAL EXISTING CLAY, CONCRETE OR POLYETHYLENE AGRICULTURAL DRAIN TILE
6"+
RUBBER CONNECTION (NON-SHEAR FERNCO TYPE) FROM POLYETHYLENE DUAL (TYPE N-12) WALL DRAIN TILE (TYPE N-12) TO EXISTING AGRICULTURAL DRAIN TILE
NOT TO SCALE
HAND TAMP/COMPACT EXCAVATED MATERIAL TO GRADELINE OF EXISTING TILE REPAIR SECTION
SAFETY NOTE: OPEN CUT TRENCHES SHALL BE SHEETED AND BRACED AS REQUIRED BY THE GOVERNING STATE AND FEDERAL LAWS AND MUNICIPAL ORDINANCES, AND AS MAY BE NECESSARY TO PROTECT LIFE. THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND FEDERAL SAFETY REGULATIONS AS OUTLINED IN THE LATEST REVISIONS OF THE FEDERAL CONSTRUCTION SAFETY STANDARDS AND WITH APPLICABLE PROVISIONS AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
EXISTING CLAY DRAIN TILE REPAIR SECTION
FOR COMMERCIAL SOLAR ENERGY PROJECTS
EXISTING AGRICULTURAL DRAIN TILE REPLACEMENT SECTION
TYPICAL REPAIR SECTION FOR DRAIN TILE "BLOWOUT" OR FAILURE
HUDDLESTON DRAINAGE TYPICAL SECTION NO. 62A



EXISTING CLAY DRAIN TILE REPLACEMENT PROCEDURE

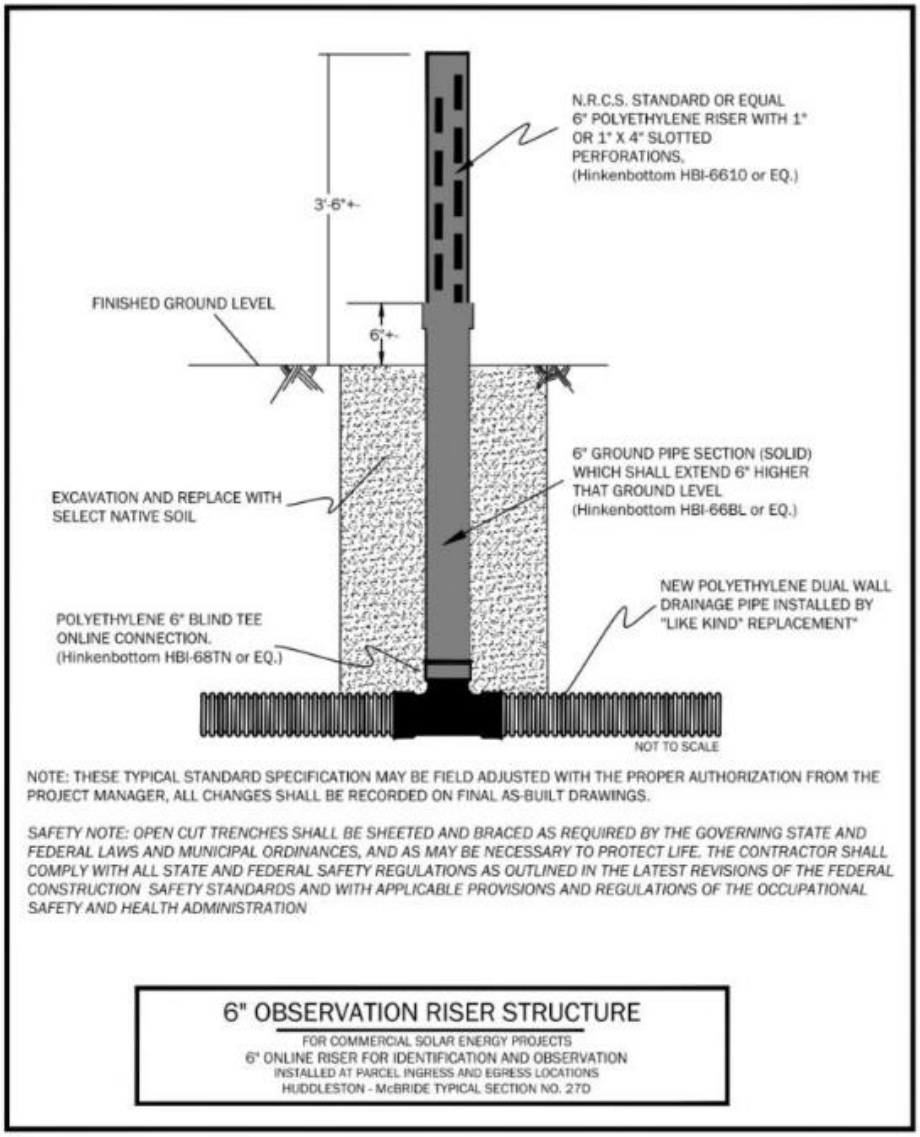
1. EXCAVATE 12" (+-) TOPSOIL, STORE SEPARATE AND SAVE FOR FINAL BACKFILL.
2. EXCAVATE SUBSOIL TO TOP OF EXISTING TILE, STORE SEPARATE AND SAVE FOR MID-TRENCH FILL.
3. EXCAVATE CLAY PIPE, STORE FRAGMENTS SEPARATE AND SAVE FOR BURY FILL. (REMOVE POLYETHYLENE DRAINAGE PIPE FROM SITE)
4. CAREFULLY PRESERVE ORIGINAL DRAIN TILE PILOT GROOVE. CLEAN WITH HAND SHOVEL AND INSTALL NEW POLYETHYLENE SOLID or PERFORATED DUAL WALL PIPE WITH IN EXISTING PILOT GROVE POSITION. (ADS N-12 OR EQUAL) [A.S.T.M. F-405 OR F--677, A.A.S.H.T.O.M.-252 OR M-294], INSTALLATION BY "LIKE KIND PROCEDURES INCLUDING SAME PIPE SIZE AT SAME LOCATION AND ELEVATION.
   (PIPE SIZE MY BE MODIFIED IF APPROVED BY RESIDENT ENGINEER OR PROJECT OWNER)
5. PLACE "SPADE CHIPPED" CLEAN TRENCH WALL MATERIAL AROUND AND 4" ABOVE NEW PIPE TO CREATE BEDDING SUPPORT AND PIPE PROTECTION.
6. BACKFILL EXCAVATION TRENCH IN FOLLOWING SEQUENCE.
   (1) -EXISTING CLAY FRAGMENTS OVER BEDDING SOIL.,
   (2) -BACKFILL TRENCH SUBSOIL
   (3) -BACKFILL FINAL LIFT WITH SAVED TOPSOIL.
7. FINAL RECORD MAPPING SHALL BE PREPARED INCLUDING GPS SURVEY LOCATION.

SAFETY NOTE: OPEN CUT TRENCHES SHALL BE SHEETED AND BRACED AS REQUIRED BY THE GOVERNING STATE AND FEDERAL LAWS AND MUNICIPAL ORDINANCES, AND AS MAY BE NECESSARY TO PROTECT LIFE. THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND FEDERAL SAFETY REGULATIONS AS OUTLINED IN THE LATEST REVISIONS OF THE FEDERAL CONSTRUCTION SAFETY STANDARDS AND WITH APPLICABLE PROVISIONS AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

NOTE: ALL EXISTING UNKNOWN LATERAL DRAIN TILES ENCOUNTERED DURING "LIKE KIND" REPLACEMENT PROCESS SHALL BE REPLACED BY SAME PROCEDURE

EXISTING DRAIN TILE REPLACEMENT SECTION

FOR COMMERCIAL SOLAR ENERGY PROJECTS
EXISTING AGRICULTURAL DRAIN TILE "LIKE KIND" REPLACEMENT
TRENCH REPLACEMENT INCLUDING EXISTING LATERALS BY MID SIZE EXCAVATOR
HUDDLESTON - McBRIDE TYPICAL SECTION NO. 20Ar1



NOTE: THESE TYPICAL STANDARD SPECIFICATION MAY BE FIELD ADJUSTED WITH THE PROPER AUTHORIZATION FROM THE PROJECT MANAGER, ALL CHANGES SHALL BE RECORDED ON FINAL AS-BUILT DRAWINGS.

SAFETY NOTE: OPEN CUT TRENCHES SHALL BE SHEETED AND BRACED AS REQUIRED BY THE GOVERNING STATE AND FEDERAL LAWS AND MUNICIPAL ORDINANCES, AND AS MAY BE NECESSARY TO PROTECT LIFE. THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND FEDERAL SAFETY REGULATIONS AS OUTLINED IN THE LATEST REVISIONS OF THE FEDERAL CONSTRUCTION SAFETY STANDARDS AND WITH APPLICABLE PROVISIONS AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

6" OBSERVATION RISER STRUCTURE

FOR COMMERCIAL SOLAR ENERGY PROJECTS
6" ONLINE RISER FOR IDENTIFICATION AND OBSERVATION
INSTALLED AT PARCEL INGRESS AND EGRESS LOCATIONS
HUDDLESTON - McBRIDE TYPICAL SECTION NO. 27D

EXHIBIT M: DECOMMISSIONING PLAN AND COST ESTIMATE

DECOMMISSIONING PLAN

ARENA NAVIGATOR 1 SOLAR, LLC
MADISON COUNTY, ILLINOIS

Prepared for:

ARENA RENEWABLES, LLC

Contact: Sam Walch

Phone: (860) 466-0489

Prepared By:

Kimley-Horn & Associates, Inc.

570 Lake Cook Rd, Suite 200

Deerfield, IL 60015

Contact: Daniel Blalock, P.E.

Phone: (630) 791-3633

Prepared**:** May 2026

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5.0 PROJECT DECOMMISSION COSTS AND FINANCIAL ASSURANCE *5*

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1.0 INTRODUCTION

Background

Arena Navigator 1 Solar, LLC (Applicant), a subsidiary wholly owned by Arena Renewables, LLC, is developing the Arena Navigator 1 Solar, LLC commercial solar energy facility (Project) with a total parcel area of approximately 24.63-acres that will be leased by the Applicant. The Project is located in unincorporated Madison County, Illinois. The Project will be located north of Harris Lane, west of Fosterburg Road, east of Lobo Road, and south of IL-255 and agricultural land. The geographical coordinates are 38°93'02.9"N and 90°10'38.5"W. Refer to **Special Use Permit Application Exhibit B: Zoning Site Plan** for general location and Project layout.

The Project will be sited over approximately 16.87 acres (Project Area) of leased property north of Harris Lane, west of Fosterburg Road, and east of Lobo Road. The site currently drains towards the south of the site.

This Decommissioning Plan (Plan) is developed in compliance with 55 ILCS 5/5-12020 and the Illinois Department of Agriculture's standard Agricultural Impact Mitigation Agreement (AIMA), version 8.19.19, as stated in the Madison County, IL Code of Ordinances Section 93.106.G.

This Plan covers and addresses the following elements outlined in the conditions of the AIMA and the Madison County, IL Code of Ordinances Section 93.106.G:

Removal and disposition of all solar related equipment/facilities, including the following:

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);
4. Transformers, inverters, energy storage facilities, or substations, including all components and foundations;
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.

In addition, in accordance with the AIMA and the Madison County, IL Code of Ordinances Section 93.106.G, if the Project ceases to perform its intended function for more than twelve (12) consecutive months, the Project shall be removed and the site restored in accordance with this Plan.

2.0 PROJECT COMPONENTS

The Project Components that are subject to decommission include the equipment summarized below. The decommission activities associated with these components are discussed in Section 3.0 of this Plan.

Solar Photovoltaic (PV) Equipment

The Project will use Solar Photovoltaic (PV) modules mounted on single axis tracker steel pile foundations.

Internal Power Collection System

The PV-generated DC power will be collected from each of the multiple rows of PV modules through one or more combiner boxes and conveyed to inverters. The inverters will convert the DC power to AC power, which will be interconnected into the existing power line running towards the southwestern corner of the Project boundary.

Transformers and PV combining switchgear will be mounted on concrete foundations.

Earthwork

It is anticipated that the site will require grading for the Project. Site grading and drainage will be conducted in accordance with Final Civil Construction plans.

Roads

Access to the Project will be provided via a new driveway located along Harris Lane. The site access will be designed in accordance with Foster Township requirements and the Final Civil Construction Plans. The internal site access road is anticipated to be gravel. A culvert may be required and will be designed during Final Engineering, if required.

Fencing

Eight-foot-high woven wire fencing will enclose the perimeter of the Project area, and the internal access road would be secured through locked metal gates. A series of internal access roads will be used to provide access to Project equipment for future maintenance. The proposed access roads are typically gravel and will be verified upon final design with the recommendations of a geotechnical engineer. Entry gates will be provided approximately 280’ north of Harris Lane along the internal access road.

3.0 PROJECT DECOMMISSION AND RECYCLING

Decommission includes removal of above ground and below ground structures. Grading is anticipated during construction; however, the Project will require limited or no grading following decommission. Temporary erosion and sedimentation control Best Management Practices should be implemented during the decommission phase of the Project. Work hours on site will be typical 8 am – 6 pm or as otherwise required by the county.

Decommission Preparation

Prior to commencement of the decommission process, assess existing site conditions and prepare the site for demolition. Demolition debris shall be placed in temporary onsite storage area(s) pending final transportation and disposal and/or recycling according to the procedures listed below.

Permits and Approvals

It is anticipated that a National Pollutant Discharge Elimination System (NPDES) Permit from the Illinois Environmental Protection Agency (IEPA) and a Stormwater Pollution Prevention Plan (SWPPP) will be required. Per **Special Use Permit Application Exhibit S: Wetland Delineation Report** prepared by Kimley-Horn dated May 2026, the proposed development area of the site does not contain waters of the United States. There are eight threatened, endangered, or candidate species within the Project Area. Refer to **Special Use Permit Application Exhibit H: Illinois Department of Natural Resources (IDNR) EcoCAT** and **Special Use Permit Application Exhibit I: United States Fish and Wildlife Services (USFWS) Information for Planning and Consulting (IPaC)** for additional information on all threatened and endangered species identified on Site. Appropriate applications for permits from the federal, state, and/or local authorities having jurisdiction (AHJs) shall be submitted and approved prior to decommission activities.

PV Equipment Removal and Recycling

During decommissioning, Project components shall be removed from the site and recycled or disposed of at an appropriately licensed disposal facility. Above ground portions of the PV module supports shall be removed. Below ground portions of the PV module supports shall be removed entirely where practical, but to a depth of five feet at a minimum. Those supports that are more firmly anchored (e.g., such as embedded in bedrock) may be cut off at least five feet below ground or to the depth of bedrock, and the remaining support left in place. This depth will avoid impact of underground equipment on future farming or other construction activities. The demolition debris and removed equipment may be cut or dismantled into pieces that can be safely lifted or carried with the onsite equipment being used. The debris and equipment shall be processed for transportation and delivery to an appropriately licensed disposal facility or recycling center. Modules shall be recycled in accordance with the solar module manufacturer's (or equivalent) recycling program. No hazardous materials or waste will be used during operation of the solar facility, and disposal of hazardous material or waste will not be required during decommission.

Internal Power Collection System

The cables, inverters, and transformers shall be dismantled. The concrete foundations shall be broken up, removed and recycled. If ground-screw foundations are used, they shall be removed and recycled. According to the AIMA, underground cables that are buried greater than five feet are not required to be removed; however, for this estimate, they will be counted as removed. Overhead conductors shall be removed from the poles, and the poles and pole foundations shall be removed. Aluminum from the conductors shall be recycled or removed from the site to an appropriately licensed disposal facility.

Roads

Gravel from on-site access roads shall be removed and recycled. Once the gravel is removed, the soil below the access roads shall be scarified a depth of 18-inches and blended as noted in the Site Restoration section below.

Fencing

Project site perimeter fence shall be removed at the end of the decommission Project. Since the Project site is not currently fenced, this includes removal of all posts, footings, fencing material, gates, etc. to return the site to pre-Project condition.

Landscaping

Unless requested in writing to remain in place by the landowner, all vegetative landscaping and screening installed as part of the Project will be removed. Any weed control equipment used during the Project, including weed-control fabrics or other ground covers shall be removed. Landscape areas will be restored as noted in the Site Restoration section below.

Site Restoration

Once removal of all Project equipment and landscaping is complete, all areas of the Project site that are unvegetated or where vegetation was disturbed/removed as part of decommissioning shall be restored by the applicant. Restoration shall consist of applying additional topsoil, seed, and necessary fertilizer to ensure that adequate vegetation is established throughout the Project site. Areas that exhibit compaction and/or rutting shall be scarified a depth of 18-inches prior to placement of topsoil and seed. The existence of drainage tile lines or underground utilities may necessitate less scarification depth. The applicant is responsible for promptly repairing damage to drain tiles and other drainage systems that result from decommissioning of the commercial solar energy facility.

4.0 FUTURE LAND USE

Per the requirements of the Illinois Department of Agriculture (IDOA), the Project AIMA must be signed by the facility owner and filed with the County Board prior to the commencement of construction. The IDOA prepared the AIMA to help preserve the integrity of any agricultural land that is impacted by the construction and decommission of a commercial solar energy facility. Per

the AIMA, all solar panels shall be removed from the property, and the land must be restored to its pre-existing condition for agricultural use at the end of the Project life cycle. This Decommissioning Plan is consistent with the AIMA requirements to return the land to its pre-Project conditions as an agricultural field. Refer to **Special Use Permit Application Exhibit D: Agricultural Impact Mitigation Agreement (AIMA)** for the signed AIMA.

5.0 PROJECT DECOMMISSION COSTS AND FINANCIAL ASSURANCE

The AIMA and Madison County Code of Ordinances Section 93.106.G require the owner and/or operator to provide a present-day decommission cost estimate and provide the county with financial assurance to cover the estimated costs of decommission of the facility. Provisions of this financial assurance shall be phased in over the first eleven (11) years of the Project's operations. Additional information can be found in the AIMA and Madison County Code of Ordinances Section 93.106.G. See **Attachment A** for project decommission costs prepared by Arena Renewables, LLC. The information contained in **Attachment A** has not been independently verified by Kimley-Horn, and no responsibility is assumed by Kimley-Horn for the accuracy or completeness of the document.

EXHIBIT A

Zenith Tech
A WALBEC COMPANY
An Equal Opportunity Employer

N6 W23673 Bluemound Road | Waukesha, WI 53188
262.524.1800 | walbecgroup.com

5/22/2026

Estimator: Adam Fritz
Cell: 262.853.2023
E-mail: afritz@walbecgroup.com

QUOTE Sam Walch
TO Arena Navigator 1 Solar, LLC

Project Description						*Bid Date*
Navigator 1 Solar						5/22/2026
Bid Item	**Description**	**Quantity**	**Unit**	**Unit Price**	**Total Salvage**	**Ext Price**
1	Mobilization	1	LS	$1,893.37		$1,893.37
5	General Conditions	1	LS	$35,785.39		$35,785.39
10	SWPPP, Erosion Control Measures (Disturbed Area)	15.2	AC	$1,526.00		$23,195.20
15	Seeding	1	AC	$5,450.00		$5,450.00
20	Tilling 18" topsoil/scarifying access road	1	LS	$18,987.80		$18,987.80
22	Remove Landscaping	3,257.00	SY	$3.27		$10,650.39
25	Remove and Recycle Chainlink Fence	3,375.00	LF	$10.90	$1,215.00	$36,787.50
30	Remove Power Pole	6	EA	$695.34		$4,172.04
35	Remove and Recycle AC Cables	793	LF	$7.58	$310.40	$6,010.94
40	Remove and Recycle DC Cables	162,255.00	LF	$0.27	$27,761.36	$43,808.85
45	Backfill AC and DC Trenches	2,916.00	LF	$8.24		$24,027.84
50	Remove and Recycle Padmount Equipment	2	EA	$10,371.06	$6,000.00	$20,742.12
55	Remove and Recycle Photovoltaic Modules	7,800.00	EA	$6.96	$32,619.60	$54,288.00
60	Remove and Recycle Piles	1,444.00	EA	$53.36	$9,357.12	$77,051.84
65	Remove and Recycle Racking	19,584.00	LF	$3.48	$9,400.32	$68,152.32
70	Contaminated Soils Testing	1	LS	$8,175.00		$8,175.00
75	Reclamation Monitoring and Maintenance	1	LS	$16,350.00		$16,350.00
					$86,663.80	**$455,528.60**

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	Total w/ Salvage	$368,864.80

Bid Item	Description	Quantity	Unit	Unit Price	Ext Price
1	Mobilization	1	LS	$1,893.37	$1,893.37
5	General Conditions	1	LS	$35,785.39	$35,785.39
10	SWPPP, Erosion Control Measures (Disturbed Area)	15.2	AC	$1,526.00	$23,195.20
15	Seeding	1	AC	$5,450.00	$5,450.00
20	Tilling 18" topsoil/scarifying access road	1	LS	$18,987.80	$18,987.80
22	Remove Landscaping	3,257.00	SY	$3.27	$10,650.39
25	Remove and Recycle Woven Wire Fence	3,375.00	LF	$10.90	$36,787.50
30	Remove Power Pole	6	EA	$695.34	$4,172.04
35	Remove and Recycle AC Cables	793	LF	$7.58	$6,010.94
40	Remove and Recycle DC Cables	162,255.00	LF	$0.27	$43,808.85
45	Backfill AC and DC Trenches	2,916.00	LF	$8.24	$24,027.84
50	Remove and Recycle Padmount Equipment	2	EA	$10,371.06	$20,742.12
55	Remove and Recycle Photovoltaic Modules	7,800.00	EA	$6.96	$54,288.00
60	Remove and Recycle Piles	1,444.00	EA	$53.36	$77,051.84
65	Remove and Recycle Racking	19,584.00	LF	$3.48	$68,152.32
70	Contaminated Soils Testing	1	LS	$8,175.00	$8,175.00
75	Reclamation Monitoring and Maintenance	1	LS	$16,350.00	$16,350.00
				Total w/o Salvage	$455,528.60

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Clarifications & Assumptions

General

- Size: 4.68MWDC / 3.60MWAC
- Pricing based on quantities listed above
- Demolition labor and equipment is based on present day pricing.
  - After 6/1/2026, assume 3% increase in labor rates to account for labor rate escalation.
- Trench excavation and backfill assumes native backfill with no import fill.
- Based on the following present day scrap prices:
  - Copper – $3.7/LB
  - Aluminum - $0.20/LB
  - Steel - $0.12/LB
  - PV Modules - $0.06/LB

EXHIBIT N: VEGETATIVE MANAGEMENT PLAN

VEGETATION MANAGEMENT PLAN

Navigator 1 Solar, LLC
Madison County, IL

Arena Renewables, LLC.

Prepared By:
Kimley-Horn & Associates, Inc.

May, 2026

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Appendix A - Soils Map

1.0 INTRODUCTION

Arena Navigator 1 Solar, LLC (Applicant), a subsidiary wholly owned by Arena Renewables, LLC, is developing a Commercial Solar Energy Facility (Project) on approximately 24.63-acres of land that will be leased by the Applicant. The Project will be located in Madison County, Illinois, on the corner of Harris Lane and Fosterburg Road. The Vegetation Management Plan (VMP) provides a preliminary review of site conditions and soils, recommendation of seed species, site preparation, timing of seed installation, seed application methods, and maintenance and monitoring guidelines.

To develop a successful project, this VMP is to be used as a general guide, with flexibility to change and evolve with the Project as a benchmark with the on-going development and monitoring of the Project's life. Such on-going monitoring may include on-site evaluation reports and coordination regarding potential plan discrepancies, changes to the plans, or changes to the site program. Recommendations or modifications to the Project that vary from the VMP should be evaluated, coordinated, and authorized through the Project owner, the Developer, or an environmental consultant. Adaptive maintenance and monitoring, allowing for the change in pre-prescribed maintenance guidelines, are seen as advantageous and necessary in order to ensure success of the Project and to address changing conditions and unforeseen circumstances.

1.1 Existing Land Use

The site consists of one parcel and is accessed from a proposed gravel road off of Harris Lane. The project site is encapsulated by Lobo Road to the west, Harris Lane and Fosterburg Road to the southwest and southeast respectively, and an off ramp from Illinois Route 255 to the north. There is an existing small wetland alongside the eastern property line, as well as upland drainage ditch located just outside the west and southwest property line.

The proposed site plan limits consist of existing agricultural land to be developed for the use of solar energy production. The agricultural use includes primarily row-crop production with rotated crop species. For reference to the existing site location, land use, layout, existing vegetative conditions, and existing structures, please see the Preliminary Proposed Conditions Plan. [*separate document not included as part of this report*]

2.0 SITE SOILS

A summary of the existing site soils was prepared from data and mapping provided by the United States Department of Agriculture, Natural Resources Conservation Service. In review of the existing site conditions, there are primarily two soils identified within the overall Project limits with various degrees of erosion and slopes. This evaluation looks at the aggregate conditions of soils across the major groups and any outlying areas.

SOILS SUMMARY OF NRCS WEB SOIL SURVEY									
SOILS NAME	TEXTURE CLASS	SLOPE	AREA	%	DRAINAGE CLASS	FLOODING / PONDING	HYDRIC CLASS	RUNOFF CLASS	DEPTH TO WATER TABLE (INCH)
Weir	Silt Loam, Silty Clay Loam	0-2%	15.2	71.0%	Poorly Drained	Occasional Ponding	Yes	Negligible	0-12
Caseyville	Silt Loam, Silty Clay Loam	0-2%	5.7	26.4%	Somewhat Poorly Drained	None	No	Low	6-24
Caseyville	Silt Loam, Silty Clay Loam	2-5%	0.6	2.6%	Somewhat Poorly Drained	None	No	Low	6-24

The site is dominated by fine-textured loess-derived soils, with silt loam and silty clay loam being the prevailing texture classes across all mapped units. Overall drainage conditions range from poorly drained (Weir soils) to somewhat poorly drained (Caseyville soils), indicating seasonal wetness and shallow water tables across much of the site. Depth to the seasonal high water table generally occurs within the upper 0–24 inches, particularly within the Weir soil, which is also classified as hydric.

From a planning perspective, the Weir soil is the most limiting soil on site due to its very shallow water table, poor drainage, and hydric classification, while the Caseyville soils offer somewhat better internal drainage but still exhibit wetness concerns. Restrictive layers are not encountered within the upper 80 inches for any mapped unit, which provides some flexibility for long-term soil improvement strategies. This should improve soil conditions over time and help mitigate possible impacts from project development. A Soils Map is provided as **Appendix A** of this report.

3.0 EROSION AND SEDIMENT CONTROL / MITIGATION

Best Management Practices (BMP) shall conform to federal state, and local requirements of practice, as applicable to Erosion and Sediment Control/Mitigation, and defined in this Vegetative Management Plan. With the intention of reducing foot and vehicle traffic, the Project should define temporary parking and storage area to serve equipment maintenance and cleaning, employee parking, and locating site facilities, portable facilities, office trailers, and toilet facilities. Proper storage and disposal of project byproducts (wash water, oil, grease, rubbish, litter, etc.) is to be observed in order to mitigate the degradation of land and on-site resources.

Stabilization is defined as the improvement of soil stability though the addition of material to the soil. Stabilization practices should be initiated as soon as practical, completed at the end of each working day, but in no case more than 14 days where construction has temporarily ceased. Disturbed portions of the Project where construction activity has permanently stopped shall be stabilized with a temporary seed species or mix. If the action of vehicles traveling over the rocked construction entrances is not sufficient to remove the significant dirt or mud from falling onto paved roads, then the tires should be washed before the vehicles enter a public road. If washing is used, provisions must be made to intercept the wash water and trap the sediment before it is carried off site, as identified above. Slopes shall be left in a roughened condition during the grading phase to reduce runoff velocities and overall erosion.

All measures stated in the Vegetative Management Plan, and in any prepared Stormwater Pollution Prevention Plans, should be maintained in fully functional condition until no longer required for a completed phase of work or final stabilization of the site. All erosion and sedimentation control measures should be checked at least weekly during construction and within 24 hours of a 0.5” rainfall event or exceeds the governing requirements and cleaned/repaired.

3.1 Topsoil Management

Topsoil preservation is a critical component of erosion and stormwater control and the successful establishment of permanent groundcover vegetation. Where feasible, existing topsoils should be maintained in place and protected from construction disturbance through the use of best management practices, including designation of primary access routes, installation of erosion and sediment control measures, and temporary stabilization. Topsoil should not be used for access road construction, backfill, or berming, and no excavated subsoil should be placed on top of preserved or stockpiled topsoil.

In areas subject to ground disturbance, topsoil should be stripped and stockpiled in locations with stable, minimally erodible topographic conditions. Stockpiles should generally not exceed 4 to 6 feet in height in order to maintain soil structure, protect soil microorganisms, and minimize compaction. Stockpile side slopes should not exceed 33 percent to ensure stability and reduce erosion potential. For longer-term storage, stockpiled topsoil should be stabilized within 7 days of formation using a temporary cover crop to prevent erosion and weed establishment. As an alternative, breathable soil covers such as woven weed barrier fabric or jute mats may be used to repel water while allowing air exchange.

Topsoil handling and movement should occur when soils are moist but not saturated to avoid excessive compaction. Prior to reapplication of topsoil, the exposed subsoil should be properly prepared, particularly in areas of heavy construction traffic. Subsoil surfaces should be ripped or tilled to decompact the upper layer and create a suitable transition zone between the subsoil and reapplied topsoil. This preparation reduces the formation of restrictive layers that can limit root penetration and prevent water movement between soil horizons, which could otherwise contribute to erosion.

Reapplied topsoil should be placed to approximate original depths, or a minimum of 6 inches, and finished approximately 2 inches above the final desired grade to account for settlement. Immediately following placement, topsoil should be stabilized using a cover crop and/or the specified permanent seed mix, along with any additional erosion and sediment control measures necessary to protect soils and support vegetation establishment.

4.0 PRELIMINARY SITE SEED RECOMMENDATION

4.1 Temporary Seeding

In areas where construction is not on-going and has disturbed surface conditions, topsoils stockpiles, and areas identified as high concern of erosion, temporary seeding should be utilized for stabilization and protection of site soils. Temporary seeding should be performed in an as-needed basis, and at the earliest feasible timing to encourage quick stabilization. Temporary seeding should be applied either by broadcast with erosion control blanket or straw mulch, or by hydroseeding with straw mulch mix at a rate of 2 tons per acre. Temporary seed species should be dependent on-site conditions and season timing.

Temporary seeding should be planned for termination to reduce residual residue that can impede permanent seed establishment. The method for temporary seed species termination depends on the application, use, and location of the applied seed. Temporary seeding utilized for stabilization and steep slopes should not be fully removed to prevent erosion during transitional period. These areas should instead be treated with a glyphosate herbicide and mowed short, prior to immediate application of permanent seed mixture.

Areas identified with high amounts of temporary vegetation and residue can be mowed and shallow disked to incorporate residue into the topsoil before application of permanent seed mixture. If temporary cover crop species were utilized with the permanent seed mix, no additional action is required as annual temporary species should be removed over time with general site maintenance, mowing, and dethatching.

TEMPORARY SEEDING TIMELINE														
SCIENTIFIC NAME	COMMON NAME	LBS/AC	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Avena sativa	Common Oat	60												
Echinochloa esculenta	Japanese Millet	30												
Lolium multiflorum	Annual Ryegrass	20												
Pisum sativum	Common Pea	40												
Secale cereale	Cereal Rye	60												
Glycine max	Soybean	50												
Triticum aestivum	Winter Wheat	80												

4.2 Permanent Seeding Recommendation

Permanent seeding is used to provide long-term vegetative groundcover during the lifetime of the Project. These mixes aid in the stabilization of soils, stormwater infiltration and slow runoff, and control noxious and invasive weedy species. The seed mixes presented in this VMP are initial recommendations and should be considered preliminary and typical. Plant species to be used on the site should be aim to be mostly native to the area and designed to meet the Project's specific needs. A landscape plan set should be prepared to have the permanent and final seed species, composition percentages, and rates. [*separate document not included as part of this report*]

ARRAY AREA SEED MIX							
% OF MIX BY WEIGHT	# OF SEEDS PER SF	BOTANICAL NAME	COMMON NAME	HEIGHT (FT)	FORBS BLOOM TIME (SEASON)	DROUGHT TOLERANCE	FLOOD TOLERANCE
Grasses / Sedges							
19.01%	44.16	*Festuca rubra*	Creeping Red Fescue	1–2	N/A	Moderate	Low
17.85%	21.64	*Lolium perenne*	Perennial Ryegrass	1–2	N/A	Moderate	Moderate
22.06%	200.53	*Poa palustris*	Fowl Bluegrass	1–2	N/A	Moderate	High
3.47%	35.10	*Glyceria striata*	Fowl Manna Grass	2–3	N/A	Low	High
4.75%	31.13	*Carex vulpinoidea*	Brown Fox Sedge	2–3	N/A	Low	High
20.17%	9.06	*Elymus virginicus*	Virginia Wild Rye	2-3	N/A	High	Moderate
4.69%	10.41	*Carex brevior*	Plains Oval Sedge	1–2	N/A	Moderate	Moderate
Forbs							
2.68%	9.19	*Trifolium hybridum*	Alsike Clover	1–1.5	Spring / Summer / Fall	Moderate	High
0.82%	6.50	*Rudbeckia hirta*	Black-Eyed Susan	1–3	Summer / Fall	High	High
3.78%	3.28	*Zizia aurea*	Golden Alexanders	1–2	Spring / Summer	Moderate	Moderate
0.73%	0.47	*Tradescantia ohiensis*	Common Spiderwort	2–3	Spring / Summer	Moderate	Moderate
Apply specified seed mix at a rate of 22 LBS per Acre.							
Seed with nurse crop, species dependent on season, at a rate of 9.9 LBS per Acre.							
Seeding total of approximately 371 seeds per square foot.							
Specified species mix is subject to change based on availability during time of construction, or approved equal.							
Number of seeds per square foot are approximate. Seed mix should be procured based on weight of mix total, and percentages of individual species weights.							

OPEN AREA SEED MIX							
% OF MIX BY WEIGHT	# OF SEEDS PER SF	BOTANICAL NAME	COMMON NAME	HEIGHT (FT)	FORBS BLOOM TIME (SEASON)	DROUGHT TOLERANCE	FLOOD TOLERANCE
Grasses / Sedges							
43.69%	13.57	*Elymus virginicus*	Virginia Wild Rye	2-3	N/A	High	Moderate
0.05%	7.82	*Juncus effusus*	Common Rush	3–4	N/A	Low	High
2.06%	9.32	*Carex vulpinoidea*	Brown Fox Sedge	2–3	N/A	Low	High
6.83%	42.88	*Poa palustris*	Fowl Bluegrass	1–2	N/A	Moderate	High
8.60%	7.20	*Lolium perenne*	Perennial Ryegrass	1–2	N/A	Moderate	Moderate
13.73%	22.04	*Festuca rubra*	Creeping Red Fescue	1–2	N/A	Moderate	Low
8.99%	3.58	*Elymus canadensis*	Canada Wild Rye	2-4	N/A	High	Moderate
Forbs							
0.49%	2.70	*Rudbeckia hirta*	Black-Eyed Susan	1–3	Summer / Fall	High	High
0.70%	0.28	*Echinacea purpurea*	Purple Coneflower	2–4	Summer / Fall	High	Moderate
0.91%	0.49	*Asclepias incarnata*	Swamp Milkweed	3–4	Summer	Low	High
1.61%	3.82	*Trifolium hybridum*	Alsike Clover	1–1.5	Spring / Summer / Fall	Moderate	High
2.73%	1.64	*Zizia aurea*	Golden Alexanders	1–2	Spring / Summer	Moderate	Moderate
0.23%	0.62	*Symphyotrichum laeve*	Smooth Blue Aster	2–3	Summer / Fall	High	Moderate
0.44%	0.20	*Tradescantia ohiensis*	Common Spiderwort	2–3	Spring / Summer	Moderate	Moderate
3.35%	3.51	*Trifolium pratense*	Red Clover	1.5–2.5	Spring / Summer / Fall	High	Moderate
1.30%	3.53	*Trifolium repens*	White Clover	0.5–1	Spring / Summer / Fall	Moderate	Moderate
0.26%	1.23	*Solidago speciosa*	Showy Goldenrod	2–3	Summer / Fall	Moderate	Moderate
0.21%	0.74	*Solidago nemoralis*	Gray Goldenrod	1.5–2.5	Summer / Fall	High	Moderate
0.18%	0.12	*Liatris spicata*	Marsh Blazing Star	2-3	Summer / Fall	Moderate	High
3.64%	0.78	*Chamaecrista fasciculata*	Partridge Pea	1–2	Summer / Fall	High	Moderate
Apply specified seed mix at a rate of 15.2 LBS per Acre.							
Seed with nurse crop, species dependent on season, at a rate of 6.8 LBS per Acre.							
Seeding total of approximately 126 seeds per square foot.							
Specified species mix is subject to change based on availability during time of construction, or approved equal.							
Number of seeds per square foot are approximate. Seed mix should be procured based on weight of mix total, and percentages of individual species weights.							

5.0 SITE PREPARATION

It is essential to prepare the site in order to give vegetation the highest chances of germinating and establishing. To do so it is important to clear the target area of existing weedy vegetation. This can be achieved through mowing and the targeted use of an animal-friendly Glyphosate herbicide. If a significant amount of weedy vegetation is present, it is not recommended to till the site as this can

stir up dormant, buried weed seeds which can geminate quickly. If broad-application herbicide is required, seeding can take place one week after last herbicide application.

Soils should be uniform, without excessive furrows, ruts, or ridges, and low areas where water may collect. Areas identified to have rills or small gullies should be filled and blended with adjacent grade to mitigate and stop the continuation of soil erosion in these areas. Areas identified to have erosion should be noted and monitored during the first three years of seed establishment. Soils should be cleared of trash, debris, and invasive species prior to final seeding application. Soil preparation should occur when weather permits, and timing allows for at least a following 48 hours where seeding and stabilization methods may take place.

Since native pollinator species may be slow to establish, annual plant species, such as millet, rye, wheat, or oats may be used to temporarily stabilize the soil, depending on the soil and season. These should not be allowed to seed and should be cut between 9 and 12 inches in height.

6.0 VEGETATION APPLICATION

Parcels with varied types of existing agricultural use, site-specific preparation and seeding application may differ with potential for varying levels of success. Standard types of seeding application include no-till drilling, broadcast, or hydroseeding. These applications all have potential for successful establishment of groundcover and should be utilized in different ways or times depending on multiple factors such as timing and existing site conditions.

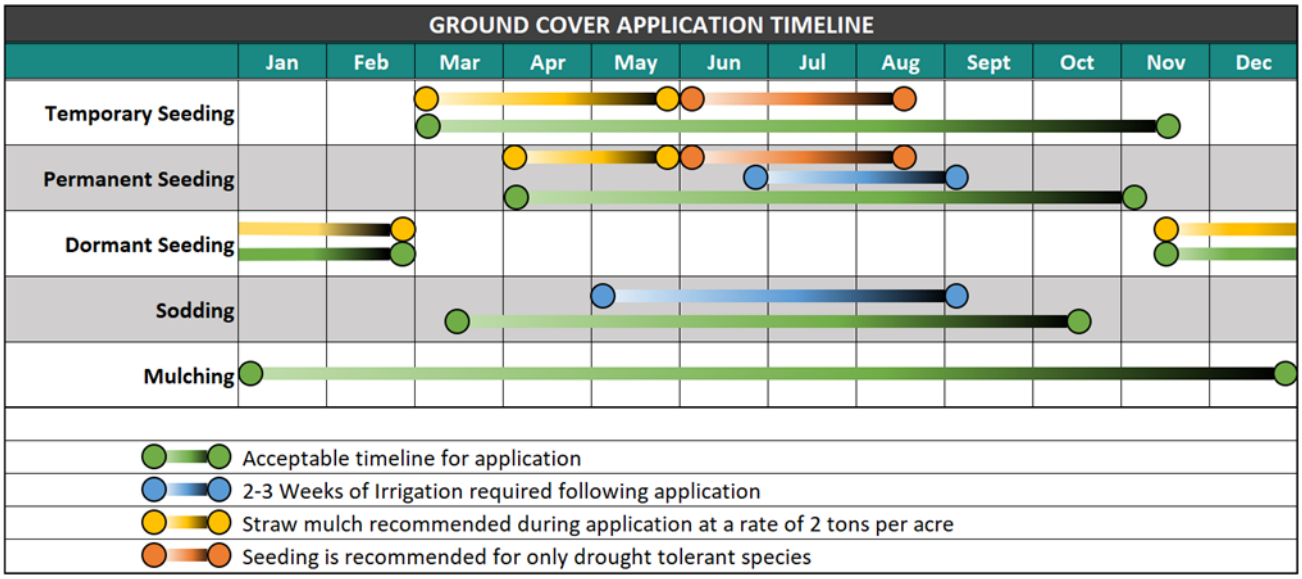
The following table is to be used as a guide to ensure the highest success rate possible for each parcel within the Project limits. Site conditions can vary greatly and should be evaluated for the most appropriate application method prior to seeding.

VEGETATION APPLICATION GUIDELINES			
EXISTING CONDITIONS	**PREPARATION**	**APPLICATION**	**POST-SEEDING**
Crops - Corn (Current or Recent Harvest)	• Cut and remove biomass • Disc or shallow till before seeding	• Drill Seed • Broadcast Seed • Hydroseed	• Roll or pack soils with low-pressure equipment
Crops - Corn (Aged Residue)	• Disc or shallow till before seeding	• Drill Seed • Broadcast Seed • Hydroseed with Straw Mulch	• Roll or pack soils with low-pressure equipment
Crops - Soybean (Current or Recent Harvest)	• Cut and remove biomass • Disc only if heavy residue is present	• Drill Seed • Broadcast Seed • Hydroseed	• Roll or pack soils with low-pressure equipment
Crops - Soybean (Aged Residue)	• Disc only if heavy residue is present	• Drill Seed • Broadcast Seed • Hydroseed with Straw Mulch	• Roll or pack soils with low-pressure equipment
Crops - Grain (Current or Recent Harvest)	• Cut and remove biomass • Disc or shallow till before seeding	• Drill Seed • Broadcast Seed • Hydroseed	• Roll or pack soils with low-pressure equipment
Crops - Grain (Aged Residue)	• Disc or shallow till before seeding	• Drill Seed • Broadcast Seed • Hydroseed with Straw Mulch	• Roll or pack soils with low-pressure equipment
Feed Hay or Fallow Field	• Cut and remove biomass • Herbicide treat vegetation if existing species are undesirable • Disc or shallow till before seeding	• Drill Seed • Broadcast Seed • Hydroseed	• Roll or pack soils with low-pressure equipment
Bare Soils (Minimal Residue)	• If soils are identified to be compacted • Decompact and till soil • Drag smooth and level soils before immediate seeding	• Drill Seed • Broadcast Seed • Hydroseed with Straw Mulch	• Roll or pack soils with low-pressure equipment • Apply erosion control blanket as needed
Bare Soils (Post-Construction, Under Array)	• Decompact and till soil • Drag smooth and level soils before immediate seeding	• Broadcast Seed	• Roll or pack soils with low-pressure equipment • Apply erosion control blanket as needed
Bare Soils (Post-Construction, Open Area)	• Decompact and till soil • Drag smooth and level soils before immediate seeding	• Drill Seed • Broadcast Seed • Hydroseed with Straw Mulch	• Roll or pack soils with low-pressure equipment • Apply erosion control blanket as needed
Bare Soils (Washout / Erosional Area)	• Backfill with soil • Drag smooth and level soils before immediate seeding	• Broadcast Seed • Hydroseed with Straw Mulch	• Apply erosion control blanket and straw bale check dams as needed
Turf Grass	• Herbicide treat vegetation • Disc or shallow till, 2 weeks following herbicide application • Repeat if necessary	• Drill Seed • Broadcast Seed • Hydroseed with Straw Mulch	• Roll or pack soils with low-pressure equipment
Weed-Dominated (Post-Construction, Under Array)	• Herbicide treat vegetation • Disc or shallow till, 2 weeks following herbicide application • Repeat if necessary	• Broadcast Seed	• Roll or pack soils with low-pressure equipment
Weed-Dominated (Post-Construction, Open Area)	• Herbicide treat vegetation • Disc or shallow till, 2 weeks following herbicide application • Repeat if necessary	• Drill Seed • Broadcast Seed • Hydroseed with Straw Mulch	• Roll or pack soils with low-pressure equipment
Weed-Dominated (Pre-Construction)	• Herbicide treat vegetation • Disc or shallow till, 2 weeks following herbicide application • Repeat if necessary	• Drill Seed • Broadcast Seed • Hydroseed with Straw Mulch	• Roll or pack soils with low-pressure equipment

6.1 Seed Application Timing

To promote early and strong establishment of a specified seed mix, dormant season seed application is recommended to be utilized if possible and as construction timeline permits. Dormant season seeding should occur between November 15th and February 28th utilizing winter-tolerant seed from the specified seed mix, along with a winter nurse crop such as annual rye, winter wheat, or annual oat. To apply dormant seed, the site should be cleared of invasive weeds, lightly tilled or disced, then drill seed applied across the entire area of soil.

Active season seed application should be performed between April 1st and May 30th, after risk of major freezing conditions is minimized, for ideal establishment and minimizing invasive species competition. Seeding may occur outside of the typical and recommended timelines, which may require additional preparation or support measures to increase success rate of germination and establishment. The following chart can be used as a guide for seeding applications based on the type and timing of site development.



6.2 Seed Application on Slopes

Areas of erodible soils (per the soils report) or having evidence of existing erosion should be seeded with an erosion control blanket. Initial observation of topography and soils on site have identified slopes being between 0% and 5% slopes. Additional evaluation should occur on-site during site preparation and again during seeding application. During monitoring period, if additional areas of steep slope or erosion are identified, additional seeding and erosion control blanket should be applied.

6.3 Seed Application Phasing

Seeding should occur in two phases. The first phase of seeding should occur at least 2-4 weeks prior to installation of array piles in order to reduce disturbance. The first application should be mechanically drill seeded with the full nurse crop and at minimum 50% of the final and permanent seed mix. No straw mulch is required unless needed for soil stabilization in areas of concentrated flow unless as identified in any Erosion Control or Stormwater Protection Plan. Straw mulch should be applied in these areas at a rate of 2 tons per acre during the first application of seed.

The second round of seeding should occur post-panel installation and should include the full remainder seed mix by broadcast application and any additional that may be required in areas identified as heavily disturbed during the construction phase. Spot herbicide application will occur during this phase of seeding, focusing on areas where noxious weeds are aggressively outcompeting native vegetation.

7.0 MAINTENANCE AND MONITORING DEVELOPMENT PLAN

Maintenance programs should be site specific and coordinated with the landscape contractor and county for adequate maintenance procedures. A five-year stewardship program is recommended to ensure proper establishment and health of ground cover, to control invasive species, and to prevent overgrowth and shading of equipment. After the fifth growing season, the program is to be reduced to a minimum of one visit per year, dependent upon site conditions and required strategies to maintain good health of the site such as dethatching, additional mowing, or herbicide treatments.

7.1 Timeline of Implementation

First year:

The earliest possible seed application may occur in the Spring of the first year. No maintenance actions are required to be performed during the first season of application. If seed application takes place in summer or fall of the first year, maintenance and monitoring should start the following season.

Site visits are recommended to be performed one to three times throughout the Summer and an additional one to three times throughout the Fall at the beginning, middle, or end of each month, with monitoring and evaluation of vegetation height and presence of invasive species occurring at each visit. If weedy species are identified during an observation, measures to control invasive woody and herbaceous flora through physical removal or spot herbicide treatments is required. Mowing should be conducted during the first year in areas of the site identified to have vegetation over 16 inches in height. Areas with height under 16 inches may remain until the next scheduled monitoring visit. Newly seeded areas should be cut back to 9 inches in height, if possible, as the lower mowing height helps to reduce opportunistic weedy species.

Second year:

Site visits are recommended to be performed one to three times throughout the Spring, Summer, and Fall at the beginning, middle, or end of each month, with monitoring and evaluation of vegetation height and presence of invasive species occurring at each visit. During the first visit of the year, mowing should occur to cut back any vegetation to a height of 10 inches and remove dead stalks and seed heads from the previous growing season. If weedy species are identified during an observation, measures to control invasive woody and herbaceous flora through physical removal or spot herbicide treatments is required. Mowing should be conducted at each additional visit in areas of the site identified to have vegetation over 18 inches in height. Areas with height under 18 inches may remain until the next scheduled monitoring visit. Vegetative areas should be cut back to 9 inches in height.

Third, Fourth, and Fifth year:

Site visits are recommended to be performed one time during the early Spring, Summer, and Fall with monitoring and evaluation of vegetation height and presence of invasive species occurring at each visit. During the first visit of the year, mowing should occur to cut back any vegetation to a height between 9 and 12 inches to remove dead stalks and seed heads from the previous growing season. If weedy species are identified during an observation, measures to control invasive woody and herbaceous flora through physical removal or spot herbicide treatments is required. Mowing in open areas, along the fence line, and buffer areas should be conducted in areas of the site identified to have vegetation over 36 inches in height. Areas with height under 24 inches may remain until the next scheduled monitoring visit. Vegetative areas should be cut back to 9 inches in height.

Following the Fifth year:

Site visits are recommended to be performed at least once a year, during the early Spring, with monitoring and evaluation of vegetation height and presence of invasive species occurring during the visit. During the Spring, mowing should occur to cut back any vegetation to a height between 9 and 12 inches to remove dead stalks and seed heads from the previous growing season. If weedy species are identified during an observation, measures to control invasive woody and herbaceous flora through physical removal or spot herbicide treatments is required.

For the remainder of the year, vegetation should be mowed in open areas, along the fence line, and buffer areas to maintain a height under 48 inches through the growing season. Areas with height under 36 inches may remain until the next scheduled monitoring visit. Mowing within array areas should be conducted in areas identified to have vegetation over 24 inches in height. Vegetative areas should be cut back to 9 inches in height.

8.0 – PERFORMANCE STANDARDS

Satisfactory groundcover development associated with naturalized vegetation should be evaluated at each monitoring period and based on the following criteria.

Upon completion of project construction:

All disturbed areas or areas identified as bare soils measuring one square meter with no vegetation should receive either temporary cover crop or permanent seed application. No areas of bare soils should remain after substantial completion of the Project.

Three months after seeding:

Within three months of seed application, or three months after the start of the growing season following dormant seeding, approximately 60 percent of the seeded area (excluding access roads, pads, or other hardscape areas), as measured by aerial cover, should be vegetated or otherwise stabilized against erosion. Temporary cover crop may be included in stabilization and seeded area percentage. Supplemental use of straw mulch or blanket should not be included in the seeded area percentage, unless new growth germination is identified within the straw or blanketed areas.

After the first year:

By the end of the first full growing season, all seeded areas should have 80 percent minimum vegetation (excluding access roads, pads, or other hardscape areas), as measured by aerial cover. Temporary cover crop may be included seeded area percentage. All trees, shrubs, or woody vegetation identified to be dead or diseased should be replaced. Woody vegetation identified to have pest presence should be further evaluated to determine if pests can be treated, removed, or if vegetation should be taken off site and replaced. No diseased or pest-infected vegetation is to remain on-site.

After the second year:

By the end of the second growing season, all seeded areas should have a minimum of 90 percent vegetation ground cover, of which 50 percent should be native and naturalized species identified in final seed mix (excluding access roads, pads, or other hardscape areas). Native and naturalized species percentage should not include temporary cover crop, erosion control measures, or undesirable and invasive plant species. All trees, shrubs, or woody vegetation with more than 50 percent dead branches or biomass should be replaced. All woody vegetation identified to be diseased should be replaced. Woody vegetation identified to have pest presence should be further evaluated to determine if pests can be treated, removed, or if vegetation should be taken off site and replaced. No diseased or pest-infected vegetation is to remain on-site.

After the third year:

By the end of the third growing season, all seeded areas should have a minimum of 60 percent ground cover by native and naturalized species identified in final seed mix (excluding access roads, pads, or other hardscape areas). This should not include temporary cover crop, erosion control measures, or undesirable and invasive plant species. No areas identified as bare soils of one square meter or larger should be present within seeded areas. All trees, shrubs, or woody vegetation with more than 40 percent dead branches or biomass should be replaced. All woody vegetation identified to be diseased should be replaced. Woody vegetation identified to have pest presence should be further evaluated to determine if pests can be treated, removed, or if vegetation should be taken off site and replaced. No diseased or pest-infected vegetation is to remain on-site.

After the fourth year:

By the end of the third growing season, all seeded areas should have a minimum of 70 percent ground cover by native and naturalized species identified in final seed mix (excluding access roads, pads, or other hardscape areas). This should not include temporary cover crop, erosion control measures, or undesirable and invasive plant species. No areas identified as bare soils of one square meter or larger should be present within seeded areas. All trees, shrubs, or woody vegetation with more than 30 percent dead branches or biomass should be replaced. All woody vegetation identified to be diseased should be replaced. Woody vegetation identified to have pest presence should be further evaluated to determine if pests can be treated, removed, or if vegetation should be taken off site and replaced. No diseased or pest-infected vegetation is to remain on-site.

After the fifth year, and subsequent years:

By the end of the third growing season, all seeded areas should have a minimum of 75 percent ground cover by native and naturalized species identified in final seed mix (excluding access roads, pads, or other hardscape areas). This should not include temporary cover crop, erosion control measures, or undesirable and invasive plant species. No areas identified as bare soils of one square meter or larger should be present within seeded areas. All trees, shrubs, or woody vegetation with more than 20 percent dead branches or biomass should be replaced. All woody vegetation identified to be diseased should be replaced. Woody vegetation identified to have pest presence should be further evaluated to determine if pests can be treated, removed, or if vegetation should be taken off site and replaced. No diseased or pest-infected vegetation is to remain on-site.

If performance standards are not met at each observation period, the landscape contractor should notify the owner and propose corrective action in order to meet the performance standard by the next observation period. Corrective action may include overseeding, especially areas identified with bare soils, additional erosion control measures, or herbicide treatments.

APPENDIX A

SOILS MAP

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Madison County, Illinois



Soil Map

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

Soil Map (Soils)



MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Madison County, Illinois
Survey Area Data: Version 20, Aug 31, 2025

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

Date(s) aerial images were photographed: Jul 22, 2022—Aug 25, 2022

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

Map Unit Legend (Soils)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
165A	Weir silt loam, 0 to 2 percent slopes	15.2	71.0%
267A	Caseyville silt loam, 0 to 2 percent slopes	5.7	26.4%
267B	Caseyville silt loam, 2 to 5 percent slopes	0.6	2.6%
Totals for Area of Interest		**21.4**	**100.0%**

Map Unit Descriptions (Soils)

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

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

Madison County, Illinois

165A—Weir silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2wk1n
Landscape: Uplands
Elevation: 330 to 820 feet
Mean annual precipitation: 38 to 46 inches
Mean annual air temperature: 54 to 58 degrees F
Frost-free period: 180 to 195 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

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

Description of Weir

Setting

Landscape: Uplands
Landform: Flats
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess

Typical profile

Ap - 0 to 8 inches: silt loam
Eg - 8 to 17 inches: silt loam
Btg - 17 to 39 inches: silty clay loam
Cg - 39 to 79 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.01 to 0.06 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Occasional
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: F114XB803IN - Wet Silty Eolian Forest
Hydric soil rating: Yes

Minor Components

Blair, eroded

Percent of map unit: 5 percent
Landscape: Uplands
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F114XB502IN - Wet Till Upland Forest
Hydric soil rating: No

Stoy

Percent of map unit: 5 percent
Landscape: Uplands
Landform: Loess hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F114XB803IN - Wet Silty Eolian Forest
Hydric soil rating: No

267A—Caseyville silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 6nzc
Elevation: 400 to 800 feet
Mean annual precipitation: 37 to 46 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 170 to 200 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Caseyville and similar soils: 90 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Caseyville

Setting

Landform: Ground moraines
Landform position (two-dimensional): Summit
Down-slope shape: Linear
Across-slope shape: Linear

Typical profile

H1 - 0 to 7 inches: silt loam
H2 - 7 to 16 inches: silt loam

H3 - 16 to 62 inches: silty clay loam
H4 - 62 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 6 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Very high (about 12.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Ecological site: F114XB803IN - Wet Silty Eolian Forest
Hydric soil rating: No

Minor Components

Pierron

Percent of map unit: 3 percent
Landform: Slight depressions, Till plains
Landform position (two-dimensional): Summit
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F114XB803IN - Wet Silty Eolian Forest
Hydric soil rating: Yes

267B—Caseyville silt loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 6nzd
Elevation: 400 to 800 feet
Mean annual precipitation: 37 to 45 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 170 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

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

Description of Caseyville

Setting

Landform: Ground moraines
Landform position (two-dimensional): Summit, shoulder
Down-slope shape: Convex
Across-slope shape: Convex

Typical profile

H1 - 0 to 7 inches: silt loam
H2 - 7 to 16 inches: silt loam
H3 - 16 to 62 inches: silty clay loam
H4 - 62 to 80 inches: silt loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 6 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Very high (about 12.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B/D
Ecological site: F114XB803IN - Wet Silty Eolian Forest
Hydric soil rating: No

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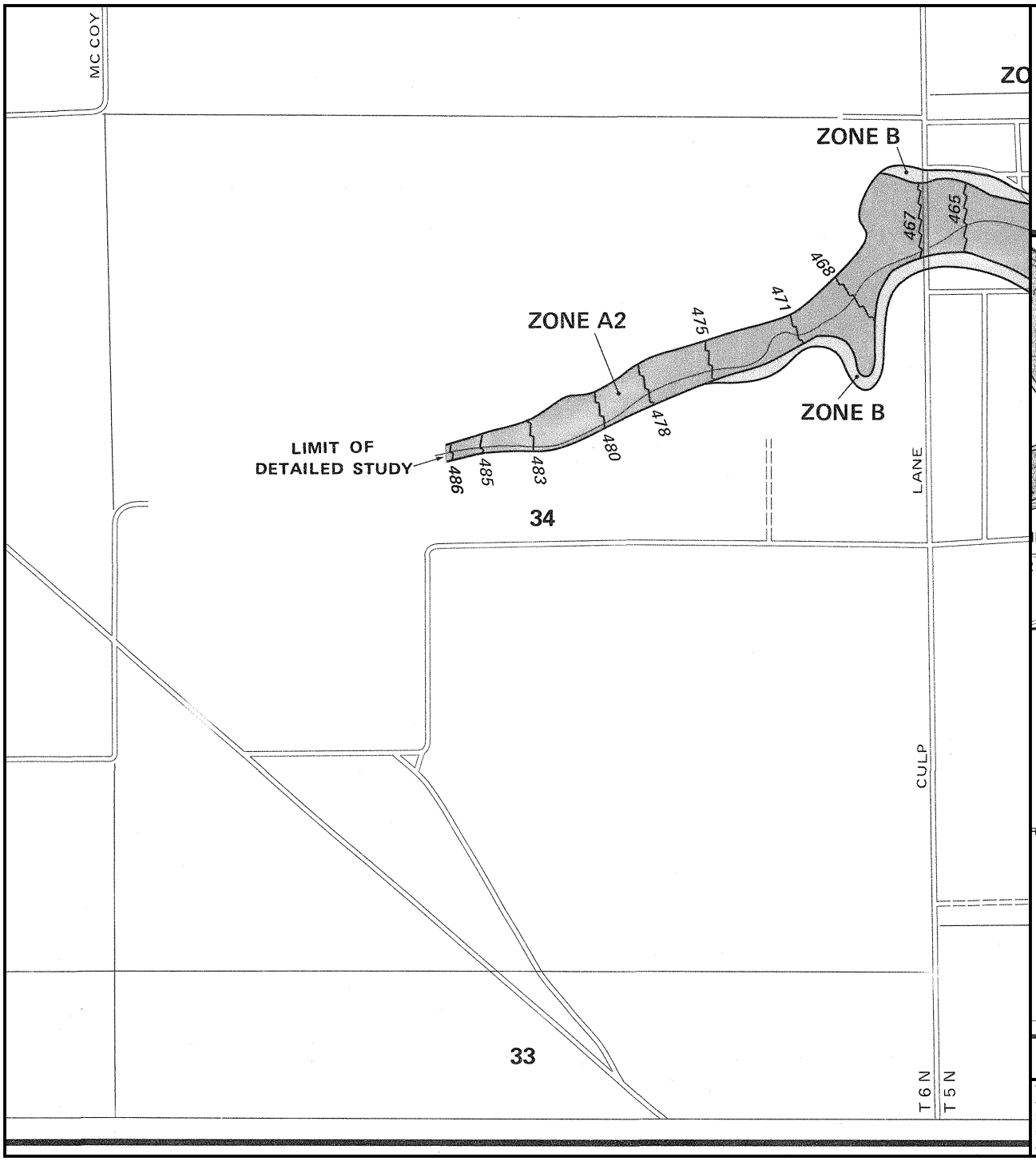
EXHIBIT O: FEMA FIRMETTE



APPROXIMATE SCALE

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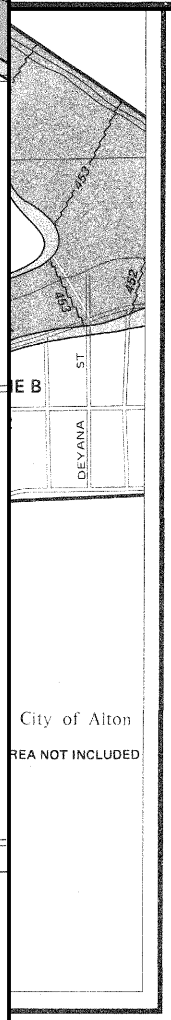


NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

COUNTY OF
MADISON,
ILLINOIS
(UNINCORPORATED AREAS)

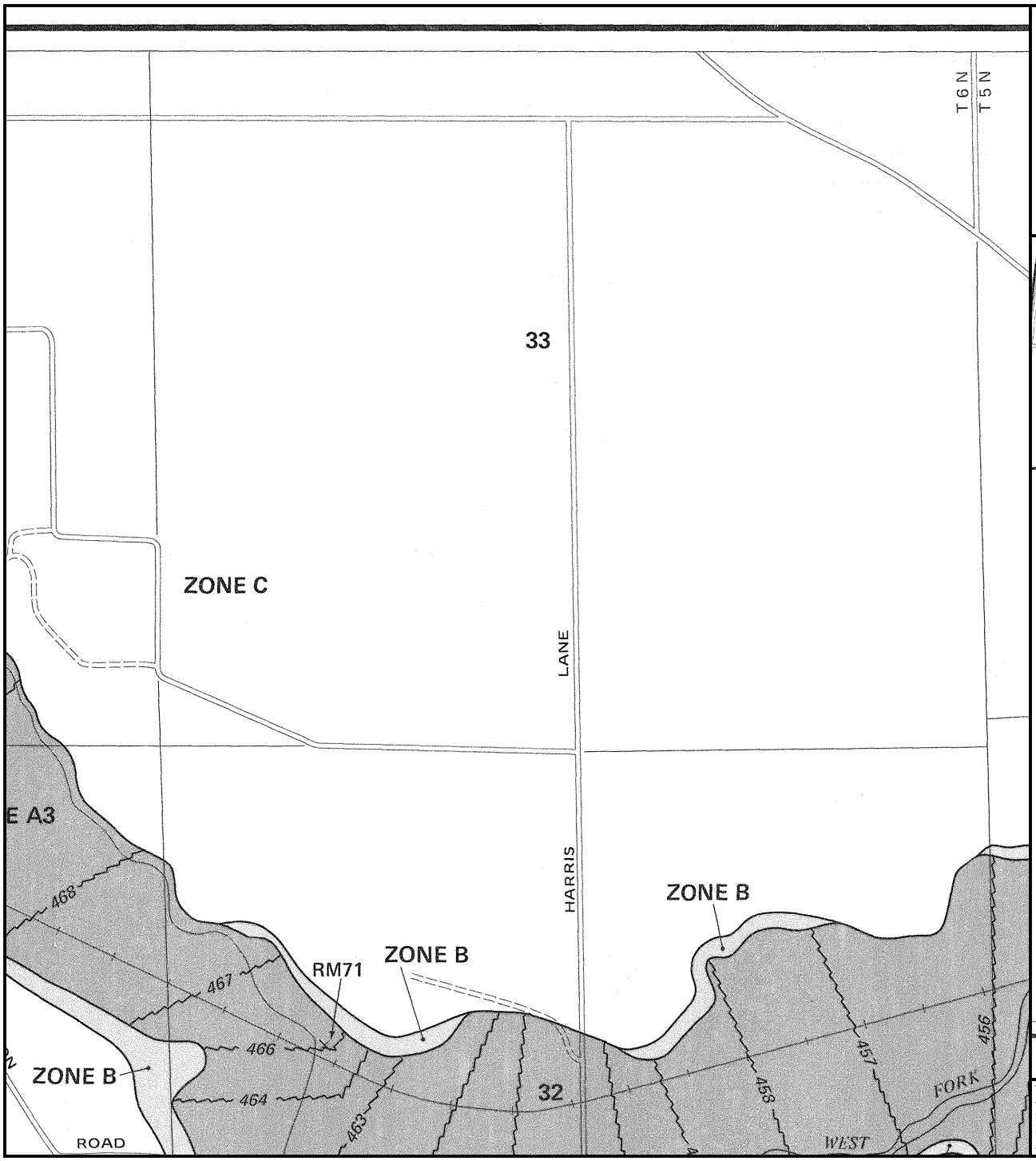
PANEL 105 OF 160
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
170436 0105 B

EFFECTIVE DATE:
APRIL 15, 1982

Federal Emergency Management Agency

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.



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APPROXIMATE SCALE

1000 0 1000 FEET

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NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

COUNTY OF
MADISON,
ILLINOIS
(UNINCORPORATED AREAS)

PANEL 125 OF 160
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
170436 0125 B

EFFECTIVE DATE:
APRIL 15, 1982

Federal Emergency Management Agency

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.

EXHIBIT P: USGS MAP

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

BETHALTO QUADRANGLE
ILLINOIS
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid:Universal Transverse Mercator, Zone 15S

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Imagery	NAIP, September 2019 - September 2019
Roads	U.S. Census Bureau, 2016 - 2017
Names	GNIS, 1980 - 2023
Hydrography	National Hydrography Dataset, 2002 - 2022
Contours	National Elevation Dataset, 2016
Boundaries	Multiple sources; see metadata file 2021 - 2022
Public Land Survey System	BLM, 2020
Wetlands	FWS National Wetlands Inventory Not Available

MN
GN
1°59' 35 MILS
1°51' 33 MILS
UTM GRID AND 2023 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000 - m Square ID
YD | BJ
90°W
Grid Zone Designation
15S | 16S
90°W

SCALE 1:24 000
1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 1 MILES
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard.

ILLINOIS
QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

ADJOINING QUADRANGLES
1 Brighton
2 Shipman
3 Bunker Hill
4 Alton
5 Prairietown
6 Columbia Bottom
7 Wood River
8 Edwardsville

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

BETHALTO, IL
2024

NSN 7643016365028
NGA REF NO. USGSX24K3520

EXHIBIT Q: HEALTH & SAFETY STUDIES

WHITE PAPER

Health and Safety Impacts of Solar Photovoltaics

By Tommy Cleveland
May 2017



NC CLEAN ENERGY TECHNOLOGY CENTER

NC STATE UNIVERSITY

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Health and Safety Impacts of Solar Photovoltaics

The increasing presence of utility-scale solar photovoltaic (PV) systems (sometimes referred to as solar farms) is a rather new development in North Carolina's landscape. Due to the new and unknown nature of this technology, it is natural for communities near such developments to be concerned about health and safety impacts. Unfortunately, the quick emergence of utility-scale solar has cultivated fertile grounds for myths and half-truths about the health impacts of this technology, which can lead to unnecessary fear and conflict.

Photovoltaic (PV) technologies and solar inverters are not known to pose any significant health dangers to their neighbors. The most important dangers posed are increased highway traffic during the relative short construction period and dangers posed to trespassers of contact with high voltage equipment. This latter risk is mitigated by signage and the security measures that industry uses to deter trespassing. As will be discussed in more detail below, risks of site contamination are much less than for most other industrial uses because PV technologies employ few toxic chemicals and those used are used in very small quantities. Due to the reduction in the pollution from fossil-fuel-fired electric generators, the overall impact of solar development on human health is overwhelmingly positive. This pollution reduction results from a partial replacement of fossil-fuel fired generation by emission-free PV-generated electricity, which reduces harmful sulfur dioxide (SO2), nitrogen oxides (NOx), and fine particulate matter (PM2.5). Analysis from the National Renewable Energy Laboratory and the Lawrence Berkeley National Laboratory, both affiliates of the U.S. Department of Energy, estimates the health-related air quality benefits to the southeast region from solar PV generators to be worth 8.0 ¢ per kilowatt-hour of solar generation.[1] This is in addition to the value of the electricity and suggests that the air quality benefits of solar are worth more than the electricity itself.

Even though we have only recently seen large-scale installation of PV technologies, the technology and its potential impacts have been studied since the 1950s. A combination of this solar-specific research and general scientific research has led to the scientific community having a good understanding of the science behind potential health and safety impacts of solar energy. This paper utilizes the latest scientific literature and knowledge of solar practices in N.C. to address the health and safety risks associated with solar PV technology. These risks are extremely small, far less than those associated with common activities such as driving a car, and vastly outweighed by health benefits of the generation of clean electricity.

This paper addresses the potential health and safety impacts of solar PV development in North Carolina, organized into the following four categories:
(1) Hazardous Materials
(2) Electromagnetic Fields (EMF)
(3) Electric Shock and Arc Flash
(4) Fire Safety

1 • Hazardous Materials

One of the more common concerns towards solar is that the panels (referred to as "modules" in the solar industry) consist of toxic materials that endanger public health. However, as shown in this section, solar energy systems may contain small amounts of toxic materials, but these materials do not endanger public health. To understand potential toxic hazards coming from a solar project, one

must understand system installation, materials used, the panel end-of-life protocols, and system operation. This section will examine these aspects of a solar farm and the potential for toxicity impacts in the following subsections:

(1.2) Project Installation/Construction
(1.2) System Components
  1.2.1 Solar Panels: Construction and Durability
  1.2.2 Photovoltaic technologies
    (a) Crystalline Silicon
    (b) Cadmium Telluride (CdTe)
    (c) CIS/CIGS
  1.2.3 Panel End of Life Management
  1.2.4 Non-panel System Components
(1.3) Operations and Maintenance

1.1 Project Installation/ Construction

The system installation, or construction, process does not require toxic chemicals or processes. The site is mechanically cleared of large vegetation, fences are constructed, and the land is surveyed to layout exact installation locations. Trenches for underground wiring are dug and support posts are driven into the ground. The solar panels are bolted to steel and aluminum support structures and wired together. Inverter pads are installed, and an inverter and transformer are installed on each pad. Once everything is connected, the system is tested, and only then turned on.



Figure 1: Utility-scale solar facility (5 MWAC) located in Catawba County. *Source: Strata Solar*

1.2 · System Components

1.2.1 Solar Panels: Construction and Durability

Solar PV panels typically consist of glass, polymer, aluminum, copper, and semiconductor materials that can be recovered and recycled at the end of their useful life.[2] Today there are two PV technologies used in PV panels at utility-scale solar facilities, silicon, and thin film. As of 2016, all thin film used in North Carolina solar facilities are cadmium telluride (CdTe) panels from the US manufacturer First Solar, but there are other thin film PV panels available on the market, such as Solar Frontier's CIGS panels. Crystalline silicon technology consists of silicon wafers which are made into cells and assembled into panels, thin film technologies consist of thin layers of semiconductor material deposited onto glass, polymer or metal substrates. While there are differences in the components and manufacturing processes of these two types of solar technologies, many aspects of their PV panel construction are very similar. Specifics about each type of PV chemistry as it relates to toxicity are covered in subsections a, b, and c in section 1.2.2; on crystalline silicon, cadmium telluride, and CIS/CIGS respectively. The rest of this section applies equally to both silicon and thin film panels.

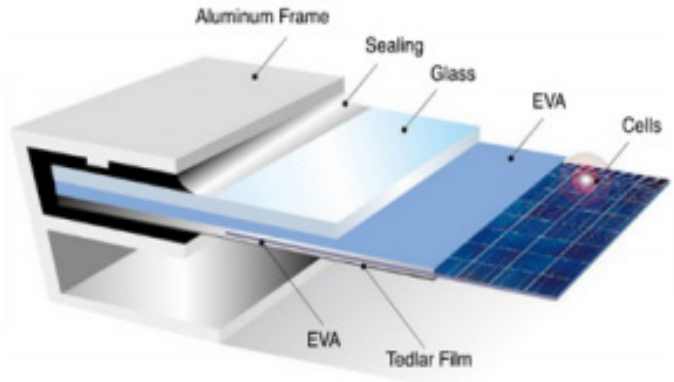

Figure 2: Components of crystalline silicon panels. The vast majority of silicon panels consist of a glass sheet on the topside with an aluminum frame providing structural support. Image Source: www.riteksolar.com.tw

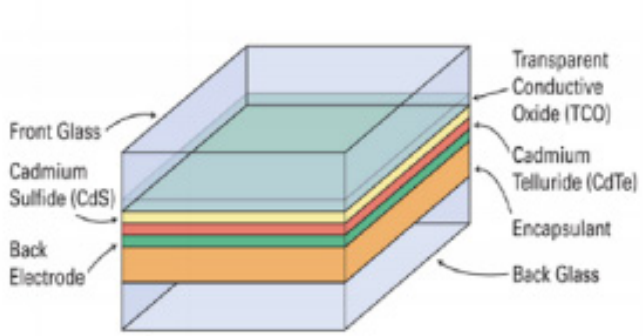

Figure 3: Layers of a common frameless thin-film panel (CdTe). Many thin film panels are frameless, including the most common thin-film panels, First Solar's CdTe. Frameless panels have protective glass on both the front and back of the panel. Layer thicknesses not to scale. Image Source: www.homepower.com

To provide decades of corrosion-free operation, PV cells in PV panels are encapsulated from air and moisture between two layers of plastic. The encapsulation layers are protected on the top with a layer of tempered glass and on the backside with a polymer sheet. Frameless modules include a protective layer of glass on the rear of the panel, which may also be tempered. The plastic ethylene-vinyl acetate (EVA) commonly provides the cell encapsulation. For decades, this same material has been used between layers of tempered glass to give car windshields and hurricane windows their great strength. In the same way that a car windshield cracks but stays intact, the EVA layers in PV panels keep broken panels intact (see Figure 4). Thus, a damaged module does not generally create small pieces of debris; instead, it largely remains together as one piece.



Figure 4: The mangled PV panels in this picture illustrate the nature of broken solar panels; the glass cracks but the panel is still in one piece. Image Source: http://img.alibaba.com/photo/115259576/broken_solar_panel.jpg

PV panels constructed with the same basic components as modern panels have been installed across the globe for well over thirty years.[3] The long-term durability and performance demonstrated over these decades, as well as the results of accelerated lifetime testing, helped lead to an industrystandard 25-year power production warranty for PV panels. These power warranties warrant a PV panel to produce at least 80% of their original nameplate production after 25 years of use. A recent SolarCity and DNV GL study reported that today's quality PV panels should be expected to reliably and efficiently produce power for thirty-five years.[4]

Local building codes require all structures, including ground mounted solar arrays, to be engineered to withstand anticipated wind speeds, as defined by the local wind speed requirements. Many racking products are available in versions engineered for wind speeds of up to 150 miles per hour, which is significantly higher than the wind speed requirement anywhere in North Carolina. The strength of PV mounting structures were demonstrated during Hurricane Sandy in 2012 and again during Hurricane Matthew in 2016. During Hurricane Sandy, the many large-scale solar facilities in New Jersey and New York at that time suffered only minor damage.[5] In the fall of 2016, the US and Caribbean experienced destructive winds and torrential rains from Hurricane Matthew, yet one leading solar tracker manufacturer reported that their numerous systems in the impacted area received zero damage from wind or flooding.[6]

In the event of a catastrophic event capable of damaging solar equipment, such as a tornado, the system will almost certainly have property insurance

that will cover the cost to cleanup and repair the project. It is in the best interest of the system owner to protect their investment against such risks. It is also in their interest to get the project repaired and producing full power as soon as possible. Therefore, the investment in adequate insurance is a wise business practice for the system owner. For the same reasons, adequate insurance coverage is also generally a requirement of the bank or firm providing financing for the project.

1.2.2 Photovoltaic (PV) Technologies

a. Crystalline Silicon

This subsection explores the toxicity of silicon-based PV panels and concludes that they do not pose a material risk of toxicity to public health and safety. Modern crystalline silicon PV panels, which account for over 90% of solar PV panels installed today, are, more or less, a commodity product. The overwhelming majority of panels installed in North Carolina are crystalline silicon panels that are informally classified as Tier I panels. Tier I panels are from well-respected manufacturers that have a good chance of being able to honor warranty claims. Tier I panels are understood to be of high quality, with predictable performance, durability, and content. Well over 80% (by weight) of the content of a PV panel is the tempered glass front and the aluminum frame, both of which are common building materials. Most of the remaining portion are common plastics, including polyethylene terephthalate in the backsheet, EVA encapsulation of the PV cells, polyphenyl ether in the junction box, and polyethylene insulation on the wire leads. The active, working components of the system are the silicon photovoltaic cells, the small electrical leads connecting them together, and to the wires coming out of the back of the panel. The electricity generating and conducting components makeup less than 5% of the weight of most panels. The PV cell itself is nearly 100% silicon, and silicon is the second most common element in the Earth's crust. The silicon for PV cells is obtained by high-temperature processing of quartz sand (SiO2) that removes its oxygen molecules. The refined silicon is converted to a PV cell by adding extremely small amounts of boron and phosphorus, both of which are common and of very low toxicity.

The other minor components of the PV cell are also generally benign; however, some contain lead, which is a human toxicant that is particularly harmful to young children. The minor components include an extremely thin antireflective coating (silicon nitride or titanium dioxide), a thin layer of aluminum on the rear, and thin strips of silver alloy that are screen-printed on the front and rear of cell.[7] In order for the front and rear electrodes to make effective electrical contact with the proper layer of the PV cell, other materials (called glass frit) are mixed with the silver alloy and then heated to etch the metals into the cell. This glass frit historically contains a small amount of lead (Pb) in the form of lead oxide. The 60 or 72 PV cells in a PV panel are connected by soldering thin solder-covered copper tabs from the back of one cell to the front of the next cell. Traditionally a tin-based solder containing some lead (Pb) is used, but some manufacturers have switched to lead-free solder. The glass frit and/or the solder may contain trace amounts of other metals, potentially including some with human toxicity such as cadmium. However, testing to simulate the potential for leaching from broken panels, which is discussed in more detail below, did not find a potential toxicity threat from these trace elements. Therefore, the tiny amount of lead in the grass frit and the solder is the only part of silicon PV panels with a potential to create a negative health impact. However, as described below, the very limited amount of lead involved and its strong physical and chemical attachment to other components of the PV panel means that even in worst-case scenarios the health hazard it poses is insignificant.

As with many electronic industries, the solder in silicon PV panels has historically been a leadbased solder, often 36% lead, due to the superior properties of such solder. However, recent advances in lead-free solders have spurred a trend among PV panel manufacturers to reduce or remove the lead in their panels. According to the 2015 Solar Scorecard from the Silicon Valley Toxics Coalition, a group that tracks environmental responsibility of photovoltaic panel manufacturers, fourteen companies (increased from twelve companies in 2014) manufacture PV panels certified to meet the European Restriction of Hazardous Substances (RoHS) standard. This means that the amount of cadmium and lead in the panels they manufacture fall below the RoHS thresholds, which are set by the European Union and serve as the world's de facto standard for hazardous substances in manufactured goods.[8] The Restriction of Hazardous Substances (RoHS) standard requires that the maximum concentration found in any homogenous material in a produce is less than 0.01% cadmium and less than 0.10% lead, therefore, any solder can be no more than 0.10% lead.[9]

While some manufacturers are producing PV panels that meet the RoHS standard, there is no requirement that they do so because the RoHS Directive explicitly states that the directive does not apply to photovoltaic panels.[10] The justification for this is provided in item 17 of the current RoHS Directive: "The development of renewable forms of energy is one of the Union's key objectives, and the contribution made by renewable energy sources to environmental and climate objectives is crucial. Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources (4) recalls that there should be coherence between those objectives and other Union environmental legislation. Consequently, this Directive should not prevent the development of renewable energy technologies that have no negative impact on health and the environment and that are sustainable and economically viable."

The use of lead is common in our modern economy. However, only about 0.5% of the annual lead consumption in the U.S. is for electronic solder for all uses; PV solder makes up only a tiny portion of this 0.5%. Close to 90% of lead consumption in the US is in batteries, which do not encapsulate the pounds of lead contained in each typical automotive battery. This puts the lead in batteries at great risk of leaching into the environment. Estimates for the lead in a single PV panel with lead-based solder range from 1.6 to 24 grams of lead, with 13g (less than half of an ounce) per panel seen most often in the literature.[11] At 13 g/panel[12], each panel contains one-half of the lead in a typical 12-gauge shotgun shell. This amount equates to roughly 1/750th of the lead in a single car battery. In a panel, it is all durably encapsulated from air or water for the full life of the panel.[14]

As indicated by their 20 to 30-year power warranty, PV modules are designed for a long service life, generally over 25 years. For a panel to comply with its 25-year power warranty, its internal components, including lead, must be sealed from any moisture. Otherwise, they would corrode and the panel's output would fall below power warranty levels. Thus, the lead in operating PV modules is not at risk of release to the environment during their service lifetime. In extreme experiments, researchers have shown that lead can leach from crushed or pulverized panels.[15, 16] However, more real-world tests designed to represent typical trash compaction that are used to classify waste as hazardous or non-hazardous show no danger from leaching.[17,18] For more information about PV panel end-of-life, see the Panel Disposal section.

As illustrated throughout this section, silicon-based PV panels do not pose a material threat to public health and safety. The only aspect of the panels with potential toxicity concerns is the very small amount of lead in some panels. However, any lead in a panel is well sealed from environmental exposure for the operating lifetime of the solar panel and thus not at risk of release into the environment.

b. Cadmium Telluride (CdTe) PV Panels

This subsection examines the components of a cadmium telluride (CdTe) PV panel. Research demonstrates that they pose negligible toxicity risk to public health and safety while significantly reducing the public's exposure to cadmium by reducing coal emissions. As of mid-2016, a few hundred MWs of cadmium telluride (CdTe) panels, all manufactured by the U.S. company First Solar, have been installed in North Carolina.

Questions about the potential health and environmental impacts from the use of this PV technology are related to the concern that these panels contain cadmium, a toxic heavy metal. However, scientific studies have shown that cadmium telluride differs from cadmium due to its high chemical and thermal stability.[19] Research has shown that the tiny amount of cadmium in these panels does not pose a health or safety risk.[20] Further, there are very compelling reasons to welcome its adoption due to reductions in unhealthy pollution associated with burning coal. Every GWh of electricity generated by burning coal produces about 4 grams of cadmium air emissions.[21] Even though North Carolina produces a significant fraction of our electricity from coal, electricity from solar offsets much more natural gas than coal due to natural gas plants being able to adjust their rate of production more easily and quickly. If solar electricity offsets 90% natural gas and 10% coal, each 5-megawatt (5 MWAC, which is generally 7 MWDC) CdTe solar facility in North Carolina keeps about 157 grams, or about a third of a pound, of cadmium *out* of our environment.[22, 23]

Cadmium is toxic, but all the approximately 7 grams of cadmium in one CdTe panel is in the form of a chemical compound cadmium telluride,[24] which has 1/100th the toxicity of free cadmium.[25] Cadmium telluride is a very stable compound that is non-volatile and non-soluble in water. Even in the case of a fire, research shows that less than 0.1% of the cadmium is released when a CdTe panel is exposed to fire. The fire melts the glass and encapsulates over 99.9% of the cadmium in the molten glass.[27]

It is important to understand the source of the cadmium used to manufacture CdTe PV panels. The cadmium is a byproduct of zinc and lead refining. The element is collected from emissions and waste streams during the production of these metals and combined with tellurium to create the CdTe used in PV panels. If the cadmium were not collected for use in the PV panels or other products, it would otherwise either be stockpiled for future use, cemented and buried, or disposed of.[28] Nearly all the cadmium in old or broken panels can be recycled which can eventually serve as the primary source of cadmium for new PV panels.[29]

Similar to silicon-based PV panels, CdTe panels are constructed of a tempered glass front, one instead of two clear plastic encapsulation layers, and a rear heat strengthened glass backing (together >98% by weight). The final product is built to withstand exposure to the elements without significant damage for over 25 years. While not representative of damage that may occur in the field or even at a landfill, laboratory evidence has illustrated that when panels are ground into a fine powder, very acidic water is able to leach portions of the cadmium and tellurium,[30] similar to the process used to recycle CdTe panels. Like many silicon-based panels, CdTe panels are reported (as far back ask 1998[31] to pass the EPA's Toxic Characteristic Leaching Procedure (TCLP) test, which tests the potential for crushed panels in a landfill to leach hazardous substances into groundwater.[32] Passing this test means that they are classified as non-hazardous waste and can be deposited in landfills.[33,34] For more information about PV panel end-of-life, see the Panel Disposal section.

There is also concern of environmental impact resulting from potential catastrophic events involving CdTe PV panels. An analysis of worst-case scenarios for environmental impact from CdTe PV

panels, including earthquakes, fires, and floods, was conducted by the University of Tokyo in 2013. After reviewing the extensive international body of research on CdTe PV technology, their report concluded, "Even in the worst-case scenarios, it is unlikely that the Cd concentrations in air and sea water will exceed the environmental regulation values."[35] In a worst-case scenario of damaged panels abandoned on the ground, insignificant amounts of cadmium will leach from the panels. This is because this scenario is much less conducive (larger module pieces, less acidity) to leaching than the conditions of the EPA's TCLP test used to simulate landfill conditions, which CdTe panels pass.[36]

First Solar, a U.S. company, and the only significant supplier of CdTe panels, has a robust panel take-back and recycling program that has been operating commercially since 2005.[37] The company states that it is "committed to providing a commercially attractive recycling solution for photovoltaic (PV) power plant and module owners to help them meet their module (end of life) EOL obligation simply, costeffectively and responsibly." First Solar global recycling services to their customers to collect and recycle panels once they reach the end of productive life whether due to age or damage. These recycling service agreements are structured to be financially attractive to both First Solar and the solar panel owner. For First Solar, the contract provides the company with an affordable source of raw materials needed for new panels and presumably a diminished risk of undesired release of Cd. The contract also benefits the solar panel owner by allowing them to avoid tipping fees at a waste disposal site. The legal contract helps provide peace of mind by ensuring compliance by both parties when considering the continuing trend of rising disposal costs and increasing regulatory requirements.

c. CIS/CIGS and other PV technologies

Copper indium gallium selenide PV technology, often referred to as CIGS, is the second most common type of thin-film PV panel but a distant second behind CdTe. CIGS cells are composed of a thin layer of copper, indium, gallium, and selenium on a glass or plastic backing. None of these elements are very toxic, although selenium is a regulated metal under the Federal Resource Conservation and Recovery Act (RCRA).[38] The cells often also have an extremely thin layer of cadmium sulfide that contains a tiny amount of cadmium, which is toxic. The promise of high efficiency CIGS panels drove heavy investment in this technology in the past. However, researchers have struggled to transfer high efficiency success in the lab to low-cost full-scale panels in the field.[39] Recently, a CIGS manufacturer based in Japan, Solar Frontier, has achieved some market success with a rigid, glass-faced CIGS module that competes with silicon panels. Solar Frontier produces the majority of CIS panels on the market today.[40] Notably, these panels are RoHS compliant,[41] thus meeting the rigorous toxicity standard adopted by the European Union even thought this directive exempts PV panels. The authors are unaware of any completed or proposed utility-scale system in North Carolina using CIS/CIGS panels.

1.2.3 Panel End-of-Life Management

Concerns about the volume, disposal, toxicity, and recycling of PV panels are addressed in this subsection. To put the volume of PV waste into perspective, consider that by 2050, when PV systems installed in 2020 will reach the end of their lives, it is estimated that the global annual PV panel waste tonnage will be 10% of the 2014 global e-waste tonnage.[42] In the U.S., end-of-life disposal of solar products is governed by the Federal Resource Conservation and Recovery Act (RCRA), as well as state policies in some situations. RCRA separates waste into hazardous (not accepted at ordinary landfill) and solid waste (generally accepted

at ordinary landfill) based on a series of rules. According to RCRA, the way to determine if a PV panel is classified as hazardous waste is the Toxic Characteristic Leaching Procedure (TCLP) test. This EPA test is designed to simulate landfill disposal and determine the risk of hazardous substances leaching out of the landfill.[43,44,45] Multiple sources report that most modern PV panels (both crystalline silicon and cadmium telluride) pass the TCLP test.[46,47] Some studies found that some older (1990s) crystalline silicon panels, and perhaps some newer crystalline silicon panels (specifics are not given about vintage of panels tested), do not pass the lead (Pb) leachate limits in the TCLP test.[48,49]

The test begins with the crushing of a panel into centimeter-sized pieces. The pieces are then mixed in an acid bath. After tumbling for eighteen hours, the fluid is tested for forty hazardous substances that all must be below specific threshold levels to pass the test. Research comparing TCLP conditions to conditions of damaged panels in the field found that simulated landfill conditions provide overly conservative estimates of leaching for field-damaged panels.[50] Additionally, research in Japan has found no detectable Cd leaching from cracked CdTe panels when exposed to simulated acid rain.[51]

Although modern panels can generally be landfilled, they can also be recycled. Even though recent waste volume has not been adequate to support significant PV-specific recycling infrastructure, the existing recycling industry in North Carolina reports that it recycles much of the current small volume of broken PV panels. In an informal survey conducted by the NC Clean Energy Technology Center survey in early 2016, seven of the eight large active North Carolina utility-scale solar developers surveyed reported that they send damaged panels back to the manufacturer and/or to a local recycler. Only one developer reported sending damaged panels to the landfill.

The developers reported at that time that they are usually paid a small amount per panel by local recycling firms. In early 2017, a PV developer reported that a local recycler was charging a small fee per panel to recycle damaged PV panels. The local recycling firm known to authors to accept PV panels described their current PV panel recycling practice as of early 2016 as removing the aluminum frame for local recycling and removing the wire leads for local copper recycling. The remainder of the panel is sent to a facility for processing the non-metallic portions of crushed vehicles, referred to as “fluff” in the recycling industry.[52] This processing within existing general recycling plants allows for significant material recovery of major components, including glass which is 80% of the module weight, but at lower yields than PV-specific recycling plants. Notably almost half of the material value in a PV panel is in the few grams of silver contained in almost every PV panel produced today. In the long-term, dedicated PV panel recycling plants can increase treatment capacities and maximize revenues resulting in better output quality and the ability to recover a greater fraction of the useful materials.[53] PV-specific panel recycling technologies have been researched and implemented to some extent for the past decade, and have been shown to be able to recover over 95% of PV material (semiconductor) and over 90% of the glass in a PV panel.[54]

A look at global PV recycling trends hints at the future possibilities of the practice in our country. Europe installed MW-scale volumes of PV years before the U.S. In 2007, a public-private partnership between the European Union and the solar industry set up a voluntary collection and recycling system called PV CYCLE. This arrangement was later made mandatory under the EU’s WEEE directive, a program for waste electrical and electronic equipment.[55] Its member companies (PV panel producers) fully finance the association. This makes it possible for end-users to return the member companies’ defective panels for recycling at any of the over 300 collection points around

Europe without added costs. Additionally, PV CYCLE will pick up batches of 40 or more used panels at no cost to the user. This arrangement has been very successful, collecting and recycling over 13,000 tons by the end of 2015.[56]

In 2012, the WEEE Directive added the end-of-life collection and recycling of PV panels to its scope.[57] This directive is based on the principle of extended-producer-responsibility. It has a global impact because producers that want to sell into the EU market are legally responsible for end-of-life management. Starting in 2018, this directive targets that 85% of PV products "put in the market" in Europe are recovered and 80% is prepared for reuse and recycling.

The success of the PV panel collection and recycling practices in Europe provides promise for the future of recycling in the U.S. In mid-2016, the US Solar Energy Industry Association (SEIA) announced that they are starting a national solar panel recycling program with the guidance and support of many leading PV panel producers.[58] The program will aggregate the services offered by recycling vendors and PV manufacturers, which will make it easier for consumers to select a cost-effective and environmentally responsible end-of-life management solution for their PV products. According to SEIA, they are planning the program in an effort to make the entire industry landfill-free. In addition to the national recycling network program, the program will provide a portal for system owners and consumers with information on how to responsibly recycle their PV systems.

While a cautious approach toward the potential for negative environmental and/or health impacts from retired PV panels is fully warranted, this section has shown that the positive health impacts of reduced emissions from fossil fuel combustion from PV systems more than outweighs any potential risk. Testing shows that silicon and CdTe panels are both safe to dispose of in landfills, and are also safe in worst case conditions of abandonment or damage in a disaster. Additionally, analysis by local engineers has found that the current salvage value of the equipment in a utility scale PV facility generally exceeds general contractor estimates for the cost to remove the entire PV system.[59,60,61]

1.2.4 Non-Panel System Components

(racking, wiring, inverter, transformer)

While previous toxicity subsections discussed PV panels, this subsection describes the non-panel components of utility-scale PV systems and investigates any potential public health and safety concerns. The most significant non-panel component of a ground-mounted PV system is the mounting structure of the rows of panels, commonly referred to as "racking". The vertical post portion of the racking is galvanized steel and the remaining aboveground racking components are either galvanized steel or aluminum, which are both extremely common and benign building materials. The inverters that make the solar generated electricity ready to send to the grid have weather-proof steel enclosures that protect the working components from the elements. The only fluids that they might contain are associated with their cooling systems, which are not unlike the cooling system in a computer. Many inverters today are RoHS compliant.

The electrical transformers (to boost the inverter output voltage to the voltage of the utility connection point) do contain a liquid cooling oil. However, the fluid used for that function is either a nontoxic mineral oil or a biodegradable non-toxic vegetable oil, such as BIOTEMP from ABB. These vegetable transformer oils have the additional advantage of being much less flammable than traditional mineral oils. Significant health hazards are associated with old transformers containing cooling oil with toxic PCBs. Transfers with PCB-containing oil were common before PCBs were outlawed in the U.S. in 1979. PCBs still exist in older transformers in the field across the country.

Other than a few utility research sites, there are no batteries on- or off-site associated with utility-scale solar energy facilities in North Carolina, avoiding any potential health or safety concerns related to battery technologies. However, as battery technologies continue to improve and prices continue to decline we are likely to start seeing some batteries at solar facilities. Lithium ion batteries currently dominate the world utility-scale battery market, which are not very toxic. No non-panel system components were found to pose any health or environmental dangers.

1.4 Operations and Maintenance – Panel Washing and Vegetation Control

Throughout the eastern U.S., the climate provides frequent and heavy enough rain to keep panels adequately clean. This dependable weather pattern eliminates the need to wash the panels on a regular basis. Some system owners may choose to wash panels as often as once a year to increase production, but most in N.C. do not regularly wash any PV panels. Dirt build up over time may justify panel washing a few times over the panels' lifetime; however, nothing more than soap and water are required for this activity.

The maintenance of ground-mounted PV facilities requires that vegetation be kept low, both for aesthetics and to avoid shading of the PV panels. Several approaches are used to maintain vegetation at NC solar facilities, including planting of limited-height species, mowing, weed-eating, herbicides, and grazing livestock (sheep). The following descriptions of vegetation maintenance practices are based on interviews with several solar developers as well as with three maintenance firms that together are contracted to maintain well over 100 of the solar facilities in N.C. The majority of solar facilities in North Carolina maintain vegetation primarily by mowing. Each row of panels has a single row of supports, allowing sickle mowers to mow under the panels. The sites usually require mowing about once a month during the growing season. Some sites employ sheep to graze the site, which greatly reduces the human effort required to maintain the vegetation and produces high quality lamb meat.[62]

In addition to mowing and weed eating, solar facilities often use some herbicides. Solar facilities generally do not spray herbicides over the entire acreage; rather they apply them only in strategic locations such as at the base of the perimeter fence, around exterior vegetative buffer, on interior dirt roads, and near the panel support posts. Also unlike many row crop operations, solar facilities generally use only general use herbicides, which are available over the counter, as opposed to restricted use herbicides commonly used in commercial agriculture that require a special restricted use license. The herbicides used at solar facilities are primarily 2-4-D and glyphosate (Round-up®), which are two of the most common herbicides used in lawns, parks, and agriculture across the country. One maintenance firm that was interviewed sprays the grass with a class of herbicide known as a growth regulator in order to slow the growth of grass so that mowing is only required twice a year. Growth regulators are commonly used on highway roadsides and golf courses for the same purpose. A commercial pesticide applicator license is required for anyone other than the landowner to apply herbicides, which helps ensure that all applicators are adequately educated about proper herbicide use and application. The license must be renewed annually and requires passing of a certification exam appropriate to the area in which the applicator wishes to work. Based on the limited data available, it appears that solar facilities in N.C. generally use significantly less herbicides per acre than most commercial agriculture or lawn maintenance services.

2. Electromagnetic Fields (EMF)

PV systems do not emit any material during their operation; however, they do generate electromagnetic fields (EMF), sometimes referred to as radiation. EMF produced by electricity is non-ionizing radiation, meaning the radiation has enough energy to move atoms in a molecule around (experienced as heat), but not enough energy to remove electrons from an atom or molecule (ionize) or to damage DNA. As shown below, modern humans are all exposed to EMF throughout our daily lives without negative health impact. Someone outside of the fenced perimeter of a solar facility is not exposed to significant EMF from the solar facility. Therefore, there is no negative health impact from the EMF produced in a solar farm. The following paragraphs provide some additional background and detail to support this conclusion.

Since the 1970s, some have expressed concern over potential health consequences of EMF from electricity, but no studies have ever shown this EMF to cause health problems.[63] These concerns are based on some epidemiological studies that found a slight increase in childhood leukemia associated with average exposure to residential power-frequency magnetic fields above 0.3 to 0.4 μT (microteslas) (equal to 3.0 to 4.0 mG (milligauss)). μT and mG are both units used to measure magnetic field strength. For comparison, the average exposure for people in the U.S. is one mG or 0.1 μT, with about 1% of the population with an average exposure in excess of 0.4 μT (or 4 mG).[64] These epidemiological studies, which found an association but not a causal relationship, led the World Health Organization's International Agency for Research on Cancer (IARC) to classify ELF magnetic fields as "possibly carcinogenic to humans". Coffee also has this classification. This classification means there is limited evidence but not enough evidence to designate as either a "probable carcinogen" or "human carcinogen". Overall, there is very little concern that ELF EMF damages public health. The only concern that does exist is for long-term exposure above 0.4 μT (4 mG) that may have some connection to increased cases of childhood leukemia. In 1997, the National Academies of Science were directed by Congress to examine this concern and concluded:

"Based on a comprehensive evaluation of published studies relating to the effects of power-frequency electric and magnetic fields on cells, tissues, and organisms (including humans), the conclusion of the committee is that the current body of evidence does not show that exposure to these fields presents a human-health hazard. Specifically, no conclusive and consistent evidence shows that exposures to residential electric and magnetic fields produce cancer, adverse neurobehavioral effects, or reproductive and developmental effects."[65]

There are two aspects to electromagnetic fields, an electric field and a magnetic field. The electric field is generated by voltage and the magnetic field is generated by electric current, i.e., moving electrons. A task group of scientific experts convened by the World Health Organization (WHO) in 2005 concluded that there were no substantive health issues related to electric fields (0 to 100,000 Hz) at levels generally encountered by members of the public.[66] The relatively low voltages in a solar facility and the fact that electric fields are easily shielded (i.e., blocked) by common materials, such as plastic, metal, or soil means that there is no concern of negative health impacts from the electric fields generated by a solar facility. Thus, the remainder of this section addresses magnetic fields. Magnetic fields are not shielded by most common materials and thus can easily pass through them. Both types of fields are strongest close to the source of electric generation and weaken quickly with distance from the source.

The direct current (DC) electricity produced by PV panels produce stationary (0 Hz) electric and magnetic fields. Because of minimal concern about potential risks of stationary fields, little scientific research has examined stationary fields' impact on human health.[67] In even the largest PV facilities, the DC voltages and currents are not very high. One can illustrate the weakness of the EMF generated by a PV panel by placing a compass on an operating solar panel and observing that the needle still points north.

While the electricity throughout the majority of a solar site is DC electricity, the inverters convert this DC electricity to alternating current (AC) electricity matching the 60 Hz frequency of the grid. Therefore, the inverters and the wires delivering this power to the grid are producing non-stationary EMF, known as extremely low frequency (ELF) EMF, normally oscillating with a frequency of 60 Hz. This frequency is at the low-energy end of the electromagnetic spectrum. Therefore, it has less energy than other commonly encountered types of non-ionizing radiation like radio waves, infrared radiation, and visible light.

The wide use of electricity results in background levels of ELF EMFs in nearly all locations where people spend time – homes, workplaces, schools, cars, the supermarket, etc. A person's average exposure depends upon the sources they encounter, how close they are to them, and the amount of time they spend there.[68] As stated above, the average exposure to magnetic fields in the U.S. is estimated to be around one mG or 0.1 μT, but can vary considerably depending on a person's exposure to EMF from electrical devices and wiring.[69] At times we are often exposed to much higher ELF magnetic fields, for example when standing three feet from a refrigerator the ELF magnetic field is 6 mG and when standing three feet from a microwave oven the field is about 50 mG.[70] The strength of these fields diminish quickly with distance from the source, but when surrounded by electricity in our homes and other buildings moving away from one source moves you closer to another. However, unless you are inside of the fence at a utility-scale solar facility or electrical substation it is impossible to get very close to the EMF sources. Because of this, EMF levels at the fence of electrical substations containing high voltages and currents are considered "generally negligible".[71,72]

The strength of ELF-EMF present at the perimeter of a solar facility or near a PV system in a commercial or residential building is significantly lower than the typical American's average EMF exposure.[73,74] Researchers in Massachusetts measured magnetic fields at PV projects and found the magnetic fields dropped to very low levels of 0.5 mG or less, and in many cases to less than background levels (0.2 mG), at distances of no more than nine feet from the residential inverters and 150 feet from the utility-scale inverters.[75] Even when measured within a few feet of the utility-scale inverter, the ELF magnetic fields were well below the International Commission on Non-Ionizing Radiation Protection's recommended magnetic field level exposure limit for the general public of 2,000 mG.[76] It is typical that utility scale designs locate large inverters central to the PV panels that feed them because this minimizes the length of wire required and shields neighbors from the sound of the inverter's cooling fans. Thus, it is rare for a large PV inverter to be within 150 feet of the project's security fence.

Anyone relying on a medical device such as pacemaker or other implanted device to maintain proper heart rhythm may have concern about the potential for a solar project to interfere with the operation of his or her device. However, there is no reason for concern because the EMF outside of the solar facility's fence is less than 1/1000 of the level at which manufacturers test for ELF EMF interference, which is 1,000 mG.[77] Manufacturers of potentially affected implanted devices often provide advice on electromagnetic interference that includes avoiding letting the implanted device get too close to certain sources of fields such as some

household appliances, some walkie-talkies, and similar transmitting devices. Some manufacturers' literature does not mention high-voltage power lines, some say that exposure in public areas should not give interference, and some advise not spending extended periods of time close to power lines.[78]

3. Electric Shock and Arc Flash Hazards

There is a real danger of electric shock to anyone entering any of the electrical cabinets such as combiner boxes, disconnect switches, inverters, or transformers; or otherwise coming in contact with voltages over 50 Volts.[79] Another electrical hazard is an arc flash, which is an explosion of energy that can occur in a short circuit situation. This explosive release of energy causes a flash of heat and a shockwave, both of which can cause serious injury or death. Properly trained and equipped technicians and electricians know how to safely install, test, and repair PV systems, but there is always some risk of injury when hazardous voltages and/or currents are present. Untrained individuals should not attempt to inspect, test, or repair any aspect of a PV system due to the potential for injury or death due to electric shock and arc flash, The National Electric Code (NEC) requires appropriate levels of warning signs on all electrical components based on the level of danger determined by the voltages and current potentials. The national electric code also requires the site to be secured from unauthorized visitors with either a six-foot chain link fence with three strands of barbed wire or an eight-foot fence, both with adequate hazard warning signs.

4. Fire Safety

The possibility of fires resulting from or intensified by PV systems may trigger concern among the general public as well as among firefighters. However, concern over solar fire hazards should be limited because only a small portion of materials in the panels are flammable, and those components cannot self-support a significant fire. Flammable components of PV panels include the thin layers of polymer encapsulates surrounding the PV cells, polymer backsheets (framed panels only), plastic junction boxes on rear of panel, and insulation on wiring. The rest of the panel is composed of non-flammable components, notably including one or two layers of protective glass that make up over three quarters of the panel's weight.

Heat from a small flame is not adequate to ignite a PV panel, but heat from a more intense fire or energy from an electrical fault can ignite a PV panel.[80] One real-world example of this occurred during July 2015 in an arid area of California. Three acres of grass under a thin film PV facility burned without igniting the panels mounted on fixed-tilt racks just above the grass.[81] While it is possible for electrical faults in PV systems on homes or commercial buildings to start a fire, this is extremely rare.[82] Improving understanding of the PV-specific risks, safer system designs, and updated fire-related codes and standards will continue to reduce the risk of fire caused by PV systems.

PV systems on buildings can affect firefighters in two primary ways, 1) impact their methods of fighting the fire, and 2) pose safety hazard to the firefighters. One of the most important techniques that firefighters use to suppress fire is ventilation of a building's roof. This technique allows superheated toxic gases to quickly exit the building. By doing so, the firefighters gain easier and safer access to the building, Ventilation of the roof also makes the challenge of putting out the fire easier. However, the placement of rooftop PV panels may interfere with ventilating the roof by limiting access to desired venting locations.

New solar-specific building code requirements are working to minimize these concerns. Also, the

latest National Electric Code has added requirements that make it easier for first responders to safely and effectively turn off a PV system. Concern for firefighting a building with PV can be reduced with proper fire fighter training, system design, and installation. Numerous organizations have studied fire fighter safety related to PV. Many organizations have published valuable guides and training programs. Some notable examples are listed below.

- The International Association of Fire Fighters (IAFF) and International Renewable Energy Council (IREC) partnered to create an online training course that is far beyond the PowerPoint click-andview model. The self-paced online course, "Solar PV Safety for Fire Fighters," features rich video content and simulated environments so fire fighters can practice the knowledge they've learned. www.iaff.org/pvsafetytraining
- Photovoltaic Systems and the Fire Code: Office of NC Fire Marshal
- Fire Service Training, Underwriter's Laboratory
- Firefighter Safety and Response for Solar Power Systems, National Fire Protection Research Foundation
- Bridging the Gap: Fire Safety & Green Buildings, National Association of State Fire Marshalls
- Guidelines for Fire Safety Elements of Solar Photovoltaic Systems, Orange County Fire Chiefs Association
- Solar Photovoltaic Installation Guidelines, California Department of Forestry & Fire Protection, Office of the State Fire Marshall
- PV Safety & Firefighting, Matthew Paiss, Homepower Magazine
- PV Safety and Code Development: Matthew Paiss, Cooperative Research Network

Summary

The purpose of this paper is to address and alleviate concerns of public health and safety for utility-scale solar PV projects. Concerns of public health and safety were divided and discussed in the four following sections: (1) Toxicity, (2) Electromagnetic Fields, (3) Electric Shock and Arc Flash, and (4) Fire. In each of these sections, the negative health and safety impacts of utility-scale PV development were shown to be negligible, while the public health and safety benefits of installing these facilities are significant and far outweigh any negative impacts.

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Solar Panels. Photo by Mariana Proenca on Unsplash

"Clean Energy in Michigan" Series, Number 12

Facts about solar panels: PFAS contamination

By Dr. Annick Anctil, Michigan State University

Q: Do solar panels contribute to PFAS contamination?

Multiple states have raised concerns about PFAS contamination from solar farms, largely citing academic research on how PFAS could *potentially* be used in photovoltaic (PV) solar panels.[1] The fact is that PFAS is *not* customarily used in solar panels because safer, effective alternatives have already been developed and commercialized. Moreover, no studies have shown the presence or leaching of PFAS from PV panels—either while they are in active use or at the end of their life (e.g., in a landfill).

Anatomy of a solar panel

These three parts of a solar panel cause confusion about the presence of PFAS.

Self-Cleaning Coat

A self-cleaning coating on the top of a solar panel helps reduce dust, pollen, and snow adhesion, extending both the power output and the lifetime of the panel.[2] Multiple self-cleaning coating options are available on the market, many of which make use of non-hazardous silicon-based chemistry.[3] Confusion comes from the fact that some other commercialized self-cleaning coating options do make use of PFAS-based chemicals, although even those do not degrade under normal use.

Adhesives

PV panels are sealed from the elements to maximize power output and lifetime. While PFAS chemicals are found in certain adhesives, such as carpentry glues, they are not typically used in sealant adhesives for solar panels.[4] Instead, solar adhesives are based on silicone polymers, which are well known for their lack of negative health impacts and remarkable stability.[5]

Substrate

PV modules are housed in a weather-resistant substrate that offers additional protection from the elements. Thin-film PV units use glass as the substrate, while crystalline silicon PV units use a polymer substrate, which has led to the rumors of

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Find this document and more about the project online at graham.umich.edu/climate-energy/energy-futures.

potential PFAS use in solar panels. The most common polymer used in silicon PV units is Tedlar, a weather resistant polymer that is *not* a PFAS compound itself and makes no use of PFAS during its manufacturing process.[6] Far more common materials, like those used in construction projects and weather resistant fabrics, present a higher risk of PFAS exposure than PV. In fact, a recent study found that these more common materials release PFAS under conditions where solar panels do not, indicating that PFAS exposure risk may be higher sitting on outdoor furniture, for example, than living next to a solar farm.[7]

What is PFAS anyway?

Per/Poly Fluoro-Alkyl Substances, PFAS for short, are a class of chemical compounds. PFAS are used in several industries for their unique properties, notably their ability to create coatings that are highly water repellent.

PFAS are extremely persistent within the environment, not breaking down over time. Certain PFAS compounds have been linked to human health issues–notably low infant birth weights, increased risk of certain cancers, and thyroid issues. As a result of their persistence and toxicity, those PFAS compounds that pose a significant risk have been banned from use and production, and subsequently replaced with safer alternatives.

It's important to note that not all PFAS compounds are dangerous. Some PFAS compounds, such as Teflon, are much more stable and present no risk to human health under normal conditions of use.[8]

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Health and Safety Impacts of Solar Photovoltaics:

A California-Focused Forward to the Health and Safety Impacts of Solar Photovoltaics white paper published by the N.C. Clean Energy Technology Center at North Carolina State University in May 2017

By: Thomas H. Cleveland, P.E., lead author of the North Carolina white paper
RE: Soscol Ferry Road Solar, a proposed 1.98 MW_{AC} PV facility in Napa, CA
Date: July 31, 2019

For the last several years North Carolina (NC) has trailed only California in the capacity of annual solar photovoltaic (PV) installed. For most of that time North Carolina's PV development was nearly entirely distribution-connected ground-mounted solar facilities, most commonly 5 MW_{AC} projects. More recently, North Carolina is developing a mixture of transmission-connected PV facilities between 20 and 75 MW_{AC} and distribution-connected facilities of 1 to 5 MW_{AC}, but still has relatively few commercial or residential PV projects. As the state quickly transitioned from zero utility-scale solar facilities to over 400 utility-scale solar facilities concerns about the health and safety impacts of photovoltaics were raised at countless public hearings across the state and in many meetings of state officials and regulators, including several NC general assembly committee meetings. These concerns led to several years of engagement on this topic by the NC Clean Energy Technology Center at North Carolina State University that resulted in a detailed, peer-reviewed university white paper on the latest scientific understanding regarding PV health and safety impacts, with a focus on North Carolina.

Naturally, there is also interest in the potential health and safety impacts of PV in California, where there is significantly more installed solar capacity than in North Carolina, in a mixture of residential, commercial, and small- and large-scale ground-mounted utility-scale solar projects. While there are massive similarities between the PV installations and their potential health and safety impacts in each state, there are some differences in policy, climate, industry practices, electricity regulation, and more that are worth highlighting. This forward is an attempt by the lead researcher and author of the North Carolina white paper to provide a supplement to the original paper that clearly demonstrates the applicability of the paper to PV in California and to offer California-specific supplements or modifications where the original paper had a North Carolina focus.

Most importantly, all the white paper's conclusions about the negligible negative health and safety impacts of photovoltaics apply fully in California, as well as anywhere in the United States. Similarly, there is nothing unique about the 1.98 MW_{AC} Soscol Ferry Road Solar project that would cause any health or safety impacts different than those discussed in the N.C. white paper.

Throughout the white paper there are instances of North Carolina-specific information, or issues where the situation in California is different than it is in North Carolina. The following is a list of the significant instances of either situation, in the order they appear in the white paper, along with the relevant California-specific information.

- Type of PV Technology Used: Crystalline silicon, Cadmium Telluride (CdTe), and CIGS are all being installed in California as they are in N.C. Since the publication of the N.C. report the author has confirmed the recent installation of utility-scale projects using CIGS modules, but these are still not common. Like in NC, the majority of the current PV installation capacity in California is crystalline silicon, also like NC these are generally Tier I modules. The Soscol Ferry Rd. project will use Tier I crystalline silicon modules.
- Design Wind Speed: The ASCE 7-2016 design wind speed in the vast majority of California, including in Napa County where the Soscol Ferry Road Solar project is located, is 90-95 MPH, which is much lower than the design wind speeds of hurricane-prone eastern N.C. where most PV development in the state is located. A few mountainous regions of California have design wind speeds over 100 MPG, however these extreme

terrains are unlikely to install ground-mounted PV systems.

- Offset Electricity Fuel Mix: The white paper includes a rough estimation that the fuel mix of the generators offset by PV energy production in N.C. is 90% natural gas and 10% coal. From this mix an estimate of the reduction in cadmium emissions due to PV was calculated. The 10% coal estimate is certainly too high for California. An offset fuel mix for California could be reasonably estimated as 100% natural gas, resulting in about 75% of the cadmium emissions savings calculated for NC.
- PV Module Recycling: The white paper included local reports from PV developers in North Carolina of recycling damaged PV modules. It is quite possible that the same is occurring in California, but the author does not have data on the current common waste management practices for damaged PV modules in California. The Electric Power Research Institute (EPRI) published two extensive reports on the Photovoltaic Module Recycling in the United States (April 2018) and Insights in Photovoltaic Recycling Processes in Europe (December 2017), which are great sources for current information on PV module recycling. The EPRI report on recycling in the U.S. states that there are commercial recyclers in the U.S. accepting and recycling PV modules, using processes not unlike those described in the white paper.
- PV Module Washing: Unlike North Carolina, many regions of California regularly experience long periods of time with little to no rain, which can result in enough accumulation of dirt on the PV modules that it justifies occasionally washing the modules to renew their performance. In North Carolina there is generally a heavy rain often enough to keep the panels clean enough to not require manual panel washing. This difference does not have an impact on the health or safety impact of the photovoltaic modules other than perhaps some increased risk of electric shock when washing the modules. Proper installation, maintenance, and washing techniques should reduce this risk to near zero.
- Vegetation Maintenance: The climate in many regions of California, including Napa County where the Soscol Ferry Road Solar project is located, cause the growth of vegetation requiring maintenance to be less vigorous than the vegetation in moist North Carolina. Thus, PV sites in California use similar vegetation maintenance techniques to North Carolina however they need to spend less time and make fewer trips to adequately maintain vegetation on site.
- California Hazardous Waste Policy:
  - As explained in the white paper, in the United States a waste material is considered hazardous waste if the results of a Toxicity Characteristic Leaching Procedure (TCLP) test find concentrations of any of 40 hazardous chemicals above the allowed EPA concentration limit for that chemical. However, in California, materials must additionally meet the more stringent Hazardous Waste Control Law (HWCL), which is like the Reduction of Hazardous Substances (ROHS) directive, adopted in February 2003 by the European Union (EU).[i]
  - In 2015, California passed SB-489 directing the CA DTSC (Department of Toxic Substances Control) to write rules to reclassify PV modules as universal waste, even if they fail TCLP. These rules exclude physically damaged, fractured, or fragmented PV modules that are no longer recognizable as PV modules.[ii] A primary goal of the legislation is to allow producers of waste PV modules to avoid difficult and costly waste determination procedures. In April 2019 the CA DTSC proposed rules to implement SB-489. After the public comment period that ended in June 2019 DTSC may adjust and adopt the rules.[iii]

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EXHIBIT R: HYDROLOGIC RESPONSE OF SOLAR FARMS

Hydrologic Response of Solar Farms

Lauren M. Cook, S.M.ASCE[1]; and Richard H. McCuen, M.ASCE[2]

Abstract: Because of the benefits of solar energy, the number of solar farms is increasing; however, their hydrologic impacts have not been studied. The goal of this study was to determine the hydrologic effects of solar farms and examine whether or not storm-water management is needed to control runoff volumes and rates. A model of a solar farm was used to simulate runoff for two conditions: the pre- and postpaneled conditions. Using sensitivity analyses, modeling showed that the solar panels themselves did not have a significant effect on the runoff volumes, peaks, or times to peak. However, if the ground cover under the panels is gravel or bare ground, owing to design decisions or lack of maintenance, the peak discharge may increase significantly with storm-water management needed. In addition, the kinetic energy of the flow that drains from the panels was found to be greater than that of the rainfall, which could cause erosion at the base of the panels. Thus, it is recommended that the grass beneath the panels be well maintained or that a buffer strip be placed after the most downgradient row of panels. This study, along with design recommendations, can be used as a guide for the future design of solar farms. **DOI: 10.1061/(ASCE)HE.1943-5584.0000530.** © *2013 American Society of Civil Engineers.*

CE Database subject headings: Hydrology; Land use; Solar power; Floods; Surface water; Runoff; Stormwater management.

Author keywords: Hydrology; Land use change; Solar energy; Flooding; Surface water runoff; Storm-water management.

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Introduction

Storm-water management practices are generally implemented to reverse the effects of land-cover changes that cause increases in volumes and rates of runoff. This is a concern posed for new types of land-cover change such as the solar farm. Solar energy is a renewable energy source that is expected to increase in importance in the near future. Because solar farms require considerable land, it is necessary to understand the design of solar farms and their potential effect on erosion rates and storm runoff, especially the impact on offsite properties and receiving streams. These farms can vary in size from 8 ha (20 acres) in residential areas to 250 ha (600 acres) in areas where land is abundant.

The solar panels are impervious to rain water; however, they are mounted on metal rods and placed over pervious land. In some cases, the area below the panel is paved or covered with gravel. Service roads are generally located between rows of panels. Although some panels are stationary, others are designed to move so that the angle of the panel varies with the angle of the sun. The angle can range, depending on the latitude, from 22° during the summer months to 74° during the winter months. In addition, the angle and direction can also change throughout the day. The issue posed is whether or not these rows of impervious panels will change the runoff characteristics of the site, specifically increase runoff volumes or peak discharge rates. If the increases are hydrologically significant, storm-water management facilities may be needed. Additionally, it is possible that the velocity of water draining from the edge of the panels is sufficient to cause erosion of the soil below the panels, especially where the maintenance roadways are bare ground.

The outcome of this study provides guidance for assessing the hydrologic effects of solar farms, which is important to those who plan, design, and install arrays of solar panels. Those who design solar farms may need to provide for storm-water management. This study investigated the hydrologic effects of solar farms, assessed whether or not storm-water management might be needed, and if the velocity of the runoff from the panels could be sufficient to cause erosion of the soil below the panels.

Model Development

Solar farms are generally designed to maximize the amount of energy produced per unit of land area, while still allowing space for maintenance. The hydrologic response of solar farms is not usually considered in design. Typically, the panels will be arrayed in long rows with separations between the rows to allow for maintenance vehicles. To model a typical layout, a unit width of one panel was assumed, with the length of the downgradient strip depending on the size of the farm. For example, a solar farm with 30 rows of 200 panels each could be modeled as a strip of 30 panels with space between the panels for maintenance vehicles. Rainwater that drains from the upper panel onto the ground will flow over the land under the 29 panels on the downgradient strip. Depending on the land cover, infiltration losses would be expected as the runoff flows to the bottom of the slope.

To determine the effects that the solar panels have on runoff characteristics, a model of a solar farm was developed. Runoff in the form of sheet flow without the addition of the solar panels served as the prepaneled condition. The paneled condition assumed a downgradient series of cells with one solar panel per ground cell. Each cell was separated into three sections: wet, dry, and spacer.

The dry section is that portion directly underneath the solar panel, unexposed directly to the rainfall. As the angle of the panel from the horizontal increases, more of the rain will fall directly onto

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the ground; this section of the cell is referred to as the wet section. The spacer section is the area between the rows of panels used by maintenance vehicles. Fig. 1 is an image of two solar panels and the spacer section allotted for maintenance vehicles. Fig. 2 is a schematic of the wet, dry, and spacer sections with their respective dimensions. In Fig. 1, tracks from the vehicles are visible on what is modeled within as the spacer section. When the solar panel is horizontal, then the length longitudinal to the direction that runoff will occur is the length of the dry and wet sections combined. Runoff from a dry section drains onto the downgradient spacer section. Runoff from the spacer section flows to the wet section of the next downgradient cell. Water that drains from a solar panel falls directly onto the spacer section of that cell.

The length of the spacer section is constant. During a storm event, the loss rate was assumed constant for the 24-h storm because a wet antecedent condition was assumed. The lengths of the wet and dry sections changed depending on the angle of the solar panel. The total length of the wet and dry sections was set equal to the length of one horizontal solar panel, which was assumed to be 3.5 m. When a solar panel is horizontal, the dry section length would equal 3.5 m and the wet section length would be zero. In the paneled condition, the dry section does not receive direct rainfall because the rain first falls onto the solar panel then drains onto the spacer section. However, the dry section does infiltrate some of the runoff that comes from the upgradient wet section. The wet section was modeled similar to the spacer section with rain falling directly onto the section and assuming a constant loss rate.

For the presolar panel condition, the spacer and wet sections are modeled the same as in the paneled condition; however, the cell does not include a dry section. In the prepaneled condition, rain falls directly onto the entire cell. When modeling the prepaneled condition, all cells receive rainfall at the same rate and are subject to losses. All other conditions were assumed to remain the same such that the prepaneled and paneled conditions can be compared.

Rainfall was modeled after an natural resources conservation service (NRCS) Type II Storm (McCuen 2005) because it is an accurate representation of actual storms of varying characteristics that are imbedded in intensity-duration-frequency (IDF) curves. For each duration of interest, a dimensionless hyetograph was developed using a time increment of 12 s over the duration of the storm (see Fig. 3). The depth of rainfall that corresponds to each storm magnitude was then multiplied by the dimensionless hyetograph. For a 2-h storm duration, depths of 40.6, 76.2, and 101.6 mm were used for the 2-, 25-, and 100-year events. The 2- and 6-h duration hyetographs were developed using the center portion of the 24-h storm, with the rainfall depths established with the Baltimore IDF curve. The corresponding depths for a 6-h duration were 53.3, 106.7, and 132.1 mm, respectively. These magnitudes were chosen to give a range of storm conditions.

During each time increment, the depth of rain is multiplied by the cell area to determine the volume of rain added to each section of each cell. This volume becomes the storage in each cell. Depending on the soil group, a constant volume of losses was subtracted from the storage. The runoff velocity from a solar panel was calculated using Manning's equation, with the hydraulic radius for sheet flow assumed to equal the depth of the storage on the panel (Bedient and Huber 2002). Similar assumptions were made to compute the velocities in each section of the surface sections.

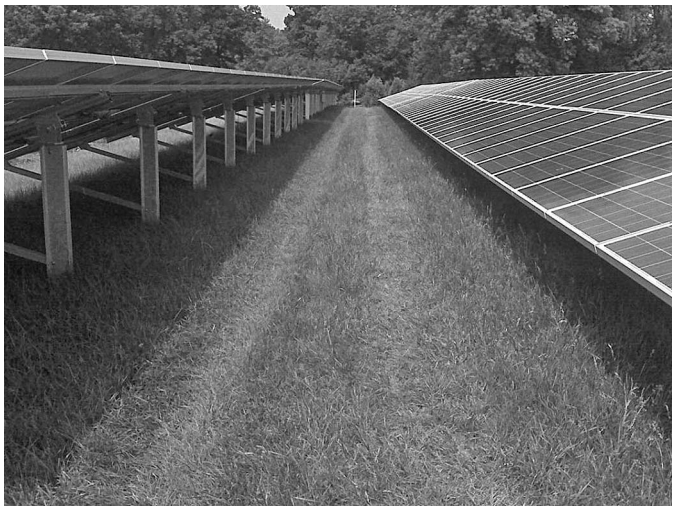

Fig. 1. Maintenance or "spacer" section between two rows of solar panels (photo by John E. Showler, reprinted with permission)

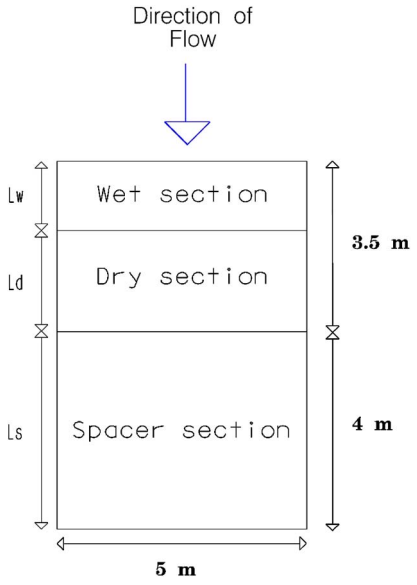

Fig. 2. Wet, dry, and spacer sections of a single cell with lengths *Lw*, *Ls*, and *Ld* with the solar panel covering the dry section

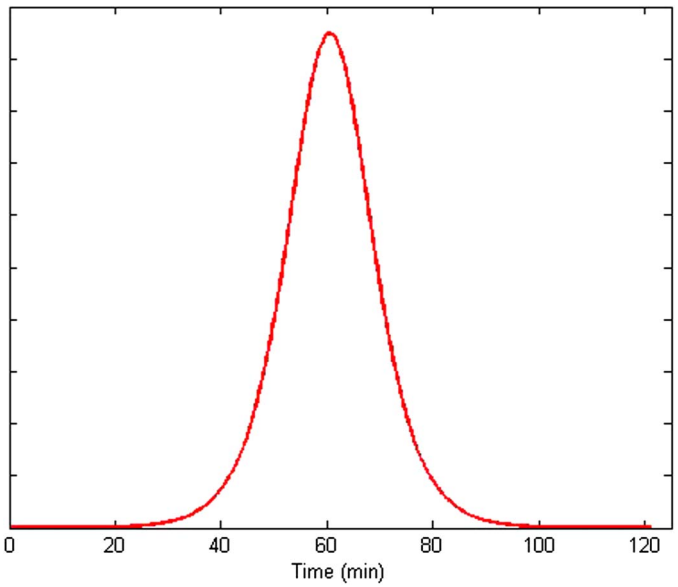

Fig. 3. Dimensionless hyetograph of 2-h Type II storm

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Runoff from one section to the next and then to the next downgradient cell was routed using the continuity of mass. The routing coefficient depended on the depth of flow in storage and the velocity of runoff. Flow was routed from the wet section to the dry section to the spacer section, with flow from the spacer section draining to the wet section of the next cell. Flow from the most downgradient cell was assumed to be the outflow. Discharge rates and volumes from the most downgradient cell were used for comparisons between the prepaneled and paneled conditions.

Alternative Model Scenarios

To assess the effects of the different variables, a section of 30 cells, each with a solar panel, was assumed for the base model. Each cell was separated individually into wet, dry, and spacer sections. The area had a total ground length of 225 m with a ground slope of 1% and width of 5 m, which was the width of an average solar panel. The roughness coefficient (Engman 1986) for the silicon solar panel was assumed to be that of glass, 0.01. Roughness coefficients of 0.15 for grass and 0.02 for bare ground were also assumed. Loss rates of 0.5715 cm/h (0.225 in./h) and 0.254 cm/h (0.1 in./h) for B and C soils, respectively, were assumed.

The prepaneled condition using the 2-h, 25-year rainfall was assumed for the base condition, with each cell assumed to have a good grass cover condition. All other analyses were made assuming a paneled condition. For most scenarios, the runoff volumes and peak discharge rates from the paneled model were not significantly greater than those for the prepaneled condition. Over a total length of 225 m with 30 solar panels, the runoff increased by 0.26 m^3, which was a difference of only 0.35%. The slight increase in runoff volume reflects the slightly higher velocities for the paneled condition. The peak discharge increased by 0.0013 m^3, a change of only 0.31%. The time to peak was delayed by one time increment, i.e., 12 s. Inclusion of the panels did not have a significant hydrologic impact.

Storm Magnitude

The effect of storm magnitude was investigated by changing the magnitude from a 25-year storm to a 2-year storm. For the 2-year storm, the rainfall and runoff volumes decreased by approximately 50%. However, the runoff from the paneled watershed condition increased compared to the prepaneled condition by approximately the same volume as for the 25-year analysis, 0.26 m^3. This increase represents only a 0.78% increase in volume. The peak discharge and the time to peak did not change significantly. These results reflect runoff from a good grass cover condition and indicated that the general conclusion of very minimal impacts was the same for different storm magnitudes.

Ground Slope

The effect of the downgradient ground slope of the solar farm was also examined. The angle of the solar panels would influence the velocity of flows from the panels. As the ground slope was increased, the velocity of flow over the ground surface would be closer to that on the panels. This could cause an overall increase in discharge rates. The ground slope was changed from 1 to 5%, with all other conditions remaining the same as the base conditions.

With the steeper incline, the volume of losses decreased from that for the 1% slope, which is to be expected because the faster velocity of the runoff would provide less opportunity for infiltration. However, between the prepaneled and paneled conditions, the increase in runoff volume was less than 1%. The peak discharge and the time to peak did not change. Therefore, the greater ground slope did not significantly influence the response of the solar farm.

Soil Type

The effect of soil type on the runoff was also examined. The soil group was changed from B soil to C soil by varying the loss rate. As expected, owing to the higher loss rate for the C soil, the depths of runoff increased by approximately 7.5% with the C soil when compared with the volume for B soils. However, the runoff volume for the C soil condition only increased by 0.17% from the prepaneled condition to the paneled condition. In comparison with the B soil, a difference of 0.35% in volume resulted between the two conditions. Therefore, the soil group influenced the actual volumes and rates, but not the relative effect of the paneled condition when compared to the prepaneled condition.

Panel Angle

Because runoff velocities increase with slope, the effect of the angle of the solar panel on the hydrologic response was examined. Analyses were made for angles of 30° and 70° to test an average range from winter to summer. The hydrologic response for these angles was compared to that of the base condition angle of 45°. The other site conditions remained the same. The analyses showed that the angle of the panel had only a slight effect on runoff volumes and discharge rates. The lower angle of 30° was associated with an increased runoff volume, whereas the runoff volume decreased for the steeper angle of 70° when compared with the base condition of 45°. However, the differences (~0.5%) were very slight. Nevertheless, these results indicate that, when the solar panel was closer to horizontal, i.e., at a lower angle, a larger difference in runoff volume occurred between the prepaneled and paneled conditions. These differences in the response result are from differences in loss rates.

The peak discharge was also lower at the lower angle. At an angle of 30°, the peak discharge was slightly lower than at the higher angle of 70°. For the 2-h storm duration, the time to peak of the 30° angle was 2 min delayed from the time to peak of when the panel was positioned at a 70° angle, which reflects the longer travel times across the solar panels.

Storm Duration

To assess the effect of storm duration, analyses were made for 6-h storms, testing magnitudes for 2-, 25-, and 100-year return periods, with the results compared with those for the 2-h rainfall events. The longer storm duration was tested to determine whether a longer duration storm would produce a different ratio of increase in runoff between the prepaneled and paneled conditions. When compared to runoff volumes from the 2-h storm, those for the 6-h storm were 34% greater in both the paneled and prepaneled cases. However, when comparing the prepaneled to the paneled condition, the increase in the runoff volume with the 6-h storm was less than 1% regardless of the return period. The peak discharge and the time-to-peak did not differ significantly between the two conditions. The trends in the hydrologic response of the solar farm did not vary with storm duration.

Ground Cover

The ground cover under the panels was assumed to be a native grass that received little maintenance. For some solar farms, the area beneath the panel is covered in gravel or partially paved because the panels prevent the grass from receiving sunlight. Depending on the

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J. Hydrol. Eng. 2013.18:536-541.

volume of traffic, the spacer cell could be grass, patches of grass, or bare ground. Thus, it was necessary to determine whether or not these alternative ground-cover conditions would affect the runoff characteristics. This was accomplished by changing the Manning's n for the ground beneath the panels. The value of n under the panels, i.e., the dry section, was set to 0.015 for gravel, with the value for the spacer or maintenance section set to 0.02, i.e., bare ground. These can be compared to the base condition of a native grass ($n = 0.15$). A good cover should promote losses and delay the runoff.

For the smoother surfaces, the velocity of the runoff increased and the losses decreased, which resulted in increasing runoff volumes. This occurred both when the ground cover under the panels was changed to gravel and when the cover in the spacer section was changed to bare ground. Owing to the higher velocities of the flow, runoff rates from the cells increased significantly such that it was necessary to reduce the computational time increment. Fig. 4(a) shows the hydrograph from a 30-panel area with a time increment of 12 s. With a time increment of 12 s, the water in each cell is discharged at the end of every time increment, which results in no attenuation of the flow; thus, the undulations shown in Fig. 4(a) result. The time increment was reduced to 3 s for the 2-h storm, which resulted in watershed smoothing and a rational hydrograph shape [Fig. 4(b)]. The results showed that the storm runoff

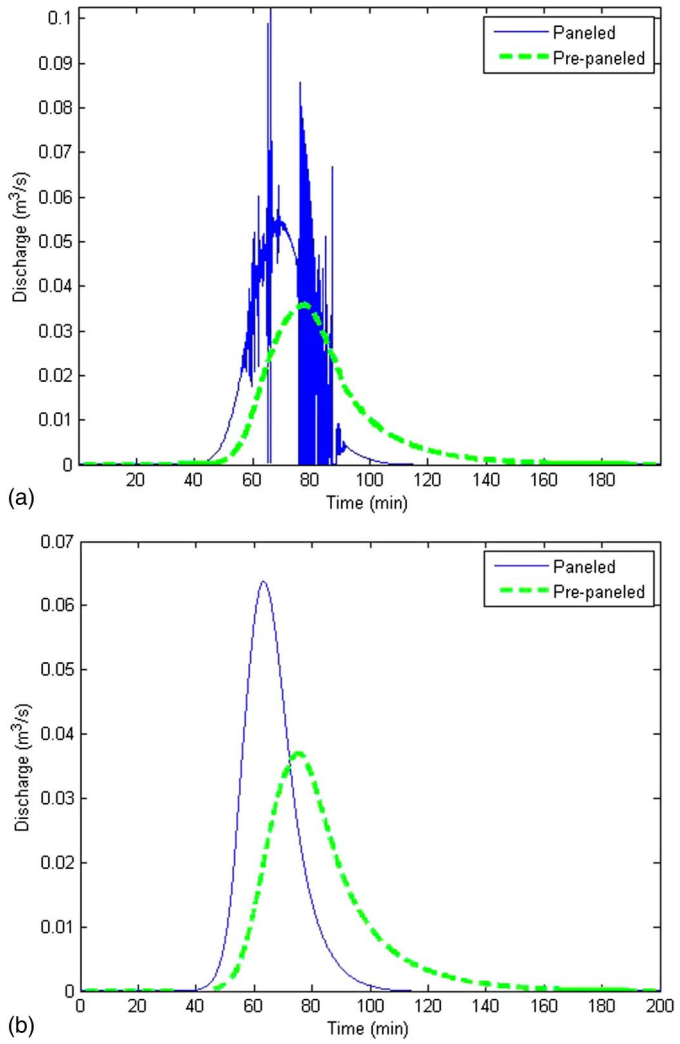

Fig. 4. Hydrograph with time increment of (a) 12 s; (b) 3 s with Manning's n for bare ground

increased by 7% from the grass-covered scenario to the scenario with gravel under the panel. The peak discharge increased by 73% for the gravel ground cover when compared with the grass cover without the panels. The time to peak was 10 min less with the gravel than with the grass, which reflects the effect of differences in surface roughness and the resulting velocities.

If maintenance vehicles used the spacer section regularly and the grass cover was not adequately maintained, the soil in the spacer section would be compacted and potentially the runoff volumes and rates would increase. Grass that is not maintained has the potential to become patchy and turn to bare ground. The grass under the panel may not get enough sunlight and die. Fig. 1 shows the result of the maintenance trucks frequently driving in the spacer section, which diminished the grass cover.

The effect of the lack of solar farm maintenance on runoff characteristics was modeled by changing the Manning's n to a value of 0.02 for bare ground. In this scenario, the roughness coefficient for the ground under the panels, i.e., the dry section, as well as in the spacer cell was changed from grass covered to bare ground ($n = 0.02$).The effects were nearly identical to that of the gravel. The runoff volume increased by 7% from the grass-covered to the bare-ground condition. The peak discharge increased by 72% when compared with the grass-covered condition. The runoff for the bare-ground condition also resulted in an earlier time to peak by approximately 10 min. Two other conditions were also modeled, showing similar results. In the first scenario, gravel was placed directly under the panel, and healthy grass was placed in the spacer section, which mimics a possible design decision. Under these conditions, the peak discharge increased by 42%, and the volume of runoff increased by 4%, which suggests that storm-water management would be necessary if gravel is placed anywhere.

Fig. 5 shows two solar panels from a solar farm in New Jersey. The bare ground between the panels can cause increased runoff rates and reductions in time of concentration, both of which could necessitate storm-water management. The final condition modeled involved the assumption of healthy grass beneath the panels and bare ground in the spacer section, which would simulate the condition of unmaintained grass resulting from vehicles that drive over the spacer section. Because the spacer section is 53% of the cell, the change in land cover to bare ground would reduce losses and decrease runoff travel times, which would cause runoff to amass as it



Fig. 5. Site showing the initiation of bare ground below the panels, which increases the potential for erosion (photo by John Showler, reprinted with permission)

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moves downgradient. With the spacer section as bare ground, the peak discharge increased by 100%, which reflected the increases in volume and decrease in timing. These results illustrate the need for maintenance of the grass below and between the panels.

Design Suggestions

With well-maintained grass underneath the panels, the solar panels themselves do not have much effect on total volumes of the runoff or peak discharge rates. Although the panels are impervious, the rainwater that drains from the panels appears as runoff over the downgradient cells. Some of the runoff infiltrates. If the grass cover of a solar farm is not maintained, it can deteriorate either because of a lack of sunlight or maintenance vehicle traffic. In this case, the runoff characteristics can change significantly with both runoff rates and volumes increasing by significant amounts. In addition, if gravel or pavement is placed underneath the panels, this can also contribute to a significant increase in the hydrologic response.

If bare ground is foreseen to be a problem or gravel is to be placed under the panels to prevent erosion, it is necessary to counteract the excess runoff using some form of storm-water management. A simple practice that can be implemented is a buffer strip (Dabney et al. 2006) at the downgradient end of the solar farm. The buffer strip length must be sufficient to return the runoff characteristics with the panels to those of runoff experienced before the gravel and panels were installed. Alternatively, a detention basin can be installed.

A buffer strip was modeled along with the panels. For approximately every 200 m of panels, or 29 cells, the buffer must be 5 cells long (or 35 m) to reduce the runoff volume to that which occurred before the panels were added. Even if a gravel base is not placed under the panels, the inclusion of a buffer strip may be a good practice when grass maintenance is not a top funding priority. Fig. 6 shows the peak discharge from the graveled surface versus the length of the buffer needed to keep the discharge to prepaneled peak rate.

Water draining from a solar panel can increase the potential for erosion of the spacer section. If the spacer section is bare ground, the high kinetic energy of water draining from the panel can cause soil detachment and transport (Garde and Raju 1977; Beuselinck et al. 2002). The amount and risk of erosion was modeled using the velocity of water coming off a solar panel compared with the velocity and intensity of the rainwater. The velocity of panel runoff was calculated using Manning's equation, and the velocity of falling rainwater was calculated using the following:

$$V_t = 120\, d_r^{0.35} \tag{1}$$

where d_r = diameter of a raindrop, assumed to be 1 mm. The relationship between kinetic energy and rainfall intensity is

$$K_e = 916 + 330 \log_{10} i \tag{2}$$

where i = rainfall intensity (in./h) and K_e = kinetic energy (ft-tons per ac-in. of rain) of rain falling onto the wet section and the panel, as well as the water flowing off of the end of the panel (Wischmeier and Smith 1978). The kinetic energy (Salles et al. 2002) of the rainfall was greater than that coming off the panel, but the area under the panel (i.e., the product of the length, width, and cosine of the panel angle) is greater than the area under the edge of the panel where the water drains from the panel onto the ground. Thus, dividing the kinetic energy by the respective areas gives a more accurate representation of the kinetic energy experienced by the soil. The energy of the water draining from the panel onto the ground can be nearly 10 times greater than the rain itself falling onto the ground area. If the solar panel runoff falls onto an unsealed soil, considerable detachment can result (Motha et al. 2004). Thus, because of the increased kinetic energy, it is possible that the soil is much more prone to erosion with the panels than without. Where panels are installed, methods of erosion control should be included in the design.

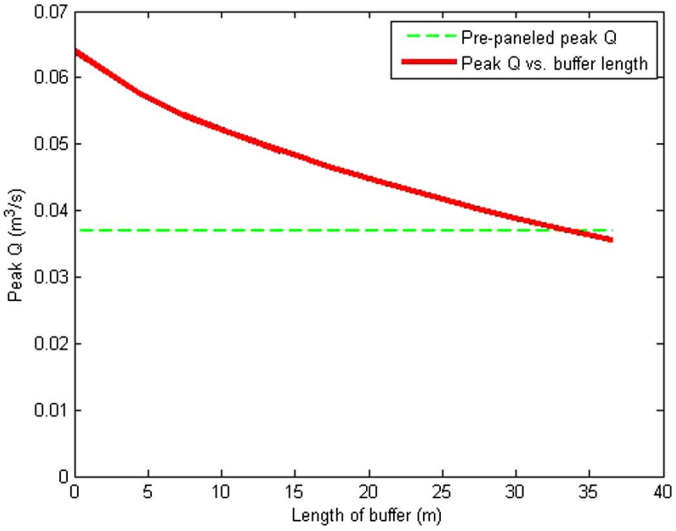

Fig. 6. Peak discharge over gravel compared with buffer length

Conclusions

Solar farms are the energy generators of the future; thus, it is important to determine the environmental and hydrologic effects of these farms, both existing and proposed. A model was created to simulate storm-water runoff over a land surface without panels and then with solar panels added. Various sensitivity analyses were conducted including changing the storm duration and volume, soil type, ground slope, panel angle, and ground cover to determine the effect that each of these factors would have on the volumes and peak discharge rates of the runoff.

The addition of solar panels over a grassy field does not have much of an effect on the volume of runoff, the peak discharge, nor the time to peak. With each analysis, the runoff volume increased slightly but not enough to require storm-water management facilities. However, when the land-cover type was changed under the panels, the hydrologic response changed significantly. When gravel or pavement was placed under the panels, with the spacer section left as patchy grass or bare ground, the volume of the runoff increased significantly and the peak discharge increased by approximately 100%. This was also the result when the entire cell was assumed to be bare ground.

The potential for erosion of the soil at the base of the solar panels was also studied. It was determined that the kinetic energy of the water draining from the solar panel could be as much as 10 times greater than that of rainfall. Thus, because the energy of the water draining from the panels is much higher, it is very possible that soil below the base of the solar panel could erode owing to the concentrated flow of water off the panel, especially if there is bare ground in the spacer section of the cell. If necessary, erosion control methods should be used.

Bare ground beneath the panels and in the spacer section is a realistic possibility (see Figs. 1 and 5). Thus, a good, well-maintained grass cover beneath the panels and in the spacer section is highly recommended. If gravel, pavement, or bare ground is

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deemed unavoidable below the panels or in the spacer section, it may necessary to add a buffer section to control the excess runoff volume and ensure adequate losses. If these simple measures are taken, solar farms will not have an adverse hydrologic impact from excess runoff or contribute eroded soil particles to receiving streams and waterways.

Acknowledgments

The authors appreciate the photographs (Figs. 1 and 5) of Ortho Clinical Diagnostics, 1001 Route 202, North Raritan, New Jersey, 08869, provided by John E. Showler, Environmental Scientist, New Jersey Department of Agriculture. The extensive comments of reviewers resulted in an improved paper.

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EXHIBIT S: WETLAND DELINEATION REPORT

Wetland Delineation Report

Arena Navigator Solar, LLC

Township of Foster

Madison County, Illinois

Prepared for:

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Scottsdale, AZ 85254

Prepared by:

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767 Eustis Street, Suite 100
Saint Paul, MN 55114

May 2026

FINAL

Kimley»Horn

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1 Introduction

Wetland scientists Adynn Stedillie and Lexi Daniels with Kimley-Horn and Associates, Inc. (Kimley-Horn) conducted a wetland investigation and field delineation for Arena Renewables, LLC and the Arena Navigator Solar, LLC Project in the township of Foster, Madison County, Illinois. The wetland investigation and delineation included 27 acres in Parcel ID 20-1-02-33-00-000-010 within section 33 of township 6N, range 9W (the "study area"). The study area is shown on **Figure 1.** The study area consists completely of agricultural land.

A routine level 2 (onsite) wetland delineation, as outlined in the *1987 Corps of Engineers Wetlands Delineation Manual* (January 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (August 2010)* occurred on April 13, 2026. The purpose of this delineation was to identify the extent of wetlands within the study area. The information will be used to facilitate project design and determine if aquatic resource impacts are avoidable and/or if minimization of impacts can result from design modifications.

2 Project Description

Arena Renewables, LLC is proposing a community scale solar development. The project will primarily consist of ground mounted solar panels, racking, associated electrical components, with security fencing and interior access roads.

3 Statement of Qualifications

Kimley-Horn has extensive experience completing wetland investigations and delineations across the United States. Kimley-Horn's personnel has been trained to use the *1987 Corps of Engineers Wetlands Delineation Manual (USACE, 1987)* along with the applicable regional supplements. Kimley-Horn has experience completing off-site hydrology analysis, historic aerial reviews, and difficult or atypical situation delineations.

Aaron Stolte earned Bachelor of Arts Degrees in Environmental Studies and Biology from Saint John's University in Minnesota. He has over seven years of experience in completing and managing ecological related projects for both public and private sector clients. Aaron specializes in local, regional, and federal environmental compliance and water related permits. He has a strong background in wetland and stormwater regulations and applying them to projects of various scopes and scales. He also has extensive experience in using GIS data to complete natural resource assessments as they relate to permitting requirements. Aaron is a certified delineator in the state of Minnesota and his primary focus is environmental work in the Midwest. He has experience working in Minnesota, Illinois, Wisconsin, Michigan, North Dakota, Nebraska, Arizona, and Florida.

Mason Kunkel earned a Bachelor of Science Degree in Biology with an emphasis in Wildlife Conservation from Western Colorado University. He is a biologist who specializes in wetland delineation and geographic information systems mapping. He has assisted with the delineation of agricultural fields, roadway corridors, and undeveloped areas for future development and transit projects. He is proficient in completing historic aerial reviews and off-site hydrology determinations which are required for delineation of farmed wetlands. He is a certified Minnesota Wetland Professional in Training and has extensive experience working in Minnesota, Iowa, Illinois, Missouri, and Michigan.

Adynn Stedillie holds a Bachelor of Science in Plant Science from the University of Minnesota. She has experience with GIS mapping, wetland delineations, species due diligence, research, soil systems, and botany. Adynn has completed delineations of aquatic resources in agricultural fields, herbaceous land, and

unmanaged forested areas for private sector clients throughout the Midwest. She is familiar with completing historic aerial reviews and off-site hydrology determinations which are required for delineation of farmed wetlands.

Lexi Daniels earned a Bachelor of Arts degree in Environmental Studies from St. Olaf College. She specializes in wetland delineation, environmental permitting, GIS mapping, and species due diligence. Lexi has experience conducting wetland delineations along roadway corridors and in agricultural fields and forested areas throughout Illinois and Kansas.

4 Regulatory Requirements

A summary of the permit requirements that may pertain to the project is provided below. Any activity planned within areas identified as wetland must be coordinated with and approved by the appropriate agencies prior to commencement of such activities.

4.1 State and Federal Regulations

The regulatory authority of the U.S. Army Corps of Engineers (USACE) covers Waters of the United States (WOTUS) in accordance with Section 404 of the Clean Water Act (CWA). Generally, the USACE reviews delineations to determine whether wetlands are jurisdictional (i.e., WOTUS). On March 12, 2025, the U.S. Environmental Protection Agency (EPA) and Department of the Army ("the agencies") announced a joint memorandum issuing guidance to field staff on implementation of the continuous surface connection requirement under the CWA. The final ruling is pending as of the date of this report.

Based on the March 2025 ruling, the Clean Waters Act's use of "waters" encompasses only relatively permanent, standing, or continuously flowing bodies, ordinarily called streams, oceans, rivers, and lakes. Wetlands qualify as WOTUS only if "indistinguishable from waters of the United States," having a continuous surface connection to bodies that are waters of the United States in their own right, with no clear division between waters and wetlands. USACE retains the authority to make final decisions regarding federal jurisdiction of aquatic resources. Obtaining a jurisdictional determination (JD) from the USACE clarifies the scope of federal jurisdiction over delineated aquatic resources and identifies which resources are subject to CWA regulations.

Section 10 of the Rivers and Harbors Act requires that regulated activities conducted below the ordinary high-water mark elevation of navigable Waters of the U.S. or mean high water mark for tidal waters be approved/permitted by the USACE. Regulated activities include the placement/removal of structures, work involving dredging, disposal of dredged material, filling, excavation, or any other disturbance of soils/sediments or modification of a navigable waterway. Navigable Waters of the U.S. are those waters that are subject to the ebb and flow of the tide shoreward to the mean high-water mark and/or are presently used or have been used in the past or may be susceptible to use to transport interstate or foreign commerce.

At this time, Illinois does not regulate wetlands under Section 404 or require setback buffers for wetlands on private land.

4.2 Local Regulations

According to the Ordinance Code 114.003 in Madison County, zoning ordinances state a development permit from the Building and Zoning Administrator is required if land disturbing activities occur within 25 feet of a river, lake, pond, stream, sinkhole or wetland. No other regulations were determined in Foster Township or Madison County.

5 Mapping and Background Information

Prior to field reconnaissance, potential wetland areas within the project study area were identified through a desktop review of United States Geological Survey (USGS) topographic maps, National Wetlands Inventory (NWI), National Hydrography Dataset (NHD), Illinois Department of Natural Resources (IDNR) Public Waters database, LiDAR data, the soil survey for Madison County, Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), aerial photography, and antecedent precipitation data for a location near the study area. The selected resources are described below:

5.1 Topography

The Alton, IL 7.5-minute USGS topographic map and 2-foot contours derived from a digital elevation model (DEM) from USGS were reviewed for the study area. According to the USGS topographic map (see **Figure 2**), the study area is undeveloped with three structures. The 2-foot contour data depicts the study area sloping southwest. The study area ranges from 514 feet (above mean sea level) to 524 feet, see **Figure 3**.

5.2 National Wetlands Inventory

NWI mapping, available from the U.S. Fish and Wildlife Service (USFWS) Wetland Mapper (updated in 2020), depicts potential wetland areas and waterbodies based on stereoscopic analysis of high altitude and aerial photographs and was reviewed for the study area. According to the NWI map, there are no wetlands in the study area, but several within the vicinity, **see Figure 3**.

5.3 National Hydrography Dataset

The NHD, available from USGS, depicts drainage networks and related features, including rivers, streams, canals, lakes, and ponds. The NHD dataset is not field verified. According to NHD mapping, there are no identified drainage features or waterbodies within the study area, but several within the vicinity, **see Figure 3**.

5.4 IDNR Public Waters

The IDNR Public Waters viewer depicts IDNR Public Waters. According to the Public Waters viewer, there are no Public Waters within the study area or the vicinity of the study area.

5.5 Soil Survey

The Natural Resources Conservation Service's (NRCS) *Web Soil Survey* for Madison County was reviewed for the study area. According to the survey, there are three soil mapping units within the study area which are all silt loam. The majority of the study area was mapped with soils with a predominantly hydric soil rating of 90%. The remainder of the study area was mapped with a predominantly non-hydric soil rating of 3% and 0%. Maps and information obtained from the NRCS online web soil survey are included in **Figure 4** and **Appendix A**.

5.6 Federal Emergency Management Agency Floodplain

The FEMA FIRM was reviewed for the study area. According to FEMA, the study area is located in Zone C of panels 1704360105B and 1704360125B (effective April 15, 1982), which is outside the designated 100-year floodplain zones, see **Figure 5**.

5.7 Aerial Photography Review

Aerial photography, acquired from Google Earth, was reviewed to identify the potential for wetlands across the study area. Seven photos were reviewed between 1991 and 2021, available in **Appendix B**. These

photos were used to determine the presence of wetland hydrology using industry accepted offsite hydrology analysis for areas showing crop stress or other potential wetland signatures. Each image was interpreted for the presence or lack of hydrologic indicators.

Six Areas of Investigation (AOIs) were identified in the study area. AOI 3 had wetland signatures in at least 30% of the historic aerials with normal precipitation conditions, met three secondary hydrology indicators during the field delineation, and was delineated as Wetland 3. AOIs 2, 4, and 6 had wetland signatures in at least 30% of the historic aerials with normal precipitation conditions but lacked either hydric soils or hydrology indicators in the field; thus, these areas were not delineated as wetland. AOIs 1 and 5 did not have wetland signatures in at least 30% of the historic aerials with normal precipitation conditions and lacked both hydric soils and hydrology indicators in the field; thus, these areas were not delineated as wetlands. The AOIs are shown in **Appendix B**.

5.8 Precipitation

Precipitation data for the study area were obtained from the U.S. Army Corps of Engineers Antecedent Precipitation Tool. WETS (Wetlands) tables were reviewed for climate stations within the vicinity of the study area to determine the current hydrologic conditions for the study area and if those conditions are typical for this time of year. Ninety-day rolling precipitation levels leading up to the field review were compared to historical data. In summary, the field visit constituted normal precipitation conditions. This information is included in **Appendix C**.

6 Field Investigation

A routine level 2 (onsite) wetland delineation, as outlined in the *1987 Corps of Engineers Wetlands Delineation Manual* (January 1987) along with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (August 2010)* occurred on April 13, 2026.

During the onsite delineation, vegetation, soils, and current hydrologic characteristics were evaluated at each wetland area and area of investigation identified within the study area. Wetland boundaries were digitally recorded with a GPS with sub-meter accuracy until one or more of the three criteria were no longer present. The sample point locations, wetland boundaries, and aquatic resources are shown in **Figure 6**.

In addition to wetlands that were investigated and delineated, non-wetland aquatic features were delineated. Non-wetland aquatic features are defined based on the observation of the following characteristics:

- Flow
    - Perennial: contains water at all times of the year except during extreme drought
    - Intermittent: contains water occasionally or seasonally
    - Ephemeral: contains water only during and immediately after periods of rainfall or snowmelt
- Bank Shape
    - Undercut: banks that overhang the stream channel
    - Steep: bank slope of approximately greater than 30 degrees
    - Gradual: bank slope of approximately 30 degrees or less

Sample points were completed for all observed wetland and upland plant communities. Historic aerials were reviewed for sample points taken in agricultural fields (See Appendix B). The field data sheets are included in Appendix D. Study area photos and a photo locations map can be found in Appendix E. Non-wetland linear features included erosional features and upland ditches, which lack flow, an OHWM, and/or an established bed and bank. Erosional features contained drainage patterns but lacked vegetation. Upland ditches contained upland vegetation along roadside areas. The linear features are included in Figure 6 to demonstrate surficial connections between resources.

7 Summary of Results

Table 1: Wetland Delineation Summary

Resource ID	Wetland Plant Community	Cowardin Classification[1]	Size (acres)[2]	NWI?	Hydric Soils?[3]	Photo ID	Associated Sample Points	NOTES
Wetlands								
Wetland 1	Seasonally Flooded Basin	PEM1B	0.11	N/A	Yes	1,4,5	SP-1 & SP-5 (Wet) SP-2 & SP-4 (Up)	Wetland located in linear ditch depression along the southwest boundary of the study area. The wetland collects runoff from the surrounding landscape and drains southeast. The wetland boundary was based on the change in topography, presence of hydric soil, and hydrophytic vegetation dominance.
Wetland 2	Seasonally Flooded Basin	PEM1B	0.05	N/A	Yes	8,10	SP-6 & SP-8 (Wet) SP-7 (Up)	Wetland located in depression along the west-central portion of the study area. The wetland collects runoff from the surrounding landscape and drains south. The wetland boundary was based on the change in topography, presence of hydric soil, and hydrophytic vegetation dominance.
Wetland 3	Seasonally Flooded Basin	PEM1Af	0.15	N/A	Yes	17,18	SP-14 (Wet) SP-15 (Up)	Wetland located in depression along the eastern portion of the study area. The wetland collects runoff from the surrounding landscape. The wetland boundary was based on the change in topography, presence of hydric soil, and hydrophytic vegetation dominance. The resource appears surficially isolated from other aquatic resources.

[1] The Cowardin Classification System codes are found here: https://doee.dc.gov/sites/default/files/dc/sites/ddoe/release_content/attachments/Appendix%20H_Cowardin%20Classification%20Diagram.pdf
[2] Size of wetland features and additional areas investigated provided in acres within the study area.
[3] Areas identified as hydric contain partially hydric soils (equal to or greater than 33% of soil component) mapped within the resource area.

8 Report Preparation

The procedures followed for this wetland delineation are in accordance with the *Corps of Engineers Wetlands Delineation Manual* and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (August 2010).

This report describes study area conditions for a specific date in time and is generally valid for a period of five years from the date of the final field investigation and delineation, which was April 13, 2026.

9 Conclusion

The field delineation identified three wetlands and two upland ditches within the study area. Each of the delineated resources is described in Table 1. None of the wetlands are anticipated to be USACE-Jurisdictional. None of the linear features are not anticipated to be regulated.

10 Disclaimer

Kimley-Horn has prepared this document based on limited field observations and our interpretation, as scientists, of applicable regulations and agency guidance. While Kimley-Horn believes our interpretation to be accurate, final authority to interpret the regulations lies with the appropriate regulatory agencies. Regulatory agencies occasionally issue guidance that changes the interpretation of published regulations. Guidance issued after the date of this report has the potential to invalidate our conclusions and/or recommendations and may cause a need to reevaluate our conclusions and/or recommendations.

Because Kimley-Horn has no regulatory authority, the Client understands that proceeding based solely upon this document does not protect the Client from potential sanction or fines from the applicable regulatory agencies. The Client acknowledges that they have the opportunity to submit documentation to the regulatory agencies for concurrence prior to proceeding with any work. If the Client elects not to do so, then the Client proceeds at their sole risk.

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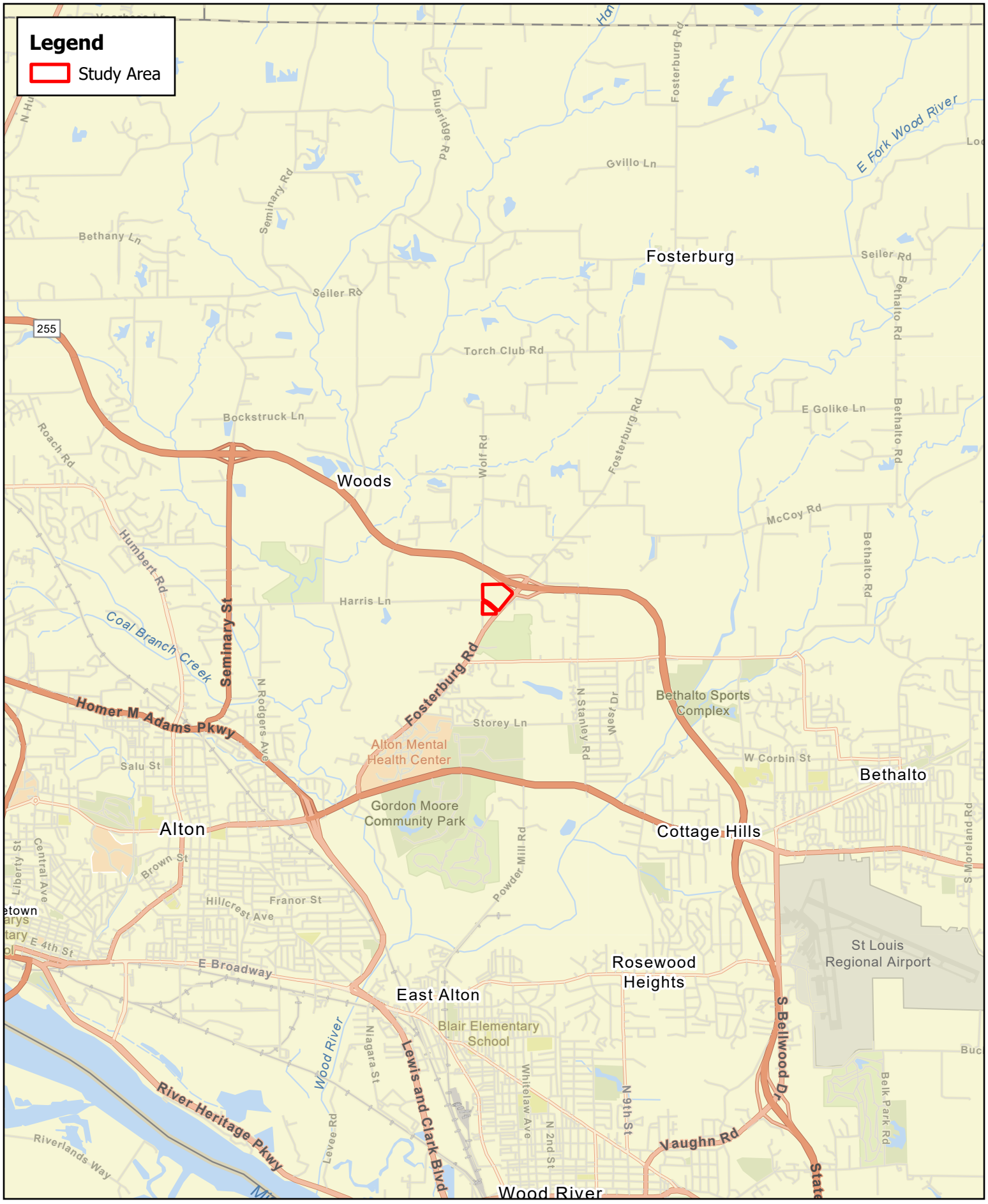
Figures

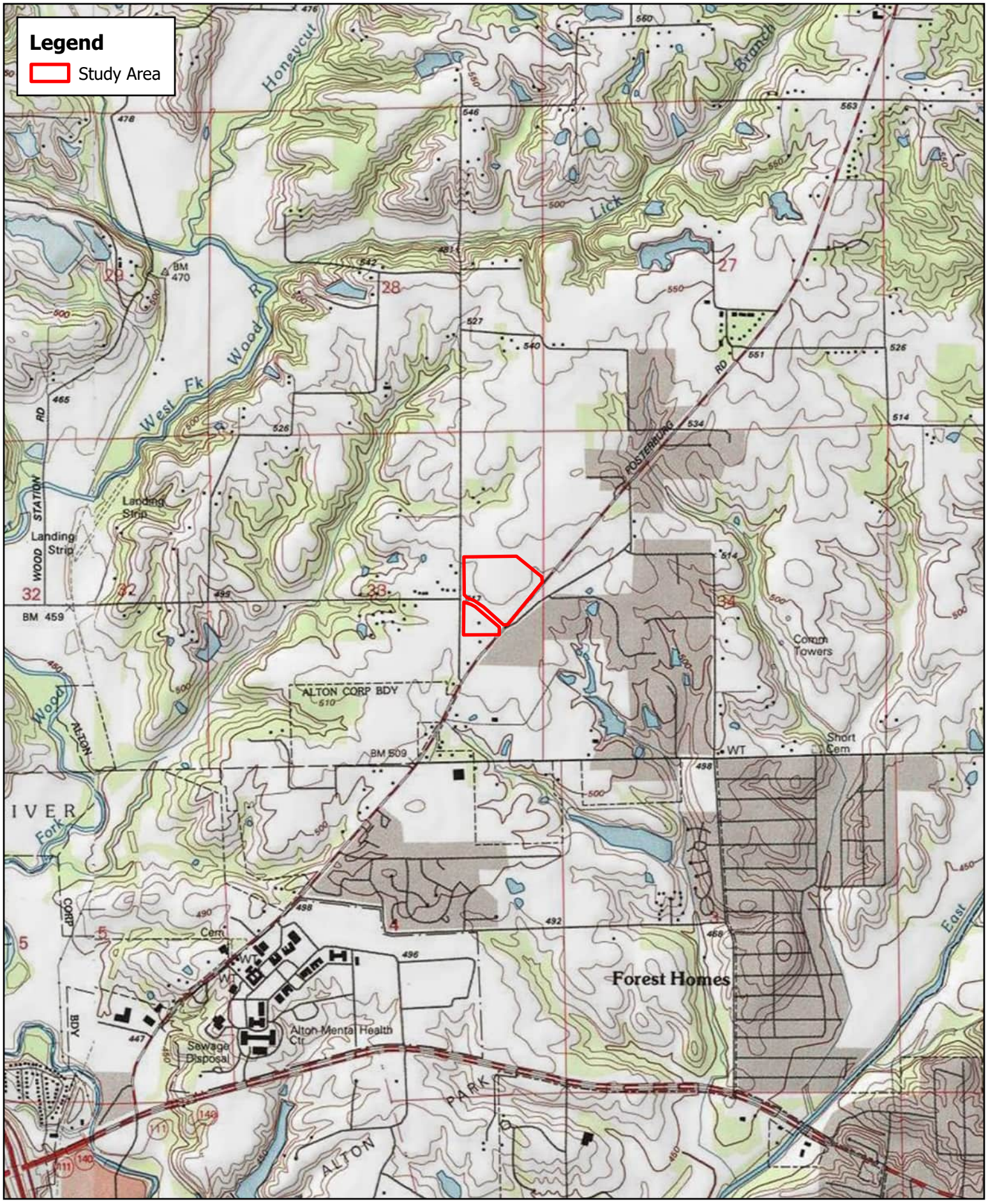


Kimley»Horn

0 0.5 1 Miles

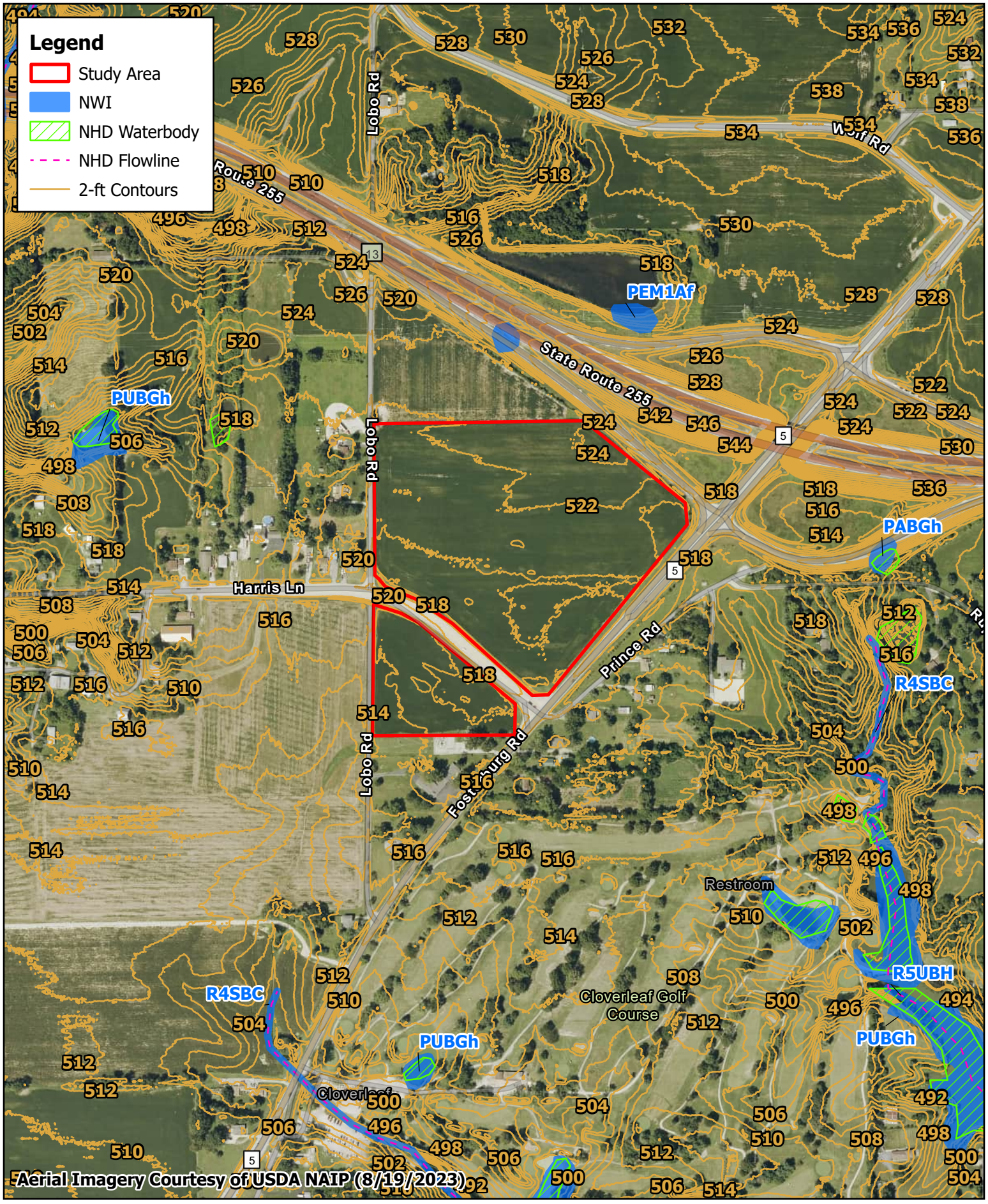
N

Figure 1. Project Location
Foster Township, Madison County
Arena Renewables, LLC



Kimley»Horn

Figure 2. USGS Topographic Map
Foster Township, Madison County
Arena Renewables, LLC

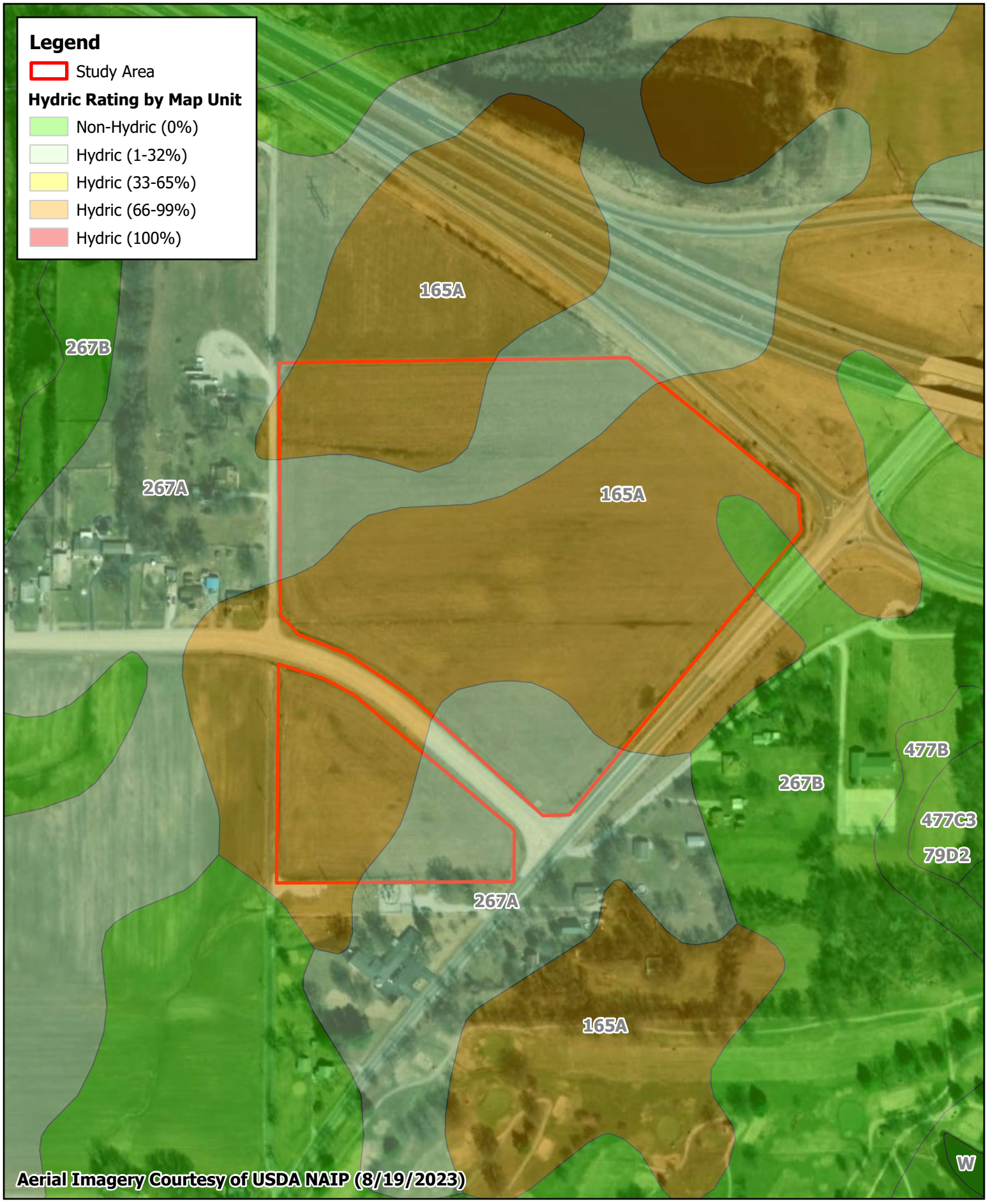


Kimley»Horn

0 250 500 US Feet

N

Figure 3. NWI, NHD, 2-ft Contours
Foster Township, Madison County
Arena Renewables, LLC



Kimley»Horn

0 150 300 US Feet

N

Figure 4. Hydric Soils Rating
Foster Township, Madison County
Arena Renewables, LLC



ELEVATION REFERENCE MARKS

REFERENCE MARKS	ELEVATION FEET (NGVD)	DESCRIPTION OF LOCATION
RM 63	460.71	Chiseled square on top of abutment on southeast corner of Culp Lane bridge over East Fork Wood River.
RM 64	469.08	Chiseled square on top of southeast abutment of Frostburg Road bridge over East Fork Wood River.
RM 65	493.42	Railroad spike one foot above ground on east side of first utility pole along Golike Road, east of the East Fork Wood River.
RM 66	504.52	Chiseled square on top of southeast abutment of Frostburg Road bridge over East Fork Wood River. ver.

KEY TO MAP

500-Year Flood Boundary	ZONE B
100-Year Flood Boundary	ZONE A1
Zone Designations*	ZONE A5
100-Year Flood Boundary	ZONE B
500-Year Flood Boundary	
Base Flood Elevation Line With Elevation In Feet**	513
Base Flood Elevation in Feet Where Uniform Within Zone**	(EL 987)
Elevation Reference Mark	RM7×
Zone D Boundary	
River Mile	•M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

INITIAL IDENTIFICATION:
JANUARY 31, 1975

FLOOD HAZARD BOUNDARY MAP REVISIONS:
OCTOBER 1, 1976

FLOOD INSURANCE RATE MAP EFFECTIVE:
APRIL 15, 1982

FLOOD INSURANCE RATE MAP REVISIONS:

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE date shown on this map to determine when actuarial rates apply to structures in the zones where elevations or depths have been established.

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program, at (800) 638-6620.

APPROXIMATE SCALE
1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

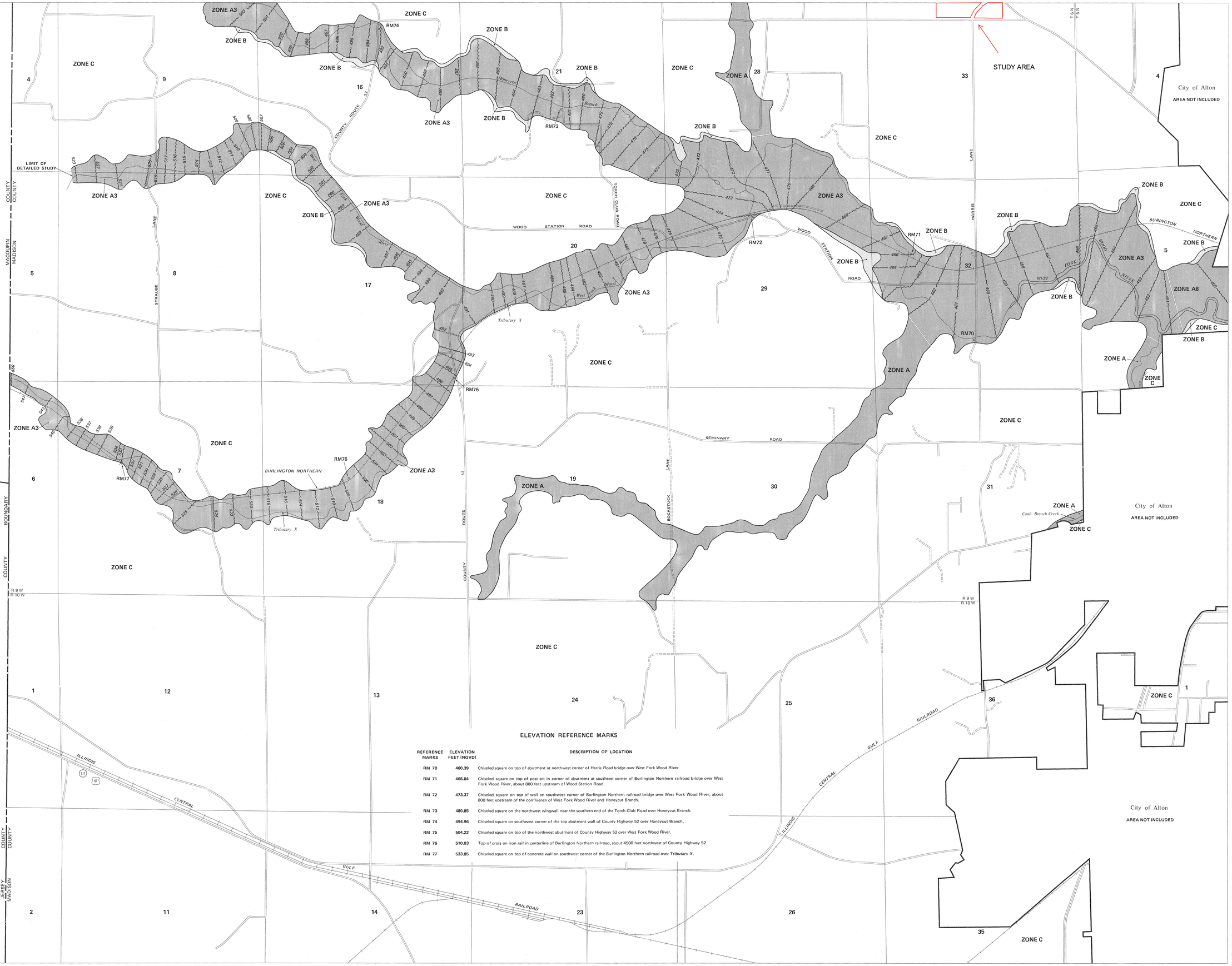
COUNTY OF
MADISON,
ILLINOIS
(UNINCORPORATED AREAS)

PANEL 105 OF 160
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
170436 0105 B

EFFECTIVE DATE:
APRIL 15, 1982

Federal Emergency Management Agency



ELEVATION REFERENCE MARKS

REFERENCE MARKS	ELEVATION FEET (NGVD)	DESCRIPTION OF LOCATION
RM 70	460.39	Chiseled square on top of abutment at northwest corner of Harris Road bridge over West Fork Wood River.
RM 71	466.84	Chiseled square on top of post set in corner of abutment at southeast corner of Burlington Northern railroad bridge over West Fork Wood River, about 900 feet upstream of Wood Station Road.
RM 72	473.37	Chiseled square on top of wall on southwest corner of Burlington Northern railroad bridge over West Fork Wood River, about 800 feet upstream of the confluence of West Fork Wood River and Honeycut Branch.
RM 73	480.85	Chiseled square on the northwest wingwall near the southern end of the Torch Club Road over Honeycut Branch.
RM 74	494.96	Chiseled square on southwest corner of the top abutment wall of County Highway 52 over Honeycut Branch.
RM 75	504.22	Chiseled square on top of the northwest abutment of County Highway 52 over West Fork Wood River.
RM 76	510.03	Top of cross on iron rail in centerline of Burlington Northern railroad, about 4500 feet northwest of County Highway 52.
RM 77	533.85	Chiseled square on top of concrete wall on southwest corner of the Burlington Northern railroad over Tributary X.

KEY TO MAP

- 500-Year Flood Boundary
- 100-Year Flood Boundary
- Zone Designations*
- 100-Year Flood Boundary
- 500-Year Flood Boundary
- Base Flood Elevation Line With Elevation In Feet** — 513
- Base Flood Elevation in Feet Where Uniform Within Zone** — (EL. 987)
- Elevation Reference Mark — RM7×
- Zone D Boundary
- River Mile — •M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

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This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

INITIAL IDENTIFICATION:
JANUARY 31, 1975

FLOOD HAZARD BOUNDARY MAP REVISIONS:
OCTOBER 1, 1976

FLOOD INSURANCE RATE MAP EFFECTIVE:
APRIL 15, 1982

FLOOD INSURANCE RATE MAP REVISIONS:

Refer to the FLOOD INSURANCE RATE MAP EFFECTIVE date shown on this map to determine when actuarial rates apply to structures in the zones where elevations or depths have been established.

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program, at (800) 638-6620.

APPROXIMATE SCALE
1000 0 1000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

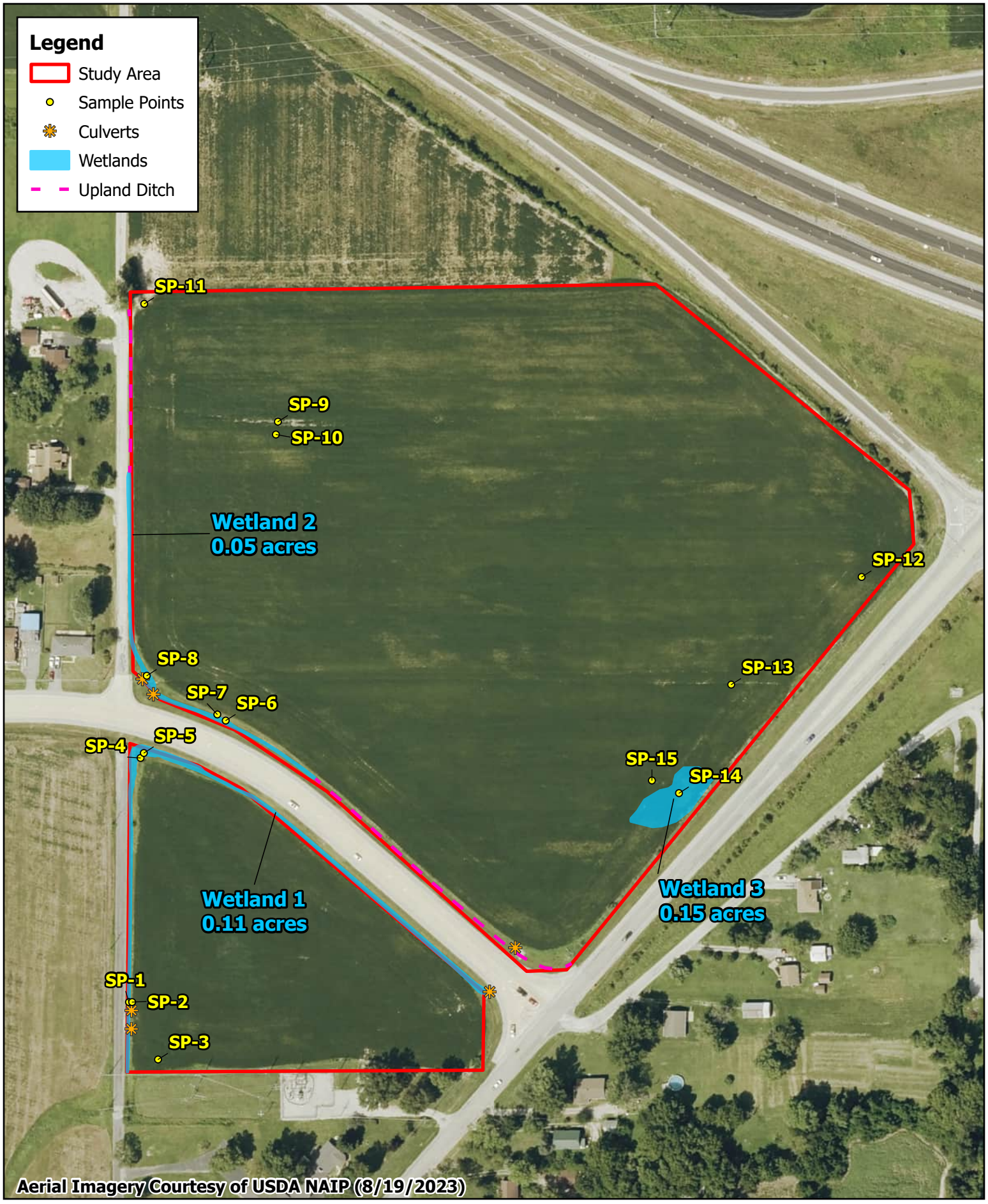
COUNTY OF
MADISON,
ILLINOIS
(UNINCORPORATED AREAS)

PANEL 125 OF 160
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
170436 0125 B

EFFECTIVE DATE:
APRIL 15, 1982

Federal Emergency Management Agency



0 100 200 US Feet

N

Figure 6. Delineation Summary
Foster Township, Madison County
Arena Renewables, LLC

Appendix A: Hydric Soils Information



Map Scale: 1:3,030 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

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

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Madison County, Illinois
Survey Area Data: Version 20, Aug 31, 2025

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

Date(s) aerial images were photographed: Jul 22, 2022—Aug 25, 2022

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

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
165A	Weir silt loam, 0 to 2 percent slopes	90	19.1	69.6%
267A	Caseyville silt loam, 0 to 2 percent slopes	3	7.7	28.3%
267B	Caseyville silt loam, 2 to 5 percent slopes	0	0.6	2.1%
Totals for Area of Interest			**27.4**	**100.0%**

Description

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.

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

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

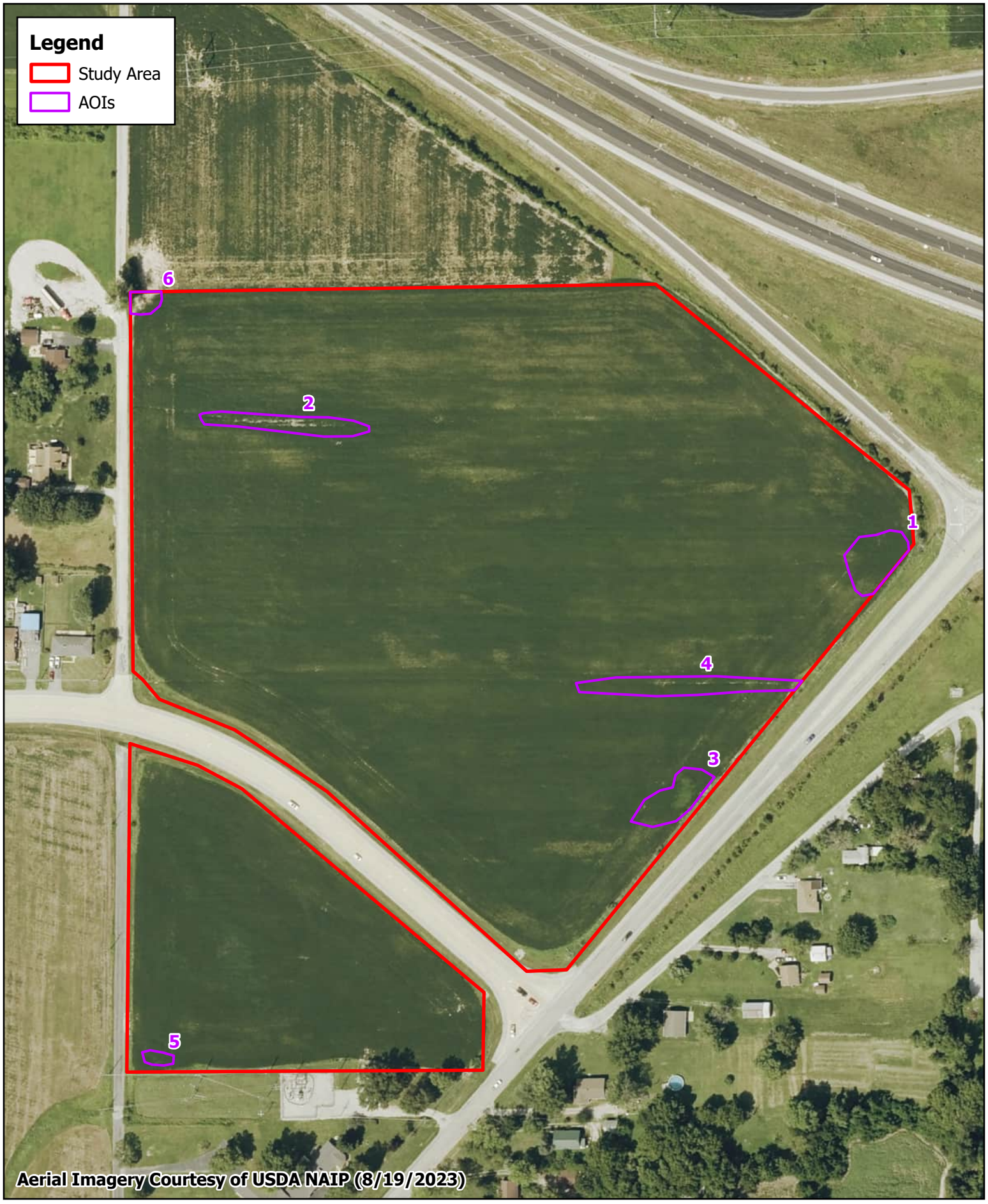
Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Appendix B: Historic Aerial Review



Kimley»Horn

0 100 200 US Feet

N

Appendix B. Historic AOIs
Foster Township, Madison County
Arena Renewables, LLC

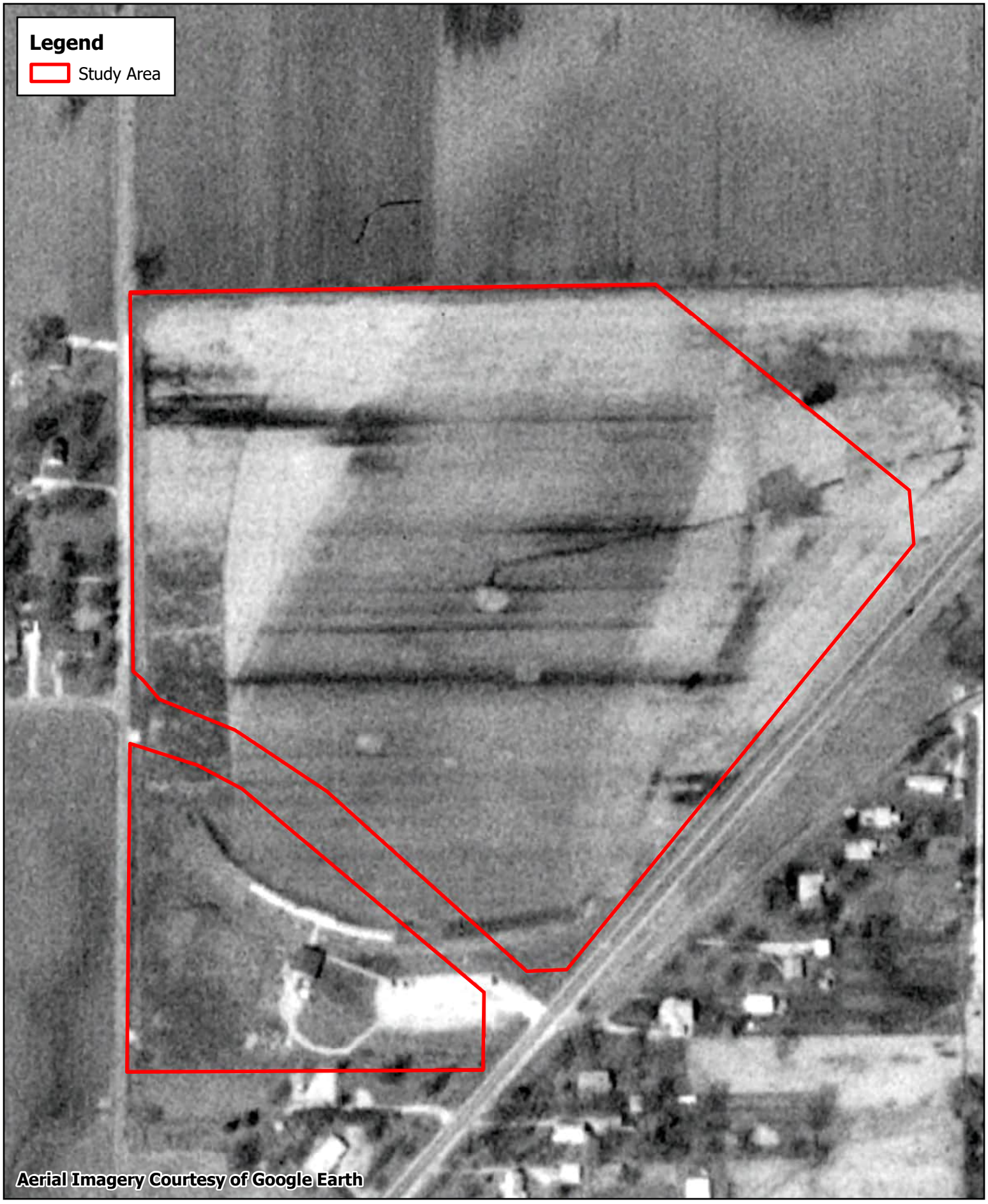
Appendix B. Historic Aerial Review*

		Image Interpretation** (Area of Investigation)					
Date Image Taken	Climate Condition***	1	2	3	4	5	6
3/20/1991	Normal	NSS	SS	SS	SS	NSS	NSS
5/17/2006	Normal	NV	NV	CS	NV	NV	NV
8/6/2012	Drier than normal	NV	NV	NV	NV	NV	CS
8/7/2017	Normal	CS	CS	CS	CS	NV	CS
8/27/2019	Wetter than normal	NV	CS	CS	CS	CS	NV
7/13/2020	Normal	NV	CS	CS	CS	CS	CS
9/25/2021	Normal	NV	NV	NV	NV	NV	NV
Number of normal years		5	5	5	5	5	5
Number of normal years with wet signatures		1	2	4	3	1	2
Percent of normal years with wet signatures		20%	40%	80%	60%	20%	40%
Hydric Soils present		Yes	Yes	Yes	Yes	Yes	Yes
Identified on NWI		No	No	No	No	No	No
Hydrology indicators observed during field review?		No	Yes	Yes	Yes	No	No
Has wetland signature in 30% or more in normal years?		No	Yes	Yes	Yes	No	Yes
Wetland Present?		No	No	Yes	No	No	No
Wetland Number				3			

**Methodology for determining the presence of wetland explained in Guidance for Offsite Hydrology/ Wetland Determinations from Minnesota Board of Water and Soil Resources (BWSR) and St Paul District Corps of Engineers (July 1, 2016)*

***CS = Crop Stress, NC = Not Cropped, SS = Soil Wetness Signature, SW = Standing Water, AP = Altered Pattern, NV = Normal Vegetative Cover, DO= Drowned Out*

****Climate condition based on USACE APT 90-day rolling precipitation total for wetland hydrology determination for the given photo date. Methodology is described in report.*

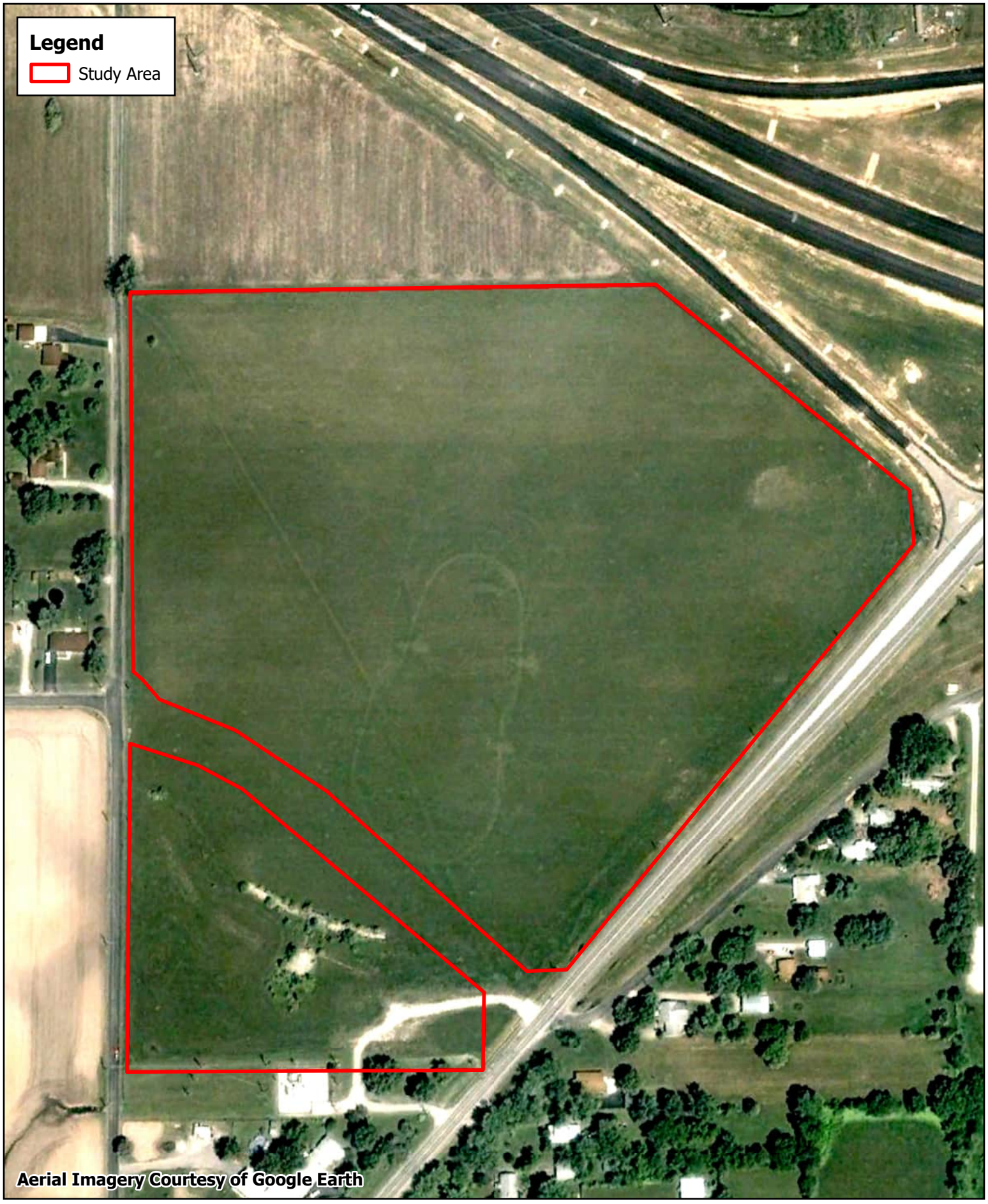


Kimley»Horn

0 100 200 US Feet

N

Appendix B. Historic Aerial (March 1991)
Foster Township, Madison County
Arena Renewables, LLC



Kimley»Horn

0 100 200 US Feet

N

Appendix B. Historic Aerial (May 2006)
Foster Township, Madison County
Arena Renewables, LLC



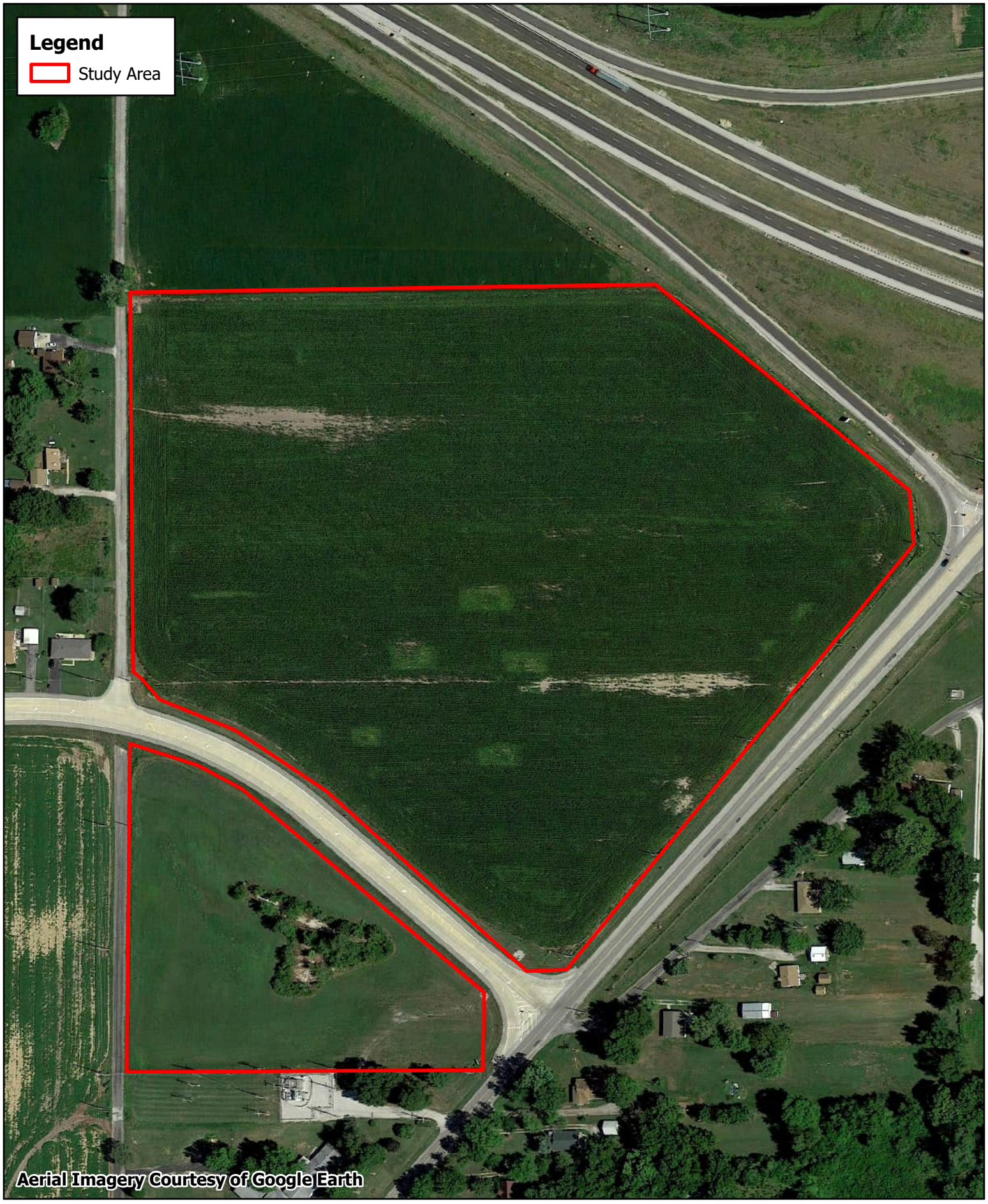
Kimley»Horn

0 100 200 US Feet

N

Appendix B. Historic Aerial (August 2012)

Foster Township, Madison County
Arena Renewables, LLC

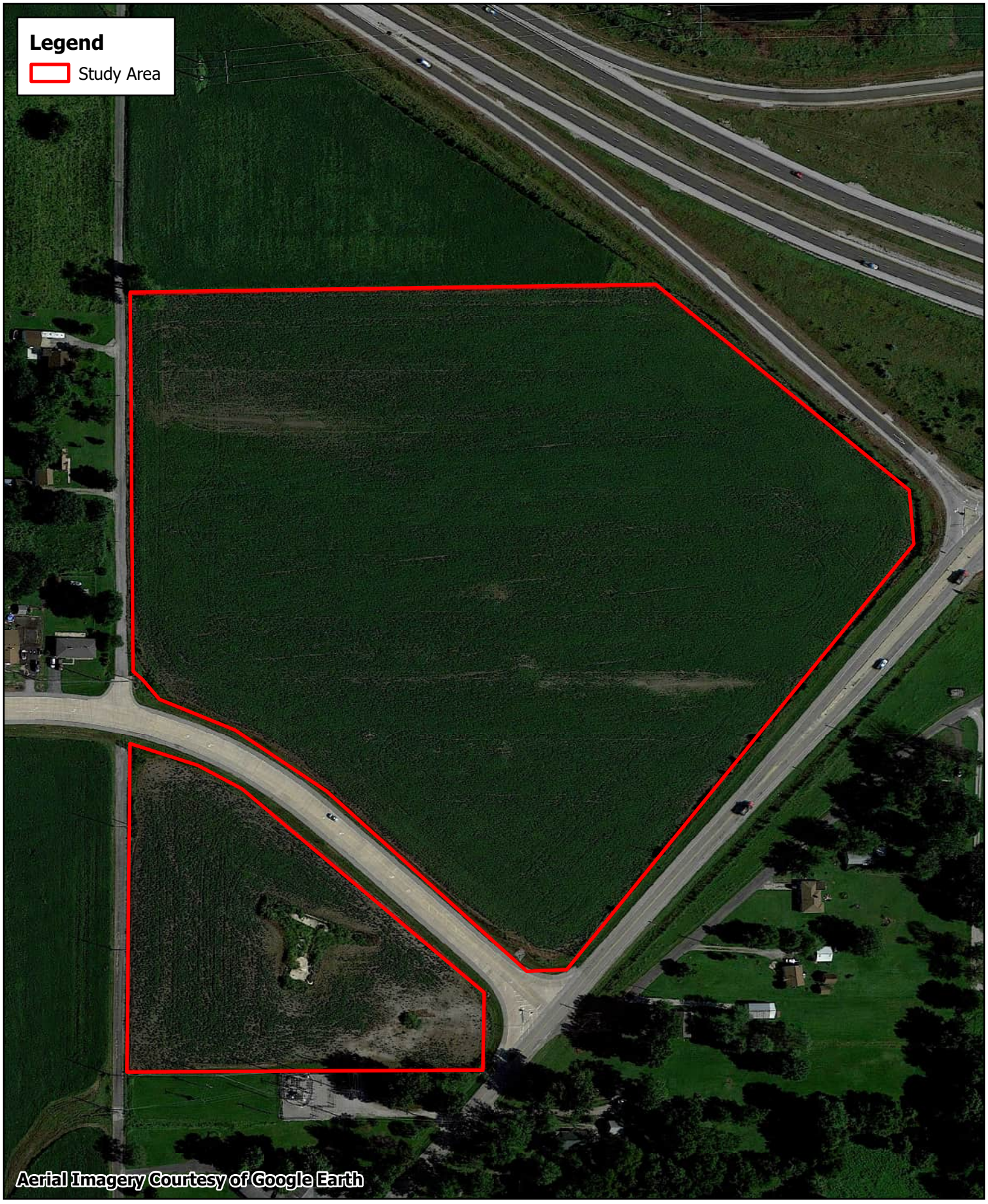


Kimley»Horn

0 100 200 US Feet

N

Appendix B. Historic Aerial (August 2017)
Foster Township, Madison County
Arena Renewables, LLC

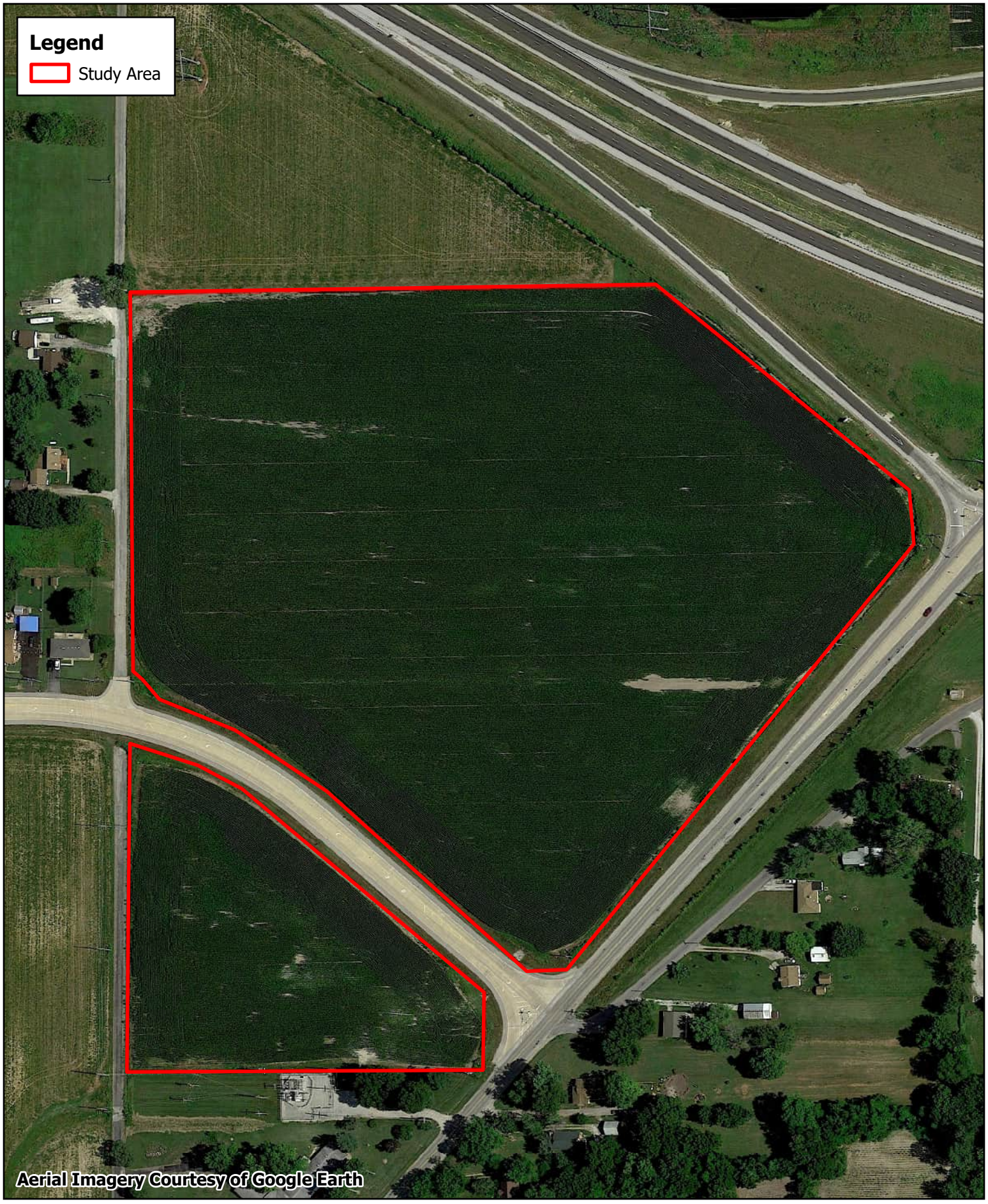


Kimley»Horn

0 100 200 US Feet

N

Appendix B. Historic Aerial (August 2019)
Foster Township, Madison County
Arena Renewables, LLC

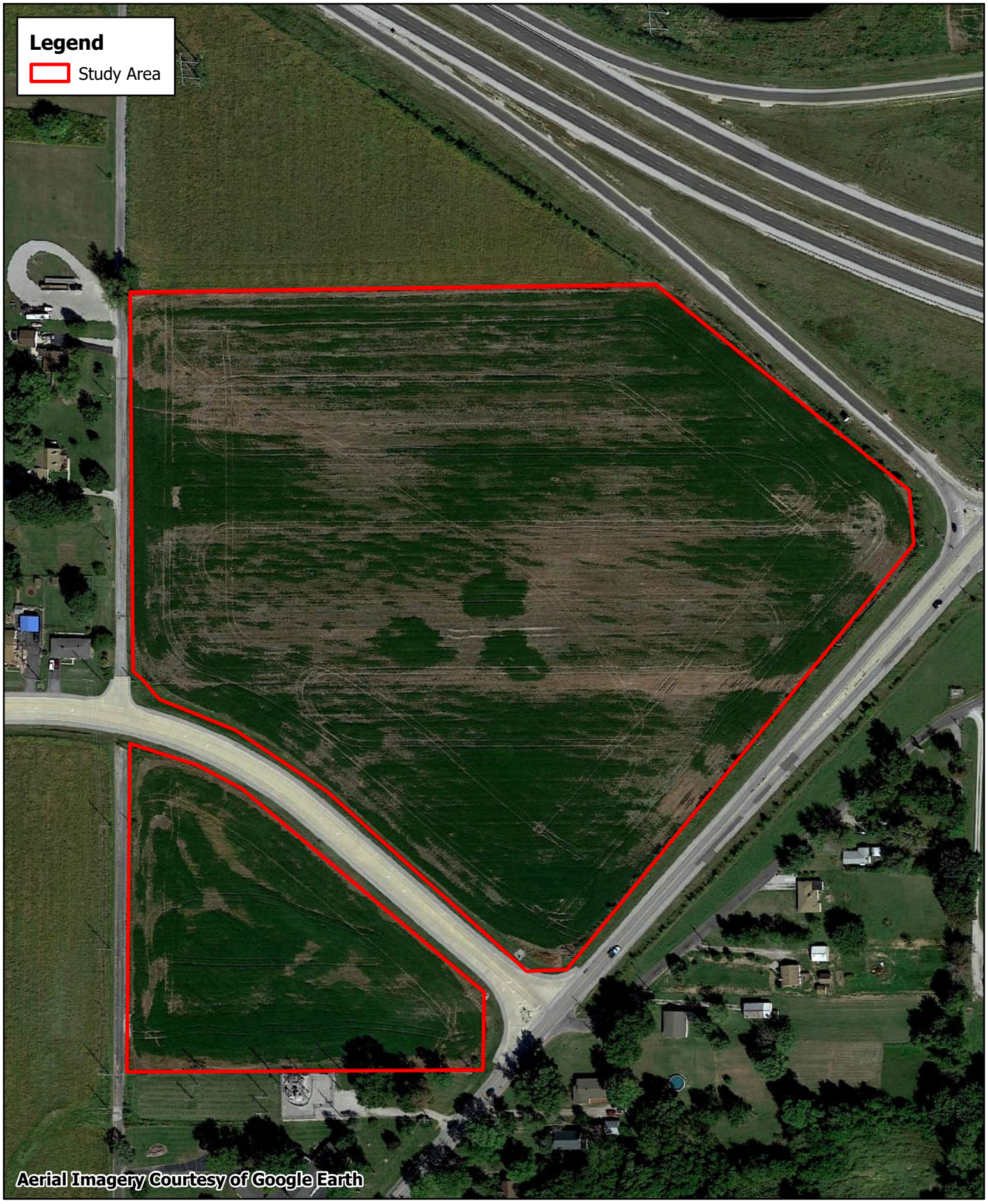


Kimley»Horn

0 100 200 US Feet

N

Appendix B. Historic Aerial (July 2020)
Foster Township, Madison County
Arena Renewables, LLC



Kimley»Horn

0 100 200 US Feet

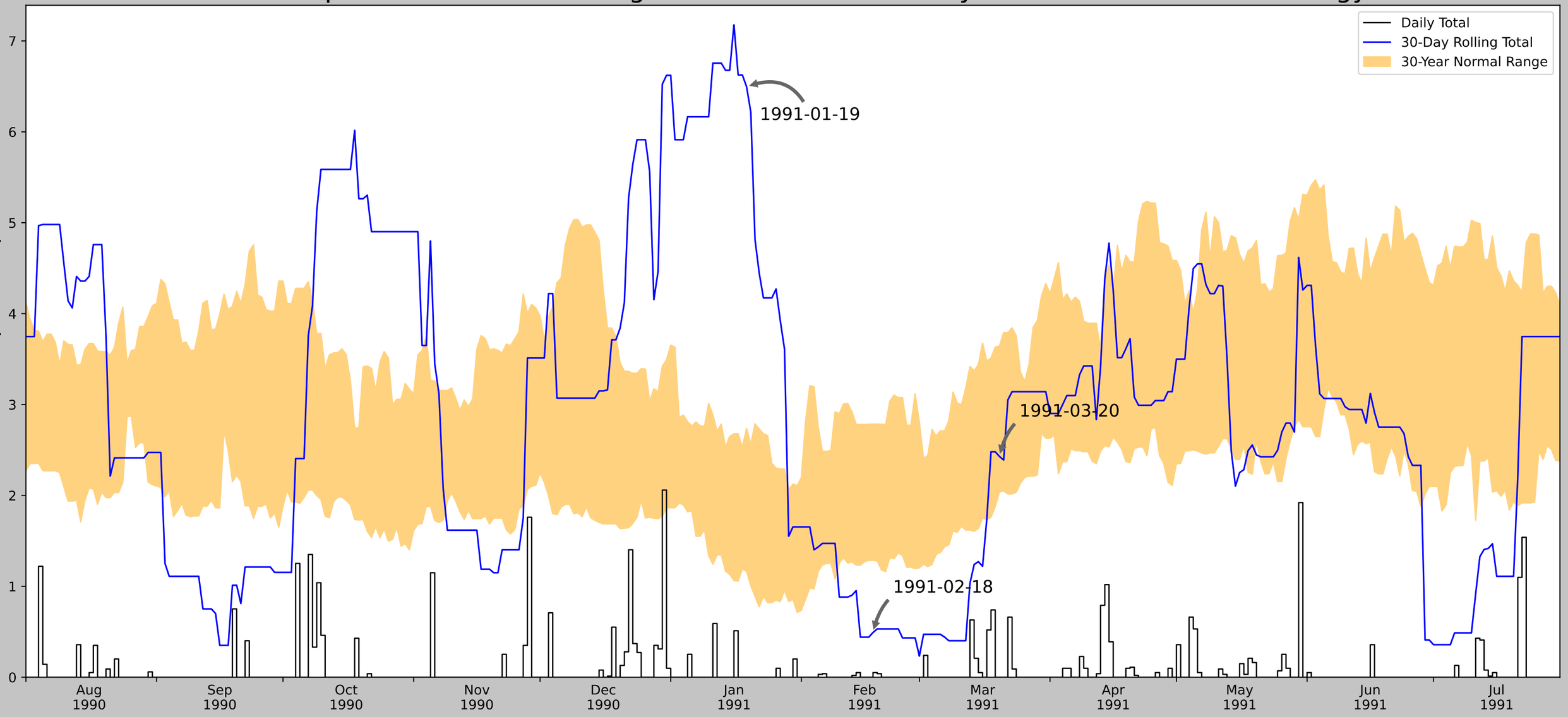
N

Appendix B. Historic Aerial (September 2021)

Foster Township, Madison County
Arena Renewables, LLC

Appendix C: Precipitation Data

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



Coordinates	38.93118, -90.10186
Observation Date	1991-03-20
Elevation (ft)	522.31
Drought Index (PDSI)	Normal
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
1991-03-20	2.038583	3.644095	2.429134	Normal	2	3	6
1991-02-18	1.285433	2.784252	0.492126	Dry	1	2	2
1991-01-19	1.164173	2.738189	6.496063	Wet	3	1	3
Result							Normal Conditions - 11

Figures and tables made by the Antecedent Precipitation Tool Version 3.0

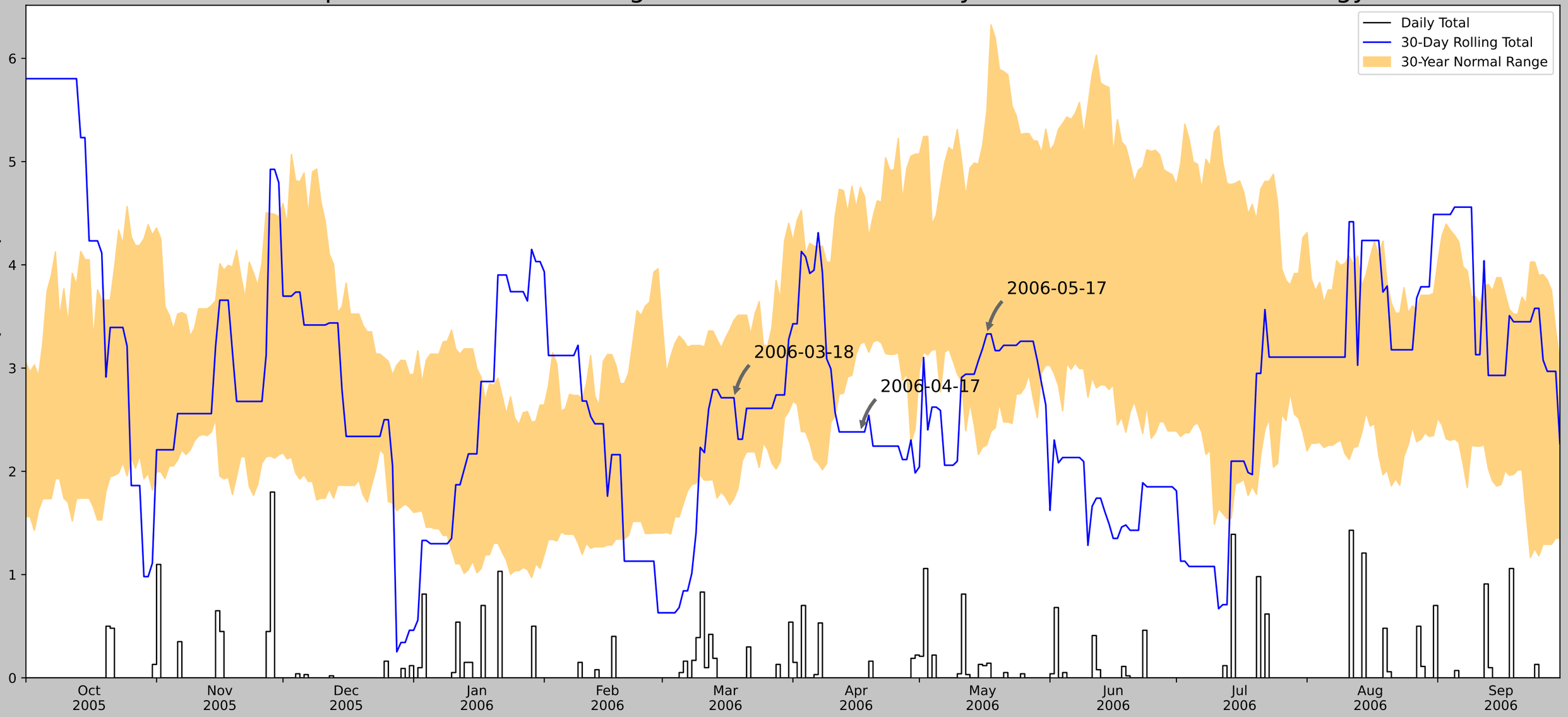
US Army Corps of Engineers.

ERDC

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
ALTON - MELVIN PRICE L&D	38.8669, -90.1489	404.856	5.111	117.454	2.9	11078	90
EDWARDSVILLE 2 W	38.8094, -90.0033	464.895	8.786	60.039	4.481	125	0
GRAFTON	38.9681, -90.4289	442.913	16.597	38.057	8.1	150	0

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



Coordinates	38.93118, -90.10186
Observation Date	2006-05-17
Elevation (ft)	522.31
Drought Index (PDSI)	Severe drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2006-05-17	2.255118	5.485827	3.330709	Normal	2	3	6
2006-04-17	3.235039	4.752756	2.38189	Dry	1	2	2
2006-03-18	1.738189	3.463386	2.712599	Normal	2	1	2
Result							Normal Conditions - 10

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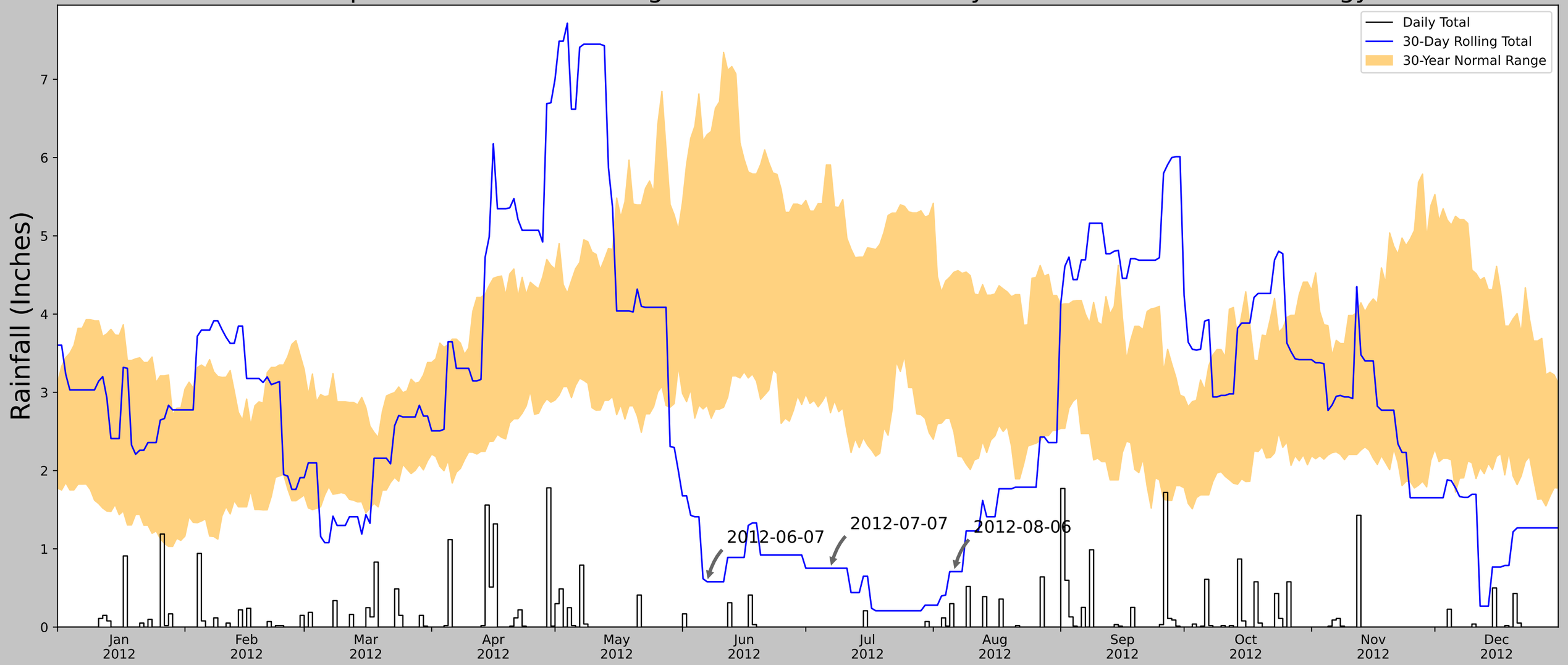
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ALTON - MELVIN PRICE L&D	38.8669, -90.1489	404.856	5.111	117.454	2.9	10801	73
EDWARDSVILLE 2 W	38.8094, -90.0033	464.895	8.786	60.039	4.481	402	17
GRAFTON	38.9681, -90.4289	442.913	16.597	38.057	8.1	150	0

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



Coordinates	38.93118, -90.10186
Observation Date	2012-08-06
Elevation (ft)	522.31
Drought Index (PDSI)	Extreme drought
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2012-08-06	2.494882	4.534252	0.708661	Dry	1	3	3
2012-07-07	2.738976	5.906299	0.751969	Dry	1	2	2
2012-06-07	2.834252	6.294095	0.57874	Dry	1	1	1
Result							Drier than Normal - 6

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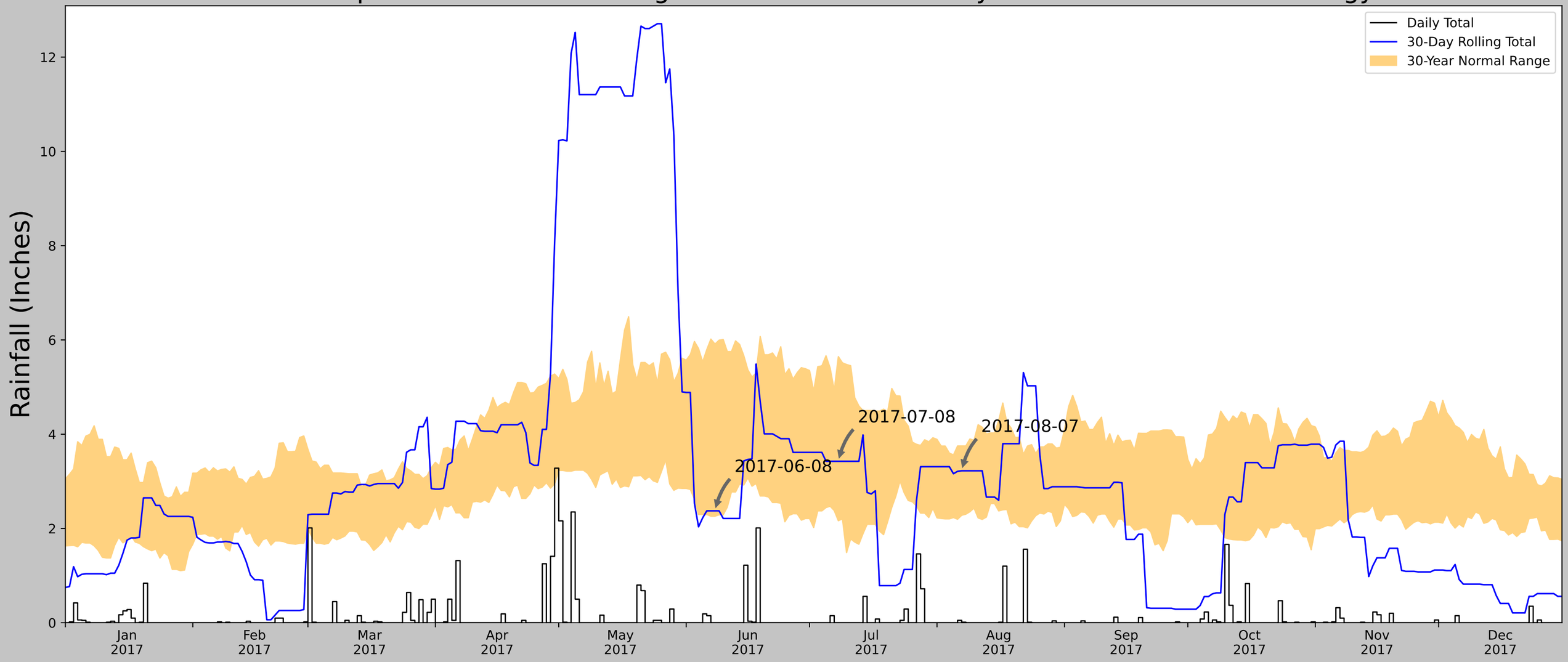
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
EDWARDSVILLE 2 W	38.8094, -90.0033	464.895	9.945	57.415	5.046	9240	90
EDWARDSVILLE 0.9 WSW	38.8089, -89.97	538.058	1.793	73.163	0.938	11	0
WOOD RIVER 1.2 NNW	38.8764, -90.0958	425.853	6.798	39.042	3.325	2	0
GRANITE CITY 2.3 NE	38.7348, -90.0962	416.995	7.184	47.9	3.577	4	0
GRANITE CITY 1.4 ENE	38.7245, -90.1069	419.948	8.097	44.947	4.008	2	0
ALTON - MELVIN PRICE L&D	38.8669, -90.1489	404.856	8.786	60.039	4.481	1943	0
ST LOUIS SCI CTR	38.6308, -90.2708	515.092	18.979	50.197	9.493	116	0
HIGHLAND	38.7308, -89.6531	520.013	19.631	55.118	9.916	1	0
CAHOKIA	38.5669, -90.1942	399.934	19.666	64.961	10.127	33	1

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



Coordinates	38.93118, -90.10186
Observation Date	2017-08-07
Elevation (ft)	522.31
Drought Index (PDSI)	Incipient drought
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2017-08-07	2.279921	3.750394	3.22441	Normal	2	3	6
2017-07-08	2.16378	5.646063	3.425197	Normal	2	2	4
2017-06-08	2.260236	5.911811	2.374016	Normal	2	1	2
Result							Normal Conditions - 12

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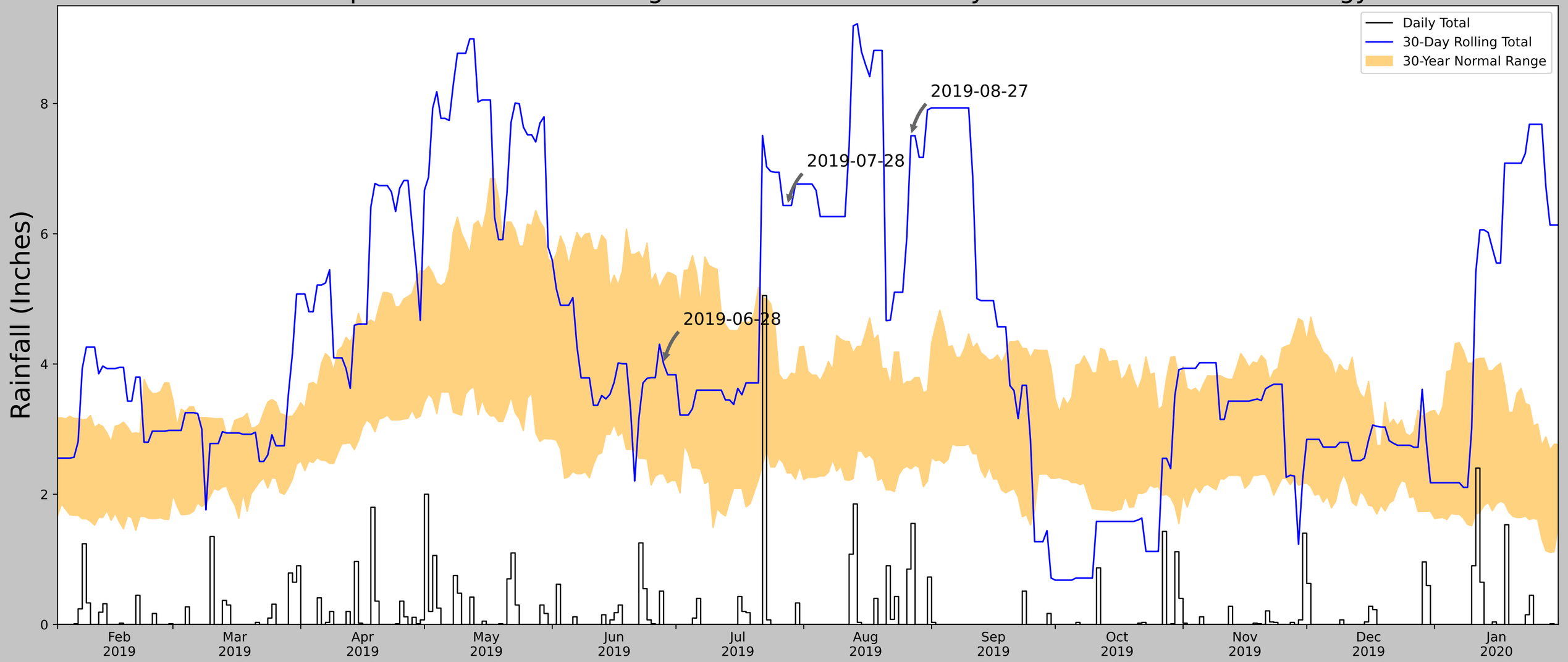
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ALTON - MELVIN PRICE L&D	38.8669, -90.1489	404.856	5.111	117.454	2.9	10088	86
WOOD RIVER 1.2 NNW	38.8764, -90.0958	425.853	2.931	20.997	1.38	50	0
SOUTH ROXANA 0.4 NNE	38.8275, -90.0578	439.961	5.607	35.105	2.72	1	0
GODFREY 2.5 SSW	38.932, -90.1985	603.018	5.229	198.162	3.389	74	4
FLORISSANT 4.4 ENE	38.8164, -90.247	498.032	6.328	93.176	3.437	341	0
ALTON 4.3 N	38.9664, -90.1503	574.147	6.875	169.291	4.258	34	0
GRANITE CITY 2.3 NE	38.7348, -90.0962	416.995	9.558	12.139	4.417	68	0
EDWARDSVILLE 2 W	38.8094, -90.0033	464.895	8.786	60.039	4.481	544	0
GRANITE CITY 1.4 ENE	38.7245, -90.1069	419.948	10.096	15.092	4.696	3	0
GRAFTON	38.9681, -90.4289	442.913	16.597	38.057	8.1	150	0

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



Coordinates	38.93118, -90.10186
Observation Date	2019-08-27
Elevation (ft)	522.31
Drought Index (PDSI)	Severe wetness
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2019-08-27	2.387402	3.729921	7.503937	Wet	3	3	9
2019-07-28	2.325984	3.762205	6.433071	Wet	3	2	6
2019-06-28	2.31063	5.306299	4.003937	Normal	2	1	2
Result							Wetter than Normal - 17

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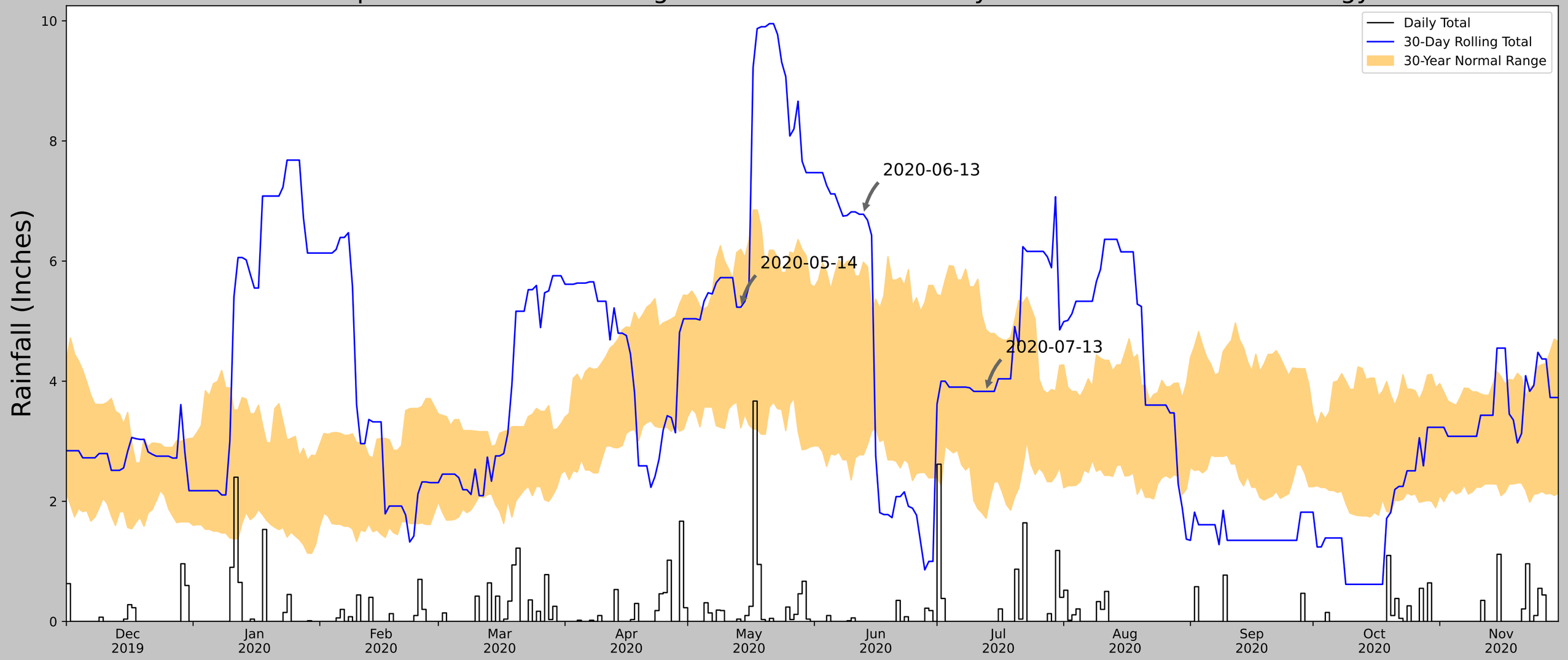
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ALTON - MELVIN PRICE L&D	38.8669, -90.1489	404.856	5.111	117.454	2.9	10102	87
WOOD RIVER 1.2 NNW	38.8764, -90.0958	425.853	2.931	20.997	1.38	50	0
SOUTH ROXANA 0.4 NNE	38.8275, -90.0578	439.961	5.607	35.105	2.72	1	0
GODFREY 2.5 SSW	38.932, -90.1985	603.018	5.229	198.162	3.389	90	3
FLORISSANT 4.4 ENE	38.8164, -90.247	498.032	6.328	93.176	3.437	341	0
ALTON 4.3 N	38.9664, -90.1503	574.147	6.875	169.291	4.258	34	0
GRANITE CITY 2.3 NE	38.7348, -90.0962	416.995	9.558	12.139	4.417	69	0
EDWARDSVILLE 2 W	38.8094, -90.0033	464.895	8.786	60.039	4.481	513	0
GRANITE CITY 1.4 ENE	38.7245, -90.1069	419.948	10.096	15.092	4.696	3	0
GRAFTON	38.9681, -90.4289	442.913	16.597	38.057	8.1	150	0

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



Coordinates	38.93118, -90.10186
Observation Date	2020-07-13
Elevation (ft)	522.31
Drought Index (PDSI)	Severe wetness
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2020-07-13	1.716929	4.855118	3.830709	Normal	2	3	6
2020-06-13	2.773228	5.980315	6.779528	Wet	3	2	6
2020-05-14	3.22126	6.197638	5.232284	Normal	2	1	2
Result							Normal Conditions - 14

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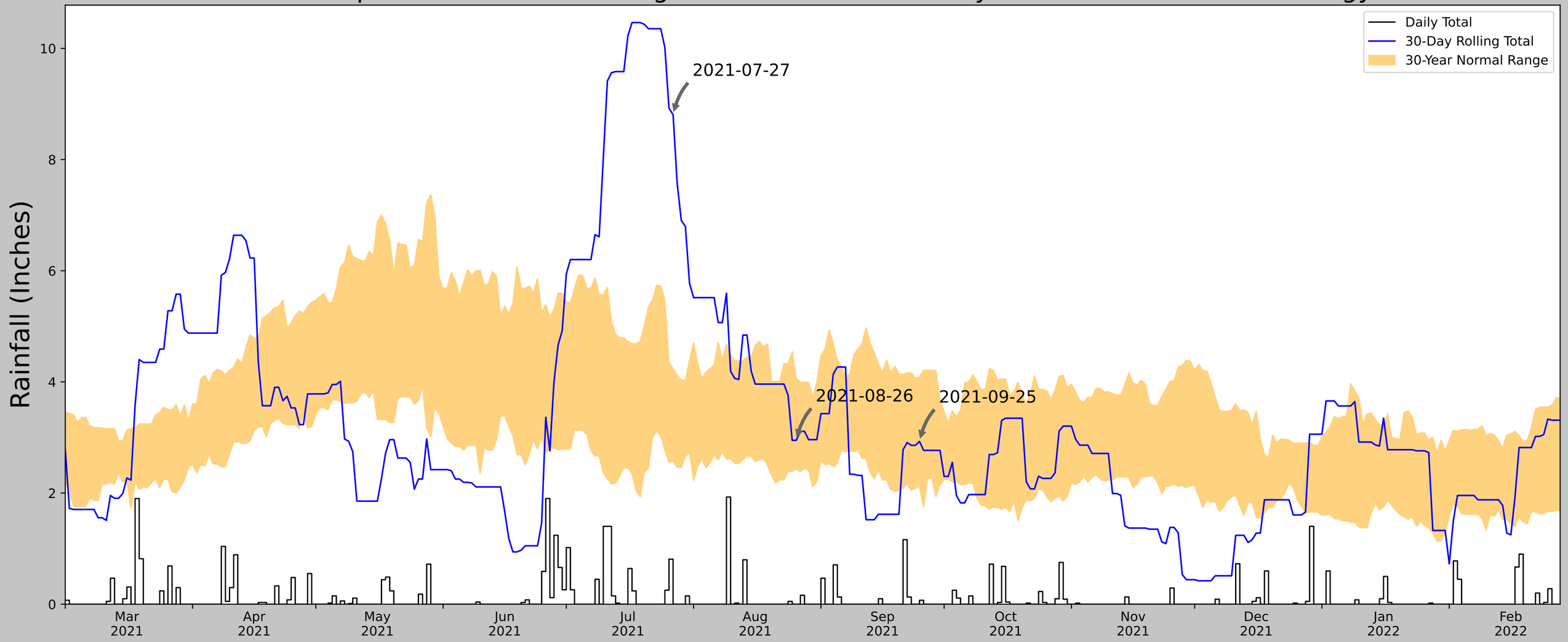
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ALTON - MELVIN PRICE L&D	38.8669, -90.1489	404.856	5.111	117.454	2.9	10125	90
WOOD RIVER 1.2 NNW	38.8764, -90.0958	425.853	2.931	20.997	1.38	50	0
SOUTH ROXANA 0.4 NNE	38.8275, -90.0578	439.961	5.607	35.105	2.72	1	0
GODFREY 2.5 SSW	38.932, -90.1985	603.018	5.229	198.162	3.389	97	0
FLORISSANT 4.4 ENE	38.8164, -90.247	498.032	6.328	93.176	3.437	341	0
ALTON 4.3 N	38.9664, -90.1503	574.147	6.875	169.291	4.258	34	0
GRANITE CITY 2.3 NE	38.7348, -90.0962	416.995	9.558	12.139	4.417	69	0
EDWARDSVILLE 2 W	38.8094, -90.0033	464.895	8.786	60.039	4.481	482	0
GRANITE CITY 1.4 ENE	38.7245, -90.1069	419.948	10.096	15.092	4.696	3	0
GRAFTON	38.9681, -90.4289	442.913	16.597	38.057	8.1	150	0

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



Coordinates	38.93118, -90.10186
Observation Date	2021-09-25
Elevation (ft)	522.31
Drought Index (PDSI)	Moderate wetness
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2021-09-25	2.124803	4.088977	2.929134	Normal	2	3	6
2021-08-26	2.429921	4.063386	2.948819	Normal	2	2	4
2021-07-27	2.571654	4.23504	8.807087	Wet	3	1	3
Result							Normal Conditions - 13

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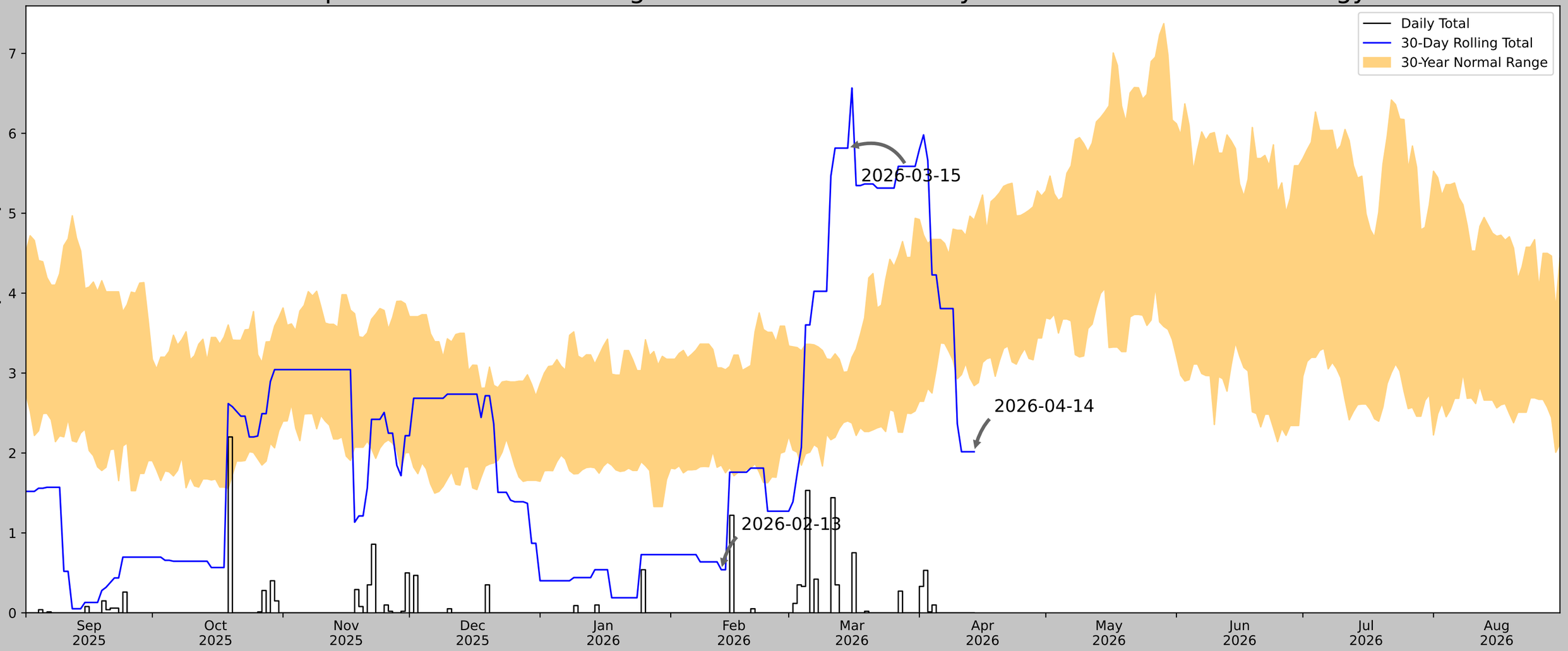
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ALTON - MELVIN PRICE L&D	38.8669, -90.1489	404.856	5.111	117.454	2.9	10180	89
WOOD RIVER 1.2 NNW	38.8764, -90.0958	425.853	2.931	20.997	1.38	50	0
SOUTH ROXANA 0.4 NNE	38.8275, -90.0578	439.961	5.607	35.105	2.72	1	0
ROXANA 1.4 S	38.8164, -90.0576	430.118	6.026	25.262	2.864	2	1
GODFREY 2.5 SSW	38.932, -90.1985	603.018	5.229	198.162	3.389	98	0
FLORISSANT 4.4 ENE	38.8164, -90.247	498.032	6.328	93.176	3.437	341	0
ALTON 4.3 N	38.9664, -90.1503	574.147	6.875	169.291	4.258	34	0
GRANITE CITY 2.3 NE	38.7348, -90.0962	416.995	9.558	12.139	4.417	72	0
EDWARDSVILLE 2 W	38.8094, -90.0033	464.895	8.786	60.039	4.481	483	0
GRANITE CITY 1.4 ENE	38.7245, -90.1069	419.948	10.096	15.092	4.696	3	0
GRAFTON	38.9681, -90.4289	442.913	16.597	38.057	8.1	89	0

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



Coordinates	38.9296, -90.10322
Observation Date	2026-04-14
Elevation (ft)	518.874
Drought Index (PDSI)	Severe drought (2026-03)
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2026-04-14	2.84252	4.914961	2.015748	Dry	1	3	3
2026-03-15	2.400787	3.017717	5.814961	Wet	3	2	6
2026-02-13	1.849606	3.065354	0.53937	Dry	1	1	1
Result							Normal Conditions - 10

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Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ALTON - MELVIN PRICE L&D	38.8669, -90.1489	404.856	4.98	114.018	2.809	10178	87
WOOD RIVER 1.2 NNW	38.8764, -90.0958	425.853	2.931	20.997	1.38	50	0
WOOD RIVER 0.5 NW	38.8668, -90.0913	446.85	3.099	41.994	1.525	26	2
SOUTH ROXANA 0.4 NNE	38.8275, -90.0578	439.961	5.607	35.105	2.72	1	0
ROXANA 1.4 S	38.8164, -90.0576	430.118	6.026	25.262	2.864	23	0
SOUTH ROXANA 0.2 ENE	38.8234, -90.0568	450.131	5.796	45.275	2.871	14	0
BETHALTO 0.9 NW	38.9111, -90.0577	529.856	5.778	125.0	3.322	9	1
GODFREY 2.5 SSW	38.932, -90.1985	603.018	5.229	198.162	3.389	98	0
FLORISSANT 4.4 ENE	38.8164, -90.247	498.032	6.328	93.176	3.437	341	0
GRANITE CITY 2.7 NE	38.7453, -90.0977	424.869	8.842	20.013	4.156	15	0
ALTON 4.3 N	38.9664, -90.1503	574.147	6.875	169.291	4.258	34	0
GRANITE CITY 2.3 NE	38.7348, -90.0962	416.995	9.558	12.139	4.417	75	0
EDWARDSVILLE 2 W	38.8094, -90.0033	464.895	8.786	60.039	4.481	486	0
GRANITE CITY 1.4 ENE	38.7245, -90.1069	419.948	10.096	15.092	4.696	3	0

Appendix D: Field Data Sheets

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Arena Navigator Solar, LLC City/County: Madison County Sampling Date: 2026-04-14
Applicant/Owner: Arena Renewables, LLC State: Illinois Sampling Point: SP-1
Investigator(s): Adynn Stedillie & Lexi Daniels Section, Township, Range: S33 T6N R9W
Landform (hillside, terrace, etc.): Ditch Local relief (concave, convex, none): Concave
Slope (%): 3 Lat: 38.92931099 Long: -90.10386459 Datum: WGS 84
Soil Map Unit Name: 165A - Weir silt loam, 0 to 2 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ✔ No ____
Hydric Soil Present? Yes ✔ No ____
Wetland Hydrology Present? Yes ✔ No ____

Is the Sampled Area within a Wetland? **Yes** ✔ **No** ____

Remarks:
Sample point is located in roadside ditch adjoining agricultural field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Phalaris arundinacea	15	✔	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	15 =Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 15	x 2 = 30
FAC species 0	x 3 = 0
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column Totals: 15 (A)	30 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:
✔ 1 - Rapid Test for Hydrophytic Vegetation
✔ 2 - Dominance Test is >50%
✔ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ✔ **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Sparsely vegetated in bottom of ditch.

SOIL

Sampling Point: SP-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 4/1	98	7.5YR 4/6	2	C	M	Clay Loam	
6 - 24	10YR 4/1	60	10YR 5/8	25	C	M	Clay	
6 - 24	10YR 2/1	15					Clay	
-								
-								
-								

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✔ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ✔	No ___	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes ✔	No ___	Depth (inches): 6

Wetland Hydrology Present? Yes ✔ No ___

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

Vegetation was absent or stunted at bottom of ditch contrasting with vegetated hillslope. Water table was immediately obvious.

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Arena Navigator Solar, LLC City/County: Madison County Sampling Date: 2026-04-14
Applicant/Owner: Arena Renewables, LLC State: Illinois Sampling Point: SP-2
Investigator(s): Adynn Stedillie & Lexi Daniels Section, Township, Range: S33 T6N R9W
Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): None
Slope (%): 3 Lat: 38.92930354 Long: -90.10387941 Datum: WGS 84
Soil Map Unit Name: 165A - Weir silt loam, 0 to 2 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ____ No ✔
Hydric Soil Present? Yes ____ No ✔
Wetland Hydrology Present? Yes ____ No ✔

Is the Sampled Area within a Wetland? **Yes** ____ **No** ✔

Remarks:
Sample point is located on hillslope of roadside ditch.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Lamium maculatum	40	✔	UPL
2. Echinochloa crus-galli	20	✔	FACW
3. Phalaris arundinacea	15		FACW
4. Ambrosia trifida	5		FAC
5. Solidago canadensis	5		FACU
6. Asclepias syriaca	4		FACU
7. Daucus carota	3		UPL
8. Ipomoea purpurea	2		FACU
9. Thlaspi arvense	2		FACU
10.			
	96	=Total Cover	
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	35	x 2 =	70
FAC species	5	x 3 =	15
FACU species	13	x 4 =	52
UPL species	43	x 5 =	215
Column Totals:	96 (A)		352 (B)

Prevalence Index = B/A = 3.66

Hydrophytic Vegetation Indicators:
____ 1 - Rapid Test for Hydrophytic Vegetation
____ 2 - Dominance Test is >50%
____ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** ✔

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

SOIL

Sampling Point: SP-2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 14	10YR 4/1	99	10YR 4/6	1	C	M	Clay Loam	
14 - 24	10YR 4/1	95	10YR 4/6	5	C	M	Clay Loam	
-								
-								
-								
-								

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ___	No ✔	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✔	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** ✔

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Arena Navigator Solar, LLC City/County: Madison County Sampling Date: 2026-04-14
Applicant/Owner: Arena Renewables, LLC State: Illinois Sampling Point: SP-3
Investigator(s): Adynn Stedillie & Lexi Daniels Section, Township, Range: S33 T6N R9W
Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave
Slope (%): 1 Lat: 38.929048 Long: -90.1037036 Datum: WGS 84
Soil Map Unit Name: 165A - Weir silt loam, 0 to 2 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ____ No ✔
Hydric Soil Present? Yes ____ No ✔
Wetland Hydrology Present? Yes ____ No ✔

Is the Sampled Area within a Wetland? **Yes** ____ **No** ✔

Remarks:
Sample point taken in recently tilled agricultural field. Minimal vegetation present.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Echinochloa crus-galli	2	✔	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	2 =Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 2	x 2 = 4
FAC species 0	x 3 = 0
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column Totals: 2 (A)	4 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:
✔ 1 - Rapid Test for Hydrophytic Vegetation
✔ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
✔ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** ✔

Remarks: (Include photo numbers here or on a separate sheet.)
Recently tilled agricultural field, remnant barnyard grass present in small quantities.

SOIL

Sampling Point: SP-3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 14	10YR 4/1	100					Loam	
14 - 24	10YR 4/1	99	10YR 4/6	1	C	M	Clay Loam	
-								
-								
-								
-								

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ___	No ✔	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✔	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** ✔

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Arena Navigator Solar, LLC City/County: Madison County Sampling Date: 2026-04-14
Applicant/Owner: Arena Renewables, LLC State: Illinois Sampling Point: SP-4
Investigator(s): Adynn Stedillie & Lexi Daniels Section, Township, Range: S33 T6N R9W
Landform (hillside, terrace, etc.): Shoulder Local relief (concave, convex, none): Convex
Slope (%): 1 Lat: 38.93039852 Long: -90.10380048 Datum: WGS 84
Soil Map Unit Name: 165A - Weir silt loam, 0 to 2 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ✔ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ____ No ✔
Hydric Soil Present? Yes ✔ No ____
Wetland Hydrology Present? Yes ____ No ✔

Is the Sampled Area within a Wetland? Yes ____ No ✔

Remarks:
Sample point taken on a shoulder slope between a roadside ditch and agricultural field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Thlaspi arvense	25	✔	FACU
2. Lamium maculatum	7	✔	UPL
3. Trifolium fragiferum	2		FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	34	=Total Cover	
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	=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: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	27	x 4 =	108
UPL species	7	x 5 =	35
Column Totals:	34 (A)		143 (B)

Prevalence Index = B/A = 4.20

Hydrophytic Vegetation Indicators:
____ 1 - Rapid Test for Hydrophytic Vegetation
____ 2 - Dominance Test is >50%
____ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ✔

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

SOIL

Sampling Point: SP-4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 14	10YR 4/1	90	10YR 4/6	10	C	M	Loam	
14 - 24	10YR 5/1	95	10YR 4/6	5	C	M	Clay Loam	
-								
-								
-								
-								

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✔ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ___	No ✔	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✔	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** ✔

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Arena Navigator Solar, LLC City/County: Madison County Sampling Date: 2026-04-14
Applicant/Owner: Arena Renewables, LLC State: Illinois Sampling Point: SP-5
Investigator(s): Adynn Stedillie & Lexi Daniels Section, Township, Range: S33 T6N R9W
Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave
Slope (%): 1 Lat: 38.93042003 Long: -90.10378154 Datum: WGS 84
Soil Map Unit Name: 165A - Weir silt loam, 0 to 2 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ✔ No ____
Hydric Soil Present? Yes ✔ No ____
Wetland Hydrology Present? Yes ✔ No ____

Is the Sampled Area within a Wetland? **Yes** ✔ **No** ____

Remarks:
Sample point is located in flooded and widened portion of a roadside ditch with phragmites present.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Phragmites australis	50	✔	FACW
2. Typha angustifolia	20	✔	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70 =Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 20	x 1 = 20
FACW species 50	x 2 = 100
FAC species 0	x 3 = 0
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column Totals: 70 (A)	120 (B)

Prevalence Index = B/A = 1.71

Hydrophytic Vegetation Indicators:
✔ 1 - Rapid Test for Hydrophytic Vegetation
✔ 2 - Dominance Test is >50%
✔ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ✔ **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Majority of wetland area was sparsely vegetated, phragmites and cattail present in depression area.

SOIL

Sampling Point: SP-5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 4/1	95	10YR 4/6	5	C	M	Loam	
-								
-								
-								
-								
-								

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ✔ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✔ No ___

Remarks:

Underground utility markers present in wetland ditch, assumed hydric. Observed the top 4" of soil and indicators of depleted matrix were present.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ✔ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ✔ No ___ Depth (inches): 1

Water Table Present? Yes ✔ No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ___

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Arena Navigator Solar, LLC City/County: Madison County Sampling Date: 2026-04-14
Applicant/Owner: Arena Renewables, LLC State: Illinois Sampling Point: SP-6
Investigator(s): Adynn Stedillie & Lexi Daniels Section, Township, Range: S33 T6N R9W
Landform (hillside, terrace, etc.): Ditch Local relief (concave, convex, none): Concave
Slope (%): 1 Lat: 38.93056537 Long: -90.10331117 Datum: WGS 84
Soil Map Unit Name: 165A - Weir silt loam, 0 to 2 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ✔ No ____
Hydric Soil Present? Yes ✔ No ____
Wetland Hydrology Present? Yes ✔ No ____

Is the Sampled Area within a Wetland? **Yes** ✔ **No** ____

Remarks:
Sample point is located in roadside ditch adjacent to recently tilled agricultural field. This portion of the ditch was sparsely vegetated at the lowest point.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Phalaris arundinacea	70	✔	FACW
2. Carex sp.	25	✔	FAC
3. Solidago canadensis	3		FACU
4. Typha angustifolia	3		OBL
5.			
6.			
7.			
8.			
9.			
10.			
	101 =Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 3	x 1 = 3
FACW species 70	x 2 = 140
FAC species 25	x 3 = 75
FACU species 3	x 4 = 12
UPL species 0	x 5 = 0
Column Totals: 101 (A)	230 (B)

Prevalence Index = B/A = 2.27

Hydrophytic Vegetation Indicators:
____ 1 - Rapid Test for Hydrophytic Vegetation
✔ 2 - Dominance Test is >50%
✔ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ✔ **No** ____

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

SOIL

Sampling Point: SP-6

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 24	10YR 4/1	95	10YR 4/4	5	C	M	Clay Loam	
-								
-								
-								
-								
-								

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✔ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): ___

Water Table Present? Yes ✔ No ___ Depth (inches): 0

Saturation Present? Yes ✔ No ___ Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present? Yes ✔ No ___

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Arena Navigator Solar, LLC City/County: Madison County Sampling Date: 2026-04-14
Applicant/Owner: Arena Renewables, LLC State: Illinois Sampling Point: SP-7
Investigator(s): Adynn Stedillie & Lexi Daniels Section, Township, Range: S33 T6N R9W
Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear
Slope (%): 2 Lat: 38.93058974 Long: -90.10336177 Datum: WGS 84
Soil Map Unit Name: 165A - Weir silt loam, 0 to 2 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ____ No ✔
Hydric Soil Present? Yes ✔ No ____
Wetland Hydrology Present? Yes ____ No ✔

Is the Sampled Area within a Wetland? Yes ____ No ✔

Remarks:
Sample point taken on hillslope of roadside ditch.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Festuca trachyphylla	90	✔	FACU
2. Trifolium pratense	20		FACU
3. Solidago canadensis	10		FACU
4. Lamium amplexicaule	5		UPL
5. Trifolium fragiferum	2		FACU
6. Thlaspi arvense	1		FACU
7.			
8.			
9.			
10.			
	128	=Total Cover	
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	=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: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 0	x 3 = 0
FACU species 123	x 4 = 492
UPL species 5	x 5 = 25
Column Totals: 128 (A)	517 (B)

Prevalence Index = B/A = 4.03

Hydrophytic Vegetation Indicators:
____ 1 - Rapid Test for Hydrophytic Vegetation
____ 2 - Dominance Test is >50%
____ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ✔

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

SOIL

Sampling Point: SP-7

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 24	10YR 4/1	90	10YR 4/6	10	C	M	Loam	
-								
-								
-								
-								
-								

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✔ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ___	No ✔	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✔	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** ✔

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Arena Navigator Solar, LLC City/County: Madison County Sampling Date: 2026-04-14
Applicant/Owner: Arena Renewables, LLC State: Illinois Sampling Point: SP-8
Investigator(s): Adynn Stedillie & Lexi Daniels Section, Township, Range: S33 T6N R9W
Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave
Slope (%): 2 Lat: 38.93076717 Long: -90.1037643 Datum: WGS 84
Soil Map Unit Name: 165A - Weir silt loam, 0 to 2 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ✔ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✔	No ____	**Is the Sampled Area within a Wetland?** Yes ✔ No ____
Hydric Soil Present?	Yes ✔	No ____	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks:
Sample point is located in widened ditch area with phragmites present.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1. Phragmites australis	50	✔	FACW
2. Typha angustifolia	20	✔	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70 =Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	70 (A)		120 (B)

Prevalence Index = B/A = 1.71

Hydrophytic Vegetation Indicators:
✔ 1 - Rapid Test for Hydrophytic Vegetation
✔ 2 - Dominance Test is >50%
✔ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✔ No ____

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

SOIL

Sampling Point: SP-8

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 4/1	90	10YR 5/6	10	C	M	Loam	
-								
-								
-								
-								
-								

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ✔ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ✔ **No** ___

Remarks:

Underground utility markers present in wetland ditch, assumed hydric.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ✔ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ✔	No ___	Depth (inches): 1
Water Table Present?	Yes ✔	No ___	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✔	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** ✔ **No** ___

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Arena Navigator Solar, LLC City/County: Madison County Sampling Date: 2026-04-14
Applicant/Owner: Arena Renewables, LLC State: Illinois Sampling Point: SP-9
Investigator(s): Adynn Stedillie & Lexi Daniels Section, Township, Range: S33 T6N R9W
Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave
Slope (%): 1 Lat: 38.93193079 Long: -90.10300113 Datum: WGS 84
Soil Map Unit Name: 165A - Weir silt loam, 0 to 2 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ____ No ✔
Hydric Soil Present? Yes ____ No ✔
Wetland Hydrology Present? Yes ✔ No ____
Is the Sampled Area within a Wetland? **Yes** ____ **No** ✔

Remarks:
Sample point is located in recently tilled agricultural field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	=Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	=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: 0 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 0	x 3 = 0
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:
____ 1 - Rapid Test for Hydrophytic Vegetation
____ 2 - Dominance Test is >50%
____ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** ✔

Remarks: (Include photo numbers here or on a separate sheet.)
No living vegetation, recently tilled.

SOIL

Sampling Point: SP-9

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 22	10YR 3/1	100					Loam	
22 - 30	10YR 4/1	98	10YR 5/6	2	C	M	Clay Loam	
-								
-								
-								
-								

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): ___

Water Table Present? Yes ___ No ✔ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): ___

Wetland Hydrology Present? Yes ✔ No ___

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Arena Navigator Solar, LLC City/County: Madison County Sampling Date: 2026-04-14
Applicant/Owner: Arena Renewables, LLC State: Illinois Sampling Point: SP-10
Investigator(s): Adynn Stedillie & Lexi Daniels Section, Township, Range: S33 T6N R9W
Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear
Slope (%): 1 Lat: 38.93184958 Long: -90.10302012 Datum: WGS 84
Soil Map Unit Name: 165A - Weir silt loam, 0 to 2 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ____ No ✔
Hydric Soil Present? Yes ____ No ✔
Wetland Hydrology Present? Yes ____ No ✔

Is the Sampled Area within a Wetland? **Yes** ____ **No** ✔

Remarks:
Sample point is located in recently tilled agricultural field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	=Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	=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: 0 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:
____ 1 - Rapid Test for Hydrophytic Vegetation
____ 2 - Dominance Test is >50%
____ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** ✔

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

SOIL

Sampling Point: SP-10

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 40	10YR 2/1	99	10YR 4/6	1	C	M	Clay Loam	
-								
-								
-								
-								
-								

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ___	No ✔	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✔	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** ✔

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Arena Navigator Solar, LLC City/County: Madison County Sampling Date: 2026-04-14
Applicant/Owner: Arena Renewables, LLC State: Illinois Sampling Point: SP-11
Investigator(s): Adynn Stedillie & Lexi Daniels Section, Township, Range: S33 T6N R9W
Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear
Slope (%): 1 Lat: 38.93243562 Long: -90.1037755 Datum: WGS 84
Soil Map Unit Name: 267A - Caseyville silt loam, 0 to 2 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ____ No ✔
Hydric Soil Present? Yes ____ No ✔
Wetland Hydrology Present? Yes ____ No ✔

Is the Sampled Area within a Wetland? **Yes** ____ **No** ✔

Remarks:
Sample point is located in a recently tilled agricultural field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	=Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	=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: 0 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:
____ 1 - Rapid Test for Hydrophytic Vegetation
____ 2 - Dominance Test is >50%
____ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** ✔

Remarks: (Include photo numbers here or on a separate sheet.)
No living vegetation observed.

SOIL

Sampling Point: SP-11

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 18	10YR 3/2	100					Clay Loam	
18 - 24	10YR 3/1	99	10YR 4/6	1	C	M	Clay Loam	
-								
-								
-								
-								

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ___	No ✔	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✔	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** ✔

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Arena Navigator Solar, LLC City/County: Madison County Sampling Date: 2026-04-14
Applicant/Owner: Arena Renewables, LLC State: Illinois Sampling Point: SP-12
Investigator(s): Adynn Stedillie & Lexi Daniels Section, Township, Range: S33 T6N R9W
Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Linear
Slope (%): 0 Lat: 38.9312179 Long: -90.09965625 Datum: WGS 84
Soil Map Unit Name: 267B - Caseyville silt loam, 2 to 5 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ____ No ✔
Hydric Soil Present? Yes ____ No ✔
Wetland Hydrology Present? Yes ____ No ✔

Is the Sampled Area within a Wetland? **Yes** ____ **No** ✔

Remarks:
Sample point taken in a recently tilled agricultural field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	=Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	=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: 0 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:
____ 1 - Rapid Test for Hydrophytic Vegetation
____ 2 - Dominance Test is >50%
____ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** ✔

Remarks: (Include photo numbers here or on a separate sheet.)
No living vegetation observed.

SOIL

Sampling Point: SP-12

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0 - 20	10YR 4/1	100					Loam	
20 - 30	10YR 4/1	99	10YR 4/4	1	C	M	Loam	
30 - 40	10YR 4/1	95	10YR 4/4	5	C	M	Clay Loam	
-								
-								
-								

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ___	No ✔	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✔	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** ✔

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Arena Navigator Solar, LLC City/County: Madison County Sampling Date: 2026-04-14
Applicant/Owner: Arena Renewables, LLC State: Sampling Point: SP-13
Investigator(s): Adynn Stedillie & Lexi Daniels Section, Township, Range: S33 T6N R9W
Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave
Slope (%): 1 Lat: 38.93072596 Long: -90.10041002 Datum: WGS 84
Soil Map Unit Name: 165A - Weir silt loam, 0 to 2 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No ✔	**Is the Sampled Area within a Wetland?** Yes ____ No ✔
Hydric Soil Present?	Yes ____	No ✔	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks:
Sample point is located in a recently tilled agricultural field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	=Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	=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: 0 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 0	x 1 = 0
FACW species 0	x 2 = 0
FAC species 0	x 3 = 0
FACU species 0	x 4 = 0
UPL species 0	x 5 = 0
Column Totals: 0 (A)	0 (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:
____ 1 - Rapid Test for Hydrophytic Vegetation
____ 2 - Dominance Test is >50%
____ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No ✔

Remarks: (Include photo numbers here or on a separate sheet.)
No living vegetation observed.

SOIL

Sampling Point: SP-13

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 14	10YR 4/1	99	10YR 4/6	1	C	M		
14 - 24	10YR 4/1	97	10YR 4/6	3	C	M	Clay Loam	
-								
-								
-								
-								

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ___	No ✔	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✔	Depth (inches): ___

Wetland Hydrology Present? **Yes** ✔ **No** ___

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Arena Navigator Solar, LLC City/County: Madison County Sampling Date: 2026-04-14
Applicant/Owner: Arena Renewables, LLC State: Illinois Sampling Point: SP-14
Investigator(s): Adynn Stedillie & Lexi Daniels Section, Township, Range: S33 T6N R9W
Landform (hillside, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave
Slope (%): 1 Lat: 38.93024097 Long: -90.10071202 Datum: WGS 84
Soil Map Unit Name: 165A - Weir silt loam, 0 to 2 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ✔ No ____
Hydric Soil Present? Yes ✔ No ____
Wetland Hydrology Present? Yes ✔ No ____

Is the Sampled Area within a Wetland? **Yes** ✔ **No** ____

Remarks:
Sample point is located in a recently tilled agricultural field.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	=Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	=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: 0 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:
____ 1 - Rapid Test for Hydrophytic Vegetation
____ 2 - Dominance Test is >50%
____ 3 - Prevalence Index is ≤3.0[1]
____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
✔ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ✔ **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Located in agricultural field. No living vegetation observed.

SOIL

Sampling Point: SP-14

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 24	10YR 4/1	98	10YR 4/4	2	C	M	Loam	
-								
-								
-								
-								
-								

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** ✔ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): ___

Water Table Present? Yes ___ No ✔ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): ___

Wetland Hydrology Present? **Yes** ✔ **No** ___

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Arena Navigator Solar, LLC City/County: Madison County Sampling Date: 2026-04-14
Applicant/Owner: Arena Renewables, LLC State: Illinois Sampling Point: SP-15
Investigator(s): Adynn Stedillie & Lexi Daniels Section, Township, Range: S33 T6N R9W
Landform (hillside, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear
Slope (%): 1 Lat: 38.93029525 Long: -90.10086777 Datum: WGS 84
Soil Map Unit Name: 165A - Weir silt loam, 0 to 2 percent slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No ____ (If no, explain in Remarks.)
Are Vegetation ✔, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ✔
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ____ No ✔
Hydric Soil Present? Yes ____ No ✔
Wetland Hydrology Present? Yes ____ No ✔

Is the Sampled Area within a Wetland? **Yes** ____ **No** ✔

Remarks:
Sample point is located in a recently tilled agricultural field on hillslope.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5 ft r)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	=Total Cover		
Woody Vine Stratum (Plot size: 30 ft r)			
1.			
2.			
	=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: 0 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** ✔

Remarks: (Include photo numbers here or on a separate sheet.)
No living vegetation observed.

SOIL

Sampling Point: SP-15

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 14	10YR 4/1	99	10YR 4/6	1	C	M	Clay Loam	
14 - 24	10YR 4/1	97	10YR 4/6	3	C	M	Clay Loam	
-								
-								
-								
-								

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

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21) Very
- ___ Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

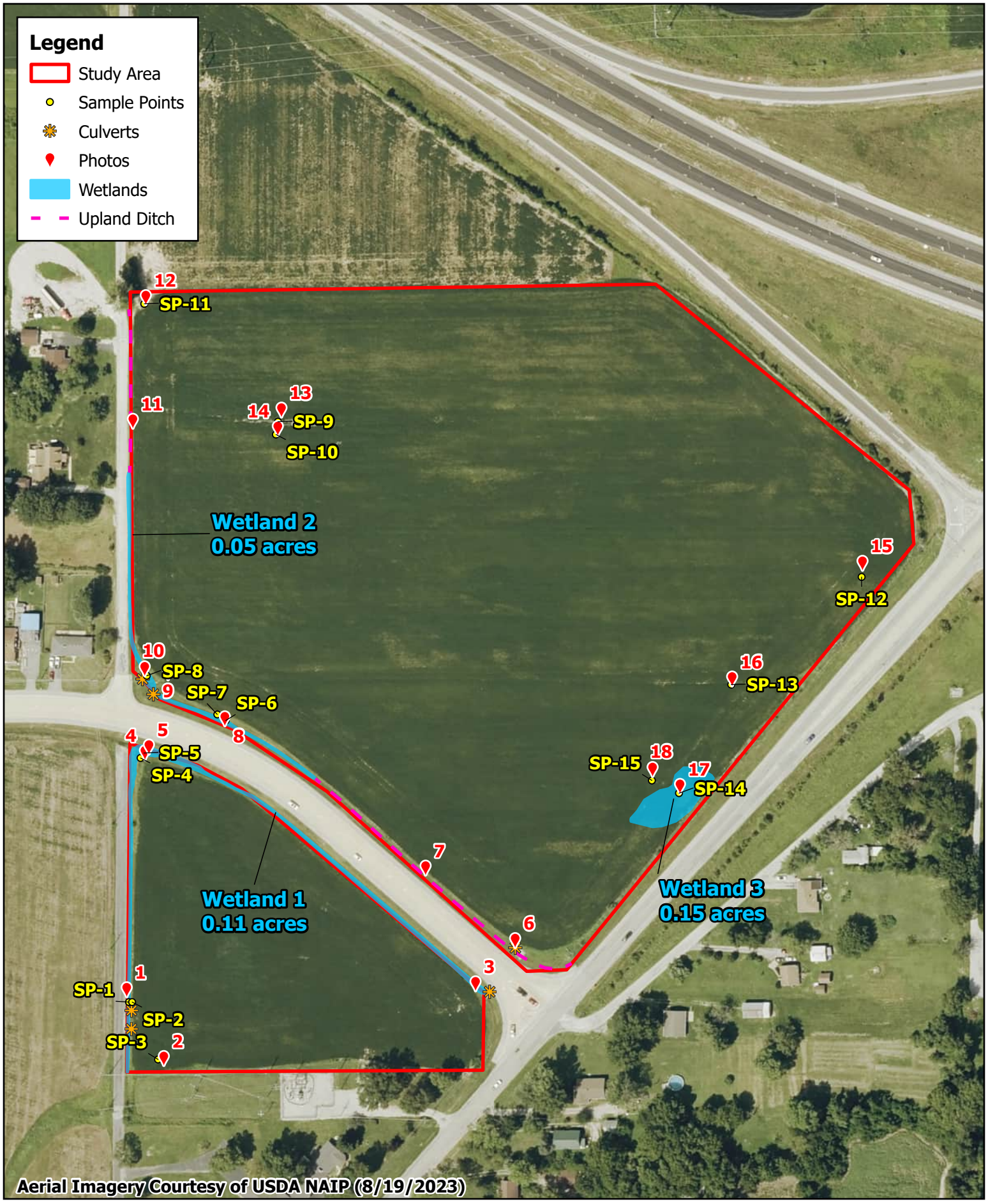
Surface Water Present?	Yes ___	No ✔	Depth (inches): ___
Water Table Present?	Yes ___	No ✔	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No ✔	Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** ✔

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

Remarks:

Appendix E: Photos



Kimley»Horn

0 100 200 US Feet

N

Appendix E. Photo Locations
Foster Township, Madison County
Arena Renewables, LLC



Photo 1: Facing south over SP-1 and SP-2, within Wetland 1.



Photo 2: Facing north over SP-3.



Photo 3: Facing northwest over Wetland 1.



Photo 4: Facing west from SP-4 over Wetland 1.



Photo 5: Facing east over Wetland 1 from SP-5.



Photo 6: Facing south at culvert entrance to an upland ditch.



Photo 7: Facing northwest over upland ditch.



Photo 8: Facing northwest over Wetland 2 from SP-6.



Photo 9: Facing west over erosional feature.



Photo 10: Facing south over culvert opening to Wetland 2.



Photo 11: Facing south over upland ditch.



Photo 12: Facing east from SP-11.



Photo 13: Facing west from SP-9.



Photo 14: Facing east from SP-10.



Photo 15: Facing southwest from SP-12.



Photo 16: Facing west from SP-13.



Photo 17: Facing west over Wetland 3 from SP-14.



Photo 18: Facing south over Wetland 3 from SP-15.

EXHIBIT T: DESKTOP DRAINTILE MEMO


CAT
pinion
CAT

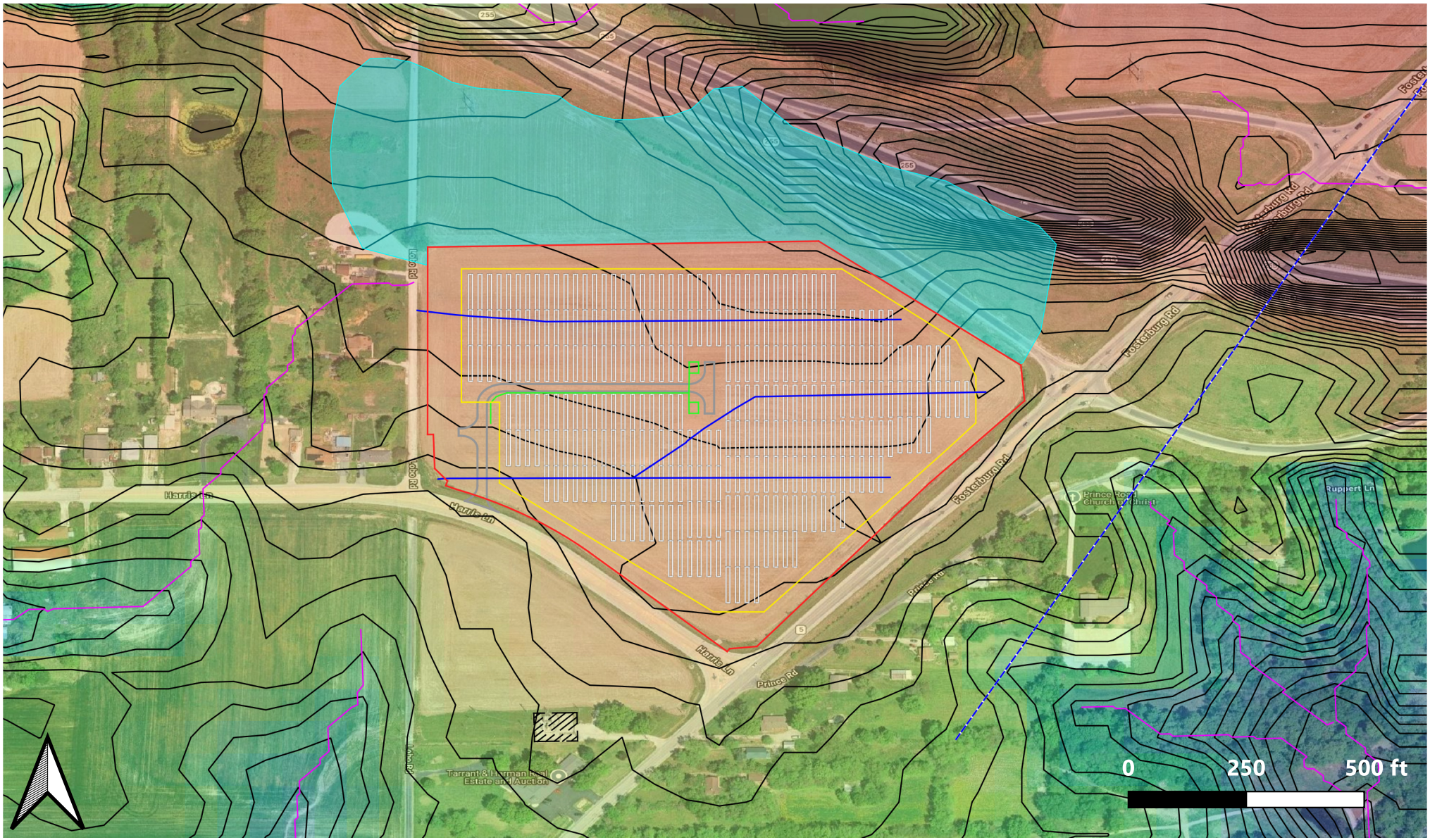
2700 North Main Street
Moweaqua, IL 62550
OFFICE (217)768-4930
https://www.pinionglobal.com/land-advisory/

Arena Renewables - Navigator 1 Solar - Summary

During our initial desktop analysis of the Navigator 1 Solar site, we conducted a comprehensive review of the designated site. This assessment included the evaluation of historical research, topographic data, predictive drainage analytics, and direct consultation with the owner, Rod Thomas.

Mr. Thomas has owned the property for 20 years, and since he owned the property there has not been any tile installed. He was not certain if any tile had been installed before his purchase.

To verify if any undocumented drain tile is present withing the project area, we are recommending exploratory trenching be completed in five locations denoted on the Proposed Exploratory Trenching Page. Based on our research and tools, these five areas have the highest likelihood for existing tiles to be present.



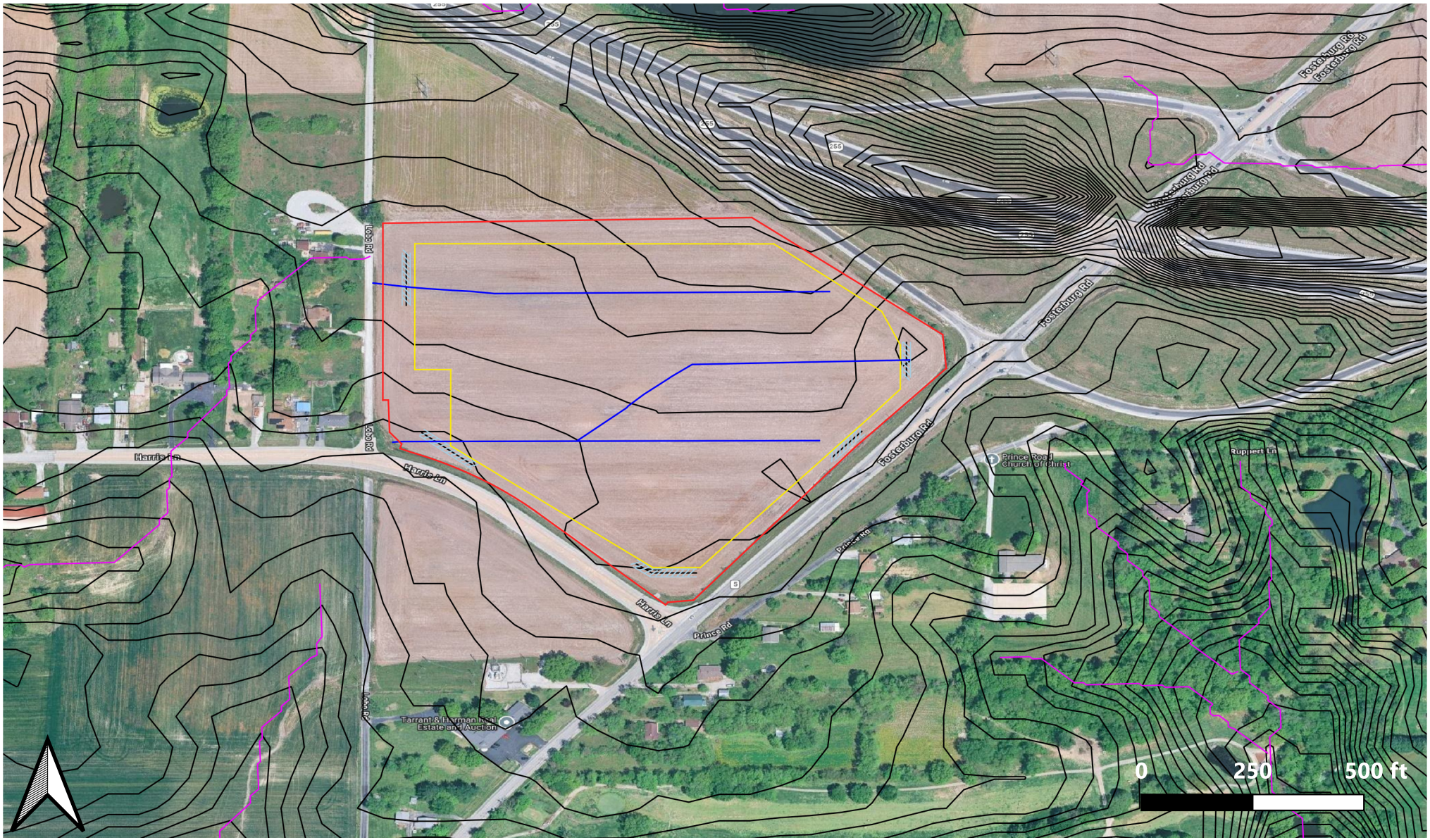
GPS Location: 38.93117132996385, -90.1016625103236,

Legend

- Project Boundary
- Fence
- Historical Research
- Predictive Analytics
- Watershed
- Arrays
- Electrical
- Pipeline
- Road
- Substation

pinion

Arena Renewables - Navigator 1 Solar - Proposed Exploratory Trenching



GPS Location: 38.93117132996385, -90.1016625103236,

Legend

- Project Boundary
- Fence
- Exploratory Path
- Historical Research
- Predictive Analytics

pinion

Date Created 05/27/2026

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Arena Renewables - Navigator 1 Solar - Contact Log

Navigator 1 Solar									
Name on Plat	Total Acres	Est. Acres in Watershed	Person of Contact	Title	Address	Telephone	Email	Verbal Contact	Comments / Notes
FOSTERBURG 255 20-1-02-33-00-000-010	25	25	Rod Thomas Gene Manis	Owner		Rod: 314-852-7000 Gene: 314-954-1291	Rthomas@tristarproperties.com Gmanis@tristarproperties.com	Y	5/8/2026 JD - Left Voicemail with both Phone numbers 5/11/2026 JD - Spoke with Rod, he has owned the property for 20 years. He is not aware of any drain tile in the field but wasn't completely certain. Gene is Rod's Accountant, he does not have any intimate knowledge of the property.
Non - Participating Landowners									
HARRIS LOLA	6	6	Lola Harris		3373 HARRIS LN BETHALTO, IL 62010		corawalker897@gmail.com		5/12/2026 JD - Sent introductory email 5/19/2026 JD - Follow-up email
Persons of Interest	Contact	Title	Telephone	Email	Comments/Notes				
Drainage District	N/A								
Road Commissioner									
Township, Municipality, Etc									

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Appendix A
Existing Tile Maps

No Existing Tile Maps Were Provided by Landowners

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Appendix B
Historical Imagery Research


Lobo Rd
Lobo Rd
255
Fosterburg Rd
Ruppert Ln
Prince Road Church of Christ
Prince Rd
Prince Rd
Harris Ln
Harris Ln
5
Prince Rd


Lobo Rd
Lobo Rd
Harris Ln
Harris Ln
Fosterburg Rd
Prince Rd
Prince Rd
Prince Rd
Prince Road C
255
255
5
Image © 2025 Maxar Technologies

Glossary

Topography

The blue through red spectrum of contoured lines and shaded areas indicate the topography surrounding the project area. Used to help analyze and create the watershed to discover the area of impact.

Watershed

The blue shaded-outlined area of the results of an in-depth analysis of the topography to show which neighboring parcels will be impacted by the project.

Mapped Drainage Tile (Existing Tile)

The white lines depict the discovered Existing Drainage Tile. These are geo-referenced using landowner provided information such as hand-drawn maps, photo imagery, CAD drawings, GPS files, and other drainage tile map sources.

Assumed Flows (Predictive Analytics)

Deep purple lines depict Assumed Flows. The Assumed Flows are predictive analytics, that incorporate local drainage practices, soil types, topography, and water conveyance, to make strong inferences about the location of unmarked or unmapped drainage tile (8" ID and larger). This analysis will help the development team design infrastructure to coincide with the current and future drainage needs of the footprint. This tool was designed to help guide early through late-stage development and layout.

Assumed & Historical Research Drainage Tile

Royal blue lines depict Historical Research Drainage Tile, drawn based on observable evidence of tile from historical imagery research. Yellow lines depict Assumed Drainage Tile, drawn based on a combination of historical imagery research, predictive analytics, and landowner conversations suggesting the presence of tile, but not yet confirmed. These geo-referenced drainage tile lines are a combination of future drainage plans and strong inferences developed through satellite imagery research. This report is designed to provide the development team with deeper information surrounding the strong possibility of additional drainage tile located within specific areas of the footprint.

Assumed Path

The yellow lines depict Assumed Path, which represents the inferred alignment and flow direction of the existing tile based on field observations and site topography. These lines are added after exploratory trenching is completed and are used to illustrate the assumed alignment of confirmed existing tile between exploratory trench locations where tile was identified. Assumed Path and Assumed Tile are distinct representations and will not typically be shown together on the same map: Assumed Path reflects the inferred path of confirmed tile following exploratory trenching, whereas Assumed Tile is shown prior to trenching and is based on a combination of historical imagery research, predictive analysis, and landowner input suggesting the potential presence of tile.

Drainage District or other Municipal Drainage

Orange lines depict the path of the existing drainage infrastructure that is either publicly owned through the Drainage District or storm drainage through a municipality.

Remediation Plan (Drainage Planned)

The mixed color tile lines typically accompanied by sizes indicate the remediation plan recommended to maintain or improve the current level of drainage within the watershed.

Disclaimer: Desktop Agricultural Mitigation and Drainage Tile Studies

Accuracy: The agricultural mitigation and drainage tile studies provided by our team are based on desktop research and analysis. We do not conduct on-site surveys for these studies. The accuracy of the deliverables is contingent upon the information provided to us, additional research we conduct, and other data we obtain. General Accuracy: Our team strives to deliver highly accurate results. In most cases, our deliverables will be accurate within inches. However, it is important to acknowledge that some data may be less precise and may have a margin of error within feet. Limitations: Due to the reliance on desktop methods, these studies may not capture all ground-level conditions or complexities. Recommendation: For the most precise results, we recommend supplementing our desktop studies with a site survey.

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Standard Solar AIMA

(For all Section and Figure references, refer to Standard Solar AIMA v.8.19.19 at https://agr.illinois.gov/resources/aima.html)

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.

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.

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Standard Solar AIMA (cont.)

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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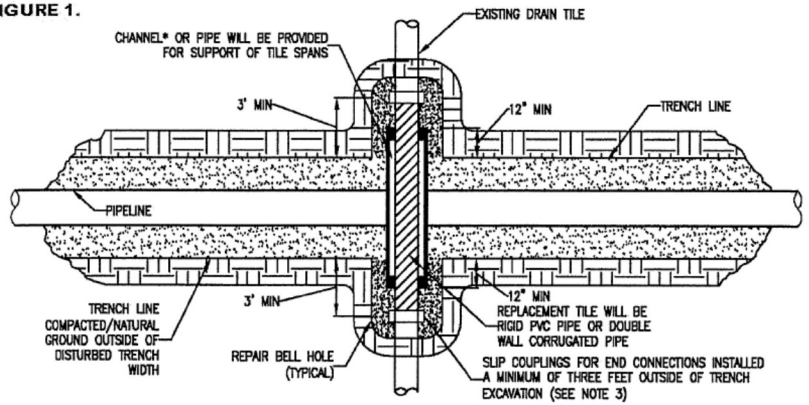
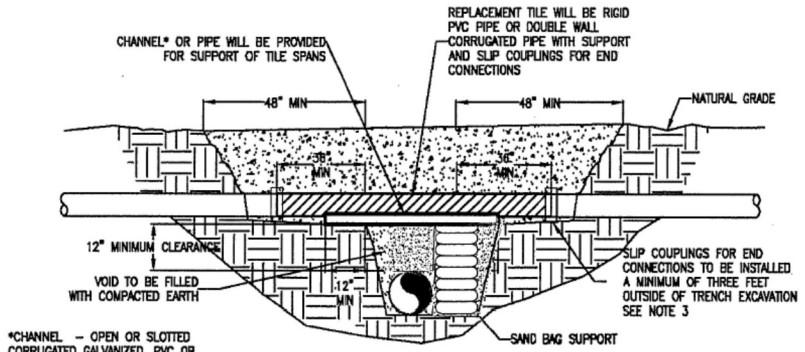
FIGURE 1.



PLAN
N.T.S.



CROSS SECTION
N.T.S.

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

PAGE 1 of 2

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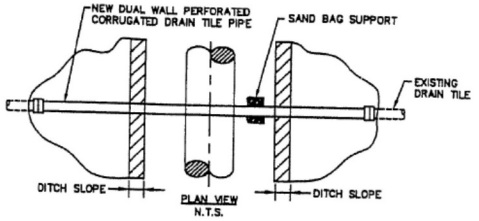
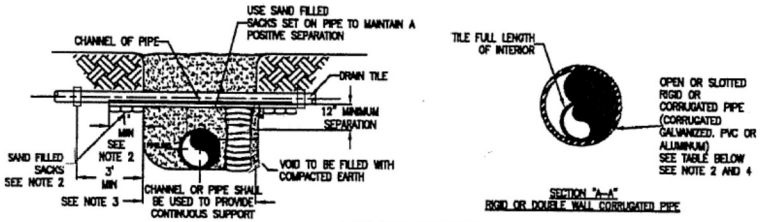
FIGURE 2.



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"-9"	7" @ 9.8 #/ft	9"-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

PAGE 2 of 2

EXHIBIT U: TRANSPORTATION & ACCESS PLAN

Kimley»Horn

MEMORANDUM

To: Arena Renewables, LLC
Carson Weinand

From: Kimley-Horn and Associates, Inc.
Daniel Blalock, P.E.

Date: May 13, 2026

Re: ***Arena Navigator 1 Solar, LLC – Transportation and Access Plan***
Unincorporated Madison County, Illinois

Introduction

Kimley-Horn and Associates, Inc. (Kimley-Horn) serves as the engineering consultant for Arena Navigator 1 Solar, LLC (Applicant), a subsidiary of Arena Renewables, LLC. It is our understanding that Arena Navigator 1 Solar, LLC is submitting for a Special Use Permit to construct a 3.60 MWac community solar energy facility located in unincorporated Madison County, Illinois on PINs 20-1-02-33-00-000-010 and 20-1-02-33-04-401-009.

Based on the project location and projects of similar size, this memorandum provides information on the proposed construction and operations access as well as anticipated traffic routing.

Pre-Development

The proposed project site is currently agricultural land. Neighboring parcels generally consist of land used for agricultural or residential purposes. The site is located north of Harris Lane, west of Fosterburg Road, east of Lobo Road, and south of IL-255 and agricultural land. Access to the site is proposed via a new driveway entrance along Harris Lane.

See attached Exhibit A: **Road Jurisdiction Map** for project location.

Construction

At the time of this memorandum, it is anticipated that site access during construction will be provided via the construction of a new driveway off Harris Lane. Prior to the beginning of construction, a temporary stabilized construction entrance consisting of 1-1/2” to 3” rock a minimum of 8 inches thick, 20’ wide, and 50’ long will be installed north of Harris Lane to provide a stable entrance for construction traffic at the proposed entrance location.

Based on similar community solar energy facilities of this size, it is estimated that approximately 20 deliveries via WB-67 Semi-Tractor Trailers will be required during the construction phase to deliver the piles, racking, modules, inverters, electrical, and switchyard equipment.

It is anticipated that at the peak of construction, approximately 20 construction workers will be needed. Construction of the proposed development is projected to be completed within 8-9 months. Equipment deliveries will typically occur between Months 2 and 4 of the construction period and taper off

dramatically by the end of Month 4. The peak number of construction workers on site will occur around Month 5 and will taper off by the end of Month 7.

Based on the project location, it is anticipated that construction traffic accessing the site will originate from Interstate 270 (IDOT District 8), travel north along Illinois Route 255 (IDOT District 8), travel southwest on Fosterburg Road (City of Alton), and northwest onto Harris Lane (Foster Township) until approaching the constructed driveway on the right, which will facilitate access to the proposed development.

See attached Exhibit B: **Construction and Operations Access Plan** for proposed access routes.

Post-Development

After construction is complete, the site will be accessed via the constructed driveway along Harris Lane. Gravel access roads will be utilized to access the interior of the site for operations and maintenance. Once the site is fully operational, it is anticipated that no more than four vehicles will visit the site on a quarterly basis for routine maintenance.

Attachments

- Exhibit A: Road Jurisdiction Map
- Exhibit B: Construction and Operations Access Plan



NORTH

GRAPHIC SCALE IN FEET
0 1500 3000 6000

ROAD JURISDICTION LEGEND

- STATE (IDOT REGION 5 DISTRICT 8)
- MUNICIPALITY (CITY OF ALTON)
- TOWNSHIP (FOSTER TOWNSHIP)
- PROJECT LOCATION

NOTES

1. ROAD JURISDICTION LEVELS SHOWN ON THIS PLAN ARE BASED ON THE ONLINE IDOT "GETTING AROUND ILLINOIS" GIS DATABASE.
2. POTENTIAL CONTACTS FOR ALL ROADS DENOTED ON THIS EXHIBIT WERE DETERMINED USING THE IDOT WEBSITE ACCESSED 05/05/2026.

ROAD JURISDICTION INFORMATION

ROAD NAME	JURISDICTION LEVEL	JURISDICTION (AHJ)	CONTACT	CONTACT PHONE NUMBER
I-270	STATE	IDOT REGION 5	DISTRICT 8 OFFICE	(618)-346-3245
IL 255	STATE	IDOT REGION 5	DISTRICT 8 OFFICE	(618)-346-3245
FOSTERBURG ROAD	MUNICIPALITY	CITY OF ALTON	PUBLIC WORKS DIRECTOR: JOHN MITCHELL	(618)-463-3530
HARRIS LANE	TOWNSHIP	FOSTER TOWNSHIP	ROAD COMMISSIONER: JAKE STROHBECK	(618)-259-7030

No.	REVISIONS	DATE

ARENA RENEWABLES

Kimley»Horn
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570 LAKE COOK RD SUITE 200
DEERFIELD, IL 60015
WWW.KIMLEY-HORN.COM

PRELIMINARY- NOT FOR CONSTRUCTION

KHA PROJECT 266685034
DATE 05/13/2026
SCALE AS SHOWN
DESIGNED BY JEM
DRAWN BY JEM
CHECKED BY DRB

ROADWAY JURISDICTION MAP

ARENA NAVIGATOR 1 SOLAR, LLC

MADISON COUNTY, IL

SHEET NUMBER
EX-A

NOT FOR CONSTRUCTION

Call Before You Dig JULIE 1-800-892-0123

Drawing name: K:\OFE_LDEV\266685038_Arena Renewables_Navigator 1_IL\V2 Design\CAD\Exhibits\Transportation & Access Plan\Navigator 1_Transportation and Access Plan.dwg Road Jurisdiction Map May 13, 2026 1:55pm by Jack.Carlson
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NORTH

GRAPHIC SCALE IN FEET
0 1500 3000 6000

LEGEND

- DELIVERY TRUCK ROUTE (WB-67 SEMI)
- PASSENGER VEHICLE ROUTE (CONSTRUCTION/MAINTENANCE)
- PROJECT LOCATION

NOT FOR CONSTRUCTION

Call Before You Dig
JULIE
1-800-892-0123

No.	REVISIONS	DATE

ARENA RENEWABLES

Kimley»Horn

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570 LAKE COOK RD SUITE 200
DEERFIELD, IL 60015
WWW.KIMLEY-HORN.COM

PRELIMINARY- NOT FOR CONSTRUCTION

KHA PROJECT	268685034
DATE	05/13/2026
SCALE	AS SHOWN
DESIGNED BY	JEM
DRAWN BY	JEM
CHECKED BY	DRB

CONSTRUCTION AND OPERATIONS ACCESS PLAN

ARENA NAVIGATOR 1 SOLAR, LLC

MADISON COUNTY, IL

SHEET NUMBER
EX-B

Drawing name: K:\CHS_LSF\V\268685038_Arena Renewables_Navigator 1_A\V2 Design\CAD\Exhibits\Transportation & Access Plan\Navigator 1_Transportation and Access Plan.dwg Construction and Operations Access Plan May 13, 2026 1:55pm by Jade.Carlson
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EXHIBIT V: PHASE I ENVIRONMENTAL SITE ASSESSMENT (ESA)

PHASE I ENVIRONMENTAL SITE ASSESSMENT

ARENA NAVIGATOR 1 SOLAR, LLC

PARCEL ID NOS.:

20-1-02-33-00-000-010

20-1-02-33-04-401-009

MADISON COUNTY, ILLINOIS

Prepared for:

Arena Renewables, LLC
15051 N Kierland Blvd, Floor 3
Scottsdale, AZ 85254

May 27, 2026

Prepared By:

Kimley»Horn

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Kimley-Horn Project No. 268685038

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Appendix F	Soils Resource Report
Appendix G	Interview Documentation
Appendix H	Credentials

LIST OF ACRONYMS

AAI	All Appropriate Inquiries
AOC	Area of Concern
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
BER	Business Environmental Risks
CREC	Controlled Recognized Environmental Conditions
EP	Environmental Professional
EPA	Environmental Protection Agency
ESA	Phase I Environmental Site Assessment
HREC	Historical Recognized Environmental Conditions
LLP	Landowner Liability Protections
LQG	Large Quantity Generators
LUST	Leaking Underground Storage Tank
NPL	National Priority List
REC	Recognized Environmental Condition
SQG	Small Quantity Generator
TSDF	Treatment, Storage and Disposal
USGS	United States Geological Survey
UST	Underground Storage Tank
VEC	Vapor Encroachment Condition
VES	Vapor Encroachment Screening
VSQG	Very Small Quantity Generators

1.0 EXECUTIVE SUMMARY

Kimley-Horn and Associates, Inc. (Kimley-Horn) was retained by Arena Renewables, LLC (the "Client") to conduct a Phase I Environmental Site Assessment (ESA) for an approximately 27-acre property (Parcel ID Numbers 20-1-02-33-00-000-010 and 20-1-02-33-04-401-009) located along Harris Lane in Foster Township, Madison County, Illinois (referred to herein as the "Subject Property"). This Phase I ESA was performed in accordance with (1) the United States Environmental Protection Agency (U.S. EPA) Standards and Practices for All Appropriate Inquiries (AAI), 40 CFR Part 312 and (2) guidelines established by the American Society for Testing and Materials (ASTM) in the *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process/Designation E 1527-21* (ASTM Standard Practice E 1527-21). The ESA was conducted under the supervision or responsible charge of Jason Hartshorn, Environmental Professional.

The purpose of this Phase I ESA was to evaluate the current and historical conditions of the Subject Property in an effort to identify *recognized environmental conditions* (RECs), *controlled recognized environmental conditions* (CRECs) and *historical recognized environmental conditions* (HRECs) in connection with the Subject Property. This Phase I ESA is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs, CRECs, and HRECs in connection with the Subject Property.

Additionally, business environmental risks (BERs) will be considered as part of this Phase I ESA. A BER is defined by ASTM as "a risk that can have a material environmental or environmentally driven impact on the business associated with the current or planned use of the commercial real estate, not necessarily related to those environmental issues required to be investigated in this practice".

The Phase I ESA summary is provided below. Specific details were not included or fully developed in this section, and the Phase I ESA must be reviewed in its entirety for a comprehensive understanding of the results. This report represents our services as of the report date and constitutes our final document; its text may not be altered after final issuance. Findings in this report are based upon the Subject Property's current utilization, information derived from the most recent reconnaissance and from other activities described herein; such information is subject to change. Certain indicators of the presence of hazardous substances or petroleum products may have been latent, inaccessible, unobservable, or not present during the most recent reconnaissance and may subsequently become observable (such as after property renovation or development). Further, these services are not to be construed as legal interpretation or advice.

Viability of this report is subject to ASTM E1527-21 Section 4.6. This Phase I ESA is presumed viable for up to 180 days from the first date the components listed in Section 4.6 of the ASTM Standard Practice E1527-21 were conducted.

Table 1.0-1 Summary Phase I ESA Component Dates

Component	Date
User Questionnaire	4/29/2026
Visual Inspection	4/14/2026
Review of Government Records	4/28/2026
Landowner Interview	5/12/2026
Local Agency Inquiries	5/18/2026
Declaration by Environmental Professional	5/27/2026
Presumed Report Viability Date	10/11/2026

Subject Property Description and Use

The Subject Property consists of approximately 27 acres of land and is comprised of two parcels identified by Madison County as Parcel ID numbers 20-1-02-33-00-000-010 and 20-1-02-33-04-401-009. The Subject Property is located along Harris Lane in Foster Township, Madison County, Illinois and consists primarily of an agricultural field for the cultivation of row crops.

User Provided Information

Sam Walch of Arena Navigator 1 Solar, LLC stated that he knows the past uses of the Subject Property to be row crop, pasture, and open space. He has no knowledge of the presence or likely presence of contamination or liens or AULs. Kimley-Horn's consideration of the User provided information did not identify any RECs for the Subject Property.

Site Reconnaissance

The Subject Property was observed to consist primarily of an agricultural field for the cultivation of row crops. Pipeline markers and overhead electric lines were observed on the Subject Property. Kimley-Horn contacted Ameren Illinois for additional information on the contents and location of the pipeline(s). Ameren confirmed there are active high-pressure gas mains present in the area. The User provided information related to the pipeline. According to the User's records, the pipeline does not intersect the Subject Property.

No RECs were identified during site reconnaissance.

Historical Information

Standard and other historical sources document that the Subject Property appeared to consist primarily of agricultural land for the cultivation of row crops since at least 1941. The vicinity surrounding the Subject Property has historically been used primarily for agricultural purposes and residential properties. Sanborn maps were not available for the Subject Property.

Review of historical topographic maps indicate that a structure has existed on the Subject Property since at least 1996. The vicinity surrounding the Subject Property was historically depicted as containing structures and roadways.

Review of historical aerial photographs indicates that the Subject Property has historically been used as agricultural land for the cultivation of row crops since at least 1941. From 1991 until approximately 2005, a structure existed in the southern portion of the Subject Property. Residential properties, a golf course, and roadways were visible in the surrounding area. Highway 255 was constructed to the north of the Subject Property in approximately 2005.

The historical use of the Subject Property is considered a BER due to the use of agrichemicals for crop management. The vicinity surrounding the Subject Property historically appeared to be used primarily for agricultural purposes with a road to the southwest, and farmsteads and residences to the south, west, and north. RECs were not identified based on a review of aerial photographs.

City directories indicate that the Subject Property had been previously occupied. A residential address was listed on the northeast of the Subject Property until approximately 2000, and a commercial address was listed on the southern parcel in 1995. The commercial listing was identified by EDR as "Range". RECs were not identified based on a review of city directories.

No RECs were identified in a review of provided historical records.

Records Review

Kimley-Horn reviewed select federal and state environmental regulatory databases. No facilities were identified on the Subject Property. One facility listing was identified in standard federal and state/tribal databases within standard ASTM search distances. No RECs were identified during the records review.

Interviews

Romney Thomas completed a landowner questionnaire on May 12, 2026, to document their knowledge of the Subject Property. Mr. Thomas indicated that the Subject Property has been used for agricultural purposes since at least 2006. Mr. Thomas indicated that he was not aware of any pending, threatened, or past environmental litigation, notices of possible violations of environmental laws, notices of possible liability, or noticies of potential environmental concerns. RECs were not identified during the landowner interview.

Kimley-Horn submitted a Freedom of Information Act (FOIA) records request to the Madison County Health Department, Emergency Management Agency (EMA), and Fire Department for information regarding the Subject Property. The Madison County EMA did not identify any documents related to emergency responses, hazardous material spills, or other environmental contamination concerns related to the Subject Property. As of the date of this report, responses from the Madison County Health Department and Fire Department have not been received. If a response is obtained, which changes the findings of this report, an addendum will be issued.

Opinions and Conclusions

Kimley-Horn has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E1527-21 for the approximately 27-acre Subject Property. This assessment has revealed no evidence of RECs, CRECs, HRECs, or significant data gaps associated with the Subject Property.

Kimley-Horn identified one BER in association with the Subject Property.

- The use and application of herbicides and pesticides on the Subject Property associated with the current and historical agricultural operations.

A summary of findings is tabulated below:

Table 1.0-2 Summary of Findings

Records Reviewed	Results of Review
Government Records	No RECs identified
Historical Aerials	No RECs identified
Topographic Maps	No RECs identified
City Directories	No RECs identified
Sanborn Fire Insurance Maps	Unmapped property
Interviews	No RECs identified
Site Reconnaissance	No RECs identified; BER identified

2.0 INTRODUCTION

2.1 SUBJECT PROPERTY OVERVIEW

Table 2.1 Subject Property Overview	
Subject Property Name	Arena Navigator 1 Solar, LLC
Subject Property Location/Address	Harris Lane, Foster Township, Madison County, Illinois
Land Area	27 acres
Subject Property Improvements	None

The Subject Property location is depicted on the project location map (**Figure 1**) and topographic map (**Figure 2**). The Subject Property and adjoining properties are depicted on the site reconnaissance map (**Figure 3**). Figures are included in **Appendix A**. Photographs of the Subject Property are included in **Appendix B**.

2.2 PURPOSE AND SCOPE OF SERVICES

This Phase I ESA was performed in accordance with (1) the United States Environmental Protection Agency (U.S. EPA) Standards and Practices for All Appropriate Inquiries {(AAI), 40 CFR Part 312} and (2) guidelines established by the American Society for Testing and Materials (ASTM) in the *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process/Designation E 1527-21* (ASTM Standard Practice E 1527-21).

The purpose of this Phase I ESA was to evaluate the current and historical conditions of the Subject Property in an effort to identify *recognized environmental conditions* (RECs), *controlled recognized environmental conditions* (CRECs) and *historical recognized environmental conditions* (HRECs) in connection with the Subject Property. This Phase I ESA is intended to reduce, but not eliminate, uncertainty regarding the potential for RECs, CRECs and HRECs in connection with the Subject Property.

Additionally, this Phase I ESA was designed to assist the client in developing information to identify RECs in connection with the Subject Property, as reflected by the scope of this report. This purpose was undertaken through user-provided information, a regulatory database review, historical and physical records review, interviews, including local government inquiries, as applicable, and a visual, noninvasive reconnaissance of the Subject Property and adjoining properties. Limitations, ASTM deviations, and significant data gaps (if identified) are noted in the applicable sections of the report.

ASTM E1527-21 contains a definition of "migrate/migration," which refers to “the movement of hazardous substances or petroleum products in any form, including, for example, solid and liquid at the surface or subsurface, and vapor in the subsurface.” By including this explicit reference to migration in ASTM E1527-21, the Standard clarifies that the potential for vapor migration should be addressed as part of a Phase I ESA. This Phase I ESA has considered vapor migration in evaluation of RECs associated with the Subject Property.

2.3 USER RELIANCE

This Phase I ESA report represents the product of Kimley-Horn’s expertise and judgment in the environmental consulting industry. This report is certified to, can be relied upon by, and has been prepared

for the exclusive use of the following entities and their respective successors, assigns, affiliates, and subsidiaries:

- Arena Renewables, LLC
- Arena Navigator 1 Solar, LLC

Kimley-Horn acknowledges that these parties may rely on the contents and conclusions presented in this report. Unless stated otherwise in writing, Kimley-Horn makes no other warranty, representation, or extension of reliance upon the findings of this report to any other entity or third party.

Reliance on the Phase I ESA by the client and all authorized parties will be subject to the terms, conditions and limitations stated in the proposal with Kimley-Horn and Associates, Inc. Standard Provisions and the Phase I ESA report. The limitation of liability defined in the Standard Provisions is the aggregate limit of Kimley-Horn's liability to the client and all relying parties.

Continued viability of this report is subject to ASTM E1527-21 Sections 4.6 and 4.8. If the Phase I ESA will be used by a different user (third party) than the user for whom the Phase I ESA was originally prepared, the third party must also satisfy the user's responsibilities in Section 6 of ASTM E1527-21.

2.4 SIGNIFICANT ASSUMPTIONS

Pursuant to ASTM Standard Practice E 1527-21, Kimley-Horn assumes that the information provided by all sources and parties, including the User, is accurate and complete, except where obvious inconsistencies or inaccuracies were identified.

2.5 LIMITATIONS, DEVIATIONS, AND SPECIAL TERMS AND CONDITIONS

There were no deviations from the ASTM Standard during the preparation of this report. Any physical limitations identified during the completion of this report are referenced in **Section 4.0**.

This Phase I ESA is presumed viable for up to 180 days from the first date the component listed in Section 4.6 of the ASTM Standard Practice E1527-21 were conducted, which is October 11, 2026.

Based upon the agreed-on scope of services, this Phase I ESA did not include subsurface or other invasive assessments, vapor intrusion assessments or indoor air quality assessments (i.e., evaluation of the presence of vapors within a building structure), or other services not particularly identified and discussed herein. Credentials of the company (Statement of Qualifications) have not been included in this report but are available upon request. Reasonable attempts were made to obtain information within the scope and time constraints set forth by the client; however, in some instances, information requested is not, or was not, received by the issuance date of the report. Information obtained for this ESA was received from several sources that we believe to be reliable; nonetheless, the authenticity or reliability of these sources cannot and is not warranted hereunder. This ESA was further limited by the following:

- Title records were not provided during this investigation.
- An Environmental Lien/Activity and Use Limitations Search was not provided for the Subject Property for review.
- Responses from the Madison County Health Department and Fire Department have not been received.

Based on other available resources, these data gaps are not likely to affect the conclusions of this report and are not significant.

An evaluation of the significance of limitations and missing information with respect to our findings has been conducted and, where appropriate, significant data gaps are identified and discussed in the text of the report. However, it should be recognized that an evaluation of significant data gaps is based on the information available at the time of report issuance, and an evaluation of information received after the report issuance date may result in an alteration of our conclusions, recommendations, or opinions. We have no obligation to provide information obtained or discovered by us after the issuance date of the report, or to perform any additional services, regardless of whether the information would affect any conclusions, recommendations, or opinions in the report. This disclaimer specifically applies to any information that has not been provided by the client.

3.0 USER PROVIDED INFORMATION

The ASTM Standard defines a User as "the party seeking to use Practice E 1527-21 to complete an environmental site assessment of the Subject Property. A User may include, without limitation, a potential purchaser of Subject Property, a potential tenant of Subject Property, an owner of the Subject Property, a lender, or a property manager." The User has specific obligations for completing a successful application of this practice as outlined in Section 6 of the ASTM Standard Practice E 1527-21.

In order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfield's Revitalization Act of 2001 (the "Brownfield's Amendments"), the User must provide certain information (if available) identified in the User Questionnaire to the Environmental Professional (EP). Failure to provide this information could result in a determination that "all appropriate inquiry" is not complete.

3.1 USER QUESTIONNAIRE

The following table summarizes the responses to the User Questionnaire. Sam Walch of Arena Navigator 1 Solar, LLC provided a complete User Questionnaire on April 29, 2026 (**Appendix C**). The completed Questionnaire revealed no previously unknown information associated with the Subject Property.

Table 3.1 Summary of User Questionnaire Responses

User Questionnaire Item		User's Response	
		Yes	**No**
#1	Did a search of land title records (or judicial records where appropriate, see Note 1 below) identify any environmental liens filed or recorded against the Subject Property under federal, tribal, state, or local law?		X
#2	Did a search of land title records (or judicial records where appropriate, see Note 1 above) identify any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the Subject Property and/or have been filed or recorded against the Subject Property under federal, tribal, state or local law?		X
#3	Do you have any specialized knowledge or experience related to the Subject Property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the Subject Property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?		X
#4	Relationship to the purchase price to the fair market value of the Subject Property.		
	Does the purchase price being paid for this Subject Property reasonably reflect the fair market value of the property?	X	
	If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the Subject Property?		X
#5	Are you aware of commonly known or reasonably ascertainable information about the Subject Property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example,		
	(a.) Do you know the past uses of the Subject Property?	X "Ag – row crop, pasture, open space"	

Table 3.1 Summary of User Questionnaire Responses			
User Questionnaire Item		User's Response	
		Yes	No
	(b.) Do you know of specific chemicals that are present or once were present at the Subject Property?		X
	(c.) Do you know of spills or other chemical releases that have taken place at the Subject Property?		X
	(d.) Do you know of any environmental cleanups that have taken place at the Subject Property?		X
#6	Based on your knowledge and experience related to the Subject Property, are there any obvious indicators that point to the presence or likely presence of releases at the Subject Property?		X

Kimley-Horn's consideration of the User provided information did not identify any RECs for the Subject Property. A copy of the completed User questionnaire is included in **Appendix C**.

3.2 RECORDED LAND TITLE RECORDS

A 50-year chain of title search was not conducted for the Subject Property by Kimley-Horn. Furthermore, the User did not provide Kimley-Horn with a 50-year chain of title. Unless notified otherwise, we assume that the User is evaluating this information outside the scope of this report.

3.3 ENVIRONMENTAL LIENS, ACTIVITY AND USE LIMITATIONS, AND GOVERNMENT INSTITUTIONAL AND ENGINEERING CONTROLS

In the User Questionnaire, the User stated that they have no knowledge of activity and use limitations (AULs) such as engineering controls, land use restrictions, or institutional controls that are in place at the Subject Property or have been filed or recorded against the property under federal, tribal, state, or local law. However, environmental lien and AUL records recorded against the Subject Property were not provided by the User. Unless notified otherwise, we assume that the User is evaluating this information outside the scope of this report. The EDR regulatory database report included a review of both federal and state Engineering Control (EC) and Institutional Control (IC) databases. Based on a review of the database report (**Section 5.3**), the Subject Property is not listed in the EC or IC databases.

4.0 SITE RECONNAISSANCE

Information contained in this section is based on a visual reconnaissance conducted while walking through the Subject Property and the accessible interior areas of structures, if any, located on the Subject Property. The Subject Property and adjoining properties are depicted on **Figure 3** of **Appendix A**. Photo documentation of the Subject Property at the time of the visual reconnaissance is provided in **Appendix B**.

Field personnel walked the Subject Property boundary on foot, starting at the southern parcel then northern parcels, walking clockwise around the perimeter.

Table 4.0-1 Summary of General Site Information				
Site Reconnaissance				
Field Personnel	Adynn Stedillie, Kimley-Horn			
Date	4/14/2026			
Weather Conditions	Clear			
Subject Property Contact/Title	Carson Weinand, Arena Navigator 1 Solar, LLC			
Building Description				
Building/Improvement	Building Use	Year Built	Number of Stories	Approx. Sq Ft.
N/A	N/A	N/A	N/A	N/A

4.1 SITE OBSERVATIONS

The following table summarizes the Subject Property observations. Affirmative responses are discussed in more detail following the table.

Table 4.1 Summary of Subject Property Observations		
Category	**Item or Feature**	**Observed or Identified**
Site Operations, Processes, and Equipment	Emergency generators	No
	Elevators	No
	Air compressors	No
	Hydraulic lifts	No
	Dry cleaning	No
	Photo processing	No
	Ventilation hoods and/or incinerators	No
	Waste treatment systems and/or water treatment systems	No
	Heating and/or cooling systems	No
	Paint booths	No
	Sub-grade mechanic pits	No
	Wash-down areas or carwashes	No
	Pesticide/herbicide production or storage	No
	Printing operations	No

Table 4.1 Summary of Subject Property Observations		
Category	**Item or Feature**	**Observed or Identified**
	Metal finishing (e.g., electroplating, chrome plating, galvanizing, etc.)	No
	Salvage operations	No
	Oil, gas or mineral production	No
	Other processes or equipment	No
Aboveground Chemical or Waste Storage	Aboveground storage tanks	No
	Drums, barrels and/or containers ≥ 5 gal	No
	MSDS or SDS	No
Underground Chemical or Waste Storage, Drainage or Collection Systems	USTs or ancillary UST equipment	No
	Sumps, cisterns, French drains, catch basins and/or dry wells	No
	Grease traps	No
	Septic tanks and/or leach fields	No
	Oil/water separators, clarifiers, sand traps, triple traps, interceptors	No
	Pipeline markers	**YES**
	Interior floor drains	No
Electrical Transformers/ PCBs	Transformers and/or capacitors	No
	Other equipment	No
Releases or Potential Releases	Stressed vegetation	No
	Stained soil	No
	Stained pavement or similar surface	No
	Leachate and/or waste seeps	No
	Trash, debris and/or other waste materials	No
	Dumping or disposal areas	No
	Construction/demolition debris and/or dumped fill dirt	No
	Surface water discoloration, odor, sheen, and/or free-floating product	No
	Strong, pungent or noxious odors	No
	Exterior pipe discharges and/or other effluent discharges	No
Other Notable Site Features	Surface water bodies	No
	Quarries or pits	No
	Wastewater lagoons	No
	Wells	No
	Overhead Electric	**YES**
	Other	No

Pipeline Markers

Two pipeline markers indicating the presence of a gas pipeline were observed on the Subject Property boundary, along Harris Lane and Fosterburg Road. Pipelines are discussed further in **Section 5.4**.

Overhead Electric

An overhead electrical line was observed along the northeastern boundary of the Subject Property.

4.2 CURRENT OPERATIONS

The Subject Property primarily consists of an agricultural field for the cultivation of row crops. There are no structures present or other improvements to the Subject Property. The agricultural land use presumably includes the legal and common application of herbicides, fertilizers, and/or pesticides for field management. The legal application of these compounds over time can result in localized impacts to soil and/or groundwater. There was no evidence observed during site reconnaissance to indicate that these compounds had been improperly applied to the Subject Property. Based on the historical land use, the potential for agrichemicals to be present in the soil and groundwater is considered to represent a BER for the Subject Property.

4.3 ADJOINING PROPERTIES

The following section provides information about the adjoining properties obtained during the Subject Property reconnaissance and through review of reasonably ascertainable information. Visual observations of adjoining properties (from Subject Property boundaries) are summarized below.

Table 4.3 Summary of Adjoining Properties

Direction	Description	REC/BER
North	Agricultural fields, Highway 255.	No
East	Fosterburg Road, residential properties.	No
South	Electrical substation, residential properties.	No
West	Lobo road, agricultural fields, residential properties.	No

5.0 RECORDS REVIEW

5.1 PHYSICAL SETTING

The following is a summary of the physical setting of the Subject Property.

Table 5.1 Summary of Physical Setting of the Subject Property		
Physical Setting Information		**Source**
Topography		
Site Elevation	The Subject Property is approximately 514 feet above mean sea level (msl) to 524 feet above msl.	United States Geological Survey Division (U.S.G.S.) 7.5-Minute Topographic Map Bethalto, Illinois, 2015
Closest Surface Water	There are no surface water resources mapped in the Subject Property or in the vicinity.	
Soil Characteristics		
Soil Type; Description	165A – Weir silt loam, 0 to 2 percent slopes Weir soils are poorly drained soils typically found on flats. These soils have a depth to water table of about 0 to 12 inches and are considered hydric. These soils have a depth to restrictive feature of more than 80 inches.	Natural Resources Conservation Service (NRCS) Web Soil Survey (**Appendix F**) http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx
	267A – Caseyville silt loam, 0 to 2 percent slopes Caseyville soils are somewhat poorly drained soils typically found on ground moraines. These soils have a depth to water table of about 6 to 24 inches and are not considered to be hydric. These soils have a depth to restrictive feature of more than 80 inches.	
	267B – Caseyville silt loam, 2 to 5 percent slopes Caseyville soils are described above.	
Geology/Hydrogeology		
Geologic Formation	Carbondale Formation	United States Geological Survey, National Geologic Map Database
Description	The Carbondale Formation's lithologic constituents include shale, sandstone, coal, and limestone.	
Groundwater	Based on the Groundwater Atlas of the United States, the Subject Property overlies the Mississippian aquifer system.	Groundwater Atlas of the United States: Illinois, Indiana, Kentucky, Ohio, Tennessee HA 730-K

Table 5.1 Summary of Physical Setting of the Subject Property		
Physical Setting Information		**Source**
	Based on the well summaries provided by EDR for water wells located on or within 0.5-mile of the Subject Property, groundwater utilized for domestic or agricultural supply occurs between approximately 30 and 42 feet below ground surface (bgs).	https://pubs.usgs.gov/ha/ha730/ch_k/ EDR Radius Map Report with GeoCheck (**Appendix E**)
Hydrogeologic Gradient	Onsite groundwater data is not available. In the absence of site-specific groundwater data, groundwater flow direction is estimated to be generally southeast.	

5.2 HISTORICAL RECORDS REVIEW

Kimley-Horn reviewed reasonably ascertainable records to identify obvious uses of the Subject Property from the present, back to the property's obvious first developed use, or back to 1940, whichever is earlier. Reasonably ascertainable records reviewed as part of this Phase I ESA document the Subject Property as undeveloped back to at least 1927.

Readily available historical USGS topographic maps, selected historical aerial photographs (at approximately 10 to 15-year intervals), city directories (at approximately 5-year intervals), and historical fire insurance maps produced by the Sanborn Map Company were provided by Environmental Data Resources, Inc. (EDR) to evaluate past uses and relevant characteristics of the Subject Property and surrounding properties. Based upon the inquiries to EDR, Sanborn maps were not available for the Subject Property.

Reviewed historical topographic maps, aerial photographs, and city directories are summarized below in **Table 5.2-1**, **Table 5.2-2**, and **Table 5.2-3**. Topographic maps, aerial photographs, city directories, and the Sanborn map report are included in **Appendix D**.

Table 5.2-1 Historical Topographic Maps	
Topographic Map	**Description**
Alton, IL 1927 (1:62,500)	The Subject Property is depicted as undeveloped. Roadways are depicted along the western and southeastern boundaries of the Subject Property. Additional roadways, structures, and waterbodies are depicted in the vicinity of the Subject Property.
Alton, IL 1934 (1:62,500)	The Subject Property and surrounding area appear similar to the 1927 topographic map.
Bethalto, IL 1949, (1:24,000)	Additional structures, roadways, and a golf course are depicted in the surrounding area. The Subject Property and remaining portions of the surrounding area appear to be similar to the 1934 topographic map.
Bethalto and Alton, IL 1954 (1:24,000)	The Subject Property and surrounding area appear similar to the 1949 topographic map.

Alton, IL 1955 (1:62,500)	The Subject Property and surrounding area appear similar to the 1954 topographic maps.
Bethalto and Alton, IL 1968 (1:24,000)	Additional structures and an electrical transmission line are depicted in the vicinity of the Subject Property. The Subject Property and remaining portions of the surrounding area appear to be similar to the 1955 topographic map.
Bethalto and Alton, IL 1974 (1:24,000)	The Subject Property and surrounding area appear to be similar to the 1968 topographic maps.
Bethalto, IL 1979 (1:24,000)	The Subject Property and surrounding area appear to be similar to the 1974 topographic map.
Bethalto, IL 1993 (1:24,000)	The Subject Property and surrounding area appear to be similar to the 1979 topographic map.
Alton, IL 1994 Bethalto, IL 1996 (1:24,000)	A structure is depicted in the southern portion of the Subject Property. The remainder of the Subject Property and surrounding area appear similar to the 1993 topographic map.
Bethalto and Alton, IL 2012 (1:24,000)	Due to the type of map, individual features such as structures are not depicted. Highway 255 is depicted to the north of the Subject Property. The Subject Property appears generally similar to the 1994 and 1996 topographic maps.
Bethalto and Alton, IL 2015 (1:24,000)	The Subject Property and surrounding area appear to be similar to the 2012 topographic map.
Bethalto and Alton, IL 2018 (1:24,000)	The Subject Property and surrounding area appear to be similar to the 2015 topographic map.
Bethalto and Alton, IL 2021 (1:24,000)	The Subject Property and surrounding area appear to be similar to the 2018 topographic map.
Bethalto and Alton, IL 2024 (1:24,000)	The Subject Property and surrounding area appear to be similar to the 2021 topographic map.

Review of historical topographic maps indicate that a structure has existed on the Subject Property since at least 1996. The vicinity surrounding the Subject Property was historically depicted as containing structures and roadways. RECs were not identified based on a review of topographic maps.

Table 5.2-2 Historical Aerial Photographs	
Aerial Photograph	**Description**
1941	The Subject Property appears to consist of agricultural land for the cultivation of row crops. The area surrounding the Subject Property appears to consist primarily of agricultural land for the cultivation of row crops and farmsteads or residential properties. Roadways are visible to the west and east of the Subject Property.
1945	A golf course is visible in the vicinity of the Subject Property. The Subject Property and remaining portions of the surrounding area appear similar to the 1941 aerial photograph.
1956	The Subject Property and surrounding area appear similar to the 1945 aerial photograph.
1962	Additional structures are visible to the south and east of the Subject Property. The remaining portions of the Subject Property and surrounding area appear similar to the 1956 aerial photograph.
1968	Additional structures are visible to the south of the Subject Property. The remaining portions of the Subject Property and surrounding area appear similar to the 1962 aerial photograph.
1974	The Subject Property and surrounding area appear similar to the 1968 aerial photograph.
1978	The Subject Property and surrounding area appear similar to the 1974 aerial photograph.
1985	An additional roadway and associated structures are visible west of the Subject Property. The remaining portions of the Subject Property and surrounding area appear similar to the 1978 aerial photograph.
1988	The Subject Property and surrounding area appear similar to the 1985 aerial photograph.
1991	A structure is visible in the southern portion of the Subject Property. The remaining portions of the Subject Property and surrounding area appear similar to the 1988 aerial photograph.
1998	The southern portion of the Subject Property appears to be uncropped. The northern portion consists of agricultural fields. Roadways and residential properties are visible in the surrounding area. The remaining portions of the Subject Property and surrounding area appear similar to the 1991 aerial photograph.
2005	The structure in the southern portion of the Subject Property is no longer visible, although ground disturbance and an access road or driveway remain. Highway 255 is being constructed to the northeast. The remaining portions of the Subject Property and surrounding area appear similar to the 1998 aerial photograph.

Table 5.2-2 Historical Aerial Photographs	
Aerial Photograph	**Description**
2009	Trees are visible in the southern portion of the Subject Property. Highway 255 is visible to the north and northeast. The remaining portions of the Subject Property and surrounding area appear similar to the 2005 aerial photograph.
2012	The Subject Property and surrounding area appear similar to the 2009 aerial photograph.
2015	The access road is no longer visible, but the trees remain in the southern portion of the Subject Property. The remaining portions of the Subject Property and surrounding area appear similar to the 2012 aerial photograph.
2019	The trees in the southern portion of the Subject Property have been removed and are no longer visible. The remaining portions of the Subject Property and surrounding area appear similar to the 2015 aerial photograph.
2023	The Subject Property appears to consist entirely of agricultural fields for the cultivation of row crops. The surrounding area appears similar to the 2019 aerial photograph.

Review of historical aerial photographs indicates that the Subject Property has historically been used as agricultural land for the cultivation of row crops since at least 1941. From 1991 until approximately 2005, a structure existed in the southern portion of the Subject Property. Residential properties, a golf course, and roadways have appeared in the surrounding area. Highway 255 was constructed to the north of the Subject Property in approximately 2005.

The historic agricultural use of the Subject Property is considered a BER due to the use of agrichemicals for crop management. The vicinity surrounding the Subject Property historically appeared to be used primarily for agricultural purposes with a road to the southwest, and farmsteads and residences to the south, west, and north. RECs were not identified based on a review of aerial photographs.

Table 5.2-3 Historical City Directories Summary	
Direction	**Description**
Subject Property	**3662 Fosterburg Rd:** Unspecified Commercial (1995). **3720 Fosterburg Rd:** Residential Property (1995-2000).
North	**7447 Lobo Rd**: Residential Property (2014-2024).
East	**3524 Prince Rd:** Residential property (1995-2024). **3530 Prince Rd:** Residential property (1995-2024). **3536 Prince Rd:** Church of Christ (1995-2024).
South	**3584 Fosterburg Rd:** Residential Property (1995-2024). **3632 Fosterburg Rd:** Residential Property (1995-2024). **3644 Fosterburg Rd:** Tarrant and Harman Real Estate & Auction (1995-2024). **3645 Fosterburg Rd:** Residential Property (1995-2024). **3651 Fosterburg Rd:** Residential Property (2010-2024).

Table 5.2-3 Historical City Directories Summary	
Direction	**Description**
	3657 Fosterburg Rd: Residential Property (1995-2022). **3506 Prince Rd:** Residential Property (1995-2024). **3512 Prince Rd:** Residential Property (1995-2024). **3518 Prince Rd:** Residential Property (1995-2024).
West	**3443 Harris Ln:** Residential Property (2000-2024). **3447 Harris Ln:** Residential Property (1995-2024). **3457 Harris Ln:** Residential Property (1995-2024). **3463 Harris Ln:** Residential Property (1995-2024). **3469 Harris Ln:** Residential Property (1995-2024). **7429 Lobo Rd**: Residential Property (2014-2024).

City directories indicate that the Subject Property had been previously occupied. A residential address was listed on the northeast of the Subject Property from 1995 until approximately 2000, and a commercial address was listed on the southern parcel in 1995. The commercial listing was identified by EDR as “Range”. RECs were not identified based on a review of city directories.

5.3 REGULATORY RECORDS REVIEW

An environmental database search for the Subject Property and the surrounding area was performed by EDR, a contract information services company, using ASTM E1527-21 standard radii. The purpose of the records review was to identify RECs in connection with the Subject Property. Information in this section is subject to the accuracy of the data provided by the information services company and the date at which the information is updated, and the scope herein did not include confirmation of facilities listed as "unmappable" by regulatory databases. A copy of the EDR Radius Map Report is attached in its entirety in **Appendix E**.

In some of the following subsections, the words up-gradient, cross-gradient and down-gradient refer to the topographic gradient in relation to the Subject Property. The groundwater flow direction and the depth to shallow groundwater, if present, would likely vary depending upon seasonal variations in rainfall and the depth to the soil/bedrock interface. Without the benefit of on-site groundwater monitoring wells surveyed to a datum, groundwater depth and flow direction beneath the Subject Property cannot be directly ascertained.

5.3.1 Federal and State/Tribal Databases

Described below are the facility listings identified on federal and state/tribal databases within the ASTM-required search distances from the approximate Subject Property boundaries. Database definition, descriptions, and the database search report are included in **Appendix E**.

In addition to the above ASTM-required listings, Kimley-Horn reviewed other federal, state, local, and proprietary databases provided by the database firm. A list of the additional reviewed databases is included in the regulatory database report included in **Appendix E**.

Kimley-Horn’s review of the referenced databases also considered the potential or likelihood of contamination from adjoining and nearby facilities. To evaluate which of the adjoining and nearby facilities identified in the regulatory database report present an environmental risk to the Subject Property, Kimley-Horn considered the following criteria:

- The type of database on which the adjoining/nearby property is identified.
- The topographic position of the property relative to the Subject Property.
- The direction and distance of the identified facility from the Subject Property.
- Local soil conditions in the Subject Property area.
- The known and/or inferred groundwater flow direction in the Subject Property area.
- The status of the respective regulatory agency-required investigations and/or cleanup associated with the identified facility.
- Surface and subsurface obstructions and diversions (e.g., buildings, roads, sewer systems, utility service lines, rivers, lakes, and ditches) located between the identified facility and the Subject Property.

The database search revealed one site found within it's respective search distances from the Subject Property. No facilities were identified on the Subject Property. A summary of the reviewed database findings is included in the regulatory database report included in **Appendix E** and listings are summarized in **Table 5.3.1-1** below**.**

Table 5.3.1-1 Federal and State/Tribal Databases Summary				
Site Name		Address	Database(s)	Distance/Direction
1	Cee Ja	Vonnahmen Road	SSU	0.83-miles northwest

Cee Ja

The Cee Ja listing is mapped approximately 0.83-miles northwest of the Subject Property. The facility is listed in the State Sites Unit Listing (SSU) database that documents the status of all sites under the responsibility of the Illinois EPA's (IEPA) State Sites Unit. According to the IEPA database, the Cee Ja facility is registered as a landfill. The Right-To-Know Evaluation created in November of 2006 for the facility states that there has been no evidence of contaminated soils or groundwater migrating off-site, spills or releases, or other criteria that would warrant further evaluation. Based on evidence that contamination, if any exists, is contained to the facility property parcel and the distance from the Subject Property, this facility is not considered a REC for the Subject Property.

5.3.2 Orphan Sites

No orphan records were identified in proximity to the Subject Property. Additional information on orphan records is available in the EDR Radius Report in **Appendix E**.

5.4 OTHER ENVIRONMENTAL RECORDS

Kimley-Horn reviewed information from the following agencies:

- U.S. EPA's Enforcement & Compliance History Online (ECHO)
- U.S. EPA's NEPAssist Database
- National Pipeline Mapping System (NPMS) Public Viewer
- Illinois Environmental Protection Agency (IEPA) LUST database
- ISGS Illinois Oil and Gas Resources Map (ILOIL)
- ISGS Illinois Water and Related Wells Map (ILWATER)
- USGS National Water Information System Database (NWIS)
- ISGS Coal Mines in Illinois (ILMINES)

Kimley-Horn reviewed the U.S. EPA's ECHO and NEPAssist databases for records of regulated facilities on and surrounding the Subject Property. There were no regulated facilities with significant violations mapped within the vicinity of the Subject Property.

Kimley-Horn reviewed the NPMS public viewer to determine if any gas transmission or hazardous liquid pipelines are present on or in the vicinity of the Subject Property. No gas or hazardous liquid pipelines are mapped within 0.25 miles of the Subject Property. Pipeline markers were observed on the Subject Property; the pipeline markers indicated the presence of a natural gas pipeline operated by Ameren Illinois. Kimley-Horn contacted Ameren Illinois for additional information on the contents and location of the pipeline(s). Ameren confirmed there are active high-pressure gas mains present in the area. The User provided information related to the pipeline. According to the User's records, the pipeline does not intersect the Subject Property, see **Appendix C**.

Kimley-Horn reviewed the IEPA LUST database for records of LUSTs on or in the vicinity of the Subject Property. No LUSTs were identified within 0.5 miles of the Subject Property.

Kimley-Horn reviewed the ISGS ILOIL map viewer for records of oil and gas resources on or in the vicinity of the Subject Property. The ISGS ILOIL map viewer did not identify any resources on or in the vicinity of the Subject Property.

Kimley-Horn reviewed the ISGS ILWATER map viewer and the USGS NWIS database for records of wells or well construction permit (WCP) wells on the Subject Property. Review of the available documentation did not identify any wells on the Subject Property.

Kimley-Horn reviewed the ISGS ILMINES map viewer for records of mining operations on or in the vicinity of the Subject Property. No surface or underground coal mines were identified on or near the Subject Property.

5.5 VAPOR EVALUATION

The ASTM E 1527-21 document standardizes the terms release and migration consistent with those used in CERCLA and AAI. As such, potentially harmful vapors must be evaluated during the completion of a Phase I ESA.

Kimley-Horn performed a Tier 1 Vapor Encroachment Screening (VES) in accordance with E2600-22 *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions* (2022) with the purpose of identifying if a Vapor Encroachment Condition (VEC) exists in association with the Subject Property. A VEC is defined as the presence or likely presence of contaminants of concern (COC) vapors in the subsurface of the Subject Property caused by a release of hazardous substances and/or petroleum compounds into soil and groundwater. Current and historical uses were evaluated within the Area of Concern (AOC) during the completion of the Tier 1 VES. As indicated in ASTM 2600-22, the radial distance of the AOC for non-petroleum hydrocarbon COCs (i.e., chlorinated VOCs) is 1/3-mile (1,760 feet) and 1/10 mile (528 feet) for petroleum hydrocarbons.

According to the reasonably ascertainable information reviewed during this screening process, Kimley-Horn has determined that a VEC is not likely to exist at this time. The Tier I VES does not include vapor intrusion and/or indoor air quality considerations associated with existing and/or proposed structures. No vapor sampling was conducted in association with this VES and the Subject Property.

5.6 PROPERTY APPRAISER INFORMATION

According to Madison County records, the 27-acre Subject Property is identified as parcels 20-1-02-33-00-000-010 and 20-1-02-33-04-401-009 owned by Fosterburg 255, LLC.

5.7 PRIOR REPORTS

No prior reports in association with the Subject Property were identified by Kimley-Horn.

6.0 INTERVIEWS

The objective of completing interviews with knowledgeable Subject Property contacts is to obtain information about the uses and physical characteristics of the property. The following individuals were interviewed regarding the current and historical use of the Subject Property.

6.1 LANDOWNER, KEY SITE MANAGER, AND/OR OCCUPANT INTERVIEWS

The Subject Property is owned by Fosterburg 255, LLC. The landowner was asked to identify a key site manager (KSM), which is an individual with good knowledge of the use and physical characteristics of the Subject Property. As the owner, Rodney Thomas was identified as the KSM. Rodney Thomas completed a landowner questionnaire on May 12, 2026, to document their knowledge of the Subject Property. Mr. Thomas indicated the Subject Property has been used for agricultural purposes since at least 2006. Mr. Thomas indicated he was not aware of any pending, threatened, or past environmental litigation, notices of possible violations of environmental laws, notices of possible liability, or noticies of potential environmental concerns. RECs were not identified during the landowner interview. The completed landowner questionnaire is provided in **Appendix G**.

6.2 STATE AND/OR LOCAL AGENCY INQUIRES

Kimley-Horn submitted a FOIA records request to the Madison County Health Department, EMA, and Fire Department for information regarding the Subject Property. The Madison County EMA did not identify any documents related to emergency responses, hazardous material spills, or other environmental contamination concerns related to the Subject Property, see **Appendix G**.

As of the date of this report, responses from the Madison County Health Department and Fire Department have not been received. If a response is obtained, which changes the findings of this report, an addendum will be issued.

7.0 FINDINGS AND OPINIONS

During this Phase I ESA, historical documentation associated with the past use of the Subject Property was reviewed. Additionally, the current use of the Subject Property was observed during site reconnaissance. The presence or past presence of hazardous materials or petroleum substances in, on, or at the Subject Property either in storage or due to a release were not identified during this Phase I ESA. It is the opinion of the Environmental Professional (EP) that evidence of RECs, CRECs, HRECs, or significant data gaps does not exist on the Subject Property. A BER does exist for the Subject Property.

Kimley-Horn identified one BER in association with the Subject Property:

- Areas of the Subject Property have been used for agricultural purposes in recent years. This land use presumably includes the legal and common application of herbicides, fertilizers, and/or pesticides for field management. The legal application of these compounds over time can result in localized impacts to soil and/or groundwater. There was no evidence observed during site reconnaissance to indicate that these compounds had been improperly applied to the Subject Property. Based on the historical land use, the potential for agrichemicals to be present in the soil and groundwater is considered to represent a BER for the Subject Property.

8.0 CONCLUSIONS

Kimley-Horn has performed a Phase I Environmental Site Assessment (ESA) in conformance with the scope and limitations of ASTM Practice E1527-21 for the approximately 27-acre property (Parcel ID Numbers 20-1-02-33-00-000-010 and 20-1-02-33-04-401-009) located along Harris Lane in Foster Township, Madison County, Illinois. Any exceptions to, or deletions from, this practice are described in **Section 2.5** of this report. This assessment has revealed no RECs, CRECs, HRECs, or significant data gaps in connection with the Subject Property.

Kimley-Horn identified one BER in association with the Subject Property:

- The use and application of herbicides and pesticides on the Subject Property associated with the current and former agricultural operations.

9.0 DECLARATION

9.1 STATEMENT OF COMPLIANCE

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312 and have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Subject Property. I have developed and performed all appropriate inquires in conformance with the standards and practices set forth in 40 CFR Part 312. Environmental Professional resume(s) are included in **Appendix H**.

Rose Kirch
Environmental Analyst

Adynn Stedillie
Environmental Analyst

Jason Hartshorn
Environmental Professional

10.0 REFERENCES

American Society for Testing and Materials. 2021. ASTM 1527-21 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

American Society for Testing and Materials. 2022. ASTM E2600-22 Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions.

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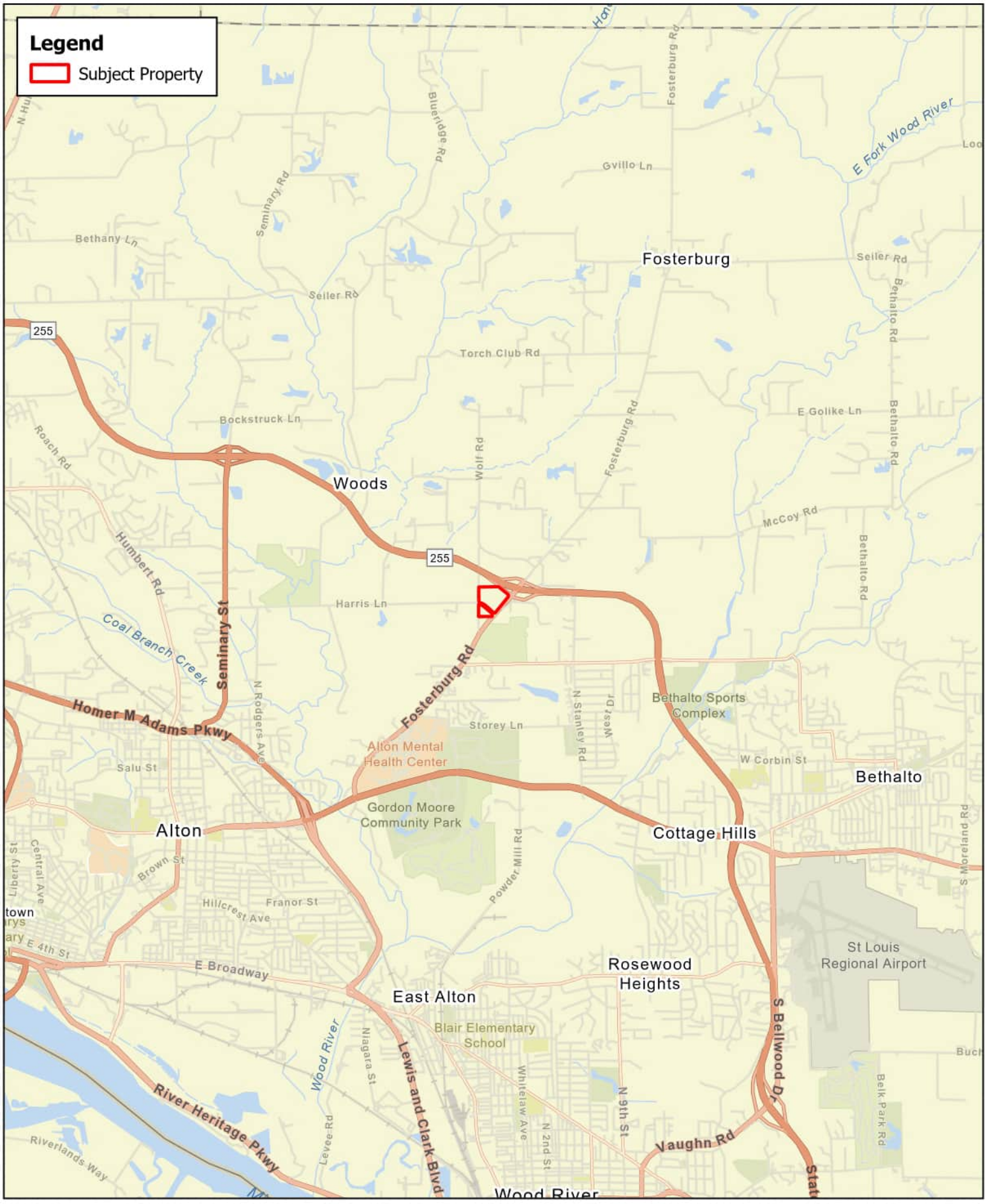
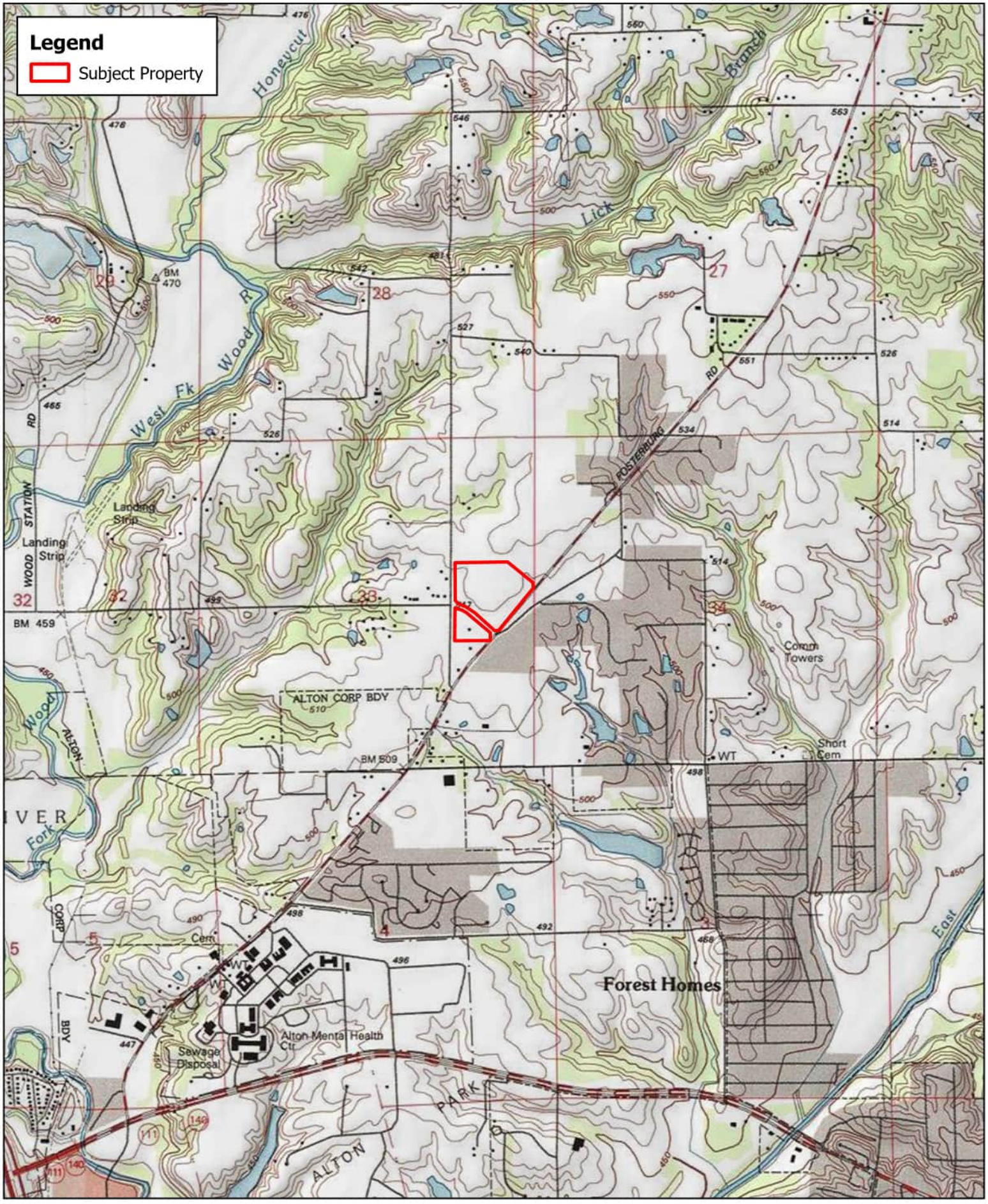
Appendix A



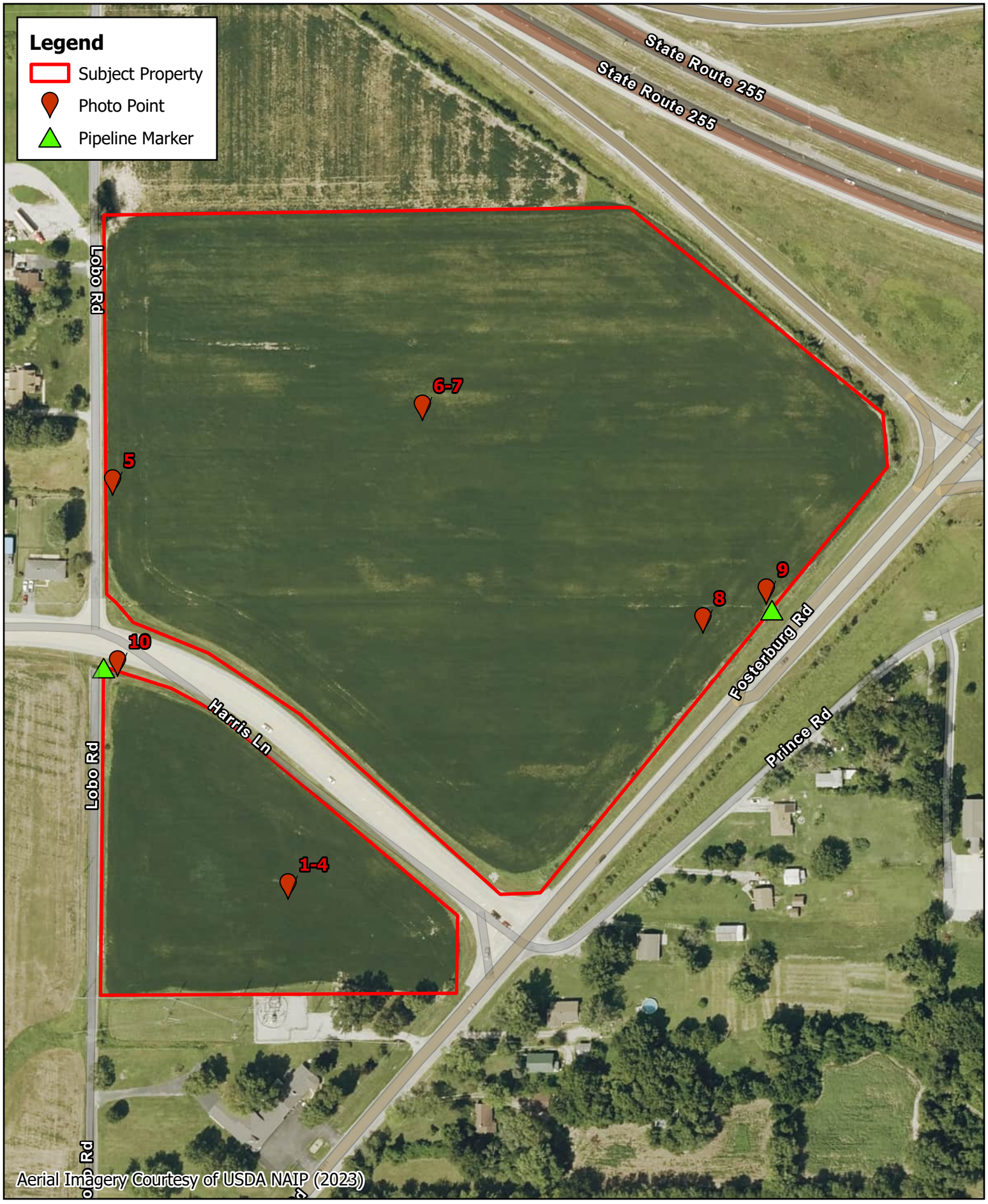
Kimley»Horn

Figure 1. Project Location
Foster Township, Madison County
Arena Renewables, LLC



Kimley»Horn

Figure 2. USGS Topographic Map
Foster Township, Madison County
Arena Renewables, LLC



Kimley»Horn

0 100 200 Feet

N

Figure 3. Site Reconnaissance
Foster Township, Madison County
Arena Renewables, LLC

Appendix B



Photo 1: Overview of the Subject Property facing north.



Photo 2: Overview of the Subject Property facing west.



Photo 3: Overview of the Subject Property facing east.



Photo 4: Overview of the Subject Property facing south.



Photo 5: Overview of the Subject Property facing east.



Photo 6: Overview of the Subject Property facing north.



Photo 7: Overview of the Subject Property facing south.



Photo 8: View of overhead electrical lines on Subject Property boundary.



Photo 9: View of pipeline marker on Subject Property.



Photo 10: View of damaged pipeline marker.

Appendix C

USER QUESTIONNAIRE

Subject Property/Project Name:	Arena Navigator 1 Solar
Subject Property Address/Tax Parcel #:	20-1-02-33-00-000-010 AND 20-1-02-33-04-401-009
User Name (Company Name, LLC, Inc, etc.):	Arena Navigator 1 Solar, LLC
User Contact Information (phone/email):	Sam Walch, swalch@arenarenew.com, 8604660489
Reason for performing the Phase I ESA (i.e., sale/purchase/exchange, etc.) **Anticipated Transaction Date:**	development dilligence
Any previous environmental studies, reports or documentation provided (yes/no): **Please Attach**	no
Signature of User:	Sam Walch Digitally signed by Sam Walch Date: 2026.04.29 10:28:15 -05'00'
Date:	4/29/26

To qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"), the user must conduct the following inquiries required by 40 C.F.R. §§ 312.25, 312.28, 312.29, 312.30,and 312.31.

Please provide an answer to each question or attach pertinent information and identify a number for each attachment.

1. **Environmental liens that are filed or recorded against the subject property (40 CFR 312.25).** Did a search of land title records (or judicial records where appropriate, see Note 1 below) identify any environmental liens filed or recorded against the subject property under federal, tribal, state, or local law?

   NOTE 1—In certain jurisdictions, federal, tribal, state, or local statutes, or regulations specify that environmental liens and AULs be filed in judicial records rather than in land title records. In such cases judicial records shall be searched for environmental liens and AULs.

(●) No ( ) Yes (Describe or attach information)

_____

_____

USER QUESTIONNAIRE

2. **Activity and use limitations that are in place on the subject property or that have been filed or recorded against the subject property.**
   Did a search of land title records (or judicial records where appropriate, see Note 1 above) identify any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the subject property and/or have been filed or recorded against the subject property under federal, tribal, state or local law?

   ◉ No ○ Yes (Describe or attach information)

   _____

   _____

3. **Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).**
   Do you have any specialized knowledge or experience related to the subject property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the subject property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

   ◉ No ○ Yes (Describe or attach information)

   _____

   _____

4. **Relationship of the purchase price to the fair market value of the subject property if it were not contaminated (40 CFR 312.29).**
   a. Does the purchase price being paid for this subject property reasonably reflect the fair market value of the property?

   ○ No ◉ Yes (Describe or attach information)

   _____

   _____

   b. If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?

   ◉ No ○ Yes (Describe or attach information)

   _____

   _____

5. **Commonly known or reasonably ascertainable information about the subject property (40 CFR 312.30).**
   Are you aware of commonly known or reasonably ascertainable information about the subject property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example,

USER QUESTIONNAIRE

a. Do you know the past uses of the subject property?

○ No ◉ Yes (Describe or attach information)

Ag - row crop, pasture, open space

b. Do you know of specific chemicals that are present or once were present at the subject property?

◉ No ○ Yes (Describe or attach information)

c. Do you know of spills or other chemical releases that have taken place at the subject property?

◉ No ○ Yes (Describe or attach information)

d. Do you know of any environmental cleanups that have taken place at the subject property?

◉ No ○ Yes (Describe or attach information)

6. The degree of obviousness of the presence or likely presence of contamination at the subject property, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).

Based on your knowledge and experience related to the subject property are there any obvious indicators that point to the presence or likely presence of releases at the subject property?

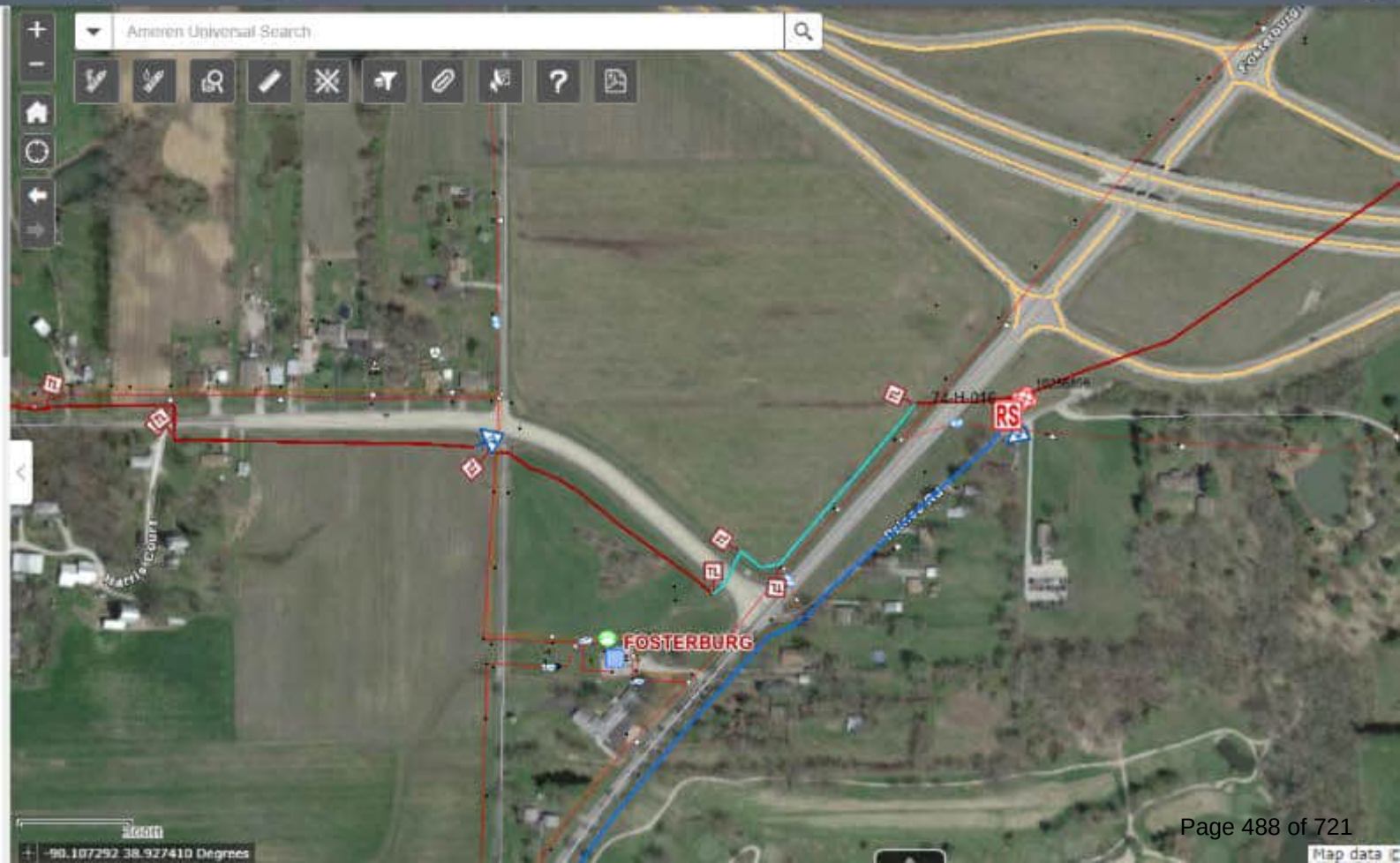
◉ No ○ Yes (Describe or attach information)

(1 of 1) Clear

Zoom to ...

Transmission Main FID: 51135427
Open Maximo
IL Records Vault Lookup

Facility ID	51135427
Maximo Asset Number	2410061
Installation Date	10/5/2010, 1:00 AM
Nominal Diameter	4"
Material	Coated Steel
Wall Thickness	0.188
Pipe Grade	52000
Manufacturer	Unknown
Seam Type	Seamless Electric Resistance Welded
Coating Type	Fbe
Standard Dimension Ratio	N/A
Polyethylene Type	
Joint Type	Welded
Insert Size	N/A (INACTIVE)
Insert Material	N/A
Design Class	CLASS 1
Measured Length	844.00
CP Type Code	None
CP System Name	15036
SMYS	52000.00
Leak Survey	541F003



Appendix D

Arena Navigator 1 Solar, LLC

Harris Lane

Alton, IL 62002

Inquiry Number: 8327275.3

April 28, 2026

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

04/28/26

Site Name:

Arena Navigator 1 Solar, LLC
Harris Lane
Alton, IL 62002
EDR Inquiry # 8327275.3

Client Name:

Kimley Horn & Associates, Inc.
323 Broadway Ave S
Rochester, MN 55904
Contact: Adynn Stedillie

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Certified Sanborn Results:

Certification # DC78-451D-9786

PO # 268685038

Project Arena Navigator 1 Solar, LLC

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: DC78-451D-9786

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Arena Navigator 1 Solar, LLC

Harris Lane

Alton, IL 62002

Inquiry Number: 8327275.4

April 28, 2026

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

04/28/26

Site Name:

Arena Navigator 1 Solar, LLC
Harris Lane
Alton, IL 62002
EDR Inquiry # 8327275.4

Client Name:

Kimley Horn & Associates, Inc.
323 Broadway Ave S
Rochester, MN 55904
Contact: Adynn Stedillie

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Kimley Horn & Associates, Inc. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# 268685038
Project: Arena Navigator 1 Solar, LLC

Coordinates:

Latitude:	38.930666 38° 55' 50" North
Longitude:	-90.101746 -90° 6' 6" West
UTM Zone:	Zone 15 North
UTM X Meters:	751232.40
UTM Y Meters:	4313077.29
Elevation:	521.00' above sea level

Maps Provided:

2024	1974
2021	1968
2018	1955
2015	1954
2012	1949
1994, 1996	1934
1993	1927
1979	

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Topo Sheet Key

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2024 Source Sheets



Bethalto
2024
7.5-minute, 24000



Alton
2024
7.5-minute, 24000

2021 Source Sheets



Bethalto
2021
7.5-minute, 24000



Alton
2021
7.5-minute, 24000

2018 Source Sheets



Bethalto
2018
7.5-minute, 24000



Alton
2018
7.5-minute, 24000

2015 Source Sheets



Bethalto
2015
7.5-minute, 24000



Alton
2015
7.5-minute, 24000

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets



Bethalto
2012
7.5-minute, 24000



Alton
2012
7.5-minute, 24000

1994, 1996 Source Sheets



Alton
1994
7.5-minute, 24000
Aerial Photo Revised 1988



Bethalto
1996
7.5-minute, 24000
Aerial Photo Revised 1993

1993 Source Sheets



Bethalto
1993
7.5-minute, 24000
Aerial Photo Revised 1990

1979 Source Sheets

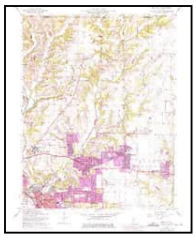


Bethalto
1979
7.5-minute, 24000
Aerial Photo Revised 1974

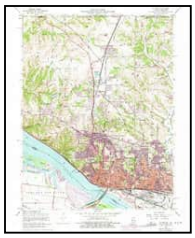
Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1974 Source Sheets



Bethalto
1974
7.5-minute, 24000
Aerial Photo Revised 1974

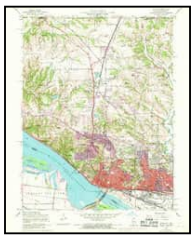


Alton
1974
7.5-minute, 24000
Aerial Photo Revised 1974

1968 Source Sheets

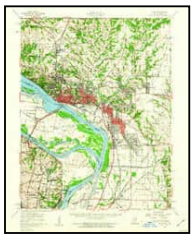


Bethalto
1968
7.5-minute, 24000
Aerial Photo Revised 1968



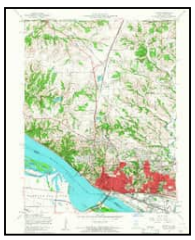
Alton
1968
7.5-minute, 24000
Aerial Photo Revised 1968

1955 Source Sheets

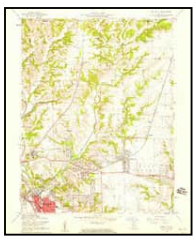


Alton
1955
15-minute, 62500
Aerial Photo Revised 1955

1954 Source Sheets



Alton
1954
7.5-minute, 24000
Aerial Photo Revised 1952

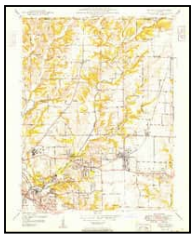


Bethalto
1954
7.5-minute, 24000
Aerial Photo Revised 1952

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1949 Source Sheets



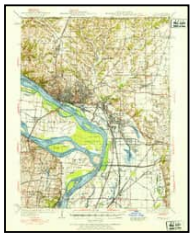
Bethalto
1949
7.5-minute, 24000
Aerial Photo Revised 1946

1934 Source Sheets



Alton
1934
15-minute, 62500

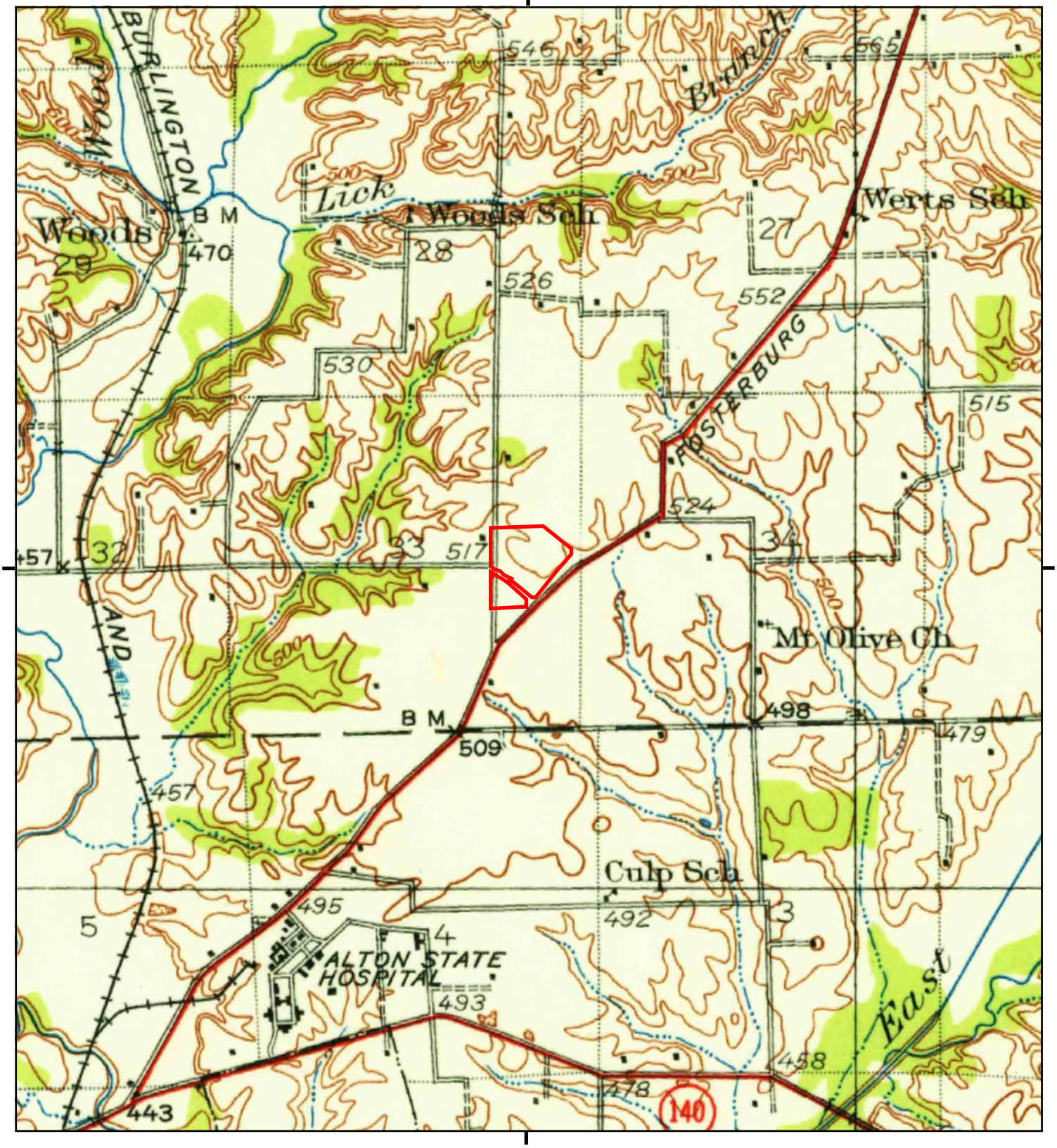
1927 Source Sheets



Alton
1927
15-minute, 62500

Historical Topo Map

1927



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Alton, 1927, 15-minute

SITE NAME: Arena Navigator 1 Solar, LLC
ADDRESS: Harris Lane
Alton, IL 62002
CLIENT: Kimley Horn & Associates, Inc.

N

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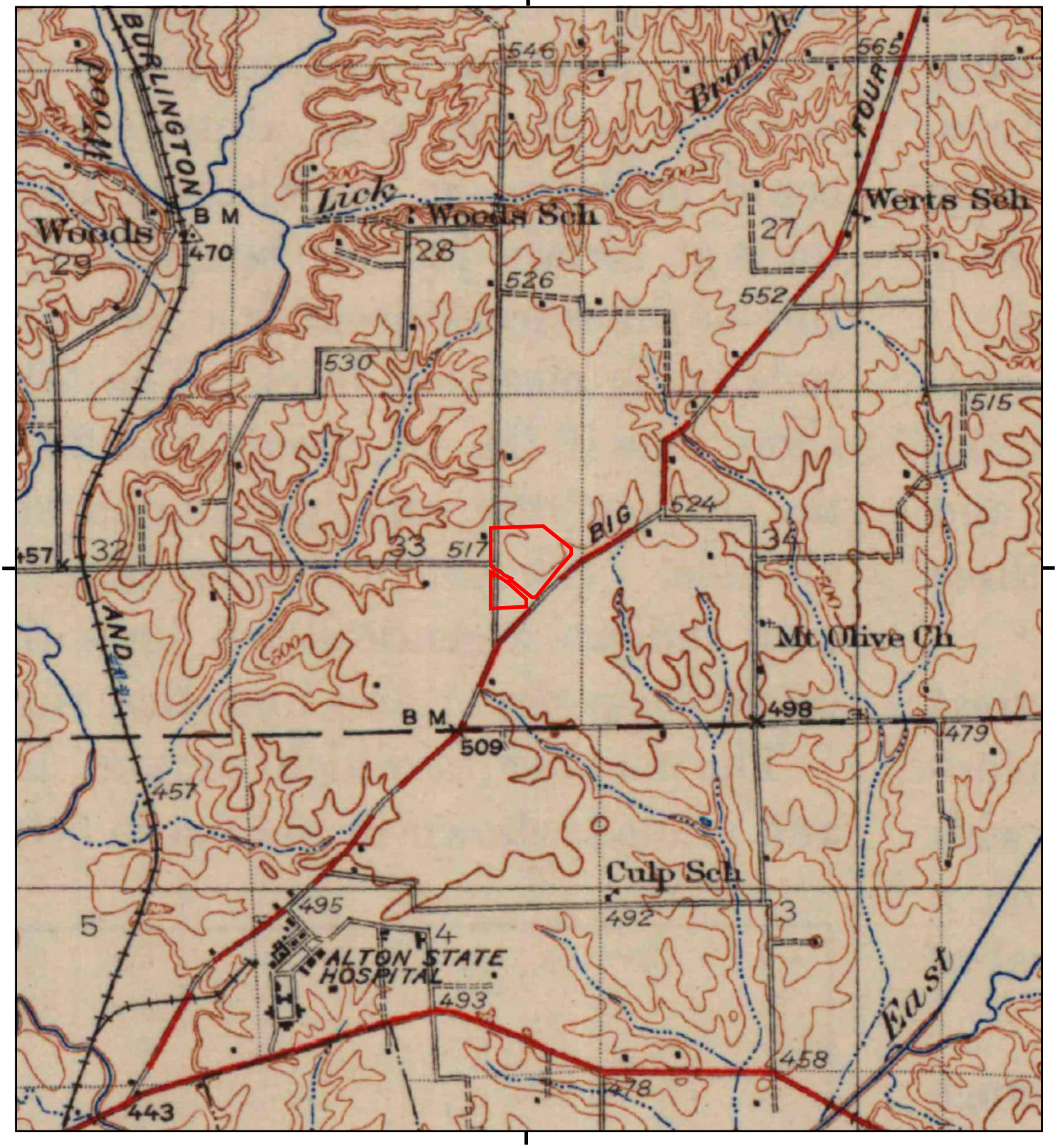
Historical Topo Map

1934



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W E
SW S SE

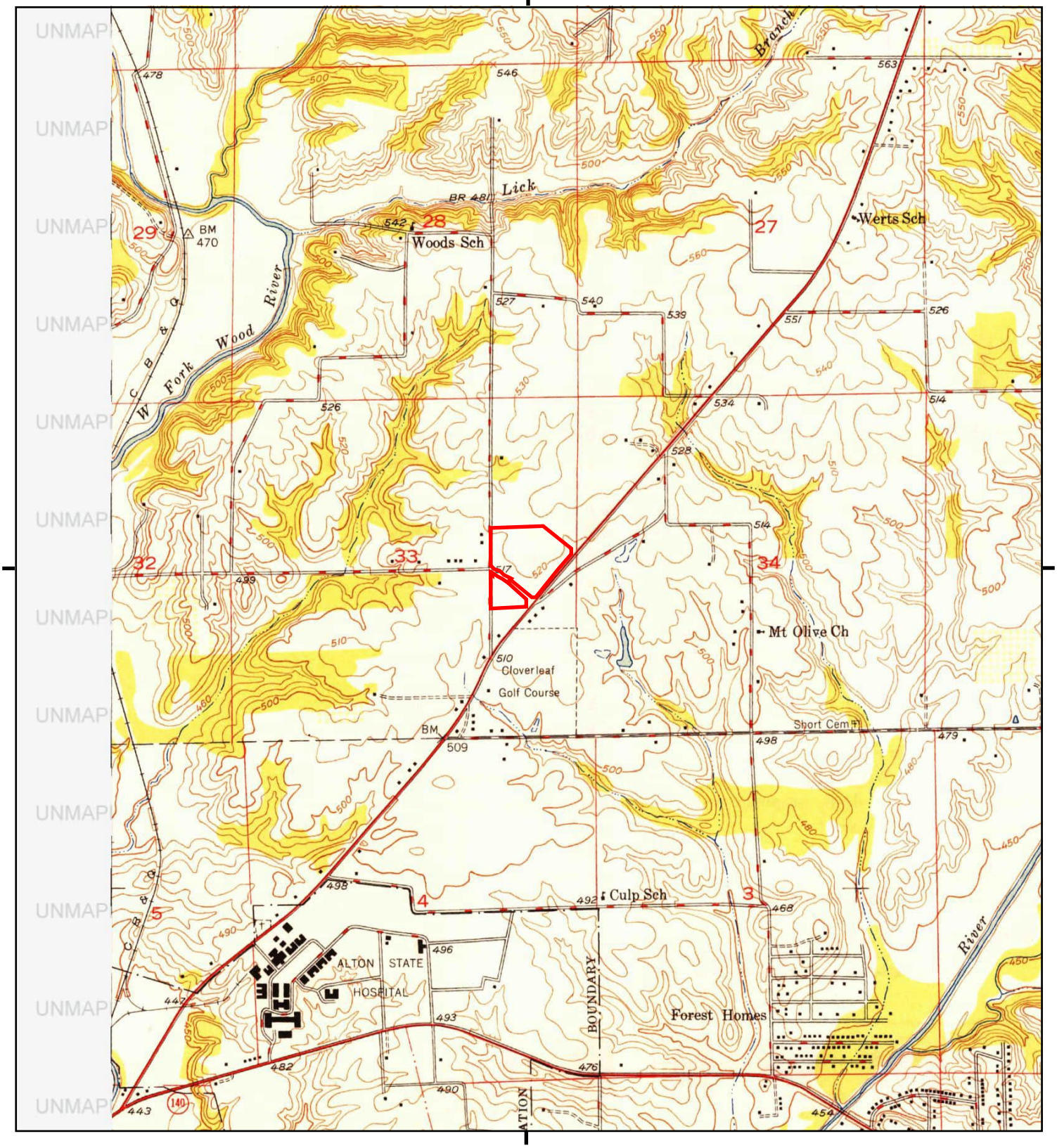
TP, Alton, 1934, 15-minute

SITE NAME: Arena Navigator 1 Solar, LLC
ADDRESS: Harris Lane
Alton, IL 62002
CLIENT: Kimley Horn & Associates, Inc.

N

Historical Topo Map

1949



This report includes information from the following map sheet(s).

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NW N NE
W E
SW S SE

TP, Bethalto, 1949, 7.5-minute

SITE NAME: Arena Navigator 1 Solar, LLC
ADDRESS: Harris Lane
Alton, IL 62002
CLIENT: Kimley Horn & Associates, Inc.

N

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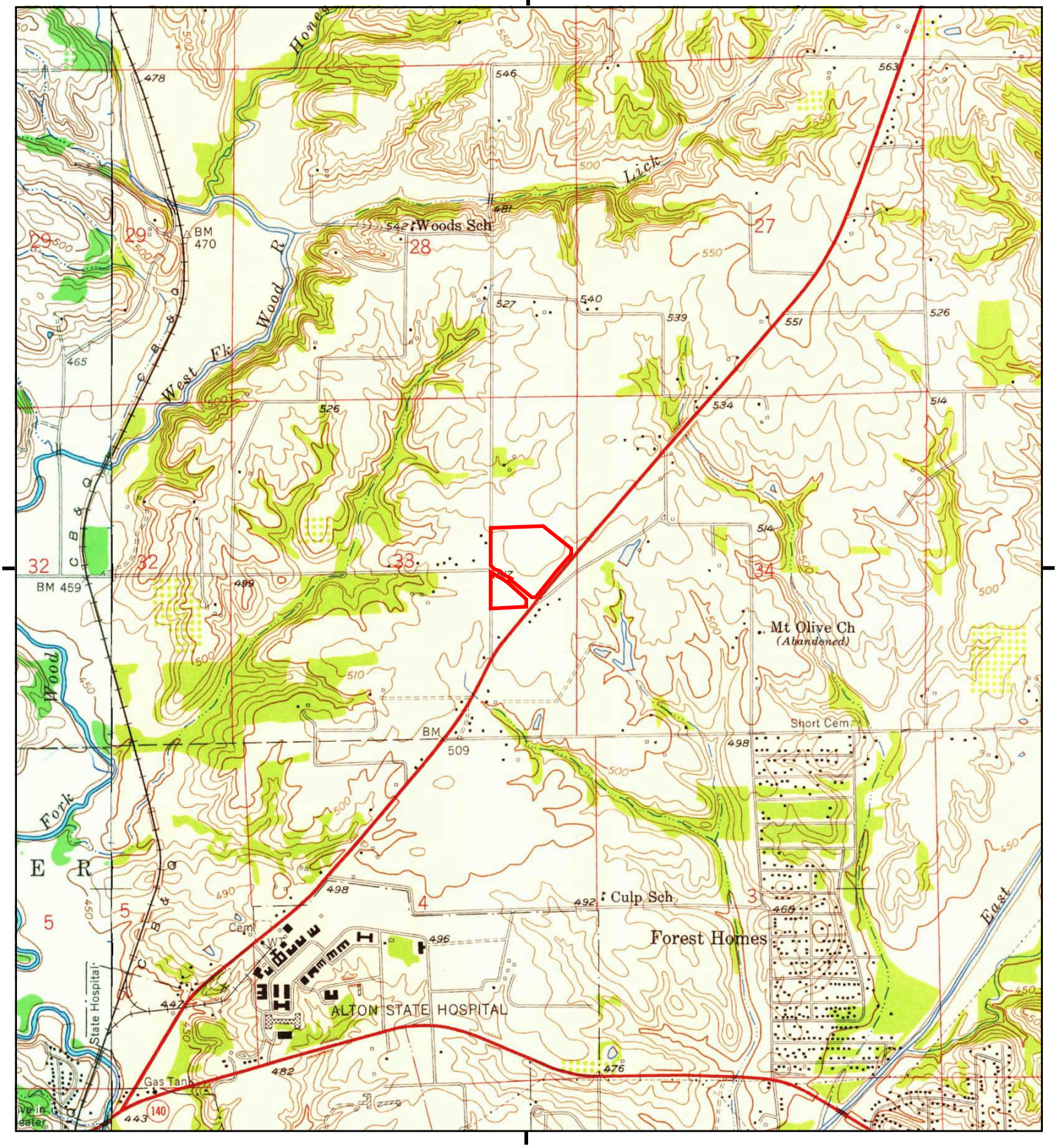

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W E
SW S SE

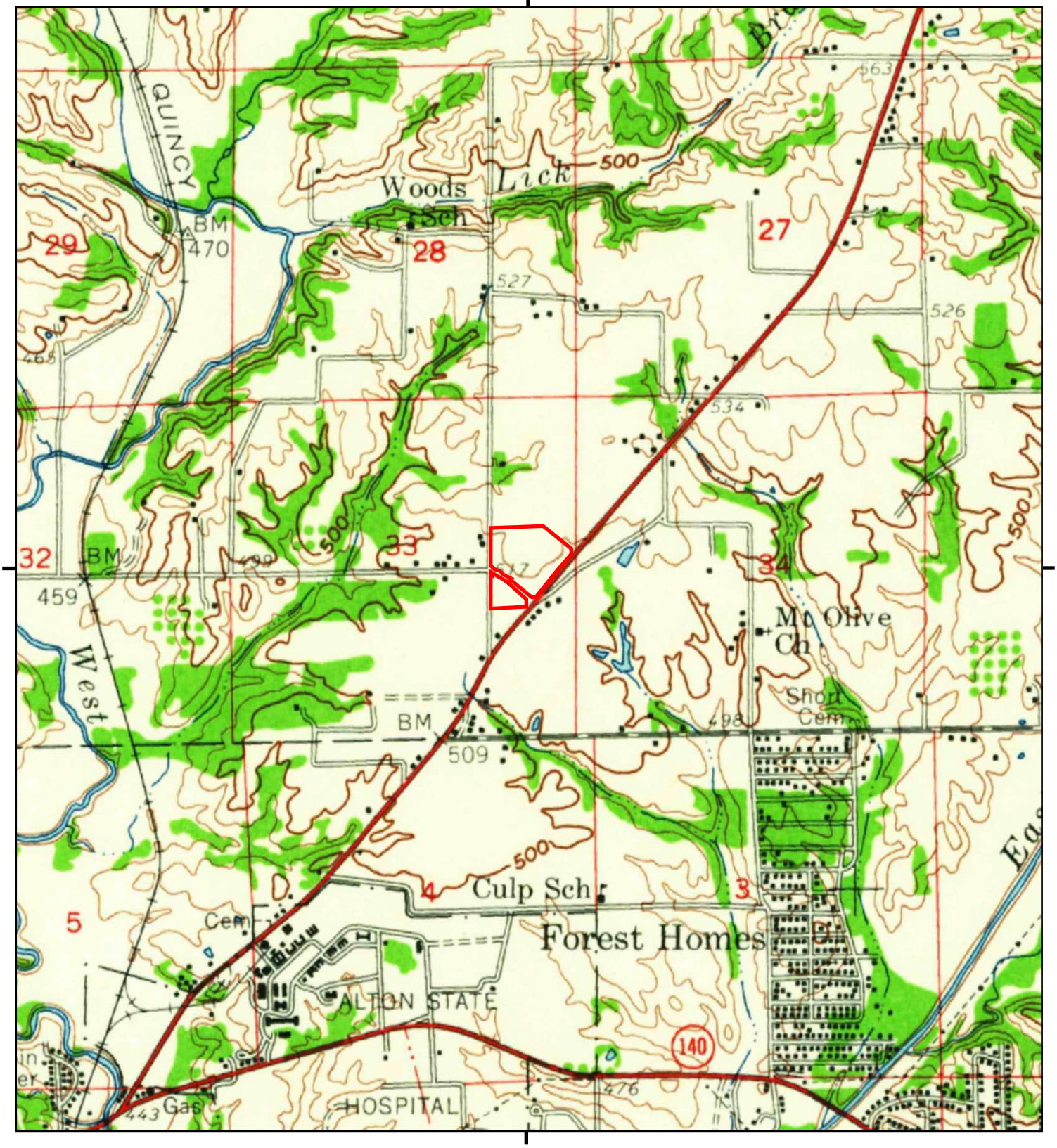
TP, Bethalto, 1954, 7.5-minute
W, Alton, 1954, 7.5-minute

SITE NAME: Arena Navigator 1 Solar, LLC
ADDRESS: Harris Lane
Alton, IL 62002
CLIENT: Kimley Horn & Associates, Inc.

N

Historical Topo Map

1955



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NW N NE
W E
SW S SE

TP, Alton, 1955, 15-minute

SITE NAME: Arena Navigator 1 Solar, LLC
ADDRESS: Harris Lane
Alton, IL 62002
CLIENT: Kimley Horn & Associates, Inc.

N

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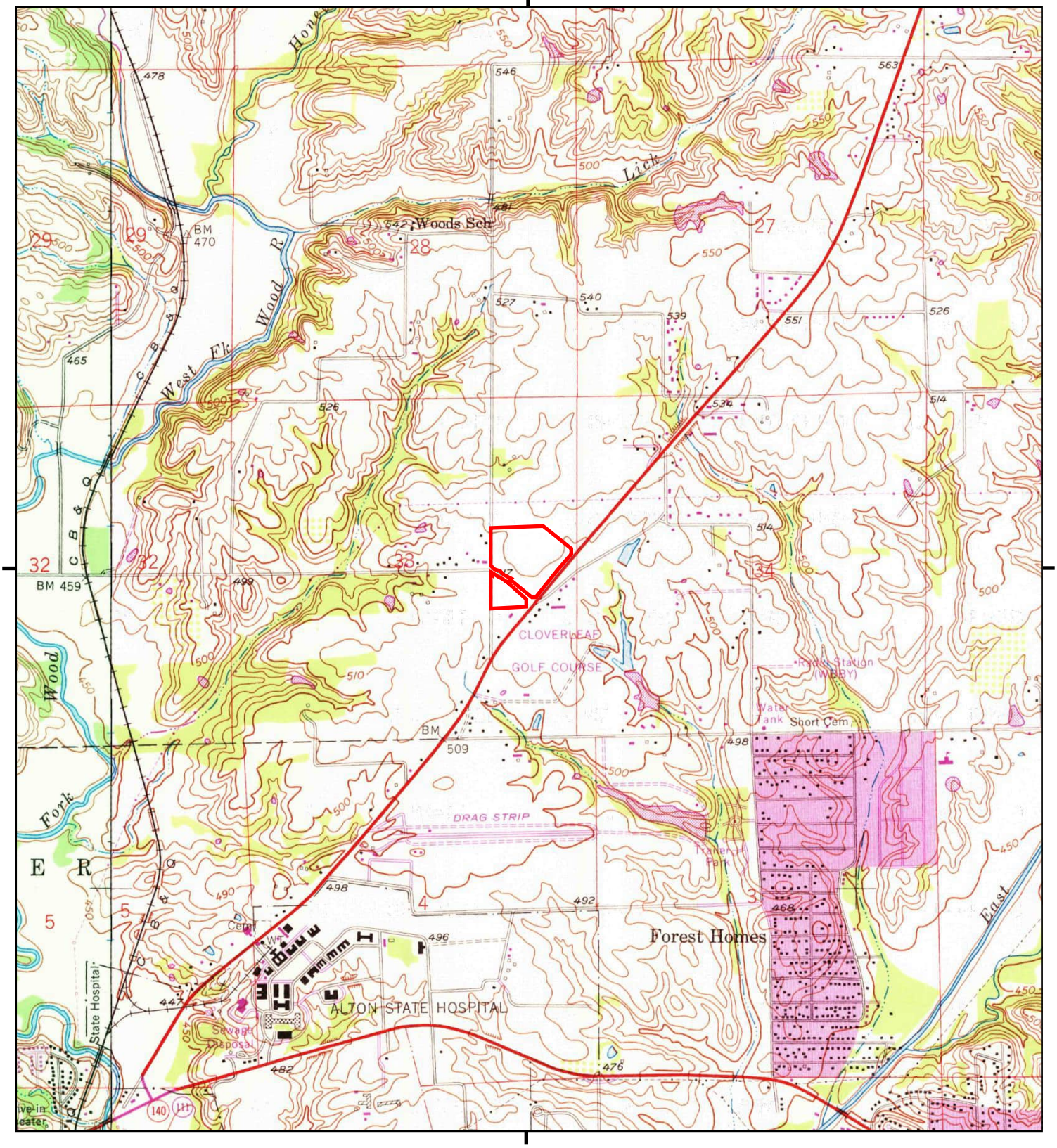

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0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

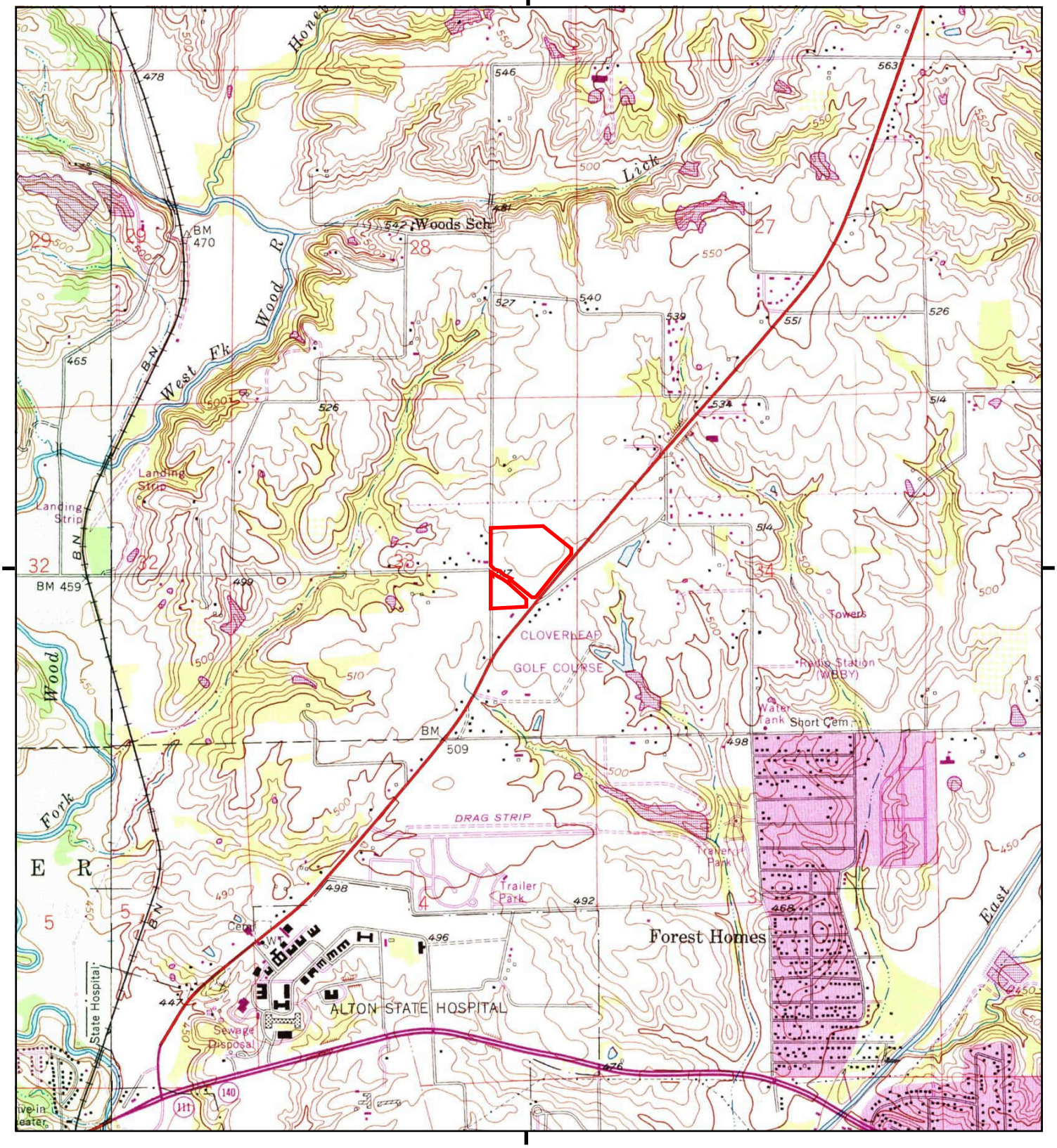
TP, Bethalto, 1968, 7.5-minute
W, Alton, 1968, 7.5-minute

SITE NAME: Arena Navigator 1 Solar, LLC
ADDRESS: Harris Lane
Alton, IL 62002
CLIENT: Kimley Horn & Associates, Inc.

N

Historical Topo Map

1974



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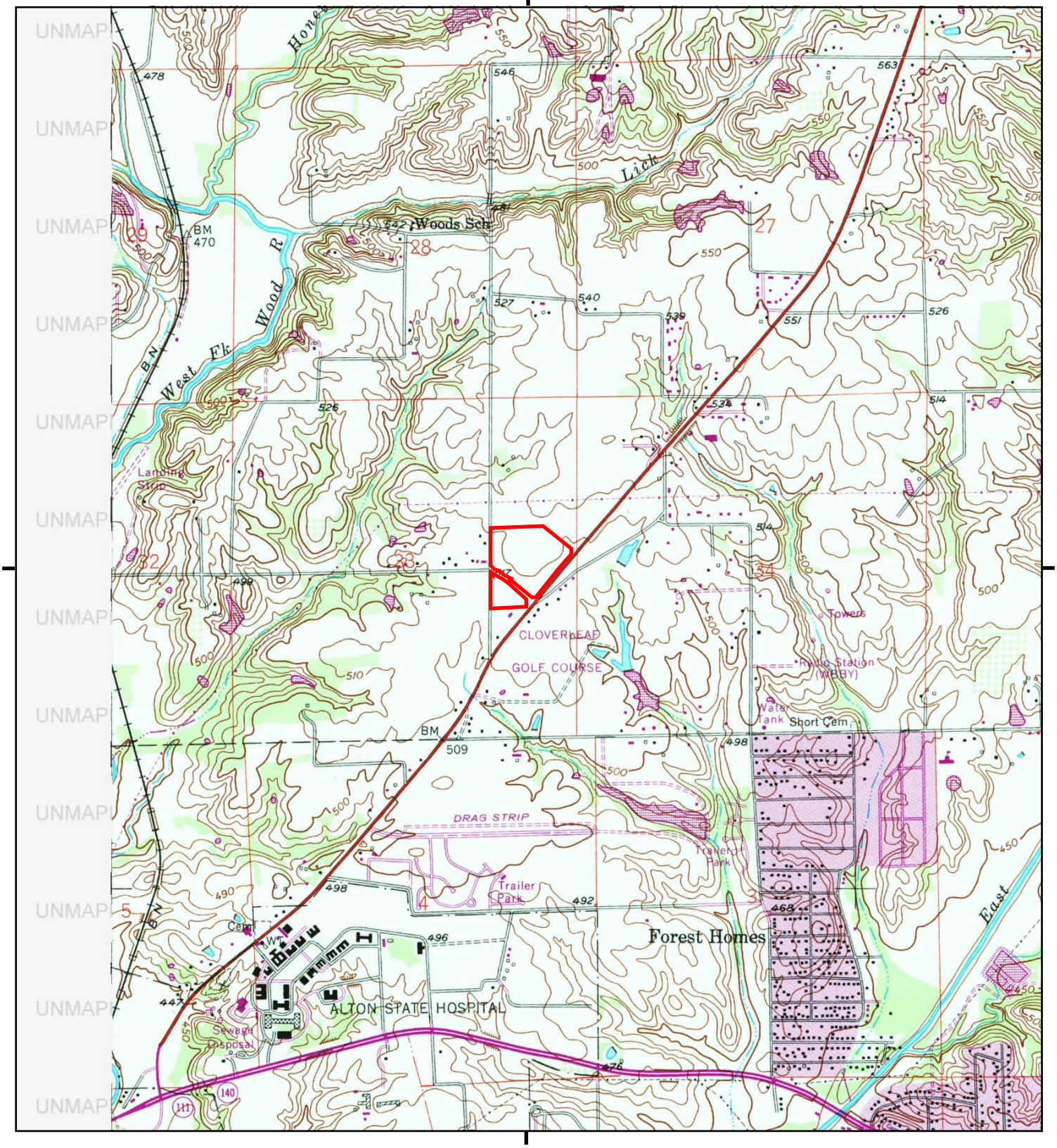
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Bethalto, 1974, 7.5-minute
W, Alton, 1974, 7.5-minute

SITE NAME: Arena Navigator 1 Solar, LLC
ADDRESS: Harris Lane
Alton, IL 62002
CLIENT: Kimley Horn & Associates, Inc.

N



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0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

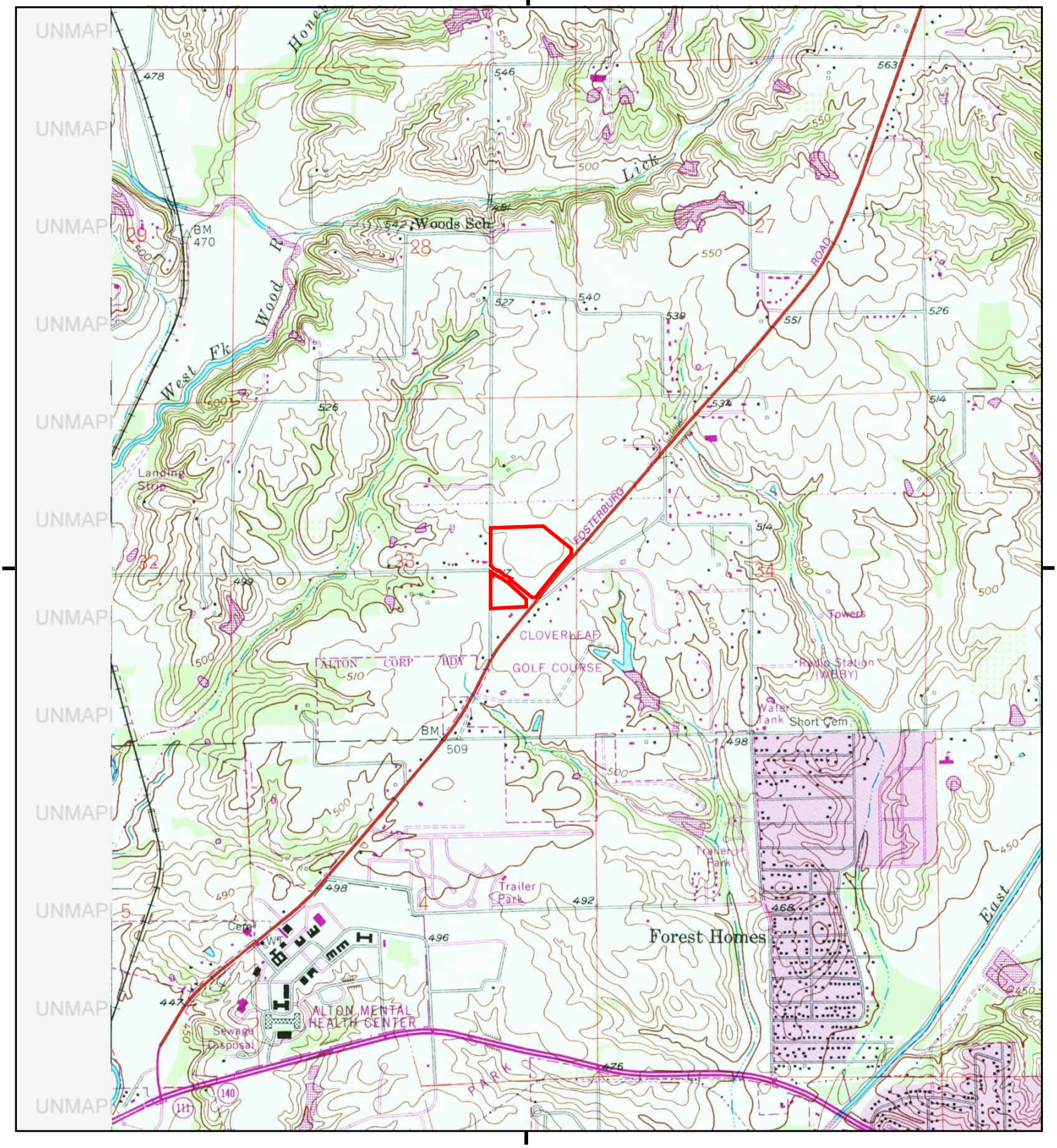
TP, Bethalto, 1979, 7.5-minute

SITE NAME: Arena Navigator 1 Solar, LLC
ADDRESS: Harris Lane
Alton, IL 62002
CLIENT: Kimley Horn & Associates, Inc.

N

Historical Topo Map

1993



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NW N NE
W E
SW S SE

TP, Bethalto, 1993, 7.5-minute

SITE NAME: Arena Navigator 1 Solar, LLC
ADDRESS: Harris Lane
Alton, IL 62002
CLIENT: Kimley Horn & Associates, Inc.

N

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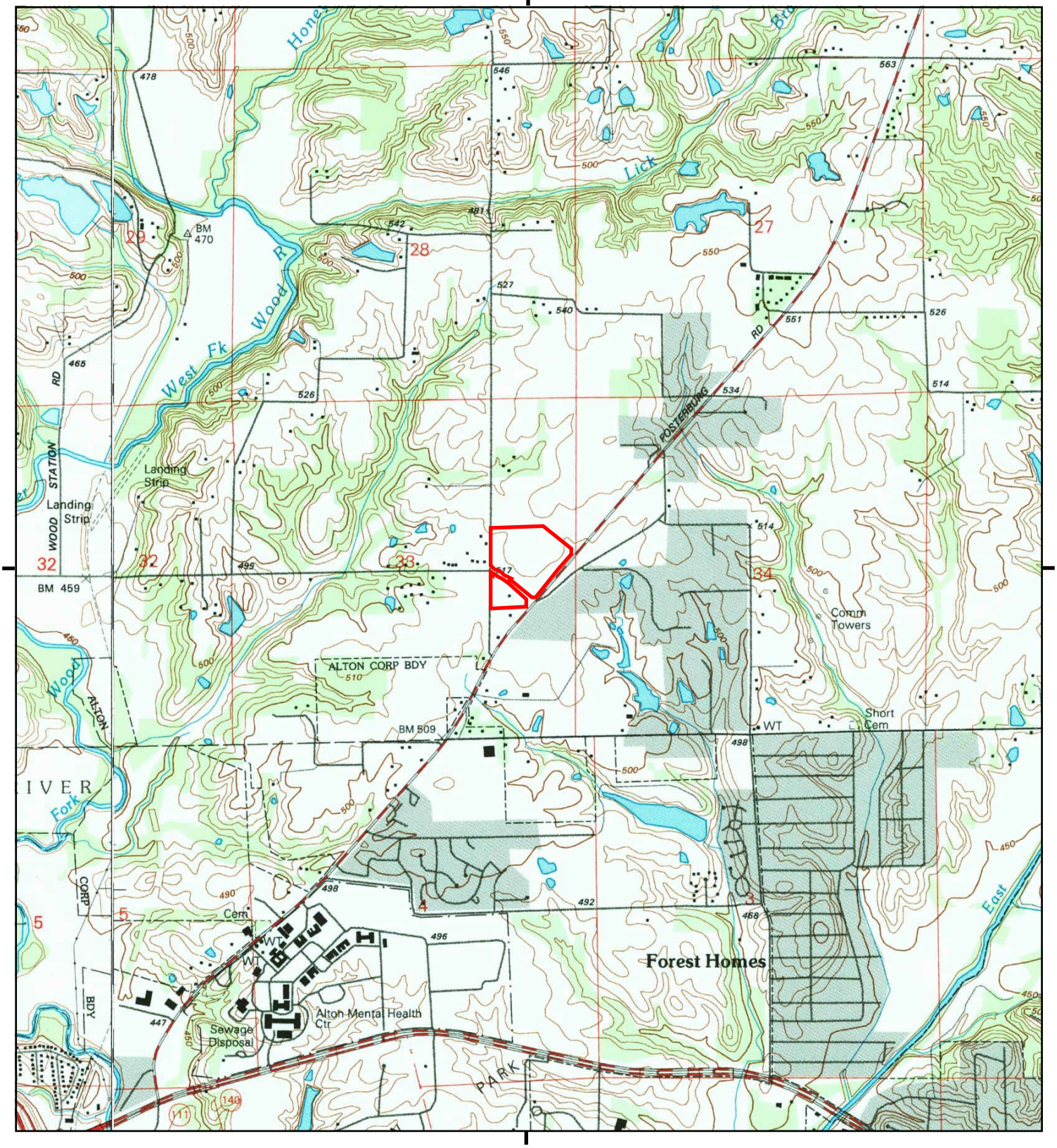
Historical Topo Map

1994, 1996



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NW N NE
W E
SW S SE

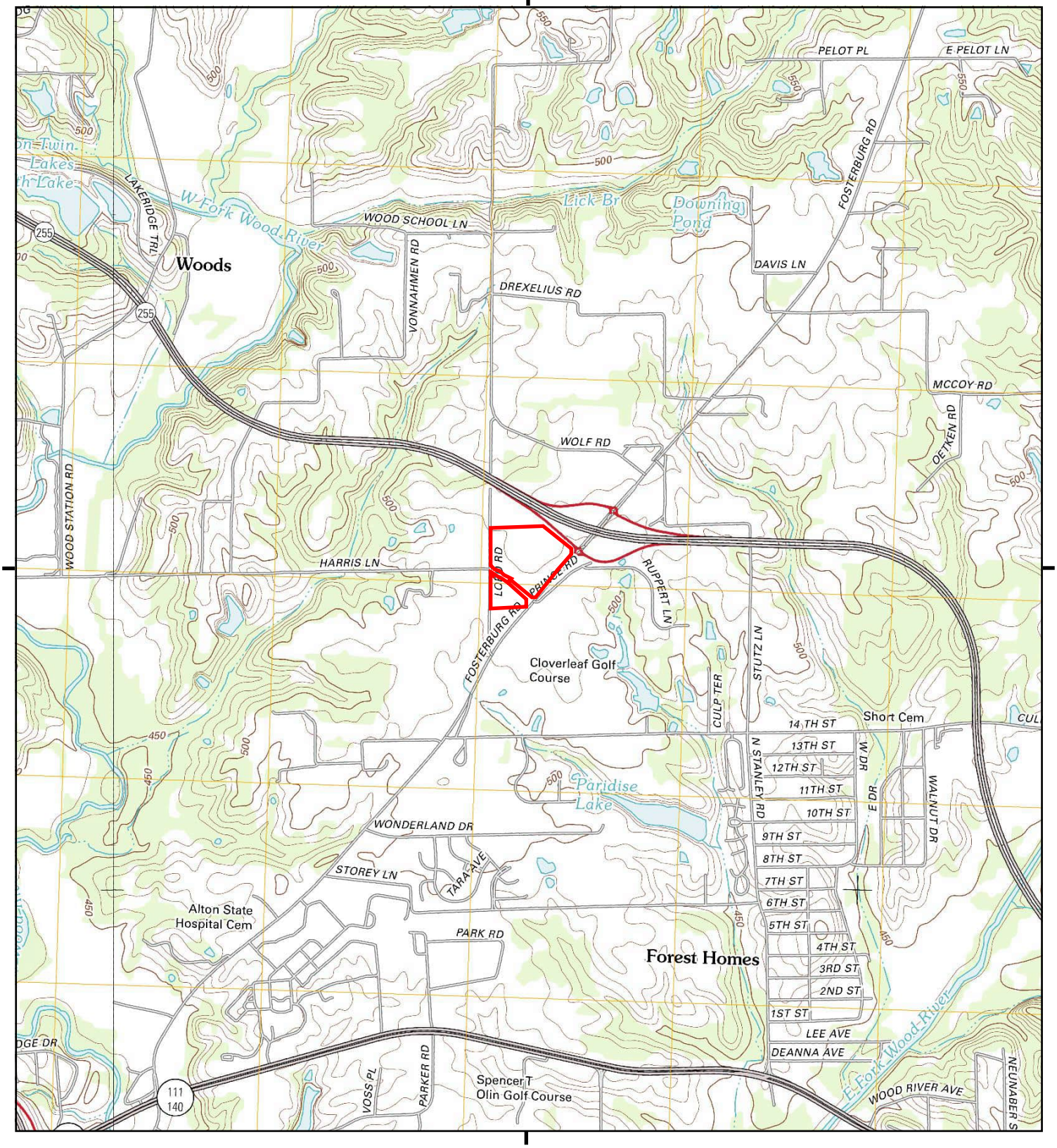
TP, Bethalto, 1996, 7.5-minute
W, Alton, 1994, 7.5-minute

SITE NAME: Arena Navigator 1 Solar, LLC
ADDRESS: Harris Lane
Alton, IL 62002
CLIENT: Kimley Horn & Associates, Inc.

N

Historical Topo Map

2012



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0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

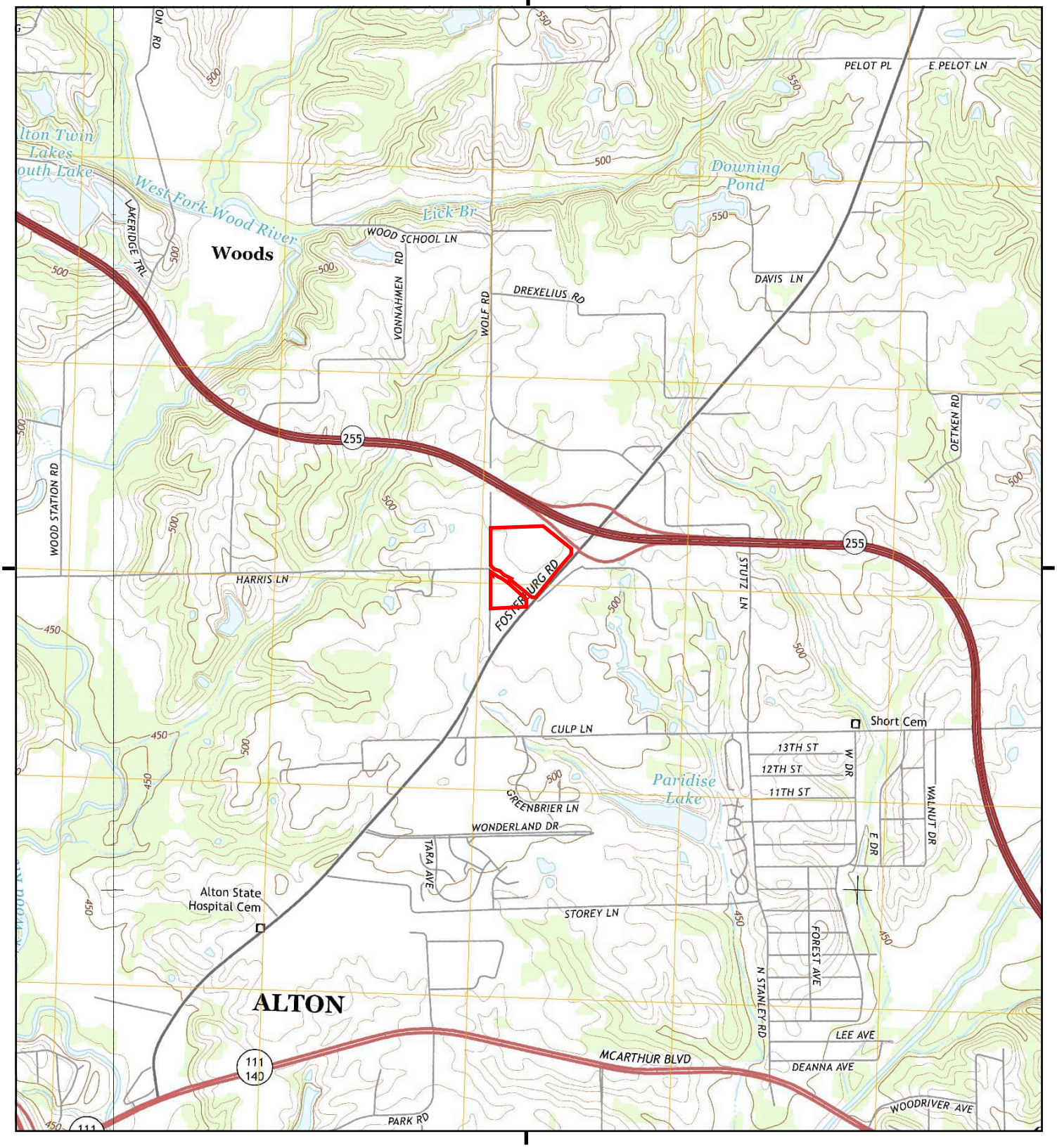
TP, Bethalto, 2012, 7.5-minute
W, Alton, 2012, 7.5-minute

SITE NAME: Arena Navigator 1 Solar, LLC
ADDRESS: Harris Lane
Alton, IL 62002
CLIENT: Kimley Horn & Associates, Inc.

N

Historical Topo Map

2015



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0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

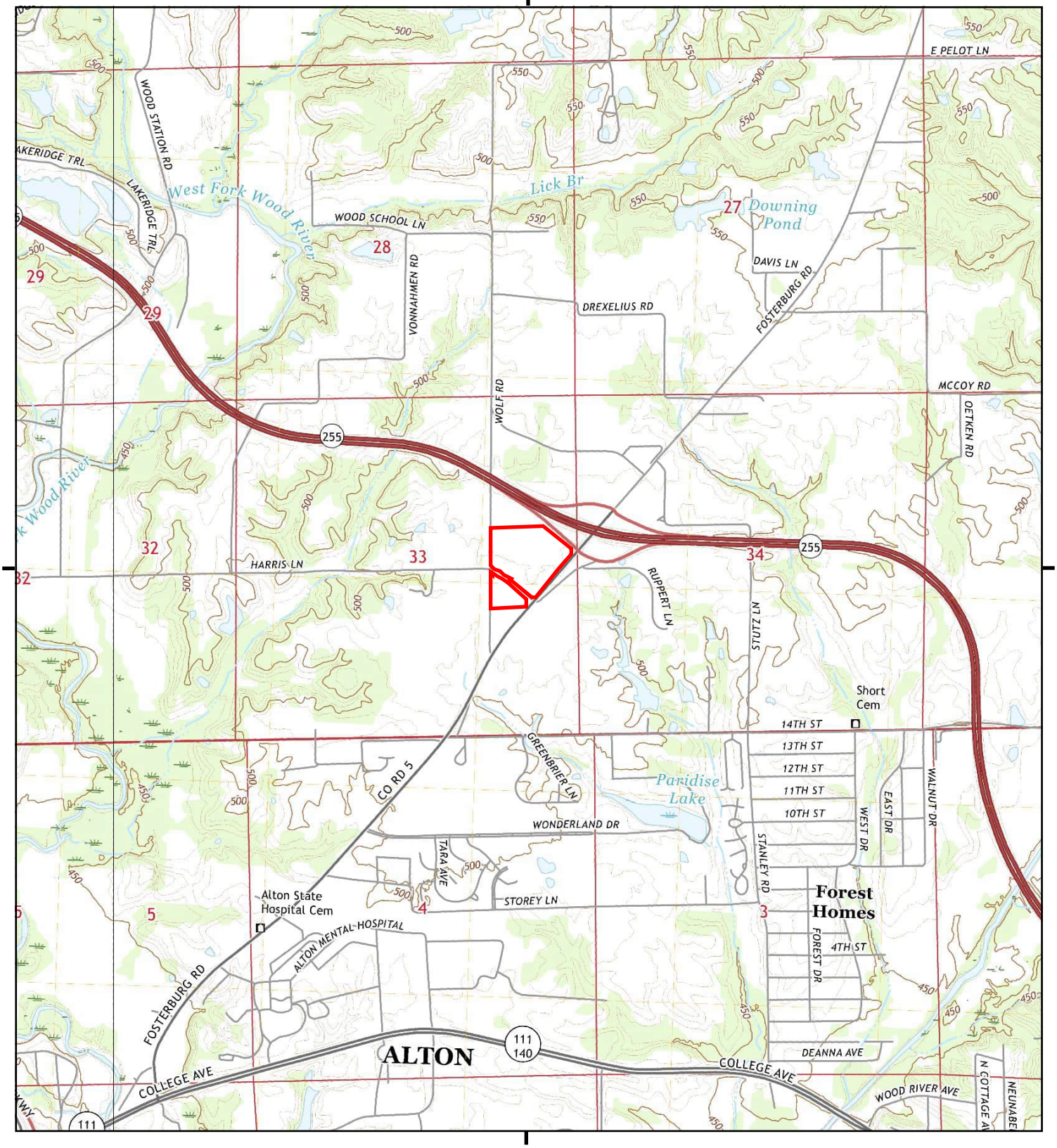
TP, Bethalto, 2015, 7.5-minute
W, Alton, 2015, 7.5-minute

SITE NAME: Arena Navigator 1 Solar, LLC
ADDRESS: Harris Lane
Alton, IL 62002
CLIENT: Kimley Horn & Associates, Inc.

N

Historical Topo Map

2018



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0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

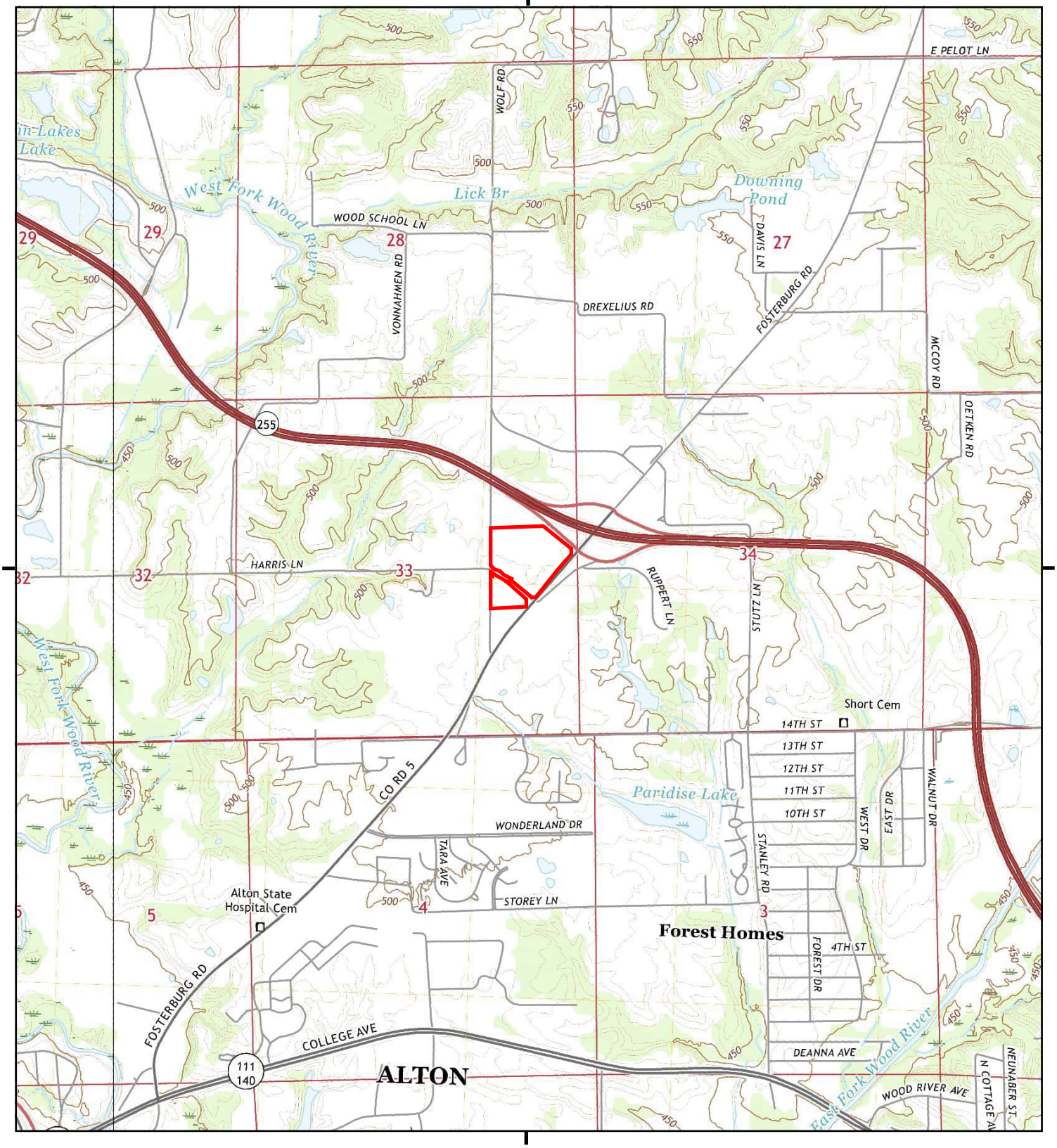
TP, Bethalto, 2018, 7.5-minute
W, Alton, 2018, 7.5-minute

SITE NAME: Arena Navigator 1 Solar, LLC
ADDRESS: Harris Lane
Alton, IL 62002
CLIENT: Kimley Horn & Associates, Inc.

N

Historical Topo Map

2021



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0 Miles 0.25 0.5 1 1.5

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W E
SW S SE

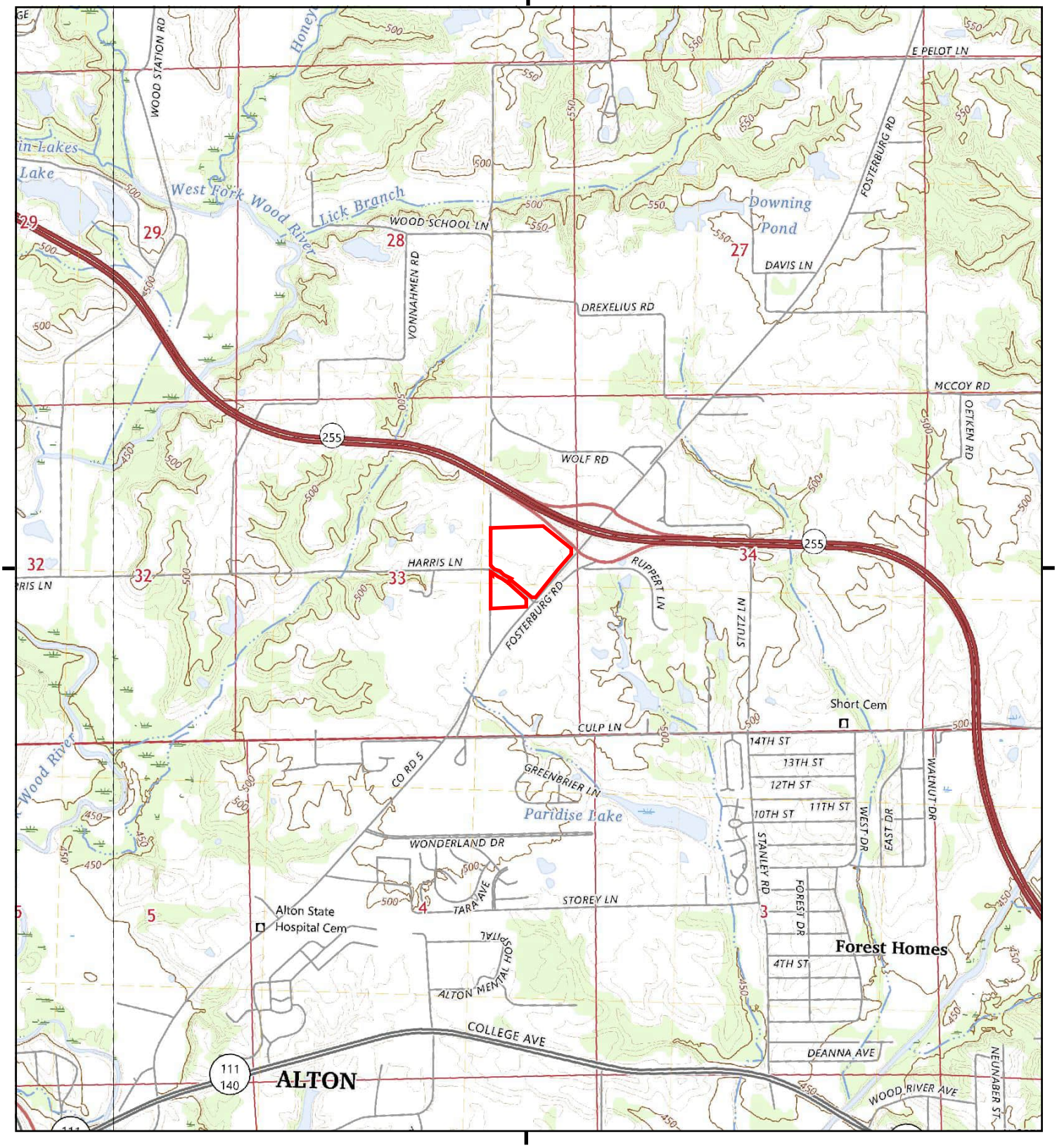
TP, Bethalto, 2021, 7.5-minute
W, Alton, 2021, 7.5-minute

SITE NAME: Arena Navigator 1 Solar, LLC
ADDRESS: Harris Lane
Alton, IL 62002
CLIENT: Kimley Horn & Associates, Inc.

N

Historical Topo Map

2024



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Bethalto, 2024, 7.5-minute
W, Alton, 2024, 7.5-minute

SITE NAME: Arena Navigator 1 Solar, LLC
ADDRESS: Harris Lane
Alton, IL 62002
CLIENT: Kimley Horn & Associates, Inc.

N

Arena Navigator 1 Solar, LLC

Harris Lane

Alton, IL 62002

Inquiry Number: 8327275.8

April 28, 2026

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

04/28/26

Site Name:

Arena Navigator 1 Solar, LLC
Harris Lane
Alton, IL 62002
EDR Inquiry # 8327275.8

Client Name:

Kimley Horn & Associates, Inc.
323 Broadway Ave S
Rochester, MN 55904
Contact: Adynn Stedillie

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Search Results:

Year	Scale	Details	Source
2023	1"=500'	Flight Year: 2023	USDA/NAIP
2019	1"=500'	Flight Year: 2019	USDA/NAIP
2015	1"=500'	Flight Year: 2015	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USGS/DOQQ
1998	1"=500'	Acquisition Date: April 02, 1998	USGS/DOQQ
1991	1"=500'	Flight Year: 1991	USGS/DOQQ
1988	1"=500'	Flight Date: April 07, 1988	NAPP
1985	1"=500'	Flight Date: March 05, 1985	NHAP
1978	1"=500'	Flight Date: September 23, 1978	USGS
1974	1"=500'	Flight Date: May 01, 1974	USGS
1968	1"=500'	Flight Date: August 28, 1968	USGS
1962	1"=500'	Flight Date: July 10, 1962	USGS
1956	1"=500'	Flight Date: April 20, 1956	USGS
1945	1"=500'	Flight Date: August 15, 1945	USGS
1941	1"=500'	Flight Date: September 10, 1941	USDA

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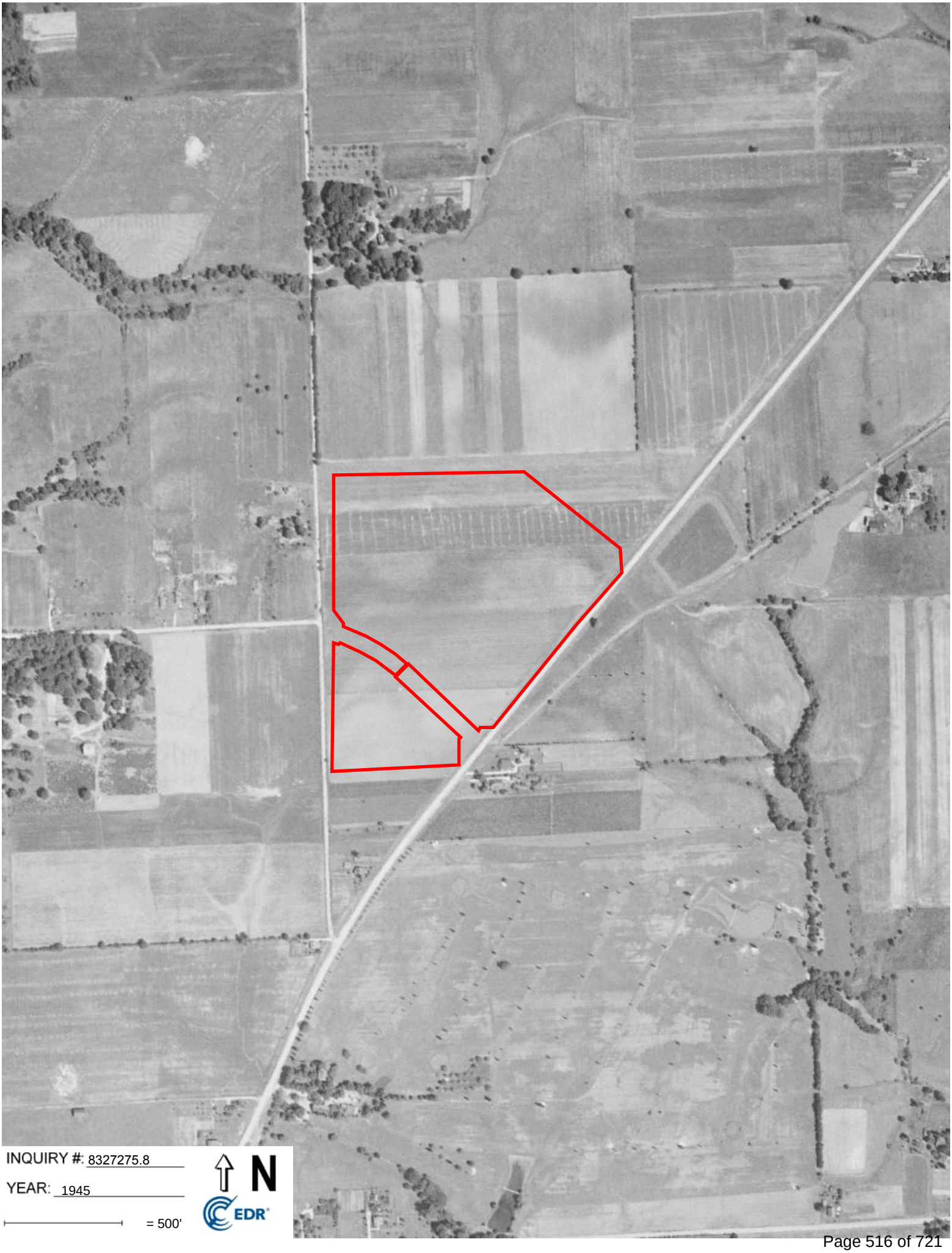
INQUIRY #: 8327275.8

YEAR: 1941

= 500'

N

EDR



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YEAR: 1945

= 500'

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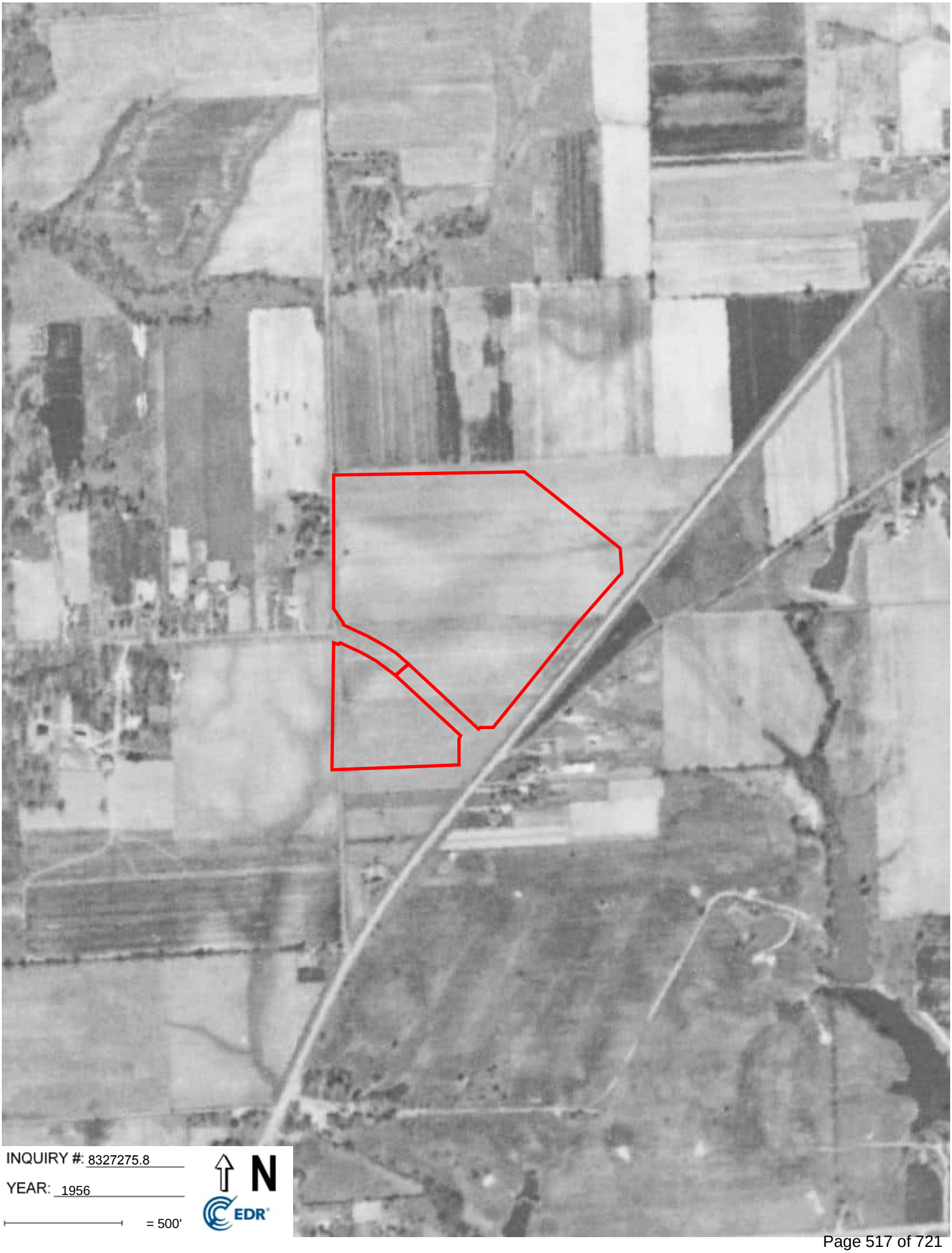
EDR



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YEAR: 1956

= 500'

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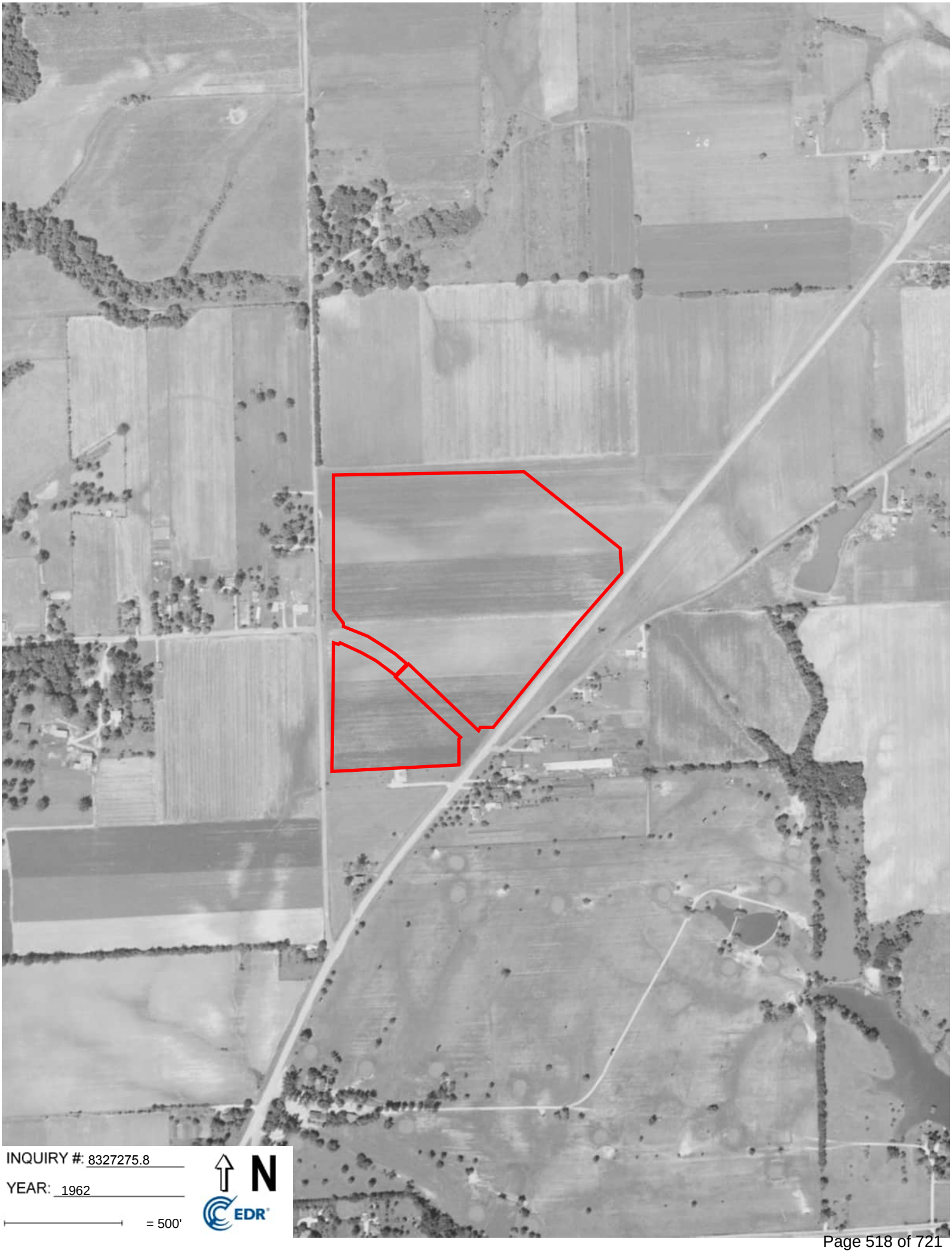
EDR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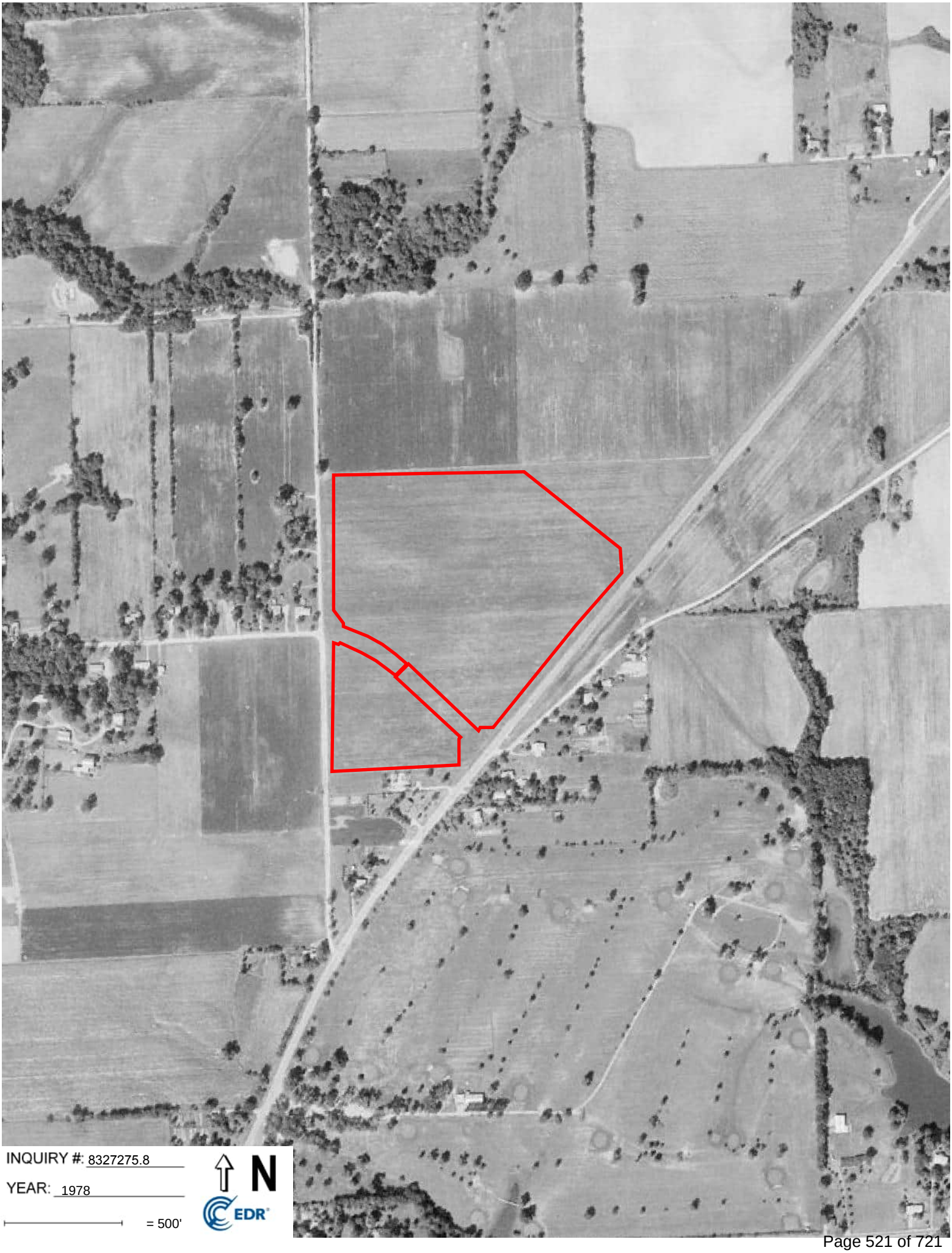
N
EDR


INQUIRY #: 8327275.8
YEAR: 1968
= 500'
N
EDR


INQUIRY #: 8327275.8
YEAR: 1974
= 500'
N
EDR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EDR



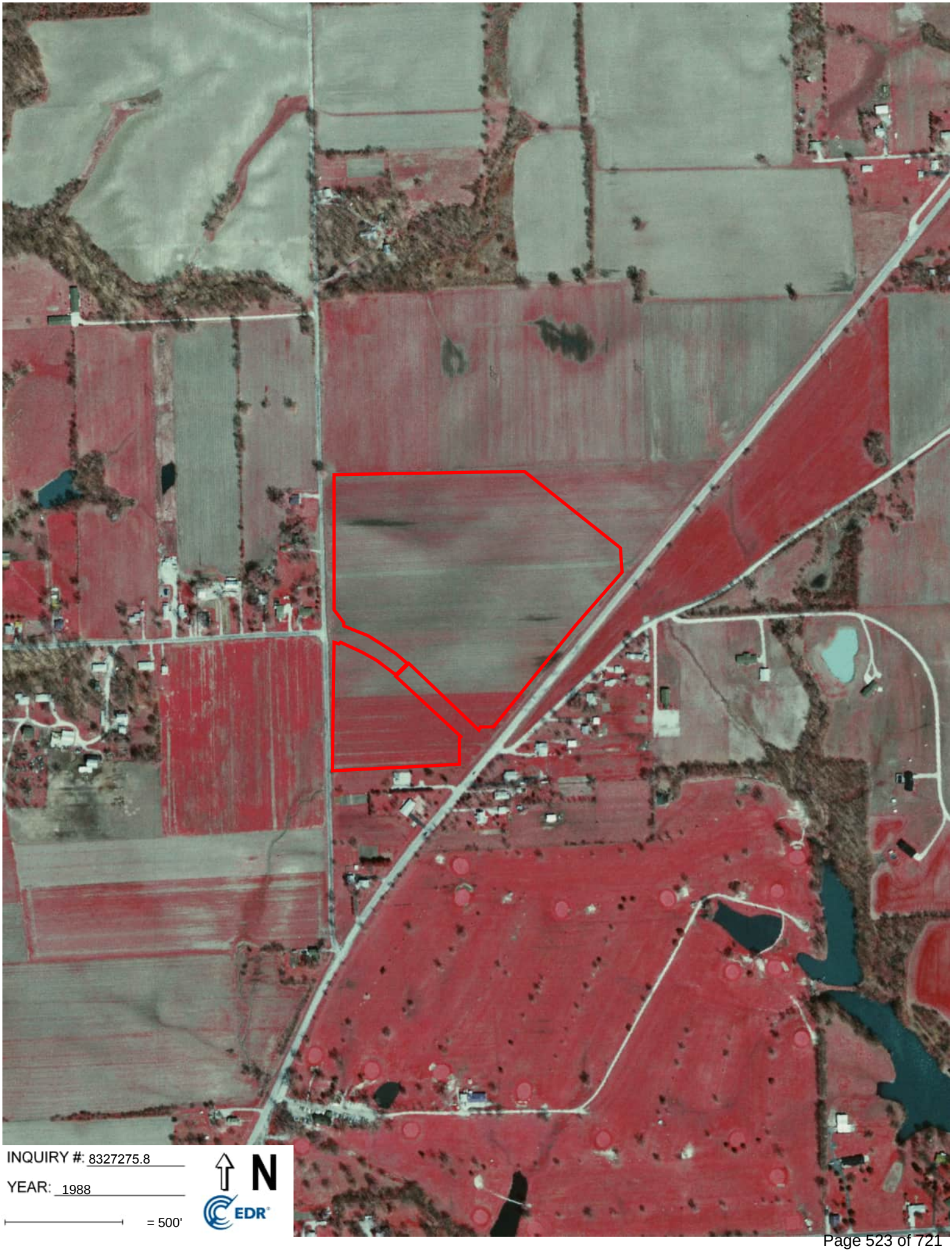
INQUIRY #: 8327275.8

YEAR: 1985

= 500'

N

EDR



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YEAR: 1988

= 500'

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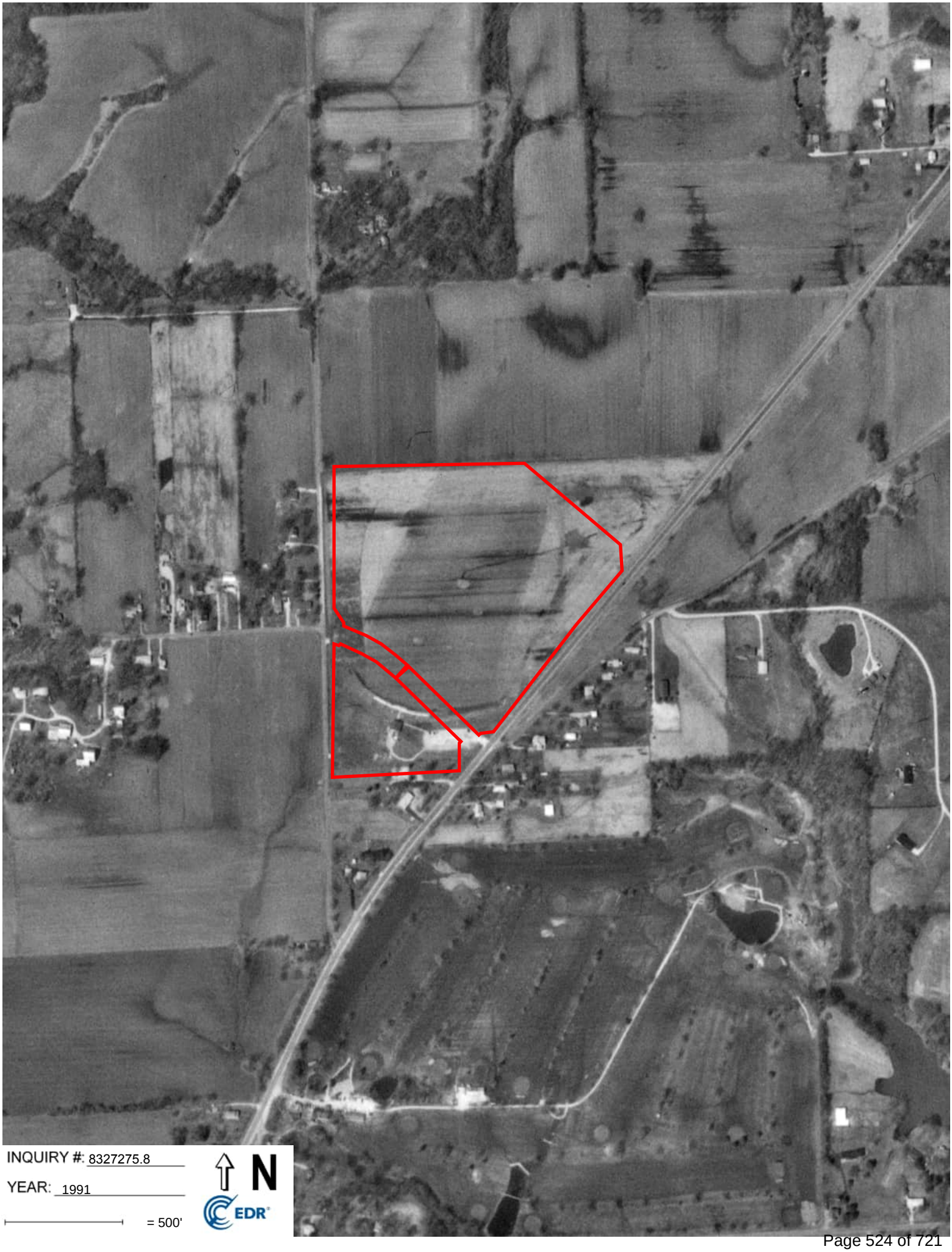
EDR



INQUIRY #: 8327275.8

YEAR: 1991

= 500'

N

EDR



INQUIRY #: 8327275.8

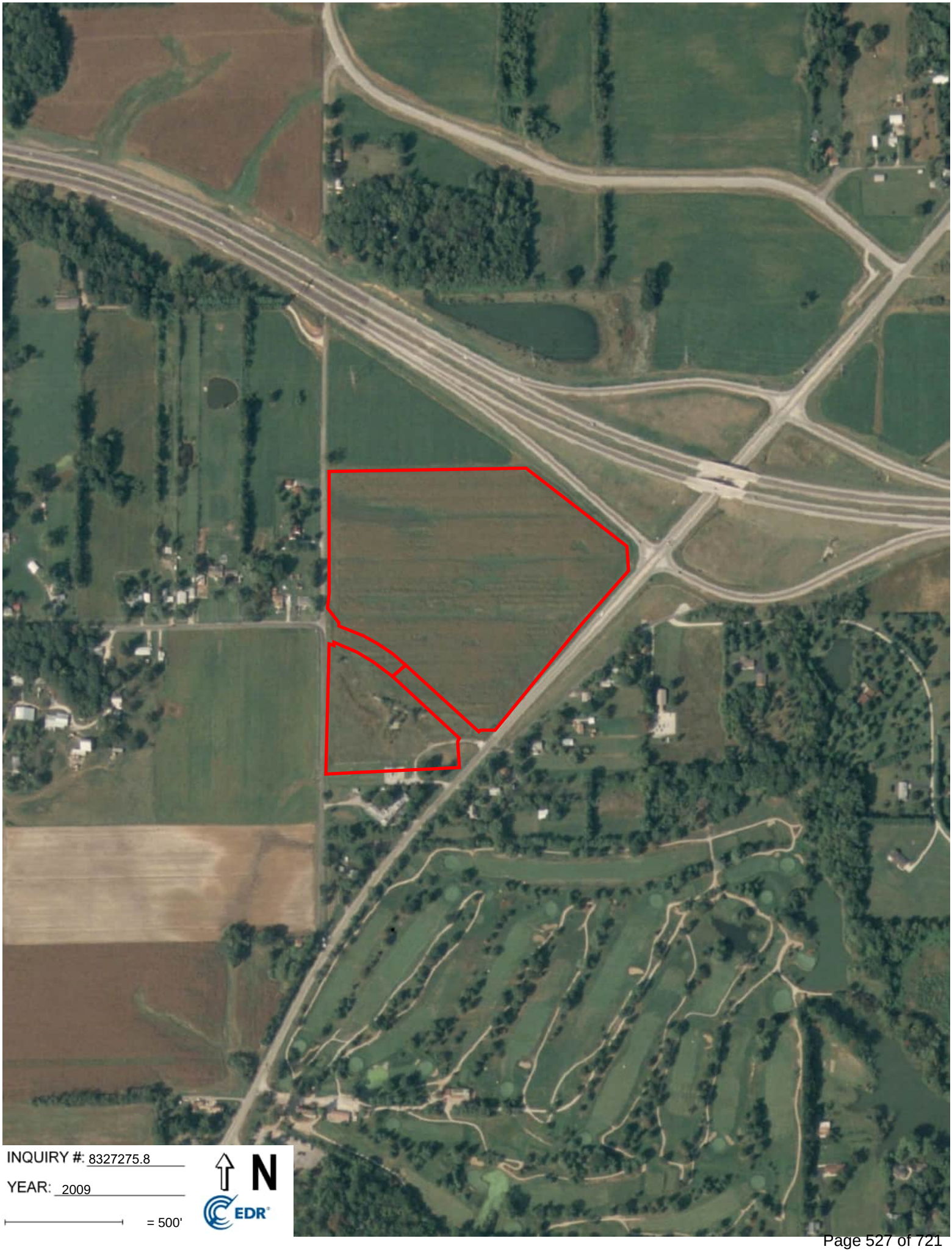
YEAR: 1998

= 500'

N

EDR


INQUIRY #: 8327275.8
YEAR: 2005
= 500'
N
EDR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EDR


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YEAR: 2012
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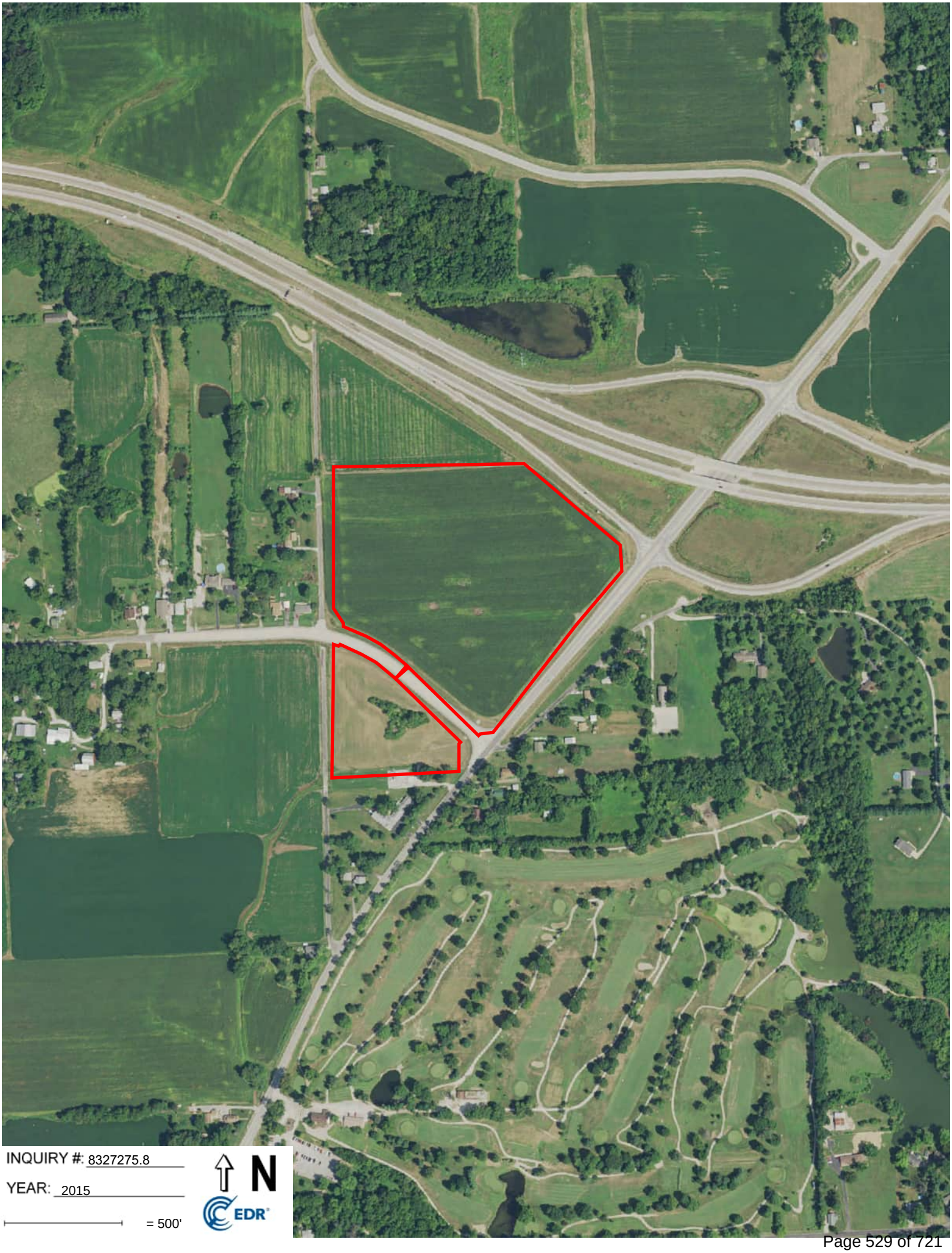
EDR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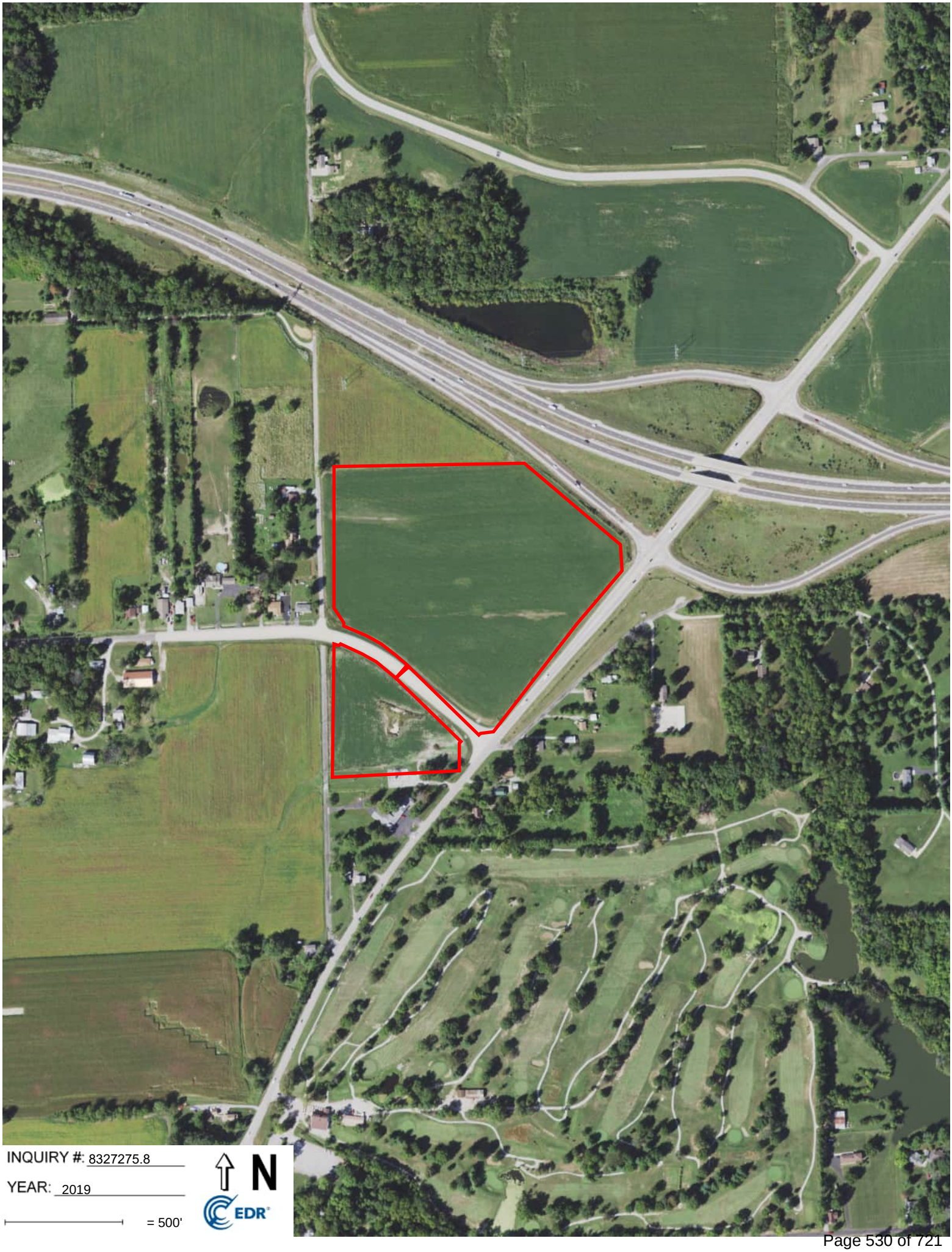
EDR


INQUIRY #: 8327275.8
YEAR: 2019
= 500'
N
EDR


INQUIRY #: 8327275.8
YEAR: 2023
= 500'
N
EDR

LIGHTBOX

LightBox City Directory Report

Arena Navigator 1 Solar, LLC

Harris Lane

Alton, IL 62002

Inquiry Number: 8327275.5

April 28, 2026

TABLE OF CONTENTS

LIGHTBOX LIVE

Open LightBox Live to access data, tools, and advanced analytics in one online platform.
https://lightbox.live/environmental/analysis/22eae0cc-d98b-4f0a-b4c9-081b11d365ec

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Thank you for your business.
Please contact LightBox at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

The LightBox City Directory Report is designed to assist environmental professionals in evaluating potential liabilities on select properties resulting from past activities. The report includes a search of available business directory data at approximately five-year intervals.

SOURCES

Through agreements with major city directory publishers, including Cole Information, InfoUSA, and Bresser, as well as our own collections (Haines & Stewart), the LightBox City Directory Report offers comprehensive national coverage.

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This report includes a search of the following sources:

Year	Source
2024	Cole Information
2022	Cole Information
2017	Cole Information, Data Axle
2014	Cole Information
2010	Cole Information
2005	Cole Information
2000	Cole Information
1995	Cole Information

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

Fosterburg Rd

3662 FOSTERBURG RD

1995	RANGE	Cole Information

3720 FOSTERBURG RD

2000	REBECCA B MEYERS	Cole Information
1995	MEYERS, REBECCA B	Cole Information

FINDINGS

This section includes records sorted by street then year.

STREETS

Fosterburg Rd
Harris Ln
Lobo Rd
Prince Rd

FOSTERBURG RD

2024 Cole Information

3584	Bluff View Photography
	VERNON C LECLAIRE JR
3632	JEFFERY L STICE
3644	JOSEPH A BOSTON
	TERRY A FOX
3645	DARCY A LAWSON
	NANCY A LAWSON
3651	TODD S CLARK

FOSTERBURG RD

2017 Cole Information

3584	VERNON C LECLAIRE
3632	C STICE
3644	TARRANT & HARMON RE & AUCTN CO
	RIVERBEND SEC SOLUTIONS LLC
	JOE BECKER
3645	NANCY A LAWSON
3651	S T CLARK
3657	CARRIE GUTHRIE

FOSTERBURG RD

2022 Cole Information

3584	Vernon C le Claire JR
3632	Jeffery L Stice
3644	TARRANT & HARMAN REAL ESTATE AND AUCTION CO
	TARRANT & HARMON RE & AUCTN
	TARRANT & HARMON REAL ESTATE & AUCTION COMPANY
	TARRANT & HARMON REAL ESTATE
	TARRANT & HARMAN REAL ESTATE & AUCTION COMPANY
	TARRANT & HARMON RE & AUCTN CO
3645	Nancy A Lawson
3651	Clark Todd
3657	Carrie A Gutherie

FOSTERBURG RD

2017 Data Axle

3584	BLUFF VIEW PHOTOGRAPHY

FOSTERBURG RD

2014 Cole Information

3584	VERNON C LECLAIRE
3632	C STICE
3644	TARRANT & HARMON REAL ESTATE & AUCTI
	GABRIEL M DELEHANTY
3645	NANCY A LAWSON
3651	S T CLARK
3657	CARRIE GUTHRIE

FINDINGS

FOSTERBURG RD

2010 Cole Information

3584	VERNON C LECLAIRE
3632	C STICE
3644	MICHAEL E BLOEMKER
3645	NANCY A LAWSON
3651	S T CLARK
3657	CARRIE GUTHRIE

FOSTERBURG RD

2005 Cole Information

3584	VERNON C LECLAIRE
3644	BETTY L FRAZIER
3645	NANCY A LAWSON
3657	CARRIE GUTHRIE

FOSTERBURG RD

2000 Cole Information

3584	VERNON C LECLAIRE
3632	NORMA L STICE
3644	B PAT
3645	NANCY A LAWSON
3720	REBECCA B MEYERS

FOSTERBURG RD

1995 Cole Information

3584	LECLAIRE, VERNON C JR
3632	STICE, ROBERT J
3644	MCCORMICK, LISA
3645	LAWSON, NANCY A
3657	STUTZ, JOHN C
3662	RANGE

FOSTERBURG RD

1995 (cont.) Cole Information

3720	MEYERS, REBECCA B

FINDINGS

HARRIS LN

2024 Cole Information

3443	SOMCHITH CHAMPANKHONE
3447	Ryan August Cod
	Ron Roofing Llc
	Ryan Construction & Roofg Llc
	RONALD V RYAN
3463	CHRISTOPHER R HEATON
3469	BRIANNA P MARKEL

HARRIS LN

2022 Cole Information

3463	Christopher Heaton
3469	Brianna P Markel

HARRIS LN

2017 Cole Information

3443	JOHNNY D SMITH
3447	RON ROOFING LLC
	RONALD V RYAN
3463	KATHRYN F HEATON

HARRIS LN

2014 Cole Information

3443	BRUCE W SMITH
3447	RONALD V RYAN
3463	KATHRYN F HEATON
3469	SHAUN T LASLIE

HARRIS LN

2010 Cole Information

3443	BRUCE W SMITH
3447	RONALD V RYAN
3463	KATHRYN F HEATON
3469	KRISTOPHER M THARP

HARRIS LN

2005 Cole Information

3443	JOEL L SMITH
3447	RONALD V RYAN
3457	MARY E SPENCER
3463	KATHRYN F HEATON
3469	KRISTOPHER M THARP

HARRIS LN

2000 Cole Information

3443	JOHN F SMITH
3447	RONALD RYAN
3457	MARY E SPENCER
3469	BARBARA CASTELLI

HARRIS LN

1995 Cole Information

3447	FIELDS, A R
3457	SPENCER, MARY E
3463	HEATON, KATHRYN F
3469	OCCUPANT UNKNOWNN

FINDINGS

LOBO RD

2024 Cole Information

7429	SCHERYL L TYLER
7447	CASEY H COOK

LOBO RD

2022 Cole Information

7429	Scheryl Tyler

LOBO RD

2017 Cole Information

7429	SCHERYL L TYLER
7447	JAMES F RUSSELL

LOBO RD

2014 Cole Information

7429	OCCUPANT UNKNOWN
7447	OCCUPANT UNKNOWN

FINDINGS

PRINCE RD

2024 Cole Information

3506	BETTY L MAGGOS
	STEVEN RUPPERT
3512	OLIVIA J KELLY
3518	PHILLIP ROACH
3524	TOMMY D HETTICK
3530	CIARRA WILLIS
3536	Church Of Christ

PRINCE RD

2022 Cole Information

3506	Steven Ruppert
3512	Olivia J Kelly
3518	Phillip Roach
3524	Tommy D Hettick
3530	Susan Shaw
3536	CHURCH OF CHRIST

PRINCE RD

2017 Cole Information

3506	BETTY MAGGOS
3524	TOMMY D HETTICK
3530	SUSAN R SHAW

PRINCE RD

2017 Data Axle

3536	CHURCH OF CHRIST

PRINCE RD

2014 Cole Information

3506	ELAINE L VOTSMIER
3512	MELVIN P GANN
3524	TOMMY D HETTICK
3530	SUSAN R SHAW
3536	CHURCH OF CHRIST

PRINCE RD

2010 Cole Information

3512	MELVIN P GANN
3518	LINDA M HARMS
3524	TOMMY D HETTICK
3530	FRANK JONES
3536	CHURCH OF CHRIST

PRINCE RD

2005 Cole Information

3506	ERNEST D SUMNER
3512	MELVIN P GANN
3518	JERRY F STRAHAN
3524	TOMMY D HETTICK
3530	JUANITA L SHAW
3536	CHURCH OF CHRIST

PRINCE RD

2000 Cole Information

3506	MARY R JACOBS
3512	MELVIN GANN
3518	BARBARA STRAHAN
3524	TOM HETTICK
3530	SUSAN SHAW

FINDINGS

PRINCE RD

2000 (cont.) Cole Information

3536	CHURCH OF CHRIST

PRINCE RD

1995 Cole Information

3506	JACOBS, WILLIAM H
3512	GANN, MELVIN
3518	HORD, HAROLD
3524	HETTICK, TOM
3530	OCCUPANT UNKNOWNN
3536	CHURCH OF CHRIST

Appendix E

Arena Navigator 1 Solar, LLC
Harris Lane
Alton, IL 62002

Inquiry Number: 8327275.2s
April 28, 2026

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

LIGHTBOX LIVE

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http://www.web.edrnet.com/ordering/switchboard/login.aspx?s=goto_lightbox&pguid=22EAE0CC-D98B-4F0A-B4C9-081B11D365EC

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 23), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

HARRIS LANE
ALTON, IL 62002

COORDINATES

Latitude (North):	38.9306660 - 38° 55' 50.39''
Longitude (West):	90.1017460 - 90° 6' 6.28''
Universal Tranverse Mercator:	Zone 15
UTM X (Meters):	751238.8
UTM Y (Meters):	4312869.5
Elevation:	521 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	50052013 BETHALTO, IL
Version Date:	2024
West Map:	50052571 ALTON, IL
Version Date:	2024

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	2023, 2024
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
HARRIS LANE
ALTON, IL 62002

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	CEE JA	VONNAHMEN ROAD	SSU	Lower	4403, 0.834, NW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL ---- National Priority List
Proposed NPL ---- Proposed National Priority List Sites
NPL LIENS ---- Federal Superfund Liens

Lists of Federal Delisted NPL sites

Delisted NPL ---- National Priority List Deletions

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY ---- Federal Facility Site Information listing
SEMS ---- Superfund Enterprise Management System

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE ---- Superfund Enterprise Management System Archive

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS ---- Corrective Action Report

Lists of Federal RCRA TSD facilities

RCRA-TSDF ---- RCRA - Treatment, Storage and Disposal

Lists of Federal RCRA generators

RCRA-LQG ---- RCRA - Large Quantity Generators
RCRA-SQG ---- RCRA - Small Quantity Generators
RCRA-VSQG ---- RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS ---- Land Use Control Information System

US ENG CONTROLS---- Engineering Controls Sites List
US INST CONTROLS---- Institutional Controls Sites List

Federal ERNS list

ERNS---- Emergency Response Notification System

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF---- Available Disposal for Solid Waste in Illinois - Solid Waste Landfills Subject to State Surcharge
CCDD---- Clean Construction or Demolition Debris
LF SPECIAL WASTE---- Special Waste Site List
IL NIPC---- Solid Waste Landfill Inventory

Lists of state and tribal leaking storage tanks

LUST---- Leaking Underground Storage Tank Sites
INDIAN LUST---- Leaking Underground Storage Tanks on Indian Land
LUST TRUST---- Underground Storage Tank Fund Payment Priority List

Lists of state and tribal registered storage tanks

FEMA UST---- Underground Storage Tank Listing
UST---- Underground Storage Tank Facility List
AST---- Above Ground Storage Tanks
INDIAN UST---- Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

ENG CONTROLS---- Sites with Engineering Controls
INST CONTROL---- Institutional Controls

Lists of state and tribal voluntary cleanup sites

INDIAN VCP---- Voluntary Cleanup Priority Listing
SRP---- Site Remediation Program Database

Lists of state and tribal brownfield sites

BROWNFIELDS---- Municipal Brownfields Redevelopment Grant Program Project Descriptions

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS---- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

INDIAN ODI---- Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9---- Torres Martinez Reservation Illegal Dump Site Locations
ODI---- Open Dump Inventory
IHS OPEN DUMPS---- Open Dumps on Indian Land

EXECUTIVE SUMMARY

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL	Delisted National Clandestine Laboratory Register
CDL	Meth Drug Lab Site Listing
US CDL	National Clandestine Laboratory Register

Local Land Records

LIENS 2	CERCLA Lien Information

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
SPILLS	State spills
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated
FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
MINES MRDS	Mineral Resources Data System
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System
UXO	Unexploded Ordnance Sites

ECHO ---------- Enforcement & Compliance History Information
DOCKET HWC ---------- Hazardous Waste Compliance Docket Listing
FUELS PROGRAM ---------- EPA Fuels Program Registered Listing
PFAS NPL ---------- Superfund Sites with PFAS Detections Information
PFAS FEDERAL SITES ---------- Federal Sites PFAS Information
PFAS TRIS ---------- List of PFAS Added to the TRI
PFAS TSCA ---------- PFAS Manufacture and Imports Information
PFAS RCRA MANIFEST ---------- PFAS Transfers Identified In the RCRA Database Listing
PFAS ATSDR ---------- PFAS Contamination Site Location Listing
PFAS WQP ---------- Ambient Environmental Sampling for PFAS
PFAS NPDES ---------- Clean Water Act Discharge Monitoring Information
PFAS PROJECT ---------- NORTHEASTERN UNIVERSITY PFAS PROJECT
PFAS ECHO ---------- Facilities in Industries that May Be Handling PFAS Listing
PFAS ECHO FIRE TRAIN ---------- Facilities in Industries that May Be Handling PFAS Listing
PFAS PT 139 AIRPORT ---------- All Certified Part 139 Airports PFAS Information Listing
AQUEOUS FOAM NRC ---------- Aqueous Foam Related Incidents Listing
BIOSOLIDS ---------- ICIS-NPDES Biosolids Facility Data
UST FINDER ---------- UST Finder Database
UST FINDER RELEASE ---------- UST Finder Releases Database
E MANIFEST ---------- Hazardous Waste Electronic Manifest System
PFAS ---------- PFAS Sampling Listing
AIRS ---------- Air Inventory Listing
ASBESTOS ---------- Asbestos Notification Tracker Information
BOL ---------- Bureau of Land Inventory Database
COAL ASH ---------- Coal Ash Site Listing
DRYCLEANERS ---------- Illinois Licensed Drycleaners
Financial Assurance ---------- Financial Assurance Information Listing
HWAR ---------- Hazard Waste Annual Report
IMPDMENT ---------- Surface Impoundment Inventory
NPDES ---------- A Listing of Active Permits
PIMW ---------- Potentially Infectious Medical Waste
TIER 2 ---------- Tier 2 Information Listing
UIC ---------- Underground Injection Wells
ABAND AIRFIELDS ---------- Abandoned & Little-Known Airfields Listing
DRYCLEANERS ---------- Drycleaner Facility Listing

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---------- EDR Proprietary Manufactured Gas Plants
EDR Hist Auto ---------- EDR Exclusive Historical Auto Stations
EDR Hist Cleaner ---------- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS ---------- Recovered Government Archive State Hazardous Waste Facilities List
RGA LF ---------- Recovered Government Archive Solid Waste Facilities List
RGA LUST ---------- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

EXECUTIVE SUMMARY

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Lists of state- and tribal hazardous waste facilities

SSU: The State Response Action Program database identifies the status of all sites under the responsibility of the Illinois EPA's State Sites Unit.

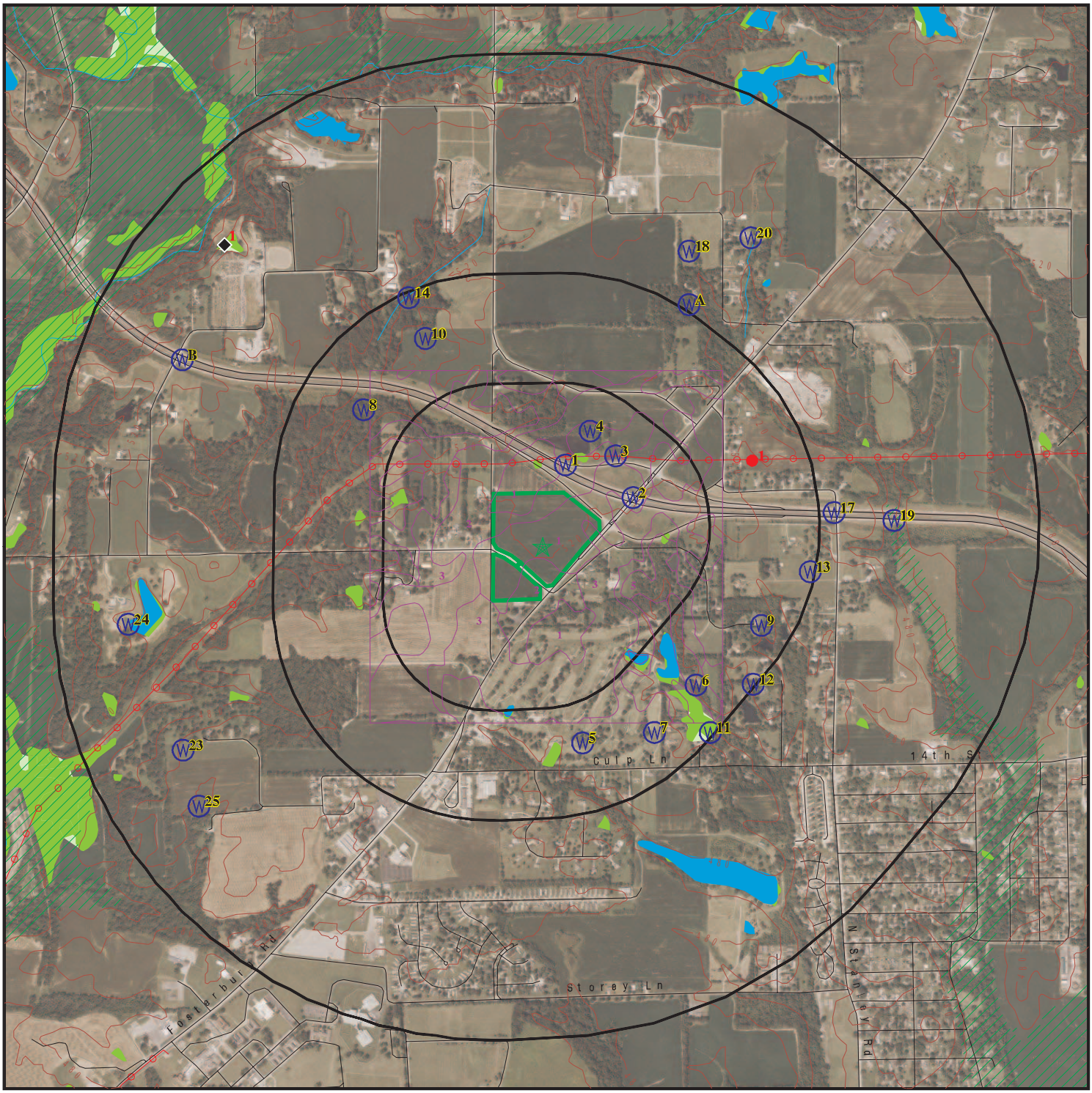
A review of the SSU list, as provided by EDR, and dated 01/16/2025 has revealed that there is 1 SSU site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CEE JA SSU Status: Backlog Facility Id: 1190100003 Facility Id: 1190100003	VONNAHMEN ROAD	NW 1/2 - 1 (0.834 mi.)	1	8

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 8327275.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Arena Navigator 1 Solar, LLC	CLIENT:	Kimley Horn & Associates, Inc.
ADDRESS:	Harris Lane Alton IL 62002	CONTACT:	Adynn Stedillie
LAT/LONG:	38.930666 / 90.101746	INQUIRY #:	8327275.2s
		DATE:	April 28, 2026 3:13 pm

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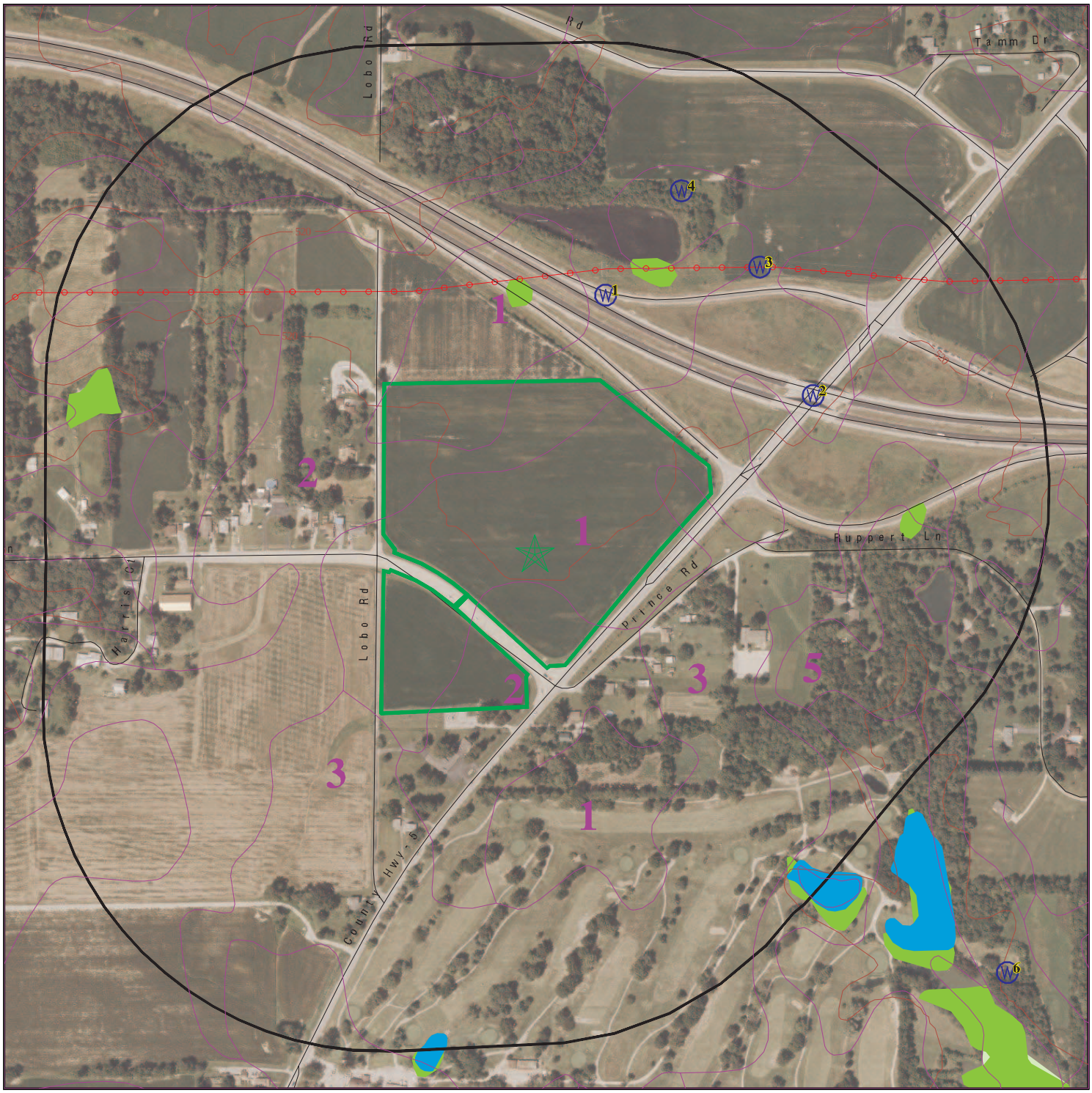
DETAIL MAP - 8327275.2S



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Arena Navigator 1 Solar, LLC	CLIENT:	Kimley Horn & Associates, Inc.
ADDRESS:	Harris Lane Alton IL 62002	CONTACT:	Adynn Stedillie
LAT/LONG:	38.930666 / 90.101746	INQUIRY #:	8327275.2s
		DATE:	April 28, 2026 3:15 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Lists of Federal NPL (Superfund) sites								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Lists of Federal Delisted NPL sites								
Delisted NPL	1.000		0	0	0	0	NR	0
Lists of Federal sites subject to CERCLA removals and CERCLA orders								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Lists of Federal CERCLA sites with NFRAP								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000		0	0	0	0	NR	0
Lists of Federal RCRA TSD facilities								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA generators								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
Lists of state- and tribal hazardous waste facilities								
SSU	1.000		0	0	0	1	NR	1
Lists of state and tribal landfills and solid waste disposal facilities								
SWF/LF	0.500		0	0	0	NR	NR	0
CCDD	0.500		0	0	0	NR	NR	0
LF SPECIAL WASTE	0.500		0	0	0	NR	NR	0
IL NIPC	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Lists of state and tribal leaking storage tanks								
LUST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
LUST TRUST	0.500		0	0	0	NR	NR	0
Lists of state and tribal registered storage tanks								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS	0.500		0	0	0	NR	NR	0
INST CONTROL	0.500		0	0	0	NR	NR	0
Lists of state and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
SRP	0.500		0	0	0	NR	NR	0
Lists of state and tribal brownfield sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
MINES MRDS	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		0	0	NR	NR	NR	0
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0
PFAS TRIS	0.250		0	0	NR	NR	NR	0
PFAS TSCA	0.250		0	0	NR	NR	NR	0
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	0
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS PROJECT	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	0	NR	NR	NR	0
PFAS ECHO FIRE TRAIN	0.250		0	0	NR	NR	NR	0
PFAS PT 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
BIOSOLIDS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UST FINDER	0.250		0	0	NR	NR	NR	0
UST FINDER RELEASE	0.500		0	0	0	NR	NR	0
E MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS	0.250		0	0	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
ASBESTOS	TP		NR	NR	NR	NR	NR	0
BOL	TP		NR	NR	NR	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HWAR	TP		NR	NR	NR	NR	NR	0
IMPDMENT	0.500		0	0	0	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PIMW	0.250		0	0	NR	NR	NR	0
TIER 2	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
ABAND AIRFIELDS	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA HWS	TP		NR	NR	NR	NR	NR	0
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		0	0	0	0	1	0	1

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
NW
1/2-1
0.834 mi.
4403 ft.

CEE JA
VONNAHMEN ROAD
WOOD RIVER, IL 62002

SSU **S104038269**
N/A

Relative:
Lower

Actual:
502 ft.

SSU:

Name:	CEE JA
Address:	VONNAHMEN ROAD
City,State,Zip:	WOOD RIVER, IL 62002
Facility ID:	1190100003
Facility Type:	Landfill
Region:	Collinsville
Current Program:	SSU
Project Manager:	Vieregge
Community Relations:	Tebrugge
SSU Status:	Backlog
FOS:	NA
Year Completed:	Not reported
Site Size:	1.3
Lat/Long:	38.940681 / -90.115166

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 03/26/2026
Date Data Arrived at EDR: 04/01/2026
Date Made Active in Reports: 04/21/2026
Number of Days to Update: 20

Source: EPA
Telephone: N/A
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 03/26/2026
Date Data Arrived at EDR: 04/01/2026
Date Made Active in Reports: 04/21/2026
Number of Days to Update: 20

Source: EPA
Telephone: N/A
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 03/26/2026
Date Data Arrived at EDR: 04/01/2026
Date Made Active in Reports: 04/21/2026
Number of Days to Update: 20

Source: EPA
Telephone: N/A
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 12/10/2025
Date Data Arrived at EDR: 12/10/2025
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 03/24/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 03/26/2026
Date Data Arrived at EDR: 04/01/2026
Date Made Active in Reports: 04/21/2026
Number of Days to Update: 20

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/20/2026
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 03/26/2026
Date Data Arrived at EDR: 04/01/2026
Date Made Active in Reports: 04/21/2026
Number of Days to Update: 20

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/20/2026
Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 03/11/2025
Date Data Arrived at EDR: 04/02/2025
Date Made Active in Reports: 06/24/2025
Number of Days to Update: 83

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 01/28/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 10/30/2025
Date Data Arrived at EDR: 11/11/2025
Date Made Active in Reports: 11/12/2025
Number of Days to Update: 1

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/17/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 10/30/2025
Date Data Arrived at EDR: 11/11/2025
Date Made Active in Reports: 11/12/2025
Number of Days to Update: 1

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/17/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/01/2025
Date Data Arrived at EDR: 12/08/2025
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 66

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

Lists of state- and tribal hazardous waste facilities

SSU: State Sites Unit Listing

The State Response Action Program database identifies the status of all sites under the responsibility of the Illinois EPA's State Sites Unit.

Date of Government Version: 01/16/2025
Date Data Arrived at EDR: 02/11/2025
Date Made Active in Reports: 04/29/2025
Number of Days to Update: 77

Source: Illinois Environmental Protection Agency
Telephone: 217-524-4826
Last EDR Contact: 04/08/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

Lists of state and tribal landfills and solid waste disposal facilities

LF WMRC: Waste Management & Research Center Landfill Database

The Waste Management & Research Center Landfill Database includes records from the Department of Public Health, Department of Mines & Minerals, Illinois Environmental Protection Agency, State Geological Survey, Northeastern Illinois Planning Commission and Pollution Control Board.

Date of Government Version: 12/31/2001
Date Data Arrived at EDR: 10/06/2006
Date Made Active in Reports: 11/06/2006
Number of Days to Update: 31

Source: Department of Natural Resources
Telephone: 217-333-8940
Last EDR Contact: 09/18/2009
Next Scheduled EDR Contact: 12/28/2009
Data Release Frequency: No Update Planned

CCDD: Clean Construction or Demolition Debris

Construction and demolition (C and D) debris is nonhazardous, uncontaminated material resulting from construction, remodeling, repair, or demolition of utilities, structures, and roads.

Date of Government Version: 12/16/2025
Date Data Arrived at EDR: 12/17/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 6

Source: Illinois EPA
Telephone: 217-524-3300
Last EDR Contact: 03/31/2026
Next Scheduled EDR Contact: 10/13/2025
Data Release Frequency: Varies

SWF/LF: Available Disposal for Solid Waste in Illinois - Solid Waste Landfills Subject to State Surcharge

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 12/31/2024
Date Data Arrived at EDR: 10/14/2025
Date Made Active in Reports: 01/07/2026
Number of Days to Update: 85

Source: Illinois Environmental Protection Agency
Telephone: 217-785-8604
Last EDR Contact: 04/08/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Annually

LF SPECIAL WASTE: Special Waste Site List

These landfills, as of January 1, 1990, accept non-hazardous special waste pursuant to the Illinois EPA Non-Hazardous Special Waste Definition. List A includes landfills that may receive any non-hazardous waste, Non-Regional Pollution Control Facilities are so noted. List B includes landfills designed to receive specific non-hazardous wastes. List B landfills are designated as a Regional Pollution Control Facility by RPCF, or Non-Regional Pollution Control Facility by Non-RPCF.

Date of Government Version: 01/01/1990
Date Data Arrived at EDR: 06/17/2009
Date Made Active in Reports: 07/15/2009
Number of Days to Update: 28

Source: Illinois EPA
Telephone: 217-782-9288
Last EDR Contact: 06/10/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IL NIPC: Solid Waste Landfill Inventory

Solid Waste Landfill Inventory. NIPC is an inventory of active and inactive solid waste disposal sites, based on state, local government and historical archive data. Included are numerous sites which previously had never been identified largely because there was no obligation to register such sites prior to 1971.

Date of Government Version: 08/01/1988
Date Data Arrived at EDR: 04/07/2022
Date Made Active in Reports: 07/01/2022
Number of Days to Update: 85

Source: Northeastern Illinois Planning Commission
Telephone: 312-454-0400
Last EDR Contact: 04/07/2022
Next Scheduled EDR Contact: 07/18/2022
Data Release Frequency: No Update Planned

Lists of state and tribal leaking storage tanks

LUST: Leaking Underground Storage Tank Sites

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 01/12/2026
Date Data Arrived at EDR: 01/13/2026
Date Made Active in Reports: 03/30/2026
Number of Days to Update: 76

Source: Illinois Environmental Protection Agency
Telephone: 217-524-3300
Last EDR Contact: 04/14/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Semi-Annually

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/12/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 69

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/13/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 04/13/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 04/13/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 04/13/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 04/13/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/13/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/13/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 04/13/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

LUST TRUST: Underground Storage Tank Fund Payment Priority List
In case sufficient funds are not available in the Underground Storage Tank Fund, requests for payment are entered on the Payment Priority List by "queue date" order. As required by the Environmental Protection Act, the queue date is the date that a complete request for partial or final payment was received by the Agency. The queue date is "officially" confirmed at the end of the payment review process when a Final Decision Letter is sent to the site owner.

Date of Government Version: 06/06/2016
Date Data Arrived at EDR: 07/27/2016
Date Made Active in Reports: 10/18/2016
Number of Days to Update: 83
Source: Illinois EPA
Telephone: 217-782-6762
Last EDR Contact: 04/08/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

Lists of state and tribal registered storage tanks

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 06/06/2025
Date Data Arrived at EDR: 08/26/2025
Date Made Active in Reports: 11/12/2025
Number of Days to Update: 78

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 03/25/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

UST: Underground Storage Tank Facility List

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 01/12/2026
Date Data Arrived at EDR: 01/13/2026
Date Made Active in Reports: 03/27/2026
Number of Days to Update: 73

Source: Illinois State Fire Marshal
Telephone: 217-785-0969
Last EDR Contact: 04/14/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Quarterly

AST: Above Ground Storage Tanks

Listing of all aboveground tanks inspected by Office of State Fire Marshal.

Date of Government Version: 10/03/2025
Date Data Arrived at EDR: 12/02/2025
Date Made Active in Reports: 02/18/2026
Number of Days to Update: 78

Source: State Fire Marshal
Telephone: 217-785-1011
Last EDR Contact: 02/26/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/13/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 04/13/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 04/13/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/13/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 04/13/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

INDIAN UST R2: Underground Storage Tanks on Indian Land

A listing of underground storage tanks located on Indian Land in Region 2

Date of Government Version: 04/06/2016
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 36

Source: Environmental Protection Agency,
Telephone: 212-637-3668
Last EDR Contact: 04/13/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/13/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 04/13/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 11/21/2025
Date Data Arrived at EDR: 12/11/2025
Date Made Active in Reports: 02/19/2026
Number of Days to Update: 70

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 04/13/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

ENG CONTROLS: Sites with Engineering Controls
Sites using of engineered barriers (e.g., asphalt or concrete paving).

Date of Government Version: 12/10/2025
Date Data Arrived at EDR: 12/10/2025
Date Made Active in Reports: 12/15/2025
Number of Days to Update: 5

Source: Illinois Environmental Protection Agency
Telephone: 217-782-6761
Last EDR Contact: 03/24/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Quarterly

Inst Control: Institutional Controls
Legal or administrative restrictions on land use and/or other activities (e.g., groundwater use restrictions) which effectively limit exposure to contamination may be employed as alternatives to removal or treatment of contamination.

Date of Government Version: 12/10/2025
Date Data Arrived at EDR: 12/10/2025
Date Made Active in Reports: 12/15/2025
Number of Days to Update: 5

Source: Illinois Environmental Protection Agency
Telephone: 217-782-6761
Last EDR Contact: 03/24/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Quarterly

Lists of state and tribal voluntary cleanup sites

SRP: Site Remediation Program Database
The database identifies the status of all voluntary remediation projects administered through the pre-notice site cleanup program (1989 to 1995) and the site remediation program (1996 to the present).

Date of Government Version: 12/10/2025
Date Data Arrived at EDR: 12/10/2025
Date Made Active in Reports: 12/15/2025
Number of Days to Update: 5

Source: Illinois Environmental Protection Agency
Telephone: 217-785-9407
Last EDR Contact: 03/24/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Semi-Annually

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/03/2025
Next Scheduled EDR Contact: 03/30/2026
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

Lists of state and tribal brownfield sites

BROWNFIELDS: Municipal Brownfields Redevelopment Grant Program Project Descriptions
The Illinois Municipal Brownfields Redevelopment Grant Program (MBRGP) offers grants worth a maximum of $240,000 each to municipalities to assist in site investigation activities, development of cleanup objectives, and performance of cleanup activities. Brownfields are abandoned or underused industrial and/or commercial properties that are contaminated (or thought to be contaminated) and have an active potential for redevelopment.

Date of Government Version: 02/11/2010
Date Data Arrived at EDR: 07/31/2014
Date Made Active in Reports: 09/08/2014
Number of Days to Update: 39

Source: Illinois Environmental Protection Agency
Telephone: 217-785-3486
Last EDR Contact: 04/08/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

BROWNFIELDS: Redevelopment Assessment Database

The Office of Site Evaluations Redevelopment Assessment database identifies the status of all properties within the State in which the Illinois EPA's Office of Site Evaluation has conducted a municipal Brownfield Redevelopment Assessment.

Date of Government Version: 01/12/2026
Date Data Arrived at EDR: 01/13/2026
Date Made Active in Reports: 03/30/2026
Number of Days to Update: 76

Source: Illinois Environmental Protection Agency
Telephone: 217-524-1658
Last EDR Contact: 04/14/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/02/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 71

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/10/2026
Next Scheduled EDR Contact: 06/22/2026
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 04/15/2026
Next Scheduled EDR Contact: 08/03/2026
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/08/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 02/07/2024
Date Data Arrived at EDR: 11/13/2024
Date Made Active in Reports: 11/19/2024
Number of Days to Update: 6

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 04/15/2026
Next Scheduled EDR Contact: 08/03/2026
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 04/04/2025
Date Data Arrived at EDR: 06/02/2025
Date Made Active in Reports: 08/12/2025
Number of Days to Update: 71

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/20/2025
Next Scheduled EDR Contact: 03/02/2026
Data Release Frequency: No Update Planned

CDL: Meth Drug Lab Site Listing

A listing of clandestine/meth drug lab locations.

Date of Government Version: 07/08/2025
Date Data Arrived at EDR: 07/09/2025
Date Made Active in Reports: 10/01/2025
Number of Days to Update: 84

Source: Department of Public Health
Telephone: 217-782-5750
Last EDR Contact: 12/15/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 04/04/2025
Date Data Arrived at EDR: 06/02/2025
Date Made Active in Reports: 08/12/2025
Number of Days to Update: 71

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/19/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 03/26/2026
Date Data Arrived at EDR: 04/01/2026
Date Made Active in Reports: 04/21/2026
Number of Days to Update: 20

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/07/2025
Date Data Arrived at EDR: 12/08/2025
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 66
Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

IEMA SPILLS: Illinois Emergency Management Agency Spills
A listing of hazardous materials incidents reported to the Illinois Emergency Management Agency.

Date of Government Version: 01/16/2026
Date Data Arrived at EDR: 01/16/2026
Date Made Active in Reports: 03/30/2026
Number of Days to Update: 73
Source: Illinois Emergency Management Agency
Telephone: 217-524-0770
Last EDR Contact: 04/03/2026
Next Scheduled EDR Contact: 08/03/2026
Data Release Frequency: Quarterly

SPILLS: State spills
A listing of incidents reported to the Office of Emergency Response.

Date of Government Version: 01/06/2026
Date Data Arrived at EDR: 01/07/2026
Date Made Active in Reports: 03/25/2026
Number of Days to Update: 77
Source: Illinois EPA
Telephone: 217-782-3637
Last EDR Contact: 03/25/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Semi-Annually

SPILLS 90: SPILLS90 data from FirstSearch
Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 07/18/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 03/15/2013
Number of Days to Update: 71
Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7
Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites
The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 02/05/2026
Date Data Arrived at EDR: 02/10/2026
Date Made Active in Reports: 04/27/2026
Number of Days to Update: 76

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 02/10/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021
Date Data Arrived at EDR: 07/13/2021
Date Made Active in Reports: 03/09/2022
Number of Days to Update: 239

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/09/2026
Next Scheduled EDR Contact: 07/20/2026
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 03/31/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 07/30/2021
Date Data Arrived at EDR: 02/03/2023
Date Made Active in Reports: 02/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 01/29/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 12/07/2025
Date Data Arrived at EDR: 12/08/2025
Date Made Active in Reports: 02/05/2026
Number of Days to Update: 59

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA Watch List

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 01/28/2026
Next Scheduled EDR Contact: 05/11/2026
Data Release Frequency: No Update Planned

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 01/28/2026
Next Scheduled EDR Contact: 05/11/2026
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 06/14/2022
Date Made Active in Reports: 03/24/2023
Number of Days to Update: 283

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 04/22/2026
Next Scheduled EDR Contact: 06/22/2026
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2024
Date Data Arrived at EDR: 11/10/2025
Date Made Active in Reports: 01/29/2026
Number of Days to Update: 80

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/12/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 01/12/2026
Date Data Arrived at EDR: 01/13/2026
Date Made Active in Reports: 03/05/2026
Number of Days to Update: 51

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/14/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/30/2026
Date Data Arrived at EDR: 02/02/2026
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 10

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 06/08/2026
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 01/01/2026
Date Data Arrived at EDR: 01/14/2026
Date Made Active in Reports: 01/22/2026
Number of Days to Update: 8

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/08/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 06/26/2025
Date Data Arrived at EDR: 07/01/2025
Date Made Active in Reports: 07/29/2025
Number of Days to Update: 28

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 05/11/2026
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 08/12/2025
Date Data Arrived at EDR: 09/30/2025
Date Made Active in Reports: 11/24/2025
Number of Days to Update: 55

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 03/04/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 09/23/2025
Next Scheduled EDR Contact: 01/12/2026
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 01/26/2026
Date Data Arrived at EDR: 01/27/2026
Date Made Active in Reports: 02/25/2026
Number of Days to Update: 29
Source: Nuclear Regulatory Commission
Telephone: 301-415-0717
Last EDR Contact: 04/08/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2024
Date Data Arrived at EDR: 11/19/2025
Date Made Active in Reports: 01/29/2026
Number of Days to Update: 71
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 02/20/2026
Next Scheduled EDR Contact: 06/08/2026
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 02/20/2026
Next Scheduled EDR Contact: 06/08/2026
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 01/29/2026
Next Scheduled EDR Contact: 05/11/2026
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 03/18/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 12/31/2025
Date Data Arrived at EDR: 01/20/2026
Date Made Active in Reports: 03/05/2026
Number of Days to Update: 44

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 04/21/2026
Next Scheduled EDR Contact: 08/03/2026
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2025
Date Data Arrived at EDR: 12/12/2025
Date Made Active in Reports: 02/25/2026
Number of Days to Update: 75

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 04/08/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 02/19/2025
Date Made Active in Reports: 03/07/2025
Number of Days to Update: 16

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 03/31/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/03/2023
Date Data Arrived at EDR: 03/03/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 98

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 01/21/2026
Next Scheduled EDR Contact: 05/11/2026
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 05/15/2025
Date Data Arrived at EDR: 05/15/2025
Date Made Active in Reports: 07/29/2025
Number of Days to Update: 75

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/12/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 03/26/2026
Date Data Arrived at EDR: 04/01/2026
Date Made Active in Reports: 04/21/2026
Number of Days to Update: 20

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/08/2025
Date Data Arrived at EDR: 08/18/2025
Date Made Active in Reports: 11/12/2025
Number of Days to Update: 86

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 02/13/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Semi-Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 01/01/2026
Date Data Arrived at EDR: 01/06/2026
Date Made Active in Reports: 01/07/2026
Number of Days to Update: 1

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Quarterly

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 04/08/2025
Date Data Arrived at EDR: 05/20/2025
Date Made Active in Reports: 08/12/2025
Number of Days to Update: 84

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 03/03/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 02/19/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 12/04/2025
Date Data Arrived at EDR: 12/05/2025
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 69

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 03/11/2026
Next Scheduled EDR Contact: 06/15/2026
Data Release Frequency: Quarterly

MINES MRDS: Mineral Resources Data System
Mineral Resources Data System

Date of Government Version: 06/04/2024
Date Data Arrived at EDR: 11/22/2024
Date Made Active in Reports: 02/18/2025
Number of Days to Update: 88

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 03/03/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 11/07/2025
Date Data Arrived at EDR: 11/19/2025
Date Made Active in Reports: 02/05/2026
Number of Days to Update: 78

Source: EPA
Telephone: (312) 353-2000
Last EDR Contact: 02/20/2026
Next Scheduled EDR Contact: 06/08/2026
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites
A listing of unexploded ordnance site locations

Date of Government Version: 07/31/2025
Date Data Arrived at EDR: 02/11/2026
Date Made Active in Reports: 04/27/2026
Number of Days to Update: 75

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/20/2026
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing
A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 02/11/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information
ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 12/13/2025
Date Data Arrived at EDR: 12/17/2025
Date Made Active in Reports: 02/25/2026
Number of Days to Update: 70

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 03/31/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/09/2026
Date Data Arrived at EDR: 02/10/2026
Date Made Active in Reports: 04/27/2026
Number of Days to Update: 76

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/10/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: Quarterly

PFAS NPL: Superfund Sites with PFAS Detections Information

EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 703-603-8895
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS FEDERAL SITES: Federal Sites PFAS Information

Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS TRIS: List of PFAS Added to the TRI

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) immediately added certain per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and provided a framework for additional PFAS to be added to TRI on an annual basis.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-566-0250
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 03/31/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST_HANDLING_INSTR), Non-hazardous waste description (NON_HAZ_WASTE_DESCRIPTION), DOT printed information (DOT_PRINTED_INFORMATION), Waste line handling instructions (WASTE_LINE_HANDLING_INSTR), Waste residue comments (WASTE_RESIDUE_COMMENTS).

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention. ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 11/12/2024
Date Data Arrived at EDR: 07/21/2025
Date Made Active in Reports: 10/13/2025
Number of Days to Update: 84

Source: Department of Health & Human Services
Telephone: 202-741-5770
Last EDR Contact: 04/23/2026
Next Scheduled EDR Contact: 08/03/2026
Data Release Frequency: Varies

PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 01/07/2026
Number of Days to Update: 20

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS PROJECT: NORTHEASTERN UNIVERSITY PFAS PROJECT

The PFAS Contamination Site Tracker records qualitative and quantitative data from each site in a chart, specifically examining discovery, contamination levels, government response, litigation, health impacts, media coverage, and community characteristics. All data presented in the chart were extracted from government websites, such as state health departments or the Environmental Protection Agency, and news articles.

Date of Government Version: 08/21/2025
Date Data Arrived at EDR: 12/04/2025
Date Made Active in Reports: 02/12/2026
Number of Days to Update: 70

Source: Social Science Environmental Health Research Institute
Telephone: N/A
Last EDR Contact: 03/05/2026
Next Scheduled EDR Contact: 06/15/2026
Data Release Frequency: Varies

PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits. Caveats and Limitations: Less than half of states have required PFAS monitoring for at least one of their permittees and fewer states have established PFAS effluent limits for permittees. New rulemakings have been initiated that may increase the number of facilities monitoring for PFAS in the future.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/19/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 4

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS ECHO FIRE TRAIN: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facilitys name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset. as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PFAS PT 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration?s document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 03/05/2026
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: 202-267-2675
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 12/16/2016
Date Data Arrived at EDR: 01/06/2017
Date Made Active in Reports: 03/10/2017
Number of Days to Update: 63

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 09/24/2025
Next Scheduled EDR Contact: 01/12/2026
Data Release Frequency: No Update Planned

PCS ENF: Enforcement data
No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29
Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 09/24/2025
Next Scheduled EDR Contact: 01/12/2026
Data Release Frequency: Varies

BIOSOLIDS: ICIS-NPDES Biosolids Facility Data
The data reflects compliance information about facilities in the biosolids program.

Date of Government Version: 01/10/2026
Date Data Arrived at EDR: 01/15/2026
Date Made Active in Reports: 03/05/2026
Number of Days to Update: 49
Source: Environmental Protection Agency
Telephone: 202-564-4700
Last EDR Contact: 04/14/2026
Next Scheduled EDR Contact: 07/27/2026
Data Release Frequency: Varies

UST FINDER RELEASE: UST Finder Releases Database
US EPA's UST Finder data is a national composite of leaking underground storage tanks. This data contains information about, and locations of, leaking underground storage tanks. Data was collected from state sources and standardized into a national profile by EPA's Office of Underground Storage Tanks, Office of Research and Development, and the Association of State and Territorial Solid Waste Management Officials.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/31/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 79
Source: Environmental Protecton Agency
Telephone: 202-564-0394
Last EDR Contact: 03/05/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: Semi-Annually

UST FINDER: UST Finder Database
EPA developed UST Finder, a web map application containing a comprehensive, state-sourced national map of underground storage tank (UST) and leaking UST (LUST) data. It provides the attributes and locations of active and closed USTs, UST facilities, and LUST sites from states and from Tribal lands and US territories . UST Finder contains information about proximity of UST facilities and LUST sites to: surface and groundwater public drinking water protection areas; estimated number of private domestic wells and number of people living nearby; and flooding and wildfires.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/04/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 106
Source: Environmental Protection Agency
Telephone: 202-564-0394
Last EDR Contact: 02/05/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: Varies

E MANIFEST: Hazardous Waste Electronic Manifest System
EPA established a national system for tracking hazardous waste shipments electronically. This system, known as ?e-Manifest,? will modernize the nation?s cradle-to-grave hazardous waste tracking process while saving valuable time, resources, and dollars for industry and states.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/05/2025
Date Made Active in Reports: 12/19/2025
Number of Days to Update: 14
Source: Environmental Protection Agency
Telephone: 833-501-6826
Last EDR Contact: 03/17/2026
Next Scheduled EDR Contact: 06/29/2026
Data Release Frequency: Varies

PFAS: PFAS Sampling Listing
The Illinois Environmental Protection Agency (Illinois EPA) has conducted statewide investigations into the prevalence and occurrence of Per- and Polyfluoroalkyl Substances (PFAS) contamination.

Date of Government Version: 12/15/2023
Date Data Arrived at EDR: 12/27/2023
Date Made Active in Reports: 12/29/2023
Number of Days to Update: 2

Source: Illinois Environmental Protection Agency
Telephone: 217-524-3038
Last EDR Contact: 03/04/2026
Next Scheduled EDR Contact: 06/22/2026
Data Release Frequency: Varies

AIRS: Air Inventory Listing

A listing of air permits and emissions information.

Date of Government Version: 11/06/2025
Date Data Arrived at EDR: 01/07/2026
Date Made Active in Reports: 01/30/2026
Number of Days to Update: 23

Source: Illinois EPA
Telephone: 217-557-0314
Last EDR Contact: 03/18/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Varies

ASBESTOS: Asbestos Notification Tracker Information

A listing of asbestos abatement & demolition project site locations in the state.

Date of Government Version: 01/07/2026
Date Data Arrived at EDR: 01/08/2026
Date Made Active in Reports: 01/30/2026
Number of Days to Update: 22

Source: Illinois EPA
Telephone: 217-558-5101
Last EDR Contact: 03/18/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Varies

BOL: Bureau of Land Inventory Database

Bureau of Land inventory for facility information. Data results are cross-linked with all on-line database system applications from IEPA - Bureau of Land as well as USEPA FRS database.

Date of Government Version: 11/14/2025
Date Data Arrived at EDR: 11/17/2025
Date Made Active in Reports: 02/02/2026
Number of Days to Update: 77

Source: Illinois Environmental Protection Agency
Telephone: 217-785-9407
Last EDR Contact: 02/11/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Varies

COAL ASH: Coal Ash Site Listing

A listing of coal ash site lcoations.

Date of Government Version: 10/01/2011
Date Data Arrived at EDR: 03/09/2012
Date Made Active in Reports: 04/10/2012
Number of Days to Update: 32

Source: Illinois EPA
Telephone: 217-782-1654
Last EDR Contact: 02/11/2026
Next Scheduled EDR Contact: 06/01/2026
Data Release Frequency: Annually

DRYCLEANERS: Illinois Licensed Drycleaners

Any retail drycleaning facility in Illinois must apply for a license through the Illinois Drycleaner Environmental Response Trust Fund. Drycleaner Environmental Response Trust Fund of Illinois.

Date of Government Version: 10/17/2025
Date Data Arrived at EDR: 11/06/2025
Date Made Active in Reports: 01/26/2026
Number of Days to Update: 81

Source: Drycleaner Environmental Response Trust Fund of Illinois
Telephone: 800-765-4041
Last EDR Contact: 02/10/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: Varies

FIN ASSURANCE: Financial Assurance Information Listing

Information for hazardous waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/22/2025
Date Data Arrived at EDR: 09/23/2025
Date Made Active in Reports: 12/15/2025
Number of Days to Update: 83

Source: Illinois Environmental Protection Agency
Telephone: 217-782-9887
Last EDR Contact: 02/04/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: No Update Planned

HWAR: Hazard Waste Annual Report

Each year, Illinois hazardous-waste generators tell the Illinois EPA the amounts and kinds of hazardous waste they produced during the previous year. Generators indicate by code the types of wastes produced and the steps they took to manage these wastes. If some or all of these wastes were sent to commercial treatment, storage, and disposal facilities (TSDFs), that information and the identity of each receiving facility also are submitted. Illinois TSDFs likewise report the types and quantities of wastes received from in-state and out-of-state generators; they also report the procedures they used to manage these wastes.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 05/11/2021
Date Made Active in Reports: 08/02/2021
Number of Days to Update: 83

Source: Illinois EPA
Telephone: 217-524-3300
Last EDR Contact: 03/25/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Annually

IMPDMENT: Surface Impoundment Inventory

Statewide inventory of industrial, municipal, mining, oil & gas , and large agricultural impoundment. This study was conducted by the Illinois EPA to assess potentail for contamination of shallow aquifers. This was a one-time study. Although many of the impoundments may no longer be present, the sites may be contaminated.

Date of Government Version: 12/31/1980
Date Data Arrived at EDR: 03/08/2002
Date Made Active in Reports: 06/03/2002
Number of Days to Update: 87

Source: Illinois Waste Management & Research Center
Telephone: 217-333-8940
Last EDR Contact: 05/12/2022
Next Scheduled EDR Contact: 08/22/2022
Data Release Frequency: No Update Planned

NPDES: A Listing of Active Permits

A listing of facilities currently active in the state. The types of permits are public, private, federal and state.

Date of Government Version: 04/16/2014
Date Data Arrived at EDR: 04/18/2014
Date Made Active in Reports: 05/20/2014
Number of Days to Update: 32

Source: Illinois EPA
Telephone: 217-782-0610
Last EDR Contact: 03/18/2026
Next Scheduled EDR Contact: 07/06/2026
Data Release Frequency: Varies

PIMW: Potentially Infectious Medical Waste

Potentially Infectious Medical Waste (PIMW) is waste generated in connection with the diagnosis, treatment (i.e., provision of medical services), or immunization of human beings or animals; research pertaining to the provision of medical services; or the provision or testing of biologicals.

Date of Government Version: 09/05/2025
Date Data Arrived at EDR: 09/09/2025
Date Made Active in Reports: 12/01/2025
Number of Days to Update: 83

Source: Illinois EPA
Telephone: 217-524-3289
Last EDR Contact: 03/09/2026
Next Scheduled EDR Contact: 06/22/2026
Data Release Frequency: Varies

TIER 2: Tier 2 Information Listing

A listing of facilities which store or manufacture hazardous materials and submit a chemical inventory report.

Date of Government Version: 12/31/2024
Date Data Arrived at EDR: 05/06/2025
Date Made Active in Reports: 07/30/2025
Number of Days to Update: 85

Source: Illinois Emergency Management Agency
Telephone: 217-785-9860
Last EDR Contact: 01/28/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: Annually

UIC: Underground Injection Wells

Injection wells are used for disposal of fluids by "injection" into the subsurface. The construction of injection wells range from very technical designs with twenty-four hour monitoring to simply a hole dug in the ground to control runoff. As a result of this diversity, the UIC Program divides injection wells into five different classes.

Date of Government Version: 02/15/2024
Date Data Arrived at EDR: 05/22/2024
Date Made Active in Reports: 08/19/2024
Number of Days to Update: 89

Source: Illinois EPA
Telephone: 217-782-9878
Last EDR Contact: 02/04/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: Semi-Annually

DRYCLEANERS: Drycleaner Facility Listing
A listing of list of ALL Dry cleaner facilities from the Integrated Compliance Information System (ICIS).

Date of Government Version: 12/13/2025
Date Data Arrived at EDR: 12/17/2025
Date Made Active in Reports: 03/12/2026
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 202-254-2501
Last EDR Contact: 03/31/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Varies

ABAND AIRFIELDS: Abandoned & Little-Known Airfields Listing
Abandoned and little known airfield locations, in the United States.

Date of Government Version: 03/04/2026
Date Data Arrived at EDR: 03/05/2026
Date Made Active in Reports: 03/12/2026
Number of Days to Update: 7

Source: Airfields-Freeman
Telephone: N/A
Last EDR Contact: 03/05/2026
Next Scheduled EDR Contact: 06/15/2026
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Natural Resources in Illinois.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Illinois Environmental Protection Agency in Illinois.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/10/2014
Number of Days to Update: 193

Source: Illinois Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Illinois Environmental Protection Agency in Illinois.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: Illinois Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

COOK COUNTY:

CHICAGO ASBESTOS: CDPH Asbestos and Demolition Notification Listing

Notices of Intent (NOI) for demolition and asbestos abatement per Chapter 11-4 Article XVIII of the Municipal Code (see American Legal Publishing Corporation) submitted to the Department of Environment (DOE) for work started January, 1993 to December 31, 2011 or submitted to the Department of Public Health (CDPH) for work beginning on or after January 1, 2012. On January 1, 2012, the DOE was disbanded and all its inspection, permitting, and enforcement authorities were transferred to the CDPH.

Date of Government Version: 12/02/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 02/20/2026
Number of Days to Update: 79

Source: Chicago Department of Public Health
Telephone: 312-747-9884
Last EDR Contact: 03/10/2026
Next Scheduled EDR Contact: 06/22/2026
Data Release Frequency: Varies

CHICAGO COMPLAINTS: CDPH Environmental Complaints Listing

Environmental complaints received by the Department of Environment (DOE) from January 1993 to December 31, 2011 and by the Department of Public Health (CDPH) since January 1, 2012. On January 1, 2012, the DOE was disbanded and all its inspection, permitting, and enforcement authorities were transferred to the CDPH.

Date of Government Version: 12/02/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 02/20/2026
Number of Days to Update: 79

Source: Chicago Department of Public Health
Telephone: 312-747-9884
Last EDR Contact: 03/10/2026
Next Scheduled EDR Contact: 06/22/2026
Data Release Frequency: Varies

CHICAGO ENF: CDPH Environmental Enforcement Listing

Municipal and State code violation notices issued by the Department of Environment (DOE) from January, 1993 to December 31, 2012 and by the Department of Public Health (CDPH) Permitting and Inspections unit since January 1, 2012. On January 1, 2012, the DOE was disbanded and all its inspection, permitting, and enforcement authorities were transferred to the CDPH..

Date of Government Version: 11/22/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 02/20/2026
Number of Days to Update: 79

Source: Chicago Department of Public Health
Telephone: 312-747-9884
Last EDR Contact: 03/10/2026
Next Scheduled EDR Contact: 06/22/2026
Data Release Frequency: Varies

CHICAGO INSPECT: CDPH Environmental Inspections Listing

Inspections conducted by the Department of Environment (DOE) from April, 1997 to December 31, 2011 and by the Department of Public Health (CDPH) since January 1, 2012. On January 1, 2012, the Department of Environment was disbanded and all its inspection, permitting, and enforcement authorities were transferred to the CDPH.

Date of Government Version: 12/02/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 02/20/2026
Number of Days to Update: 79

Source: Chicago Department of Public Health
Telephone: 312-747-9884
Last EDR Contact: 03/10/2026
Next Scheduled EDR Contact: 06/22/2026
Data Release Frequency: Varies

CHICAGO PERMITS: CDPH Environmental Permits Listing

Permits issued by the Department of Environment (DOE) from January 1993 to December 31, 2011 and by the Department of Public Health (CDPH) since January 1, 2012. This dataset also includes tank permits issued by CDPH on behalf of the Office of the Illinois State Fire Marshall (OSFM). On January 1, 2012, the DOE was disbanded and all its inspection, permitting, and enforcement authorities were transferred to the CDPH.

Date of Government Version: 12/02/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 02/20/2026
Number of Days to Update: 79

Source: Chicago Department of Public Health
Telephone: 312-747-9884
Last EDR Contact: 03/10/2026
Next Scheduled EDR Contact: 06/22/2026
Data Release Frequency: Varies

CHICAGO TANKS: CDPH Storage Tanks Listing

This dataset contains Aboveground Storage Tank (AST) and Underground Storage Tank (UST) information from the Department of Public Healtha??s (CDPH) Tank Asset Database. The Tank Asset Database contains tank information from CDPH AST and UST permit applications as well as UST records imported from the historic Department of Environment (DOE) database. This dataset also includes AST records from the historic DOE and pre-1992 UST records from the Building Department.

Date of Government Version: 03/31/2025
Date Data Arrived at EDR: 06/10/2025
Date Made Active in Reports: 09/03/2025
Number of Days to Update: 85

Source: Department of Public Health
Telephone: 312-747-2374
Last EDR Contact: 03/09/2026
Next Scheduled EDR Contact: 06/22/2026
Data Release Frequency: Quarterly

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 02/01/2026
Date Data Arrived at EDR: 02/03/2026
Date Made Active in Reports: 04/27/2026
Number of Days to Update: 83

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 02/03/2026
Next Scheduled EDR Contact: 05/18/2026
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 03/25/2026
Next Scheduled EDR Contact: 07/13/2026
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 12/01/2023
Number of Days to Update: 1

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 04/21/2026
Next Scheduled EDR Contact: 08/03/2026
Data Release Frequency: No Update Planned

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/01/2026
Next Scheduled EDR Contact: 07/20/2026
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/18/2022
Number of Days to Update: 80

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/05/2026
Next Scheduled EDR Contact: 05/25/2026
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 02/25/2026
Next Scheduled EDR Contact: 06/15/2026
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Homes & Centers Listing
Source: Department of Children & Family Services
Telephone: 312-814-4150

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Illinois State Geological Survey
Telephone: 217-333-4747

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

ARENA NAVIGATOR 1 SOLAR, LLC
HARRIS LANE
ALTON, IL 62002

TARGET PROPERTY COORDINATES

Latitude (North):	38.930666 - 38° 55' 50.40''
Longitude (West):	90.101746 - 90° 6' 6.29''
Universal Tranverse Mercator:	Zone 15
UTM X (Meters):	751238.8
UTM Y (Meters):	4312869.5
Elevation:	521 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	50052013 BETHALTO, IL
Version Date:	2024
West Map:	50052571 ALTON, IL
Version Date:	2024

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

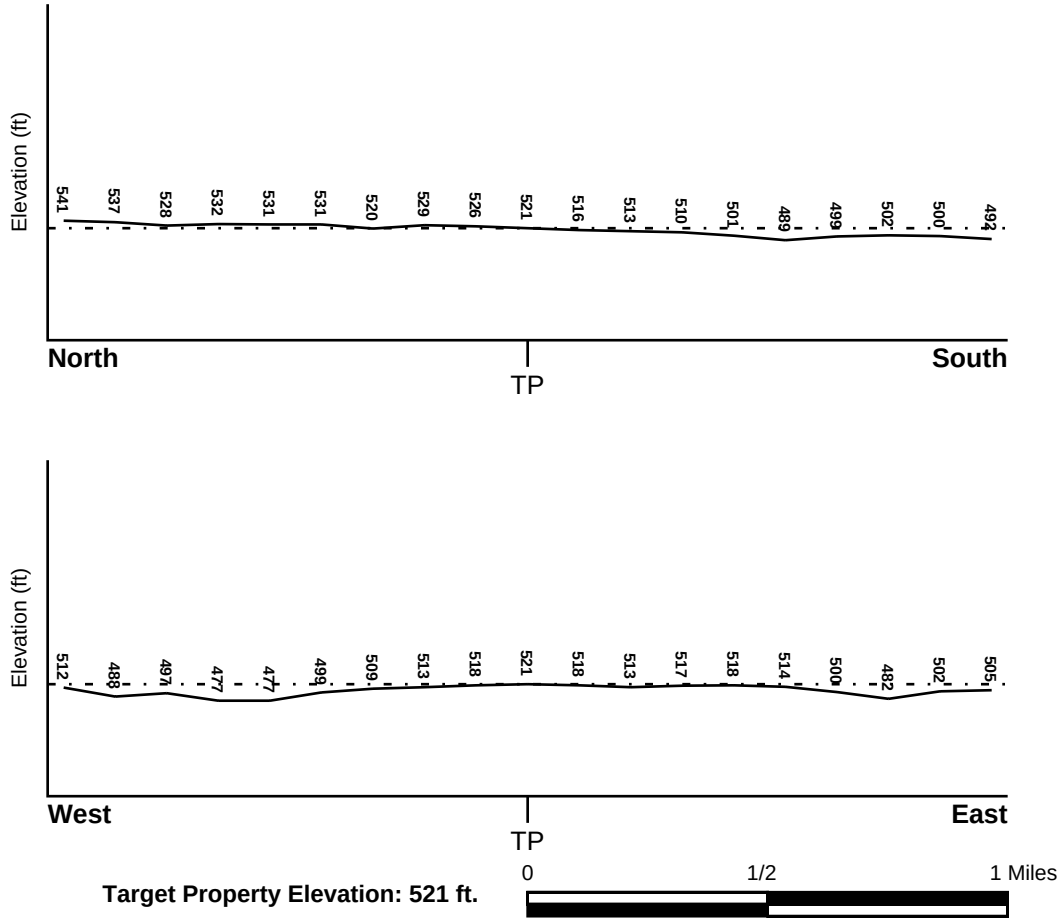
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General South

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
1704360105B	FEMA Q3 Flood data

Additional Panels in search area:	FEMA Source Type
1704360125B	FEMA Q3 Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
BETHALTO	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

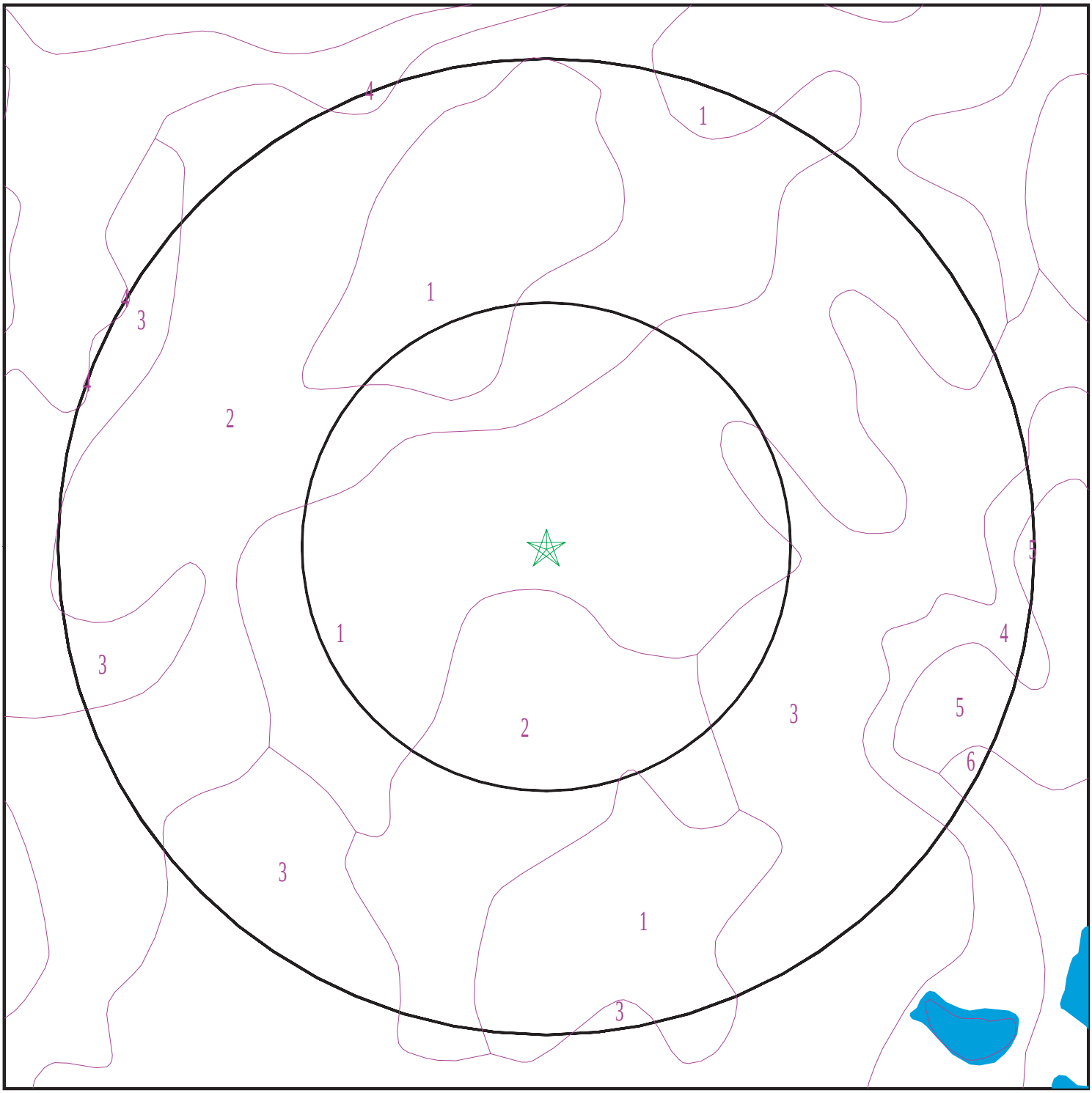
Era:	Paleozoic
System:	Pennsylvanian
Series:	Des Moinesian Series
Code:	PP2 *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 8327275.2s



SITE NAME:	Arena Navigator 1 Solar, LLC	CLIENT:	Kimley Horn & Associates, Inc.
ADDRESS:	Harris Lane Alton IL 62002	CONTACT:	Adynn Stedillie
LAT/LONG:	38.930666 / 90.101746	INQUIRY #:	8327275.2s
		DATE:	April 28, 2026 3:15 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Weir

Soil Surface Texture: silty clay loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Poorly drained

Hydric Status: All hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 15 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	18 inches	61 inches	silty clay loam	Not reported	Not reported	Max: 1.41 Min: 0.42	Max: 7 Min: 4.5
2	0 inches	9 inches	silt loam	Not reported	Not reported	Max: 1.41 Min: 0.42	Max: 7 Min: 4.5
3	9 inches	18 inches	silt loam	Not reported	Not reported	Max: 1.41 Min: 0.42	Max: 7 Min: 4.5
4	61 inches	79 inches	silt loam	Not reported	Not reported	Max: 1.41 Min: 0.42	Max: 7 Min: 4.5

Soil Map ID: 2

Soil Component Name: Caseyville

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Somewhat poorly drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 38 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14.11 Min: 4.23	Max: 7.8 Min: 5.6
2	7 inches	16 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14.11 Min: 4.23	Max: 7.8 Min: 5.6
3	16 inches	61 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14.11 Min: 4.23	Max: 7.8 Min: 5.6
4	61 inches	79 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14.11 Min: 4.23	Max: 7.8 Min: 5.6

Soil Map ID: 3

Soil Component Name: Caseyville

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Somewhat poorly drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 38 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14.11 Min: 4.23	Max: 7.8 Min: 5.6
2	7 inches	16 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14.11 Min: 4.23	Max: 7.8 Min: 5.6
3	16 inches	61 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14.11 Min: 4.23	Max: 7.8 Min: 5.6
4	61 inches	79 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14.11 Min: 4.23	Max: 7.8 Min: 5.6

Soil Map ID: 4

Soil Component Name: Winfield

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Moderately well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 84 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14.11 Min: 4.23	Max: 7.3 Min: 5.1
2	9 inches	12 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14.11 Min: 4.23	Max: 7.3 Min: 5.1
3	12 inches	61 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14.11 Min: 4.23	Max: 7.3 Min: 5.1
4	61 inches	79 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 14.11 Min: 4.23	Max: 7.3 Min: 5.1

Soil Map ID: 5

Soil Component Name: Winfield

Soil Surface Texture: silty clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 84 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	silty clay loam	Not reported	Not reported	Max: 14.11 Min: 4.23	Max: 7.3 Min: 5.1
2	5 inches	48 inches	silty clay loam	Not reported	Not reported	Max: 14.11 Min: 4.23	Max: 7.3 Min: 5.1
3	48 inches	79 inches	silt loam	Not reported	Not reported	Max: 14.11 Min: 4.23	Max: 7.3 Min: 5.1

Soil Map ID: 6

Soil Component Name: Menfro

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	silt loam	Not reported	Not reported	Max: 14.11 Min: 4.23	Max: 7.8 Min: 5.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	7 inches	55 inches	silty clay loam	Not reported	Not reported	Max: 14.11 Min: 4.23	Max: 7.8 Min: 5.6
3	55 inches	79 inches	silt loam	Not reported	Not reported	Max: 14.11 Min: 4.23	Max: 7.8 Min: 5.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	ILSGS5000254011	1/8 - 1/4 Mile NNE
2	ILSGS5000253745	1/8 - 1/4 Mile ENE
3	ILSGS5000254010	1/4 - 1/2 Mile NE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

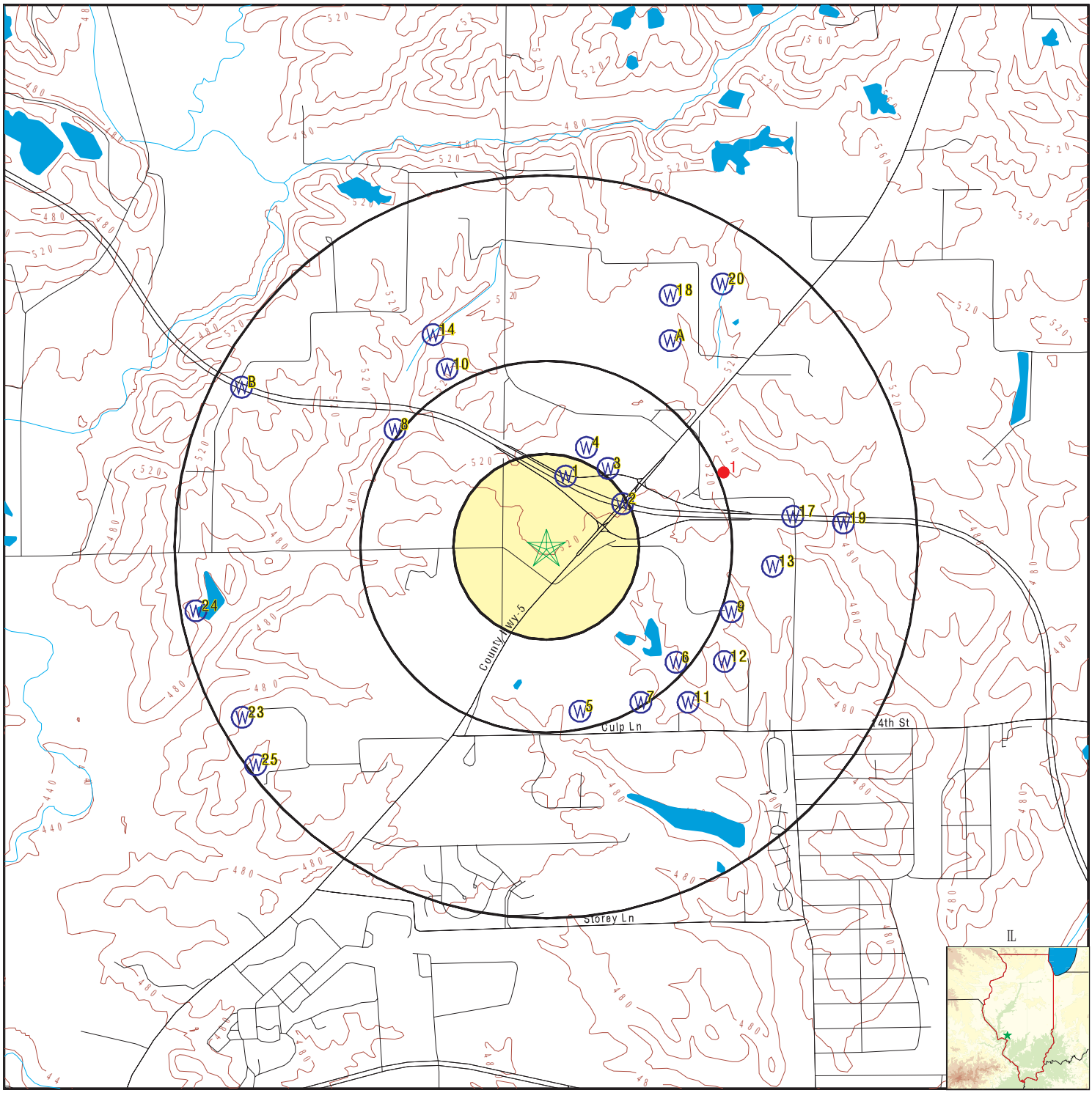
MAP ID	WELL ID	LOCATION FROM TP
4	ILSGS5000254066	1/4 - 1/2 Mile NNE
5	ILSGS5000249522	1/4 - 1/2 Mile SSE
6	ILSGS5000249491	1/4 - 1/2 Mile SE
7	ILPW85819	1/4 - 1/2 Mile SSE
8	ILSGS5000253815	1/2 - 1 Mile NW
9	ILPW85817	1/2 - 1 Mile ESE
10	ILPW85805	1/2 - 1 Mile NNW
11	ILPW85818	1/2 - 1 Mile SE
12	ILSGS5000250904	1/2 - 1 Mile ESE
13	ILSGS5000249371	1/2 - 1 Mile East
14	ILSGS5000249998	1/2 - 1 Mile NNW
A15	ILPW85803	1/2 - 1 Mile NNE
A16	ILPW85802	1/2 - 1 Mile NNE
17	ILSGS5000253746	1/2 - 1 Mile East
18	ILPW85804	1/2 - 1 Mile NNE
19	ILSGS5000253747	1/2 - 1 Mile East
20	ILSGS5000249149	1/2 - 1 Mile NE
B21	ILSGS5000250903	1/2 - 1 Mile WNW
B22	ILSGS5000253816	1/2 - 1 Mile WNW
23	ILSGS5000251143	1/2 - 1 Mile WSW
24	ILSGS5000255959	1/2 - 1 Mile West
25	ILSGS5000251236	1/2 - 1 Mile SW

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	ILOG30000123671	1/2 - 1 Mile ENE

PHYSICAL SETTING SOURCE MAP - 8327275.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Arena Navigator 1 Solar, LLC	CLIENT:	Kimley Horn & Associates, Inc.
ADDRESS:	Harris Lane Alton IL 62002	CONTACT:	Adynn Stedillie
		INQUIRY #:	8327275.2s
LAT/LONG:	38.930666 / 90.101746	DATE:	April 28, 2026 3:15 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
NNE **IL WELLS** **ILSGS5000254011**
1/8 - 1/4 Mile
Higher

WELLS SGS:

API #:	121192822500	IL SPWS #:	0
Status:	Engineering Test	Date Drilled:	2002/02/12 19:00:00.0
Farm Name:	B-303	Owner:	Transmission Tower Structures
Well Name:	B-303	Well Type:	Not Reported
Driller:	Engineering Consulting Services		
Elevation:	530	Elevation Reference:	Topographic map
Total Depth:	32	Lithologic Formation:	Not Reported
Top of Formation (ft):	0	Bottom of Formation (ft):	0
Pump Flow (gpm):	0		
URL:	https://data.prairie.illinois.edu/GEOPROD/water_summary.aspx?api10=1211928225&wo=00		

2
ENE **IL WELLS** **ILSGS5000253745**
1/8 - 1/4 Mile
Higher

WELLS SGS:

API #:	121192794700	IL SPWS #:	0
Status:	Engineering Test	Date Drilled:	1993/11/07 19:00:00.0
Farm Name:	3 E Abut	Owner:	FAP 310 over Fosterburg Rd.
Well Name:	3 E Abut	Well Type:	Not Reported
Driller:	IL Div. of Highways	Elevation:	517
Elevation Reference:	Ground level	Total Depth:	66
Lithologic Formation:	Not Reported	Top of Formation (ft):	0
Bottom of Formation (ft):	0	Pump Flow (gpm):	0
URL:	https://data.prairie.illinois.edu/GEOPROD/water_summary.aspx?api10=1211927947&wo=00		

3
NE **IL WELLS** **ILSGS5000254010**
1/4 - 1/2 Mile
Higher

WELLS SGS:

API #:	121192822400	IL SPWS #:	0
Status:	Engineering Test	Date Drilled:	2002/02/12 19:00:00.0
Farm Name:	B-302	Owner:	Transmission Tower Structure
Well Name:	B-302	Well Type:	Not Reported
Driller:	Engineering Consulting Services		
Elevation:	530	Elevation Reference:	Topographic map
Total Depth:	31	Lithologic Formation:	Not Reported
Top of Formation (ft):	0	Bottom of Formation (ft):	0
Pump Flow (gpm):	0		
URL:	https://data.prairie.illinois.edu/GEOPROD/water_summary.aspx?api10=1211928224&wo=00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

4
NNE | **IL WELLS** | **ILSGS5000254066**
1/4 - 1/2 Mile
Higher

WELLS SGS:

API #:	121192828000	IL SPWS #:	0
Status:	Outcrop	Date Drilled:	2003/06/17 20:00:00.0
Farm Name:	Not Reported	Owner:	I-255, BTH-21f
Well Name:	Not Reported	Well Type:	Not Reported
Driller:	IL State Geological Survey		
Elevation:	530	Elevation Reference:	Topographic map
Total Depth:	8	Lithologic Formation:	Not Reported
Top of Formation (ft):	0	Bottom of Formation (ft):	0
Pump Flow (gpm):	0		
URL:	https://data.prairie.illinois.edu/GEOPROD/water_summary.aspx?api10=1211928280&wo=00		

5
SSE | **IL WELLS** | **ILSGS5000249522**
1/4 - 1/2 Mile
Lower

WELLS SGS:

API #:	121192290900	IL SPWS #:	0
Status:	Water Well	Date Drilled:	1973/09/14 20:00:00.0
Farm Name:	Not Reported	Owner:	Gabriel, Dorthey
Well Name:	Not Reported	Well Type:	Not Reported
Driller:	Bush, Henry L.	Elevation:	0
Elevation Reference:	Not Reported	Total Depth:	35
Lithologic Formation:	sandy clay	Top of Formation (ft):	24
Bottom of Formation (ft):	25	Pump Flow (gpm):	0
URL:	https://data.prairie.illinois.edu/GEOPROD/water_summary.aspx?api10=1211922909&wo=00		

6
SE | **IL WELLS** | **ILSGS5000249491**
1/4 - 1/2 Mile
Lower

WELLS SGS:

API #:	121192287400	IL SPWS #:	0
Status:	Water Well	Date Drilled:	1973/10/19 20:00:00.0
Farm Name:	Not Reported	Owner:	Gabriel, Dorthey
Well Name:	Not Reported	Well Type:	Not Reported
Driller:	Bush, Henry L.	Elevation:	0
Elevation Reference:	Not Reported	Total Depth:	30
Lithologic Formation:	sandy clay	Top of Formation (ft):	22
Bottom of Formation (ft):	25	Pump Flow (gpm):	0
URL:	https://data.prairie.illinois.edu/GEOPROD/water_summary.aspx?api10=1211922874&wo=00		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

7
SSE | **IL WELLS** | **ILPW85819**
1/4 - 1/2 Mile
Lower

Database:	Illinois Private Well Database and PICS		
Well ID:	85819	2nd ID:	Not Reported
Owner:	CLOVER LEAF GOLF COURSE	Driller:	H L BUSH
Date drilled:	10/20/1973	Permit:	M021558
Depth:	30	Record type:	RG
Well Use:	Irrigation	Well Type:	~~
Aquifer type:	~~		

8
NW | **IL WELLS** | **ILSGS5000253815**
1/2 - 1 Mile
Lower

WELLS SGS:

API #:	121192801800	IL SPWS #:	0
Status:	Engineering Test	Date Drilled:	2000/03/28 20:00:00.0
Farm Name:	SB 4S	Owner:	Box culvert/Soil Survey Mainline
Well Name:	SB 4S	Well Type:	Not Reported
Driller:	IL Div. of Highways	Elevation:	489
Elevation Reference:	Ground level	Total Depth:	26
Lithologic Formation:	Not Reported	Top of Formation (ft):	0
Bottom of Formation (ft):	0	Pump Flow (gpm):	0
URL:	https://data.prairie.illinois.edu/GEOPROD/water_summary.aspx?api10=1211928018&wo=00		

9
ESE | **IL WELLS** | **ILPW85817**
1/2 - 1 Mile
Lower

Database:	Illinois Private Well Database and PICS		
Well ID:	85817	2nd ID:	Not Reported
Owner:	BILL BROOKS	Driller:	GUST BEKEMEYER
Date drilled:	02/03/1973	Permit:	M017516
Depth:	31	Record type:	RG
Well Use:	Domestic	Well Type:	~~
Aquifer type:	~~		

10
NNW | **IL WELLS** | **ILPW85805**
1/2 - 1 Mile
Higher

Database:	Illinois Private Well Database and PICS		
Well ID:	85805	2nd ID:	Not Reported
Owner:	RICH FRANZ	Driller:	GARY E NOLL
Date drilled:	05/10/1977	Permit:	M058296
Depth:	35	Record type:	RG
Well Use:	Domestic	Well Type:	~~
Aquifer type:	~~		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

11
SE
1/2 - 1 Mile
Lower

IL WELLS **ILPW85818**

Database:	Illinois Private Well Database and PICS		
Well ID:	85818	2nd ID:	Not Reported
Owner:	STEVEN RUPPERT	Driller:	HENRY L BUSH
Date drilled:	07/20/1982	Permit:	M104014
Depth:	35	Record type:	RG
Well Use:	Domestic	Well Type:	~~
Aquifer type:	~~		

12
ESE
1/2 - 1 Mile
Lower

IL WELLS **ILSGS5000250904**

WELLS SGS:

API #:	121192483200	IL SPWS #:	0
Status:	Water Well	Date Drilled:	1982/07/19 20:00:00.0
Farm Name:	Not Reported	Owner:	Ruppert, Steven
Well Name:	Not Reported	Well Type:	Private Water Well
Driller:	Bush, Henry L	Elevation:	0
Elevation Reference:	Not Reported	Total Depth:	35
Lithologic Formation:	sandy clay	Top of Formation (ft):	21
Bottom of Formation (ft):	24	Pump Flow (gpm):	0
URL:	https://data.prairie.illinois.edu/GEOPROD/water_summary.aspx?api10=1211924832&wo=00		

13
East
1/2 - 1 Mile
Lower

IL WELLS **ILSGS5000249371**

WELLS SGS:

API #:	121190275000	IL SPWS #:	0
Status:	Water Well	Date Drilled:	Not Reported
Farm Name:	Not Reported	Owner:	Brooks, Bill
Well Name:	Not Reported	Well Type:	Not Reported
Driller:	Bekemeyer, Gust	Elevation:	0
Elevation Reference:	Not Reported	Total Depth:	31
Lithologic Formation:	clay	Top of Formation (ft):	0
Bottom of Formation (ft):	0	Pump Flow (gpm):	0
URL:	https://data.prairie.illinois.edu/GEOPROD/water_summary.aspx?api10=1211902750&wo=00		

14
NNW
1/2 - 1 Mile
Lower

IL WELLS **ILSGS5000249998**

WELLS SGS:

API #:	121192346200	IL SPWS #:	0
Status:	Water Well	Date Drilled:	Not Reported

Farm Name:	Not Reported	Owner:	Franz, Rich
Well Name:	Not Reported	Well Type:	Not Reported
Driller:	Noll, Gary E.	Elevation:	0
Elevation Reference:	Not Reported	Total Depth:	35
Lithologic Formation:	clay	Top of Formation (ft):	0
Bottom of Formation (ft):	0	Pump Flow (gpm):	0
URL:	https://data.prairie.illinois.edu/GEOPROD/water_summary.aspx?api10=1211923462&wo=00		

A15
NNE
1/2 - 1 Mile
Higher

IL WELLS **ILPW85803**

Database:	Illinois Private Well Database and PICS		
Well ID:	85803	2nd ID:	Not Reported
Owner:	FRANK YANKOVICH 2	Driller:	FRANK YANKOVICH
Date drilled:	06/01/1952	Permit:	Not Reported
Depth:	41	Record type:	RGC
Well Use:	Domestic	Well Type:	~~
Aquifer type:	~~		

A16
NNE
1/2 - 1 Mile
Higher

IL WELLS **ILPW85802**

Database:	Illinois Private Well Database and PICS		
Well ID:	85802	2nd ID:	Not Reported
Owner:	EDWARD KREITNER 1	Driller:	JOHN REYNOLDS
Date drilled:	06/14/1957	Permit:	Not Reported
Depth:	65	Record type:	RGC
Well Use:	Domestic	Well Type:	~~
Aquifer type:	~~		

17
East
1/2 - 1 Mile
Lower

IL WELLS **ILSGS5000253746**

WELLS SGS:

API #:	121192794800	IL SPWS #:	0
Status:	Engineering Test	Date Drilled:	1993/08/22 20:00:00.0
Farm Name:	2 N.Abut	Owner:	Stutz Lane over FAP 310
Well Name:	2 N.Abut	Well Type:	Not Reported
Driller:	IL Div. of Highways	Elevation:	501
Elevation Reference:	Ground level	Total Depth:	67
Lithologic Formation:	Not Reported	Top of Formation (ft):	0
Bottom of Formation (ft):	0	Pump Flow (gpm):	0
URL:	https://data.prairie.illinois.edu/GEOPROD/water_summary.aspx?api10=1211927948&wo=00		

Map ID Direction Distance Elevation		Database	EDR ID Number
18 **NNE** **1/2 - 1 Mile** **Higher**		**IL WELLS**	**ILPW85804**

Database:	Illinois Private Well Database and PICS		
Well ID:	85804	2nd ID:	Not Reported
Owner:	WALTER WAGENFIELD	Driller:	GUST BEKEMEYER
Date drilled:	02/05/1971	Permit:	M009181
Depth:	34	Record type:	RG
Well Use:	Domestic	Well Type:	~~
Aquifer type:	~~		

19
East **IL WELLS** **ILSGS5000253747**
1/2 - 1 Mile
Lower

WELLS SGS:

API #:	121192794900	IL SPWS #:	0
Status:	Engineering Test	Date Drilled:	1995/01/08 19:00:00.0
Farm Name:	BC13-1	Owner:	Box culvert/Stanley Creek
Well Name:	BC13-1	Well Type:	Not Reported
Driller:	IL Div. of Highways	Elevation:	482
Elevation Reference:	Ground level	Total Depth:	32
Lithologic Formation:	Not Reported	Top of Formation (ft):	0
Bottom of Formation (ft):	0	Pump Flow (gpm):	0
URL:	https://data.prairie.illinois.edu/GEOPROD/water_summary.aspx?api10=1211927949&wo=00		

20
NE **IL WELLS** **ILSGS5000249149**
1/2 - 1 Mile
Higher

WELLS SGS:

API #:	121190247700	IL SPWS #:	0
Status:	Water Well	Date Drilled:	Not Reported
Farm Name:	Not Reported	Owner:	Wagenfield, Walter
Well Name:	Not Reported	Well Type:	Not Reported
Driller:	Bekemeyer, Gust	Elevation:	0
Elevation Reference:	Not Reported	Total Depth:	34
Lithologic Formation:	clay	Top of Formation (ft):	0
Bottom of Formation (ft):	0	Pump Flow (gpm):	0
URL:	https://data.prairie.illinois.edu/GEOPROD/water_summary.aspx?api10=1211902477&wo=00		

B21
WNW **IL WELLS** **ILSGS5000250903**
1/2 - 1 Mile
Higher

WELLS SGS:

API #:	121192483100	IL SPWS #:	0
Status:	Water Well	Date Drilled:	1982/07/09 20:00:00.0

Farm Name:	Not Reported	Owner:	Harmon, Foster
Well Name:	Not Reported	Well Type:	Private Water Well
Driller:	Bush, Henry L	Elevation:	0
Elevation Reference:	Not Reported	Total Depth:	40
Lithologic Formation:	sandy clay	Top of Formation (ft):	18
Bottom of Formation (ft):	20	Pump Flow (gpm):	0
URL:	https://data.prairie.illinois.edu/GEOPROD/water_summary.aspx?api10=1211924831&wo=00		

B22
WNW **IL WELLS** **ILSGS5000253816**
1/2 - 1 Mile
Higher

WELLS SGS:

API #:	121192801900	IL SPWS #:	0
Status:	Engineering Test	Date Drilled:	1997/08/05 20:00:00.0
Farm Name:	B1-1	Owner:	Vonnahmen Rd. over IL 255
Well Name:	B1-1	Well Type:	Not Reported
Driller:	IL Div. of Highways	Elevation:	525
Elevation Reference:	Ground level	Total Depth:	66
Lithologic Formation:	Not Reported	Top of Formation (ft):	0
Bottom of Formation (ft):	0	Pump Flow (gpm):	0
URL:	https://data.prairie.illinois.edu/GEOPROD/water_summary.aspx?api10=1211928019&wo=00		

23
WSW **IL WELLS** **ILSGS5000251143**
1/2 - 1 Mile
Lower

WELLS SGS:

API #:	121192513600	IL SPWS #:	436132
Status:	Water Well	Date Drilled:	Not Reported
Farm Name:	Not Reported	Owner:	Jenkins, Mary
Well Name:	Not Reported	Well Type:	Private Water Well
Driller:	Bush, Henry L	Elevation:	0
Elevation Reference:	Not Reported	Total Depth:	42
Lithologic Formation:	red clay	Top of Formation (ft):	20
Bottom of Formation (ft):	22	Pump Flow (gpm):	0
URL:	https://data.prairie.illinois.edu/GEOPROD/water_summary.aspx?api10=1211925136&wo=00		

24
West **IL WELLS** **ILSGS5000255959**
1/2 - 1 Mile
Lower

WELLS SGS:

API #:	121193029700	IL SPWS #:	0
Status:	Water Well	Date Drilled:	2022/09/07 20:00:00.0
Farm Name:	Not Reported	Owner:	Chism
Well Name:	Not Reported	Well Type:	Geothermal Heating and Cooling
Driller:	Durbin, Dominique	Elevation:	0
Elevation Reference:	Not Reported	Total Depth:	180
Lithologic Formation:	Not Reported	Top of Formation (ft):	0
Bottom of Formation (ft):	0	Pump Flow (gpm):	0
URL:	https://data.prairie.illinois.edu/GEOPROD/water_summary.aspx?api10=1211930297&wo=00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID Direction Distance Elevation		Database	EDR ID Number
25 SW 1/2 - 1 Mile Lower		**IL WELLS**	**ILSGS5000251236**

WELLS SGS:

API #:	121192523700	IL SPWS #:	0
Status:	Water Well	Date Drilled:	1989/03/30 20:00:00.0
Farm Name:	Not Reported	Owner:	Urig, Robert
Well Name:	Not Reported	Well Type:	Private Water Well
Driller:	Bush, Henry L	Elevation:	0
Elevation Reference:	Not Reported	Total Depth:	40
Lithologic Formation:	Not Reported	Top of Formation (ft):	28
Bottom of Formation (ft):	30	Pump Flow (gpm):	0
URL:	https://data.prairie.illinois.edu/GEOPROD/water_summary.aspx?api10=1211925237&wo=00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

1
ENE **OIL_GAS** **ILOG30000123671**
1/2 - 1 Mile

API #:	121192611500	Permit ID:	Not Reported
Permit Date:	Not Reported	Well Status:	Unknown
Max Depth:	75	Date Completed:	19310401050000
Formation:	Not Reported	Company Name:	Painter etal
Well Name:	Stutz	Well #:	1
Elevation:	518	Elevation Reference:	Not Reported
Logs:	Not Reported	ILStrat URL:	Not Reported
URL:	https://isgs-oas.isgs.illinois.edu/reports/rwservlet?oilsummary&121192611500		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: IL Radon

Radon Test Results

Zipcode	Result
62002	0.7
62002	2.2
62002	5.5
62002	3.5

Federal EPA Radon Zone for MADISON County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 62002

Number of sites tested: 10

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.750 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	2.350 pCi/L	90%	10%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Illinois State Geological Survey
Telephone: 217-333-4747

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

Oil and Gas Wells Listing
Source: Illinois State Geological Survey
Telephone: 217-333-5109
Oil and gas wells location points from the Illinois State Geological Survey database.

Water Well Records
Source: Illinois Geological Survey
Telephone: 217-333-4747

Illinois Private Well Database and PICS (Public, Industrial, Commercial Survey)
Source: Illinois State Water Survey
Telephone: 217-333-9043

Water Well Location Information
Source: Illinois Environmental Protection Agency
Telephone: 217-782-0810

RADON

State Database: IL Radon
Source: Department of Nuclear Safety
Telephone: 217-785-9958
County Radon Results

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

STREET AND ADDRESS INFORMATION

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Appendix F

United States Department of Agriculture

Natural Resources Conservation Service

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

Custom Soil Resource Report for Madison County, Illinois



April 29, 2026

Preface

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

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

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

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

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

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

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How Soil Surveys Are Made

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

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

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

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

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

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

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

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

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

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

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

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

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

Soil Map

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



Map Scale: 1:3,030 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 40 80 160 240

Feet
0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Madison County, Illinois
Survey Area Data: Version 20, Aug 31, 2025

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

Date(s) aerial images were photographed: Jul 22, 2022—Aug 25, 2022

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
165A	Weir silt loam, 0 to 2 percent slopes	19.1	69.6%
267A	Caseyville silt loam, 0 to 2 percent slopes	7.7	28.3%
267B	Caseyville silt loam, 2 to 5 percent slopes	0.6	2.1%
Totals for Area of Interest		**27.4**	**100.0%**

Map Unit Descriptions

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

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

Madison County, Illinois

165A—Weir silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2wk1n
Landscape: Uplands
Elevation: 330 to 820 feet
Mean annual precipitation: 38 to 46 inches
Mean annual air temperature: 54 to 58 degrees F
Frost-free period: 180 to 195 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

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

Description of Weir

Setting

Landscape: Uplands
Landform: Flats
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess

Typical profile

Ap - 0 to 8 inches: silt loam
Eg - 8 to 17 inches: silt loam
Btg - 17 to 39 inches: silty clay loam
Cg - 39 to 79 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.01 to 0.06 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: Occasional
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Ecological site: F114XB803IN - Wet Silty Eolian Forest
Hydric soil rating: Yes

Minor Components

Blair, eroded

Percent of map unit: 5 percent
Landscape: Uplands
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F114XB502IN - Wet Till Upland Forest
Hydric soil rating: No

Stoy

Percent of map unit: 5 percent
Landscape: Uplands
Landform: Loess hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F114XB803IN - Wet Silty Eolian Forest
Hydric soil rating: No

267A—Caseyville silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 6nzc
Elevation: 400 to 800 feet
Mean annual precipitation: 37 to 46 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 170 to 200 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Caseyville and similar soils: 90 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Caseyville

Setting

Landform: Ground moraines
Landform position (two-dimensional): Summit
Down-slope shape: Linear
Across-slope shape: Linear

Typical profile

H1 - 0 to 7 inches: silt loam
H2 - 7 to 16 inches: silt loam

H3 - 16 to 62 inches: silty clay loam
H4 - 62 to 80 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 6 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Very high (about 12.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Ecological site: F114XB803IN - Wet Silty Eolian Forest
Hydric soil rating: No

Minor Components

Pierron

Percent of map unit: 3 percent
Landform: Slight depressions, Till plains
Landform position (two-dimensional): Summit
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F114XB803IN - Wet Silty Eolian Forest
Hydric soil rating: Yes

267B—Caseyville silt loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 6nzd
Elevation: 400 to 800 feet
Mean annual precipitation: 37 to 45 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 170 to 200 days
Farmland classification: All areas are prime farmland

Map Unit Composition

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

Description of Caseyville

Setting

Landform: Ground moraines
Landform position (two-dimensional): Summit, shoulder
Down-slope shape: Convex
Across-slope shape: Convex

Typical profile

H1 - 0 to 7 inches: silt loam
H2 - 7 to 16 inches: silt loam
H3 - 16 to 62 inches: silty clay loam
H4 - 62 to 80 inches: silt loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 6 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water supply, 0 to 60 inches: Very high (about 12.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B/D
Ecological site: F114XB803IN - Wet Silty Eolian Forest
Hydric soil rating: No

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Appendix G

Kimley»Horn

SITE ASSESSMENT OWNER QUESTIONNAIRE

Property Address/Parcel ID(s):	20-1-02-33-00-000-010 AND 20-1-02-33-04-401-009
Name, Phone No, Address (if different than above):	FOSTERBURG 255, LLC 622 EMERSON RD STE 250 ST. LOUIS, MO 63141
Date Completed:	5/12/26

Your relationship to the property (Owner, Owner Representative, Property Manager, Tenant, etc.):
OWNER

How long have you been associated with, or had knowledge of, the property?
APPROXIMATELY 20 YEARS

Section 1 Current and Historical Uses of Property

1. Name(s) of current and any previous occupant(s) or provide a tenant list.
NO OCCUPANTS

2. Please describe the current use(s) of the property or indicate uses on the tenant list.
FARMING

3. Please describe the past (historic) uses of the property, with approximate dates.
FARMING

4. Has a previous Phase I ESA or other Environmental Investigation been done on the property? Please provide a copy of these previous studies.
UNABLE TO LOCATE ANY PREVIOUS PHASE 1 REPORTS

Section 2 Potential Environmental Conditions

If you are aware of any of the conditions identified, please answer "yes" so that we can clarify all past and present environmental conditions.

	Conditions	Yes	No
1.	**Industrial Uses of Subject or Adjoining Properties** Industrial uses including but not limited to: gas/service stations, auto repair or painting, printing, dry cleaners, photo processing, or chrome plating, smelting petroleum refining and/or other chemical manufacturing *If Yes, please explain:*	☐	☒
2.	**Agricultural / Aquiculture Uses** Crop production, concentrated animal feeding (poultry, cattle, fish, etc.) *If Yes, please explain:* FARMING ONLY	☒	☐
3.	**Waste Storage or Disposal** Junkyard, recycling facility, battery storage, landfill, dump, wastewater lagoon *If Yes, please explain:*	☐	☒
4.	**Equipment Use, Storage, or Abandonment** Production lines, hydraulic equipment, vehicles, heavy equipment *If Yes, please explain:*	☐	☒
5.	**Hazardous Materials** (greater than 5-gallon containers or 25-lb bags) Pesticides, paints, solvents, acids, bases, antifreeze, other regulated materials *If Yes, please explain:*	☐	☒
6.	**Petroleum Hydrocarbons** (greater than 5 gallon containers) Gasoline, diesel, lubricating oil, waste oil, fuel oil, heating oil or bunker oil, kerosene, benzene, toluene, ethylbenzene xylene, aviation or jet fuel *If Yes, please explain:*	☐	☒

Conditions	Yes	No
7. Spills or Releases of Petroleum Hydrocarbons or Hazardous Materials Stained soil, dead vegetation or any other evidence of a petroleum or chemical spill *If Yes, please explain:*	☐	☒
8. PCBs Transformers, hydraulic equipment *If Yes, please explain:*	☐	☒
9. Surface Water Issues Pits, ponds, or lagoons associated with wastewater storage *If Yes, please explain:*	☐	☒
10. Groundwater Issues Monitoring or drinking water wells, injection wells or drains that go directly into the ground *If Yes, please explain:*	☐	☒
11. Wastewater Issues Floor drains and trenches, sumps, oil water separators on the site *If Yes, please explain:*	☐	☒
12. Underground Storage Tanks (USTs) / Above ground Storage Tanks (ASTs) UST / ASTs present or removed – If yes, please specify material stored: gasoline, diesel, fuel oil, used oil; AND capacity. *If Yes, please explain:*	☐	☒
13. Asbestos Issues Asbestos Survey, Inspection, Operation and Management Plans, Abatement Reports *If Yes, please explain:*	☐	☒

Conditions	Yes	No
14. Septic Tanks and Leachfields Currently used or abandoned *If Yes, please explain:*	☐	☒
15. Utility Corridors Oil or Gas Pipelines, Right-of-ways, Easements *If Yes, please explain:* ARENA RENEWABLES TO RESPOND	☐	☐
16. Regulatory Compliance Stormwater Plans, Spill Prevention Plans, Air Permits, Wastewater Discharge Permits, UST Permits, 404 Wetlands Permit. If yes, specify which Plan or Permit. *If Yes, please explain:*	☐	☒
17. Natural Resource Issues Wetlands and Riparian Areas, Critical Habitat, Threatened and Endangered Species, Historic or Cultural Resources *If Yes, please explain:*	☐	☒
18. Legal or Regulatory Actions Are you aware of any governmental enforcement actions or environmental liens with regards to the property, or pending lawsuits or administrative proceedings concerning a release or threatened release of any hazardous substances or petroleum products, involving the property against the owner or any tenant of the property? *If Yes, please explain:*	☐	☒

I have completed the above questionnaire to the best of my knowledge.

Signature: Rodney Thomas, Manager Date 5-12-2026

Printed name: Rodney Thomas

Company: Fosterburg 255 LLC

Outlook

FW: [EXTERNAL] Pipeline in Alton IL - Harris Lane and Fosterburg Road

From Stedillie, Adynn <Adynn.Stedillie@kimley-horn.com>
Date Wed 5/27/2026 12:15 PM
To Kirch, Rose <Rose.Kirch@kimley-horn.com>

From: ILConstructionCase <illinoisconstruction@ameren.com>
Sent: Thursday, April 30, 2026 5:29 PM
To: Stedillie, Adynn <Adynn.Stedillie@kimley-horn.com>
Cc: Sansone, Keegan <Keegan.Sansone@kimley-horn.com>
Subject: RE: [EXTERNAL] Pipeline in Alton IL - Harris Lane and Fosterburg Road

Good afternoon,

These are active high pressure gas mains.

Thank you,

Kris

Illinois Construction and Engineering Services
Phone: 1.888.659.4540 (M-F: 8:00 a.m. to 4:00 p.m.)
E-mail:illinoisconstruction@ameren.com

buildwithamerenillinois.com

If you need to contact Ameren about a different or new request, please send/start a new email.

Important! If you are experiencing a service outage, gas leak, or other emergency issue, please contact Ameren at 1.800.755.5000 immediately so that we may dispatch a crew as soon as possible. We are available 24 hours a day for emergencies. In Missouri, call us at 1.800.552.7583.

---------- Original Message ----------
From: Stedillie, Adynn [adynn.stedillie@kimley-horn.com]
Sent: 4/28/2026 2:37 PM
To: illinoisconstruction@ameren.com
Cc: keegan.sansone@kimley-horn.com
Subject: [EXTERNAL] Pipeline in Alton IL - Harris Lane and Fosterburg Road

Hello, We were recently on site for an environmental investigation near Alton, IL. We observed pipeline markers at the intersection of Harris Lane and Lobb Road, and along Fosterburg Lane (coordinates 38.?930462N, 90.?103861W and 38.?930736N 090.?100010W).?

EXTERNAL SENDER STOP.THINK.QUESTION.
Verify unexpected requests before opening links or attachments.

_____

Hello,

We were recently on site for an environmental investigation near Alton, IL. We observed pipeline markers at the intersection of Harris Lane and Lobb Road, and along Fosterburg Lane (coordinates 38.930462N, 90.103861W and 38.930736N 090.100010W). I've also attached a photo of the intact marker. I'm looking to confirm the contents of the pipeline (marked as natural gas), status (active/filled/abandonded), and approximate location. Could Ameren provide the above information?

[cid:image001.jpg@01DCD71C.7607C8B0]

Best,
Adynn Stedillie | Environmental Scientist Analyst
Kimley-Horn | 14800 Galaxie Ave Suite 200, Apple Valley, MN 55124
+1 612-254-1307

Upcoming OOO: April 30 - May 26th

This communication and any attachments may be privileged and/or confidential and protected from disclosure, and are otherwise the exclusive property of Ameren Corporation and its affiliates (Ameren) or the intended recipient. If you are not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. Note that any views or opinions presented in this message do not necessarily represent those of Ameren. All e-mails are subject to Ameren policies. If you have received this in error, please notify the sender immediately by replying to the message and deleting the material from any computer.

Outlook

FOIA Request - Foster IL

From Kirch, Rose <Rose.Kirch@kimley-horn.com>
Date Mon 5/18/2026 1:50 PM

Hello,

As part of a Phase I Environmental Site Assessment, I am requesting records related to environmental health and contamination concerns through the FOIA for the following parcels: 20-1-02-33-00-000-010 and 20-1-02-33-04-401-009. Does the Madison County Health Department possess any records relating to environmental health/hazards or chemical releases?

Thank you,

Rose Kirch
Kimley-Horn | 14800 Galaxie Ave, Suite 200, Apple Valley, MN 55124
Direct: +1 651-643-0480

Outlook

County Public Records :: R004889-052126

From Madison County IL Public Records <madisoncountyil@govqa.us>
Date Thu 5/21/2026 10:35 AM
To Kirch, Rose <Rose.Kirch@kimley-horn.com>

You don't often get email from madisoncountyil@govqa.us. Learn why this is important

--- Please respond above this line ---

RE: PUBLIC RECORDS REQUEST of May 21, 2026, Reference # R004889-052126

Dear Rose Kirch,

The Madison County EMA received a public information request from you on May 21, 2026. Your request mentioned:

"As part of a Phase I Environmental Site Assessment, I am requesting records related to environmental health and contamination concerns through the FOIA for the following parcels: 20-1-02-33-00-000-010 and 20-1-02-33-04-401-009. Does the Madison County EMA possess any records relating to environmental health/hazards or chemical releases?"

The Madison County EMA has reviewed its files and has determined there are no responsive documents to your request.

If you have any questions or wish to discuss this further, you may contact my office at 618-296-5907 or at gkriggs@madisoncountyil.gov.

You have a right to have the denial of your request reviewed by the Public Access Counselor (PAC) at the Office of the Illinois Attorney General. 5 ILCS 140/9.5(a) (West 2020). You may file your request for review with the PAC by writing to:

Public Access Counselor

Office of the Illinois Attorney General

500 South 2nd Street

Springfield, Illinois 62701

Fax: (217) 782-1396

Public.Access@ilag.gov

If you choose to file a request for review with the PAC, you must do so within 60 calendar days of the date of this denial letter. 5 ILCS 140/9.5(a) (West 2020). Please note that you must include a copy of your original FOIA request and of this denial letter when filing a request for review with the PAC. You also have the right to judicial review of your denial by filing suit in the appropriate Illinois court. 5 ILCS 140/11 (West 2020).

Sincerely,

Gabrielle Riggs
Emergency Preparedness Planner
Emergency Management

To monitor the progress or update this request please log into the Public Records Center



Appendix H

Adynn Stedillie

Environmental Scientist Analyst



Professional Credentials

Bachelor of Science, Plant Science, University of Minnesota-Twin Cities

Adynn is an environmental scientist analyst in our Twin Cities South office. She brings technical skills in Geographic Information Systems, environmental permitting, environmental due diligence, and public engagement. As an environmental scientist analyst, Adynn has provided environmental services on field wetland delineations, critical issues analyses and environmental constraints for development and solar projects, Phase I Environmental Site Assessments, and GIS mapping. She has worked on community- and utility-scale solar and development projects throughout the midwest.

RELEVANT EXPERIENCE

- **50+ Community-Scale Solar Project Wetland Delineations**, Various, IL— Environmental Analyst
- **5+ Utility-Scale Solar Project Wetland Delineations**, Various, IL — Environmental Analyst
- **30+ Community-Scale Solar Project Constraints Analyses,** Various, MN
  – Environmental Analyst
- **1 Utility Scale Solar Project Wetland Delineation**, Pierce County, WI— Environmental Analyst
- **1 Utility-Scale Project Phase I ESA**, Lee County, IL — Environmental Analyst
- **50+ Community-Scale Solar Project Phase I ESAs**, Various, IL — Environmental Analyst
- **5+ Utility-Scale Solar Project Phase I ESAs**, Various, IL - Environmental Analyst
- **1 Community-Scale Project Phase I ESA**, Calhoun and Jackson Counties, MI — Environmental Analyst



Rose Kirch

Environmental Science Analyst

Rose is an environmental consultant who specializes in wetland delineation, environmental due diligence, and geographic information systems. Rose has completed Wetland Delineations and Phase I Environmental Site Assessments under applicable ASTM standards for projects in Minnesota, Illinois, and South Dakota.

Professional Credentials

Bachelor of Science, Environmental Science, Policy, and Management, University of Minnesota

Relevant Experience

- **2 Utility-Scale Solar Phase 1 Reports**, Will County, IL — Environmental Analyst
- **2 Phase 1 Refreshes**, DeWitt and Montgomery County, IL — Environmental Analyst
- **10 Community-Scale Wetland Reports**, Multiple Locations, MN and IL — Environmental Analyst
- **1 Community-Scale Natural Gas Phase 1 and Wetland ESA**, Lincoln County, SD — Environmental Analyst
- **1 Utility-Scale Wind Wetland ESA**, Lyon and Murray County, MN — Environmental Analyst



Professional Credentials

Bachelor of Science, Environment Technology (minor in Environmental Toxicology), North Carolina State University, 2011

Professional Wetland Scientist

JASON HARTSHORN, PWS

GIS/GPS, Wetland/Stream Delineation/Permitting

Jason Hartshorn is an environmental scientist specializing in environmental due diligence investigations; GPS and GIS technologies; geospatial data collection and management; stream, wetland, and riparian buffer delineation; vegetative communities assessment; and rare, threatened, and endangered species habitat assessment and surveys. Jason has more than 10 years of experience working with state DOTs, various local municipalities, and private-sector clients throughout North Carolina, South Carolina, and Georgia.

Relevant Experience

HAZARDOUS MATERIALS SCREENING REPORTS

- Dickens Road Limited Hazardous Materials Screening Report, Wake County, NC
- Greensboro Streetscape Project Limited Hazardous Materials Screening Report, Guilford County, NC

PHASE I ESA REPORTS

- Fidelity Campus Recombination, Durham, NC
- Tryon Road Site, Cary, NC
- Novo Nordisk Bright Sky Project, Clayton, NC
- Baptist Retirement Homes Taylor Property, Concord, NC
- Project Titan, Wake County, NC
- Dearborn Drive Site, Durham County, NC
- Junction & Ferrell Site, Durham County, NC
- NC 55 & Hopson Site, Durham County, NC
- Hemingway Solar, Williamsburg County, SC
- Moncure Megasite, Chatham County, NC
- Oakley Parcel, Chatham County, NC
- Sweetleaf Solar, Halifax County, NC
- Perquimans Solar, Perquimans County, NC
- Penny Farm, Johnston County, NC
- Falls Center, Wake County, NC
- Cades Solar Farm, Williamsburg County, SC
- Tall Oaks Solar Farm, Lee County, SC
- American Beech Solar, Halifax County, NC

EXHIBIT W: COMMUNITY BENEFITS AGREEMENT

COMMUNITY BENEFIT AGREEMENT

This Community Benefit Agreement ("**Agreement**") is entered into by and between Madison County ("**County**"), a county government within the State of Illinois, and Arena Navigator 1 Solar, LLC ("**Company**"), an Illinois limited liability company. The signatories to this Agreement may be referred to herein individually as a "**Party**" and collectively as the "**Parties**." The effective date of the Agreement is the last date of execution as between the Parties (the "**Effective Date**").

RECITALS

WHEREAS, Company intends to construct, own and operate an approximately 3.6 MW community solar project within County's incorporated limits (the "**Project**") pursuant to Madison County ordinances.

WHEREAS, the County will support the overall development and construction of the Project and provide other good and valuable consideration. This support is anticipated to be ongoing during the operation phase of the Project.

WHEREAS, the County recognizes and reserves all rights and obligations, pursuant to the County's Zoning Ordinance and the Illinois Municipal Code, to duly and fairly hold public hearings and meetings, consider, modify, amend, approve or reject the Company's request for a special use, development permits, site plan approvals and variations, if any, for the Project, and the related building permits or other requirements (collectively, the "**Governmental Approvals**"), and nothing in this Agreement is intended to modify amend or predetermine the County's consideration or approval of the Governmental Approvals.

WHEREAS, the County acknowledges the many benefits of the Project, including renewable energy, payments to a participating property owner in the community, tax revenues that support the County and community, job growth and direct and indirect economic benefits of a significant financial investment in the area by the Project.

WHEREAS, the Parties additionally recognize that, despite its anticipated benefits, the development of the Project may also increase administrative burdens in the County, including the County's oversight of the Project's compliance with County ordinances.

WHEREAS, in recognition of the County's support for Project development efforts, if approved, and in recognition of the increased administrative burdens that the County may experience as a consequence of the Project, and other good and valuable consideration, Company desires to additionally contribute to the welfare and betterment of the County community by providing funds to the County for the purpose of supporting community development in the County.

WHEREAS, pursuant to Article VII, Section 10 of the Constitution of the State of Illinois units of local government, such as the County, may contract with private entities, such as Company, for any purpose not prohibited by law or ordinance.

NOW THEREFORE, it is agreed by and between the Parties as follows.

AGREEMENT

1. **Recitals**. The recitals stated above are hereby incorporated into the body of this Agreement.

2. **Community Donation**. In accordance with Company's desire to contribute to the welfare and betterment of the County and for the purpose of supporting community development in the County, and to alleviate the Project's overall administrative burden to the County, Company shall make the following Donations (as defined below):

   a. Company shall make a donation of **Fifty Thousand Dollars and no cents ($50,000.00)** (the "**Donation**") within sixty (60) days of the Commercial Operation Date of the Project. "**Commercial Operation Date**" or "**COD**" shall mean the occurrence of the commencement date for commercial operation of electricity production for sale by the Project to a third-party power purchaser, offtakers, merchant buyer, spot market buyer, or other third-party purchaser (and excluding the production of any "test" energy).

   b. The Parties acknowledge and agree that the payment of the Donation by Company to the County in accordance with this Agreement is not intended to and does not, in any way, hinder the discretion of the County to execute and deliver the Agreement and the Resolution.

3. **Term**. This Agreement shall expire upon the earlier of the following occurrences (the "**Term**"):

   a. The first (1st) anniversary of the COD.
   b. The decommissioning of the entire Project. Company shall provide notice in writing to the County of commencement of decommissioning resulting in an expiration of the Term.

4. **No Guarantee of Project**. The decision to proceed with or terminate the development or operation of the Project rests solely with Company. By entering into this Agreement, Company in no way guarantees that Project development will proceed or that the Project will achieve a COD or that the Project will continue operations after achievement of the COD.

5. **County Covenants**. If the Project is approved, then the County shall continue to provide reasonable support for, and not object to, Company's Project development, construction, replacement and maintenance efforts including without limitation providing documentation reasonably requested by Company for interested parties, including but not limited to Madison County, other governmental entities, and investors and lenders in the Project, confirming the ongoing validity of the approvals identified in any resolution affecting the Project. The County

further acknowledges and agrees that it shall not use all or any portion of the Donation, whether directly or indirectly, to fund any litigation, appeals or other actions (including via third-parties or affiliates of the County) that seek to oppose, frustrate, restrict, or challenge the development construction, operation or decommission of the Project. For greater certainty, the foregoing covenant does not in any way restrict the County from participating in any Project related consultations. Further, the foregoing covenant does not in any way restrict the County from exercising its authority (whether ministerial or discretionary) with regard to the Government Approvals.

6. **Supervening Law**. Any provisions of law that invalidate, or otherwise are inconsistent with, the terms of this Agreement or that would cause one or all of the Parties to be in violation of law, shall be deemed to have superseded the terms of this Agreement; provided, however, that the Parties shall exercise their best efforts to accommodate terms and intent of this Agreement to the greatest extent possible consistent with the requirements of law.

7. **Negation of Partnership and Joint Venture**. Nothing contained in this Agreement shall constitute or be construed to be or to create a partnership or joint venture between the Parties. Each party hereto shall be solely responsible for carrying out the responsibilities assumed by it under this Agreement and no party shall be liable for the acts or omissions of the others in performing its responsibilities.

8. **Events of Default**. Each of the following shall constitute an "**Event of Default**," which shall permit the non-defaulting Party, at its discretion, to terminate this Agreement and/or pursue such other remedies as are available to it at law or in equity:

(a) any failure by Company to pay the Donation when due if the failure to pay continues for thirty (30) days after the County delivers Notice of such failure to Company; and

(b) any other material breach of this Agreement by Company or any breach of Sections 5, 12, or 18 of this Agreement by the County, which continues for forty-five (45) days after (i) written notice of default from the non-defaulting Party or, (ii) if the cure will take longer than forty-five (45) days, the length of time necessary to effect such cure so long as the defaulting Party commences to cure within the forty-five (45) day period and continuously and diligently, using commercially reasonable efforts, pursues the cure to completion.

9. **Specific Performance Available in Event of Default**. Upon the occurrence of a material breach of this Agreement by the County, in addition to any other remedies available to Company in equity or under law, the Company shall be entitled to seek specific performance of this Agreement.

10. **Refund of the Donation in Event of Default**. Upon occurrence of an Event of Default caused by the County, then, in addition to any other remedies available to Company in equity or under law, the County shall, within forty-five (45) business days of Notice of such Event

of Default from Company, refund to Company all of the Donation made pursuant to this Agreement.

11. **Waiver**. Waiver by any Party hereto of any breach of any provision of this Agreement shall not operate or be construed as a waiver of any subsequent breach by any of the Parties.

12. **Foreign Corrupt Practices Act**. The County acknowledges and agrees that Company and this Agreement are subject to compliance with anti-corruption legislation, including without limitation the Foreign Corrupt Practices Act, 15 U.S.C. § 78dd-1 et seq., the Illinois Governmental Ethics Act, 5 ILCS 420/1-101 et seq. and the Illinois Lobbyist Registration Act, 25 ILCS 170 et seq. The County covenants and agrees that in no event shall any portion of the Donation be allocated, used, or otherwise made available for the giving or offering of a loan, reward, advantage or direct or indirect personal or financial benefit or gain of any kind to any Government Official. For the purposes of this Section 12, the term "**Government Official**" means any director, executive, employee, elected/appointed official (and their agents) of any government department, ministry, agency, legislature, political party, tribunal, regulatory authority, candidate for political office or government-owned company.

13. **Notices**. Any notice ("**Notice**") required or permitted to be given under the terms of this Agreement shall be reduced to writing and shall be regarded as given (a) on the day when personally delivered or delivered by facsimile or email or (b) on the day after being sent by Federal Express (or comparable overnight deliver services), all fees prepaid or (c) on the third day after being placed in the United States mail with first class and certified mail return receipt requested postage fully prepaid and addressed to the parties at the following respective addresses:

If to Company, as follows:

Arena Renewables
Attn: Carson Weinand
15051 N Kierland Blvd
Floor 3
Scottsdale, AZ 85254

If to the County, as follows:

Madison County
Attn: Chris Doucleff
157 N. Main Street,
Suite 254
Edwardsville, Illinois 62025

14. **Headings**. The headings of the several paragraphs hereof are for convenience in reference only and shall not be construed to be a part of this Agreement.

15. **Amendment and Binding Effect**. This Agreement shall not be modified or amended except in writing signed by the Parties hereto.

16. **Severability**. Any provision of this Agreement which shall prove to be invalid, void, or illegal shall in no way affect, impair or invalidate any other provision hereof and the remaining provisions hereof shall nevertheless remain in full force and effect.

17. **Jurisdiction**. This Agreement shall be deemed to have been entered into in the State of Illinois, and all questions concerning the validity, interpretation, or performance of any of its terms or provisions or of any rights or obligation of the parties hereto, shall be governed by and resolved in accordance with the laws of the State of Illinois. Any lawsuit arising from this Agreement shall be filed in the Circuit Court in Madison County, Illinois or in the United States District Court for the applicable District of Illinois.

18. **Assignment**. Company shall have the right at any time, without need for the County's consent or approval, to assign or convey all or any portion of this Agreement to an assignee or assignees, on an exclusive or nonexclusive basis. Upon such assignment, Company shall be released from its obligations under this Agreement, which obligations shall thereafter be the obligation of the assignee. Company shall have the right at any time, without need for the County's consent or approval, to mortgage or collaterally assign all or any part of its interest in the Agreement and its rights under the Agreement to any entity (a "**Lender**") without the consent or approval of the County; provided, however, that Company shall provide Notice of its mortgage or collateral assignment to Madison County with contact information for the Lender. Any Lender will have no obligations under this Agreement until such time as it exercises its rights to acquire Company's interest subject to the lien of Lender's mortgage by foreclosure or otherwise or assumes the obligations of Company under this Agreement. So long as any mortgage with a Lender remains in effect, this Agreement shall not be modified, and the County shall not accept a termination or release of this Agreement, without the prior written consent of all Lenders. The County, upon providing Company any notice of default under this Agreement, shall at the same time provide a copy of such notice to each Lender. The County shall accept any performance by or at the instigation of any such Lender as if the same had been done by Company (but no Lender shall have any obligation to remedy or cause the remedy of any default). All the terms, conditions, covenants and other provisions contained in this Agreement, including benefits and burdens, shall be binding upon the County so long as the County remains an incorporated municipality in the State of Illinois and shall inure to the benefit of and be enforceable by the County and Company, and their respective heirs, successors and assigns.

19. **Opportunity for Legal Counsel and No Drafting Presumption**. Each Party acknowledges having (a) had the opportunity to obtain its own independent legal advice with respect to this Agreement and the transactions contemplated hereby, and (b) sought such legal advice to the fullest extent deemed necessary by each Party prior to its execution and delivery. There will be no presumption of resolution of any ambiguity in this Agreement in favor of either of the Parties. The execution, delivery and performance by the Parties of this Agreement has been duly authorized by all necessary action and there are no approvals, authorizations, consents, or other actions necessary to authorize either Party's execution and delivery of this Agreement.

20. **Counterparts; Facsimile and PDF Delivery**. This Agreement may be executed in one or more counterparts, each of which so executed shall be deemed to be an original and such

counterparts together shall constitute one and the same instrument. This Agreement may be delivered by facsimile or by PDF file and upon such delivery the facsimile or PDF signature shall have the same force and effect as an original signature.

IN WITNESS WHEREOF, the parties hereto, acting by and through their duly authorized officers under authority duly granted by their respective governing bodies, have caused this Agreement to be executed, which will be effective and binding upon the parties only as of the date that both parties have executed this Agreement.

(Signature page to follow)

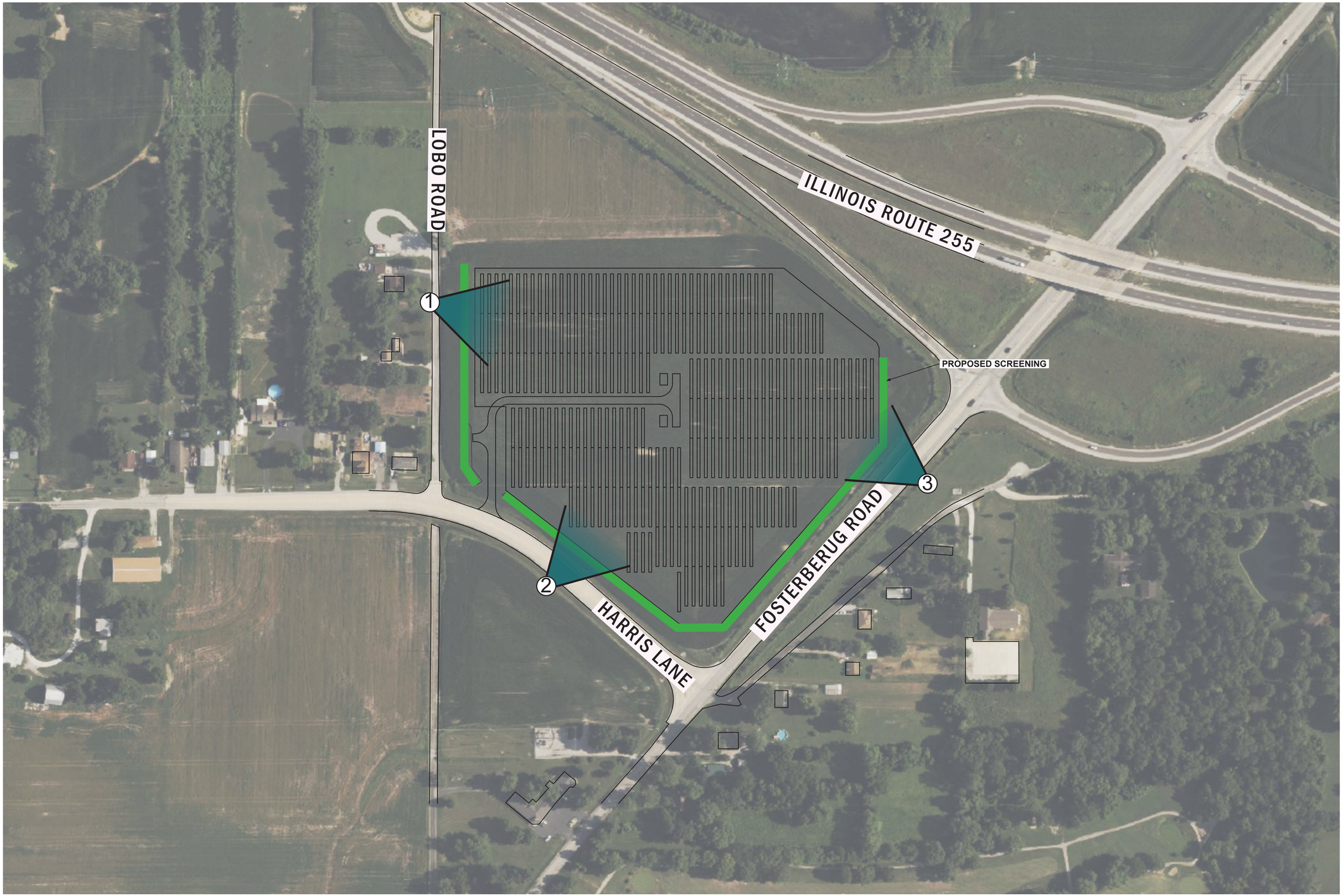
Arena Navigator 1 Solar LLC, an Illinois limited liability company

By: _____ _____
Print: _____ Date
Title: _____

Madison County

By: _____ _____
Date
Print: _____
Title: _____

EXHIBIT X: VISUAL SIMULATIONS



N

NOT TO SCALE

ARENA RENEWABLES - NAVIGATOR 1 SOLAR, LLC

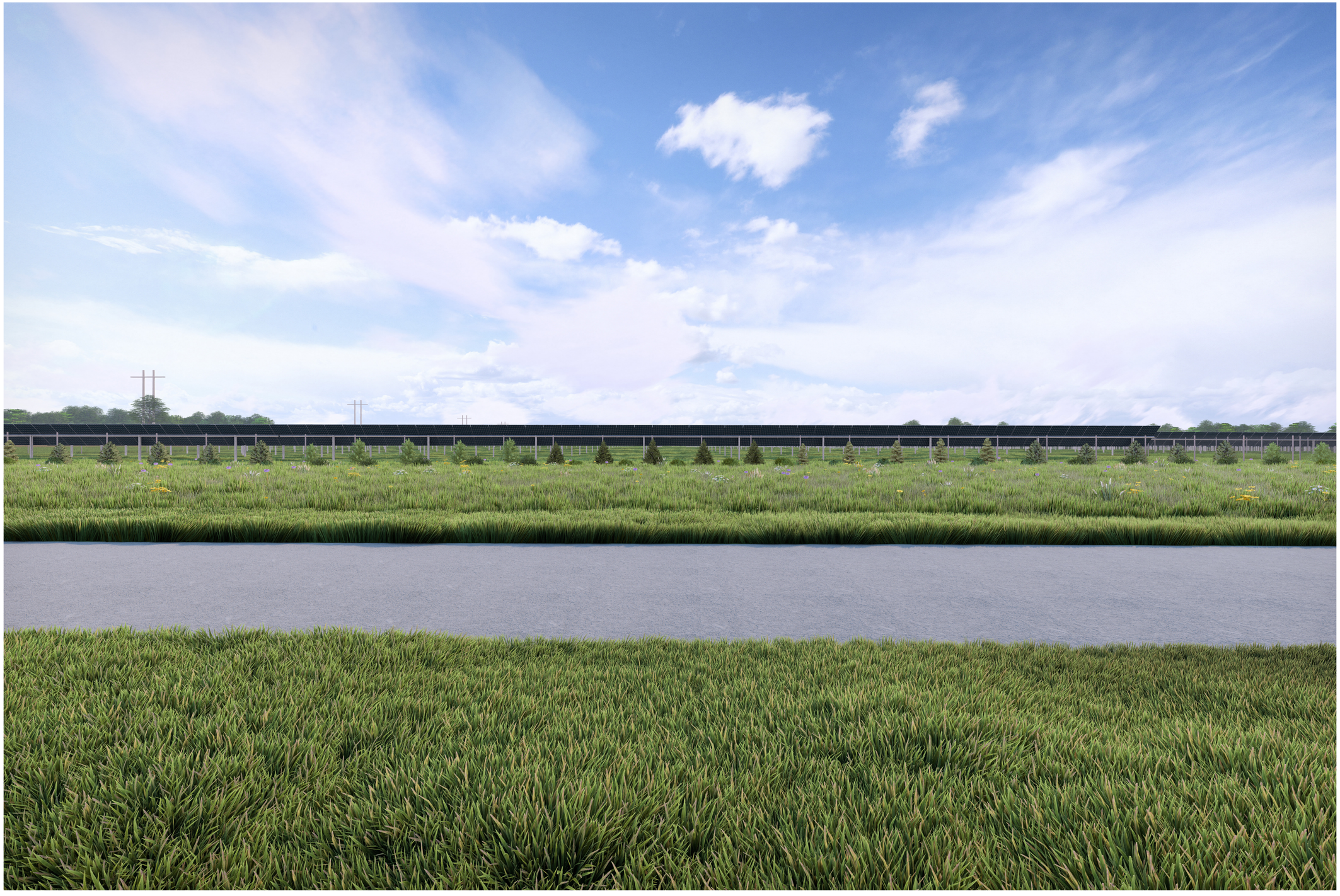
MADISON COUNTY, IL -VISUAL SIMULATION RENDERING

OBSERVATION POINT MAP

MAY, 2026

ARENA RENEWABLES

PREPARED BY Kimley»Horn



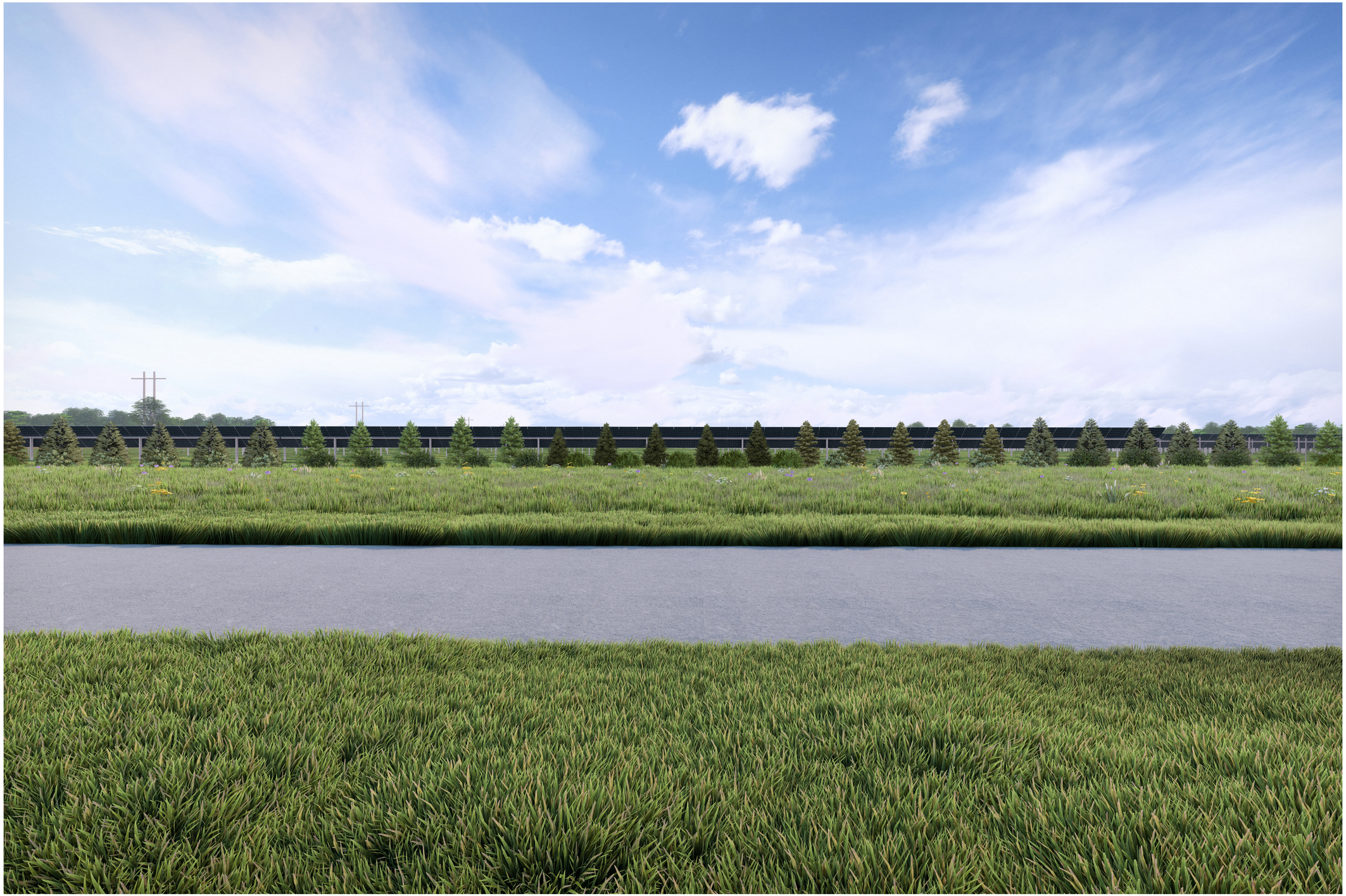
ARENA RENEWABLES - NAVIGATOR 1 SOLAR, LLC | MADISON COUNTY, IL -VISUAL SIMULATION RENDERING

LOCATION 1 - PROPOSED SOLAR ARRAY - SCREENING AT INSTALL

MAY, 2026

ARENA RENEWABLES

PREPARED BY Kimley»Horn



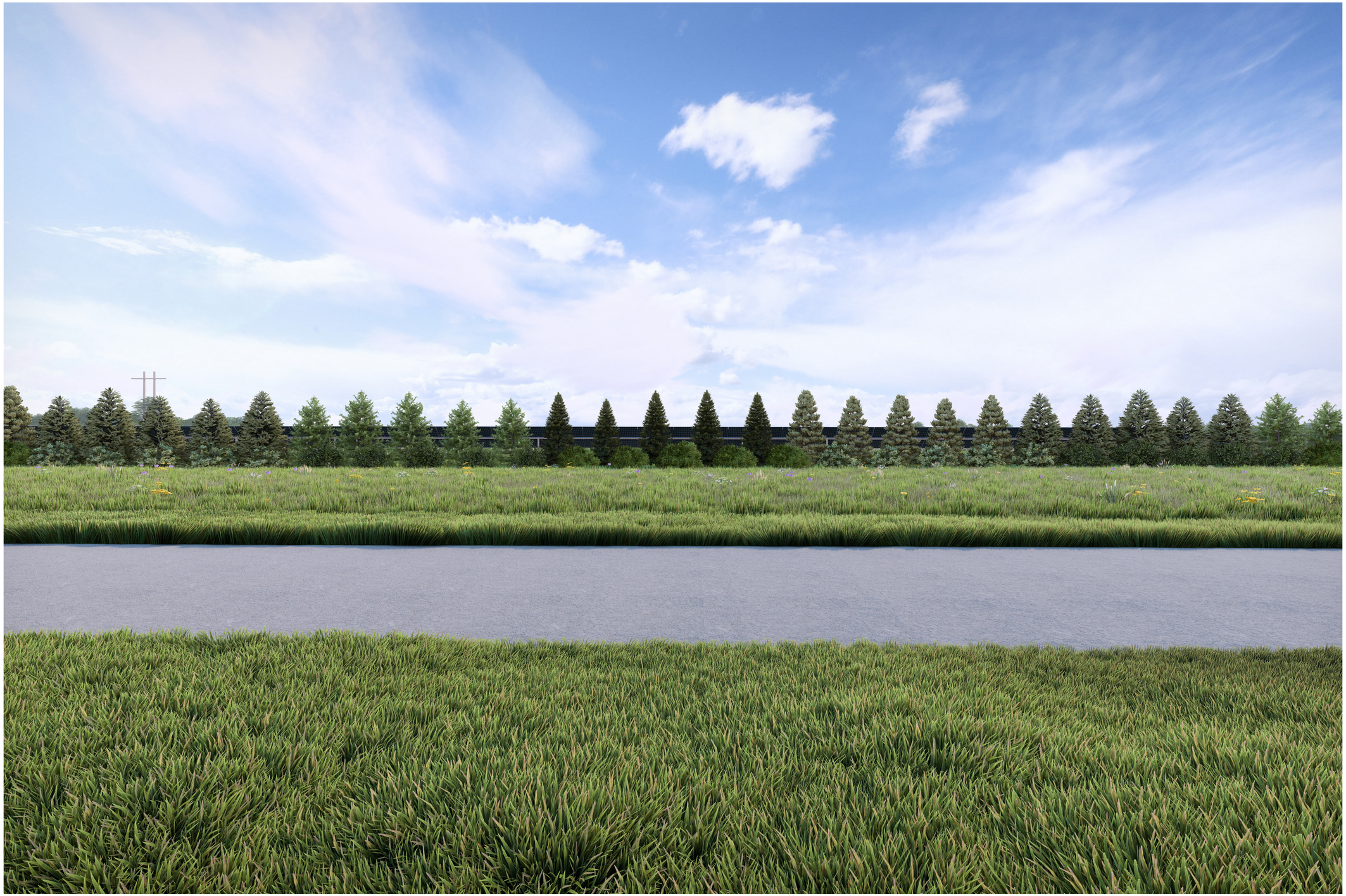
ARENA RENEWABLES - NAVIGATOR 1 SOLAR, LLC | MADISON COUNTY, IL -VISUAL SIMULATION RENDERING

LOCATION 1 - PROPOSED SOLAR ARRAY - SCREENING AT 3 YEARS

MAY, 2026

ARENA RENEWABLES

PREPARED BY Kimley»Horn



ARENA RENEWABLES - NAVIGATOR 1 SOLAR, LLC | MADISON COUNTY, IL -VISUAL SIMULATION RENDERING

LOCATION 1 - PROPOSED SOLAR ARRAY - SCREENING AT 5+ YEARS

MAY, 2026

ARENA RENEWABLES

PREPARED BY Kimley»Horn

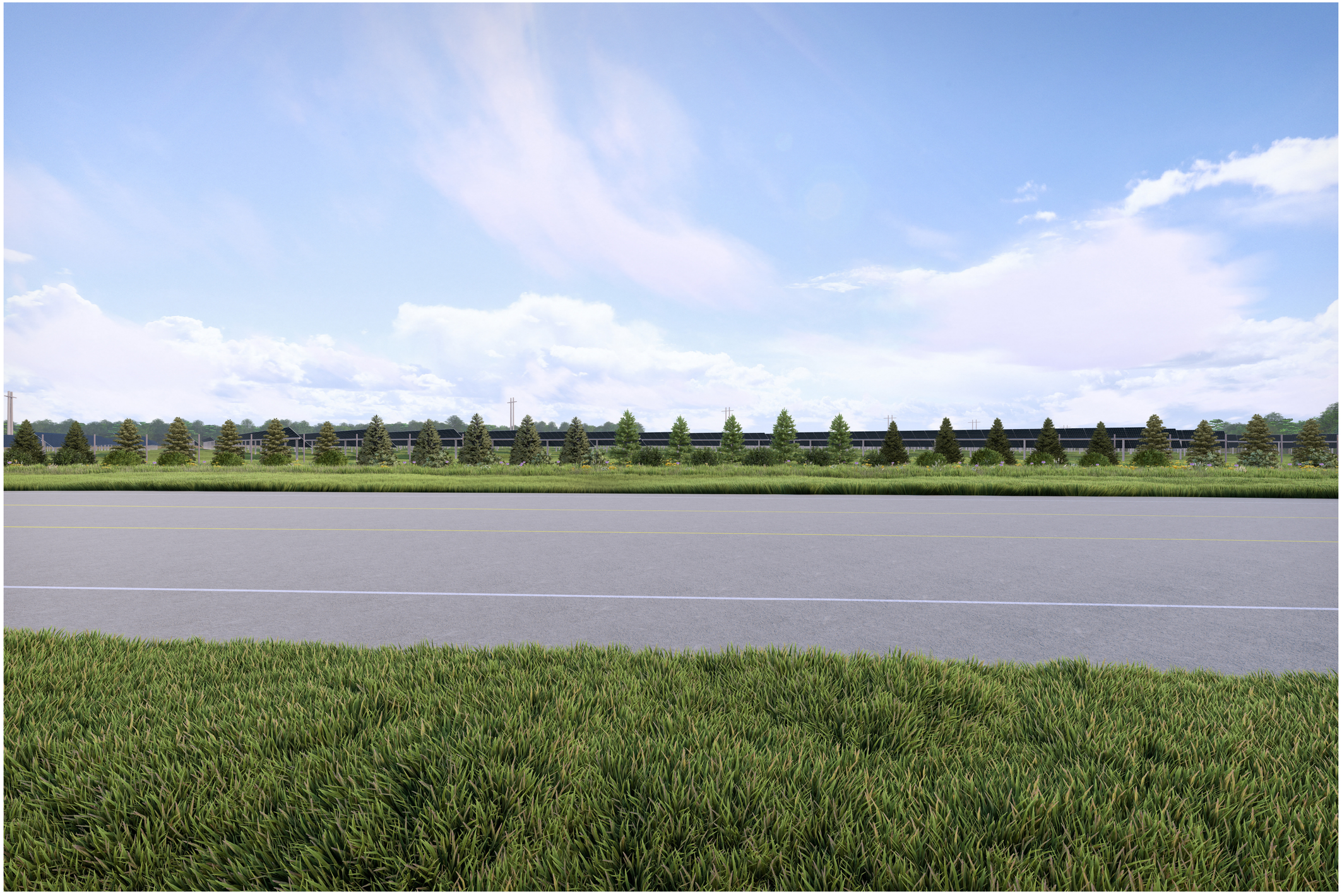
ARENA RENEWABLES - NAVIGATOR 1 SOLAR, LLC | MADISON COUNTY, IL -VISUAL SIMULATION RENDERING

LOCATION 2 - PROPOSED SOLAR ARRAY - SCREENING AT INSTALL

MAY, 2026

ARENA RENEWABLES

PREPARED BY Kimley»Horn



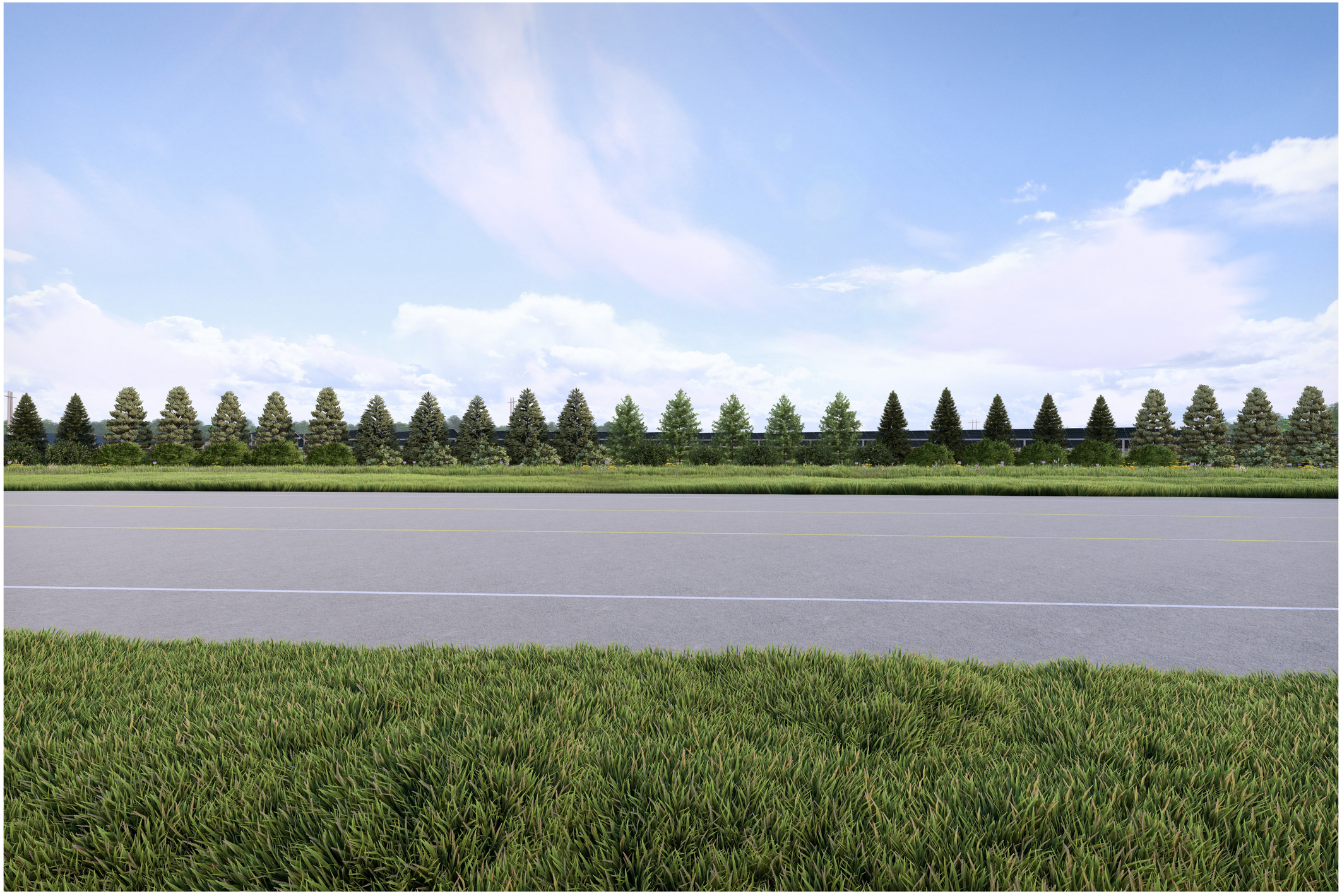
ARENA RENEWABLES - NAVIGATOR 1 SOLAR, LLC | MADISON COUNTY, IL -VISUAL SIMULATION RENDERING

LOCATION 2 - PROPOSED SOLAR ARRAY - SCREENING AT 3 YEARS

MAY, 2026

ARENA RENEWABLES

PREPARED BY Kimley»Horn



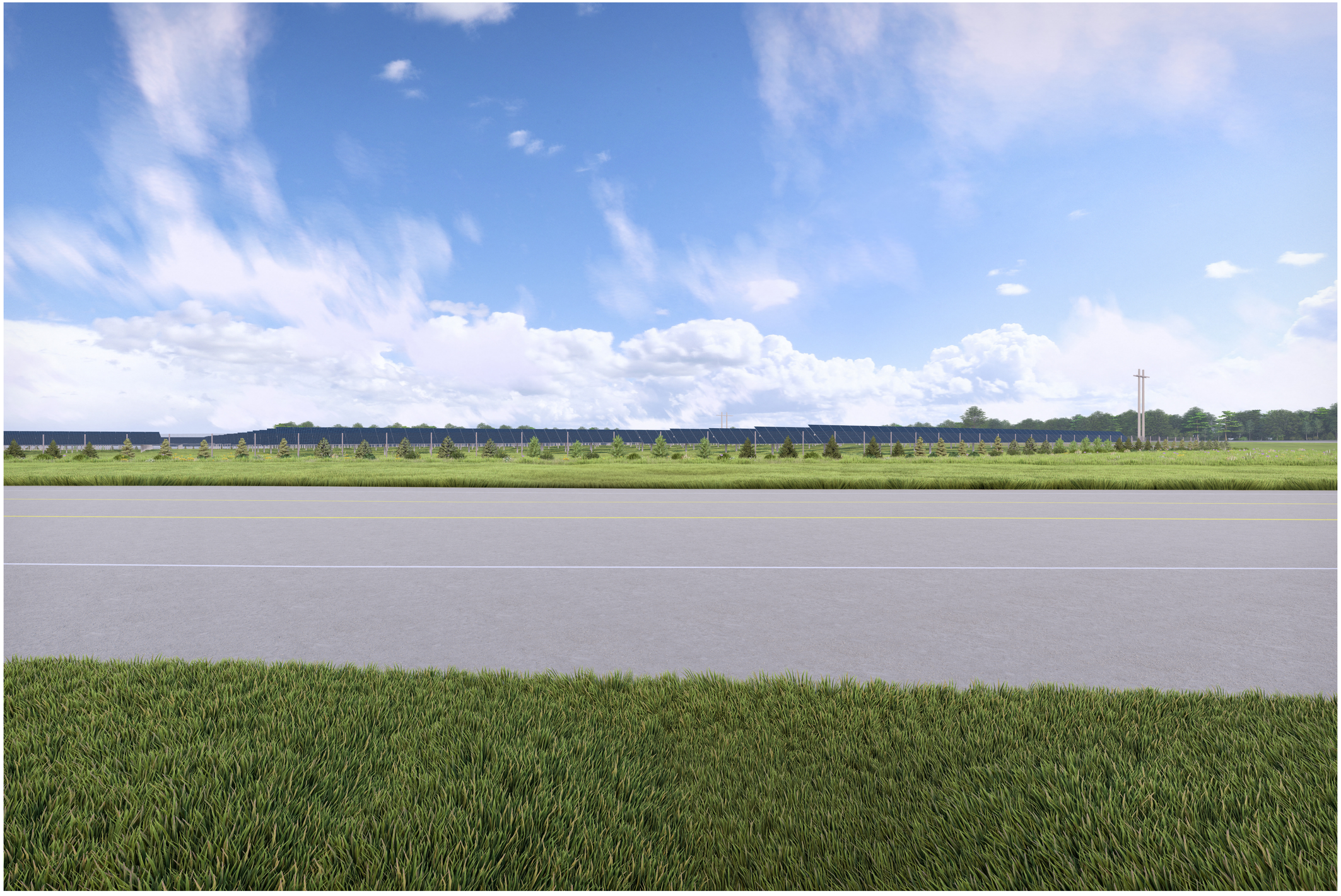
ARENA RENEWABLES - NAVIGATOR 1 SOLAR, LLC | MADISON COUNTY, IL -VISUAL SIMULATION RENDERING

LOCATION 2 - PROPOSED SOLAR ARRAY - SCREENING AT 5+ YEARS

MAY, 2026

ARENA RENEWABLES

PREPARED BY Kimley»Horn



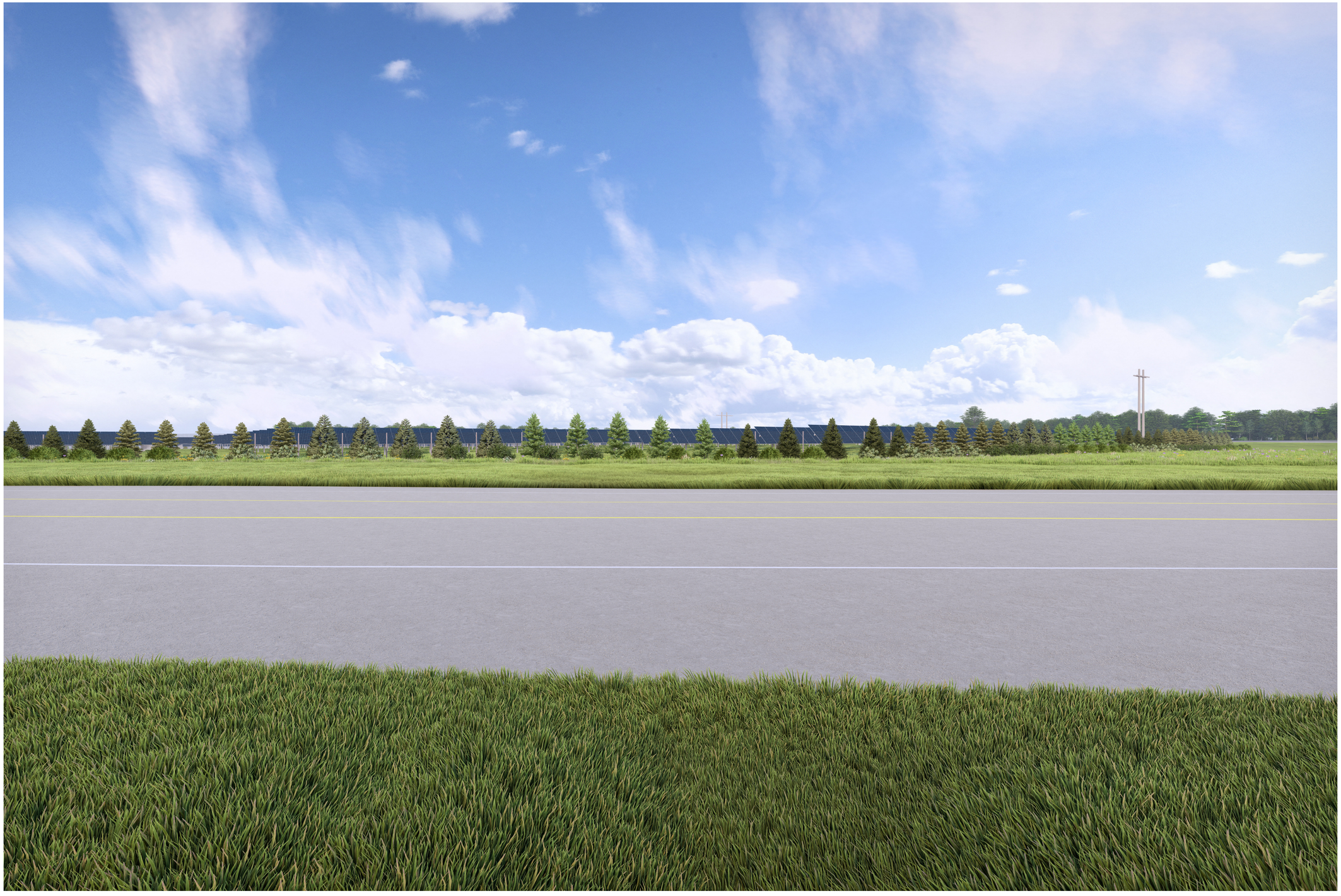
ARENA RENEWABLES - NAVIGATOR 1 SOLAR, LLC | MADISON COUNTY, IL -VISUAL SIMULATION RENDERING

LOCATION 3 - PROPOSED SOLAR ARRAY - SCREENING AT INSTALL

MAY, 2026

ARENA RENEWABLES

PREPARED BY Kimley»Horn



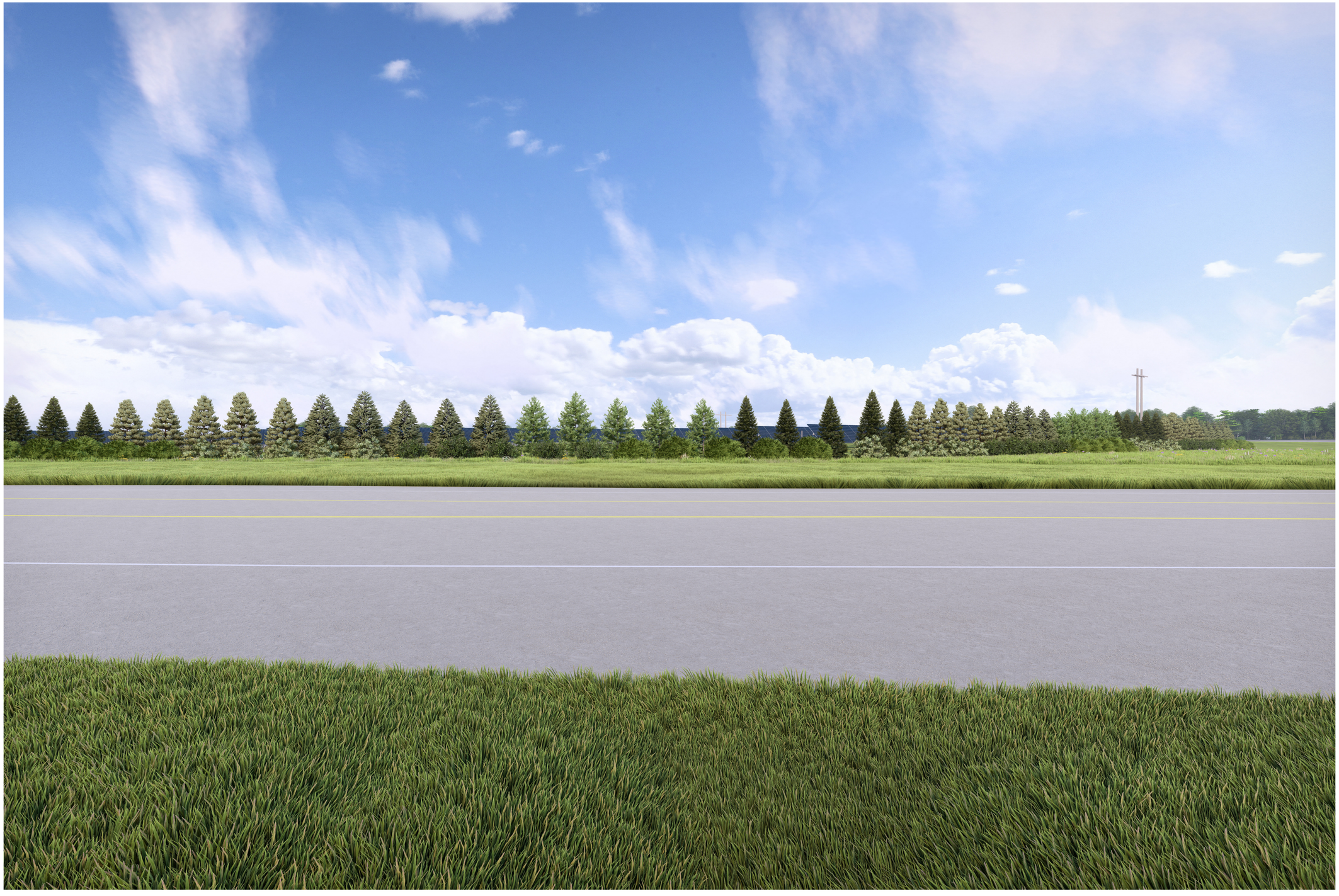
ARENA RENEWABLES - NAVIGATOR 1 SOLAR, LLC | MADISON COUNTY, IL -VISUAL SIMULATION RENDERING

LOCATION 3 - PROPOSED SOLAR ARRAY - SCREENING AT 3 YEARS

MAY, 2026

ARENA RENEWABLES

PREPARED BY Kimley»Horn



ARENA RENEWABLES - NAVIGATOR 1 SOLAR, LLC | MADISON COUNTY, IL -VISUAL SIMULATION RENDERING

LOCATION 3 - PROPOSED SOLAR ARRAY - SCREENING AT 5+ YEARS

MAY, 2026

ARENA RENEWABLES

PREPARED BY Kimley»Horn

RESOLUTION TO PURCHASE A THREE-YEAR RENEWAL OF ARCTIC WOLF FOR THE MADISON COUNTY INFORMATION TECHNOLOGY DEPARTMENT

Mr. Chairman and Members of the County Board:

WHEREAS, the Information Technology Department wishes to purchase a three-year renewal of Arctic Wolf, and the following bids were received;

Bravo 3 Partners LLC.
Sheridan, WY 82801……..….(incomplete bid)….$737,377.00

Secure Data Technologies, Inc.
O'Fallon, IL 62269……$481,180.30

vPrime Tech, Inc.
Houston, TX 77084…….……(incomplete bid)…$295,601.11

WHEREAS, the bid submitted by Bravo 3 Partners, LLC was determined to be incomplete due to the failure to provide the required supporting documentation, and the bid submitted by vPrime Tech, Inc. was determined to be incomplete because pricing was provided for only a one-year renewal rather than the required three-year renewal; and

WHEREAS, Secure Data Technologies, Inc. met all specifications at a total contract price of four hundred eighty-one thousand one hundred eighty dollars and thirty cents ($481,180.30) and,

WHEREAS, it is the recommendation of the Information Technology Department to purchase the three-year renewal of Arctic Wolf from Secure Data Technologies, Inc., of 1392 Frontage Road, O'Fallon, IL; and,

WHEREAS, this purchase shall be paid annually over a three-year term as follows: Year 1 - $156,323.50; Year 2 - $161,013.20; and Year 3 - $165,843.60, from the Information Technology Department Admin Budget Funds.

NOW, THEREFORE BE IT RESOLVED by the County Board of the County of Madison Illinois, that the County Board Chairman and Information Technology Department are hereby directed and designated to execute said contract with Secure Data Technologies, Inc., of 1392 Frontage Road, O'Fallon, IL 62269.

Respectfully submitted by,

s/ Frank Dickerson		s/Chris Guy	
Frank Dickerson Chair		Chris Guy Chair	
Central Services Committee Certification of Votes		Finance Committee Certification of Votes	
July 8, 2026		July 9, 2026	
Frank Dickerson	**AYE✓ NAY☐ ABSTAIN☐**	Chris Guy	**AYE✓ NAY☐ ABSTAIN☐**
Bobby Ross	**AYE✓ NAY☐ ABSTAIN☐**	Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**	Linda Ogden	**AYE✓ NAY☐ ABSTAIN☐**
Don McMaster	**AYE✓ NAY☐ ABSTAIN☐**	Dalton Gray	**AYE✓ NAY☐ ABSTAIN☐**
Brynn Kincheloe	**AYE☐ NAY☐ ABSTAIN☐**	Bob Meyer	**AYE✓ NAY☐ ABSTAIN☐**
Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**	John Janek	**AYE✓ NAY☐ ABSTAIN☐**
Paul Nicolussi	**AYE✓ NAY☐ ABSTAIN☐**	Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**
Fred Michael	**AYE✓ NAY☐ ABSTAIN☐**	Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**

County Board: 7/15/2026

RESOLUTION TO PURCHASE ARUBA NETWORK CORE REFRESH FOR THE MADISON COUNTY INFORMATION TECHNOLOGY DEPARTMENT

Mr. Chairman and Members of the County Board:

WHEREAS, the Information Technology Department has identified the need to replace the County's existing core network infrastructure with a modern, supported enterprise networking solution to improve reliability, performance, security, and long-term maintainability. The following four proposals included complete pricing and required supporting documentation and were evaluated as responsive submissions, with bid amounts as follows:

ConvergeOne, Inc.,
Bloomington, MN 55437……...$465,369.25

Aztek Computers, LLC
Frisco, TX 75033……...…….$690,999.86

Secure Data Technologies, Inc.
O'Fallon, IL 62269……..……$789,368.00

TECH 365 Princeton IT Services
Princeton Junction, NJ 08550…..……..……..….$1,187,049.06; and

WHEREAS, the responsive proposals were evaluated for compliance with the published specifications, completeness of the submission, technical qualifications, implementation approach, relevant experience, and cost, and ConvergeOne, Inc. was determined to be the lowest responsive and responsible bidder meeting the County's requirements; and

WHEREAS, the Madison County Information Technology Department requests authorization to purchase the Aruba Network Core Refresh from ConvergeOne, Inc. in an amount not to exceed Five Hundred Eleven Thousand Nine Hundred Six Dollars and Eighteen Cents ($511,906.18) to allow for potential manufacturer price adjustments and other costs associated with completing the purchase prior to contract execution.

NOW, THEREFORE BE IT RESOLVED, that the Madison County Board hereby approves the purchase of the Aruba Network Core Refresh from ConvergeOne, Inc. in an amount not to exceed Five Hundred Eleven Thousand Nine Hundred Six Dollars and Eighteen Cents ($511,906.18) and authorizes the Chairman of the County Board and the Information Technology Department to hereby execute said contract with ConvergeOne, Inc., 10900 Nesbitt Ave S, Bloomington, MN 55437.

Respectfully submitted by,

s/ Frank Dickerson		s/Chris Guy	
Frank Dickerson Chair		Chris Guy Chair	
Central Services Committee Certification of Votes		Finance Committee Certification of Votes	
July 8, 2026		July 9, 2026	
Frank Dickerson	**AYE✓ NAY☐ ABSTAIN☐**	Chris Guy	**AYE✓ NAY☐ ABSTAIN☐**
Bobby Ross	**AYE✓ NAY☐ ABSTAIN☐**	Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**	Linda Ogden	**AYE✓ NAY☐ ABSTAIN☐**
Don McMaster	**AYE✓ NAY☐ ABSTAIN☐**	Dalton Gray	**AYE✓ NAY☐ ABSTAIN☐**
Brynn Kincheloe	**AYE☐ NAY☐ ABSTAIN☐**	Bob Meyer	**AYE✓ NAY☐ ABSTAIN☐**
Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**	John Janek	**AYE✓ NAY☐ ABSTAIN☐**
Paul Nicolussi	**AYE✓ NAY☐ ABSTAIN☐**	Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**
Fred Michael	**AYE✓ NAY☐ ABSTAIN☐**	Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**

County Board: 7/15/2026

RESOLUTION TO PURCHASE NEXT-GENERATION FIREWALL MAINTENANCE RENEWAL FOR THE MADISON COUNTY INFORMATION TECHNOLOGY DEPARTMENT

WHEREAS, the Madison County Information Technology Department requires the annual renewal of maintenance, support, and security subscriptions for the County's Palo Alto Networks Next-Generation Firewall infrastructure to maintain cybersecurity protection, manufacturer support, software updates, and continued operation of critical County network services (07/2026 – 07/2027); and,

WHEREAS, the Madison County Procurement Office publicly advertised and solicited sealed bids for the Next-Generation Firewall Equipment Renewal with Two (2) Optional Years, with bids due on July 6, 2026; and

WHEREAS, no bids were received in response to the Request for Proposals, resulting in no competitive award being made; and

WHEREAS, the Information Technology Department recommends proceeding with the original vendor quotation provided by ConvergeOne, Inc., which formed the basis for the published specifications and provides the required Palo Alto Networks maintenance and subscription renewals for the County's existing firewall infrastructure; and

WHEREAS, this renewal is available from ConvergeOne, Inc.; and,

ConvergeOne, Inc.
10900 Nesbitt Avenue South
Bloomington, MN 55437...……..…..…$51,796.08

WHEREAS, the total cost of the purchase is Fifty-One Thousand Seven Hundred Ninety-Six Dollars and Eight Cents ($51,796.08); and,

WHEREAS, it is the recommendation of the Madison County Information Technology Department to renew the Next-Generation Firewall with ConvergeOne, Inc.; and,

WHEREAS, this purchase will be paid for by the Information Technology Admin. Funds; and,

NOW, THEREFORE BE IT RESOLVED by the County Board of Madison County Illinois, that the County Board Chairman be hereby directed and designated to execute said contract with ConvergeOne, Inc. of Bloomington, MN for the renewal of the County's Palo Alto Networks Next-Generation Firewall.

Respectfully submitted by,

s/ Frank Dickerson		s/Chris Guy	
Frank Dickerson Chair		Chris Guy Chair	
Central Services Committee Certification of Votes		Finance Committee Certification of Votes	
July 8, 2026		July 9, 2026	
Frank Dickerson	**AYE✓ NAY☐ ABSTAIN☐**	Chris Guy	**AYE✓ NAY☐ ABSTAIN☐**
Bobby Ross	**AYE✓ NAY☐ ABSTAIN☐**	Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**	Linda Ogden	**AYE✓ NAY☐ ABSTAIN☐**
Don McMaster	**AYE✓ NAY☐ ABSTAIN☐**	Dalton Gray	**AYE✓ NAY☐ ABSTAIN☐**
Brynn Kincheloe	**AYE☐ NAY☐ ABSTAIN☐**	Bob Meyer	**AYE✓ NAY☐ ABSTAIN☐**
Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**	John Janek	**AYE✓ NAY☐ ABSTAIN☐**
Paul Nicolussi	**AYE✓ NAY☐ ABSTAIN☐**	Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**
Fred Michael	**AYE✓ NAY☐ ABSTAIN☐**	Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**

County Board: 7/15/2026

RESOLUTION TO PURCHASE THE SOLARWINDS RENEWAL
FOR THE MADISON COUNTY INFORMATION TECHNOLOGY DEPARTMENT

WHEREAS, the Madison County Information Technology Department wishes to purchase Solarwinds Renewal (7/23/2026 – 7/23/2029); and,

WHEREAS, this renewal is available from Insight Public Sector, Inc. under the Omnia Partners Contract; and,

Insight Public Sector, Inc.
2701 E Insight Way
Chandler, AZ 85286-1930...……..…..…$67,166.68

WHEREAS, Insight Public Sector, Inc. met all specifications at a total contract price of sixty-seven thousand one hundred sixty-six dollars and sixty-eight cents ($67,166.68); and,

WHEREAS, it is the recommendation of the Madison County Information Technology Department to renew Solarwinds with Insight Public Sector, Inc.; and,

WHEREAS, this purchase will be paid for by the Information Technology Admin. Funds; and,

NOW, THEREFORE BE IT RESOLVED by the County Board of Madison County Illinois, that the County Board Chairman be hereby directed and designated to execute said contract with Insight Public Sector, Inc of Chandler, AZ for the aforementioned renewal of Mimecast.

Respectfully submitted by,

s/ Frank Dickerson		s/Chris Guy	
Frank Dickerson Chair		Chris Guy Chair	
Central Services Committee Certification of Votes		Finance Committee Certification of Votes	
July 8, 2026		July 9, 2026	
Frank Dickerson	**AYE✓ NAY☐ ABSTAIN☐**	Chris Guy	**AYE✓ NAY☐ ABSTAIN☐**
Bobby Ross	**AYE✓ NAY☐ ABSTAIN☐**	Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**	Linda Ogden	**AYE✓ NAY☐ ABSTAIN☐**
Don McMaster	**AYE✓ NAY☐ ABSTAIN☐**	Dalton Gray	**AYE✓ NAY☐ ABSTAIN☐**
Brynn Kincheloe	**AYE☐ NAY☐ ABSTAIN☐**	Bob Meyer	**AYE✓ NAY☐ ABSTAIN☐**
Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**	John Janek	**AYE✓ NAY☐ ABSTAIN☐**
Paul Nicolussi	**AYE✓ NAY☐ ABSTAIN☐**	Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**
Fred Michael	**AYE✓ NAY☐ ABSTAIN☐**	Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**

County Board: 7/15/2026

RESOLUTION REGARDING THE REVIEW AND RELEASE OR RETENTION OF CLOSED SESSION MINUTES AND DESTRUCTION OF CLOSED SESSION RECORDINGS FOR ALL PERIODS PRIOR TO JUNE 30, 2026

WHEREAS, the County of Madison, State of Illinois (hereinafter the "County") is a unit of government subject to the Illinois Open Meetings Act, 5 ILCS 120 (hereinafter referred to as the "Act"); and

WHEREAS, the Madison County Board and its committees (hereinafter the "County Board") have met from time to time in closed session for purposes authorized by the Act; and

WHEREAS, the County Clerk has kept written minutes of all such closed session minutes, as required by the Act; and

WHEREAS, pursuant to the requirements of Section 2.06(d) of the Act, the County Board has, on this date, met in closed session to review all closed session minutes; and

WHEREAS, the County Board has determined that the minutes of the meetings listed on Schedule A, attached hereto, no longer require confidential treatment and should be made available for public inspection; and

WHEREAS, the County Board has further determined that a need for confidentiality still exists as to the closed session minutes from the meetings set forth on Schedule B, attached hereto; and

WHEREAS, Section 2.06 of the Act requires public bodies to keep verbatim records of all closed session meetings in the form of audio or video recordings; and

WHEREAS, the County Clerk has kept such records as required by the Act; and

WHEREAS, Subsection (c) of Section 2.06 of the Act authorizes a public body to destroy such verbatim records without notification to or the approval of a local records commission or the State Archivist no less than 18 months after the completion of the meeting recorded, but only after the public body approves the destruction of a particular recording and approves written minutes of the closed meeting; and

WHEREAS, no less than 18 months have passed after the completion of the closed session meetings listed in Schedule C of this Resolution; and

WHEREAS, the County Board heretofore has approved the written minutes of such meetings; and

WHEREAS, the County Board has determined that the verbatim records of the closed session meetings listed in Schedule C of this Resolution no longer need to be retained and are authorized for destruction.

WHEREAS, the County Board has determined that the need for confidentiality still exists of any verbatim record of closed session meetings not listed in Schedule C of this Resolution.

NOW, THEREFORE, BE IT RESOLVED by the County Board of Madison County, Illinois, as follows:

1. The closed session minutes from those meetings set forth on Schedule A, attached hereto, are approved if not previously done so and shall be and are hereby released.

2. The County Clerk is hereby authorized and directed to make said minutes listed in Schedule A available for posting on the County's website, for inspection and copying in accordance with the standing procedures of the Clerk's office.

3. The closed session minutes from those meetings set forth on Schedule B, attached hereto, are approved if not previously done so and shall be and are hereby retained as confidential pending further review to determine their eligibility for release.

4. Pursuant to Section 2.06(c) of the Open Meetings Act, the verbatim records of the closed session meetings set forth in Schedule C, attached hereto and hereby incorporated by reference, are hereby approved for destruction, and the County Clerk is hereby authorized to so destroy without release to any person prior to destruction. The verbatim records of any closed meeting not set forth in Schedule C are determined to be confidential and not subject to release.

5. This resolution shall be in full force and effect from and after its passage and approval according to law.

Executive Committee Certification of Votes

Chris Slusser	**AYE☐ NAY☐ ABSTAIN☐**
Bobby Ross	**AYE☐ NAY☐ ABSTAIN☐**
Denise Wiehardt	**AYE☐ NAY☐ ABSTAIN☐**
Chris Guy	**AYE☐ NAY☐ ABSTAIN☐**
Jason Palmero	**AYE☐ NAY☐ ABSTAIN☐**
Terry Eaker	**AYE☐ NAY☐ ABSTAIN☐**
Mick Madison	**AYE☐ NAY☐ ABSTAIN☐**
Dalton Gray	**AYE☐ NAY☐ ABSTAIN☐**
Michael Holliday	**AYE☐ NAY☐ ABSTAIN☐**
Chrissy Wiley	**AYE☐ NAY☐ ABSTAIN☐**
Frank Dickerson	**AYE☐ NAY☐ ABSTAIN☐**

Adopted this 15th day of July, 2026, by the County Board of Madison County, Illinois.

ATTEST:

Chris Slusser, Chairman **Linda Andreas, Madison County Clerk**

SCHEDULE A

CLOSED SESSION MINUTES RECOMMENDED FOR RELEASE

There are no minutes recommended for release at this time.

SCHEDULE B

CLOSED SESSION MINUTES NOT ELIGIBLE FOR RELEASE DUE TO ONGOING NEED FOR CONFIDENTIALITY AS STATED IN RESOLUTION

5/22/2017		Buildings and Facilities	Litigation	5 ILCS 120/2(c)(11)
9/10/2019	B	Buildings and Facilities	Security Procedures	5 ILCS 120/2(c)(8)
8/23/2017		County Board Mtg.	Litigation, Tort Immunity Act	5 ILCS 120/2(c)(11), 5 ILCS 120/2(c)(12)
9/18/2019		County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
4/15/2020		County Board Mtg.	Employment, Litigation	5 ILCS 120/2(c)(1), 5 ILCS 120/2(c)(11)
4/16/2020		County Board Mtg.	Employment, Litigation	5 ILCS 120/2(c)(1), 5 ILCS 120/2(c)(11)
9/16/2020	A	County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
9/16/2020	B	County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
9/16/2020	C	County Board Mtg.	Employment	5 ILCS 120/2(c)(1)
11/18/2020	B	County Board Mtg.	Employment, Litigation, Tort Immunity Act	5 ILCS 120/2(c)(1), 5 ILCS 120/2(c)(11), 5 ILCS 120/2(c)(12)

6/16/2021	B	County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
8/18/2021	A	County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
8/18/2021	B	County Board Mtg.	Litigation	5 ILCS 120/2(c)(2)
9/15/2021	A	County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
9/15/2021	B	County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
9/15/2021	C	County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
9/15/2021	D	County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
12/15/2021	B	County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
5/18/2022	A	County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
1/18/2023		County Board Mtg.	Closed Session Minutes	5 ILCS 120/2(c)(21)
3/15/2023		County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
3/22/2023		County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
3/29/2023		County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
7/19/2023		County Board Mtg.	Closed Session Minutes	5 ILCS 120/2(c)(21)
1/17/2024	A	County Board Mtg.	Closed Session Minutes	5 ILCS 120/2(c)(21)
1/17/2024	B	County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
2/19/2025		County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
5/21/2025	A	County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
5/21/2025	B	County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
11/19/2025		County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)

12/17/2025	A	County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
12/17/2025	B	County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
3/18/2026		County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
5/20/2026	A	County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
5/20/2026	B	County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
5/20/2026	C	County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
6/17/2026		County Board Mtg.	Litigation	5 ILCS 120/2(c)(11)
5/16/2017		Executive Committee	Real estate negotiations	5 ILCS 120/2(c)(6)
6/7/2017		Executive Committee	Litigation	5 ILCS 120/2(c)(1)
8/23/2017		Executive Committee	Litigation	5 ILCS 120/2(c)(1)
3/17/2021		Executive Committee	Litigation	5 ILCS 120/2(c)(11)
4/15/2021		Executive Committee	Litigation	5 ILCS 120/2(c)(11)
9/15/2021		Executive Committee	Litigation	5 ILCS 120/2(c)(11)
3/16/2022		Executive Committee	Litigation	5 ILCS 120/2(c)(11)
10/11/2023		Executive Committee	Closed Session Minutes	5 ILCS 120/2(c)(21)
1/17/2024		Executive Committee	Closed Session Minutes	5 ILCS 120/2(c)(21)
4/17/2024		Executive Committee	Collective Bargaining	5 ILCS 120/2(c)(2)
6/18/2024		Executive Committee	Collective Bargaining	5 ILCS 120/2(c)(2)
7/17/2024		Executive Committee	Closed Session Minutes	5 ILCS 120/2(c)(21)
3/19/2025		Executive Committee	Collective Bargaining	5 ILCS 120/2(c)(2)

3/8/2017	B	Finance and Government Operations	Litigation, Tort Immunity Act	5 ILCS 120/2(c)(11), 5 ILCS 120/2(c)(12)
5/10/2017		Finance and Government Operations	Litigation, Tort Immunity Act	5 ILCS 120/2(c)(11), 5 ILCS 120/2(c)(12)
7/11/2018		Finance and Government Operations	Litigation	5 ILCS 120/2(c)(11)
2/12/2020		Finance and Government Operations	Litigation	5 ILCS 120/2(c)(11)
4/15/2021	B	Finance and Government Operations	Litigation	5 ILCS 120/2(c)(11)
12/9/2021	A	Finance and Government Operations	Litigation	5 ILCS 120/2(c)(11)
12/9/2021	B	Finance and Government Operations	Litigation	5 ILCS 120/2(c)(11)
12/9/2021	C	Finance and Government Operations	Litigation	5 ILCS 120/2(c)(11)
12/9/2021	D	Finance and Government Operations	Litigation	5 ILCS 120/2(c)(11)
3/10/2022		Finance and Government Operations	Litigation	5 ILCS 120/2(c)(11)
2/9/2023		Finance and Government Operations	Litigation	5 ILCS 120/2(c)(11)
3/9/2023		Finance and Government Operations	Litigation	5 ILCS 120/2(c)(11)

1/11/2024		Finance and Government Operations	Litigation	5 ILCS 120/2(c)(11)
5/15/2025		Finance and Government Operations	Litigation	5 ILCS 120/2(c)(11)
6/12/2025		Finance and Government Operations	Litigation	5 ILCS 120/2(c)(11)
12/15/2025		Finance and Government Operations	Litigation	5 ILCS 120/2(c)(11)
1/15/2026	A	Finance and Government Operations	Litigation	5 ILCS 120/2(c)(11)
1/15/2026	B	Finance and Government Operations	Litigation	5 ILCS 120/2(c)(11)
1/15/2026	C	Finance and Government Operations	Litigation	5 ILCS 120/2(c)(11)
7/10/2017		Grants	Litigation, Tort Immunity Act	5 ILCS 120/2(c)(11), 5 ILCS 120/2(c)(12)
9/11/2017		Grants	Litigation, Tort Immunity Act	5 ILCS 120/2(c)(11), 5 ILCS 120/2(c)(12)
4/20/2020		Information Technology	Employment, Litigation	5 ILCS 120/2(c)(1), 5 ILCS 120/2(c)(11)

2/2/2018		Judiciary	Employment, Litigation	5 ILCS 120/2(c)(1), 5 ILCS 120/2(c)(11)
3/14/2019		Judiciary	Employment, Litigation	5 ILCS 120/2(c)(1), 5 ILCS 120/2(c)(11)
11/6/2020		Litigation Subcommittee	Litigation	5 ILCS 120/2(c)(11)
5/27/2026		Litigation Subcommittee	Litigation	5 ILCS 120/2(c)(11)
6/4/2026		Litigation Subcommittee	Litigation	5 ILCS 120/2(c)(11)
7/11/2017		Personnel and Labor Relations	Litigation	5 ILCS 120/2(c)(11)
7/17/2017		Personnel and Labor Relations	Litigation	5 ILCS 120/2(c)(11)
8/14/2017		Personnel and Labor Relations	Litigation	5 ILCS 120/2(c)(11)
12/18/2017		Personnel and Labor Relations	Litigation	5 ILCS 120/2(c)(11)
6/18/2018		Personnel and Labor Relations	Employment	5 ILCS 120/2(c)(1)
12/17/2018		Personnel and Labor Relations	Employment	5 ILCS 120/2(c)(1)
8/19/2019		Personnel and Labor Relations	Employment	5 ILCS 120/2(c)(1)
6/7/2021		Personnel and Labor Relations	Employment	5 ILCS 120/2(c)(1)
11/1/2021		Personnel and Labor Relations	Employment	5 ILCS 120/2(c)(1)
12/14/2022		Personnel and Labor Relations	Employment, Collective Negotiating	5 ILCS 120/2(c)(1)(2)
2/9/2023		Personnel and Labor Relations	Employment	5 ILCS 120/2(c)(1)
3/9/2023		Personnel and Labor Relations	Employment	5 ILCS 120/2(c)(1)

6/15/2023		Personnel and Labor Relations	Employment	5 ILCS 120/2(c)(1)
9/14/2023		Personnel and Labor Relations	Employment	5 ILCS 120/2(c)(1)
2/15/2024		Personnel and Labor Relations	Employment	5 ILCS 120/2(c)(1)
3/14/2024		Personnel and Labor Relations	Employment and Collective Bargaining	5 ILCS 120/2(c)(1) and (2)
9/12/2024		Personnel and Labor Relations	Employment and Collective Bargaining	5 ILCS 120/2(c)(1) and (2)
7/11/2019		SSA#1	Litigation	5 ILCS 120/2(c)(11)
9/5/2019		SSA#1	Litigation	5 ILCS 120/2(c)(11)
10/3/2019		SSA#1	Litigation	5 ILCS 120/2(c)(11)
1/2/2020		SSA#1	Litigation	5 ILCS 120/2(c)(11)
7/1/2021		SSA#1	Litigation	5 ILCS 120/2(c)(11)
8/5/2021		SSA#1	Litigation	5 ILCS 120/2(c)(11)
10/7/2021		SSA#1	Litigation	5 ILCS 120/2(c)(11)
4/7/2022		SSA#1	Litigation	5 ILCS 120/2(c)(11)

7/7/2022		SSA#1	Litigation	5 ILCS 120/2(c)(11)
2/6/2023		SSA#1	Litigation	5 ILCS 120/2(c)(11)
3/6/2023		SSA#1	Litigation	5 ILCS 120/2(c)(11)
4/3/2023		SSA#1	Litigation	5 ILCS 120/2(c)(11)
5/1/2023		SSA#1	Litigation	5 ILCS 120/2(c)(11)
5/3/2023		SSA#1	Litigation	5 ILCS 120/2(c)(11)

SCHEDULE C

VERBATIM RECORDS OF CLOSED SESSION MEETINGS RECOMMENDED FOR DESTRUCTION

There are no records recommended for destruction at this time.

SUMMARY REPORT OF CLAIMS AND TRANSFERS
June 2026

Mr. Chairman and Members of the County Board:

Submitted herewith is the Claims and Transfers Report for the month of June 2026 requesting approval.

	Payroll 06/05/2026 & 06/18/2026	Claims 06/01/2026- 06/30/2026	
GENERAL FUND	$ 3,026,174.47	$ 2,176,849.69	
SPECIAL REVENUE FUND	1,511,775.43	4,708,324.80	*
SPECIAL REVENUE FUND - ARPA	-	596,040.44	
DEBT SERVICE FUND	-	-	
CAPITAL PROJECT FUND	-	77,336.27	
ENTERPRISE FUND	61,776.93	209,991.83	
INTERNAL SERVICE FUND	37,744.14	1,166,717.40	
COMPONENT UNIT	-	-	
GRAND TOTAL	$ 4,637,470.97	$ 8,935,260.43	

*** The Special Revenue Fund Claims amount includes accelerated payments for IMRF totaling $18,544.83 and SLEP totaling $125,948.46.**

FY 2026 EQUITY TRANSFERS

FROM/	**TO/**		
SPECIAL REVENUE FUND/	**SPECIAL REVENUE FUND/**		
2021 ARPA FUND	ARPA INVESTMENT INCOME FUND	$	353,989.00

FY 2026 BUDGET TRANSFERS

FROM/	TO/		
SPECIAL REVENUE FUND/	**SPECIAL REVENUE FUND/**		
ARPA - STORMWATER GODFREY	ARPA - FACILITIES DET. HOME HVAC	$	379,045.46
SPECIAL REVENUE FUND/	**SPECIAL REVENUE FUND/**		
ARPA - STORMWATER WILLIAMSON	ARPA - FACILITIES DET. HOME HVAC	$	633.00
SPECIAL REVENUE FUND/	**SPECIAL REVENUE FUND/**		
ARPA - SEWER - BETHALTO WR TWP INT.	ARPA - FACILITIES DET. HOME HVAC	$	388,953.44
SPECIAL REVENUE FUND/	**SPECIAL REVENUE FUND/**		
ARPA - FACILITIES DET. HOME HVAC	ARPA - REV. REPL. GEN. ADMIN	$	148,605.50

David W. Michael
Madison County Auditor

s/ Chris Guy

Finance Committee Certification of Votes
July 15, 2026

Chris Guy	**AYES** ☑	**NAYS** ☐	**ABSTAIN** ☐	**ABSENT** ☐
Mick Madison	**AYES** ☑	**NAYS** ☐	**ABSTAIN** ☐	**ABSENT** ☐
Linda Ogden	**AYES** ☑	**NAYS** ☐	**ABSTAIN** ☐	**ABSENT** ☐
Dalton Gray	**AYES** ☑	**NAYS** ☐	**ABSTAIN** ☐	**ABSENT** ☐
Bob Meyer	**AYES** ☑	**NAYS** ☐	**ABSTAIN** ☐	**ABSENT** ☐
John Janek	**AYES** ☑	**NAYS** ☐	**ABSTAIN** ☐	**ABSENT** ☐
Linda Wolfe	**AYES** ☑	**NAYS** ☐	**ABSTAIN** ☐	**ABSENT** ☐
Jason Palmero	**AYES** ☑	**NAYS** ☐	**ABSTAIN** ☐	**ABSENT** ☐

RESOLUTION AUTHORIZING PAYMENT TO THE VILLAGE OF BETHALTO FOR WATER LINE INSTALLATION ASSISTANCE

WHEREAS, the Madison County Board wishes to award funds to the Village of Bethalto for reimbursement of a water line installation project; and

WHEREAS, the Village of Bethalto completed the installation of a water line improvement that serves a public purpose by enhancing water infrastructure and reliability for residents and businesses within Madison County; and

WHEREAS, the total amount to be reimbursed for the project is $353,989; and

WHEREAS, the County has investment income earned on American Rescue Plan Act (ARPA) funds which is not subject to 2 C.F.R. 200 guidance; and

WHEREAS, payment of this project will be made from the ARPA Investment Income Fund, a special revenue fund committed for this purpose; and

WHEREAS, payment of this project will be made to:

Village of Bethalto
213 N. Prairie Street
Bethalto, Illinois 62010

NOW, THEREFORE BE IT RESOLVED by the County Board of Madison County, Illinois, that the Madison County Board Chairman is authorized to provide payment to the Village of Bethalto in the amount of $353,989 from the ARPA Investment Income Fund for reimbursement of the aforementioned water line installation project.

Respectfully submitted,

s/Chris Guy
Finance Committee Certification of Votes
July 9, 2026

Chris Guy	**AYE☐ NAY☐ ABSTAIN✓**
Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Linda Ogden	**AYE✓ NAY☐ ABSTAIN☐**
Dalton Gray	**AYE✓ NAY☐ ABSTAIN☐**
Bob Meyer	**AYE✓ NAY☐ ABSTAIN☐**
John Janek	**AYE✓ NAY☐ ABSTAIN☐**
Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**
Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**

County Board: 7/15/2026

IMMEDIATE EMERGENCY APPROPRIATION

WHEREAS, the Fiscal Year 2026 Budget for the County of Madison has been duly adopted by the County Board; and,

WHEREAS, subsequent to the adoption of said budget, the County has received a grant in the amount of $495,447 entitled the Redeploy Illinois Program, with the purpose of providing psycho/educational assessments and intensive case management services to reduce or eliminate the practice of committing juvenile offenders to the Illinois Department of Juvenile justice for the sole purpose of psychological and risk evaluation and reducing full commitments whenever possible; and

WHEREAS, the Department of Human Services has authorized funds of $495,447, with the County providing no matching funds; and

WHEREAS, the agreement provides a grant period of July 1, 2026, through June 30, 2027; any amount not expended in fiscal year 2026 will be re-appropriated for the remaining grant period in fiscal year 2027;

NOW, THEREFORE, BE IT RESOLVED by the County Board of the County of Madison that pursuant to Chapter 55, Section 5/6 - 1003, Illinois Compiled Statutes that this immediate emergency appropriation be hereby adopted whereby the Fiscal Year 2026 Budget for the County of Madison be increased by the amount of $495,447 in the fund established as the 2027 Juvenile Redeploy Illinois Program.

Respectfully submitted,

s/Chris Guy_____
Finance Committee Certification of Votes
July 9, 2026

Chris Guy	**AYE✓ NAY☐ ABSTAIN☐**
Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Linda Ogden	**AYE✓ NAY☐ ABSTAIN☐**
Dalton Gray	**AYE✓ NAY☐ ABSTAIN☐**
Bob Meyer	**AYE✓ NAY☐ ABSTAIN☐**
John Janek	**AYE✓ NAY☐ ABSTAIN☐**
Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**
Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**

IMMEDIATE EMERGENCY APPROPRIATION

WHEREAS, the Fiscal Year 2026 Budget for the County of Madison has been duly adopted by the County Board; and,

WHEREAS, subsequent to the adoption of said budget, the County has received a grant in the amount of $32,000 with the purpose of supporting Disease Intervention Specialist (DIS) infrastructure and workforce development to prevent the transmission of sexually transmitted infections; and,

WHEREAS, the Illinois Department of Public Health has authorized federal funds in the amount of $32,000, with the County providing no additional match funds; and,

WHEREAS, the agreement provides a grant period of January 1, 2026, through December 31, 2026; the amount not expended in Fiscal Year 2026 will be re-appropriated for the remaining grant period in Fiscal Year 2027;

NOW, THEREFORE, BE IT RESOLVED by the County Board of the County of Madison that pursuant to Chapter 55, Section 5/6 - 1003, Illinois Compiled Statutes that this immediate emergency appropriation be hereby adopted whereby the Fiscal Year 2026 Budget for the County of Madison be increased by $32,000 in the budget established as the 2026 Health Dept. DIS Workforce Grant.

Respectfully submitted,

s/Chris Guy_____
Finance Committee Certification of Votes
July 9, 2026

Chris Guy	**AYE✓ NAY☐ ABSTAIN☐**
Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Linda Ogden	**AYE✓ NAY☐ ABSTAIN☐**
Dalton Gray	**AYE✓ NAY☐ ABSTAIN☐**
Bob Meyer	**AYE✓ NAY☐ ABSTAIN☐**
John Janek	**AYE✓ NAY☐ ABSTAIN☐**
Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**
Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**

RESOLUTION TO APPROVE COMMITMENT OF FUND BALANCE AND IMMEDIATE EMERGENCY BUDGET APPROPRIATION FOR THE ARPA INVESTMENT FUND

WHEREAS, the County of Madison, in accordance with Governmental Accounting Standards Board (GASB) Statement No. 54, which issues guidance for the restriction and commitment of fund balance reporting on balance sheets of Governmental Funds; and

WHEREAS, the Finance and Government Relations Committee has reviewed the terminology necessary for the designation of a special revenue fund; and

WHEREAS, the Finance and Government Relations Committee recommends that investment income earned on the American Rescue Plan Act (ARPA) funds as accounted for in the 2021 ARPA Fund which is subsequently transferred to the ARPA Investment Income Fund and accounted for in the ARPA Investment Income Fund be committed for economic development and infrastructure improvement assistance to governmental entities within Madison County for projects that are not eligible under ARPA categories or noncompliant with 2 C.F.R. 200 guidance for ARPA federal funds; and

WHEREAS, the Fiscal Year 2026 Budget for the County of Madison has been duly adopted by the County Board; and

WHEREAS, subsequent to the adoption of said County Budget, it has been determined that there are expenditures that will be incurred for the County Board to provide reimbursements to the Village of Bethalto for drinking water infrastructure improvement in the amount of $353,989; and

WHEREAS, said expenditures of $353,989 were not provided for in the Fiscal Year 2026 ARPA Investment Income Fund budget and will result in a deficit budget in the ARPA Investment Income Fund; and

WHEREAS, there are sufficient funds available in the 2021 ARPA Fund for transfer to and appropriation in the ARPA Investment Income Fund;

NOW, THEREFORE, BE IT RESOLVED that the County Board of the County of Madison does hereby approve the recommendation of the Finance and Government Relations Committee to commit this fund balance; and

NOW, THEREFORE, BE IT RESOLVED by the County Board of the County of Madison that pursuant to Chapter 55, Section 5/6 - 1003, Illinois Compiled Statutes that this immediate emergency appropriation be hereby adopted whereby the Fiscal Year 2026 Budget for the County of Madison be increased by $353,989 in the ARPA Investment Income Fund budget.

Respectfully submitted,

s/Chris Guy
Finance Committee Certification of Votes
July 9, 2026

Chris Guy	**AYE☐ NAY☐ ABSTAIN✓**
Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Linda Ogden	**AYE✓ NAY☐ ABSTAIN☐**
Dalton Gray	**AYE✓ NAY☐ ABSTAIN☐**
Bob Meyer	**AYE✓ NAY☐ ABSTAIN☐**
John Janek	**AYE✓ NAY☐ ABSTAIN☐**
Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**
Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**

Passed by the County Board of the County of Madison this 15th day of July, 2026.

Attest: County Clerk

County Board Chairman

RESOLUTION TO PURCHASE ANNUAL USL FINANCIALS SOFTWARE MAINTENANCE & SUPPORT RENEWAL FOR THE AUDITOR

WHEREAS, the Auditor wishes to purchase the annual software maintenance and support license renewal of USL Financials effective July 1, 2026, through June 30, 2027; and,

WHEREAS, this license renewal is available from USL Financials,

Inc.; and, USL Financials, Inc.
305 W. Monument Street
Suite 102
Baltimore, MD 21201……..$49,736.80

WHEREAS, USL Financials, Inc. met all specifications at a total contract price of forty-nine thousand seven hundred thirty-six dollars and eighty cents ($49,736.80); and,

WHEREAS, it is the recommendation of the Madison County Auditor to renew this USL Financials annual maintenance and support license with USL Financials, Inc.; and,

WHEREAS, this purchase will be paid from the Auditor's Administration FY 2026 budget; and,

NOW, THEREFORE BE IT RESOLVED by the by the County Board of Madison County Illinois, that the County Board Chairman be hereby directed and designated to execute said contract with USL Financials, Inc. of 305 W. Monument Street, Suite 102, Baltimore, MD, 21201, for the aforementioned renewal of the USL Financials software license.

Respectfully submitted by,

s/Chris Guy
Finance Committee Certification of Votes
July 9, 2026

Chris Guy	**AYE✓ NAY☐ ABSTAIN☐**
Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Linda Ogden	**AYE✓ NAY☐ ABSTAIN☐**
Dalton Gray	**AYE✓ NAY☐ ABSTAIN☐**
Bob Meyer	**AYE✓ NAY☐ ABSTAIN☐**
John Janek	**AYE✓ NAY☐ ABSTAIN☐**
Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**
Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**

County Board: July 15, 2026

RESOLUTION AUTHORIZING SETTLEMENT
TORT LIABILITY FILE # 19-20-041

WHEREAS, Madison County has authorized a Self-Funded Liability Program; and

WHEREAS, a payment procedure exists that specifically states that any payment of $20,000 or above shall be approved by the Finance & Government Operations Committee and County Board; and

WHEREAS, in the best interest of the County, a full and final settlement was negotiated during a mediation in the matter of J. Crosnoe v. County of Madison, et al., Madison County Third Circuit Court case #21-L-539 (Tort Liability File #19-20-041); and

WHEREAS, this settlement has been agreed to by the plaintiff, by legal counsel for all parties, by the Madison County States Attorney Office, by the Director of Safety & Risk Management, and by the Finance and Government Operations Committee.

NOW THEREFORE, BE IT RESOLVED the Madison County Board authorizes payment for a full and final settlement, of the above captioned matter, in the total amount of Two hundred thirty thousand dollars ($230,000) from the FY26 Tort Judgment & Liability budget.

BE IT FURTHER RESOLVED that the Chairman is authorized and directed to sign a settlement agreement, and any other reasonably necessary documentation related thereto, to be prepared and finalized in accordance and consistent with the foregoing to fully and finally resolve the aforementioned general liability claim on behalf of the Madison County, Illinois.

s/Chris Guy
Finance Committee Certification of Votes
July 9, 2026

Chris Guy	**AYE✓ NAY☐ ABSTAIN☐**
Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Linda Ogden	**AYE✓ NAY☐ ABSTAIN☐**
Dalton Gray	**AYE✓ NAY☐ ABSTAIN☐**
Bob Meyer	**AYE✓ NAY☐ ABSTAIN☐**
John Janek	**AYE✓ NAY☐ ABSTAIN☐**
Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**
Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**

afs
07/15/2026 Board meeting
Tort Fund resolution #2026-007

RESOLUTION

WHEREAS, the County of Madison has undertaken a program to collect delinquent taxes and to perfect titles to real property in cases where the taxes on the same have not been paid pursuant to 35 ILCS 201/21d and 235A (formerly Ch. 120, Secs. 697(d) and 716(a), Ill. Rev. Stat. 1987, and

WHEREAS, Pursuant to this program, the County of Madison has acquired an interest in the real estate described on the attached list, and it appearing to the Property Trustee Committee that it would be in the best interest of the County to dispose of its interest in said property, and

WHEREAS, the parties on the attached list have offered the amounts shown and the breakdown of these amounts have been determined as shown.

THEREFORE, Your Finance and Government Operations Committee recommends the adoption of the following resolution.

BE IT RESOLVED BY THE COUNTY BOARD OF MADISON COUNTY, ILLINOIS, that the Chairman of the Board of Madison County, Illinois, be authorized to execute deed of conveyance of the County's interest or authorize the cancellation of the appropriate Certificate(s) of Purchase, as the case may be, on the attached described real estate, for the amounts shown on the attached, to be disbursed according to law.

ADOPTED by roll call vote this 15th day of July 2026.

ATTEST:

County Clerk	County Board Chairman

Submitted by,

s/ Chris Guy
Finance Committee Certification of Votes
July 9, 2026

Chris Guy	**AYE✓ NAY☐ ABSTAIN☐**
Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Linda Ogden	**AYE✓ NAY☐ ABSTAIN☐**
Dalton Gray	**AYE✓ NAY☐ ABSTAIN☐**
Bob Meyer	**AYE✓ NAY☐ ABSTAIN☐**
John Janek	**AYE✓ NAY☐ ABSTAIN☐**
Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**
Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**

Madison County Monthly Resolution List - July 2026

RES#	Account	Type	Account Name	Parcel#	Total Collected	County Clerk	Auctioneer	Recorder/ Sec of State	Agent	Misc/ Overpmt	Treasurer
07-26-001	1225069	SAL	JOHN G. BRANDT	19-2-08-28-11-203-025.	820.00	0.00	0.00	70.00	450.00	0.00	300.00
07-26-002	1225134	SAL	JW SMITH	21-2-19-26-16-401-023.	820.00	0.00	0.00	70.00	450.00	0.00	300.00
07-26-003	2021-01988	DEF-SUR	JOSEPH GEISEN	23-2-07-01-15-402-006.	1,018.00	0.00	0.00	0.00	322.24	0.00	695.76
07-26-004	2021-90089	DEF-SUR	JANICE COMPTON	18-160-01600	474.00	0.00	0.00	0.00	257.77	0.00	216.23
				Totals	**$3,132.00**	**$0.00**	**$0.00**	**$140.00**	**$1,480.01**	**$0.00**	**$1,511.99**

Clerk Fees	**$0.00**
Recorder/Sec of State Fees	**$140.00**
Total to County	**$1,651.99**

Committee Members

RESOLUTION TO SUBMIT AN ADVISORY PUBLIC QUESTION TO THE VOTERS OF MADISON COUNTY, ILLINOIS REGARDING VOTER IDENTIFICATION REQUIREMENTS

WHEREAS, the County of Madison, Illinois is a duly organized and existing county created and operating under the provisions of the Illinois Counties Code and the laws of the State of Illinois; and,

WHEREAS, the Illinois Election Code provides that any public question authorized by statute shall be initiated in accordance with 10 ILCS 5/28-1 and 5/28-5; and,

WHEREAS, the County board of the County of Madison, Illinois find it to be in the best interest of the County of Madison, Illinois to put an advisory public question on the ballot regarding legislation to require voter identification and that said question should be submitted to be placed on the ballot for the County of Madison electorate at the November 3, 2026, General Election.

NOW THEREFORE, BE IT RESOLVED by the County Board of Madison County that the County Clerk is hereby authorized and directed to place on the November 3, 2026, General Election Ballot in Madison County the following advisory public question in accordance with applicable law:

Shall the Illinois General Assembly pass legislation to require government-issued identification to vote?
YES _____ NO_____

ADOPTED AND APPROVED this _____ day of _____ 2026 by the County Board of Madison County, Illinois.

ATTEST:

_____ _____

Chris Slusser, Chairman **Linda Andreas, Madison County Clerk**

RESOLUTION TO SUBMIT AN ADVISORY PUBLIC QUESTION TO THE VOTERS OF MADISON COUNTY, ILLINOIS REGARDING LOCAL ZONING CONTROL OF WIND AND SOLAR FARM DEVELOPMENTS

WHEREAS, the County of Madison, Illinois is a duly organized and existing county created and operating under the provisions of the Illinois Counties Code and the laws of the State of Illinois; and,

WHEREAS, the Illinois Election Code provides that any public question authorized by statute shall be initiated in accordance with 10 ILCS 5/28-1 and 5/28-5; and,

WHEREAS, the County Board of Madison, Illinois find it to be in the best interest of the County of Madison, Illinois to put an advisory public question on the ballot regarding legislation to restore local control for the zoning of wind and solar farm developments and that said question should be submitted to be placed on the ballot for the County of Madison electorate at the November 3, 2026, General Election.

NOW THEREFORE, BE IT RESOLVED by the County Board of Madison County that the County Clerk is hereby authorized and directed to place on the November 3, 2026, General Election Ballot in Madison County the following advisory public question in accordance with applicable law:

> Shall the Illinois General Assembly restore zoning control of wind and solar farm developments to local governments instead of mandating them from the state level?
>
> **YES _____ NO_____**

ADOPTED AND APPROVED this _____ day of _____ 2026 by the County Board of Madison County, Illinois.

ATTEST:

_____ **_____**

Chris Slusser, Chairman **Linda Andreas, Madison County Clerk**

RESOLUTION TO SUBMIT AN ADVISORY PUBLIC QUESTION TO THE VOTERS OF MADISON COUNTY, ILLINOIS REGARDING PROPERTY TAX REFORM

WHEREAS, the County of Madison, Illinois is a duly organized and existing county created and operating under the provisions of the Illinois Counties Code and the laws of the State of Illinois; and,

WHEREAS, the Illinois Election Code provides that any public question authorized by statute shall be initiated in accordance with 10 ILCS 5/28-1 and 5/28-5; and,

WHEREAS, the County Board of Madison, Illinois find it to be in the best interest of the County of Madison, Illinois to put an advisory public question on the ballot regarding legislation to enact comprehensive property tax reform and that said question should be submitted to be placed on the ballot for the County of Madison electorate at the November 3, 2026, General Election.

NOW THEREFORE, BE IT RESOLVED by the County Board of Madison County that the County Clerk is hereby authorized and directed to place on the November 3, 2026, General Election Ballot in Madison County the following advisory public question in accordance with applicable law:

> Shall the Illinois General Assembly pass new legislation to enact comprehensive property tax reform and dramatically reduce property taxes, such as using a different source to fund public schools, and putting a cap on property taxes at 1% of the assessed value of a property?
>
> **YES _____ NO_____**

ADOPTED AND APPROVED this _____ day of _____ 2026 by the County Board of Madison County, Illinois.

ATTEST:

_____ _____

Chris Slusser, Chairman **Linda Andreas, Madison County Clerk**

RESOLUTION AUTHORIZING THE SUBMISSION OF THE 2027 EMERGENCY SOLUTIONS GRANT APPLICATION TO THE ILLINOIS DEPARTMENT OF HUMAN SERVICES FOR THE COUNTY OF MADISON, ILLINOIS

WHEREAS, the Madison County Community Development Department is the Collaborative Applicant for the Madison County Continuum of Care Program; and

WHEREAS, it is necessary to submit to the Illinois Department of Human Services (IL-DHS) a grant application detailing the projected use of the FY2027 Emergency Solutions Grant Funds to provide support to the Madison County Continuum of Care in the County of Madison;

BE IT RESOLVED by the County Board of Madison County, Illinois, that the County Board hereby authorizes Community Development to submit an application for the FY2027 Emergency Solutions Grant application in the amount of $187,790, yearly, for a 3-year grant cycle, for the County of Madison, Illinois, to the IL-DHS; and

NOW, THEREFORE BE IT FURTHER RESOLVED by the County Board of the County of Madison Illinois, that the County Board Chairman and Community Development Department are hereby directed and designated to execute said grant agreement in connection with the Emergency Solutions Grant Program and to provide such additional information to the IL-DHS as may be required.

Respectfully submitted by,

s/ Denise Wiehardt_____
Denise Wiehardt Chair
Grants Committee Certification of Votes
July 7, 2026

Denise Wiehardt	**AYE✓ NAY☐ ABSTAIN☐**
Frank Dickerson	**AYE✓ NAY☐ ABSTAIN☐**
Valerie Doucleff	**AYE✓ NAY☐ ABSTAIN☐**
Alison Lamothe	**AYE✓ NAY☐ ABSTAIN☐**
Fred Schulte	**AYE✓ NAY☐ ABSTAIN☐**
Ron Simpson	**AYE✓ NAY☐ ABSTAIN☐**
Vic Valentine	**AYE✓ NAY☐ ABSTAIN☐**
Shawndell Wilson	**AYE☐ NAY☐ ABSTAIN☐**

A RESOLUTION AUTHORIZING THE SUBMISSION OF
THE 2027 COMMUNITY SERVICES BLOCK GRANT (CSBG) GRANT APPLICATION

WHEREAS; Madison County Community Development is the local administering agency for the Community Services Block Grant (CSBG) program; and

WHEREAS; it is necessary to submit to the Illinois Department of Commerce and Economic Opportunity a grant application detailing the projected use of the 2027 Community Services Block Grant funds; and

WHEREAS; the Community Services Block Grant (CSBG) objective is to alleviate the causes and conditions of poverty in communities for low-income people; and

NOW, THEREFORE, BE IT RESOLVED by the County Board of Madison County, Illinois, hereby authorizes Madison County Community Development to submit the 2027 Community Services Block Grant Program grant application in the amount of $704,192.00 for the County of Madison, Illinois, to the Illinois Department of Commerce and Economic Opportunity; and

BE IT FURTHER RESOLVED by the County Board of the County of Madison Illinois, that the County Board Chairman and Community Development Department are hereby directed and designated to execute said grant agreement in connection with the Community Services Block Grant fund and to provide such additional information to the Illinois Department of Commerce and Economic Opportunity as may be required.

Respectfully submitted,

s/ Denise Wiehardt
Denise Wiehardt Chair
Grants Committee Certification of Votes
July 7, 2026

Denise Wiehardt	**AYE✓ NAY☐ ABSTAIN☐**
Frank Dickerson	**AYE✓ NAY☐ ABSTAIN☐**
Valerie Doucleff	**AYE✓ NAY☐ ABSTAIN☐**
Alison Lamothe	**AYE✓ NAY☐ ABSTAIN☐**
Fred Schulte	**AYE✓ NAY☐ ABSTAIN☐**
Ron Simpson	**AYE✓ NAY☐ ABSTAIN☐**
Vic Valentine	**AYE✓ NAY☐ ABSTAIN☐**
Shawndell Wilson	**AYE☐ NAY☐ ABSTAIN☐**

A RESOLUTION AUTHORIZING THE SUBMISSION OF THE 2026 COMMUNITY DEVELOPMENT ANNUAL ACTION PLAN

WHEREAS, the Community Development Department is responsible for the application of grant funding from the U.S. Department of Housing and Urban Development (HUD) office of Community Planning and Development for the receipt of the Community Development Block Grant (CDBG) and HOME Investment Partnerships (HOME) programs;

WHEREAS, it is necessary to submit an Annual Action Plan to HUD for the receipt of the Community Development Block Grant (CDBG) and HOME Investment Partnership (HOME) program funds;

WHEREAS, the Community Development Department has been allocated by HUD $2,783,136.00 in Community Development Block Grant (CDBG) and $772,760.15 in HOME Investment Partnerships (HOME) program funds;

WHEREAS, the CDBG and HOME National Objectives are to benefit low to moderate income persons, the prevention or elimination of slums and blight, and to meet urgent needs;

WHEREAS, the County of Madison, Illinois has designated the Community Development Department to administer these grants and to prepare the Consolidated Plan and Annual Action Plan and associated documents;

WHEREAS, the Community Development Department will adhere to and enforce all Federal Regulations and Certifications for the CDBG and HOME programs; and

WHEREAS, the County of Madison, Illinois has designated the Community Development Department to administer these grants and to prepare the Consolidated Plan, Annual Action Plan, Grant Agreements, Consolidated Annual Performance Evaluation Report (CAPER), and all other related documentation as required by the Department of Housing and Urban Development.

NOW, THEREFORE, BE IT RESOLVED that the County Board of the County of Madison, Illinois, hereby authorizes the filing of the 2026 Annual Action Plan for the CDBG and HOME programs with the Department of Housing and Urban Development; and

BE IT FURTHER RESOLVED by the County Board of the County of Madison Illinois, that the County Board Chairman and Community Development Department are hereby directed and designated to execute said grant agreement in connection with the Consolidated Plan, Annual Action Plan, grant agreements, CAPER and all other related documentation as required by the Department of Housing and Urban Development.

Respectfully submitted,

s/ Denise Wiehardt_____
Denise Wiehardt Chair
Grants Committee Certification of Votes
July 7, 2026

Denise Wiehardt	**AYE✓ NAY☐ ABSTAIN☐**
Frank Dickerson	**AYE✓ NAY☐ ABSTAIN☐**
Valerie Doucleff	**AYE✓ NAY☐ ABSTAIN☐**
Alison Lamothe	**AYE✓ NAY☐ ABSTAIN☐**
Fred Schulte	**AYE✓ NAY☐ ABSTAIN☐**
Ron Simpson	**AYE✓ NAY☐ ABSTAIN☐**
Vic Valentine	**AYE✓ NAY☐ ABSTAIN☐**
Shawndell Wilson	**AYE☐ NAY☐ ABSTAIN☐**

RESOLUTION TO PURCHASE FOUR NEW HVAC UNITS FOR SOUP N' SHARE FOR THE MADISON COUNTY COMMMUNITY DEVELOPMENT DEPARTMENT

Mr. Chairman and Members of the County Board:

WHEREAS, the Madison County Community Development Department Department wishes to purchase four (4) new energy efficient HVAC units (both heating and cooling), with UV lighting to prevent the spread of COVID-19, for the Soup N' Share food pantry located at 1 Caine Ave., Madison, IL 62060; and,

WHEREAS, the HVAC systems are available for purchase Energy Stars; and,

Energy Stars Heating and Cooling Co.
1350 Grand Avenue
Madison, IL 62060……$ 67,070.00

CONTRACT TOTAL $67,070.00

WHEREAS, the total price for four (4) new energy efficient HVAC units (both heating and cooling), with UV lighting to prevent the spread of COVID-19, will be sixty-seven thousand seventy dollars and zero cents ($67,070.00); and,

WHEREAS, this purchase will be paid for with CDBG-CV funds; and,

NOW, THEREFORE BE IT RESOLVED by the County Board of the County of Madison Illinois, that the County Board Chairman be hereby directed and designated to execute said contract with Energy Stars Heating and Cooling Co., 1350 Grand Avenue, Madison, IL 62060 for the aforementioned HVAC and UV Lighting.

Respectfully submitted,

s/ Denise Wiehardt		s/ Chris Guy	
Denise Wiehardt Chair		Chris Guy Chair	
Grants Committee Certification of Votes		Finance Committee Certification of Votes	
July 7, 2026		July 9, 2026	
Denise Wiehardt	**AYE✓ NAY☐ ABSTAIN☐**	Chris Guy	**AYE✓ NAY☐ ABSTAIN☐**
Frank Dickerson	**AYE✓ NAY☐ ABSTAIN☐**	Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Valerie Doucleff	**AYE✓ NAY☐ ABSTAIN☐**	Linda Ogden	**AYE✓ NAY☐ ABSTAIN☐**
Alison Lamothe	**AYE✓ NAY☐ ABSTAIN☐**	Dalton Gray	**AYE✓ NAY☐ ABSTAIN☐**
Fred Schulte	**AYE✓ NAY☐ ABSTAIN☐**	Bob Meyer	**AYE✓ NAY☐ ABSTAIN☐**
Ron Simpson	**AYE✓ NAY☐ ABSTAIN☐**	John Janek	**AYE✓ NAY☐ ABSTAIN☐**
Vic Valentine	**AYE✓ NAY☐ ABSTAIN☐**	Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**
Shawndell Wilson	**AYE☐ NAY☐ ABSTAIN☐**	Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**

RESOLUTION TO PURCHASE PROFESSIONAL SERVICES FOR TECHNICAL ASSISTANCE FOR THE MADISON COUNTY COMMUNTY DEVELOPMENT DEPARTMENT

WHEREAS, the Community Development Department is the Collaborative Applicant and Lead Agency for the Madison County Continuum of Care (CoC) Program and has funds available from the Illinois Homeless Response Collaborative grant to award a contract for CoC consulting services for project management and deliverables, stakeholder engagement and data collection, governance and structural alignment assessment, coordinated entry and system review, and landlord engagement and strategy review for technical assistance and support to the homeless programs and the CoC; and

WHEREAS, the professional services are available from Homebase, and;

Homebase
870 Market St., Ste. 1228
San Francisco, CA 94102 ……..$49,975.00 (not to exceed)

WHEREAS, Homebase met all specifications at a total contract price not to exceed forty-nine thousand nine hundred seventy-five dollars and zero cents ($49,975.00); and

WHEREAS, the contract will be with Madison County Community Development for a period of July 1, 2026, through June 30, 2027.

WHEREAS, the funds for this service contract (not to exceed $49,975.00) will be paid out of the Illinois Homeless Response Collaborative Grant; and

NOW, THEREFORE BE IT FURTHER RESOLVED that the County Board of the County of Madison Illinois, that the County Board Chairman and the Community Development Department are hereby directed and designated to execute said contract with Homebase, of 870 Market St., Ste. 1228, San Francisco, CA 94102 for technical assistance for the Continuum of Care for the Community Development department.

Respectfully submitted by,

s/ Denise Wiehardt		s/Chris Guy	
Denise Wiehardt Chair		Chris Guy Chair	
Grants Committee Certification of Votes		Finance Committee Certification of Votes	
July 7, 2026		July 9, 2026	
Denise Wiehardt	**AYE✓ NAY☐ ABSTAIN☐**	Chris Guy	**AYE✓ NAY☐ ABSTAIN☐**
Frank Dickerson	**AYE✓ NAY☐ ABSTAIN☐**	Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Valerie Doucleff	**AYE✓ NAY☐ ABSTAIN☐**	Linda Ogden	**AYE✓ NAY☐ ABSTAIN☐**
Alison Lamothe	**AYE✓ NAY☐ ABSTAIN☐**	Dalton Gray	**AYE✓ NAY☐ ABSTAIN☐**
Fred Schulte	**AYE✓ NAY☐ ABSTAIN☐**	Bob Meyer	**AYE✓ NAY☐ ABSTAIN☐**
Ron Simpson	**AYE✓ NAY☐ ABSTAIN☐**	John Janek	**AYE✓ NAY☐ ABSTAIN☐**
Vic Valentine	**AYE✓ NAY☐ ABSTAIN☐**	Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**
Shawndell Wilson	**AYE☐ NAY☐ ABSTAIN☐**	Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**

RESOLUTION TO PURCHASE TWO PICK-UP TRUCKS FOR THE WEATHERIZATION PROGRAM FOR THE MADISON COUNTY COMMUNITY DEVELOPMENT DEPARTMENT

WHEREAS, the Madison County Community Development Department Department wishes to purchase two Pick-up trucks for the Weatherization Department; and,

WHEREAS, these vehicles are available for purchase; and,

Serra Chevrolet Buick GMC
2340 Gallatin Pike N
Madison, TN 37115……($ 47,000.00 each)……$ 94,000.00 total

CONTRACT TOTAL $94,000.00

WHEREAS, it is the recommendation of the Community Development Department Department for purchase of said two 2026 GMC 1500 (5.3L v8 WT) pick-up trucks via sealed bid; and,

WHEREAS, the total price for these vehicles will be ninety-four thousand and zero cents ($94,000.00); and,

WHEREAS, this purchase will be paid for with FY 2026 Community Development Department Department Weatherization Assistance for Low Income Persons Funds.

NOW, THEREFORE BE IT RESOLVED by the County Board of the County of Madison Illinois, that the County Board Chairman be hereby directed and designated to execute said contract with Serra Chevrolet Buick GMC of 2340 Gallatin Pike N, Madison, TN 37115 for the aforementioned vehicles.

Respectfully submitted,

s/ Denise Wiehardt		s/Chris Guy	
Denise Wiehardt Chair		Chris Guy Chair	
Grants Committee Certification of Votes		Finance Committee Certification of Votes	
July 7, 2026		July 9, 2026	
Denise Wiehardt	**AYE✓ NAY☐ ABSTAIN☐**	Chris Guy	**AYE✓ NAY☐ ABSTAIN☐**
Frank Dickerson	**AYE✓ NAY☐ ABSTAIN☐**	Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Valerie Doucleff	**AYE✓ NAY☐ ABSTAIN☐**	Linda Ogden	**AYE✓ NAY☐ ABSTAIN☐**
Alison Lamothe	**AYE✓ NAY☐ ABSTAIN☐**	Dalton Gray	**AYE✓ NAY☐ ABSTAIN☐**
Fred Schulte	**AYE✓ NAY☐ ABSTAIN☐**	Bob Meyer	**AYE✓ NAY☐ ABSTAIN☐**
Ron Simpson	**AYE✓ NAY☐ ABSTAIN☐**	John Janek	**AYE✓ NAY☐ ABSTAIN☐**
Vic Valentine	**AYE✓ NAY☐ ABSTAIN☐**	Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**
Shawndell Wilson	**AYE☐ NAY☐ ABSTAIN☐**	Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**

County Board: 7/15/2026

RESOLUTION TO PURCHASE REIMBURSEMENT TO PSAPs FOR 911 CALLS FOR THE MADISON COUNTY 911 EMERGENCY DEPARTMENT

WHEREAS, the Madison County 911 Emergency Department Department wishes to reimburse PSAPs for 911 calls for a six-month period between December 2025 to May 2026; and,

WHEREAS, this reimbursement will be paid to the Madison County municipalities of Alton, Collinsville, Edwardsville, Glen Carbon, Granite City and the Wood River, and to the Madison County Sheriff's Office, and,

WHEREAS, the total of this pay will be seven hundred, fifty-eight thousand, and four dollars, ($758,004.00); and,

WHEREAS, this purchase will be paid for with FY 2026 911 Emergency Department Department Aid to Agencies Funds.

NOW, THEREFORE BE IT RESOLVED by the County Board of the County of Madison Illinois, that the County Board Chairman be hereby directed and designated to execute said aforementioned reimbursement to the various Madison County Municipalities.

Respectfully submitted,

s/ Joey Petrokovich
ETSB Comm. Certification of Votes 6/25/2026

s/ Terry Eaker
Public Safety Comm. Certification of Votes 7/6/2026

s/ Chris Guy
Finance Comm. Certification of Votes 7/9/2026

Joe Petrokovich	**AYE☐ NAY☐ ABSTAIN✓**	Terry Eaker	**AYE✓ NAY☐ ABSTAIN☐**	Chris Guy	**AYE✓ NAY☐ ABSTAIN☐**
Scott Prange	**AYE✓ NAY☐ ABSTAIN☐**	Valerie Doucleff	**AYE☐ NAY☐ ABSTAIN☐**	Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Ralph Well	**AYE☐ NAY☐ ABSTAIN☐**	Linda Ogden	**AYE✓ NAY☐ ABSTAIN☐**	Linda Ogden	**AYE✓ NAY☐ ABSTAIN☐**
Ellar Duff	**AYE✓ NAY☐ ABSTAIN☐**	Bill Stoutenborough	**AYE✓ NAY☐ ABSTAIN☐**	Dalton Gray	**AYE✓ NAY☐ ABSTAIN☐**
Brendan McKee	**AYE✓ NAY☐ ABSTAIN☐**	Chrissy Wiley	**AYE✓ NAY☐ ABSTAIN☐**	Bob Meyer	**AYE✓ NAY☐ ABSTAIN☐**
Donald McMaster	**AYE✓ NAY☐ ABSTAIN☐**	Bob Meyer	**AYE✓ NAY☐ ABSTAIN☐**	John Janek	**AYE✓ NAY☐ ABSTAIN☐**
Marcos Pulido	**AYE✓NAY☐ ABSTAIN☐**	Alison Lamothe	**AYE✓ NAY☐ ABSTAIN☐**	Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**
				Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**

RESOLUTION TO PURCHASE POLICE AND CORRECTIONS ACADEMY TRAINING FOR THE MADISON COUNTY SHERIFF'S DEPARTMENT

WHEREAS, the Madison County Sheriff's Department wishes to purchase Police and Corrections Academy Training for Three (3) Deputies and Three (3) Jail Deputies; and,

WHEREAS, this mandatory training is available for purchase from Southwestern Illinois College; and,

Southwestern Illinois College
2500 Carlyle Ave.
Belleville, IL 62221 ……$ 36,708.30

WHEREAS, it is the recommendation of the Sheriff's Department for purchase of said mandatory training from Southwestern Illinois College, 2500 Carlyle Ave., Belleville, IL 62221; and,

WHEREAS, the total price for this contract will be Thirty-Six Thousand Seven Hundred Eight dollars and Thirty cents ($36,708.30); and,

WHEREAS, total cost of this expenditure will be paid with FY 2026 funds as follows: $ 22,221.30 FY 2026 Sheriff Admin Budget and $14,487.00 FY Jail Admin Budget; and,

NOW, THEREFORE BE IT RESOLVED by the County Board of Madison County, Illinois, that this purchase is approved and that the Madison County Board Chairman be authorized to enter into and execute a contract with Southwestern Illinois College, 2500 Carlyle Ave., Belleville, IL, 62221 for the aforementioned Police and Corrections Academy Training.

Respectfully submitted,

s/ Terry Eaker
Public Safety Comm. Certification of Votes
6/25/2026

s/Chris Guy
Finance Comm. Certification of Votes
7/9/2026

s/
Judiciary Comm. Certification of Votes
7/13/2026

Terry Eaker	**AYE✓ NAY☐ ABSTAIN☐**	Chris Guy	**AYE✓ NAY☐ ABSTAIN☐**	Chrissy Wiley	**AYE☐ NAY☐ ABSTAIN☐**
Valerie Doucleff	**AYE☐ NAY☐ ABSTAIN☐**	Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**	Michael Holliday	**AYE☐ NAY☐ ABSTAIN☐**
Linda Ogden	**AYE✓ NAY☐ ABSTAIN☐**	Linda Ogden	**AYE✓ NAY☐ ABSTAIN☐**	Don McMaster	**AYE☐ NAY☐ ABSTAIN☐**
Bill Stoutenborough	**AYE✓ NAY☐ ABSTAIN☐**	Dalton Gray	**AYE✓ NAY☐ ABSTAIN☐**	Brynn Kincheloe	**AYE☐ NAY☐ ABSTAIN☐**
Chrissy Wiley	**AYE✓ NAY☐ ABSTAIN☐**	Bob Meyer	**AYE✓ NAY☐ ABSTAIN☐**	Nick Petrillo	**AYE☐ NAY☐ ABSTAIN☐**
Bob Meyer	**AYE✓ NAY☐ ABSTAIN☐**	John Janek	**AYE✓ NAY☐ ABSTAIN☐**	Fred Schulte	**AYE☐ NAY☐ ABSTAIN☐**
Alison Lamothe	**AYE✓NAY☐ ABSTAIN☐**	Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**	Chris Guy	**AYE☐ NAY☐ ABSTAIN☐**
		Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**		

RESOLUTION TO PURCHASE REPLACEMENT SEWER BILLING SOFTWARE FOR THE MADISON COUNTY SPECIAL SERVICE AREA DEPARTMENT

WHEREAS, the Madison County Special Service Area Department wishes to purchase replacement sewer billing software; and,

WHEREAS, bids were advertised and received; and,

Muni-Link
Bellwood, PA…… ..$54,440

Cusi
Jonesboro, AR……$50,664

Civic-Plus
Manhattan, KS……$72,000

360 S2G
San Francisco, CA……...$94,100

BYNRY
Lewes, DE……$98,000

NIXAcom
Charlotte, NC……$150,000

Tyler
Varmouth, ME…… $216,904

WHEREAS, the bids were reviewed and Muni-Link of Bellwood, PA is the lowest responsible bidder; and,

WHEREAS, it is the recommendation of the Special Service Area Department for purchase of said replacement sewer billing software; and,

WHEREAS, the total price for this software will be Fifty-Four Thousand Four Hundred Forty dollars ($54,440); and,

WHEREAS, this purchase will be paid for with FY 2026 Special Service Area Department Funds.

NOW, THEREFORE BE IT RESOLVED by the County Board of the County of Madison Illinois, that the County Board Chairman be hereby directed and designated to execute said contract with Muni- Link of Bellwood, PA, for the replacement sewer billing software.

Respectfully submitted,

s/ Denise Wiehardt		s/Chris Guy	
Denise Wiehardt		Chris Guy Chair	
Sewer Facilities Committee Certification of Votes		Finance Committee Certification of Votes	
July 6, 2026		July 9, 2026	
Denise Wiehardt	**AYE✓ NAY☐ ABSTAIN☐**	Chris Guy	**AYE✓ NAY☐ ABSTAIN☐**
Bob Meyer	**AYE✓ NAY☐ ABSTAIN☐**	Mick Madison	**AYE✓ NAY☐ ABSTAIN☐**
Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**	Linda Ogden	**AYE✓ NAY☐ ABSTAIN☐**
Shawndell Wilson	**AYE✓ NAY☐ ABSTAIN☐**	Dalton Gray	**AYE✓ NAY☐ ABSTAIN☐**
Fred Schulte	**AYE✓ NAY☐ ABSTAIN☐**	Bob Meyer	**AYE✓ NAY☐ ABSTAIN☐**
Nick Petrillo	**AYE✓ NAY☐ ABSTAIN☐**	John Janek	**AYE✓ NAY☐ ABSTAIN☐**
John Janek	**AYE✓ NAY☐ ABSTAIN☐**	Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**
		Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**

SUPPLEMENTAL AGREEMENT FOR ENGINEERING SERVICES MAPLE GROVE ROAD OVER WENDELL BRANCH HOSTO BRIDGE, SECTION 23-20112-00-BR SECTION 33 PIN OAK TOWNSHIP MADISON COUNTY, ILLINOIS

Mr. Chairman and Members of the Madison County Board

Ladies and Gentlemen:

WHEREAS, the County of Madison and Pin Oak Township are desirous to replace an existing drainage structure carrying Maple Grove Road over Wendell Branch located along the North line of Section 33 of Pin Oak Township, a project known as Hosto Bridge; and

WHEREAS, the engineering firm of Volkert, Inc. of Collinsville, Illinois is currently under contract to provide necessary Engineering Services for said project; and

WHEREAS, The County of Madison by resolution passed by the County Board, dated February 19, 2025, appropriated the sum of Two Hundred Thousand ($200,000.00) dollars from the County Bridge Fund for said services; and

WHEREAS, additional Engineering Services beyond the scope of the original agreements are required for this project; and

WHEREAS, the Engineering firm of Volkert, Inc. of Collinsville, Illinois agrees to provide the additional services at a fee of Twelve Thousand Two Hundred Fifty-Two ($12,252) dollars.

NOW, THEREFORE BE IT RESOLVED that the County Board of Madison County does hereby authorize and empower the Chairman of the Board to execute a supplement to the Professional Engineering Service Agreement between Volkert, Inc. and the County of Madison on behalf of the County Board.

BE IT FURTHER RESOLVED that sufficient funds be appropriated for the sum of an additional Twelve Thousand Two Hundred Fifty-Two ($12,252) dollars from the County Bridge fund to complete said services.

All of which is respectfully submitted.

s/ Bobby Ross
Bobby Ross, Chair
Transportation Committee Certification of Votes
July 1, 2026

Bobby Ross	**AYE✓ NAY☐ ABSTAIN☐**
Fred Michael	**AYE✓ NAY☐ ABSTAIN☐**
Michael Holliday	**AYE✓ NAY☐ ABSTAIN☐**
Paul Nicolussi	**AYE✓ NAY☐ ABSTAIN☐**
Victor Valentine	**AYE✓ NAY☐ ABSTAIN☐**
Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**
Fred Schulte	**AYE✓ NAY☐ ABSTAIN☐**
Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**

RESOLUTION AUTHORIZING THE COUNTY ENGINEER TO NEGOTIATE FOR THE ACQUISITION OF PROPERTY FOR FUTURE ROADWAY IMPROVEMENTS

WHEREAS, pursuant to the Illinois Highway Code (605 ILCS 5/5-201 and related sections), the County Engineer is charged with the general supervision of the construction, maintenance, and repair of county highways, and is responsible for conducting reviews and evaluations of the condition, safety, and configuration of county roads and intersections; and

WHEREAS, during the course of such professional review, the County Engineer has identified a particular intersection within Madison County that would benefit from geometric improvements and reconfiguration to enhance the alignment, safety and convenience of the traveling public; and

WHEREAS, the County Engineer has further determined that any realignment of the roadway would benefit from the removal of an existing residence presently located within the prospective improvement area; and

WHEREAS, the owner of said residence and surrounding property, consisting of approximately 5.18 acres more or less, has indicated a willingness to entertain an offer from Madison County for the purchase of the entire parcel 10-1-16-21-00-000-002.001; and

WHEREAS, acquisition of this property at this time would enable Madison County to secure the right-of-way necessary for future improvements, allow orderly planning of any eventual roadway reconfiguration, and serve the long-term interests of the traveling public.

NOW, THEREFORE, BE IT RESOLVED by the Madison County Board that the County Engineer is hereby authorized and empowered to negotiate with the property owner and present a written offer on behalf of Madison County for the acquisition of the above-referenced parcel, with the objective of securing a fair and reasonable purchase price; and

BE IT FURTHER RESOLVED that, upon completion of negotiations, the County Engineer shall bring a subsequent resolution before the Madison County Board for consideration and approval of the final purchase of said property.

All of which is respectfully submitted.

s/ Bobby Ross
Bobby Ross, Chair
Transportation Committee Certification of Votes
July 1, 2026

Bobby Ross	**AYE✓ NAY☐ ABSTAIN☐**
Fred Michael	**AYE✓ NAY☐ ABSTAIN☐**
Michael Holliday	**AYE✓ NAY☐ ABSTAIN☐**
Paul Nicolussi	**AYE✓ NAY☐ ABSTAIN☐**
Victor Valentine	**AYE✓ NAY☐ ABSTAIN☐**
Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**
Fred Schulte	**AYE✓ NAY☐ ABSTAIN☐**
Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**

RESOLUTION AUTHORIZING THE SALE OF REAL ESTATE LOCATED IN GODFREY TOWNSHIP

WHEREAS, Madison County is an Illinois County formed and operating pursuant to the Illinois Counties Code (55 ILCS 5/): and

WHEREAS, the powers of the County have been granted to it by the Illinois Counties Code, and specifically 55 ILCS 5/5-1005(2) authorizes Illinois counties to sell and convey real estate owned by the County;

WHEREAS, Madison County has been in possession of two parcels of land located in Godfrey Township, which the county obtained in fee simple by warranty deed from the owners in 1950, which is adjacent to Humbert Road, namely Permanent Parcel Number 24-1-01-26-04-407-001 and Permanent Parcel Number 24-1-01-26-04-407-002 (the "subject real estate");

WHEREAS, the County has been approached by the owners of adjoining lands seeking to acquire 951 square feet of land in PIN 24-1-01-26-04-407-001 and 193 square feet of land in PIN 24-1-01-26-04-407-002 more particularly described and depicted in the attached Exhibit A and Exhibit B;

WHEREAS, it is the opinion of the Madison County Highway Engineer that there is no present or future expectation of any highway development or improvement or other County use of these small particles of land which would necessitate continued ownership of these parcels;

WHEREAS, it is the opinion and recommendation of the Madison County Highway Engineer that these small pieces of land, of de minimis monetary and practical value, be conveyed to the adjoining landowners;

WHEREAS, the County has determined there is no immediate or reasonably foreseeable benefit from continual ownership of this land and the County hereby determines it is in the best interests of the County to dispose of the surplusage subject real estate;

NOW, THEREFORE, BE IT RESOLVED by the County Board of Madison County Illinois that the subject real estate be conveyed by and with appropriate means and terms to be determined by the County Board Chairman, County Administrator, and County Purchasing Director and, that the Chairman and/or County Administrator and/or Highway Engineer are hereby authorized to sign any and all documents, contracts, agreements, deeds, or other instruments reasonably necessary to ensure the sale and conveyance of the subject real estate is completed in an orderly and efficient fashion.

All of which is respectfully submitted.

s/ Bobby Ross
Bobby Ross, Chair
Transportation Committee Certification of Votes
July 1, 2026

Bobby Ross	**AYE✓ NAY☐ ABSTAIN☐**
Fred Michael	**AYE✓ NAY☐ ABSTAIN☐**
Michael Holliday	**AYE✓ NAY☐ ABSTAIN☐**
Paul Nicolussi	**AYE✓ NAY☐ ABSTAIN☐**
Victor Valentine	**AYE✓ NAY☐ ABSTAIN☐**
Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**
Fred Schulte	**AYE✓ NAY☐ ABSTAIN☐**
Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**

QUIT CLAIM DEED

THE **GRANTOR**, COUNTY OF MADISON, ILLINOIS, an Illinois county of the State of Illinois for and in consideration of the sum of One Dollar and other good and valuable consideration, the receipt of which is hereby acknowledged, CONVEYS and QUIT CLAIMS **Charles L. Martin Family L.L.C.**, an Illinois limited liability company, whose address is 1311 Main Street, Carmi, IL 62821, the **GRANTEE**, all interest in the following described real estate, to wit:

See attached Exhibit A and Exhibit B

Situated in Madison County, Illinois, hereby releasing and waiving all rights under and by virtue of the Homestead Exemption Laws of the State of Illinois.

Dated this _____ day of July, 2026

COUNTY OF MADISON, ILLINOIS

_____
By: Adam J. Walden, P.E.
County Engineer

ACCEPTED:

GRANTEE
Charles L. Martin Family L.L.C.

_____
Charles L. Martin, Managing Member

Exempt under provisions of Paragraph b, Section 31-45 of the Real Estate Transfer Tax Law (35 ILCS 200/31-45)

_____ _____
Date **Buyer, Seller or Representative**

STATE OF ILLINOIS)
) SS.
COUNTY OF MADISON)

I, the undersigned, a Notary Public, in and for said County and State aforesaid, DO HEREBY CERTIFY THAT **Adam J. Walden**, personally known to me to be the same person whose name is subscribed to the foregoing instrument, as having executed the same, appeared before me this day in person and acknowledged that he/she signed, sealed and delivered the said instrument as his/her free and voluntary act for the uses and purposes therein set forth, including the release and waiver of the right of homestead.

Given under my hand and Notarial Seal this ____ day of July, 2026.

_____
Notary Public

STATE OF ILLINOIS)
) SS.
COUNTY OF MADISON)

I, the undersigned, a Notary Public, in and for said County and State aforesaid, DO HEREBY CERTIFY THAT **Charles L. Martin, Managing Member of Charles L. Martin Family L.L.C.**, an Illinois limited liability company, personally known to me to be the same person whose name is subscribed to the foregoing instrument, as having executed the same, appeared before me this day in person and acknowledged that he/she signed, sealed and delivered the said instrument as his/her free and voluntary act for the uses and purposes therein set forth, including the acceptance of the Quit Claim Deed, and the free and voluntary act of the company, and represented that he was duly authorized to execute the same by its Members.

Given under my hand and Notarial Seal this ____ day of July, 2026.

_____
Notary Public

Future Taxes to Grantee's Address
Charles L. Martin Family L.L.C.
c/o Martin & Bayley, Inc.
1311 W. Main St.
Carmi, IL 62821

Return this document to:
Charles L. Martin Family L.L.C.
c/o Martin & Bayley, Inc.
1311 W. Main St.
Carmi, IL 62821

This Instrument was Prepared by: Madison County State's Attorney's Office
Whose Address is: 157 N. Main St., Ste. 402
Edwardsville, IL 62025

TITLE NOT EXAMINED BY PREPARER

CONSULTING ENGINEERING
GEOSPATIAL SERVICES

THOUVENOT, WADE & MOERCHEN, INC.

CORPORATE OFFICE
4940 OLD COLLINSVILLE ROAD
SWANSEA, IL 62226
618.624.4488

EXHIBIT A
LEGAL DESCRIPTION
Charles L. Martin Family, LLC

TWM Project No: 241711
Date of Preparation: June 4, 2026
Parcel Number's: Part of 24-1-01-26-04-407-002

Part of a tract of land being part of the Southeast Quarter of Section 26, Township 6 North, Range 10 West of the Third Principal Meridian, City of Alton, County of Madison, State of Illinois, and being more particularly described as follows:

Commencing at a found 4"x4" concrete monument at the northwest corner of the Northeast Quarter of said Southeast Quarter; thence North 89 degrees 12 minutes 21 seconds East, on the north line of said Southeast Quarter, 1148.14 feet to the northerly extension of the easterly line of a tract of land described in the Madison County Recorder's Office in Book 4631 on Page 828; thence South 00 degrees 05 minutes 33 seconds West, on the northerly extension of said easterly line, 5.97 feet to the northeast corner of said tract of land, said point being 40 feet southwesterly of and perpendicular to centerline station 155+69.68 of S.A.R. 12-A (a.k.a. Humbert Road) reference being to the plat thereof recorded in the Madison County Recorder's Office in Road Record 7 on Pages 13 and 14, also being the Point of Beginning.

From said Point of Beginning; thence southeasterly 44.55 feet, on a curve being 40.00 feet southwesterly of and parallel to said centerline of S.A.R. 12-A , being a non-tangential curve to the left having a radius of 1,875.64 feet, the chord of said curve bears South 79 degrees 05 minutes 56 seconds East, 44.55 feet to the existing southerly right of way line of said S.A.R. 12-A, said line being 15.00 feet southerly of and parallel to said north line of the Southeast Quarter, reference being had to the "Spaulding Record" of said Township 6 North, Range 10 West recorded in the Madison County Recorder's Office; thence South 89 degrees 12 minutes 21 seconds West, on said existing southerly right of way line, 43.76 feet to said easterly line of the tract of land described in Book 4631 on Page 828; thence North 00 degrees 05 minutes 33 seconds East, on said easterly line, 9.03 feet to the Point of Beginning.

Said tract of land contains 193 square feet or 0.004 acres, more or less.

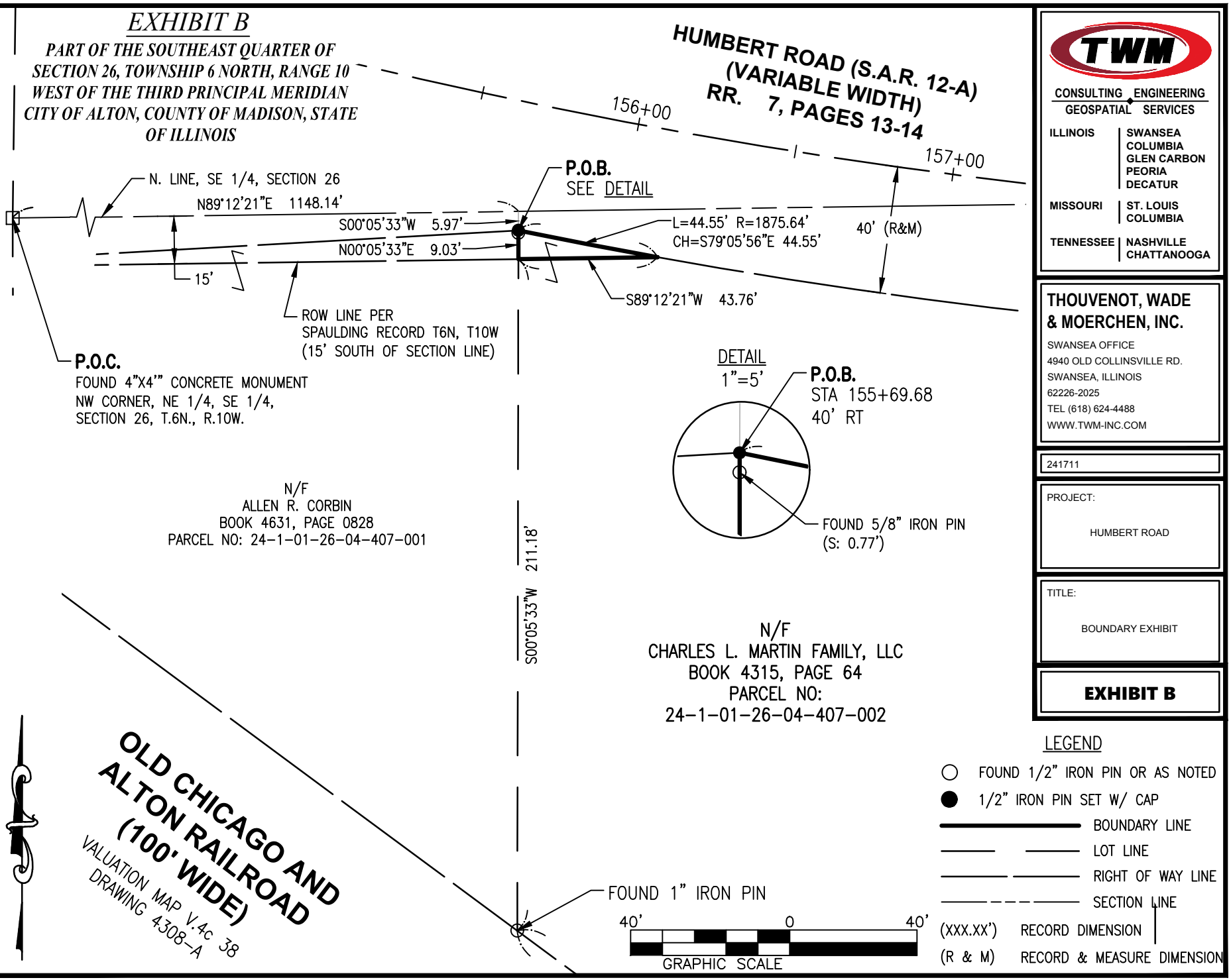
Subject to easements, conditions, right-of-way, and restrictions of record.

As shown on Exhibit B attached hereto and made part hereof.

MAPS & PLATS
~~Survey Required~~
~~For Recording~~
Initials AS
Date 6/30/26

EXHIBIT B

PART OF THE SOUTHEAST QUARTER OF SECTION 26, TOWNSHIP 6 NORTH, RANGE 10 WEST OF THE THIRD PRINCIPAL MERIDIAN CITY OF ALTON, COUNTY OF MADISON, STATE OF ILLINOIS



LEGEND

- ○ FOUND 1/2" IRON PIN OR AS NOTED
- ● 1/2" IRON PIN SET W/ CAP
- BOUNDARY LINE
- LOT LINE
- RIGHT OF WAY LINE
- SECTION LINE
- (XXX.XX') RECORD DIMENSION
- (R & M) RECORD & MEASURE DIMENSION

TWM
CONSULTING ENGINEERING
GEOSPATIAL SERVICES

ILLINOIS: SWANSEA, COLUMBIA, GLEN CARBON, PEORIA, DECATUR
MISSOURI: ST. LOUIS, COLUMBIA
TENNESSEE: NASHVILLE, CHATTANOOGA

THOUVENOT, WADE & MOERCHEN, INC.
SWANSEA OFFICE
4940 OLD COLLINSVILLE RD.
SWANSEA, ILLINOIS
62226-2025
TEL (618) 624-4488
WWW.TWM-INC.COM

241711

PROJECT: HUMBERT ROAD

TITLE: BOUNDARY EXHIBIT

EXHIBIT B

P:\2024\241711\4 CADD - DWG\4.6 Surv\241711 Exhibit.dwg Plotted By: jsmith

AFFIDAVIT FOR PURPOSE OF PLAT ACT REQUIREMENTS (765 ILCS 205)
THIS IS A LEGAL DOCUMENT – CONSULT YOUR PRIVATE ATTORNEY
(County Zoning & Subdivision Ordinances May Also Apply)

ORIGINAL AFFIDAVIT REQUIRED FOR RECORDING, COPIES *WILL NOT* BE ACCEPTED

Affiant is the Grantor or is the Grantors authorized representative in a deed transferring interest in the real estate described in the accompanying deed. Affiant further states this transfer is exempt from the Illinois Plat Act because it is:

(Please check all that apply)

( ) A. NOT A DIVISION OF LAND (parcel lines unchanged) ( ) C. DIVISION FOR TAXING PURPOSES ONLY (parcel lines change)

(X) B. A DIVISION OF LAND THAT MEETS ONE OF THE FOLLOWING EXCEPTIONS TO THE PLAT ACT;

____ 1. A division or subdivision of land into tracts of five (5) acres or more not involving new streets or easements of access with a minimum of five (5) acres residue or Grandfathered under prior approved plat by Land Use Committee.

____ 2. A division of lots or blocks of less than one (1) acre in a recorded subdivision not involving new streets or easements of access.

X 3. A sale or exchange of land between owners of adjoining and contiguous land.

____ 4. A conveyance of land for use as a right-of-way for public utilities and other pipelines not involving new streets or easements of access.

____ 5. A conveyance of land owned by a public utility not involving new streets or easements of access.

____ 6. A conveyance of land for highway or other public purpose or relating to a dedication of land or for vacation of land subject to a public use.

____ 7. A conveyance made to correct a description in prior conveyance.

____ 8. The sale or exchange of parcels of land following the division into no more than two (2) parts of a parcel existing on July 17, 1959, and not involving any new streets or easements of access.

____ 9. The sale of a single lot/tract less than five (5) acres from a larger tract. (Exception only applies to the 1st tract conveyed from a larger tract as it existed on October 1, 1973.) (The single tract of less than five (5) acres must have been surveyed by an Illinois Registered Land Surveyor whose survey must accompany the deed)

____ 10. The preparation of a plat for wind energy devices under Section 10-620 of the PTC

IF A IS MARKED ABOVE, APPROVAL BY THE MAPS & PLATS GIS DIVISION IS NOT REQUIRED.
IF B OR C IS MARKED ABOVE, APPROVAL BY THE MAPS & PLATS GIS DIVISION IS REQUIRED.

Under the penalties of perjury I swear that the statements contained here are true and correct.

NAME Matt Kitzmiller *(Please Print)* SIGNATURE: Matt Kitz DATE: June 3, 20 26

Subscribed and sworn to before me this 3rd day of June, 2026

"OFFICIAL SEAL"
MALLORY D. STONER
NOTARY PUBLIC — STATE OF ILLINOIS
COMMISSION NO. 977065
MY COMMISSION EXPIRES AUG. 23, 2027

Mallory D. Stoner
Notary Public

All divisions of less than 2 acres within the County jurisdiction must be reviewed by the Planning and Development Department

This affidavit only ensures the Recorder's Office compliance with the State Plat Act. If the property is located within a municipality or within 1.5 miles of a municipality, local ordinances may apply. *If exception 9 is used*, it is required that this land division be reviewed & approved by the participating municipality. Each municipality has five (5) business days to review deed(s) and return. If the five day limit expires, Maps & Plats will process the deed upon proof of date submitted to municipality.

Date Submitted to Municipality (s) _____ (Please check one) ( ) **Municipality Jurisdiction** ( ) **County Jurisdiction**

Municipality (s) with Jurisdiction: _____

_____ _____ _____
Municipal Planning Official's Signature *Print Name* *Date*

(Revised 7/14)

Madison County Maps & Plats GIS Division, 157 North Main Street, Suite 229, Edwardsville, IL 62025-1964; Ph (618) 692-7040 ext. 4586

RESOLUTION AUTHORIZING THE COUNTY BOARD CHAIRMAN AND/OR THE COUNTY ENGINEER TO NEGOTIATE AND EXECUTE DOCUMENTS WITH THE ILLINOIS DEPARTMENT OF TRANSPORTATION FOR THE DIRECT ACCEPTANCE AND/OR PURCHASE OF STATE-OWNED PROPERTY

WHEREAS, the Illinois Department of Transportation (IDOT), through its Property Management Section, has identified certain state-owned surplus real property located within Madison County, namely 0.34 acres more or less identified as IDOT Parcel 8410003 located to the West of 1357 Old State Route 4, St. Jacob, IL 62281 (also known as a strip between Old State Route 4 and the current Illinois State Route 4 just North of the T-intersection) and more particularly shown in the attached Exhibit A, as eligible for direct sale to the County; and

WHEREAS, IDOT has made an offer to convey the real property to Madison County by letter dated June 17, 2026, in accordance with 605 ILCS 5/4-508; and

WHEREAS, acquisition of said property would be beneficial for supporting highway infrastructure or other county purposes; and

WHEREAS, timely coordination with IDOT requires that the County identify authorized representatives to negotiate terms, evaluate the suitability of the property, and execute necessary documents associated with the transfer process; and

WHEREAS, IDOT's direct sale procedures may require the execution of agreements, issuance of a nominal consideration payment, and other administrative actions prior to final acceptance of the property; and

WHEREAS, the Madison County Board finds it to be in the best interest of the County to authorize its County Board Chairman and/or the County Engineer to act on its behalf during the negotiation and acquisition process.

NOW, THEREFORE, BE IT RESOLVED by the Madison County Board that the County Board Chairman and/or the County Engineer is hereby authorized and empowered to:

1. Negotiate, manage, and conduct all dealings with IDOT regarding the potential direct sale or transfer of state-owned property to Madison County.
2. Evaluate whether acquisition of the subject property is in the best interest of the County and proceed accordingly.
3. Execute, on behalf of the County, any preliminary or interim agreements, applications, acknowledgments, or related documents required by IDOT in connection with the proposed transaction.
4. Issue or authorize issuance of the required nominal consideration payment, including but not limited to a payment of One Dollar ($1.00), as required by IDOT procedures.
5. Bind the County to the final agreement of conveyance, including formal acceptance of IDOT's offer and acceptance of fee simple title to the property, subject to compliance with all applicable laws and procedures.

BE IT FURTHER RESOLVED that all actions taken by the County Board Chairman and/or the County Engineer pursuant to this authority shall be deemed actions of the County Board.

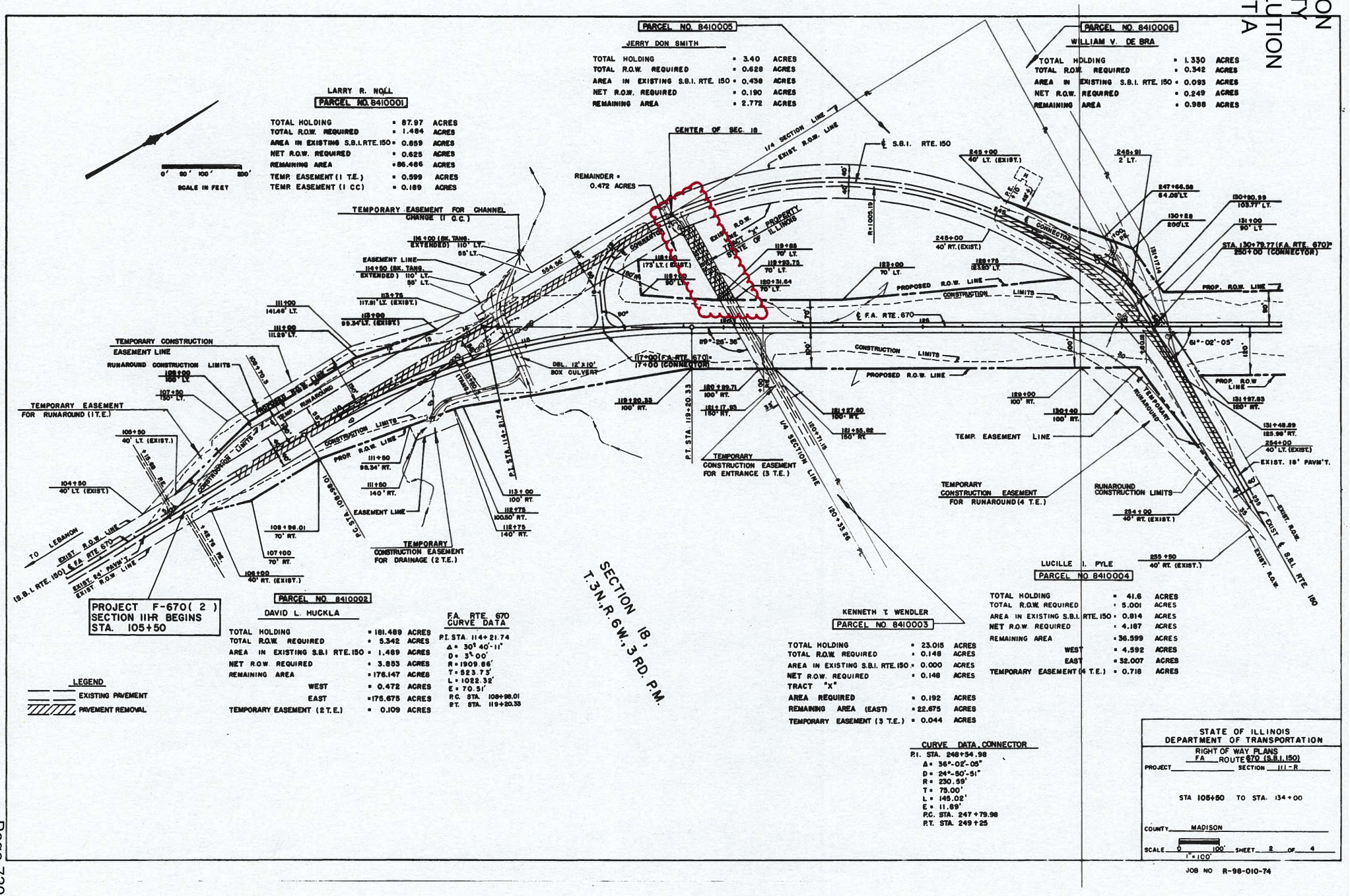
BE IT FINALLY RESOLVED that this Resolution shall be in full force and effect immediately upon its adoption.

All of which is respectfully submitted.

s/ Bobby Ross
Bobby Ross, Chair
Transportation Committee Certification of Votes
July 1, 2026

Bobby Ross	**AYE✓ NAY☐ ABSTAIN☐**
Fred Michael	**AYE✓ NAY☐ ABSTAIN☐**
Michael Holliday	**AYE✓ NAY☐ ABSTAIN☐**
Paul Nicolussi	**AYE✓ NAY☐ ABSTAIN☐**
Victor Valentine	**AYE✓ NAY☐ ABSTAIN☐**
Linda Wolfe	**AYE✓ NAY☐ ABSTAIN☐**
Fred Schulte	**AYE✓ NAY☐ ABSTAIN☐**
Jason Palmero	**AYE✓ NAY☐ ABSTAIN☐**

MADISON COUNTY RESOLUTION EXHIBIT A



RESOLUTION AUTHORIZING REIMBURSEMENT TO THE CITY OF TROY FOR FORCE ACCOUNT WORK ASSOCIATED WITH THE INSTALLATION OF A DRAINAGE INLET ON TROY OFALLON ROAD (CH 50)

Mr. Chairman and Members of the Madison County Board

WHEREAS, the City of Troy administered a Highway Safety Improvement Project (HSIP) including the installation of a left-turn lane on Troy O'Fallon Road (CH 50) and improvements to Country Lane, a City of Troy roadway; and

WHEREAS, Madison County partnered with the City but was not the lead agency for the contract, and the City administered the contract including direction of work, oversight and documentation of progress and adherence to plans and specifications; and

WHEREAS, during construction, field conditions revealed an unanticipated low-spot on Troy O'Fallon Road requiring the installation of an additional drainage inlet to ensure proper roadway drainage, preserve pavement life, and maintain safe traveling conditions; and

WHEREAS, the City of Troy directed the contractor to perform the necessary work under IDOT force account procedures so the improvement could be completed within the contract window, and Madison County agreed to reimburse the City for the reasonable cost of the materials and installation; and

WHEREAS, the drainage inlet has been installed, and the final invoice for the force account work will be less than forty thousand dollars ($40,000); and

WHEREAS, it is appropriate and necessary to obligate County Highway Funds to reimburse the City of Troy for the cost of this work.

NOW, THEREFORE, BE IT RESOLVED by the Madison County Board that Highway Funds in the amount of forty thousand dollars ($40,000) are hereby appropriated and authorized for reimbursement to the City of Troy for the completed force account inlet installation upon receipt and review of the final invoice.

s/ Bobby Ross
Bobby Ross, Chair
Transportation Committee Certification of Votes
July 1, 2026

Bobby Ross	**AYE✓ NAY☐ ABSTAIN☐**
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