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August 11, 2023

Mr. Keith Berkhout
Zoning Planner
Kane County Department of Development and Community Services
719 S. Batavia Avenue
Geneva, IL 60134

Re: Special Use Permit Application
RPIL Solar 8, LLC - "Plato Road" Community Solar Facility

Applicant: RPIL Solar 8, LLC c/o Renewable Properties, LLC
Owner: Robert & Linda Matson
46W289 Ellithorpe Road
Hampshire, IL 60140
Attn: Lisbeth Matson – lbmdane24@gmail.com

Present Zoning:	F (Farming District)
Present Use:	Agricultural
Proposed Use:	Community Solar Facility, approx. 35 acres
PIN:	04-24-400-024, 04-24-400-028, 05-19-300-011, 05-19-300-015; collectively 56.33 acres.
Address:	Plato Road, Hampshire, Kane County, IL 60140

Dear Mr. Berkhout and Members of the Zoning Board of Appeals:

RPIL Solar 8, LLC, is respectfully requesting approval for a Special Use Permit to allow the development of an approximately 4.99 MW (AC) ground-mounted distributed generation community solar facility ("Project") on existing farmland parcels consisting of approximately 56 acres located in Kane County, Illinois. The Project intends to develop approximately 35 acres of the overall parcels.

On behalf of RPIL Solar 8, LLC, owner and operator of the Project, please find the following:

- Special Use Permit Application Package:
  - Findings of Fact Sheet – Map Amendment and/or Special Use
  - List of record owners of all property within 250 feet of the subject property
  - Application for Zoning Map Amendment and/or Special Use
  - Plat of Survey and Site Plan
  - Legal description
  - Completed Land Use Opinion application sent to the Kane DuPage SWCD
  - Storm Water Report
  - Decommissioning Plan
  - Natural Resources Survey – Including Illinois DNR EcoCAT report and USFWS IPaC review
  - AIMA application

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Findings of Fact Sheet --Map Amendment and/or Special Use

- The Kane County Zoning Board is required to make findings of fact when considering a rezoning. (map amendment)
- You should "make your case" by explaining specifically how your proposed rezoning relates to each of the following factors.
- Special Uses shall be considered at a public hearing before the Zoning Board of Appeals. In its report of findings of facts, recommendations shall be made to the County Board following the public hearing. The Zoning Board will not recommend a special use unless the following items are addressed:
- 25-5-4-9: Commercial Solar Energy Facilities, SPECIAL USE APPLICATION, H. The Special Use application shall contain or be accompanied by the following information: (Please see attached drawings and supporting documents).

Plato Road / RPIL Solar 8, LLC
Name of Development/Applicant

August 11, 2023
Date

1. **How does your proposed use relate to the existing uses of property within the general area of the property in question?**

   Community solar facilities are compatible to the existing uses of properties within the general area including agriculture, residential, and educational. The Project can be returned back to an agricultural use, or as otherwise permitted once the project is decommissioned. Additionally, the Project is expected to provide ecological benefits to properties in the surrounding area through its plantings. The deep-rooted native flowers and grasses that will be planted between and around panels after construction will increase soil health, control soil erosion, improve water quality and retention and carbon sequestration. This also helps implement the resurgence of beneficial insects, and promotes habitat creation to support pollinator's pollination of crops and vegetation. Trees and wetlands at the proposed location would be preserved, and the identified screening will help the project blend in with the existing landscape. There are no natural areas and/or protected lands within 1,500 feet of the Project. Additionally, as highlighted in 55 ILCS 5/5-12020, solar facilities have been identified as a complimentary use within zoned agricultural and industrial districts.

2. **What are the zoning classifications of properties in the general area of the property in question?**

   Per the available zoning maps posted on Kane County's website, all properties immediately surrounding the project are zoned within the Farming District. There is also residential zoned land (E-2) on the northern side of Plato Road. Surrounding residences are screened by existing vegetation along property lines.

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3. **How does the suitability of the property in question relate to the uses permitted under the existing zoning classification?**

   The property in question is currently utilized for agricultural production and is relatively flat, making it suitable for the proposed use. In accordance with Section 25-4-8 of Kane County's Zoning Ordinance, Commercial Solar Energy Facilities may be allowed through the issuance of a special permit. The Project will not contribute to increased demands on services or resources, nor will it generate emissions or other noxious byproducts. The Project will be quietly operated and will not conflict with abutting uses permitted by right, or through special permits within the Farming District.

4. **What is the trend of development, if any, in the general area of the property in question?**

   Development in the area generally is limited to agricultural activities and housing subdivisions, aside from the Central School District 301's presence. The Project's low impact use will not conflict with or intensify current and/or expected land use trends.

5. **How does the projected use of the property, relate to the Kane County 2040 Land Use Plan?**

   The 2040 Plan Land Use ("Plan") designation of the property is predominantly "Agricultural". Due to the scale of the 2040 Land Use Map, portions of the property may fall within the designated "Municipal" corridor. Although the construction of the project may in the short-term lead to a reduction in local agricultural production, the occupation of this land would ensure that following the Project's reclamation, these activities could quickly resume. Whereas other permanent uses of the site, such as residential would likely result in the permanent loss of agricultural land. Furthermore, the Project's temporary use of land would support the County's ability to evaluate growth pressures against the optimal use of this land per the Plan's projections. The same temporal principle applies to the Municipal corridor.

   The Project directly contributes to and is consistent with the Plan's sustainability and energy goals related to: 1) Fostering public awareness, education, and support of sustainable practice through the development of livable communities; 2) Promoting economic development and workforce trained in the energy efficiency and renewable energy industry; 3) Promoting mitigation and adaptation to climate change that addresses public health safety, infrastructure, economic and environmental issues; and, 4) Being a leader and role model in the area of energy conservation, energy efficiency, reduction of greenhouse gas emissions and use of renewable resources within Kane County and throughout the region.

   Taking future needs into consideration, the Project has been designed to ensure that all infrastructure is properly setback along all roadways abutting the Project boundary (e.g. Plato, Burlington, and Ellithorpe) to avoid interference with right of way improvement that may be needed to accommodate future growth and traffic reduction as discussed within the 2040 Plan.

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6. **Explain how the establishment, maintenance or operation of the special use will not be detrimental to or endanger the public health, safety, morals, comfort or general welfare.**

   The Project will be designed and constructed to comply with numerous building, safety, electric code requirements, and standard industry practices to ensure the public health, safety, and general welfare of the community will not be impacted. In the unlikely event of an emergency scenario, no special firefighting equipment is required. Furthermore, emergency service responders will have an 24/7 access at the access gate via a knox box or as otherwise requested. The Project has consulted with the Burlington Fire Protection District and will continue to collaborate as the project advances. Furthermore, the Project will not impact any existing utility or communication facilities.

   Photovoltaic panels, constructed with non-toxic materials, are designed to absorb the sun, not reflect it and the single axis tracking technology moves panels with the sun to maximize efficiency. Reflectivity is no higher than nearby open waters. Utilized equipment will be tested against widely accepted certifications standards as required. At the time of decommissioning, the equipment will be removed from the site and properly recycled and/or disposed of.

   The Community Solar concept allows customers to subscribe to a part of a larger, offsite shared solar photovoltaic system and receive benefits for this participation. The concept allows more people access to solar energy such as those who rent or lack the space to install solar on their property. Each month the utility applies credits to the subscriber's bill based on the purchased share of electricity produced by the solar project. Benefits include but are not limited to:

   - Access to community solar energy credits;
   - Investment to the local distribution grid; and,
   - Anticipated electric bill reductions for subscribers.

7. **Explain how the special use will not be injurious to the use, enjoyment and value of other property in the immediate vicinity.**

   Proposed vegetative screening will help screen views of the proposed development from adjacent non-participating residences. Please see the attached site plan drawings for further details on screening placement. The screening will consist of a continuous line of native evergreen foliage, native shrubs, and native trees, all which will be selected to ensure the vegetation does not conflict the Project's electricity production.

   Furthermore, the power generated by the Project carries no emissions, and EMF levels at the perimeter of the solar array are generally no higher than the natural environment. Similarly, there is no permanent lighting proposed by the project. During the Project's operation, noise generated by the project is minimal, and amounts to a low hum audibly detectable only when standing within 50-feet of transformers and/or applicable devices. The sound will not be noticeable to neighboring properties or participating residences.

Lastly, RPIL Solar 8 LLC respectfully submits that there is a wide body of research conducted across Illinois within the private and public sector which finds that solar projects are not injurious to property values.

8. **Explain how the special use will not impede the normal, orderly development and improvement of the surrounding property.**

As demonstrated in responses above, the Project will not burden municipal resources as the Site will be unoccupied. Accordingly, the increased tax revenue generated from the Project can be reinvested to fully serve the community. It is respectfully submitted that few applicants or other taxpayers can make this same representation. Accordingly, those resources can be utilized to support the orderly development and improvement of the community.

Additionally, the deep-rooted native flowers and grasses that will be planted between and around panels after construction would control soil erosion and improve water quality in nearby lakes and soil health on surrounding farmland. Native grasses will mature out to a height of approximately roughly 2 ½ – 3 feet tall. Also included are clovers, oats, and annual rye grass. The seed mixes proposed are comprised of grasses that are native and/or indigenous to the area and/or considered favorable for wildlife habitat and sustainable growth.

A drain tile survey has been conducted by the Project, and is incorporated within the plan set. The Project will comply with the requirements of the Agricultural Impact Mitigation Agreement (AIMA) submitted to the Illinois Department of Agriculture for countersignature. Although not exhaustive, RPIL Solar 8, LLC will implement the following measures:

- Drain tile mains will be considered in the development of the final Project layout and avoided where practicable;
- The drain tile dataset will be shown on the final construction plans or by separate exhibit;
- Identified drain tile mains will be flagged in the field during construction to facilitate avoidance during construction activities; and,
- Should tile damage occur during, the Project will access all damage and prepare a mitigation plan to ensure functional equivalency of the site to its pre-construction condition. Repairs will be made by qualified contractors eligible to undertake the work.

9. **Will adequate utility, access roads, drainage and other necessary facilities be provided? Please explain:**

The Project is proposing the installation of four utility poles placed perpendicular to Plato Road, to accommodate AC rapid disconnects, customer reclosure, primary meter, and utility-owned reclosure. The facility will connect to an existing overhead utility line paralleling Plato Road. Access will be provided via a new driveway along the property frontage.

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The proposed development adds approximately 21,000 square feet of impervious area to the Site. In accordance with the Kane County Stormwater Management Ordinance, Category I Best Management Practices (BMPs) are required to be incorporated into the Project. The proposed BMPs will provide runoff volume reduction and water quality treatment for one inch of rainfall over the added impervious area. The volume of water reduction and treatment required is approximately 1,750 cubic feet. Permanent Vegetation is proposed to meet the Category I BMP requirements. A native seeding mix that is suitable for site conditions will be selected in accordance with the Practice Standards of the Illinois Urban Manual. Permanent Vegetation (Code 880) will establish a permanent cover to stabilize soils and enhance permeability while reducing runoff and erosion. See attached Storm Water report for more details regarding BMPs. In summary, the Project will be designed in a way which fully meets the needs of the Site and will not burden the neighboring properties or community.

The Project will not require sewerage and/or connection to public water systems. Following construction, the Site will not be permanently staffed.

10. **Will adequate measures be provided for ingress and egress and so designed to minimize the traffic and congestion? Please explain:**

    The Project will follow applicable requirements to ensure the safety of the construction team and travelling public. There will be no substantial short-term or long-term traffic impacts given the size of this Project. The access drive will be located and designed in accordance with Kane County's requirements. Recognizing the Project's proximity to Central High School and the Howard B. Thomas Grade School, the Project will collaborate in good faith with the relevant stakeholders to limit potential conflicts.

11. **Will the special use conform to the regulations of the district in which it is located? Please explain:**

    Commercial Solar Energy Facilities are listed as an allowed special use in the F District, and will conform to all relevant regulations as applicable.

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LIST OF RECORD OWNERS WITHIN 250 FEET

Owner	Owner Address	Site Address	PIN
GARCIA, DONATO & JACKIE	10N587 HIGHLAND TRL HAMPSHIRE, IL, 60140-7521	10N587 HIGHLAND TRL HAMPSHIRE, IL 60140	04-24-277-003
VAVRINA, KATHLEEN A & RUSSO, SHERRY L	10N605 HIGHLAND TRL HAMPSHIRE, IL 60139	10N605 HIGHLAND TRL HAMPSHIRE, IL 60140	04-24-277-002
HERNAN, JOHN S & CATHY L LIVING TR JOHN S & CATHY L HERNAN, TRUSTEES	44W750 PLATO RD HAMPSHIRE, IL 60139	44W750 PLATO RD HAMPSHIRE, IL 60140	05-19-100-014
CENTRAL SCHOOL DISTRICT 301	PO BOX 396 BURLINGTON, IL, 60109-0396	44W575 PLATO RD BURLINGTON, IL 60109	05-19-300-012
CENTRAL SCHOOL DISTRICT 301	PO BOX 396 BURLINGTON IL, 60109-0397	44W575 PLATO RD BURLINGTON, IL 60110	05-19-300-013
WERNER, CATHERINE L	44W601 ELLITHORPE RD HAMPSHIRE, IL 60140	44W601 ELLITHORPE RD HAMPSHIRE, IL 60141	05-30-100-011
SNODGRASS, NATHAN K & BETH M	44W685 ELLITHORPE RD HAMPSHIRE, IL, 60140-6120	44W685 ELLITHORPE RD HAMPSHIRE, IL, 60140-6121	05-30-100-012
PELOQUIN, GREGORY J & LYNNE A	10N105 BURLINGTON RD HAMPSHIRE, IL 60139	10N105 BURLINGTON RD HAMPSHIRE, IL 60140	05-19-300-009
PELOQUIN, GREGORY J & LYNNE A	10N105 BURLINGTON RD HAMPSHIRE, IL 60140		04-24-400-027
FOLLMAN-GOFF TRUST, TRUST: TR # 1 D GOFF & D & D FOLLMAN, CO-TRUSTEES	10N560 CHAPMAN RD HAMPSHIRE, IL, 60140-8770		04-24-400-026
HERRMANN, ALBERT H & SHARON S TRUST % HERRMANN ALBERT H & SHARON S TRUSTEES	10N263 BURLINGTON RD HAMPSHIRE, IL 60139	10N263 BURLINGTON RD HAMPSHIRE, IL 60140	04-24-400-030
TEETS, EARL G JR & SHARON 10N371 BURLINGTON RD	10N371 BURLINGTON RD BURLINGTON, IL 60108	10N371 BURLINGTON RD BURLINGTON, IL 60109	04-24-400-029
TRUST #101 LESLIE H MAAS, TRUSTEE	45W207 PLATO RD HAMPSHIRE, IL, 60140-8474	45W207 PLATO RD HAMPSHIRE, IL, 60140-8475	04-24-400-013
SIMS, SYLVIA J	45W155 PLATO RD HAMPSHIRE, IL, 60140	45W155 PLATO RD HAMPSHIRE, IL, 60141	04-24-400-023
PJ HOLDINGS TRUST JOHN JONES	5230 S CORNELL AVE APT H CHICAGO, IL, 60615-2269		04-24-400-014

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If any additional information is needed, I can be reached by phone at 608-215-4296 or by email at ARowley@trccompanies.com. Thank you for your consideration and support.

Sincerely,
Anne Rowley, PE

Cc:

Jeremy Price, Renewable Properties, LLC
Stephanie Loucas, Renewable Properties, LLC

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Application for Zoning Map Amendment and/or Special Use

KANE COUNTY DEVELOPMENT DEPARTMENT
Zoning Division, Kane County Government Center
719 S. Batavia Avenue
Geneva, Illinois 60134
Office (630) 444-1236 Fax: (630) 232-3411

Received Date

APPLICATION FOR ZONING MAP AMENDMENT AND/OR SPECIAL USE

Instructions:

To request a map amendment (rezoning) for a property, complete this application and submit it with all required attachments to the Subdivision and Zoning Division.

When the application is complete, we will begin the review process.

The information you provide must be complete and accurate. If you have a question please call the subdivision and zoning division, and we will be happy to assist you.

1. Property Information:	**Parcel Number (s):** 04-24-400-024, 04-24-400-028, 05-19-300-011, and 05-19-300-015. Collectivley, 56.33 Acres
	Street Address (or common location if no address is assigned): Plato Road, Hampshire, IL

2. Applicant Information:	**Name** RPIL Solar 8, LLC c/o Renewable Properties, LLC	**Phone** (978) 382 - 1751
	Address 44 Montgomery Street - Suite #3150	**Fax**
	San Francisco, CA 94111	**Email** jprice@renewprop.com

3. Owner of record information:	**Name** Robert and Linda Matson c/o Lisbeth Matson	**Phone** (610) 944-2821
	Address 46W289 Ellithorpe Road	**Fax**
	Hampshire, IL 60140	**Email** lbmdane24@gmail.com

Zoning and Use Information:

2040 Plan Land Use Designation of the property: Agriculture / Municipal Corridor

Current zoning of the property: F - Farming

Current use of the property: Agriculture

Proposed zoning of the property: _____

Proposed use of the property: Community Solar Commerical Energy Facility

If the proposed Map Amendment is approved, what improvements or construction is planned? (An accurate site plan may be required)

Please see the attached Site Plan.

Attachment Checklist

- ☒ Plat of Survey prepared by an Illinois Registered Land Surveyor.
- ☒ Legal description
- ☒ Completed Land Use Opinion (Available in pdf form at www.kanedupageswed.org/luo.pdf), as required by state law, mailed to: The Kane Dupage Soil and Water Conservation District, 545 S. Randall Road, St. Charles, IL 60174.
- ☒ Endangered Species Consultation Agency Action Report (available in pdf form at http://dnr.illinois.gov/ecopublic/) to be filed with the Illinois Department of Natural Resources. (* This report may best be accessed with Internet Explorer on some computers, per the State)
- ☒ List of record owners of all property within 250 feet of the subject property
- ☐ Trust Disclosure (If applicable)
- ☒ Findings of Fact Sheet
- ☒ Application fee (make check payable to Kane County Development Department)

I (we) certify that this application and the documents submitted with it are true and correct to the best of my (our) knowledge and belief.

Robert J Matson Linda B Matson 7-26-23

Record Owner Date

SAR July 26, 2023

Applicant or Authorized Agent Date

CERTIFICATION OF NOTIFICATION
OF PROPERTY OWNERS WITHIN 250 FEET OF SUBJECT PROPERTY

Date: August 03 11, 2023

To: KANE COUNTY ZONING BOARD OF APPEALS
From:

Jeremy Price
RPIL Solar 8, LLC
(Ph #) (978) 382 1751

The undersigned, being sworn upon this oath, deposes and says that the list below includes the names and addresses of all owners of property within 250 feet of the property referred to in petition for

(circle one) Variance Rezoning (Special Use)

for the purpose of Community Solar Commerical Energy Facility

Property owners have been provided general information regarding the Project to compliment Kane County's mailed hearing notices.

and, further, that all persons owning property within 250 feet of the parcel referred to in petition have been notified of the intent of the petitioner(s).

Petitioner's property is located in Section 24/19 Township 41N 6E/41N 7E County of Kane. (Legal Description Attached)

List names of property owners below. (Property Owners do not have to sign this form)

NAME	ADDRESS (street, city, state and zip code)
Please See Exhibit A Attached	

By: Jeremy Price - Authorized Agent
(Property Owner or Agent)

Subscribed and sworn to before me
this 3 day of August, 20 23

Notary

SUSAN S. KEENAN
Notary Public, Commonwealth of Massachusetts
My Commission Expires May 11, 2029

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EXHIBIT A

LIST OF RECORD OWNERS WITHIN 250 FEET

Owner	Owner Address	Site Address	PIN
GARCIA, DONATO & JACKIE	10N587 HIGHLAND TRL HAMPSHIRE, IL, 60140-7521	10N587 HIGHLAND TRL HAMPSHIRE, IL 60140	04-24-277-003
VAVRINA, KATHLEEN A & RUSSO, SHERRY L	10N605 HIGHLAND TRL HAMPSHIRE, IL 60139	10N605 HIGHLAND TRL HAMPSHIRE, IL 60140	04-24-277-002
HERNAN, JOHN S & CATHY L LIVING TR JOHN S & CATHY L HERNAN, TRUSTEES	44W750 PLATO RD HAMPSHIRE, IL 60139	44W750 PLATO RD HAMPSHIRE, IL 60140	05-19-100-014
CENTRAL SCHOOL DISTRICT 301	PO BOX 396 BURLINGTON, IL, 60109-0396	44W575 PLATO RD BURLINGTON, IL 60109	05-19-300-012
CENTRAL SCHOOL DISTRICT 301	PO BOX 396 BURLINGTON IL, 60109-0397	44W575 PLATO RD BURLINGTON, IL 60110	05-19-300-013
WERNER, CATHERINE L	44W601 ELLITHORPE RD HAMPSHIRE, IL 60140	44W601 ELLITHORPE RD HAMPSHIRE, IL 60141	05-30-100-011
SNODGRASS, NATHAN K & BETH M	44W685 ELLITHORPE RD HAMPSHIRE, IL, 60140-6120	44W685 ELLITHORPE RD HAMPSHIRE, IL, 60140-6121	05-30-100-012
PELOQUIN, GREGORY J & LYNNE A	10N105 BURLINGTON RD HAMPSHIRE, IL 60139	10N105 BURLINGTON RD HAMPSHIRE, IL 60140	05-19-300-009
PELOQUIN, GREGORY J & LYNNE A	10N105 BURLINGTON RD HAMPSHIRE, IL 60140		04-24-400-027
FOLLMAN-GOFF TRUST, TRUST: TR # 1 D GOFF & D & D FOLLMAN, CO-TRUSTEES	10N560 CHAPMAN RD HAMPSHIRE, IL, 60140-8770		04-24-400-026
HERRMANN, ALBERT H & SHARON S TRUST % HERRMANN ALBERT H & SHARON S TRUSTEES	10N263 BURLINGTON RD HAMPSHIRE, IL 60139	10N263 BURLINGTON RD HAMPSHIRE, IL 60140	04-24-400-030
TEETS, EARL G JR & SHARON 10N371 BURLINGTON RD	10N371 BURLINGTON RD BURLINGTON, IL 60108	10N371 BURLINGTON RD BURLINGTON, IL 60109	04-24-400-029
TRUST #101 LESLIE H MAAS, TRUSTEE	45W207 PLATO RD HAMPSHIRE, IL, 60140-8474	45W207 PLATO RD HAMPSHIRE, IL, 60140-8475	04-24-400-013
SIMS, SYLVIA J	45W155 PLATO RD HAMPSHIRE, IL, 60140	45W155 PLATO RD HAMPSHIRE, IL, 60141	04-24-400-023
PJ HOLDINGS TRUST JOHN JONES	5230 S CORNELL AVE APT H CHICAGO, IL, 60615-2269		04-24-400-014

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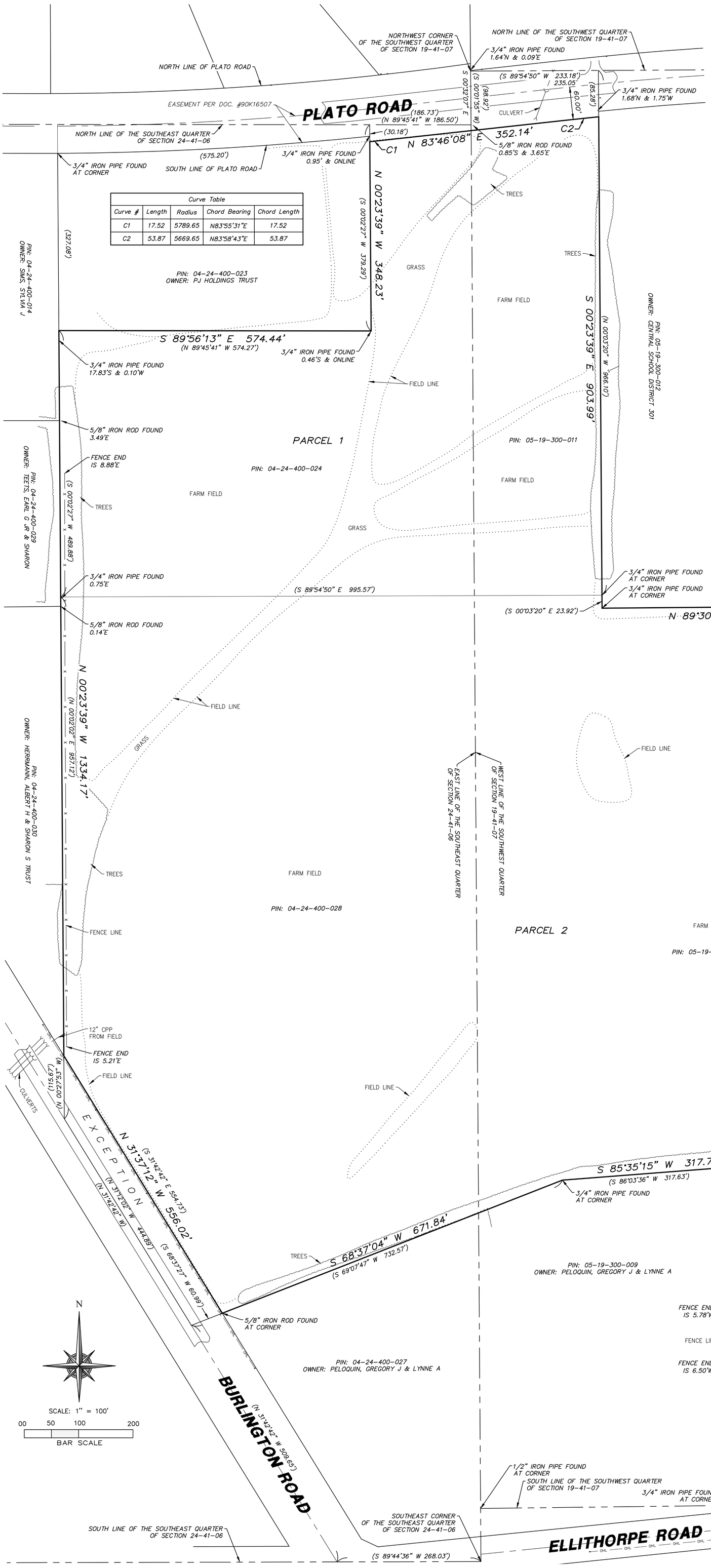
Plat of Survey and Site Plan

ALTA / NSPS
LAND TITLE SURVEY



Curve Table				
Curve #	Length	Radius	Chord Bearing	Chord Length
C1	17.52	5789.65	N83°55'31"E	17.52
C2	53.87	5669.65	N83°58'43"E	53.87

PARCEL 1:
THAT PART OF THE SOUTHWEST 1/4 OF SECTION 19, TOWNSHIP 41 NORTH, RANGE 7 EAST OF THE THIRD PRINCIPAL MERIDIAN AND PART OF THE SOUTHEAST 1/4 OF SECTION 24, TOWNSHIP 41 NORTH, RANGE 6 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF SAID SOUTHWEST 1/4 OF SECTION 19; THENCE SOUTH 00 DEGREES, 01 MINUTES, 55 SECONDS WEST ALONG THE WEST LINE THEREOF, ALSO BEING THE LINE BETWEEN RANGE 6 AND 7 AFORESAID, 98.92 FEET TO THE NORTHEAST CORNER OF SAID SOUTHEAST 1/4 OF SECTION 24; THENCE NORTH 89 DEGREES, 45 MINUTES, 41 SECONDS WEST ALONG THE NORTH LINE OF SAID SOUTHEAST 1/4, 186.5 FEET; THENCE SOUTH 00 DEGREES, 02 MINUTES, 27 SECONDS WEST 379.29 FEET TO A LINE PARALLEL TO THE NORTH LINE OF SAID SOUTHEAST 1/4; THENCE NORTH 89 DEGREES, 45 MINUTES, 41 SECONDS WEST ALONG SAID PARALLEL LINE, 574.27 FEET; THENCE SOUTH 00 DEGREES, 02 MINUTES, 27 SECONDS WEST 489.88 FEET; THENCE SOUTH 89 DEGREES, 54 MINUTES, 50 SECONDS EAST 995.57 FEET TO A LINE 1325.0 FEET WEST OF AND PARALLEL TO THE EAST LINE OF THE SOUTHWEST 1/4 OF SECTION 19 AFORESAID; THENCE NORTH 00 DEGREES, 03 MINUTES, 20 SECONDS WEST ALONG SAID PARALLEL LINE 966.10 FEET TO THE NORTH LINE OF SAID SOUTHWEST 1/4; THENCE SOUTH 89 DEGREES, 54 MINUTES, 50 SECONDS WEST ALONG SAID NORTH LINE, 233.18 FEET TO THE POINT OF BEGINNING, IN BURLINGTON AND PLATO TOWNSHIPS, KANE COUNTY, ILLINOIS;

EXCEPTING THEREFROM THAT PART OF THE SOUTHWEST 1/4 OF SECTION 19, TOWNSHIP 41 NORTH, RANGE 7 EAST OF THE THIRD PRINCIPAL MERIDIAN AND PART OF THE SOUTHEAST 1/4 OF SECTION 24, TOWNSHIP 41 NORTH, RANGE 6 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF SAID SOUTHWEST 1/4 OF SECTION 19; THENCE SOUTHERLY ALONG THE LINE OF RANGE 6 AND 7 AFORESAID, FOR A DISTANCE OF 99.13 FEET TO THE NORTHEAST CORNER OF SAID SOUTHEAST 1/4 OF SAID SECTION 24; THENCE WESTERLY ALONG THE NORTH LINE OF SAID SOUTHEAST 1/4 FOR A DISTANCE OF 186.73 FEET TO THE EAST PROPERTY LINE OF THE UNION NATIONAL BANK AND TRUST COMPANY OF JOLIET, TRUST NO. 1379; THENCE SOUTHERLY ALONG SAID EAST PROPERTY LINE FOR A DISTANCE OF 30.18 FEET TO A POINT THAT IS 60 FEET SOUTHERLY OF THE CENTER LINE OF PLATO ROAD (MEASURED AT RIGHT ANGLES THERETO); THENCE NORTHEASTERLY ALONG A CONTINUATION OF A CURVE TO THE LEFT HAVING A RADIUS OF 5789.59 FEET AND WHOSE TANGENT AT THE LAST DESCRIBED POINT MAKES AN ANGLE OF 95 DEGREES 49 MINUTES 5 SECONDS WITH THE PROLONGATION OF LAST DESCRIBED COURSE (MEASURED COUNTERCLOCKWISE THEREFROM) FOR A DISTANCE OF 17.52 FEET; THENCE NORTHEASTERLY TANGENT TO THE LAST DESCRIBED COURSE AT THE LAST DESCRIBED POINT AND PARALLEL TO AND 60 FEET SOUTH OF THE CENTERLINE OF PLATO ROAD FOR A DISTANCE OF 352.14 FEET; THENCE NORTHEASTERLY ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 5669.56 FEET FOR A DISTANCE OF 51.91 FEET TO A POINT ON THE WEST PROPERTY LINE OF THE KANE COUNTY BOARD OF SCHOOL TRUSTEES, KANE COUNTY, SAID POINT BEING 60 FEET SOUTHEASTERLY OF THE CENTERLINE OF PLATO ROAD (MEASURED AT RIGHT ANGLES THERETO); THENCE NORTHERLY ALONG SAID WEST PROPERTY LINE WHICH MAKES AN ANGLE OF 84 DEGREES 27 MINUTES 23 SECONDS WITH THE TANGENT TO THE CURVE AT THE LAST DESCRIBED POINT (MEASURED COUNTERCLOCKWISE THEREFROM) FOR A DISTANCE OF 85.28 FEET TO THE NORTH LINE OF SAID SOUTHWEST 1/4; THENCE WESTERLY ALONG SAID NORTH LINE 232.80 FEET (MEASURED) 233.18 FEET (RECORDED) TO THE POINT OF BEGINNING, IN BURLINGTON AND PLATO TOWNSHIP, KANE COUNTY, ILLINOIS.

PARCEL 2:
THAT PART OF THE FOLLOWING DESCRIBED PROPERTY FALLING WITHIN SECTIONS 19 AND 24: THAT PART OF THE NORTHWEST QUARTER OF SECTION 30, TOWNSHIP 41 NORTH, RANGE 7 EAST OF THE THIRD PRINCIPAL MERIDIAN AND THAT PART OF THE SOUTHWEST QUARTER OF SECTION 19, TOWNSHIP 41 NORTH, RANGE 7 EAST OF THE THIRD PRINCIPAL MERIDIAN AND THAT PART OF THE SOUTHEAST QUARTER OF SECTION 24, TOWNSHIP 41 NORTH, RANGE 6 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHWEST CORNER OF SAID SOUTHWEST QUARTER OF SECTION 19; THENCE SOUTH 0 DEGREES 01 MINUTES 55 SECONDS WEST ALONG THE WEST LINE THEREOF, ALSO BEING THE LINE BETWEEN RANGE 6 AND 7 AFORESAID 98.92 FEET TO THE NORTHEAST CORNER OF SAID SOUTHEAST QUARTER OF SECTION 24; THENCE NORTH 89 DEGREES 45 MINUTES 41 SECONDS WEST ALONG THE NORTH LINE OF SAID SOUTHEAST QUARTER, 186.51 FEET; THENCE SOUTH 0 DEGREES 02 MINUTES 27 SECONDS WEST 379.29 FEET TO A LINE PARALLEL WITH THE NORTH LINE OF SAID SOUTHEAST QUARTER; THENCE NORTH 89 DEGREES 45 MINUTES 41 SECONDS WEST ALONG SAID PARALLEL LINE, 574.27 FEET; THENCE SOUTH 0 DEGREES 02 MINUTES 37 SECONDS WEST 489.88 FEET FOR THE POINT OF BEGINNING; THENCE SOUTH 89 DEGREES 54 MINUTES 50 SECONDS EAST AND PARALLEL TO THE NORTH LINE OF SAID SOUTHWEST QUARTER OF SECTION 19, A DISTANCE OF 995.57 FEET; THENCE SOUTH 0 DEGREES 03 MINUTES 20 SECONDS EAST AND PARALLEL TO THE EAST LINE OF SAID SOUTHWEST QUARTER 23.92 FEET; THENCE SOUTH 89 DEGREES 54 MINUTES 50 SECONDS EAST AND PARALLEL TO THE NORTH LINE OF SAID SOUTHWEST QUARTER, 1325.07 FEET TO THE EAST LINE THEREOF; THENCE 0 DEGREES 03 MINUTES 20 SECONDS EAST ALONG SAID EAST LINE 1648.84 FEET TO THE SOUTHEAST CORNER OF SAID SOUTHWEST QUARTER; THENCE SOUTH 89 DEGREES 59 MINUTES 59 SECONDS WEST ALONG THE SOUTH LINE THEREOF 749.15 FEET: THENCE SOUTH 0 DEGREES 02 MINUTES 17 SECONDS WEST 10.75 FEET TO THE CENTER LINE OF ELLIATHORRE ROAD; THENCE SOUTH 84 DEGREES 36 MINUTES 46 SECONDS WEST ALONG SAID CENTER LINE 339.90 FEET; THENCE NORTH 0 DEGREES 18 MINUTES 06 SECONDS WEST 664.09 FEET; THENCE SOUTH 86 DEGREES 03 MINUTES 36 SECONDS WEST 317.63 FEET; THENCE SOUTH 69 DEGREES 07 MINUTES 47 SECONDS WEST 732.57 FEET TO THE CENTER LINE OF BURLINGTON ROAD; THENCE NORTH 31 DEGREES 12 MINUTES 2 SECONDS WEST 444.89 FEET TO A POINT WHICH BEARS SOUTH 0 DEGREES 2 MINUTES 27 SECONDS WEST FROM THE POINT OF BEGINNING; THENCE NORTH 0 DEGREES 2 MINUTES 2 SECONDS EAST 957.12 FEET TO THE POINT OF BEGINNING, IN BURLINGTON AND PLATO TOWNSHIPS, KANE COUNTY, ILLINOIS;

EXCEPTING THEREFROM THAT PART OF THE SOUTHEAST QUARTER OF SECTION 24, TOWNSHIP 41 NORTH, RANGE 6 EAST OF THE THIRD PRINCIPAL MERIDIAN, KANE COUNTY, ILLINOIS DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF SAID SOUTHEAST QUARTER; THENCE ON AN ASSUMED BEARING OF SOUTH 89 DEGREES 44 MINUTES 36 SECONDS WEST, ALONG THE SOUTH LINE OF SAID SOUTHEAST QUARTER 268.03 TO A POINT ON THE CENTER LINE OF BURLINGTON ROAD (COUNTY HIGHWAY NUMBER 2); THENCE NORTH 31 DEGREES 42 MINUTES 42 SECONDS WEST ALONG SAID CENTER LINE, 509.65 FEET TO THE POINT OF BEGINNING; THENCE ON A CONTINUATION OF THE LAST DESCRIBED COURSE, 444.89 FEET TO A POINT ON THE WEST LINE OF THE GRANTOR; THENCE NORTH 00 DEGREES 27 MINUTES 53 SECONDS WEST, ALONG SAID LINE A DISTANCE OF 115.67 FEET; THENCE SOUTH 31 DEGREES 42 MINUTES 42 SECONDS EAST, PARALLEL TO SAID CENTER LINE 554.73 FEET TO A POINT ON THE SOUTHEAST LINE OF THE GRANTOR; THENCE SOUTH 68 DEGREES 37 MINUTES 27 SECONDS WEST ALONG SAID LINE, 60.99 FEET TO THE POINT OF BEGINNING;

ALSO EXCEPTING THEREFROM THAT PART OF THE LAND FALLING UNDER PIN NUMBERS 05-19-300-016 AND 05-19-300-017.

SURVEY NOTES:

1. PERMANENT INDEX NUMBERS (P.I.N. #): 04-24-400-024; 04-24-400-028; 05-19-300-011; 05-19-300-015

2. THE LOCATION OF UNDERGROUND UTILITIES WAS DETERMINED BY FIELD OBSERVATION AND VISIBLE MARKINGS ONLY.

3. PROPERTY AREA: 2,453,771.29 SQUARE FEET / 56.33 ACRES
7,690.47 SQUARE FEET WITHIN ELLITHORPE ROAD ROW

4. FIELD WORK COMPLETED ON 05/12/23

5. ACCORDING TO OUR INTERPOLATION OF THE FLOOD INSURANCE RATE MAP THIS SITE IS LISTED AS BEING IN A ZONE "X", DESCRIBED AS "AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD" PER F.E.M.A. PANEL NO. 17089C0140H DATED AUGUST 3, 2009.

6. SURVEY PREPARED FOR: TRC COMPANIES

7. BUILDING TIES & DIMENSIONS SHOWN ARE MEASURED FROM THE OUTSIDE FACE OF THE BUILDING.

8. THERE ARE A TOTAL OF 0 PARKING SPACES, OF WHICH 0 ARE RESERVED FOR HANDICAPPED USE.

9. BASIS OF BEARINGS IS TRUE NORTH BASED ON ILLINOIS STATE PLANE COORDINATE SYSTEM, ILLINOIS EAST 1201 ZONE.

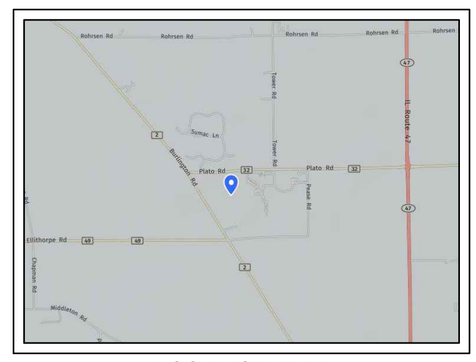
10. ANY DISCREPANCIES FOUND WITHIN THIS DOCUMENT NEED TO BE REPORTED TO THE SURVEYOR AS SOON AS POSSIBLE.

TITLE NOTES:

SURVEY WAS PREPARED WITH THE AID OF A TITLE COMMITMENT PREPARED BY CHICAGO TITLE INSURANCE COMPANY, COMMITMENT NUMBER 22000876NOWF, HAVING AN EFFECTIVE DATE OF AUGUST 16, 2022.

SCHEDULE B PART 2 EXCEPTIONS

20. EASEMENT IN FAVOR OF NORTHERN ILLINOIS GAS COMPANY, RECORDED APRIL 3, 1990 AS DOCUMENT NUMBER 90K16507. THE SOUTH HALF OF PLATO ROAD. SHOWN ON SURVEY.



LOCATION MAP

LEGEND

PROPERTY LINE	UTILITY POLE	SOIL BORING	
CENTER LINE	TYPICAL SIGN	TELEPHONE MANHOLE	
EASEMENT LINE	MAILBOX	HANDRAIL	
BUILDING SETBACK	CLOSED MANHOLE	GUARDRAIL	
SECTION LINE	OPEN GRATE MANHOLE	GUY WIRE ANCHOR	
(XXX') RECORD DATA	BEEHIVE GRATE MANHOLE	773 CONTOUR LINE	
XXX.XX TOP OF (CURB,WALL, ETC.) / XXX.XX BOTTOM OF (GROUND, GUTTER,ETC.) SPOT GRADE	GUTTER FRAME MANHOLE	EDGE GRAVEL/STONE	
CONCRETE	VALVE VAULT	FENCE LINE	
	FIRE HYDRANT	FLARED END SECTION	
	B-BOX / SERVICE VALVE	STORM SEWER	
EVERGREEN/DECIDUOUS WITH SIZE IN INCHES	POST LIGHT\GROUND LIGHT	SANITARY SEWER	
	AREA LIGHT\LIGHT POLE	COMBO SEWER	
SHRUB/SHRUB LINE	STREET LIGHT	WS WATER SERVICE LINE	
	TRAFFIC SIGNAL	WM WATER MAIN	
MONITOR WELL	MAST ARM SIGNAL	OHL OVERHEAD LINE	
GAS VALVE	HANDHOLE (electric\traffic)	FO FIBER OPTIC LINE	
UTILITY MARKINGS (cable,elec,fiber) (tel,water,gas)	GAS METER	G GAS LINE	
	ELECTRIC METER	UGT U.G. TELCO LINE	
	PEDESTAL(telco,elec,cable)	UGE U.G. ELECTRIC LINE	

STATE OF ILLINOIS
) SS
COUNTY OF COOK

TO:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2-4, 6(A), 6(B), 8, 13 AND 16-19 OF TABLE "A" THEREOF. THE FIELD WORK WAS COMPLETED ON 5/12/2023.

GIVEN UNDER MY HAND AND SEAL THIS 2ND DAY OF AUGUST 2023.
AT HOFFMAN ESTATES, ILLINOIS.

FRANJO I. MATICIC - PLS #035-003556 EXPIRES 11/30/2024
ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184.007570-0015

PROFESSIONAL LAND SURVEYOR
FRANJO I. MATICIC
035-003556
HOFFMAN ESTATES ILLINOIS
STATE OF ILLINOIS

AQUATIC \ CIVIL \ MECHANICAL \ ELECTRICAL \ PLUMBING \ TELECOMMUNICATION \ STRUCTURAL \ ACCESSIBILITY CONSULTING \ DESIGN & PROGRAM MANAGEMENT \ LAND SURVEY

SUR-1
SHEET 1 OF 5
ALTA/NSPS
LAND TITLE SURVEY

JOB: S2300045
DRAWN:KCH
CHECK:FIM

ISSUE
TO CLIENT 05/22/23
CLIENT 08/02/23
DATE

PLATO ROAD SOLAR
PLATO ROAD
HAMPSHIRE, ILLINOIS

WT Group
Engineering • Design • Consulting

WT GROUP
Engineering with Precision, Pace and Passion.
2675 Pratum Avenue | Hoffman Estates, IL 60192
T: 224.293.6333 | F: 224.293.6444
wtengineering.com
IL. License No: 184.007570-0015 Expires: 04.30.2023

PERMIT PLAN SET

PLATO ROAD SOLAR

PLATO ROAD
BURLINGTON AND PLATO TOWNSHIPS, IL
DATE: AUGUST 2023

COUNTY LOCATION

KANE COUNTY, ILLINOIS

PROJECT SCOPE

THE PROJECT ENTAILS THE INSTALLATION OF A SOLAR PHOTOVOLTAIC SYSTEM IN BURLINGTON TOWNSHIP AND PLATO TOWNSHIP, KANE COUNTY, IL. THE INSTALLATION CONSISTS OF NEW GROUND MOUNTED STRUCTURES WITH MOUNTED PHOTOVOLTAICS.

THE PROJECT SCOPE OF WORK FOR THESE DRAWINGS PERTAINS ONLY TO THE LAND DEVELOPMENT PERMITTING REQUIREMENTS OF KANE COUNTY, ILLINOIS.

SITE INFORMATION

P.I.N.:
04-24-400-024
04-24-400-028
05-19-300-011
05-19-300-015

AREA: 56.33 ± ACRE GROSS

ZONING: F (FARMING DISTRICT)

PROJECT OWNER

RPIL SOLAR 8, LLC
C/O RENEWABLE PROPERTIES, LLC
879 SANCHEZ STREET
SAN FRANCISCO, CA 94114

ENGINEER

TRC ENVIRONMENTAL CORPORATION
230 WEST MONROE STREET
SUITE 1840
CHICAGO, IL 60606

BASIS OF BEARINGS

BASIS OF BEARINGS IS TRUE NORTH BASED ON ILLINOIS STATE PLANE COORDINATE SYSTEM, ILLINOIS EAST 1201 ZONE.

BENCHMARK

SITE BENCHMARK #1 - SQUARE CUT IN TOP OF 36" RCP FLARED END SECTION ON SOUTH SIDE OF PLATO ROAD AS SHOWN. ELEVATION = 1019.84' (NAVD88)

SITE BENCHMARK #2 - RAILROAD SPIKE SET IN UTILITY POLE, LOCATED ON THE SOUTH SIDE OF ELLITHORPE ROAD AS SHOWN. ELEVATION 981.42' (NAVD88)

SITE BENCHMARK #3 - RAILROAD SPIKE SET IN UTILITY POLE, LOCATED ON THE EAST SIDE OF BURLINGTON AS SHOWN. ELEVATION = 967.84' (NAVD88)

LEGAL DESCRIPTION

PARCEL 1:
THAT PART OF THE SOUTHWEST 1/4 OF SECTION 19, TOWNSHIP 41 NORTH, RANGE 7 EAST OF THE THIRD PRINCIPAL MERIDIAN AND PART OF THE SOUTHEAST 1/4 OF SECTION 24, TOWNSHIP 41 NORTH, RANGE 6 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF SAID SOUTHWEST 1/4 OF SECTION 19; THENCE SOUTH 00 DEGREES, 01 MINUTES, 55 SECONDS WEST ALONG THE WEST LINE THEREOF, ALSO BEING THE LINE BETWEEN RANGE 6 AND 7 AFORESAID, 98.92 FEET TO THE NORTHEAST CORNER OF SAID SOUTHEAST 1/4 OF SECTION 24; THENCE NORTH 89 DEGREES, 45 MINUTES, 41 SECONDS WEST ALONG THE NORTH LINE OF SAID SOUTHEAST 1/4, 186.5 FEET; THENCE SOUTH 00 DEGREES, 02 MINUTES, 27 SECONDS WEST 379.29 FEET TO A LINE PARALLEL TO THE NORTH LINE OF SAID SOUTHEAST 1/4; THENCE NORTH 89 DEGREES, 45 MINUTES, 41 SECONDS WEST ALONG SAID PARALLEL LINE, 574.27 FEET; THENCE SOUTH 00 DEGREES, 02 MINUTES, 27 SECONDS WEST 489.88 FEET; THENCE SOUTH 89 DEGREES, 54 MINUTES, 50 SECONDS EAST 995.57 FEET TO A LINE 1325.0 FEET WEST OF AND PARALLEL TO THE EAST LINE OF THE SOUTHWEST 1/4 OF SECTION 19 AFORESAID; THENCE NORTH 00 DEGREES, 03 MINUTES, 20 SECONDS WEST ALONG SAID PARALLEL LINE 966.10 FEET TO THE NORTH LINE OF SAID SOUTHWEST 1/4; THENCE SOUTH 89 DEGREES, 54 MINUTES, 50 SECONDS WEST ALONG SAID NORTH LINE, 233.18 FEET TO THE POINT OF BEGINNING, IN BURLINGTON AND PLATO TOWNSHIPS, KANE COUNTY, ILLINOIS;

EXCEPTING THEREFROM THAT PART OF THE SOUTHWEST 1/4 OF SECTION 19, TOWNSHIP 41 NORTH, RANGE 7 EAST OF THE THIRD PRINCIPAL MERIDIAN AND PART OF THE SOUTHEAST 1/4 OF SECTION 24, TOWNSHIP 41 NORTH, RANGE 6 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF SAID SOUTHWEST 1/4 OF SECTION 19; THENCE SOUTHERLY ALONG THE LINE OF RANGE 6 AND 7 AFORESAID, FOR A DISTANCE OF 99.13 FEET TO THE NORTHEAST CORNER OF SAID SOUTHEAST 1/4 OF SAID SECTION 24; THENCE WESTERLY ALONG THE NORTH LINE OF SAID SOUTHEAST 1/4 FOR A DISTANCE OF 186.73 FEET TO THE EAST PROPERTY LINE OF THE UNION NATIONAL BANK AND TRUST COMPANY OF JOLIET, TRUST NO. 1379; THENCE SOUTHERLY ALONG SAID EAST PROPERTY LINE FOR A DISTANCE OF 30.18 FEET TO A POINT THAT IS 60 FEET SOUTHERLY OF THE CENTER LINE OF PLATO ROAD (MEASURED AT RIGHT ANGLES THERETO); THENCE NORTHEASTERLY ALONG A CONTINUATION OF A CURVE TO THE LEFT HAVING A RADIUS OF 5789.59 FEET AND WHOSE TANGENT AT THE LAST DESCRIBED POINT MAKES AN ANGLE OF 95 DEGREES 49 MINUTES 5 SECONDS WITH THE PROLONGATION OF LAST DESCRIBED COURSE (MEASURED COUNTERCLOCKWISE THEREFROM) FOR A DISTANCE OF 17.52 FEET; THENCE NORTHEASTERLY TANGENT TO THE LAST DESCRIBED COURSE AT THE LAST DESCRIBED POINT AND PARALLEL TO AND 60 FEET SOUTH OF THE CENTERLINE OF PLATO ROAD FOR A DISTANCE OF 352.14 FEET; THENCE NORTHEASTERLY ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 5669.56 FEET FOR A DISTANCE OF 51.91 FEET TO A POINT ON THE WEST PROPERTY LINE OF THE KANE COUNTY BOARD OF SCHOOL TRUSTEES, KANE COUNTY, SAID POINT BEING 60 FEET SOUTHEASTERLY OF THE CENTERLINE OF PLATO ROAD (MEASURED AT RIGHT ANGLES THERETO); THENCE NORTHERLY ALONG SAID WEST PROPERTY LINE WHICH MAKES AN ANGLE OF 84 DEGREES 27 MINUTES 23 SECONDS WITH THE TANGENT TO THE CURVE AT THE LAST DESCRIBED POINT (MEASURED COUNTERCLOCKWISE THEREFROM) FOR A DISTANCE OF 85.28 FEET TO THE NORTH LINE OF SAID SOUTHWEST 1/4; THENCE WESTERLY ALONG SAID NORTH LINE 232.80 FEET (MEASURED) 233.18 FEET (RECORDED) TO THE POINT OF BEGINNING, IN BURLINGTON AND PLATO TOWNSHIP, KANE COUNTY, ILLINOIS.

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ALSO EXCEPTING THEREFROM THAT PART OF THE LAND FALLING UNDER PIN NUMBERS 05-19-300-016 AND 05-19-300-017.

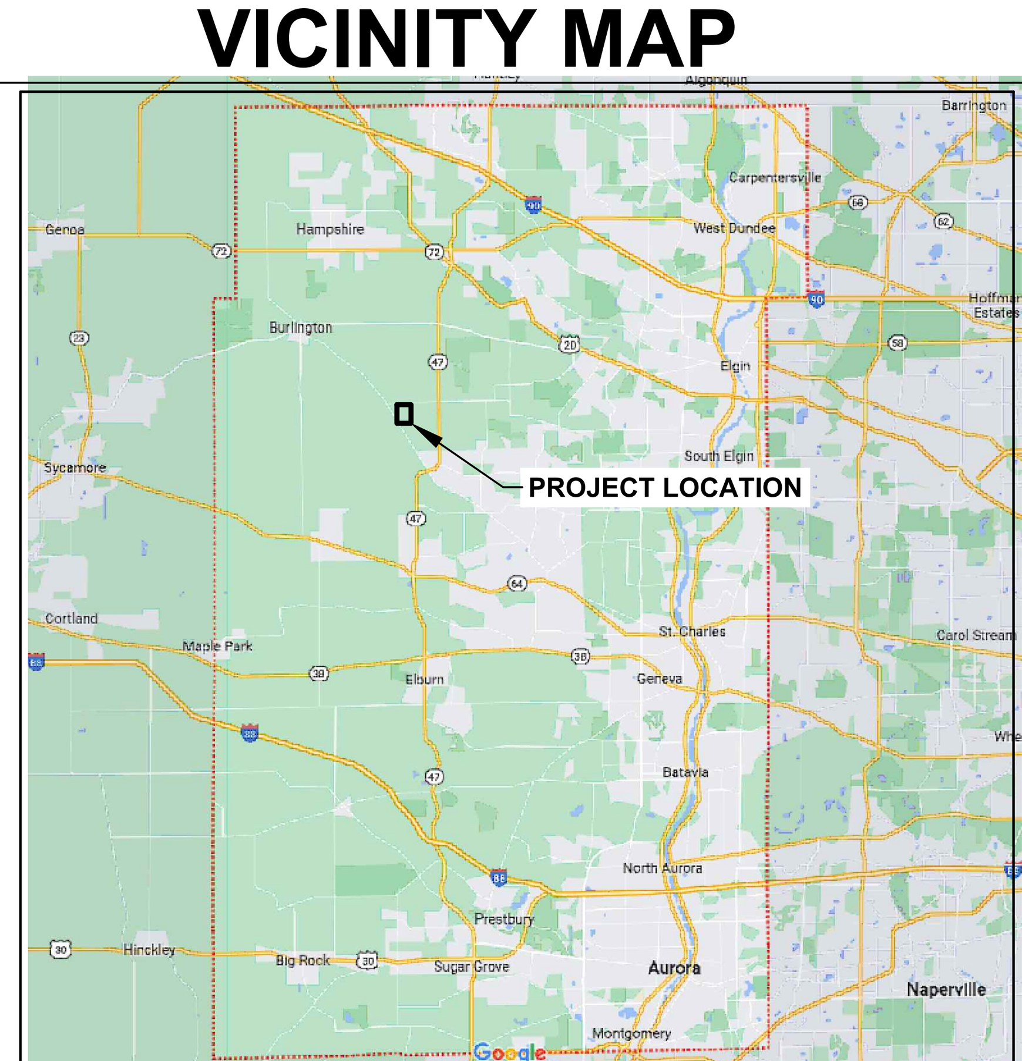
SYSTEM SPECIFICATIONS (SUBJECT TO CHANGE)

SYSTEM SIZE DC	7,020.00 kW
SYSTEM SIZE AC	4,999 kW
DC/AC RATIO	1.40
MODULE MANUFACTURER	ASTRONERGY
MODULE MODEL	CHSM72M(DG)/F-BH
MODULE RATING	540 W
TOTAL MODULE QUANTITY	13,000
MODULES PER STRING	26
TOTAL NUMBER OF STRINGS	500
INVERTER MODEL	SUNGROW SG125HV
INVERTER QTY	40
INVERTER RATING	125 KW
STEP-UP TRANSFORMER	(2) 12.47kV/600V, 2875kVA
RACKING	ATI HSAT
# OF 78 MODULE TRACKERS	134
# OF 52 MODULE TRACKERS	49
TILT ANGLE	+/- 52 DEGREES
INTER-ROW SPACING	19.2 FEET
PITCH	26.7 FEET
GROUND COVERAGE RATIO (GCR)	28 PERCENT
SITE AREA INSIDE FENCE	36.37 AC

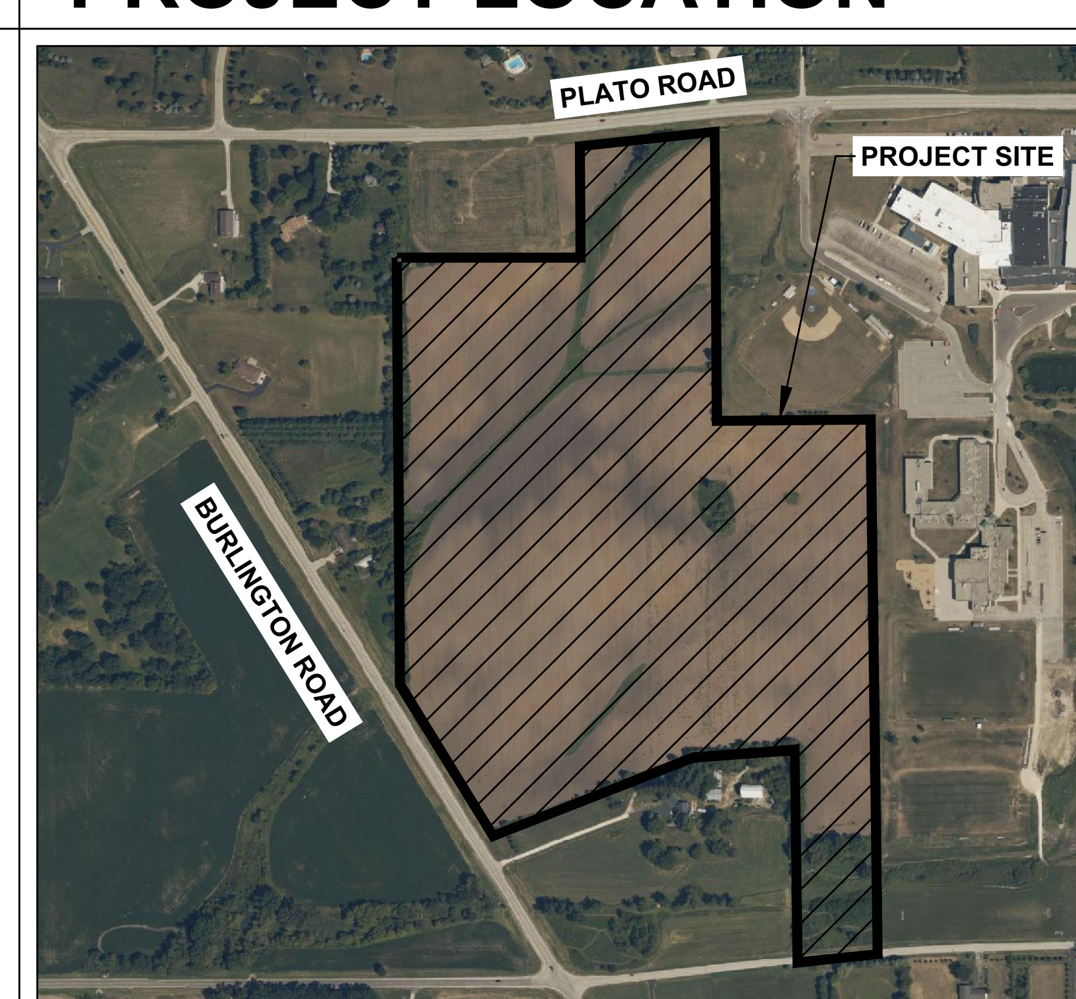
SHEET INDEX

SHEET NUMBER	SHEET TITLE
G000	TITLE SHEET
G010	GENERAL NOTES
C050	EXISTING CONDITIONS
C100	SITE PLAN
C501	ACCESS ROAD DETAILS
C502	PV TRACKERS
C503	EROSION CONTROL DETAILS
C504	EQUIPMENT PAD DETAILS
C505	FENCE DETAILS
L100	LANDSCAPE PLAN
L101	LANDSCAPE DETAILS 1
L102	LANDSCAPE DETAILS 2

VICINITY MAP



PROJECT LOCATION



PRELIMINARY- NOT FOR CONSTRUCTION

SEAL:
LICENSED PROFESSIONAL ENGINEER
ANDREW B. GRAHAM
062.048682
STATE OF ILLINOIS
2023.08.07 13:01:45-05'00'

PROFESSIONAL ENGINEER:
ANDREW B. GRAHAM
062048682

EXPIRATION DATE:
11/30/23

TRC ENVIRONMENTAL CORP.
DESIGN FIRM LIC. # 18400496-0002

NO.	BY	DATE	REVISION	APP'D.
1	CC	08/02/2023	ISSUED FOR PERMIT	ABG

PROJECT:
PERMIT PLAN SET
RPIL SOLAR 8, LLC
PLATO ROAD SOLAR
KANE COUNTY, IL

TITLE:
TITLE SHEET

DRAWN BY:	E. ALEXANDER	PROJ. NO.:	500015.0000.0006
CHECKED BY:	C. CAMERON		G000
APPROVED BY:	A.GRAHAM		
DATE:	AUGUST 2023		

TRC
230 West Monroe St.
Suite 1840
Chicago, IL 60606
Phone: 312.578.0870

FILE NO.: 500015.0000.0006 G000 TITLE SHEET.dwg

NOTES

1. THIS PLAN WAS PRODUCED UTILIZING MULTIPLE RESOURCES:
   - AERIAL IMAGERY FROM ESRI.
   - TOPOGRAPHIC DATA WITHIN THE DEVELOPMENT AREA, PROPERTY LINES, AND EASEMENTS, OBTAINED FROM THE ALTA SURVEY DATED MAY 22, 2023 PROVIDED BY WT GROUP (2675 PRATUM AVENUE | HOFFMAN ESTATES, IL 60192 - T: 224.293.6333). TOPOGRAPHIC DATA OUTSIDE OF THE DEVELOPMENT AREA IS BASED ON USGS 1 METER DEM.
   - WETLAND AND WATERBODY DELINEATION PROVIDED BY SWCA ENVIRONMENTAL CONSULTANTS AND DATED SEPTEMBER 2022.
   - EXISTING AGRICULTURAL DRAIN TILE INVESTIGATION PLAN PROVIDED BY HUDDLESTON MCBRIDE PROFESSIONAL LAND DRAINAGE SERVICES AND DATED JULY, 31, 2023.
2. THE SITE (04-24-400-024; 04-24-400-28; 05-19-300-011; 05-19-300-015) IS LISTED AS BEING IN A ZONE "X", DESCRIBED AS "AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD" PER F.E.M.A PANEL NO. 17089C0140H DATED AUGUST 3, 2009.
3. THE LOCATIONS OF PROPOSED IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO: FENCING, SOLAR ARRAY RACKING, INVERTER/TRANSFORMER PADS, OVERHEAD POLES, AND LINES, ETC., SHOWN ARE APPROXIMATE AND ARE SUBJECT TO MODIFICATION DUE TO SITE CONDITIONS, ADDITIONAL PERMITTING REQUIREMENTS, EQUIPMENT SPECIFICATIONS, AND/OR OTHER CONSTRAINTS.
4. THE DEVELOPMENT WILL AVOID EASEMENTS, AND PROVIDE THE MINIMUM SETBACKS NOTED FROM EXTERNAL PROPERTY BOUNDARIES AND DESIGNATED NATURAL RESOURCES.
5. CONTRACTOR SHALL CALL 811 AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION OR EXCAVATION TO HAVE EXISTING UTILITIES LOCATED. ADDITIONALLY, CONTRACTOR SHALL CONTACT ANY LOCAL UTILITIES THAT PROVIDE THEIR OWN LOCATOR SERVICES.

STANDARD SOIL EROSION AND SEDIMENT CONTROL NOTES

1. CONTROL MEASURES SHALL MEET THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE *ILLINOIS URBAN MANUAL* (WWW.AISWCD.ORG/IUM) UNLESS STATED OTHERWISE.
2. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. AREAS OF THE DEVELOPMENT SITE THAT ARE NOT TO BE DISTURBED SHALL BE PROTECTED FROM CONSTRUCTION TRAFFIC OR OTHER DISTURBANCE UNTIL FINAL STABILIZATION IS ACHIEVED.
3. SOIL STABILIZATION MEASURES SHALL CONSIDER THE TIME OF YEAR, DEVELOPMENT SITE CONDITIONS AND THE USE OF TEMPORARY OR PERMANENT MEASURES.
4. STABILIZATION BY SEEDING SHALL INCLUDE TOPSOIL PLACEMENT AND FERTILIZATION, AS NECESSARY.
5. NATIVE SEED MIXTURES SHALL INCLUDE RAPID-GROWING ANNUAL GRASSES OR SMALL GRAINS TO PROVIDE INITIAL, TEMPORARY SOIL STABILIZATION.
6. OFFSITE PROPERTY SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION. VELOCITY DISSIPATION DEVICES SHALL BE PLACED AT CONCENTRATED DISCHARGE LOCATIONS AND ALONG THE LENGTH OF ANY OUTFALL CHANNEL, AS NECESSARY TO PREVENT EROSION.
7. SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE DISTURBANCE OF TRIBUTARY AREAS.
8. STABILIZATION OF DISTURBED AREAS SHALL BE INITIATED IMMEDIATELY WHENEVER ANY CLEARING, GRADING, EXCAVATING OR OTHER EARTH DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE DEVELOPMENT SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE DEVELOPMENT SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. STABILIZATION OF DISTURBED AREAS SHALL BE INITIATED WITHIN 1 WORKING DAY OF PERMANENT OR TEMPORARY CESSATION OF EARTH DISTURBING ACTIVITIES AND SHALL BE COMPLETED AS SOON AS POSSIBLE, BUT NOT LATER THAN 14 CALENDAR DAYS FROM THE INITIATION OF STABILIZATION WORK IN AN AREA. EXCEPTIONS TO THESE TIME FRAMES ARE SPECIFIED BELOW:
   a. WHERE THE INITIATION OF STABILIZATION MEASURES IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE; AND
   b. IN AREAS WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED AND WILL RESUME AFTER 14 DAYS, A TEMPORARY STABILIZATION METHOD MAY BE USED.
9. DISTURBANCE OF STEEP SLOPES SHALL BE MINIMIZED. AREAS OR EMBANKMENTS HAVING SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED WITH STAKED IN PLACE SOD, EROSION CONTROL BLANKET IN COMBINATION WITH SEEDING, OR AN EQUIVALENT CONTROL MEASURE.
10. PERIMETER CONTROL MEASURES SHALL BE PROVIDED DOWNSLOPE AND PERPENDICULAR TO THE FLOW OF RUNOFF FROM DISTURBED AREAS, WHERE THE TRIBUTARY AREA IS GREATER THAN 5,000 SQUARE FEET, AND WHERE RUNOFF WILL FLOW IN A SHEET FLOW MANNER. PERIMETER EROSION CONTROL SHALL ALSO BE PROVIDED AT THE BASE OF SOIL STOCKPILES.
11. THE STORMWATER MANAGEMENT SYSTEM SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION DOWNSLOPE FROM DISTURBED AREAS. INLET PROTECTION THAT REDUCES SEDIMENT LOADING, WHILE ALLOWING RUNOFF TO ENTER THE INLET SHALL BE REQUIRED FOR ALL STORM SEWERS. CHECK DAMS, OR AN EQUIVALENT CONTROL MEASURE, SHALL BE REQUIRED FOR ALL CHANNELS. FILTER FABRIC INLET PROTECTION AND STRAW BALE DITCH CHECKS ARE NOT ACCEPTABLE CONTROL MEASURES.
12. IF DEWATERING SERVICES ARE USED, DISCHARGES SHALL BE ROUTED THROUGH AN EFFECTIVE SEDIMENT CONTROL MEASURE (E.G., SEDIMENT TRAP OR AN EQUIVALENT CONTROL MEASURE). THE ENFORCEMENT OFFICER SHALL BE NOTIFIED PRIOR TO THE COMMENCEMENT OF DEWATERING ACTIVITIES.
13. ALL TEMPORARY SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL STABILIZATION OF THE DEVELOPMENT SITE IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NECESSARY. TRAPPED SEDIMENT SHALL BE REMOVED AND DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED.
14. STOCKPILED SOIL AND MATERIALS SHALL BE REMOVED FROM FLOOD HAZARD AREAS AT THE END OF EACH WORK DAY. SOIL AND MATERIALS STOCKPILED IN IWMC OR BUFFER AREAS SHALL BE PLACED ON TIMBER MATS, OR AN EQUIVALENT CONTROL MEASURE.
15. EFFECTIVE CONTROL MEASURES SHALL BE UTILIZED TO MINIMIZE THE DISCHARGE OF POLLUTANTS FROM THE DEVELOPMENT SITE. AT A MINIMUM, CONTROL MEASURES SHALL BE IMPLEMENTED IN ORDER TO:
   a. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATER; AND
   b. MINIMIZE THE EXPOSURE OF BUILDING MATERIALS, BUILDING PRODUCTS, CONSTRUCTION WASTES, TRASH, LANDSCAPE MATERIALS, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, VEHICLE FLUIDS, SANITARY WASTE, AND OTHER MATERIALS PRESENT ON THE DEVELOPMENT SITE TO PRECIPITATION AND TO STORMWATER.
16. ADEQUATE RECEPTACLES SHALL BE PROVIDED FOR THE DEPOSITING OF ALL CONSTRUCTION MATERIAL DEBRIS GENERATED DURING THE DEVELOPMENT PROCESS. THE APPLICANT SHALL NOT CAUSE OR PERMIT THE DUMPING, DEPOSITING, DROPPING, THROWING, DISCARDING OR LEAVING OF CONSTRUCTION MATERIAL DEBRIS UPON OR INTO ANY DEVELOPMENT SITE, CHANNEL, OR IWMC. THE DEVELOPMENT SITE SHALL BE MAINTAINED FREE OF CONSTRUCTION MATERIAL DEBRIS.
17. THE ENFORCEMENT OFFICER MAY REQUIRE ADDITIONAL OR ALTERNATE SOIL EROSION AND SEDIMENT CONTROL MEASURES, BASED ON DEVELOPMENT SITE SPECIFIC CONSIDERATIONS AND THE EFFECTIVENESS OF THE INSTALLED CONTROL MEASURES.

STANDARD DRAIN TILE NOTES

1. DRAIN TILES DISTURBED DURING REGULATED DEVELOPMENT SHALL BE RECONNECTED BY THOSE RESPONSIBLE FOR THEIR DISTURBANCE, UNLESS THE DEVELOPMENT PLANS SPECIFY ABANDONMENT OF THE DRAIN TILES.
2. ALL ABANDONED DRAIN TILES WITHIN DISTURBED AREAS SHALL BE REMOVED IN THEIR ENTIRETY.
3. DRAIN TILES WITHIN THE DISTURBED AREA OF A DEVELOPMENT SITE SHALL BE REPLACED, BYPASSED AROUND THE DEVELOPMENT SITE OR INTERCEPTED AND CONNECTED TO THE STORMWATER MANAGEMENT SYSTEM FOR THE DEVELOPMENT SITE. THE SIZE OF THE REPLACED OR BYPASSED DRAIN TILE SHALL BE EQUIVALENT TO THE EXISTING DRAIN TILE.

PLANTING NOTES

1. SEED ALL DISTURBED AREAS INCLUDING LAYDOWN AREAS, USING THE SEED MIX SHOWN IN THE PRELIMINARY NATIVE SEED MIX TABLE, OR APPROVED EQUAL;
2. ALL STOCKPILE AREAS SHALL BE LOCATED WITHIN LIMIT OF WORK LINE AND STABILIZED TO PREVENT EROSION.
3. ALL DEBRIS GENERATED DURING SITE PREPARATION ACTIVITIES SHALL BE LEGALLY DISPOSED OF OFF-SITE.
4. PROVIDE CRIBBING AS NECESSARY TO PROTECT EXISTING UTILITY LINES DURING CONSTRUCTION.
5. PLANTING SEED SHALL BE SOWN IN SEASONAL CONDITIONS AS APPROPRIATE FOR GOOD SEED SURVIVAL, OR AT SUCH TIMES AS APPROVED BY THE OWNER.
6. PROTECT NEWLY TOPSOILED, GRADED AND/OR SEEDED AREAS FROM TRAFFIC AND EROSION. KEEP AREAS FREE OF TRASH AND DEBRIS RESULTING FROM LANDSCAPE CONTRACTOR OPERATIONS.
7. REPAIR AND RE-ESTABLISH GRADES IN SETTLED, ERODED AND RUTTED AREAS TO THE SPECIFIED GRADE AND TOLERANCES.
8. ALL PLANT MATERIAL SHALL CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED BY THE AMERICAN STANDARD FOR NURSERY STOCK PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION.
9. ANY PROPOSED SUBSTITUTIONS OF PLANT MATERIAL SHALL BE MADE WITH MATERIAL EQUIVALENT TO THE DESIRED MATERIAL IN OVERALL FORM, HEIGHT, BRANCHING HABIT, FLOWER, LEAF, COLOR, FRUIT AND CULTURE. PROPOSED SUBSTITUTIONS WILL ONLY BE CONSIDERED IF SUBMITTED WITH ENUMERATED REASONS WHY SUBSTITUTIONS ARE PROPOSED.
10. CAUTION SHALL BE USED NOT TO EXTEND MULCH LAYER ABOVE SOIL LEVEL AT TRUNKS/STEMS OF INSTALLED PLANT MATERIAL.
11. ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF FINAL ACCEPTANCE.
12. THE LANDSCAPE CONTRACTOR SHALL CLEAN UP AND REMOVE ANY DEBRIS FROM THE SITE CAUSED BY THE LANDSCAPE CONTRACTOR.

SEQUENCE OF MAJOR CONSTRUCTION ACTIVITIES

1. INSTALL PERIMETER SE/SC MEASURES SUCH AS SILT FENCE AND A STABILIZED CONSTRUCTION ENTRANCE.
2. DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS CEASED FOR MORE THAN 14 DAYS SHALL BE TEMPORARILY SEEDED AND WATERED. MAINTENANCE FOR SE/SC MEASURES MUST OCCUR EVERY TWO WEEKS AND AFTER EVERY 0.5-INCH OR GREATER RAINFALL EVENT.
3. INSTALL ASSOCIATED INLET AND OUTLET PROTECTION (IF APPLICABLE).
4. TEMPORARILY STABILIZE ALL AREAS INCLUDING LOTS THAT HAVE REACHED TEMPORARY GRADE.
5. INSTALL GRAVEL ACCESS, EQUIPMENT PADS, FENCE LINE, ARRAY SUPPORT PILES, AND OTHER MAJOR COMPONENTS.
6. REMOVE ALL TEMPORARY SE/SC MEASURES.

NOT FOR CONSTRUCTION

SEAL:

2023.08.07 13:01:45-05'00'

LICENSED PROFESSIONAL ENGINEER ANDREW B. GRAHAM 062.048682 STATE OF ILLINOIS

PROFESSIONAL ENGINEER:
ANDREW B. GRAHAM
062048682

EXPIRATION DATE:
11/30/23

TRC ENVIRONMENTAL CORP.
DESIGN FIRM LIC. # 184004960002

NO.	BY	DATE	REVISION	APP'D.
1	CC	08/02/2023	ISSUED FOR PERMIT	ABG

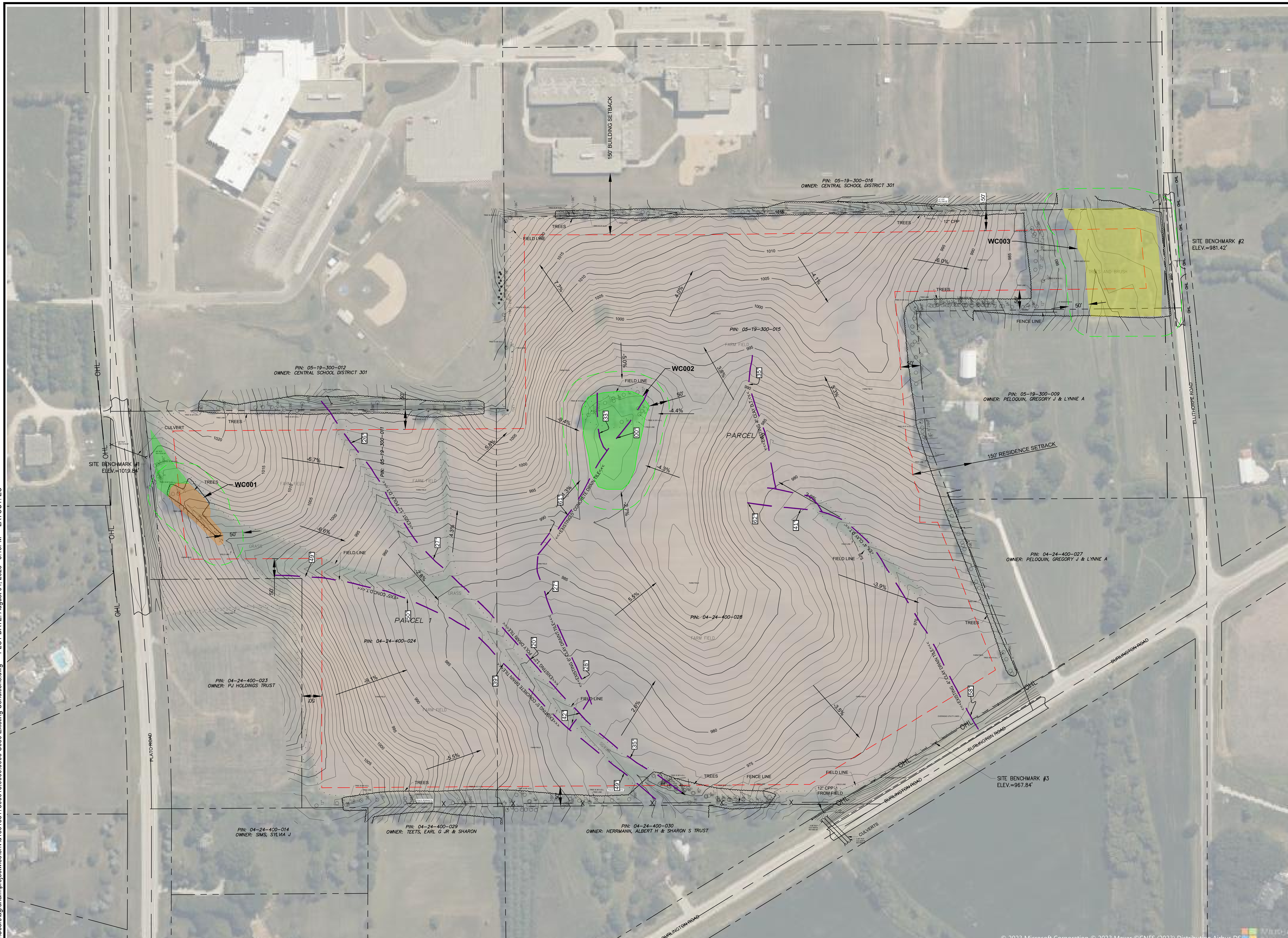
PROJECT:
PERMIT PLAN SET
RPIL SOLAR 8, LLC
PLATO ROAD SOLAR
KANE COUNTY, IL

TITLE:
GENERAL NOTES

DRAWN BY:	E. ALEXANDER	PROJ. NO.:	500015.0000.0006
CHECKED BY:	C. CAMERON		
APPROVED BY:	A.GRAHAM		**G010**
DATE:	AUGUST 2023		

TRC
230 West Monroe St,
Suite 1840
Chicago, IL 60606
Phone: 312.578.0870

FILE NO.: 500015.0000.0006 G010 General Notes.dwg



EXISTING FEATURES LEGEND

PROPERTY LINE	UTILITY POLE
CENTER LINE	TYPICAL SIGN
EASEMENT LINE	MAILBOX
BUILDING SETBACK	CLOSED MANHOLE
SECTION LINE	OPEN GRATE MANHOLE
(XXX') RECORD DATA	BEEHIVE GRATE MANHOLE
XXX.XX / XXX.XX SPOT GRADE (TOP OF (CURB,WALL, ETC.) / BOTTOM OF (GROUND, GUTTER,ETC.))	GUTTER FRAME MANHOLE
CONCRETE	VALVE VAULT
EVERGREEN/DECIDUOUS WITH SIZE IN INCHES	FIRE HYDRANT
SHRUB/SHRUB LINE	B-BOX / SERVICE VALVE
MONITOR WELL	POST LIGHT\GROUND LIGHT
GAS VALVE	AREA LIGHT\LIGHT POLE
UTILITY MARKINGS (cable,elec,fiber) (tel,water,gas)	STREET LIGHT
SOIL BORING	TRAFFIC SIGNAL
TELEPHONE MANHOLE	MAST ARM SIGNAL
HANDRAIL	HANDHOLE (electric\traffic)
GUARDRAIL	GAS METER
GUY WIRE ANCHOR	ELECTRIC METER
773 CONTOUR LINE	PEDESTAL(telco,elec,cable)
EDGE GRAVEL/STONE	EXISTING STREAM/POND
FENCE LINE	WETLAND SETBACK
FLARED END SECTION	CROP LINE
STORM SEWER	EXISTING BUILDING
SANITARY SEWER	STEEP SLOPES
COMBO SEWER	PSS WETLAND
WS WATER SERVICE LINE	PEM WETLAND
WM WATER MAIN	PEM/PSS MOSAIC WETLAND
OHL OVERHEAD LINE	GRASS AND WEEDS
FO FIBER OPTIC LINE	LOW AREAS WITH STANDING WATER POTENTIAL
G GAS LINE	DRAIN TILE
UGT U.G. TELCO LINE	00" DEPTH FROM SURFACE TO TOP OF DRAIN TILE
UGE U.G. ELECTRIC LINE	
EXISTING TREELINE	

NOTES

1. PRELIMINARY ALTA SURVEY DATED MAY 22, 2023 PROVIDED BY WT GROUP.
2. WETLAND AND WATERBODY DELINEATION PROVIDED BY SWCA ENVIRONMENTAL CONSULTANTS AND DATED SEPTEMBER 2022.
3. THE SITE IS LISTED AS BEING IN A ZONE "X", DESCRIBED AS "AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD" PER F.E.M.A PANEL NO. 17089C0140H DATED AUGUST 3, 2009.
4. EXISTING AGRICULTURAL DRAIN TILE INVESTIGATION PLAN PROVIDED BY HUDDLESTON MCBRIDE PROFESSIONAL LAND DRAINAGE SERVICES AND DATED JULY 31, 2023.

0 120 240 360 480
SCALE IN FEET

SEAL:

LICENSED PROFESSIONAL ENGINEER ANDREW B. GRAHAM 062.048682 STATE OF ILLINOIS
2023.08.07 13:01:45-05'00'

PROFESSIONAL ENGINEER:
ANDREW B. GRAHAM
062048682

EXPIRATION DATE:
11/30/23

TRC ENVIRONMENTAL CORP.
DESIGN FIRM LIC. # 18400496-0002

NO.	BY	DATE	REVISION	APP'D.
1	CC	08/02/2023	ISSUED FOR PERMIT	ABG

PROJECT:
PERMIT PLAN SET
RPIL SOLAR 8, LLC
PLATO ROAD SOLAR
KANE COUNTY, IL

TITLE:
EXISTING CONDITIONS

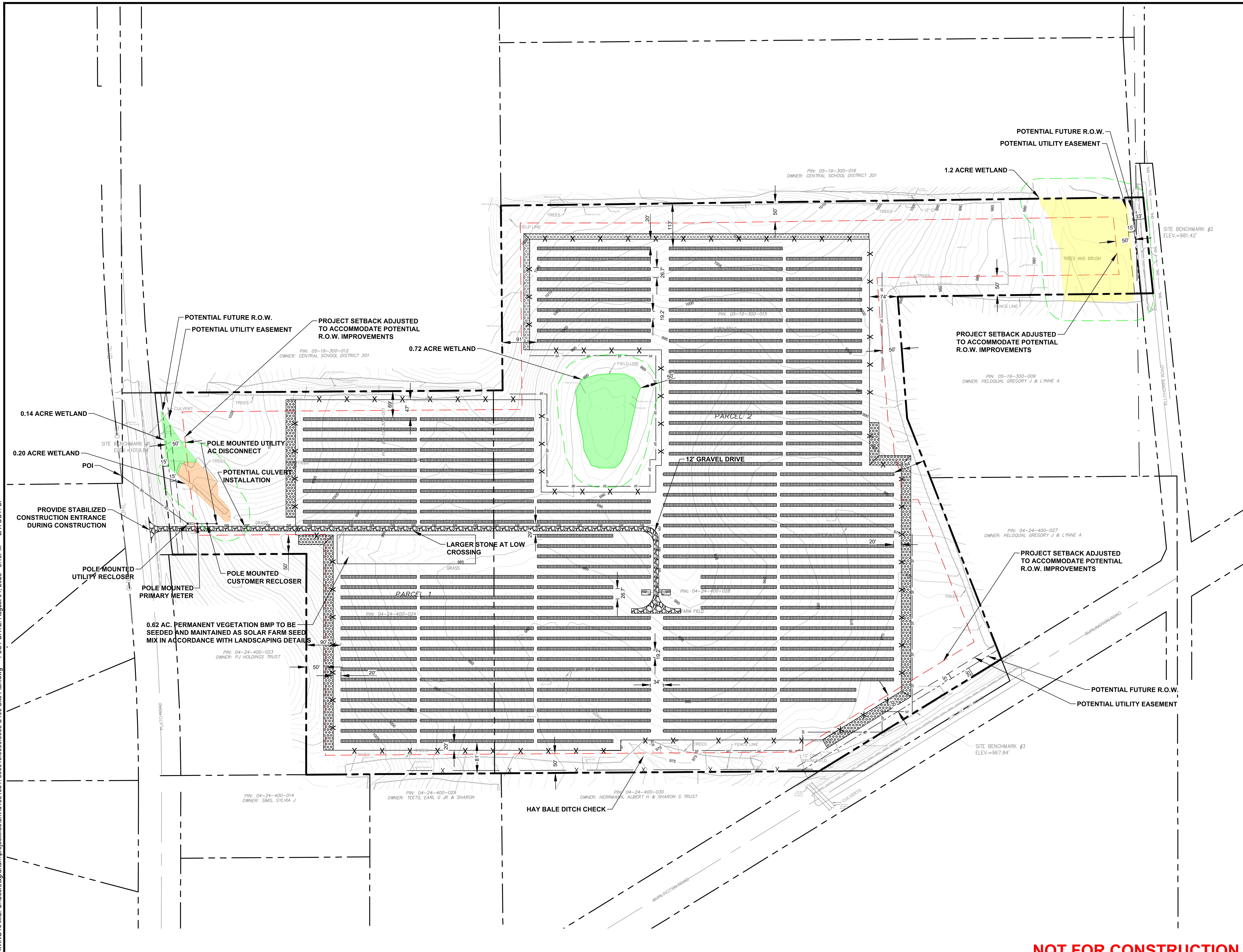
DRAWN BY:	E. ALEXANDER	PROJ. NO.:	500015.0000.0006
CHECKED BY:	C. CAMERON		**C050**
APPROVED BY:	A.GRAHAM		
DATE:	AUGUST 2023		

TRC
230 West Monroe St.
Suite 1840
Chicago, IL 60606
Phone: 312.578.0870

FILE NO.: 500015.0000.0006 C050 Existing Conditions.dwg

NOT FOR CONSTRUCTION

DRAWING NAME: C:\Users\agraham\projectwise\env\d1591551\500015.0000.0006 C050 Existing Conditions.dwg --- PLOT DATE: August 04, 2023 - 5:15PM --- LAYOUT: EC



EXISTING FEATURES LEGEND

PROPERTY LINE
CENTER LINE
EASEMENT LINE
BUILDING SETBACK
SECTION LINE
RECORD DATA
SPOT GRADE
CONCRETE
EVERGREEN/DECIDUOUS
SHRUB/SHRUB LINE
MONITOR WELL
GAS VALVE
UTILITY MARKINGS (cable,elec,fiber) (tel,water,gas)
SOIL BORING
TELEPHONE MANHOLE
HANDRAIL
GUARDRAIL
GUY WIRE ANCHOR
CONTOUR LINE
EDGE GRAVEL/STONE
FENCE LINE
FLARED END SECTION
STORM SEWER
SANITARY SEWER
COMBO SEWER
WATER SERVICE LINE
WATER MAIN
OVERHEAD LINE
FIBER OPTIC LINE
GAS LINE
U.G. TELCO LINE
U.G. ELECTRIC LINE
EXISTING TREELINE
UTILITY POLE
TYPICAL SIGN
MAILBOX
CLOSED MANHOLE
OPEN GRATE MANHOLE
BEEHIVE GRATE MANHOLE
GUTTER FRAME MANHOLE
VALVE VAULT
FIRE HYDRANT
B-BOX / SERVICE VALVE
POST LIGHT/GROUND LIGHT
AREA LIGHT/LIGHT POLE
STREET LIGHT
TRAFFIC SIGNAL
MAST ARM SIGNAL
HANDHOLE (electric/traffic)
GAS METER
ELECTRIC METER
PEDESTAL(telco,elec,cable)
EXISTING STREAM/POND
WETLAND SETBACK
CROP LINE
EXISTING BUILDING
STEEP SLOPES
PSS WETLAND
PEM WETLAND
PEM/PSS MOSAIC WETLAND
GRASS AND WEEDS
LOW AREAS WITH STANDING WATER POTENTIAL

PROPOSED FEATURES LEGEND

FENCE LINE
SILT FENCE
MV CABLE
OVERHEAD LINE
CONTOUR LINE
GRAVEL ACCESS ROAD
ATI 78 MODULE TRACKER ROW
ATI 52 MODULE TRACKER ROW
POWER STATION - (1) MV TRANSFORMER, (1) DAS, (1) WEATHER STATION
VEGETATIVE LANDSCAPING SCREENING

NOTES

1. ACCESS ROADS SHALL BE DESIGNED TO ACCOMMODATE ALL CONSTRUCTION, OPERATIONS, MAINTENANCE, AND EMERGENCY TRAFFIC.
2. NO LIGHTING IS PROPOSED.
3. THERE IS NO EXPECTED TREE CLEARING
4. VEHICLE GATE IS SHOWN. ADDITIONAL PEDESTRIAN ACCESS GATES MAY BE ADDED.
5. THE TOTAL HYDROLOGICALLY DISTURBED AREA IS 0.48 ACRES (THE AREA OF IMPERVIOUS SURFACE). THE HYDROLOGICALLY DISTURBED AREA IS LIMITED TO THE DISTURBED AREAS WHERE RUNOFF RATE OR VOLUME IS INCREASED OR DIRECTION IS ALTERED.
6. THE LAND BENEATH THE PV TRACKERS WILL BE RE-VEGETATED AS INDICATED ON THE LANDSCAPE PLANS AND IS NOT CONSIDERED HYDROLOGICALLY DISTURBED.
7. THE CONCRETE WASHOUT AREA WILL BE TEMPORARY AND WILL NOT CONTRIBUTE TO THE IMPERVIOUS SURFACE AREA.

SEAL:

LICENSED PROFESSIONAL ENGINEER ANDREW B. GRAHAM 062.048682 STATE OF ILLINOIS

2023.08.07 13:01:45-05'00'

PROFESSIONAL ENGINEER:
ANDREW B. GRAHAM
062048682

EXPIRATION DATE:
11/30/23

TRC ENVIRONMENTAL CORP.
DESIGN FIRM LIC. # 184000496-0002

NO.	BY	DATE	REVISION	APP'D.
1	CC	08/02/2023	ISSUED FOR PERMIT	ABG

PROJECT:
PERMIT PLAN SET
RPIL SOLAR 8, LLC
PLATO ROAD SOLAR
KANE COUNTY, IL

TITLE:
SITE PLAN

DRAWN BY:	E. ALEXANDER	PROJ. NO.:	500015.0000.0006
CHECKED BY:	C. CAMERON		C100
APPROVED BY:	A.GRAHAM		
DATE:	AUGUST 2023		

TRC

230 West Monroe St.
Suite1840
Chicago, IL 60606
Phone: 312.578.0870

NOT FOR CONSTRUCTION

FILE NO.: 500015.0000.0006 C100 Site Plan.dwg

22x34 — USER: AGraham — ATTACHED XREFS: EX-SURVEY; PR-PV LAYOUT; PR-LA BASE — ATTACHED IMAGES:
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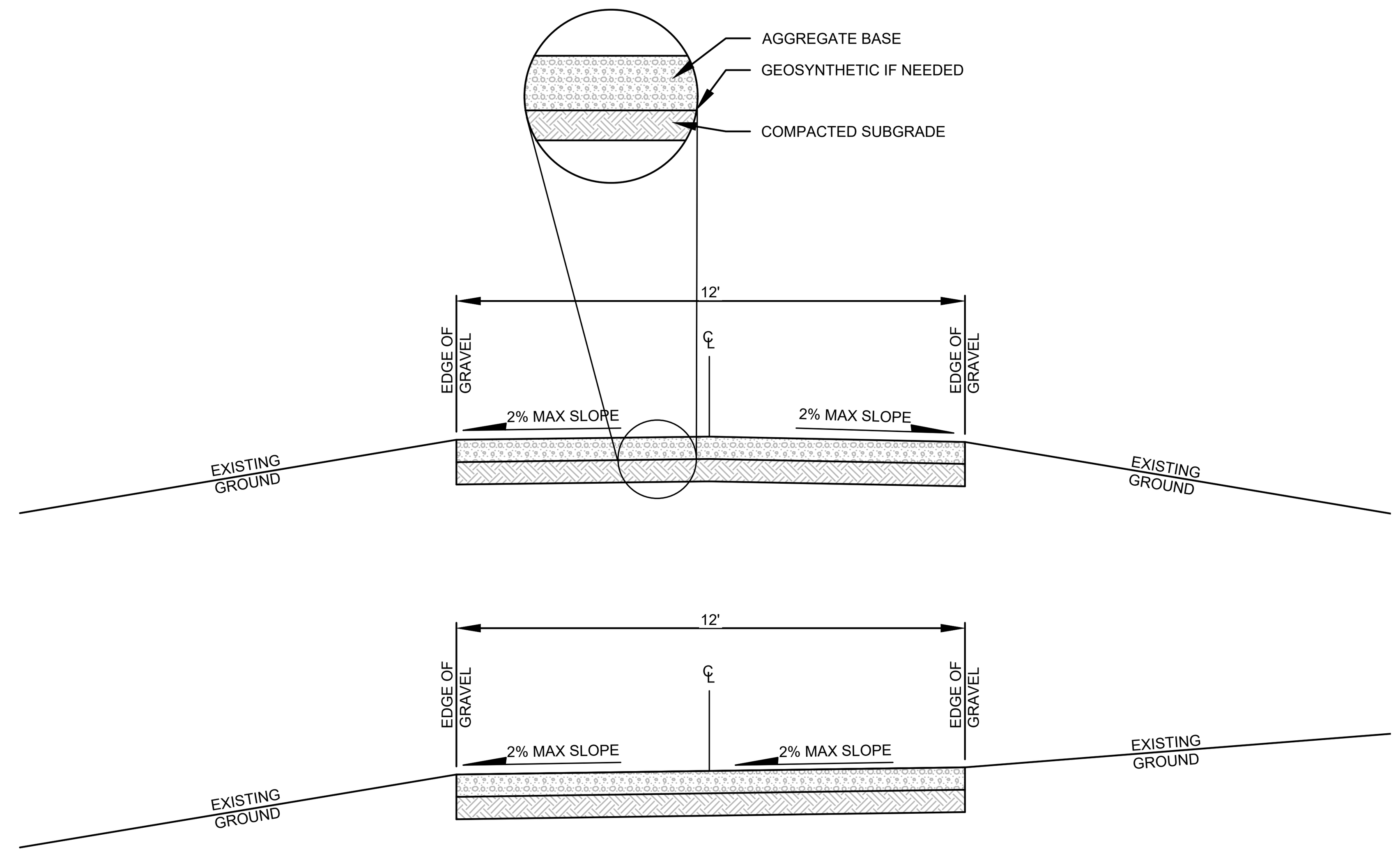
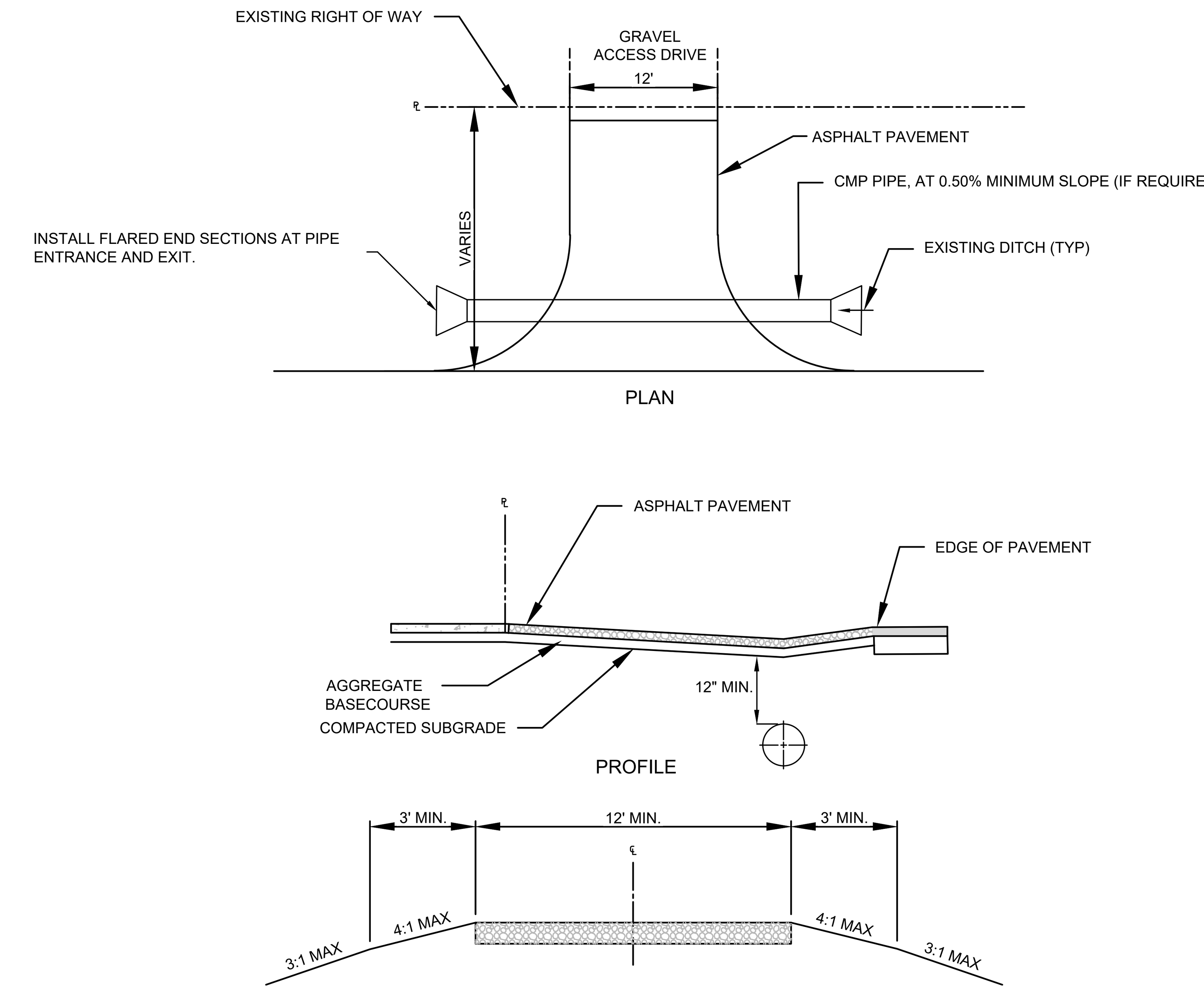
Version: 2017-10-21



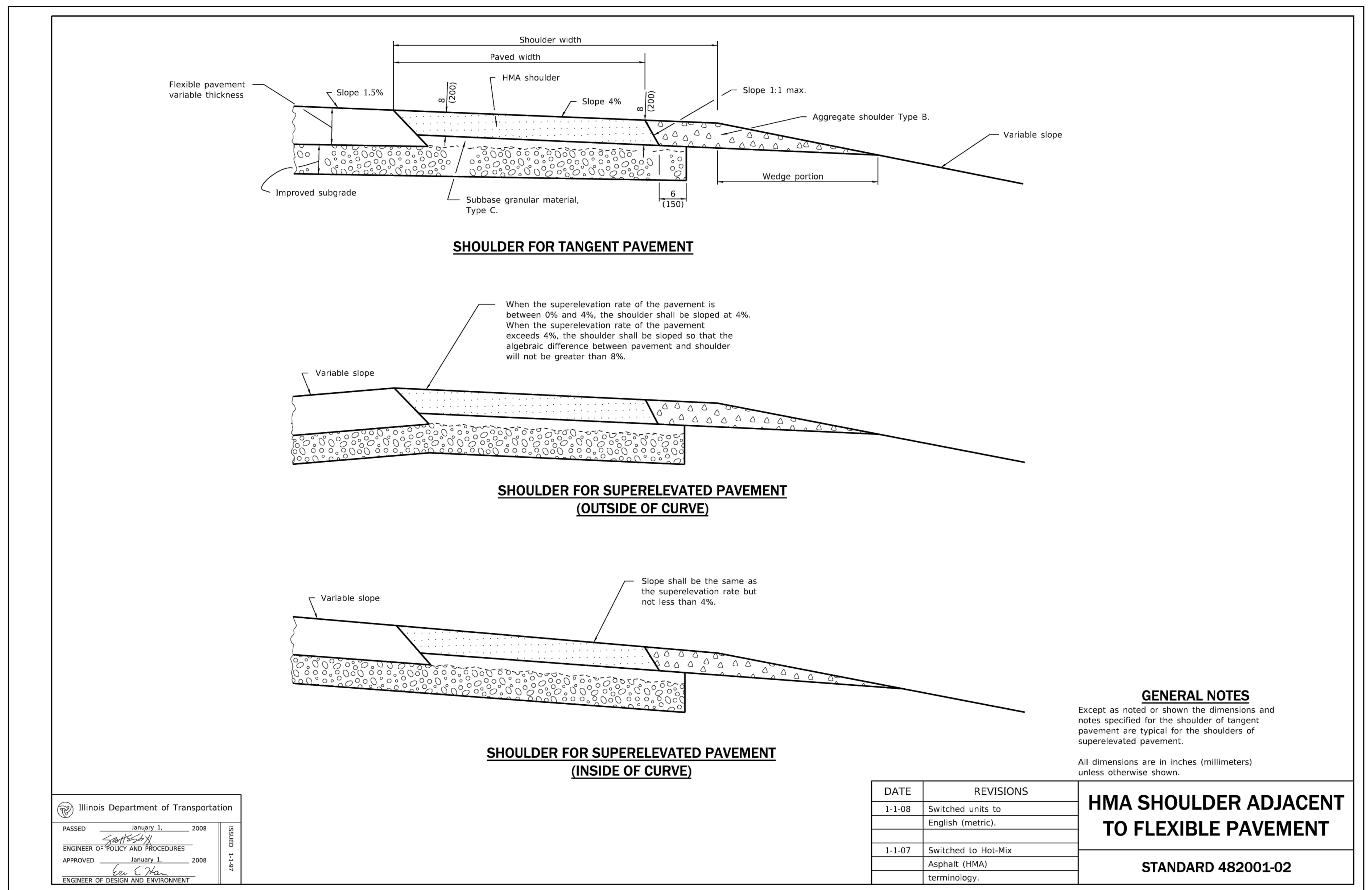
1 C501 **TYPICAL ACCESS DRIVE SECTION**

NOT TO SCALE



2 C501 **RURAL DRIVEWAY DETAIL**

NOT TO SCALE



GENERAL NOTES

Except as noted or shown the dimensions and notes specified for the shoulder of tangent pavement are typical for the shoulders of superelevated pavement.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-08	Switched units to English (metric).
1-1-07	Switched to Hot-Mix Asphalt (HMA) terminology.

HMA SHOULDER ADJACENT TO FLEXIBLE PAVEMENT

STANDARD 482001-02

3 C501 **HMA SHOULDER ADJACENT TO FLEXIBLE PAVEMENT**

NOT TO SCALE

PRELIMINARY- NOT FOR CONSTRUCTION

SEAL:

2023.08.07 13:01:45-05'00'

PROFESSIONAL ENGINEER:
ANDREW B. GRAHAM
062048682

EXPIRATION DATE:
11/30/23

TRC ENVIRONMENTAL CORP.
DESIGN FIRM LIC. # 184000496-0002

NO.	BY	DATE	REVISION	APP'D.
1	CC	08/02/2023	ISSUED FOR PERMIT	ABG

PROJECT: **PERMIT PLAN SET**
RPIL SOLAR 8, LLC
PLATO ROAD SOLAR
KANE COUNTY, IL

TITLE: **ACCESS ROAD DETAILS**

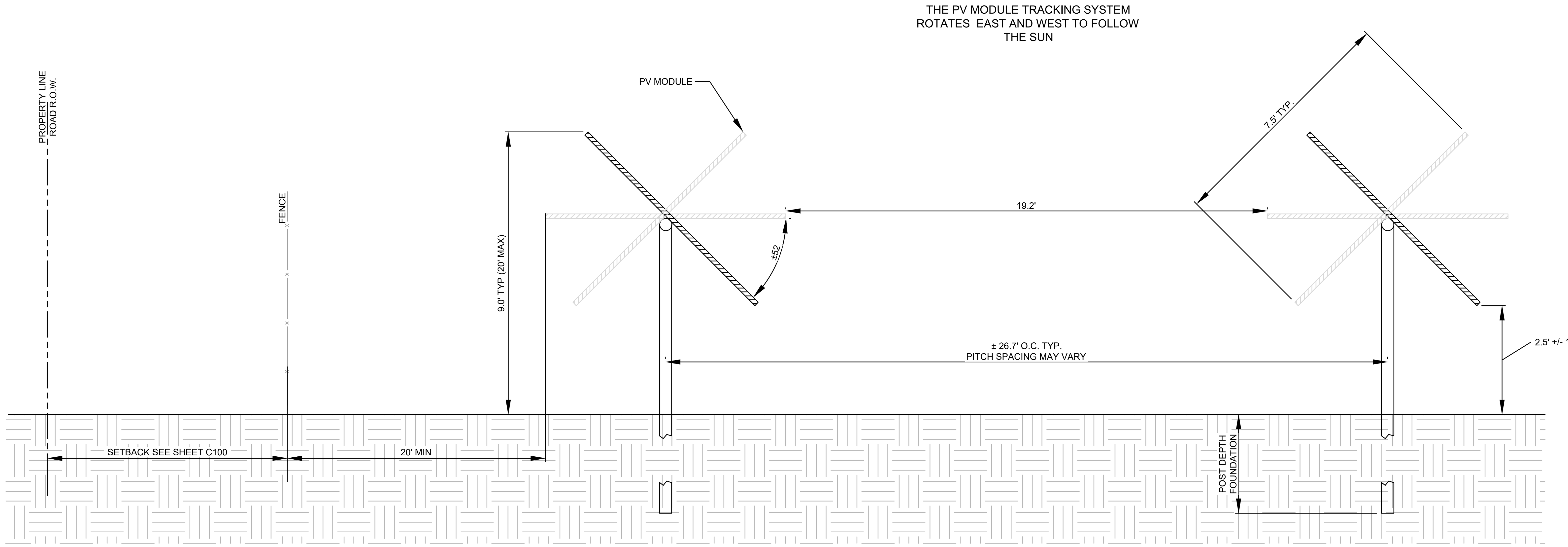
DRAWN BY:	E. ALEXANDER	PROJ. NO.:	500015.0000.0006
CHECKED BY:	C. CAMERON		C501
APPROVED BY:	A.GRAHAM		
DATE:	AUGUST 2023		

TRC
230 West Monroe St.
Suite 1840
Chicago, IL 60606
Phone: 312.578.0870

FILE NO.: 500015.0000.0006 C501 ACCESS ROAD DETAILS.dwg

DRAWING NAME: C:\Users\agraham\projectwise\trc\d1591551\500015.0000.0006 C501 ACCESS ROAD DETAILS.dwg — PLOT DATE: August 04, 2023 - 5:16PM — LAYOUT: D11

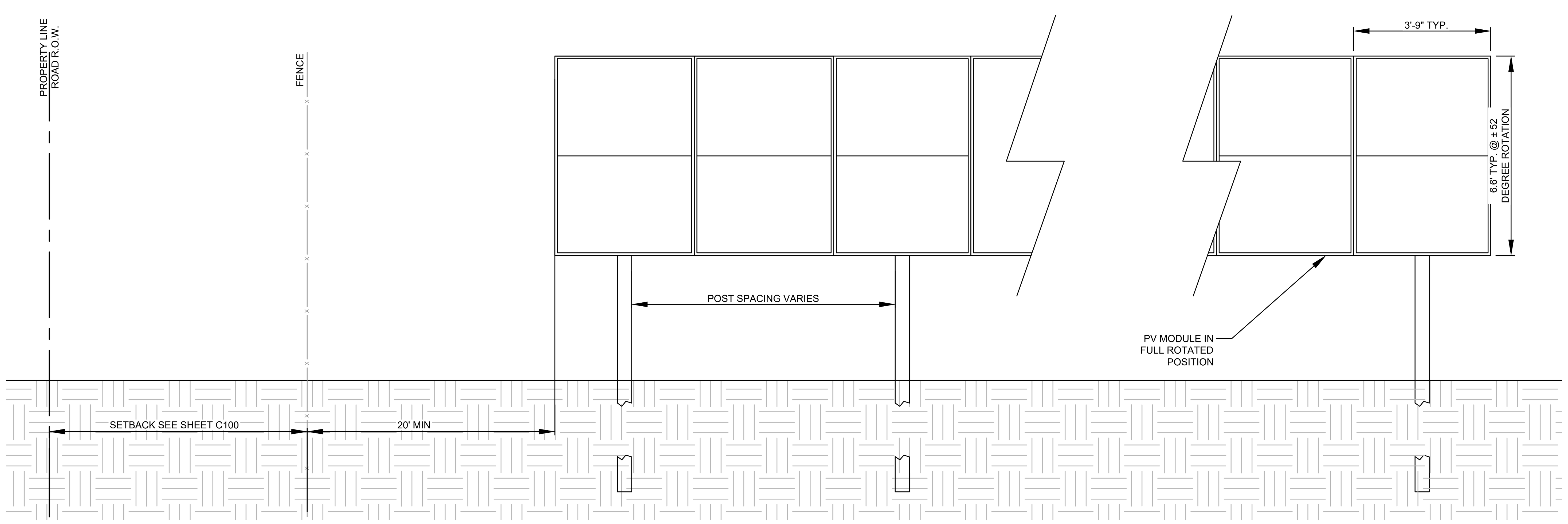
Version: 2017-10-21



SECTION VIEW

1 / C502 **TYPICAL RACK SECTION**

NOT TO SCALE



ELEVATION VIEW

2 / C502 **TYPICAL RACK ELEVATIONS**

NOT TO SCALE

PRELIMINARY- NOT FOR CONSTRUCTION

SEAL: 2023.08.07 13:01:45-05'00'

PROFESSIONAL ENGINEER:
ANDREW B. GRAHAM
062048682

EXPIRATION DATE:
11/30/23

TRC ENVIRONMENTAL CORP.
DESIGN FIRM LIC. # 18400496-0002

NO.	BY	DATE	REVISION	APP'D.
1	CC	08/02/2023	ISSUED FOR PERMIT	ABG

PROJECT: **PERMIT PLAN SET**
RPIL SOLAR 8, LLC
PLATO ROAD SOLAR
KANE COUNTY, IL

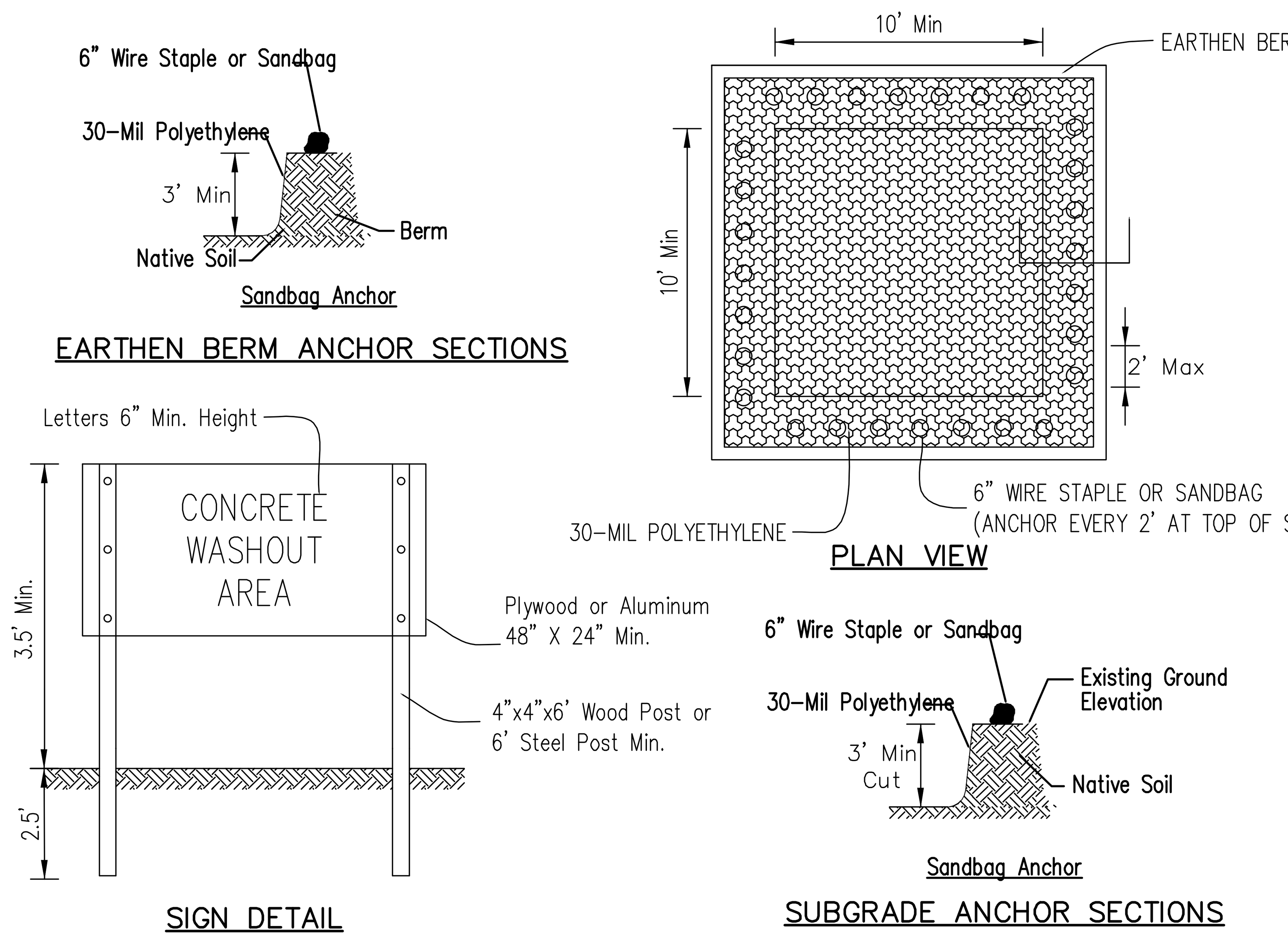
TITLE: **PV TRACKERS**

DRAWN BY:	E. ALEXANDER	PROJ. NO.:	500015.0000.0006
CHECKED BY:	C. CAMERON		C502
APPROVED BY:	A.GRAHAM		
DATE:	AUGUST 2023		

TRC
230 West Monroe St.
Suite 1840
Chicago, IL 60606
Phone: 312.578.0870

FILE NO.: 500015.0000.0006 C502 PV TRACKERS AND FENCING.dwg.dwg

DRAWING NAME: C:\Users\agraham\projectwise\...\500015.0000.0006 C502 PV TRACKERS AND FENCING.dwg — PLOT DATE: August 04, 2023 - 5:16PM — LAYOUT: DETAILS 2



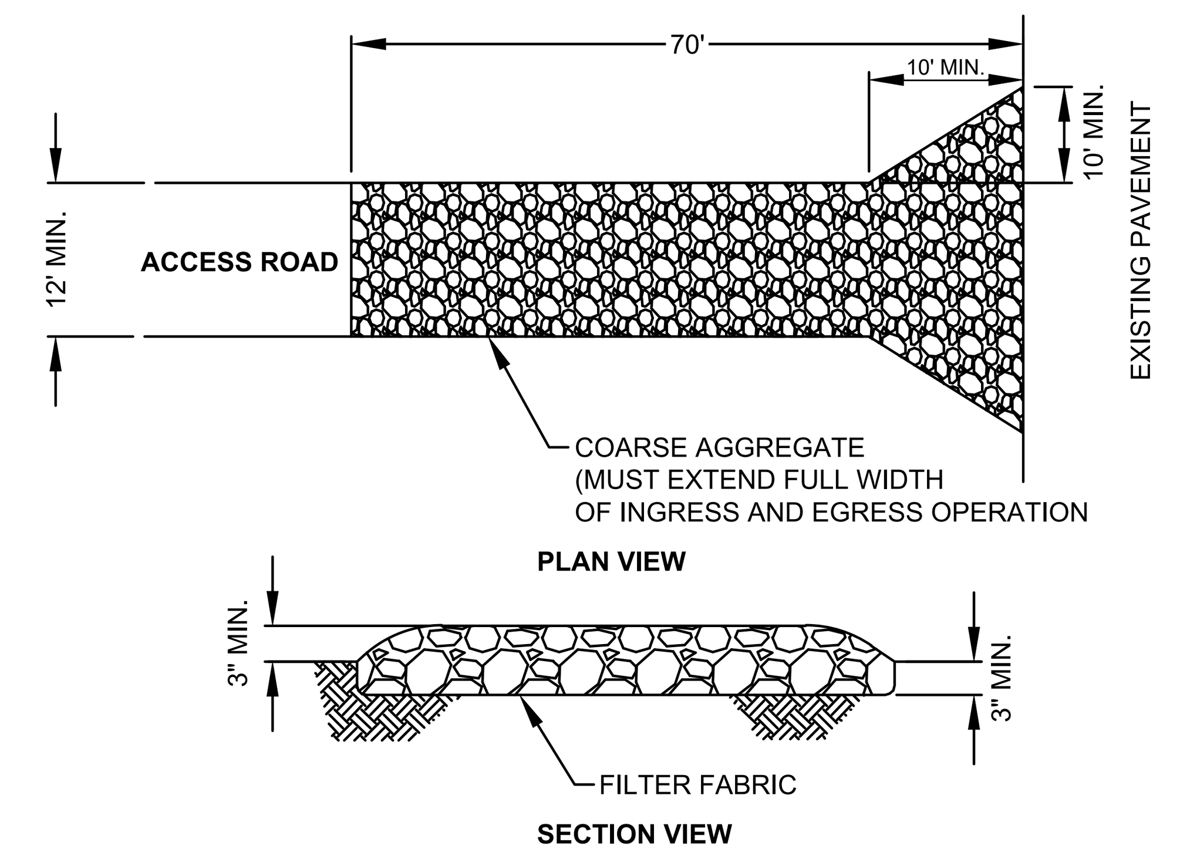
NOTES:

1. Maintaining temporary concrete washout facilities shall include removing and disposing of hardend concrete and/or slurry and returning the facilities to a functional condition.
2. Facility shall be cleaned or reconstructed in a new area once washout becomes two-thirds full.

1 / C503

CONSTRUCTION WASHOUT DETAIL

NOT TO SCALE



NOTES:

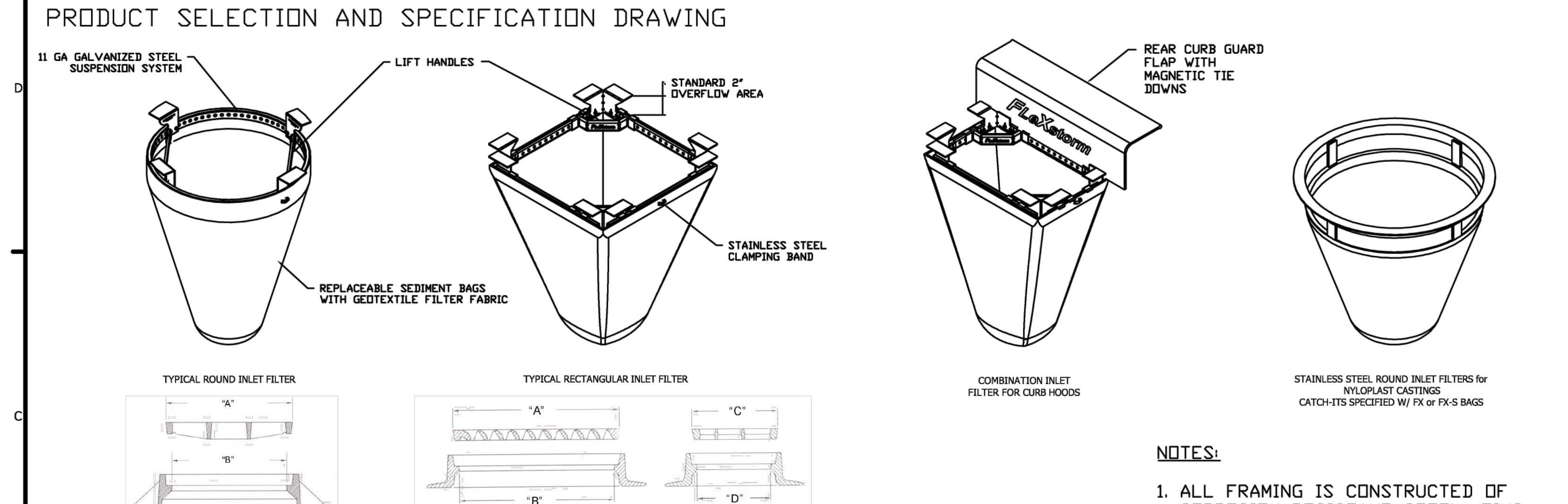
1. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 592 GEOTEXTILE, TABLE 1 OR 2, CLASS I, II OR IV AND SHALL BE PLACED OVER THE CLEARED AREA PRIOR TO THE PLACING OF ROCK.
2. ROCK OR RECLAIMED CONCRETE SHALL MEET ONE OF THE FOLLOWING IDOT COARSE AGGREGATE GRADATION, CA-1, CA-2, CA-3 OR CA-4 AND BE PLACED ACCORDING TO CONSTRUCTION SPECIFICATION 25 ROCKFILL USING PLACEMENT METHOD 1 AND CLASS 3 COMPACTION.
3. ANY DRAINAGE FACILITIES REQUIRED BECAUSE OF WASHING SHALL BE CONSTRUCTED ACCORDING TO MANUFACTURERS SPECIFICATIONS.
4. PROVIDE POSITIVE DRAINAGE TO SEDIMENT TRAPPING DEVICE.

2 / C503

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

FLEXSTORM CATCH-IT FILTERS FOR TEMPORARY INLET PROTECTION
PRODUCT SELECTION AND SPECIFICATION DRAWING



NOTES:

1. ALL FRAMING IS CONSTRUCTED OF CORROSION RESISTANT STEEL (ZINC PLATED OR GALVANIZED) FOR 7 YEAR MINIMUM SERVICE LIFE.
2. UPON ORDERING CONFIRMATION OF THE DOT CALLOUT, PRECAST OR CASTING MAKE AND MODEL, OR DETAILED DIMENSIONAL FORMS MUST BE PROVIDED TO CONFIGURE AND ASSEMBLE YOUR CUSTOMIZED FLEXSTORM INLET FILTER. PART NUMBER ALONE IS NOT SUFFICIENT.
3. FOR WRITTEN SPECIFICATIONS AND MAINTENANCE GUIDELINES VISIT WWW.INLETFILTERS.COM

1. INDENTIFY YOUR FRAME STYLE AND SIZE

STYLE	*FRAME STYLE AND SIZE*	Frame P/N:
ROUND	Small Round (up to 20.0" dia grates (A) dim)	62SRD
	Med Round (20.1" - 26.0" dia grates (A) up to 25" dia openings (B))	62MRD
	Large Round (26.1" - 32.0" dia grates (A) up to 30" openings (B))	62LRD
	XL Round (32.1" dia - 39" dia grates (A) up to 37" dia openings (B))	62XLRD
RECT/ SQUARE	Small Rect / Square (up to 16" (B) x 16" (D) openings or 64" perimeter)	62SSQ
	Med Rect / Square (up to 24" (B) x 24" (D) openings or 96" perimeter)	62MSQ
	Large Rect / Square (up to 36" (B) x 24" (D) openings or 120" perimeter)	62LSQ
	XL Rect / Square (side by side 2 pc set to fit up to 48" (B) x 36" (D) openings)	62XLSQ
COMBO INLETS	Small Rect / Square (ref Rect sizing; shipped with Magnetic Curb Flaps)	62SCB
	Med Rect / Square (ref Rect sizing; shipped with Magnetic Curb Flaps)	62MCB
	Large Rect / Square (ref Rect sizing; shipped with Magnetic Curb Flaps)	62LCB
	XL Rect / Square (ref Rect sizing; shipped with Magnetic Curb Flaps)	62XLCB
NYLOPLAST	12" diameter Nyloplast castings (Stainless Steel Framing standard)	6212NY
	15" diameter Nyloplast castings (Stainless Steel Framing standard)	6215NY
	18"diameter Nyloplast castings (Stainless Steel Framing standard)	6218NY
	24" diameter Nyloplast castings (Stainless Steel Framing standard)	6224NY
	30" diameter Nyloplast castings (Stainless Steel Framing standard)	6230NY

SPECIFICATIONS FOR STANDARD BAGS BY NOMINAL SIZE

Nominal Bag Size	Solids Storage (CuFt)	Filtered Flow Rate at 50% Max (CFS)	
		FX (Woven)	IL (NonWoven)
Small	1.6	1.2	0.9
Medium	2.1	1.7	1.3
Large	3.8	2.7	1.9
XL	4.2	3.6	2.6

2. SELECT YOUR BAG PART NUMBER

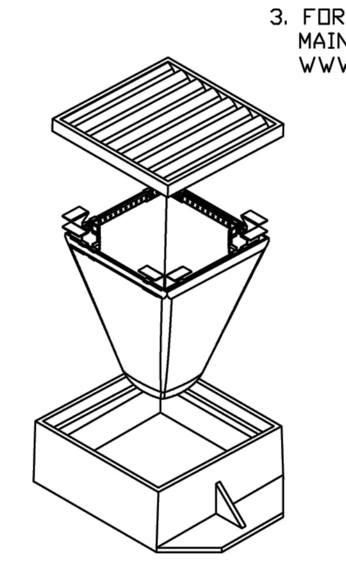
FLEXSTORM FILTER BAGS	(22" depth) STD Bag P/N	(12" depth) Short Bag P/N	Clean Water Flow Rate (GPM/SqFt)	Min A.O.S. (US Sieve)
FX: Standard Woven Bag	FX	FX-S	200	40
IL: IDOT Non-Woven Bag	IL	IL-S	145	70

3. CREATE YOUR FLEXSTORM INLET FILTER PART NUMBER

Frame P/N from Step 1. Filter Bag P/N from Step 2.

INSTALLATION:

1. REMOVE GRATE
2. DROP FLEXSTORM INLET FILTER ONTO LOAD BEARING LIP OF CASTING OR CONCRETE STRUCTURE
3. REPLACE GRATE



FLEXSTORM INLET FILTERS CATCH IT

ALL PRODUCTS MANUFACTURED BY INLET & PIPE PROTECTION, INC
A DIVISION OF ADS, INC.
WWW.INLETFILTERS.COM
(866) 287-8655 PH
(630) 355-3477 FX
INFO@INLETFILTERS.COM

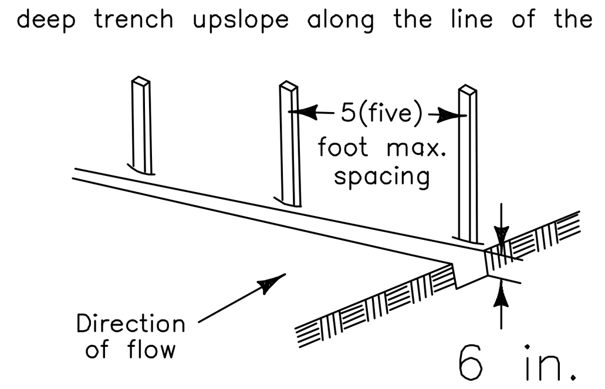
SIZE C | DWG NO FLEXSTORM_CATCH_IT | REV A | SHEET 1 OF 1

3 / C503

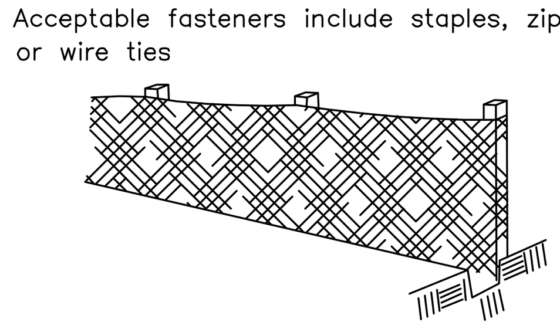
FLEXSTORM INLET DETAIL

NOT TO SCALE

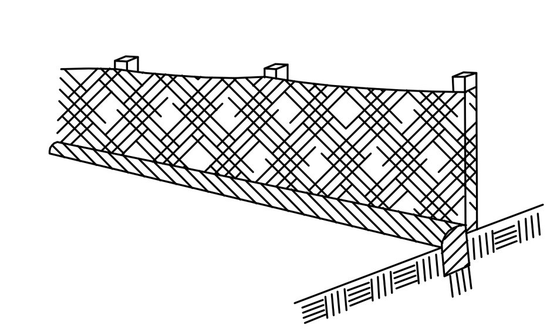
1. Set posts and excavate or slit-trench a 6-inch deep trench upslope along the line of the post



2. Attach the geotextile filter fabric to each post with a minimum of 3 (three) fasteners per post and extend to the bottom of the trench. Acceptable fasteners include staples, zip ties, or wire ties

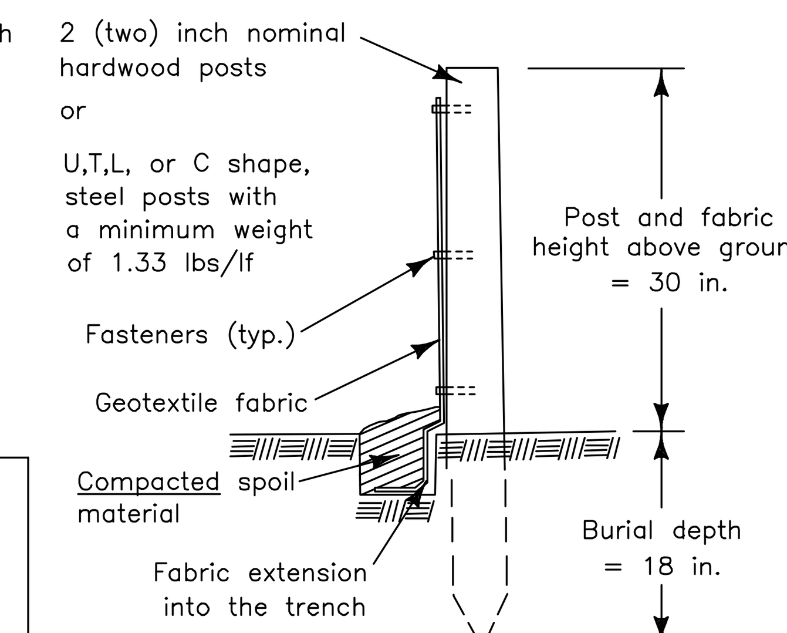


3. Backfill and compact the excavated spoil materials



Geotextile Requirement	Test Method	MARV
Grab strength	ASTM D 4632	
- Machine direction		550 N
- X-machine direction		450 N
Permittivity	ASTM D 4491	0.05 sec-1
Apparent opening size*	ASTM D 4751	0.60 mm
Ultraviolet stability (retained strength)	ASTM D 4355	70% after 500 hours

Note: Value for apparent opening size represents maximum average roll value.



4 / C503

SILT FENCE DETAIL

NOT TO SCALE

PRELIMINARY- NOT FOR CONSTRUCTION

SEAL:

2023.08.07 13:01:45-05'00'

LICENSED PROFESSIONAL ENGINEER
ANDREW B. GRAHAM
062.048682
STATE OF ILLINOIS

PROFESSIONAL ENGINEER:
ANDREW B. GRAHAM
062048682

EXPIRATION DATE:
11/30/23

TRC ENVIRONMENTAL CORP.
DESIGN FIRM LIC. # 18400496-0002

NO.	BY	DATE	REVISION	APP'D.
1	CC	08/02/2023	ISSUED FOR PERMIT	ABG

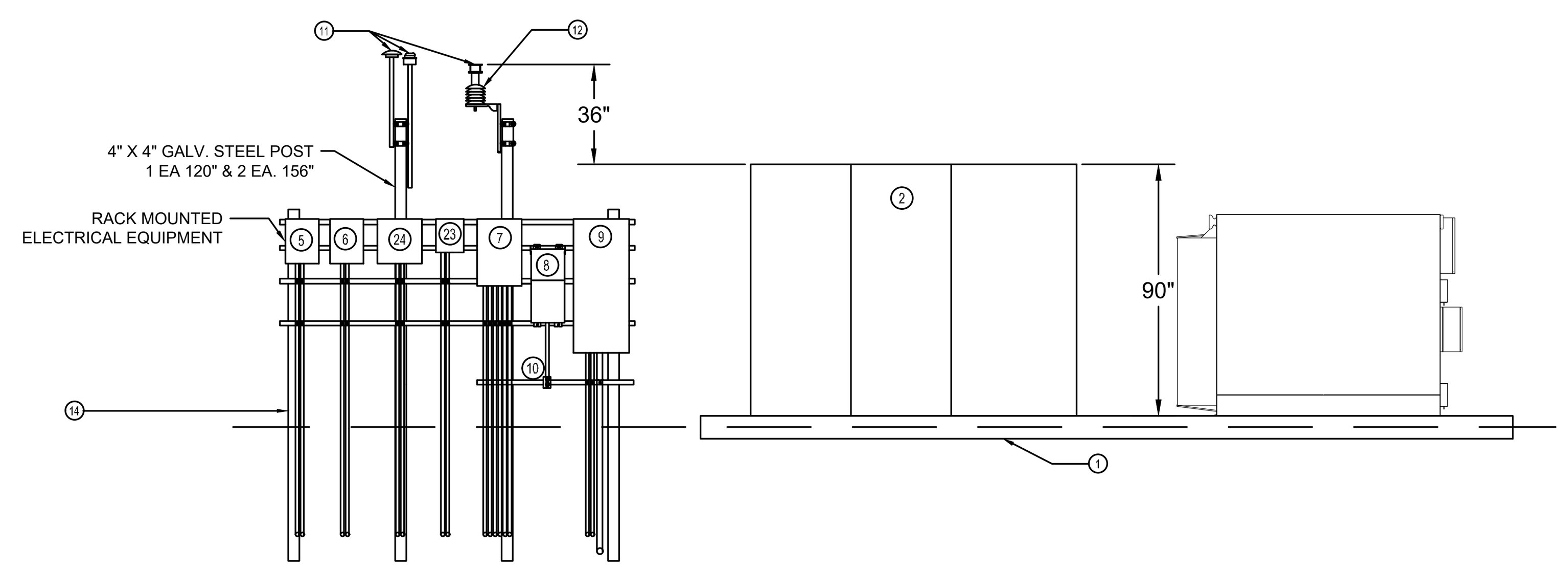
PROJECT: PERMIT PLAN SET
RPIL SOLAR 8, LLC
PLATO ROAD SOLAR
KANE COUNTY, IL

TITLE: EROSION CONTROL DETAILS

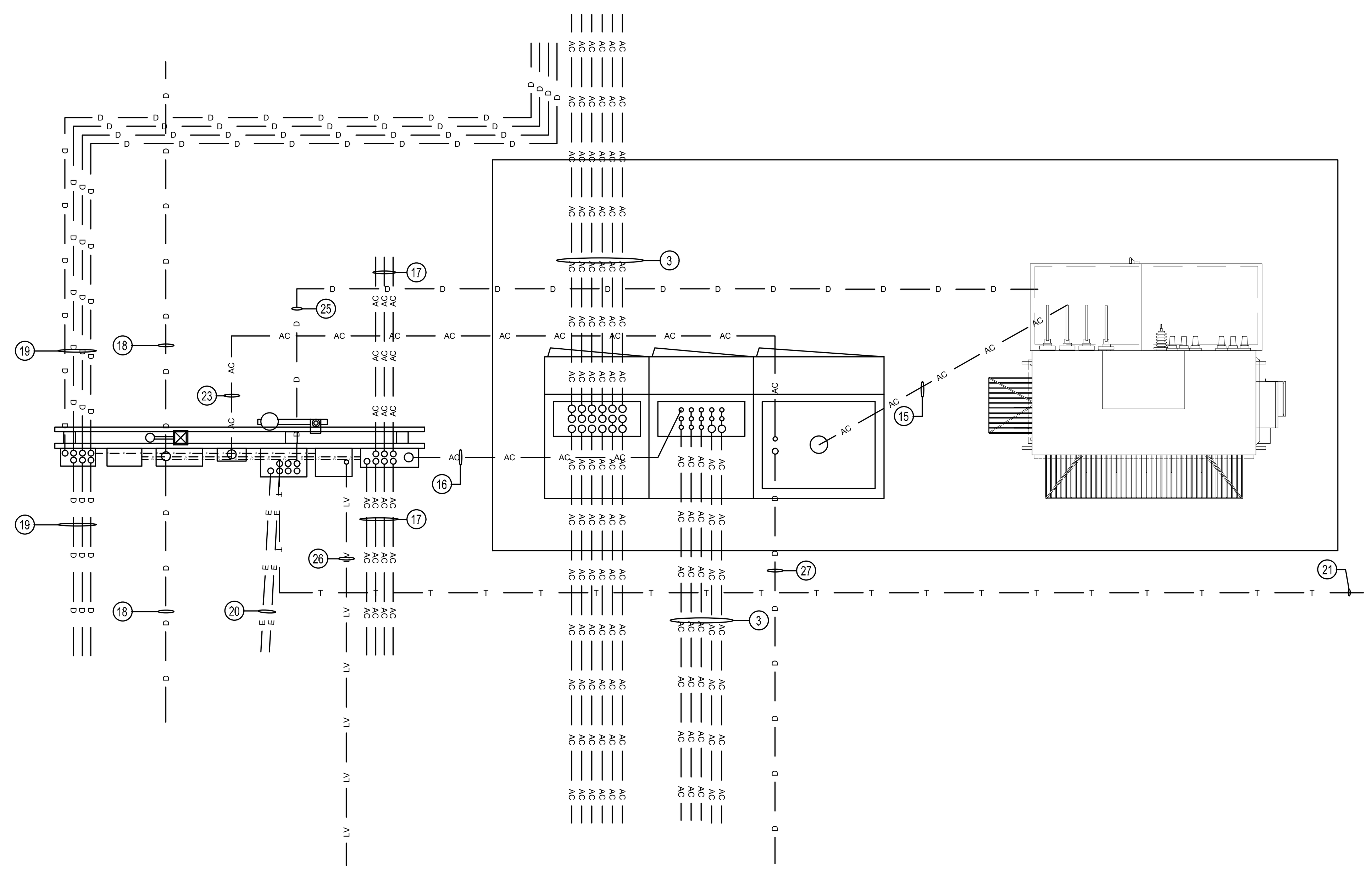
DRAWN BY:	E. ALEXANDER	PROJ. NO.:	500015.0000.0006
CHECKED BY:	C. CAMERON		C503
APPROVED BY:	A.GRAHAM		
DATE:	AUGUST 2023		

TRC
230 West Monroe St.
Suite 1840
Chicago, IL 60606
Phone: 312.578.0870

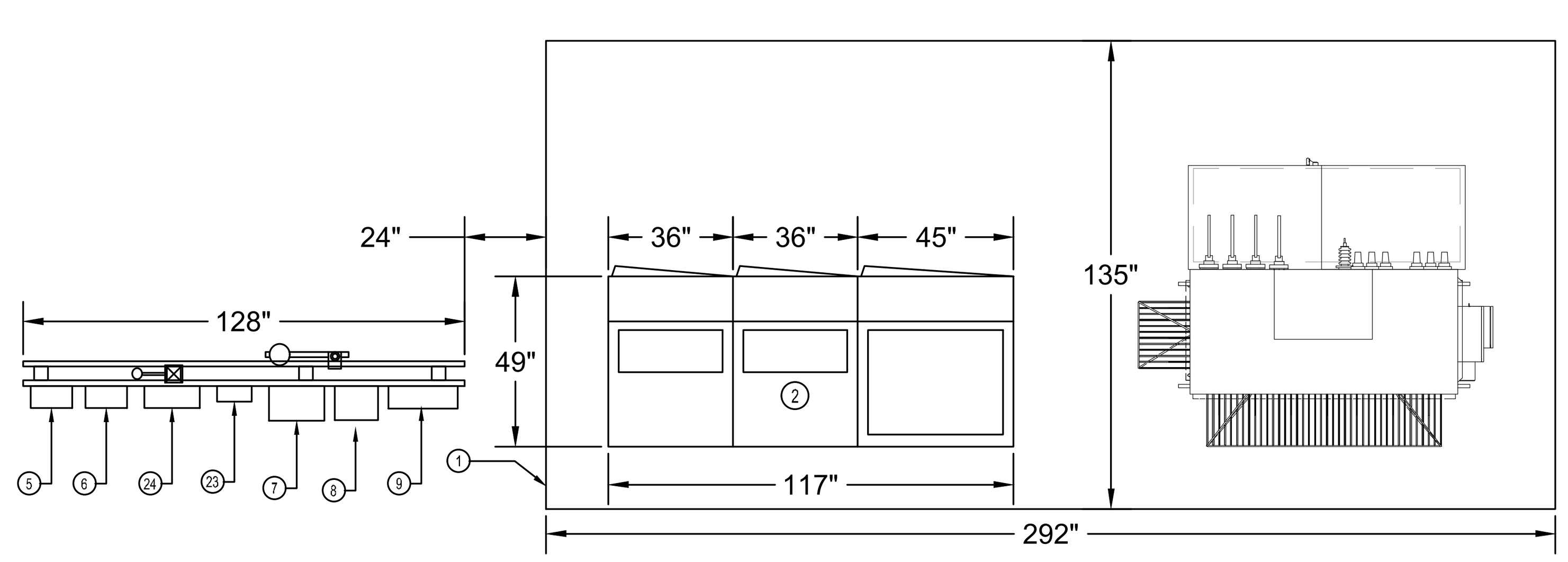
FILE NO.: 500015.0000.0006 C503 EROSION CONTROL DETAILS.dwg



1 C504 **EQUIPMENT PAD ELEVATION**
NOT TO SCALE



2 C504 **EQUIPMENT PAD- U.G. CONDUIT LAYOUT**
NOT TO SCALE



3 C504 **EQUIPMENT PAD- PLAN VIEW**
NOT TO SCALE

LEGEND

———	ABOVE GROUND
— — —	UNDER GROUND
— D —	U.G. DATA
— LV —	U.G. 120V
— MV —	U.G. MV
— AC —	U.G. 480V
— DC —	U.G. DC
— E —	U.G. SIGNAL
— T —	U.G. TELCO

DIAGRAM NOTES

1. CONCRETE EQUIPMENT PAD. SEE STRUCTURAL SHEET FOR CONSTRUCTION REQUIREMENTS
2. 4000A/480V "AC SWBD"
3. U.G. 480 VAC FEEDERS - INVERTERS
4. GALVANIZED STEEL SUPPORT RACK WITH STRUT MOUNTED ELECTRIC EQUIPMENT
5. ATI 4X CONTROLLER
6. ATI SITE DATA CONTROLLER
7. DAS BOX
8. MINI POWER CENTER 120/240V PNL-P2
9. 277/480V SITE LOAD PANEL P1
10. WP GFI CONVENIENCE OUTLET
11. ATI WIND, GPS & GHI SENSOR MOUNTED TO EQUIPMENT RACK
12. WEATHER STATION MOUNTED ON EQUIPMENT RACK. SEE SHEET E312 DETAIL 1.
13. 1-5/8" X 1-5/8" GALV STRUT (TYP.)
14. 4" X 4" GALVANIZED STEEL POST (TYP.)
15. U.G. 480 VAC FEEDERS TO 4000A "AC SWBD"
16. U.G. 480 VAC FEEDER PANEL P1
17. U.G. 480 VAC FEEDER TRACKER MOTOR
18. U.G. DATA: INVERTERS
19. U.G. ATI TRACKER CONTROLLER CABLE
20. U.G. ELECTRONIC SIGNAL CABLE FOR IRR AND PNL TEMP SENSORS: 2 X 1" PVC CONDUITS, INSTALL PER EQUIPMENT SUPPLIER'S SHOP DRAWINGS.
21. U.G. DATA CABLE TO INTERNET SERVICE PROVIDER WHEN REQUIRED BY MONITORING SYSTEMS SUPPLIER. FIELD VERIFY POINT OF CONNECTION.
22. U.G. CURRENT AND VOLTAGE SIGNALS TO REMOTE METER WHEN REQUIRED BY MONITORING SYSTEMS PROVIDER. FIELD VERIFY POINT OF CONNECTION.
23. REMOTE METER ENCLOSURE (ALSO ENERGY)
24. WEATHER STATION ENCLOSURE (ALSO ENERGY)
25. DATA LINE TO TRANSFORMER
26. U.G. 120V AC FEEDER TO NCEMC COMM. CABINET
27. U.G. FIBER LINE TO NCEMC COMM. CABINET

NOTES

1. THE EQUIPMENT SELECTION AND LAYOUT WAS PROVIDED BY RENEWABLE PROPERTIES LLC AND IS PROVIDED HERE FOR REFERENCE PURPOSES.

SEAL:

2023.08.07 13:01:45-05'00'

PROFESSIONAL ENGINEER:
ANDREW B. GRAHAM
062048682

EXPIRATION DATE:
11/30/23

TRC ENVIRONMENTAL CORP.
DESIGN FIRM LIC. # 184000496-0002

NO.	BY	DATE	REVISION	APP'D.
1	CC	08/02/2023	ISSUED FOR PERMIT	ABG

PROJECT:
PERMIT PLAN SET
RPIL SOLAR 8, LLC
PLATO ROAD SOLAR
KANE COUNTY, IL

TITLE:
EQUIPMENT PAD DETAILS

DRAWN BY:	E. ALEXANDER	PROJ. NO.:	500015.0000.0006
CHECKED BY:	C. CAMERON		C504
APPROVED BY:	A.GRAHAM		
DATE:	AUGUST 2023		

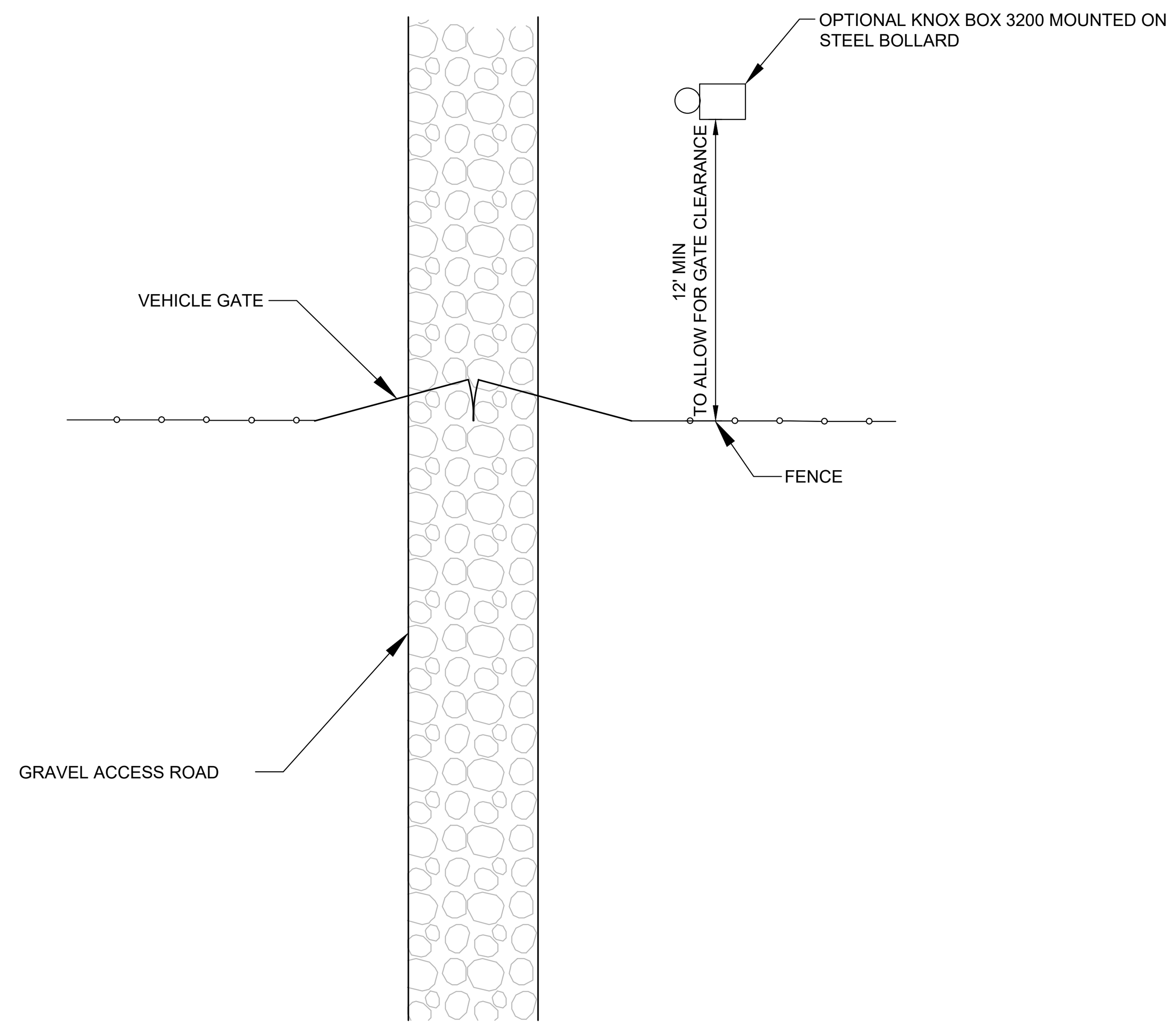
TRC
230 West Monroe St.
Suite 1840
Chicago, IL 60606
Phone: 312.578.0870

FILE NO.: 500015.0000.0006 C504 EQUIPMENT PAD DETAILS.dwg

PRELIMINARY- NOT FOR CONSTRUCTION

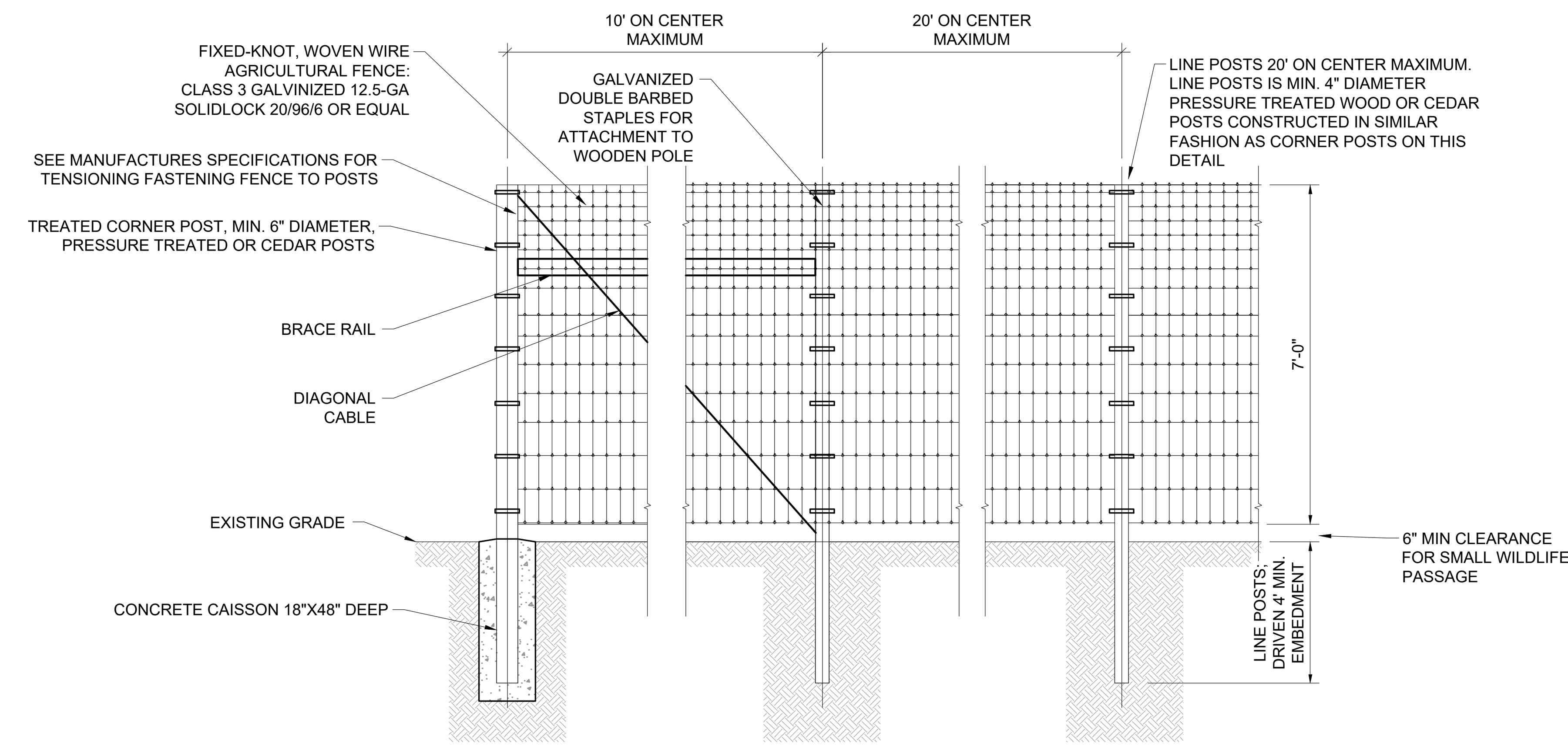
DRAWING NAME: C:\Users\agraham\projectwise\trc\d1591551\500015.0000.0006 C504 EQUIPMENT PAD DETAILS.dwg — PLOT DATE: August 04, 2023 - 5:17PM — LAYOUT: EPD

Version: 2017-10-21



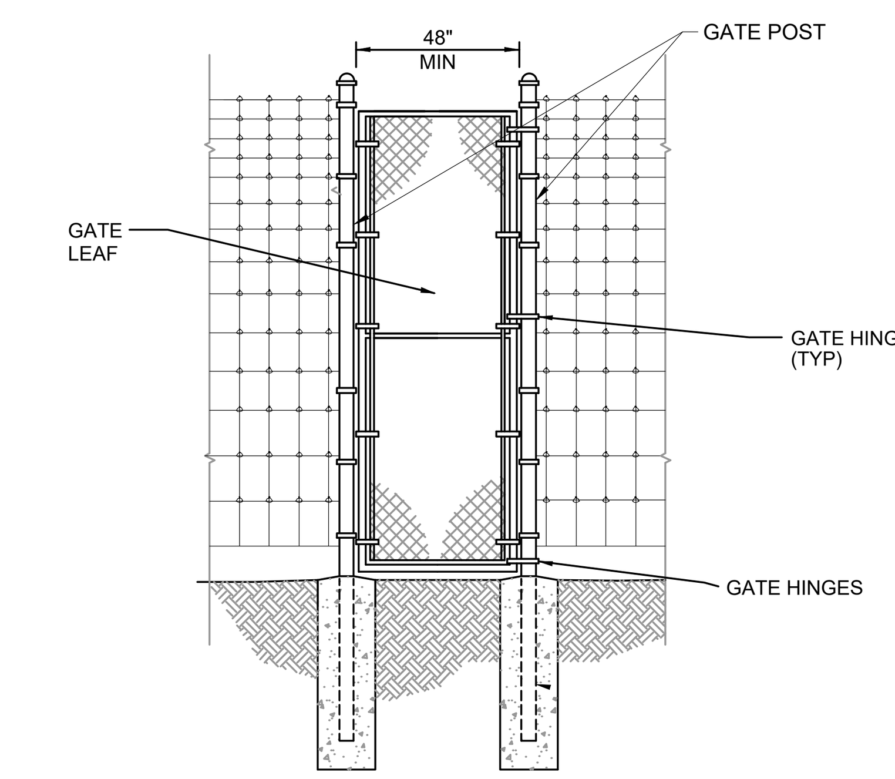
1 C505 **TYPICAL VEHICLE GATE PLAN VIEW**

NOT TO SCALE



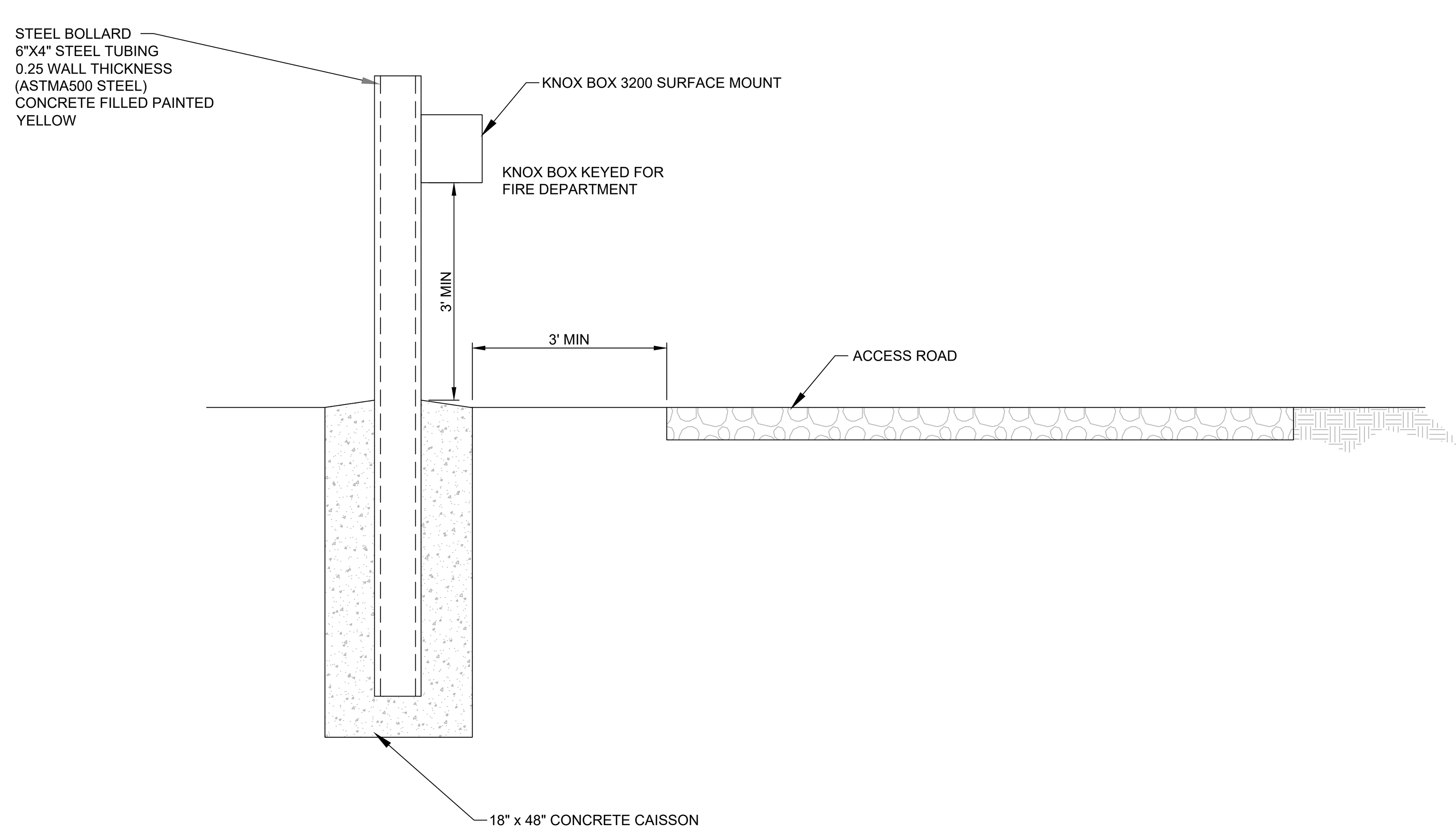
2 C505 **TYPICAL PV AREA FENCE DETAIL**

NOT TO SCALE



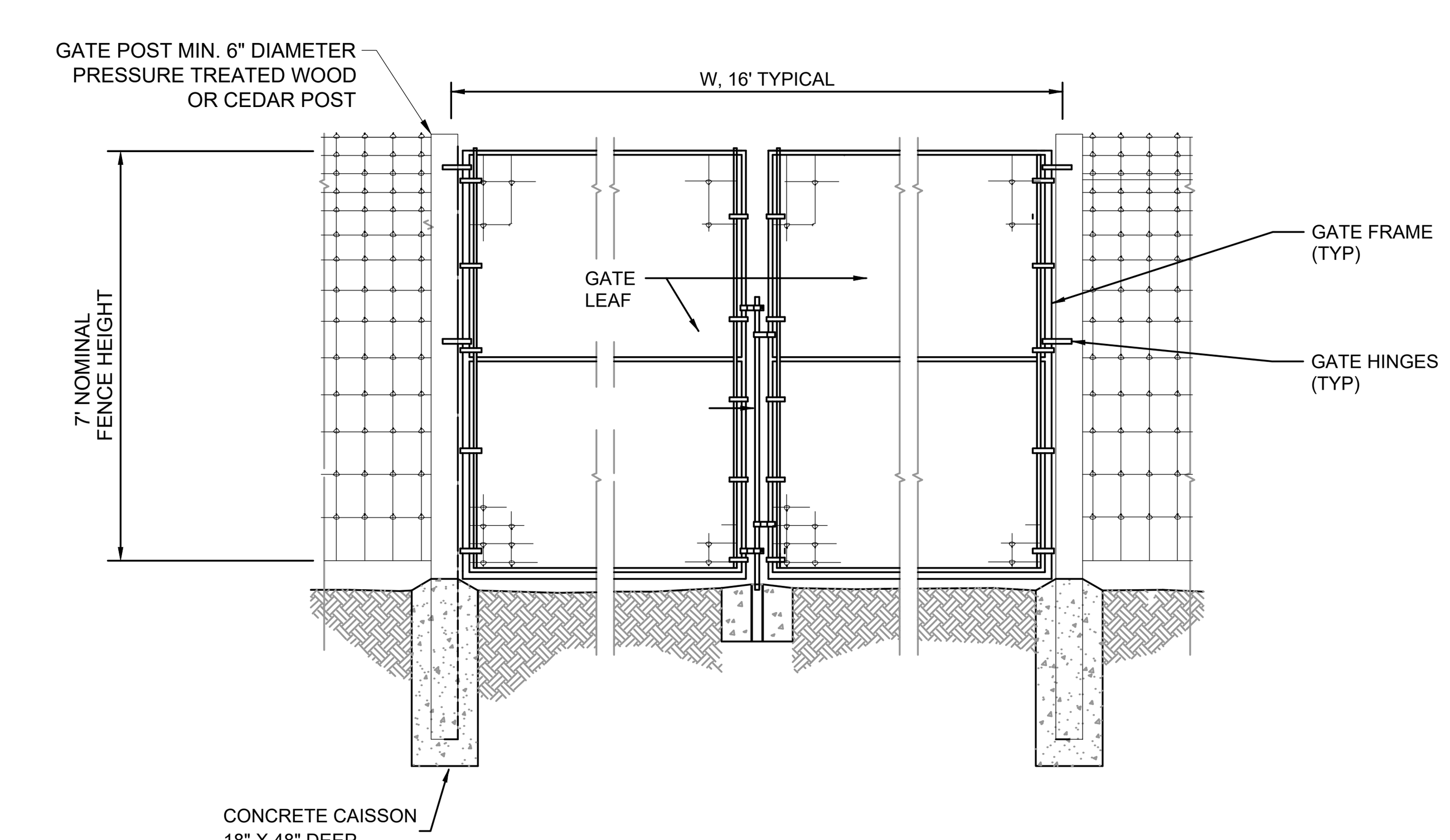
3 C505 **TYPICAL PEDESTRIAN ACCESS GATE**

NOT TO SCALE



4 C505 **OPTIONAL KNOX BOX BOLLARD DETAIL**

NOT TO SCALE



5 C505 **TYPICAL VEHICLE GATE**

NOT TO SCALE

SEAL:

LICENSED PROFESSIONAL ENGINEER ANDREW B. GRAHAM 062.048682 STATE OF ILLINOIS

2023.08.07 13:01:45-05'00'

PROFESSIONAL ENGINEER:
ANDREW B. GRAHAM
062048682

EXPIRATION DATE:
11/30/23

TRC ENVIRONMENTAL CORP.
DESIGN FIRM LIC. # 18400496-0002

NO.	BY	DATE	REVISION	APP'D.
1	CC	08/02/2023	ISSUED FOR PERMIT	ABG

PROJECT: **PERMIT PLAN SET**
RPIL SOLAR 8, LLC
PLATO ROAD SOLAR
KANE COUNTY, IL

TITLE: **FENCE DETAILS**

DRAWN BY: E. ALEXANDER
CHECKED BY: C. CAMERON
APPROVED BY: A.GRAHAM
DATE: AUGUST 2023
PROJ. NO.: 500015.0000.0006

C505

TRC
230 West Monroe St.
Suite 1840
Chicago, IL 60606
Phone: 312.578.0870

FILE NO.: 500015.0000.0006 C505 Fencing Details.dwg

NOT FOR CONSTRUCTION

VM4
E:942542.2025
N:1948520.4966

VM4
TYPE B

VM4
E:942542.2025
N:1947630.5621

VM4
E:942247.0010
N:1948520.4966

VM3
E:942117.4127
N:1949133.9702

VM3
TYPE A

VM3
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N:1949133.9702

VM2
E:941753.3272
N:1949113.4702

VM2
E:941753.3272
N:1949036.1546

VM2
TYPE A

VM2
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N:1949036.1546

VM1
E:942057.6873
N:1947616.8547

VM1
E:941959.9791
N:1947616.8547

VM1
E:941959.9791
N:1947534.0391

VM1
TYPE A

VM1
E:941352.3686
N:1947534.0391

VM1
E:941222.7180
N:1947744.6184

WET MEADOW SEED MIX TO BE SOWN WITHIN THE WET AREAS AND DRAINAGE SWALES (TYP.)

SOLAR FARM SEED MIX TO BE SOWN INSIDE THE PERIMETER FENCE AREA (TYP.)

NOT FOR CONSTRUCTION

LEGEND

- PROPERTY LINE
- SECTION LINE
- PROPOSED FENCE
- EXISTING FENCE
- SETBACK
- WETLAND SETBACK
- OH LINES
- MV CABLE
- STORM SEWER
- EXISTING TREELINE
- SILT FENCE
- PSS WETLAND
- PEM WETLAND
- PEM/PSS MOSAIC WETLAND
- ATI 78 MODULE TRACKER ROW
- ATI 52 MODULE TRACKER ROW
- POWER STATION - (1) MV TRANSFORMER, (1) DAS, (1) WEATHER STATION
- ACCESS GRAVEL ROAD
- DEPRESSIONAL AREAS WITH STANDING WATER POTENTIAL
- TYPE A - VISUAL MITIGATION (VM) PLANTINGS
- TYPE B - VISUAL MITIGATION (VM) PLANTINGS

NOTES

1. SEE LANDSCAPE DETAILS SHEETS L101 AND L102 FOR PLANTING AND SEEDING NOTES, LANDSCAPE DETAILS, PLANTING SCHEDULES, AND COORDINATE TABLES.

0 120 240 360 480
SCALE IN FEET

SEAL:

LICENSED PROFESSIONAL ENGINEER
ANDREW B. GRAHAM
062.048682
STATE OF ILLINOIS

2023.08.07 13:01:45-05'00'

PROFESSIONAL ENGINEER:
ANDREW B. GRAHAM
062048682

EXPIRATION DATE:
11/30/23

TRC ENVIRONMENTAL CORP.
DESIGN FIRM LIC. # 18400496-0002

NO.	BY	DATE	REVISION	APP'D.
1	CC	08/02/2023	ISSUED FOR PERMIT	ABG

PROJECT:
PERMIT PLAN SET
RPIL SOLAR 8, LLC
PLATO ROAD SOLAR
KANE COUNTY, IL

TITLE:
LANDSCAPE PLAN

DRAWN BY:	G. TURNER	PROJ. NO.:	500015.0000.0006
CHECKED BY:	C. CAMERON		
APPROVED BY:	A.GRAHAM		**L100**
DATE:	AUGUST 2023		

TRC
230 West Monroe St.
Suite1840
Chicago, IL 60606
Phone: 312.578.0870

FILE NO.: 500015.0000.0006 L100 Land Plan.dwg

GENERAL LANDSCAPE AND SEEDING NOTES

1. THE LANDSCAPE PLAN AND DETAILS ARE FOR LANDSCAPING INFORMATION ONLY. PLEASE REFER TO THE SITE LAYOUT PLAN, GRADING PLAN AND/OR UTILITIES PLAN FOR ALL OTHER INFORMATION.

2. THE CONTRACTOR SHALL MONITOR AND GUARANTEE THAT ALL PLANTS, TREES, AND SHRUBS SHALL BE HEALTHY AND FREE OF DISEASE FOR A PERIOD OF (1) ONE YEAR AFTER SUBSTANTIAL COMPLETION AND ACCEPTANCE BY THE OWNER. CONTRACTOR SHALL REPLACE ANY DEAD OR UNHEALTHY PLANTS AT CONTRACTOR'S EXPENSE. FINAL ACCEPTANCE SHALL BE MADE IF ALL PLANTS MEET THE GUARANTEE REQUIREMENTS INCLUDING MAINTENANCE. MAINTENANCE RESPONSIBILITIES INCLUDE INVASIVE SPECIES MONITORING, REMOVAL, AND SUPPLEMENTATION. MONITORING OF THE PROJECT SITE SHALL OCCUR IN THE SPRING AND THE FALL TO DETERMINE THE PRESENCE OF INVASIVE SPECIES. SHOULD ANY INVASIVE SPECIES BE IDENTIFIED WITHIN THE PROJECT SITE, THE INVASIVE SPECIES SHALL BE REMOVED ACCORDING TO METHODS MOST LIKELY TO BE EFFECTIVE IN CONTROLLING THAT SPECIES AND SUPPLEMENTING ITS REPLACEMENT WITH APPROPRIATE VEGETATION AND SEED MIX IDENTIFIED (AND APPROVED) ON THIS PLAN AND/OR AN APPROVED EQUAL. ADDITIONAL MAINTENANCE RESPONSIBILITIES INCLUDE: APPROVED CULTIVATING, SPRAYING, WEEDING, WATERING, TIGHTENING OF TREE STRAP GUYS, PRUNING, FERTILIZING, MULCHING, AND ANY OTHER OPERATIONS NECESSARY TO MAINTAIN PLANT VIABILITY. MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER PLANTING AND CONTINUE UNTIL 90 DAYS AFTER FINAL ACCEPTANCE.

3. THE CONTRACTOR SHALL SUPPLY ALL LABOR, PLANTS, APPROVED SEEDING MIX, AND MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE WORK SHOWN ON THE DRAWING(S) AND LISTED IN THE PLANT SCHEDULE(S) AND/OR SEEDING TABLE(S). IN THE EVENT OF A DISCREPANCY BETWEEN QUANTITIES SHOWN IN THE PLANT SCHEDULE AND/OR SEEDING TABLE AND THOSE REQUIRED BY THE DRAWINGS, THE LARGER SHALL APPLY. ALL PLANTS SHALL BE ACCLIMATED BY THE SUPPLY NURSERY TO THE LOCAL HARDINESS ZONE AND BE CERTIFIED THAT THE PLANTING MATERIAL HAS BEEN GROWN FOR A MINIMUM OF (2) TWO YEARS AT THE SOURCE AND OBTAINED WITHIN 200 MILES OF PROJECT SITE UNLESS OTHERWISE APPROVED BY OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT.

4. THE LOCATIONS FOR PLANT MATERIAL ARE APPROXIMATE AND ARE SUBJECT TO FIELD ADJUSTMENT DUE TO SLOPE, VEGETATION, AND SITE FACTORS SUCH AS THE LOCATION OF ROCK OUTCROPS. PRIOR TO PLANTING THE CONTRACTOR SHALL ACCURATELY STAKE OUT THE LOCATIONS FOR ALL PLANTS. THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT SHALL APPROVE THE FIELD LOCATIONS OR ADJUSTMENTS OF THE PLANT MATERIAL.

5. ALL SHRUB MASSING AREAS SHALL BE MULCHED TO A DEPTH OF 2" WITH SHREDDED HARDWOOD BARK MULCH.

6. NO PLANT SHALL BE PLACED IN THE GROUND BEFORE ROUGH GRADING HAS BEEN COMPLETED AND APPROVED BY THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE CONTRACTOR. STAKING THE LOCATION OF ALL TREES AND SHRUBS SHALL BE COMPLETED PRIOR TO PLANTING FOR APPROVAL BY THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT. STAKING OF THE INSTALLED TREE MUST BE COMPLETED THE SAME DAY AS IT IS INSTALLED. ALL TREES SHALL BE STAKED OR GUYED AS PER THE DETAIL. SEE LANDSCAPING PLAN(S) FOR PLANTING DETAILS.

7. COORDINATE PLANT MATERIAL LOCATIONS WITH SITE UTILITIES. SEE SITE LAYOUT, GRADING AND/OR UTILITY PLANS FOR STORM, SANITARY, GAS, ELECTRIC, TELEPHONE AND WATER LINES. UTILITY LOCATIONS ARE APPROXIMATE. EXERCISE CARE WHEN DIGGING IN AREAS OF POTENTIAL CONFLICT WITH UNDERGROUND OR OVERHEAD UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE DUE TO CONTRACTOR'S NEGLIGENCE AND SHALL REPLACE OR REPAIR ANY DAMAGE AT CONTRACTOR'S EXPENSE.

8. LANDSCAPE PLANTING PITS MUST BE FREE DRAINING. PAVEMENT, COMPACTED SUBGRADE, AND BLASTED ROCK SHALL BE REMOVED TO A DEPTH OF 2' OR TO A GREATER DEPTH IF REQUIRED BY PLANTING DETAILS OR SPECIFICATIONS. REPLACE SOIL WITH MODERATELY COMPACTED LOAM OR SANDY LOAM FREE FROM STONES AND RUBBISH 1" OR GREATER IN DIAMETER AND ANY OTHER MATERIAL HARMFUL TO PLANT GROWTH AND DEVELOPMENT. PLANTING INSTALLATION SHALL BE AS DETAILED AND CONTAIN PLANTING MIX AS SPECIFIED UNLESS RECOMMENDED OTHERWISE BY SOIL ANALYSIS.

   PLANTING SOIL MIXTURE:
   2 PARTS PEAT MOSS
   5 PARTS TOPSOIL
   MYCORRHIZA INOCULANT - "TRANSPLANT 1-STEP" AS MANUFACTURED BY ROOTS, INC. OR APPROVED EQUAL. USE PER MANUFACTURER'S RECOMMENDATIONS FOR TREES AND SHRUBS. FERTILIZER/LIME APPLY AS RECOMMENDED BY SOIL ANALYSIS

- TREES, AND SHRUBS: TREES AND SHRUBS SHALL BE NURSERY GROWN UNLESS OTHERWISE NOTED AND HARDY UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCATION OF THE PROJECT. THEY SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY, WITH NORMAL HABIT OF GROWTH. THEY SHALL BE SOUND, HEALTHY, VIGOROUS, WELL-BRANCHED AND DENSELY FOLIATED WHEN IN LEAF. THEY SHALL BE FREE OF DISEASE, INSECT PESTS, EGGS OR LARVAE. THEY SHALL HAVE HEALTHY AND WELL-DEVELOPED ROOT SYSTEMS. ALL TREES SHALL HAVE STRAIGHT SINGLE TRUNKS WITH THEIR MAIN LEADER INTACT UNLESS OTHERWISE STATED. THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT SHALL ONLY PERMIT SUBSTITUTIONS UPON WRITTEN APPROVAL. THEIR SIZES SHALL CONFORM TO THE MEASUREMENT SPECIFIED ON THE DRAWINGS. PLANTS LARGER THAN SPECIFIED ON THE DRAWINGS MAY BE USED IF APPROVED. THE USE OF SUCH PLANTS SHALL NOT INCREASE THE CONTRACT PRICE. ALL TREES AND SHRUBS SHALL BE MULCHED IN ACCORDANCE WITH THE RESPECTIVE PLANTING DETAIL(S) PROVIDED IN THE LANDSCAPING PLAN.

- ALL PRUNING SHALL CONFORM TO THE TREE CARE INDUSTRY ASSOCIATION (TCIA) ANSI A300 (PART 1) - 2017 PRUNING STANDARDS. PRUNING STANDARDS SHALL RECOGNIZE BUT, ARE NOT LIMITED TO, THE FOLLOWING PRUNING OBJECTIVES: MANAGE RISK, MANAGE HEALTH, DEVELOP STRUCTURE, PROVIDE CLEARANCE, MANAGE SIZE OR SHAPE, IMPROVE AESTHETICS, MANAGE PRODUCTION OF FRUIT, FLOWERS, OR OTHER PRODUCTS, AND/OR MANAGE WILDLIFE HABITAT. DEVELOPING STRUCTURE SHALL IMPROVE BRANCH AND TRUNK ARCHITECTURE, PROMOTE OR SUBORDINATE CERTAIN LEADERS, STEMS, OR BRANCHES; PROMOTE DESIRABLE BRANCH SPACING; PROMOTE OR DISCOURAGE GROWTH IN A PARTICULAR DIRECTION (DIRECTIONAL PRUNING); MINIMIZE FUTURE INTERFERENCE WITH TRAFFIC, LINES OF SIGHT, INFRASTRUCTURE, OR OTHER PLANTS; RESTORE PLANTS FOLLOWING DAMAGE; AND/OR REJUVENATE SHRUBS. PROVIDING CLEARANCE SHALL ENSURE SAFE AND RELIABLE UTILITY SERVICES; MINIMIZE CURRENT INTERFERENCE WITH TRAFFIC, LINES OF SITE, INFRASTRUCTURE, OR OTHER PLANTS; RAISE CROWN(S) FOR MOVEMENT OF TRAFFIC OR LIGHT PENETRATION; ENSURE LINES OF SIGHT OR DESIRED VIEWS; PROVIDE ACCESS TO SITES, BUILDINGS, OR OTHER STRUCTURES; AND/OR COMPLY WITH REGULATIONS.

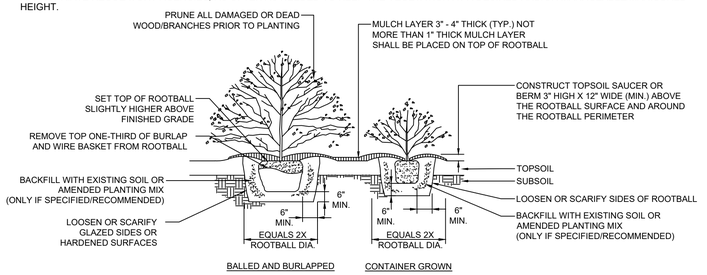
- TOPSOIL SHALL BE INSTALLED AT A MINIMUM DEPTH OF 4 INCHES. CONTRACTOR SHALL SUBMIT TOPSOIL TO A CERTIFIED TESTING LABORATORY TO DETERMINE PH, FERTILITY, ORGANIC CONTENT AND MECHANICAL COMPOSITION. THE CONTRACTOR SHALL SUBMIT THE TEST RESULTS FROM REGIONAL EXTENSION OFFICE OF USDA TO THE OWNER, CERTIFIED LANDSCAPE INSPECTOR, OR LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL. CONTRACTOR SHALL INCORPORATE AMENDMENTS FOR GOOD PLANT GROWTH AND PROPER SOIL ACIDITY RECOMMENDED FROM THE TOPSOIL TEST.

- NO PHOSPHOROUS SHALL BE USED AT PLANTING TIME UNLESS SOIL TESTING HAS BEEN COMPLETED AND TESTED BY A HORTICULTURAL TESTING LAB AND SOIL TESTS SPECIFICALLY INDICATE A PHOSPHOROUS DEFICIENCY THAT IS HARMFUL, OR WILL PREVENT NEW LAWNS/GRASSES AND PLANTINGS FROM ESTABLISHING PROPERLY.

- IF SOIL TESTS INDICATE A PHOSPHOROUS DEFICIENCY THAT WILL IMPACT PLANT AND LAWN ESTABLISHMENT, PHOSPHOROUS SHALL BE APPLIED AT THE MINIMUM RECOMMENDED LEVEL PRESCRIBED IN THE SOIL TEST FOLLOWING ALL APPLICABLE STANDARDS, REQUIREMENTS, AND/OR REGULATIONS.

- ALL SLOPES GREATER THAN 3:1 RECEIVING A WILDFLOWER, WETLAND, AND/OR GRASS SEEDING MIXTURE SHALL BE COVERED WITH AN EROSION CONTROL BLANKET.

- ALL WILDFLOWERS AND GRASSES SOWED SHALL BE ALLOWED TO GROW TO THEIR NATURALLY OCCURRING HEIGHTS WHENEVER POSSIBLE. NATIVE WILDFLOWERS AND/OR GRASSES CAN BE MOWED/MAINTAINED (WITHIN ACCEPTABLE AREAS IDENTIFIED AND/OR APPROVED BY APPROPRIATE REGULATORY AGENCIES) AS OFTEN AS NEEDED TO KEEP THE VEGETATION AT A DESIRED AND/OR MANAGEABLE/MANICURED HEIGHT.



SHRUB PLANTING DETAIL

N.T.S.

NOTE:

- IN AREAS WITH MASS PLANTINGS, CONTINUOUS EXCAVATION AND MULCHING PRACTICES SHALL BE IMPLEMENTED WHENEVER POSSIBLE
- IT IS NOT RECOMMENDED TO AMEND THE EXISTING SOIL BEFORE BACKFILLING THE HOLE UNLESS SOIL CONDITIONS ARE POOR FOR PLANTING.
- WATER THOROUGHLY TO HELP ENSURE THE REMOVAL OF AIR POCKETS.

LEGEND - OVERALL PLANTING TOTALS

LANDSCAPE PLANTING SCHEDULE — VISUAL MITIGATION PLANTING TEMPLATE TYPES A & B

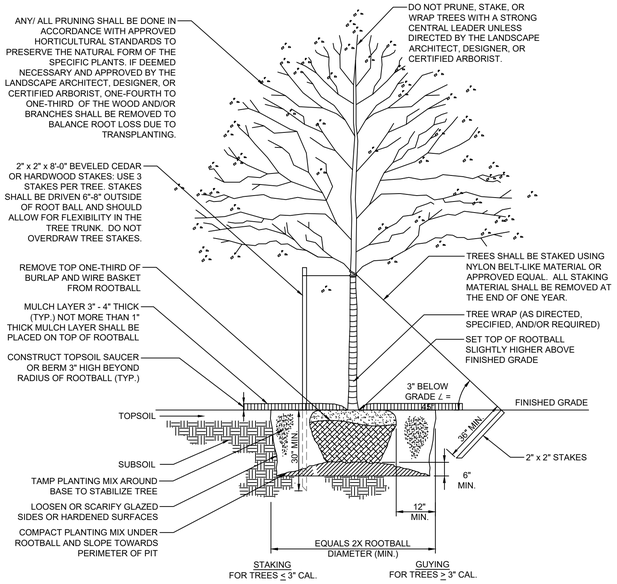
DECIDUOUS AND EVERGREEN TREES

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AA	AMELANCHIER ARBOREA DOWNY SHADBUSH	61	4'-5' HT. CLUMP	B&B	20'-25' HT.
AB	ABIES BALSAMEA BALSAM FIR	20	5'-6' HT.	B&B	40'-60' HT.
CC	CARPINUS CAROLINIANA AMERICAN HORNBEAM	33	1.5" - 2" CAL.	B&B	25'-30' HT.
CF	CORNUS FLORIDA FLOWERING DOGWOOD	28	1.5" - 2" CAL.	B&B	20'-25' HT.
HV	HAMAMELIS VIRGINIANA COMMON WITCH HAZEL	50	3'-4' HT.	B&B	20'-25' HT.
JV	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	48	5'-6' HT.	B&B	40'-50' HT.
PA	PICEA ABIES NORWAY SPRUCE	32	5'-6' HT.	B&B	40'-60' HT.
PG	PICEA GLAUCA WHITE SPRUCE	49	5'-6' HT.	B&B	40'-60' HT.
TO	THUJA OCCIDENTALIS NORTHERN WHITE CEDAR	71	5'-6' HT.	B&B	40'-50' HT.

SHRUBS

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AR	ARONIA ARBUTIFOLIA RED CHOKEBERRY	12	24"-30" HT.	3 / 5 GAL. CONT.	7'-10' HT.
CS	CORNUS SERICEA RED TWIG DOGWOOD	73	24"-30" HT.	3 / 5 GAL. CONT.	7'-9' HT.
IV	ILEX VERTICILLATA COMMON WINTERBERRY	100	24"-30" HT.	3 / 5 GAL. CONT.	10'-12' HT.
VC	VACCINIUM CORYMBOSUM HIGHBUSH BLUEBERRY	7	24"-30" HT.	3 / 5 GAL. CONT.	6'-12' HT.
VP	VIBURNUM PRUNIFOLIUM BLACKHAW VIBURNUM	55	24"-30" HT.	3 / 5 GAL. CONT.	10'-12' HT.
VT	VIBURNUM TRILOBUM AMERICAN CRANBERRY	12	24"-30" HT.	3 / 5 GAL. CONT.	8'-10' HT.

VISUAL MITIGATION PLANT TOTALS



NATIVE/DECIDUOUS TREE PLANTING DETAIL

N.T.S.

NOTES:

- TREE PLANTING SHALL BEAR SAME RELATIONSHIP TO FINISH GRADE AS IT WAS PRE-DUG IN THE NURSERY.
- NEVER CUT THE PRIMARY LEADER.
- IT IS NOT RECOMMENDED TO AMEND THE EXISTING SOIL BEFORE BACKFILLING THE HOLE UNLESS SOIL CONDITIONS ARE POOR FOR PLANTING.
- WATER THOROUGHLY TO HELP ENSURE THE REMOVAL OF AIR POCKETS AND PROPERLY SET THE TREE.

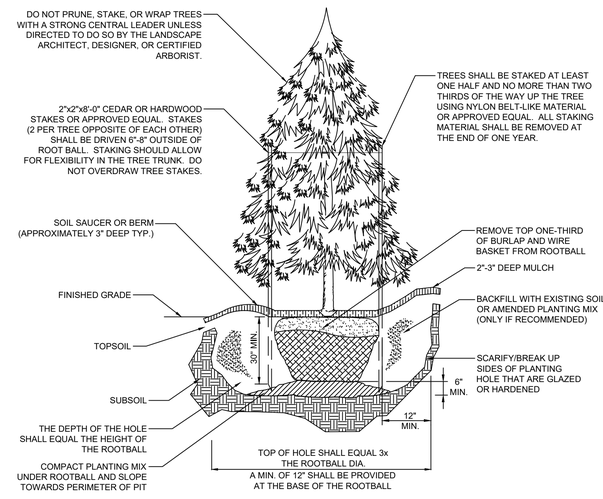
LOW GROWING SOLAR ARRAY MIX SOUTH & WEST

SCIENTIFIC NAME	COMMON NAME	SEEDS/SF	RATE (LBS/AC)	% MIX (BY SF)
COVER				
AVENA SATIVA	OATS	6	20.4200	12.85%
FORB				
ACHILLEA MILLEFOLIUM	COMMON YARROW	0.41	0.01	
ALLIUM STELLATUM	PRAIRIE WILD ONION	0.51	0.12	
ANEMONE CANADESIS	CANADA ANEMONE	0.18	0.06	
ANEMONE CYLINDRICA	LONG-HEADED THIMBLEWEED	0.6	0.06	
ASCLEPIAS SYRIACA	COMMON MILKWEED	0.46	0.30	
ASCLEPIAS VERTICILLATA	WHORLED MILKWEED	0.32	0.08	
ASTRAGALUS CRASSICARPUS	GROUND PLUM	0.36	0.19	
ECHINACEA ANGUSTIFOLIA	NARROW-LEAVED PURPLE CONEFLOWER	0.64	0.25	
EUTHAMIA GRAMINIFOLIA	GRASS LEAVED GOLDENROD	0.8	0.01	
GALIUM BOREALE	NORTHERN BEDSTRAW	0.4	0.02	
LIATRIS ASPERA	ROUGH BLAZING STAR	0.28	0.05	
LOBELIA SPICATA	ROUGH-SPIKED LOBELIA	1.03	0.00	
MONARDA FISTULOSA	WILD BERGAMOT	0.8	0.03	30.83%
PENSTEMON GRANDIFLORUS	LARGE-FLOWERED BEARD TONGUE	0.48	0.09	
PHLOX PILOSA	PRAIRIE PHLOX	0.11	0.02	
POTENTILLA ARGUTA	PRAIRIE CINQUEFOIL	0.53	0.01	
PYCNANTHEMUM VIRGINIANUM	VIRGINIA MOUNTAIN MINT	0.76	0.01	
RATIBIDA COLUMNIFERA	PRAIRIE CONEFLOWER	0.96	0.06	
RUDBECKIA HIRTA	BLACK-EYED SUSAN	1.58	0.05	
SISYRINCHIUM CAMPESTRE	FIELD BLUE EYED GRASS	0.52	0.03	
SOLIDAGO RIGIDA	STIFF GOLDENROD	0.47	0.03	
SOLIDAGO SPECIOSA	SHOWY GOLDENROD	0.55	0.02	
SYMPHYOTRICHUM ERICOIDES	HEATH ASTER	0.46	0.01	
SYMPHYOTRICHUM LAEVE	SMOOTH ASTER	0.63	0.03	
ZIZIA APTERA	HEART-LEAVED ALEXANDERS	0.55	0.12	
GRAMINOID				
BOUTELOUA CURTIPENDULA	SIDE-OATS GRAMA	3.31	1.50	
BOUTELOUA GRACILIS	BLUE GRAMA	4.59	0.31	
KOELERIA MACRANTHA	JUNEGRASS	4.59	0.07	41.90%
SCHIZACHYRIUM SCOPARIUM	LITTLE BLUESTEM	4.13	0.75	
SPOROBOLUS HETEROLEPIS	PRAIRIE DROPSEED	2.94	0.50	
LEGUME				
ASTRAGALUS CANADENSIS	CANADA MILK VETCH	0.78	0.12	
DALEA CANDIDA	WHITE PRAIRIE CLOVER	1.74	0.25	9.83%
DALEA PURPUREA	PURPLE PRAIRIE CLOVER	2.07	0.38	
SEDGE				
CAREX BICKNELLII	BICKNELL'S SEDGE	0.78	0.12	
CAREX BREVIOR	SHORT SEDGE	0.67	0.07	4.58%
CAREX PENSYLVANICA	PENNSYLVANIA SEDGE	0.69	0.06	

NOTE: GRASS SEED MIXES ARE COMPRISED OF GRASSES AND WILDFLOWERS THAT ARE NATIVE AND/OR INDIGENOUS TO THE AREA AND/OR CONSIDERED FAVORABLE FOR WILDLIFE HABITAT AND SUSTAINABLE GROWTH. ADDITIONALLY, THE SOLAR FARM SEED MIX WAS DEVELOPED ESPECIALLY FOR NATIVE GRASS PLANTINGS AROUND SOLAR ARRAY FIELDS AND SHALL BE UTILIZED ACCORDINGLY.

SEED MIXES TO FOLLOW SAMPLE SPECIFICATIONS FOR THE ESTABLISHMENT OF NATIVE VEGETATION AS PART OF HABITAT FRIENDLY SOLAR PROJECTS DEVELOPED BY THE MINNESOTA BOARD OF WATER AND SOIL RESOURCES AND THE MINNESOTA DEPARTMENT OF NATURAL RESOURCES. SEE "PRAIRIE ESTABLISHMENT & MAINTENANCE TECHNICAL GUIDANCE FOR SOLAR PROJECTS" BY THE MINNESOTA DEPARTMENT OF NATURAL RESOURCES, LAST REVISED JULY 2020, FOR FERTILIZER AND PESTICIDE APPLICATION RULES, REGULATIONS AND RESTRICTIONS.

SOLAR FARM SEED MIX



EVERGREEN TREE PLANTING DETAIL

N.T.S.

NOTES:

- TREE PLANTING SHALL BEAR SAME RELATIONSHIP TO FINISH GRADE AS IT WAS PRE-DUG IN THE NURSERY.
- NEVER CUT THE PRIMARY LEADER.
- IT IS NOT RECOMMENDED TO AMEND THE EXISTING SOIL BEFORE BACKFILLING THE HOLE UNLESS SOIL CONDITIONS ARE POOR FOR PLANTING.
- WATER THOROUGHLY TO HELP ENSURE THE REMOVAL OF AIR POCKETS AND PROPERLY SET THE TREE.

NOT FOR CONSTRUCTION

ROUNDSTONE SEED MIX 108: GRASS MEADOW ECONOMY: MEDIUM TO WET SITES

MIX CONCN.	BOTANICAL NAME	COMMON NAME	RATE (LBS/ACRE)	RATE (LBS/1000 FT²)
19.53%	BIG BLUESTEM	ANDROPOGON GERARDII		
27.34%	VIRGINIA WILD RYE	ELYMUS VIRGINICUS		
11.72%	SWITCHGRASS (BLACKWELL)	PANICUM VIRGATUM		
3.91%	DEER TONGUE GRASS	PANICUM CLANDESTINUM		
1.25%	BUTTERFLY MILKWEED	ASCLEPIAS TUBEROSA		
2.47%	BLACKEYED SUSAN	RUDBECKIA HIRTA		
1.86%	OHIO SPIDERWORT	TRADESCANTIA OHIENSIS		
7.85%	WILD SENNA	CASSIA MARILANDICA	12	.275
4.55%	ILLINOIS BUNDLEFLOWER	DESMANTHUS ILLINOENSIS		
6.97%	PURPLE CONEFLOWER	ECHINACEA PURPUREA		
6.60%	FALSE SUNFLOWER	HELIOPSIS HELIANTHOIDES		
0.84%	BERGAMOT	MONARDA FISTULOSA		
0.89%	NEW ENGLAND ASTER	ASTER NOVAE-ANGLIAE		
3.89%	MAXIMILIAN SUNFLOWER	HELIANTHUS MAXIMILIANI		
0.36%	JOE-PYE WEED	EUPATORIUM FISTULOSUM		

NOTE: GRASS SEED MIXES ARE COMPRISED OF GRASSES AND WILDFLOWERS THAT ARE NATIVE AND/OR INDIGENOUS TO THE AREA AND/OR CONSIDERED FAVORABLE FOR WILDLIFE HABITAT AND SUSTAINABLE GROWTH. ADDITIONALLY, THE WET MEADOW SEED MIX WAS DEVELOPED ESPECIALLY FOR NATIVE PLANTINGS WITHIN LOW WET AREAS OF THE SITE, DRAINAGE SWALES, AND DEPRESSIONAL AREAS, AND SHALL BE UTILIZED ACCORDINGLY. THESE PLANTINGS WILL MATURE OUT TO A HEIGHT OF APPROXIMATELY 3 TO 3 1/2 FEET HIGH.

WET MEADOW SEED MIX

SEAL:

LICENSED PROFESSIONAL ENGINEER — ANDREW B. GRAHAM — 062.048682 — STATE OF ILLINOIS

2023.08.07 13:01:45-05'00'

PROFESSIONAL ENGINEER:
ANDREW B. GRAHAM
062048682

EXPIRATION DATE:
11/30/23

TRC ENVIRONMENTAL CORP.
DESIGN FIRM LIC. # 184004960-0002

NO.	BY	DATE	REVISION	APP'D.
1	CC	08/02/2023	ISSUED FOR PERMIT	ABG

PROJECT:
PERMIT PLAN SET
RPIL SOLAR 8, LLC
PLATO ROAD SOLAR
KANE COUNTY, IL

TITLE:
LANDSCAPE DETAILS 1

DRAWN BY:	G. TURNER	PROJ. NO.:	500015.0000.0006
CHECKED BY:	C. CAMERON		**L101**
APPROVED BY:	A.GRAHAM		
DATE:	AUGUST 2023		

TRC
230 West Monroe St.
Suite1840
Chicago, IL 60606
Phone: 312.578.0870

FILE NO.: 500015.0000.0006 L100 Land Plan.dwg

LEGEND

VISUAL MITIGATION PLANTING TEMPLATE - TYPE A
LANDSCAPE PLANTING SCHEDULE (25' PRIMARY VISUAL BUFFER/SCREENING EFFORT)

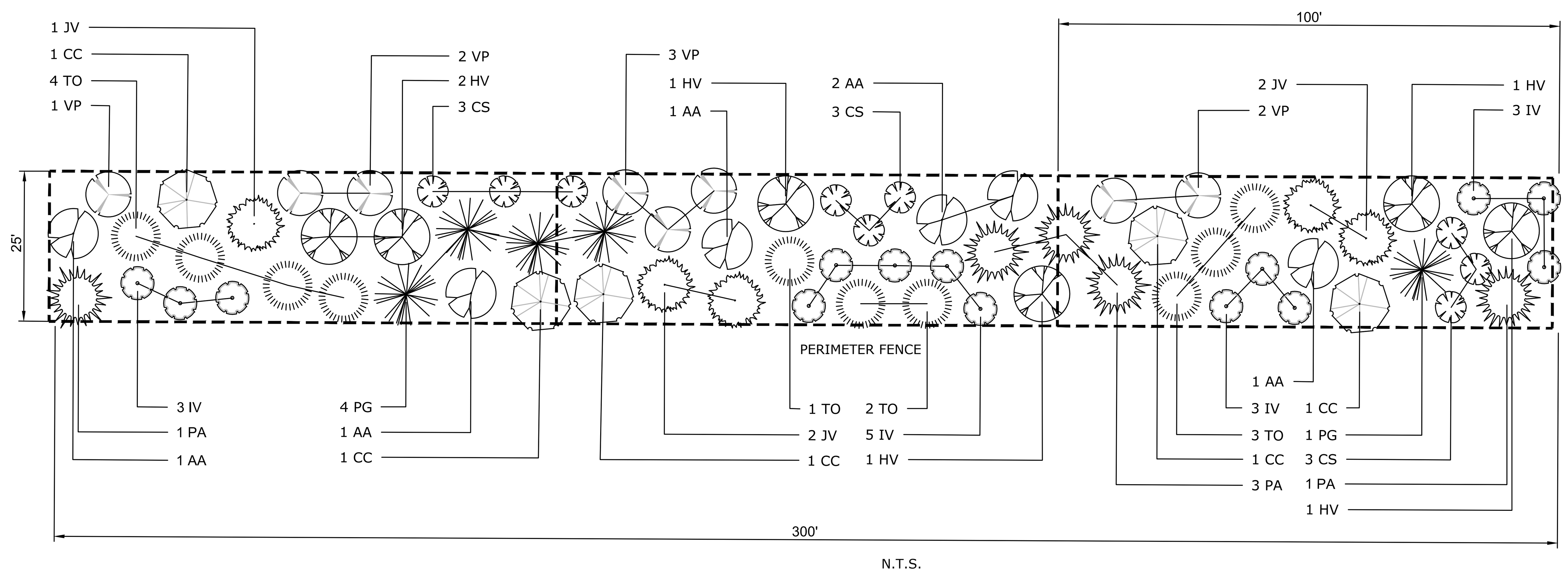
DECIDUOUS AND EVERGREEN TREES

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AA	AMELANCHIER ARBOREA DOWNY SHADBUSH	6	4'-5' HT. CLUMP	B&B	15'-20' HT.
CC	CARPINUS CAROLINIANA AMERICAN HORNBEAM	5	1.5" - 2" CAL.	B&B	25'-30' HT.
HV	HAMAMELIS VIRGINIANA COMMON WITCH HAZEL	6	3'-4' HT.	B&B	20'-25' HT.
JV	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	5	5'-6' HT.	B&B	40'-50' HT.
PA	PICEA ABIES NORWAY SPRUCE	5	5'-6' HT.	B&B	40'-60' HT.
PG	PICEA GLAUCA WHITE SPRUCE	5	5'-6' HT.	B&B	40'-60' HT.
TO	THUJA OCCIDENTALIS NORTHERN WHITE CEDAR	9	5'-6' HT.	B&B	30'-40' HT.

SHRUBS

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
CS	CORNUS SERICEA RED OSIER DOGWOOD	9	24"-30" HT.	3 / 5 GAL. CONT.	7'-9' HT.
IV	ILEX VERTICILLATA COMMON WINTERBERRY	14	24"-30" HT.	3 / 5 GAL. CONT.	10'-12' HT.
VP	VIBURNUM PRUNIFOLIUM BLACKHAW VIBURNUM	8	24"-30" HT.	3 / 5 GAL. CONT.	10'-12' HT.

TYPE A PLANTING SCHEDULE (300 LF TEMPLATE)



VISUAL MITIGATION PLANTING TEMPLATE - TYPE A

VM1 - VEGETATIVE BUFFER / SCREEN MITIGATION TABLE

NUMBER	MITIGATION TYPE	LENGTH	LINE/CHORD DIRECTION	START EASTING, NORTHING	END EASTING, NORTHING
L1	TYPE A	98	N90° 00' 00.00"W	E:942057.6873, N:1947616.8547	E:941959.9791, N:1947616.8547
L2	TYPE A	83	S00° 00' 00.00"E	E:941959.9791, N:1947616.8547	E:941959.9791, N:1947534.0391
L3	TYPE A	608	N90° 00' 00.00"W	E:941959.9791, N:1947534.0391	E:941352.3686, N:1947534.0391
L4	TYPE A	247	N31° 37' 12.05"W	E:941352.3686, N:1947534.0391	E:941222.7180, N:1947744.6184

VM2 - VEGETATIVE BUFFER / SCREEN MITIGATION TABLE

NUMBER	MITIGATION TYPE	LENGTH	LINE/CHORD DIRECTION	START EASTING, NORTHING	END EASTING, NORTHING
L5	TYPE A	547	N90° 00' 00.00"E	E:941206.0140, N:1949036.1546	E:941753.3272, N:1949036.1546
L6	TYPE A	77	N00° 00' 00.00"E	E:941753.3272, N:1949036.1546	E:941753.3272, N:1949113.4702

VM3 - VEGETATIVE BUFFER / SCREEN MITIGATION TABLE

NUMBER	MITIGATION TYPE	LENGTH	LINE/CHORD DIRECTION	START EASTING, NORTHING	END EASTING, NORTHING
L7	TYPE A	305	N90° 00' 00.00"E	E:941811.9145, N:1949133.9702	E:942117.4127, N:1949133.9702

COORDINATE TABLE: VM1, VM2, & VM3

LEGEND

VISUAL MITIGATION PLANTING TEMPLATE - TYPE B
LANDSCAPE PLANTING SCHEDULE (15' SUPPLEMENTAL VISUAL BUFFER/SCREENING EFFORT)

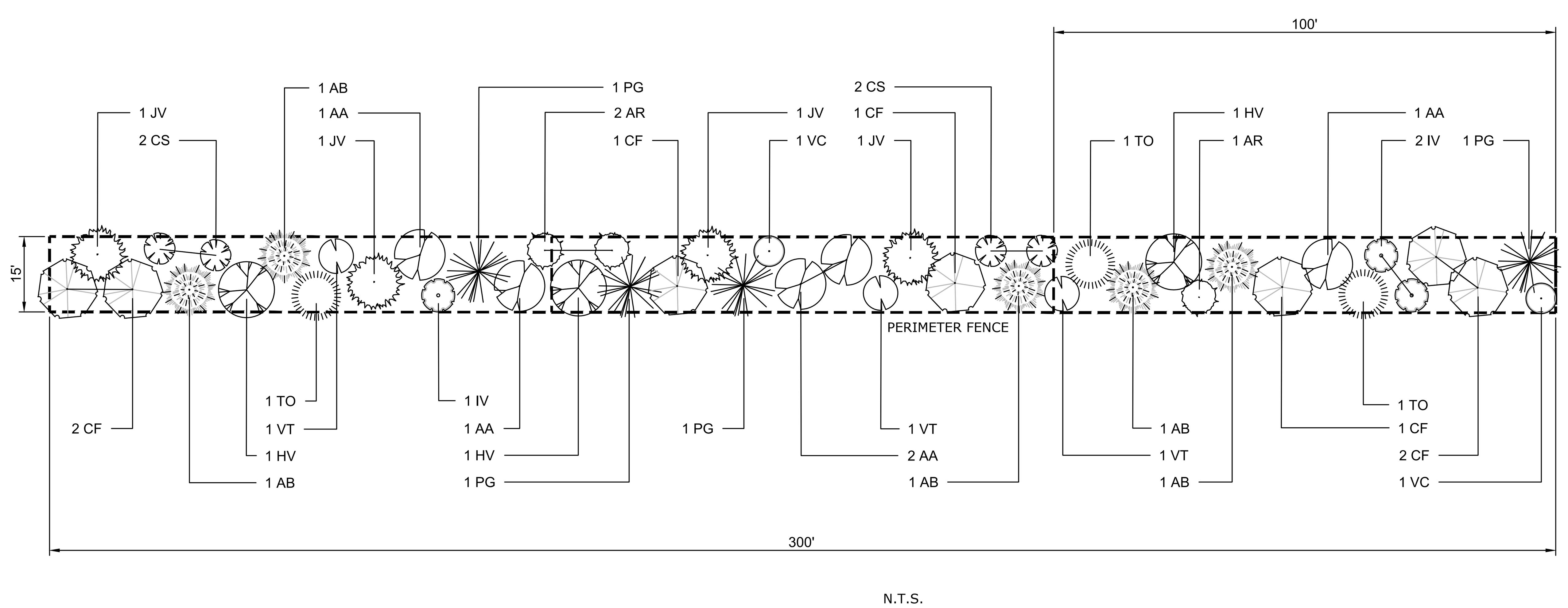
DECIDUOUS AND EVERGREEN TREES

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AA	AMELANCHIER ARBOREA DOWNY SHADBUSH	5	4'-5' HT. CLUMP	B&B	20'-25' HT.
AB	ABIES BALSAMEA BALSAM FIR	5	5'-6' HT.	B&B	40'-60' HT.
CF	CORNUS FLORIDA FLOWERING DOGWOOD	7	1.5" - 2" CAL.	B&B	20'-25' HT.
HV	HAMAMELIS VIRGINIANA COMMON WITCH HAZEL	3	3'-4' HT.	B&B	20'-25' HT.
JV	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	4	5'-6' HT.	B&B	40'-50' HT.
PG	PICEA GLAUCA WHITE SPRUCE	4	5'-6' HT.	B&B	40'-60' HT.
TO	THUJA OCCIDENTALIS NORTHERN WHITE CEDAR	3	5'-6' HT.	B&B	40'-50' HT.

SHRUBS

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AR	ARONIA ARBUTIFOLIA RED CHOKEBERRY	3	24"-30" HT.	3 / 5 GAL. CONT.	7'-10' HT.
CS	CORNUS SERICEA RED TWIG DOGWOOD	4	24"-30" HT.	3 / 5 GAL. CONT.	7'-9' HT.
IV	ILEX VERTICILLATA COMMON WINTERBERRY	3	24"-30" HT.	3 / 5 GAL. CONT.	10'-12' HT.
VC	VACCINIUM CORYMBOSUM HIGHBUSH BLUEBERRY	2	24"-30" HT.	3 / 5 GAL. CONT.	6'-12' HT.
VT	VIBURNUM TRILOBUM AMERICAN CRANBERRY	3	24"-30" HT.	3 / 5 GAL. CONT.	8'-10' HT.

TYPE B PLANTING SCHEDULE (300 LF TEMPLATE)



VISUAL MITIGATION PLANTING TEMPLATE - TYPE B

ADDITIONAL PLANTING NOTES TYPE A & TYPE B:

1. SHRUB AND TREE LOCATIONS SHALL BE STAKED OUT AND APPROVED PRIOR TO PLANTING. SEE DETAIL SHEETS L-101 AND L-102 FOR PLANTING DETAILS, NOTES, AND SCHEDULES FOR EACH LANDSCAPE BUFFER.

2. PLACEMENT OF LANDSCAPE BUFFERS SHALL BE LOCATED AT THE OUTER EDGE OF THE PERIMETER FENCE TO ENHANCE SCREENING EFFORTS AND AVOID SHADING CONCERNS - SOME FIELD ADJUSTMENTS FOR STAKED LOCATIONS WILL BE NECESSARY.

VM4 - VEGETATIVE BUFFER / SCREEN MITIGATION TABLE

NUMBER	MITIGATION TYPE	LENGTH	LINE/CHORD DIRECTION	START EASTING, NORTHING	END EASTING, NORTHING
L8	TYPE B	295	N90° 00' 00.00"E	E:942247.0010, N:1948520.4966	E:942542.2025, N:1948520.4966
L9	TYPE B	890	S00° 00' 00.00"E	E:942542.2025, N:1948520.4966	E:942542.2025, N:1947630.5621

COORDINATE TABLES: VM4

PLANTING SCHEDULES VM1-VM4

LEGEND - VM1

PLANTING TEMPLATE TYPE A
LANDSCAPE PLANTING SCHEDULE
TOTAL MITIGATION LENGTH = 1,035 LF

DECIDUOUS AND EVERGREEN TREES

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AA	AMELANCHIER ARBOREA DOWNY SHADBUSH	21	4'-5' HT. CLUMP	B&B	15'-20' HT.
CC	CARPINUS CAROLINIANA AMERICAN HORNBEAM	18	1.5" - 2" CAL.	B&B	25'-30' HT.
HV	HAMAMELIS VIRGINIANA COMMON WITCH HAZEL	20	3'-4' HT.	B&B	20'-25' HT.
JV	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	17	5'-6' HT.	B&B	40'-50' HT.
PA	PICEA ABIES NORWAY SPRUCE	16	5'-6' HT.	B&B	40'-60' HT.
PG	PICEA GLAUCA WHITE SPRUCE	19	5'-6' HT.	B&B	40'-60' HT.
TO	THUJA OCCIDENTALIS NORTHERN WHITE CEDAR	31	5'-6' HT.	B&B	30'-40' HT.

SHRUBS

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
CS	CORNUS SERICEA RED OSIER DOGWOOD	30	24"-30" HT.	3 / 5 GAL. CONT.	7'-9' HT.
IV	ILEX VERTICILLATA COMMON WINTERBERRY	45	24"-30" HT.	3 / 5 GAL. CONT.	10'-12' HT.
VP	VIBURNUM PRUNIFOLIUM BLACKHAW VIBURNUM	30	24"-30" HT.	3 / 5 GAL. CONT.	10'-12' HT.

LEGEND - VM2

PLANTING TEMPLATE TYPE A
LANDSCAPE PLANTING SCHEDULE
TOTAL MITIGATION LENGTH = 625 LF

DECIDUOUS AND EVERGREEN TREES

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AA	AMELANCHIER ARBOREA DOWNY SHADBUSH	13	4'-5' HT. CLUMP	B&B	15'-20' HT.
CC	CARPINUS CAROLINIANA AMERICAN HORNBEAM	10	1.5" - 2" CAL.	B&B	25'-30' HT.
HV	HAMAMELIS VIRGINIANA COMMON WITCH HAZEL	12	3'-4' HT.	B&B	20'-25' HT.
JV	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	10	5'-6' HT.	B&B	40'-50' HT.
PA	PICEA ABIES NORWAY SPRUCE	11	5'-6' HT.	B&B	40'-60' HT.
PG	PICEA GLAUCA WHITE SPRUCE	10	5'-6' HT.	B&B	40'-60' HT.
TO	THUJA OCCIDENTALIS NORTHERN WHITE CEDAR	19	5'-6' HT.	B&B	30'-40' HT.

SHRUBS

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
CS	CORNUS SERICEA RED OSIER DOGWOOD	18	24"-30" HT.	3 / 5 GAL. CONT.	7'-9' HT.
IV	ILEX VERTICILLATA COMMON WINTERBERRY	29	24"-30" HT.	3 / 5 GAL. CONT.	10'-12' HT.
VP	VIBURNUM PRUNIFOLIUM BLACKHAW VIBURNUM	17	24"-30" HT.	3 / 5 GAL. CONT.	10'-12' HT.

LEGEND - VM3

PLANTING TEMPLATE TYPE A
LANDSCAPE PLANTING SCHEDULE
TOTAL MITIGATION LENGTH = 305 LF

DECIDUOUS AND EVERGREEN TREES

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AA	AMELANCHIER ARBOREA DOWNY SHADBUSH	7	4'-5' HT. CLUMP	B&B	15'-20' HT.
CC	CARPINUS CAROLINIANA AMERICAN HORNBEAM	5	1.5" - 2" CAL.	B&B	25'-30' HT.
HV	HAMAMELIS VIRGINIANA COMMON WITCH HAZEL	6	3'-4' HT.	B&B	20'-25' HT.
JV	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	5	5'-6' HT.	B&B	40'-50' HT.
PA	PICEA ABIES NORWAY SPRUCE	5	5'-6' HT.	B&B	40'-60' HT.
PG	PICEA GLAUCA WHITE SPRUCE	5	5'-6' HT.	B&B	40'-60' HT.
TO	THUJA OCCIDENTALIS NORTHERN WHITE CEDAR	9	5'-6' HT.	B&B	30'-40' HT.

SHRUBS

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
CS	CORNUS SERICEA RED OSIER DOGWOOD	9	24"-30" HT.	3 / 5 GAL. CONT.	7'-9' HT.
IV	ILEX VERTICILLATA COMMON WINTERBERRY	14	24"-30" HT.	3 / 5 GAL. CONT.	10'-12' HT.
VP	VIBURNUM PRUNIFOLIUM BLACKHAW VIBURNUM	8	24"-30" HT.	3 / 5 GAL. CONT.	10'-12' HT.

LEGEND - VM4

PLANTING TEMPLATE TYPE B
LANDSCAPE PLANTING SCHEDULE
TOTAL MITIGATION LENGTH = 1,185 LF

DECIDUOUS AND EVERGREEN TREES

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AA	AMELANCHIER ARBOREA DOWNY SHADBUSH	20	4'-5' HT. CLUMP	B&B	20'-25' HT.
AB	ABIES BALSAMEA BALSAM FIR	20	5'-6' HT.	B&B	40'-60' HT.
CF	CORNUS FLORIDA FLOWERING DOGWOOD	28	1.5" - 2" CAL.	B&B	20'-25' HT.
HV	HAMAMELIS VIRGINIANA COMMON WITCH HAZEL	12	3'-4' HT.	B&B	20'-25' HT.
JV	JUNIPERUS VIRGINIANA EASTERN RED CEDAR	16	5'-6' HT.	B&B	40'-50' HT.
PG	PICEA GLAUCA WHITE SPRUCE	15	5'-6' HT.	B&B	40'-60' HT.
TO	THUJA OCCIDENTALIS NORTHERN WHITE CEDAR	12	5'-6' HT.	B&B	40'-50' HT.

SHRUBS

SYMBOL	BOTANICAL NAME/ COMMON PLANT NAME	QUANTITY	SIZE	ROOT	MATURE HEIGHT
AR	ARONIA ARBUTIFOLIA RED CHOKEBERRY	12	24"-30" HT.	3 / 5 GAL. CONT.	7'-10' HT.
CS	CORNUS SERICEA RED TWIG DOGWOOD	16	24"-30" HT.	3 / 5 GAL. CONT.	7'-9' HT.
IV	ILEX VERTICILLATA COMMON WINTERBERRY	12	24"-30" HT.	3 / 5 GAL. CONT.	10'-12' HT.
VC	VACCINIUM CORYMBOSUM HIGHBUSH BLUEBERRY	7	24"-30" HT.	3 / 5 GAL. CONT.	6'-12' HT.
VT	VIBURNUM TRILOBUM AMERICAN CRANBERRY	12	24"-30" HT.	3 / 5 GAL. CONT.	8'-10' HT.

NOT FOR CONSTRUCTION

SEAL:

LICENSED PROFESSIONAL ENGINEER
ANDREW B. GRAHAM
062.048682
STATE OF ILLINOIS
2023.08.07 13:01:45-05'00'

PROFESSIONAL ENGINEER:
ANDREW B. GRAHAM
062048682

EXPIRATION DATE:
11/30/23

TRC ENVIRONMENTAL CORP.
DESIGN FIRM LIC. # 18400496-0002

NO.	BY	DATE	REVISION	APP'D.
1	CC	08/02/2023	ISSUED FOR PERMIT	ABG

PROJECT: PERMIT PLAN SET
RPIL SOLAR 8, LLC
PLATO ROAD SOLAR
KANE COUNTY, IL

TITLE: LANDSCAPE DETAILS 2

DRAWN BY:	G. TURNER	PROJ. NO.:	500015.0000.0006
CHECKED BY:	C. CAMERON		L102
APPROVED BY:	A.GRAHAM		
DATE:	AUGUST 2023		

TRC
230 West Monroe St.
Suite1840
Chicago, IL 60606
Phone: 312.578.0870

FILE NO.: 500015.0000.0006 L100 Land Plan.dwg

22x34 --- USER: AGraham --- ATTACHED XREF'S: EX-SURFACE; EX-SURVEY; PR-PV LAYOUT; PR-LA BASE; PR-LA TEMPLATE --- ATTACHED IMAGES:
DRAWING NAME: C:\Users\agraham\projectwise\env\d1591551\ 500015.0000.0006 L100 Land Plan.dwg --- PLOT DATE: August 04, 2023 - 5:18PM --- LAYOUT: L102
Version: 2017-10-21

230 W. Monroe Street, Suite 1840
Chicago, IL 60606

T 630.370.0017
TRCcompanies.com

Legal Description

Legal Description

PARCEL 1:
THAT PART OF THE SOUTHWEST 1/4 OF SECTION 19, TOWNSHIP 41 NORTH, RANGE 7 EAST OF THE THIRD PRINCIPAL MERIDIAN AND PART OF THE SOUTHEAST 1/4 OF SECTION 24, TOWNSHIP 41 NORTH, RANGE 6 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF SAID SOUTHWEST 1/4 OF SECTION 19; THENCE SOUTH 00 DEGREES, 01 MINUTES, 55 SECONDS WEST ALONG THE WEST LINE THEREOF, ALSO BEING THE LINE BETWEEN RANGE 6 AND 7 AFORESAID, 98.92 FEET TO THE NORTHEAST CORNER OF SAID SOUTHEAST 1/4 OF SECTION 24; THENCE NORTH 89 DEGREES, 45 MINUTES, 41 SECONDS WEST ALONG THE NORTH LINE OF SAID SOUTHEAST 1/4, 186.5 FEET; THENCE SOUTH 00 DEGREES, 02 MINUTES, 27 SECONDS WEST 379.29 FEET TO A LINE PARALLEL TO THE NORTH LINE OF SAID SOUTHEAST 1/4; THENCE NORTH 89 DEGREES, 45 MINUTES, 41 SECONDS WEST ALONG SAID PARALLEL LINE, 574.27 FEET; THENCE SOUTH 00 DEGREES, 02 MINUTES, 27 SECONDS WEST 489.88 FEET; THENCE SOUTH 89 DEGREES, 54 MINUTES, 50 SECONDS EAST 995.57 FEET TO A LINE 1325.0 FEET WEST OF AND PARALLEL TO THE EAST LINE OF THE SOUTHWEST 1/4 OF SECTION 19 AFORESAID; THENCE NORTH 00 DEGREES, 03 MINUTES, 20 SECONDS WEST ALONG SAID PARALLEL LINE 966.10 FEET TO THE NORTH LINE OF SAID SOUTHWEST 1/4; THENCE SOUTH 89 DEGREES, 54 MINUTES, 50 SECONDS WEST ALONG SAID NORTH LINE, 233.18 FEET TO THE POINT OF BEGINNING, IN BURLINGTON AND PLATO TOWNSHIPS, KANE COUNTY, ILLINOIS;

EXCEPTING THEREFROM THAT PART OF THE SOUTHWEST 1/4 OF SECTION 19, TOWNSHIP 41 NORTH, RANGE 7 EAST OF THE THIRD PRINCIPAL MERIDIAN AND PART OF THE SOUTHEAST 1/4 OF SECTION 24, TOWNSHIP 41 NORTH, RANGE 6 EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF SAID SOUTHWEST 1/4 OF SECTION 19; THENCE SOUTHERLY ALONG THE LINE OF RANGE 6 AND 7 AFORESAID, FOR A DISTANCE OF 99.13 FEET TO THE NORTHEAST CORNER OF SAID SOUTHEAST 1/4 OF SAID SECTION 24; THENCE WESTERLY ALONG THE NORTH LINE OF SAID SOUTHEAST 1/4 FOR A DISTANCE OF 186.73 FEET TO THE EAST PROPERTY LINE OF THE UNION NATIONAL BANK AND TRUST COMPANY OF JOLIET, TRUST NO. 1379; THENCE SOUTHERLY ALONG SAID EAST PROPERTY LINE FOR A DISTANCE OF 30.18 FEET TO A POINT THAT IS 60 FEET SOUTHERLY OF THE CENTER LINE OF PLATO ROAD (MEASURED AT RIGHT ANGLES THERETO); THENCE NORTHEASTERLY ALONG A CONTINUATION OF A CURVE TO THE LEFT HAVING A RADIUS OF 5789.59 FEET AND WHOSE TANGENT AT THE LAST DESCRIBED POINT MAKES AN ANGLE OF 95 DEGREES 49 MINUTES 5 SECONDS WITH THE PROLONGATION OF LAST DESCRIBED COURSE (MEASURED COUNTERCLOCKWISE THEREFROM) FOR A DISTANCE OF 17.52 FEET; THENCE NORTHEASTERLY TANGENT TO THE LAST DESCRIBED COURSE AT THE LAST DESCRIBED POINT AND PARALLEL TO AND 60 FEET SOUTH OF THE CENTERLINE OF PLATO ROAD FOR A DISTANCE OF 352.14 FEET; THENCE NORTHEASTERLY ALONG A CURVE TO THE RIGHT HAVING A RADIUS OF 5669.56 FEET FOR A DISTANCE OF 51.91 FEET TO A POINT ON THE WEST PROPERTY LINE OF THE KANE COUNTY BOARD OF SCHOOL TRUSTEES, KANE COUNTY, SAID POINT BEING 60 FEET SOUTHEASTERLY OF THE CENTERLINE OF PLATO ROAD (MEASURED AT RIGHT ANGLES THERETO); THENCE NORTHERLY ALONG SAID WEST PROPERTY LINE WHICH MAKES AN ANGLE OF 84 DEGREES 27 MINUTES 23 SECONDS WITH THE TANGENT TO THE CURVE AT THE LAST DESCRIBED POINT (MEASURED COUNTERCLOCKWISE THEREFROM) FOR A DISTANCE OF 85.28 FEET TO THE NORTH LINE OF SAID SOUTHWEST 1/4; THENCE WESTERLY ALONG SAID NORTH LINE 232.80 FEET (MEASURED) 233.18 FEET (RECORDED) TO THE POINT OF BEGINNING, IN BURLINGTON AND PLATO TOWNSHIP, KANE COUNTY, ILLINOIS.

PARCEL 2:
THAT PART OF THE FOLLOWING DESCRIBED PROPERTY FALLING WITHIN SECTIONS 19 AND 24: THAT PART OF THE NORTHWEST QUARTER OF SECTION 30, TOWNSHIP 41 NORTH, RANGE 7 EAST OF THE THIRD PRINCIPAL MERIDIAN AND THAT PART OF THE SOUTHWEST QUARTER OF SECTION 19, TOWNSHIP 41 NORTH, RANGE 7 EAST OF THE THIRD PRINCIPAL MERIDIAN AND THAT PART OF THE SOUTHEAST QUARTER OF SECTION 24, TOWNSHIP 41 NORTH, RANGE 6

EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHWEST CORNER OF SAID SOUTHWEST QUARTER OF SECTION 19; THENCE SOUTH 0 DEGREES 01 MINUTES 55 SECONDS WEST ALONG THE WEST LINE THEREOF, ALSO BEING THE LINE BETWEEN RANGE 6 AND 7 AFORESAID 98.92 FEET TO THE NORTHEAST CORNER OF SAID SOUTHEAST QUARTER OF SECTION 24; THENCE NORTH 89 DEGREES 45 MINUTES 41 SECONDS WEST ALONG THE NORTH LINE OF SAID SOUTHEAST QUARTER, 186.51 FEET; THENCE SOUTH 0 DEGREES 02 MINUTES 27 SECONDS WEST 379.29 FEET TO A LINE PARALLEL WITH THE NORTH LINE OF SAID SOUTHEAST QUARTER; THENCE NORTH 89 DEGREES 45 MINUTES 41 SECONDS WEST ALONG SAID PARALLEL LINE, 574.27 FEET; THENCE SOUTH 0 DEGREES 02 MINUTES 37 SECONDS WEST 489.88 FEET FOR THE POINT OF BEGINNING; THENCE SOUTH 89 DEGREES 54 MINUTES 50 SECONDS EAST AND PARALLEL TO THE NORTH LINE OF SAID SOUTHWEST QUARTER OF SECTION 19, A DISTANCE OF 995.57 FEET; THENCE SOUTH 0 DEGREES 03 MINUTES 20 SECONDS EAST AND PARALLEL TO THE EAST LINE OF SAID SOUTHWEST QUARTER 23.92 FEET; THENCE SOUTH 89 DEGREES 54 MINUTES 50 SECONDS EAST AND PARALLEL TO THE NORTH LINE OF SAID SOUTHWEST QUARTER, 1325.07 FEET TO THE EAST LINE THEREOF; THENCE 0 DEGREES 03 MINUTES 20 SECONDS EAST ALONG SAID EAST LINE 1648.84 FEET TO THE SOUTHEAST CORNER OF SAID SOUTHWEST QUARTER; THENCE SOUTH 89 DEGREES 59 MINUTES 59 SECONDS WEST ALONG THE SOUTH LINE THEREOF 749.15 FEET: THENCE SOUTH 0 DEGREES 02 MINUTES 17 SECONDS WEST 10.75 FEET TO THE CENTER LINE OF ELLIATHORRE ROAD; THENCE SOUTH 84 DEGREES 36 MINUTES 46 SECONDS WEST ALONG SAID CENTER LINE 339.90 FEET; THENCE NORTH 0 DEGREES 18 MINUTES 06 SECONDS WEST 664.09 FEET; THENCE SOUTH 86 DEGREES 03 MINUTES 36 SECONDS WEST 317.63 FEET; THENCE SOUTH 69 DEGREES 07 MINUTES 47 SECONDS WEST 732.57 FEET TO THE CENTER LINE OF BURLINGTON ROAD; THENCE NORTH 31 DEGREES 12 MINUTES 2 SECONDS WEST 444.89 FEET TO A POINT WHICH BEARS SOUTH 0 DEGREES 2 MINUTES 27 SECONDS WEST FROM THE POINT OF BEGINNING; THENCE NORTH 0 DEGREES 2 MINUTES 2 SECONDS EAST 957.12 FEET TO THE POINT OF BEGINNING, IN BURLINGTON AND PLATO TOWNSHIPS, KANE COUNTY, ILLINOIS;

EXCEPTING THEREFROM THAT PART OF THE SOUTHEAST QUARTER OF SECTION 24, TOWNSHIP 41 NORTH, RANGE 6 EAST OF THE THIRD PRINCIPAL MERIDIAN, KANE COUNTY, ILLINOIS DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF SAID SOUTHEAST QUARTER; THENCE ON AN ASSUMED BEARING OF SOUTH 89 DEGREES 44 MINUTES 36 SECONDS WEST, ALONG THE SOUTH LINE OF SAID SOUTHEAST QUARTER 268.03 TO A POINT ON THE CENTER LINE OF BURLINGTON ROAD (COUNTY HIGHWAY NUMBER 2); THENCE NORTH 31 DEGREES 42 MINUTES 42 SECONDS WEST ALONG SAID CENTER LINE, 509.65 FEET TO THE POINT OF BEGINNING; THENCE ON A CONTINUATION OF THE LAST DESCRIBED COURSE, 444.89 FEET TO A POINT ON THE WEST LINE OF THE GRANTOR; THENCE NORTH 00 DEGREES 27 MINUTES 53 SECONDS WEST, ALONG SAID LINE A DISTANCE OF 115.67 FEET; THENCE SOUTH 31 DEGREES 42 MINUTES 42 SECONDS EAST, PARALLEL TO SAID CENTER LINE 554.73 FEET TO A POINT ON THE SOUTHEAST LINE OF THE GRANTOR; THENCE SOUTH 68 DEGREES 37 MINUTES 27 SECONDS WEST ALONG SAID LINE, 60.99 FEET TO THE POINT OF BEGINNING;

ALSO EXCEPTING THEREFROM THAT PART OF THE LAND FALLING UNDER PIN NUMBERS 05-19-300-016 AND 05-19-300-017.

230 W. Monroe Street, Suite 1840
Chicago, IL 60606

T 630.370.0017
TRCcompanies.com

Kane DuPage SWCD
Land Use Opinion

From: Jeremy Price
To: "contact@kanedupageswcd.org"
Cc: Becky Monreal; Rowley, Anne
Bcc: price.t.jeremy@gmail.com
Subject: FW: RPIL Solar 8, LLC (Plato Road Solar) - Payment Confirmation #: 20000948
Date: Wednesday, August 9, 2023 3:28:00 PM
Attachments: Payment Receipt.pdf
2023.08.09_Plato_Land use opinion application.pdf
image002.png
image001.png

Dear Kane-DuPage Soil and Water Conservation District Team:

Please find RPIL Solar 8 LLC's application and corresponding payment attached here for review and processing. We acknowledge there are a few in the queue already and appreciate the help.

I am able to answer any questions or concerns, thank you.

Sincerely,

Jeremy Price
Project Developer

M: (978) 382 - 1751
jprice@renewprop.com

Land Use Opinion Report (LUO) Application

Kane-DuPage Soil & Water Conservation District

Petitioner: Renewable Properties, LLC
Contact person: Jeremy Price
Address: 44 Montgomery Street - Suite 3150
City, State, Zip: San Francisco, CA, 94111
Phone Number: 978 382 1751
Email: jprice@renewprop.com

Owner: Robert and Linda Matson
Address: Adjacent to: 45W075 Plato Road
City, State, Zip: Hampshire, IL 60140
Phone Number: (610) 944-2821
Email: lbmdane24@gmail.com

Please select: How would you like to receive a copy of the LUO Report? Email ☑ Mail ☐

Site Location
Address: Adjacent to: 45W075 Plato Road
City, State, Zip: Hampshire IL, 60140
Township(s) 41 N Range(s) 6/7 E Section(s) 24/19
Parcel Index Number(s): 04-25-400-024, 028;

Type of Request
☐ Change in Zoning from _____ to_____
☐ Subdivision or Planned Unit Development (PUD)
☐ Variance (Please describe fully on a separate sheet)
☑ Special Use Permit (Please describe on separate sheet)

Site Information
Permitting Unit of Government: Kane County Hearing Date: 9/12/23
Project Name: RPIL Solar 8, LLC Total Acres: 56.33 Aera of Disturbance: 35.84 acres
Current Use of Site: Agricultural Proposed Use: Community Solar Farm

Proposed Improvements (Check all that apply)
☐ Dwellings with Basements ☐ Parking Lots ☐ Commercial Buildings ☐ Common Open Space
☐ Dwellings without Basements ☐ Roads and Streets ☑ Utility Structures ☐ Other Solar Farm

Stormwater Treatment
☐ Drainage Ditches or Swales ☐ Dry Detention Basins ☐ No Detention Facilities Proposed
☐ Storm Sewers ☐ Wet Detention Basins ☑ Other permanent deep-rooted vegetation

Water Supply
☐ Individual Wells
☐ Community Water

Wastewater Treatment
☐ Septic System
☐ Sewers

☑ Other NA

Required: Include One Copy of Each of the Following (Processing will not begin until all items are received)
MAIL TO: 2315 DEAN ST. SUITE 100, ST. CHARLES, IL 60175
☑ **Application** (completed and signed)
☑ **Fee** (according to fee schedule on back)
☑ Make Checks payable to Kane-DuPage Soil and Water Conservation District
☑ **Plat of Survey** showing legal description, legal measurments
☑ **Site Plan/Drawings** showing lots, storm water detention areas, open areas, streets etc.
☑ **Project Narrative** with additional details on the proposed use, including total area of ground disturbance
☑ **Location Map** (if not on maps above) include distances from major roadways or tax parcel numbers
If Available- Not Required:
Any applicable surveys including wetland deliniation, detailed soil survey, topographic survey etc.

I (we) understand the filing of this application allows the authorized representative of the Kane-DuPage Soil and Water Conservation District to visit and conduct an evaluation of the site.

Petitioner or Authorized Agent Anne Rowley/ Engineer / TRC **Date** 08/08/2023

FOR OFFICE USE ONLY

LUO #_____ Natural Resource Review Letter _____ Date Initially rec'd _____ Date all rec'd _____
Date Due _____ Fee Due $_____ Refund Due _____ Check #_____
The opinion will be issued on a nondiscriminatory basis without regard to race, color, religion, sex, age, marital status, handicap, or national origin.
Effective July 1, 2020

Land Use Opinion Report (LUO) Fees

Kane-DuPage Soil & Water Conservation District

FEE AMOUNTS FOR TOTAL ACRES OF PARCEL*: Effective July 1, 2020

¼ acre or less= $100

¼ acre-5 acres or fraction thereof= $475.00

6 acres or fraction thereof = $500.00

ADD $20 for each additional acre or fraction thereof OVER 6

***Please contact KDSWCD for non-contiguous parcels. ***

MAKE CHECKS PAYABLE TO: Kane DuPage Soil and Water Conservation District

□cres	Fee	□cres	Fee	□cres	Fee	□cres	Fee	□cres	Fee	□cres	Fee	□cres	Fee	□cres	Fee	□cres	Fee	□cres	Fee
□	4□5	2□	800	4□	□200	6□	□600	8□	2000	□0□	2400	□2□	2800	□4□	3200	□6□	3600	□8□	4000
2	4□5	22	820	42	□220	62	□620	82	2020	□02	2420	□22	2820	□42	3220	□62	3620	□82	4020
3	4□5	23	840	43	□240	63	□640	83	2040	□03	2440	□23	2840	□43	3240	□63	3640	□83	4040
4	4□5	24	860	44	□260	64	□660	84	2060	□04	2460	□24	2860	□44	3260	□64	3660	□84	4060
5	4□5	25	880	45	□280	65	□680	85	2080	□05	2480	□25	2880	□45	3280	□65	3680	□85	4080
6	500	26	900	46	□300	66	□□00	86	2□00	□06	2500	□26	2900	□46	3300	□66	3□00	□86	4□00
□	520	2□	920	4□	□320	6□	□□20	8□	2□20	□0□	2520	□2□	2920	□4□	3320	□6□	3□20	□8□	4□20
8	540	28	940	48	□340	68	□□40	88	2□40	□08	2540	□28	2940	□48	3340	□68	3□40	□88	4□40
9	560	29	960	49	□360	69	□□60	89	2□60	□09	2560	□29	2960	□49	3360	□69	3□60	□89	4□60
□0	580	30	980	50	□380	□0	□□80	90	2□80	□□0	2580	□30	2980	□50	3380	□□0	3□80	□90	4□80
□□	600	3□	□000	5□	□400	□□	□800	9□	2200	□□□	2600	□3□	3000	□5□	3400	□□□	3800	□9□	4200
□2	620	32	□020	52	□420	□2	□820	92	2220	□□2	2620	□32	3020	□52	3420	□□2	3820	□92	4220
□3	640	33	□040	53	□440	□3	□840	93	2240	□□3	2640	□33	3040	□53	3440	□□3	3840	□93	4240
□4	660	34	□060	54	□460	□4	□860	94	2260	□□4	2660	□34	3060	□54	3460	□□4	3860	□94	4260
□5	680	35	□080	55	□480	□5	□880	95	2280	□□5	2680	□35	3080	□55	3480	□□5	3880	□95	4280
□6	□00	36	□□00	56	□500	□6	□900	96	2300	□□6	2□00	□36	3□00	□56	3500	□□6	3900	□96	4300
□□	□20	3□	□□20	5□	□520	□□	□920	9□	2320	□□□	2□20	□3□	3□20	□5□	3520	□□□	3920	□9□	4320
□8	□40	38	□□40	58	□540	□8	□940	98	2340	□□8	2□40	□38	3□40	□58	3540	□□8	3940	□98	4340
□9	□60	39	□□60	59	□560	□9	□960	99	2360	□□9	2□60	□39	3□60	□59	3560	□□9	3960	□99	4360
20	□80	40	□□80	60	□580	80	□980	□00	2380	□20	2□80	□40	3□80	□60	3580	□80	3980	200	4380

For the convenience of those who must comply with the provisions of the Illinois Soil and Water Conservation District Act, Section 22.02a (Illinois Complied Statues, Chapter 70, Paragraph 405, Section 22.02a), enacted December 3, 1971, effective July 1, 1972, we quote this section:

> "The Soil and Water Conservation District shall make all-natural resource information available to the appropriate county agency or municipality in the promulgation of zoning ordinances or variances. Any person who petitions any municipality or county agency in the district for variation, amendment, or other relief from that municipality's or county's zoning ordinance or who proposes to subdivide vacant or agricultural lands therein shall furnish a copy of such petition or proposal to the Soil and Water Conservation District. The Soil and Water Conservation District shall be given not more than 30 days from the time of receipt of the petition or proposal to issue its written opinion concerning the petition or proposal and submit the same to the appropriate county agency or municipality for further action."

***Fees may be adjusted based on size of disturbance and adjacent natural resources which may be impacted.**

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, CHICAGO DISTRICT
231 SOUTH LA SALLE STREET, SUITE 1500
CHICAGO IL 60604-1437

April 3, 2023

Regulatory Branch (LRC-2023-00176)

SUBJECT: No Permit Required, Plato Road Solar Project, , Kane County, Illinois (Latitude 42.015003, Longitude -88.489156)

Stephanie Loucas
Renewable Properties, LLC
879 Sanchez Street
San Francisco, California 94114

Dear Ms. Loucas:

This is in response to your March 29, 2023 request that the U.S. Army Corps of Engineers issue a jurisdictional determination and no permit required letter for the above-referenced activity. The subject project has been assigned number LRC-2023-00176. Please reference this number in all future correspondence concerning this project.

Following a review of the information you furnished to this office and assuming your project is conducted only as set forth in the plans titled “Plato Road Solar”, dated 02/02/23, prepared by Sequoia Engineering & Design Associates, this office has determined that your proposed activity will not result in a discharge of dredged or fill material into waters of the United States. Therefore, your proposed activity does not require a Department of the Army (DA) permit to complete the proposed work. Please be aware that any unpermitted discharge into an area within the jurisdiction of this office may result in civil or criminal enforcement under the Clean Water Act, 33 U.S.C. 1319.

It is your responsibility to obtain any required state, county, or local approvals for impacts to wetland areas not under the Department of the Army jurisdiction. In Kane County, please note that isolated non-waters of the United States not under the jurisdiction of the U.S. Army Corps of Engineers are regulated by the Kane County Stormwater Ordinance. For projects in incorporated areas of Kane County, contact the certified community for information related to the ordinance. For projects in unincorporated areas of Kane County, contact the Kane County Department of Environmental Management at (630) 208-3179.

This determination is based only on the proposed activity and is not an approved jurisdiction determination for the subject parcel. If you wish to receive an approved jurisdiction determination, or if you have any questions, please contact Mr. Michael J. Machalek of this office by telephone at (312) 846-5534, or email at Mike.J.Machalek@usace.army.mil.

Sincerely,

Michael J Machalek

Michael J. Machalek
Senior Project Manager
Regulatory Branch

Copies Furnished:

Kane County Department of Environmental Management (Jodie Wollnik)
TRC Environmental Corporation (Gio Del Rivero)

Wetland and Waterbody Delineation Report for the Plato Road Solar Project, Kane County, Illinois

AUGUST 2023

PREPARED FOR

RPIL Solar 8, LLC

PREPARED BY

SWCA Environmental Consultants

WETLAND AND WATERBODY DELINEATION REPORT FOR THE PLATO ROAD SOLAR PROJECT, KANE COUNTY, ILLINOIS

Prepared for

RPIL Solar 8, LLC
879 Sanchez Street
San Francisco, California 94114

Prepared by

SWCA Environmental Consultants
200 West 22nd Street, Suite 220
Lombard, Illinois 60148
(630) 599-3022
www.swca.com

SWCA Project No. 74880

September 2022

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1 INTRODUCTION

On behalf of RPIL Solar 8, LLC (RPIL), SWCA Environmental Consultants (SWCA) has prepared this wetland and waterbody delineation report for the Plato Road Solar Project (project) located in unincorporated Kane County, Illinois. The Study Area is approximately 55.26 acres (Figures 1 and 2).

This report provides the methods, results, and conclusions of a wetland and waterbody delineation conducted on August 31, 2022. The objectives of this survey were to identify and evaluate potentially jurisdictional wetlands and other waters within the Study Area that may be subject to U.S. Army Corps of Engineers (USACE) and Kane County jurisdiction under Section 404 of the Clean Water Act and/or county regulations. Fieldwork was performed by Megan O'Loughlin, who is a trained delineator with experience in the Northcentral and Northeast region.

2 METHODOLOGY

In accordance with USACE methodology outlined in the *Corps of Engineers Wetlands Delineation Manual* (1987 Manual) (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Northcentral and Northeast Region* (Regional Supplement) (USACE 2012), wetlands and other waters were identified and approximated through the combined use of existing publicly available baseline data and field delineation as described below.

2.1 Desktop Analysis

The following publicly available data sources were used to complete a desktop analysis of the Study Area to assess the likelihood of wetlands and other waters being present:

- Current and historical aerial imagery
- Federal Emergency Management Agency (FEMA) National Flood Hazard Layer mapping (FEMA 2022)
- National Land Cover Database (Multi-Resolution Land Characteristics Consortium 2019)
- Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2022)
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping (USFWS 2022)
- Kane County Advanced Identification of Wetlands (ADID) (Kane County 2022)
- U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) (USGS 2020)

The results of the desktop analysis were used to identify the likely locations of wetlands and waterbodies for the field delineation.

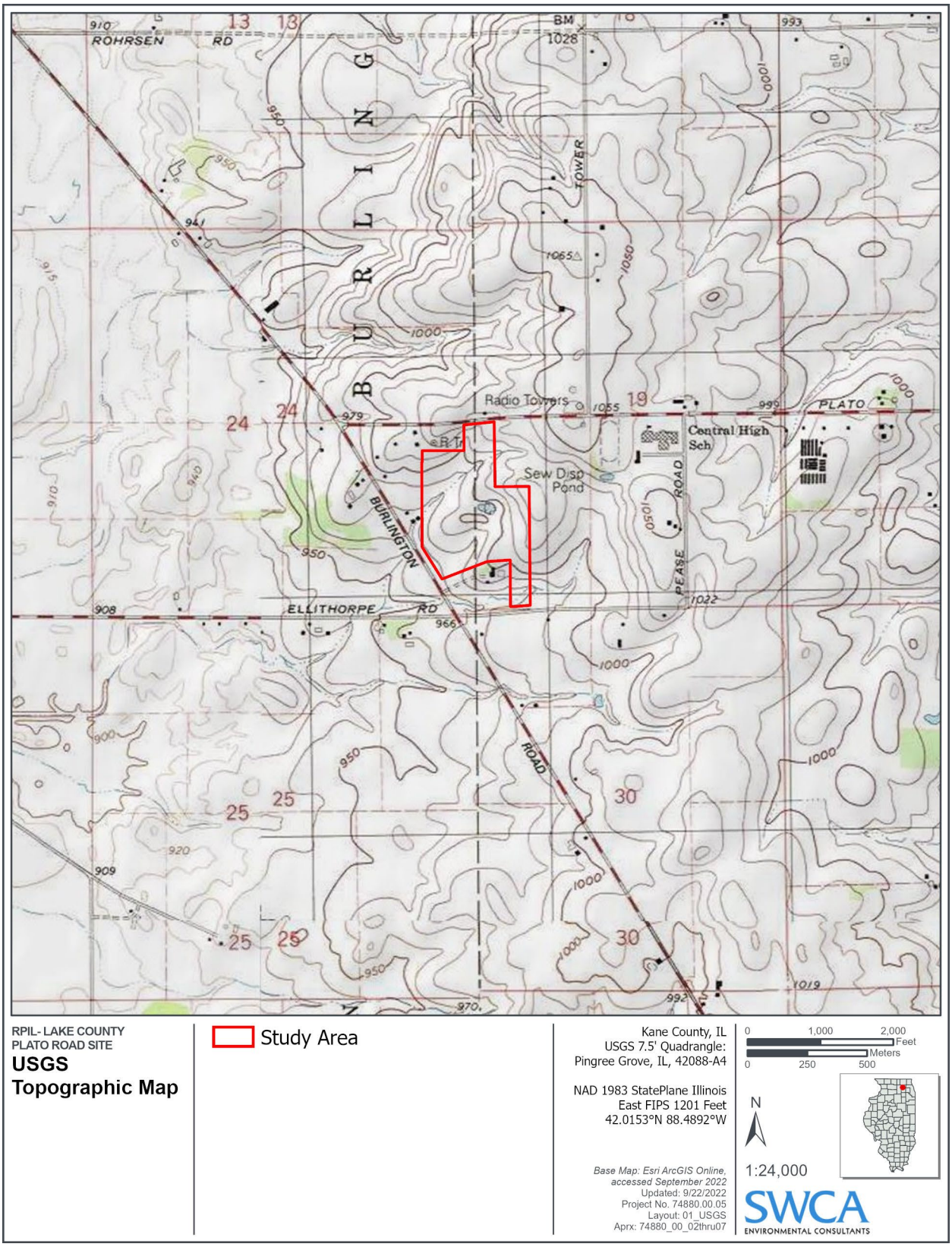

Figure 1. Location map for the Plato Road Solar Project, Kane County, Illinois, 2022.

Figure 2. Aerial location map for the Plato Road Solar Project, Kane County, Illinois, 2022.

2.2 Field Delineation

SWCA conducted a field delineation on August 31, 2022, to determine the presence or absence of wetlands and other waters in accordance with guidance and information available from the following sources:

- 1987 Manual (USACE 1987)
- Regional Supplement (USACE 2012)
- *Field Indicators of Hydric Soils in the United States* (Version 8.2) (NRCS 2018)
- *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in* Rapanos v. United States *and* Carabell v. United States (U.S. Environmental Protection Agency 2008)
- USACE Regulatory Guidance Letter 05-05: Ordinary High Water Mark Identification (USACE 2005)

The presence or absence of wetlands was determined in the field using routine determination methods outlined in the 1987 Manual and Regional Supplement (USACE 1987, 2012). Wetlands were identified by positive indicators of hydrology, hydrophytic vegetation, and hydric soils. Under normal conditions, all three parameters must be present for an area to be considered a wetland in accordance with Section 404 of the Clean Water Act. Wetland indicator data were collected at specified data points within the Study Area, which were used to approximate the wetland boundary and were recorded on USACE Northcentral and Northeast Region wetland determination data forms. Wetland boundaries were recorded using global positioning system (GPS) units capable of submeter accuracy. Wetland boundaries were not flagged.

For each wetland area, a Floristic Quality Assessment was conducted to determine the quality of the plant community and whether any wetlands within the Study Area meet the definition of a high quality aquatic resource according to the 2017 USACE Chicago District Regional Permit Program. Plant species in each wetland were noted to obtain the Floristic Quality Index (FQI) and native mean coefficient of conservatism (C-value). C-values ranging from 0 to 10 were assigned to native plants as listed in *Flora of the Chicago Region* (Wilhelm and Rericha 2017). A native mean C-value was calculated using the Chicago Region Floristic Quality Assessment Calculator to assess native vegetative quality (Herman et al. 2017). A native species FQI was calculated by multiplying the native mean C-value by the square root of the number of observed native species. Native FQI values range from 0 to 60. Wetlands with a FQI of 20 or greater or native mean C-value of 3.5 or greater are considered high quality aquatic resources, which warrant special protection under the 2017 USACE Chicago District Regional Permit Program.

Wetland hydrology was primarily determined in the field by considering the frequency and duration of inundation, visual observation of saturation in the upper 16 inches of the soil profile, and the presence of primary wetland hydrologic indicators (e.g., oxidized rhizospheres on living roots, water-stained leaves, water marks, sediment deposits, or algal matting). Secondary indicators used to determine wetland hydrology include, but are not limited to, surface soil cracks, crayfish burrows, geomorphic position, and drainage patterns. Evidence of these secondary indicators is present even during dry periods, and therefore they are useful indicators of a wetland. If the area sampled displayed one or more primary hydrologic indicators or two or more secondary hydrologic indicators as listed in the 1987 Manual and Regional Supplement, a positive wetland hydrology determination was made (USACE 1987, 2012).

Rainfall has a substantial influence on maintaining wetland hydrology. Therefore, it is important to accurately evaluate the normality of rainfall with respect to its influence on wetland hydrology. This was done by employing the Direct Antecedent Rainfall Evaluation Method (DAREM) (Sprecher and Warne

2000). Using the Applied Climate Information System Wetland Evaluation Tables (WETs) (Applied Climate Information System 2022) as a baseline of normal rainfall, the DAREM method was applied to assess rainfall by considering the 3-month period prior to the month of the field delineation. Evaluation under these methods classified the condition of the site at the time of the delineation as either drier than normal, normal, or wetter than normal.

Vegetation within each sample plot was identified to the species level, when possible, to identify the plant communities present. Hydrophytic vegetation is defined as a plant community with over 50% of the dominant plant species with wetland indicator statuses of as obligate wetland (OBL), facultative wetland (FACW), or facultative (FAC) as recorded in the National Wetland Plant List: Northcentral and Northeast Region (USACE 2020). The appropriate wetland indicator status was assigned to each plant species. The absolute cover of each plant species within the plot area (i.e., 2-meter [m] radius for the herbaceous vegetation stratum, 5-m radius for shrub/vine strata, and 15-m radius for the tree stratum) was visually estimated, and then the absolute percent cover was calculated (e.g., each species may be rated up to 100% and the total can be over 100% cover). Then, either the rapid test (i.e., all dominant species across all strata are OBL or FACW), the dominance test (i.e., 50/20 test; >50% of the total cover represented by plant species combined and including any species >20% of cover by itself, across all strata are rated OBL, FACW, or FAC), or the prevalence index (i.e., average value of wetland indicator statuses [OBL = 1…UPL = 5] of all species in the plot, weighted by percent cover, is less than or equal to 3.0) was used to determine the presence or absence of hydrophytic vegetation.

For each data point recorded, a soil test pit was dug to determine the presence or absence of hydric soil conditions. As defined by the National Technical Committee of Hydric Soils, a hydric soil is a "soil that formed under the conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part" (NRCS 2015). Common indicators for non-sandy soils as per the USACE's manuals (USACE 1987, 2012) include the presence of organic soils, histic epipedon, hydrogen sulfide odor, reduced soil conditions, gleyed soils, or listing on the hydric soils lists. Hydric soil determinations were made according to criteria listed in the Regional Supplement and *Field Indicators of Hydric Soils in the United States:* (*Version 8.2*) (NRCS 2018).

Areas meeting the indicators of hydrology, hydrophytic vegetation, and hydric soils were then classified according to the Cowardin system, as described in *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979). This is a hierarchical system based on the topographic position and vegetation type of a wetland, which aids resource managers and others by providing uniformity of concepts and terms used to define wetlands according to hydrologic, geomorphologic, chemical, and biological factors.

Waterbodies (e.g., creeks, rivers, ditches, ponds) were identified by the presence of an ordinary high-water mark (OHWM), which is usually identifiable by indicators such as the level of water present, scouring of the channel, or a vegetation line within the channel (USACE 2005). The OHWM is a defining element for identifying the lateral jurisdictional limits of non-wetland waters. The OHWMs of waterbodies encountered during the wetland delineation were recorded using GPS units capable of submeter accuracy. Streams were further classified as perennial, intermittent, or ephemeral based on field observations.

3 RESULTS

The following sections summarize the vegetative communities, soils, hydrology, and classification of wetlands and waterbodies within the Study Area, as identified in publicly available data sources.

3.1 Desktop Analysis

3.1.1 *Landscape Setting*

Topography within the Study Area slopes south with the elevation ranging from 294 to 312 m above mean sea level. A review of the FEMA National Flood Hazard Layer (FEMA 2022) indicates the absence of flood hazard areas within the Study Area (Figure 3).

3.1.2 *Vegetation*

A review of the National Land Cover Database (Multi-Resolution Land Characteristics Consortium 2019) indicates that land cover within the Study Area consists primarily of cultivated crops. The Study Area also contains areas identified as hay/pasture and developed (low intensity).

3.1.3 *Soils*

Nine soil map units are present within the Study Area (Figure 4, Table 1) according to the NRCS (2022).

Table 1. Soil Map Units within the Study Area, Kane County, Illinois

Map Unit Symbol	Soil Name	Hydric
152A	Drummer silty clay loam, 0 to 2 percent slopes	Yes
198A	Elburn silt loam, 0 to 2 percent slopes	No
325B	Dresden silt loam, 2 to 4 percent slopes	No
330A	Peotone silty clay loam, 0 to 2 percent slopes	Yes
527D2	Kidami loam, 6 to 12 percent slopes, eroded	No
59A	Lisbon silt loam, 0 to 2 percent slopes	No
656B	Octagon silt loam, 2 to 4 percent slopes	No
656C2	Octagon silt loam, 4 to 6 percent slopes, eroded	No
656D2	Octagon silt loam, 6 to 12 percent slopes, eroded	No

Source: NRCS (2022).

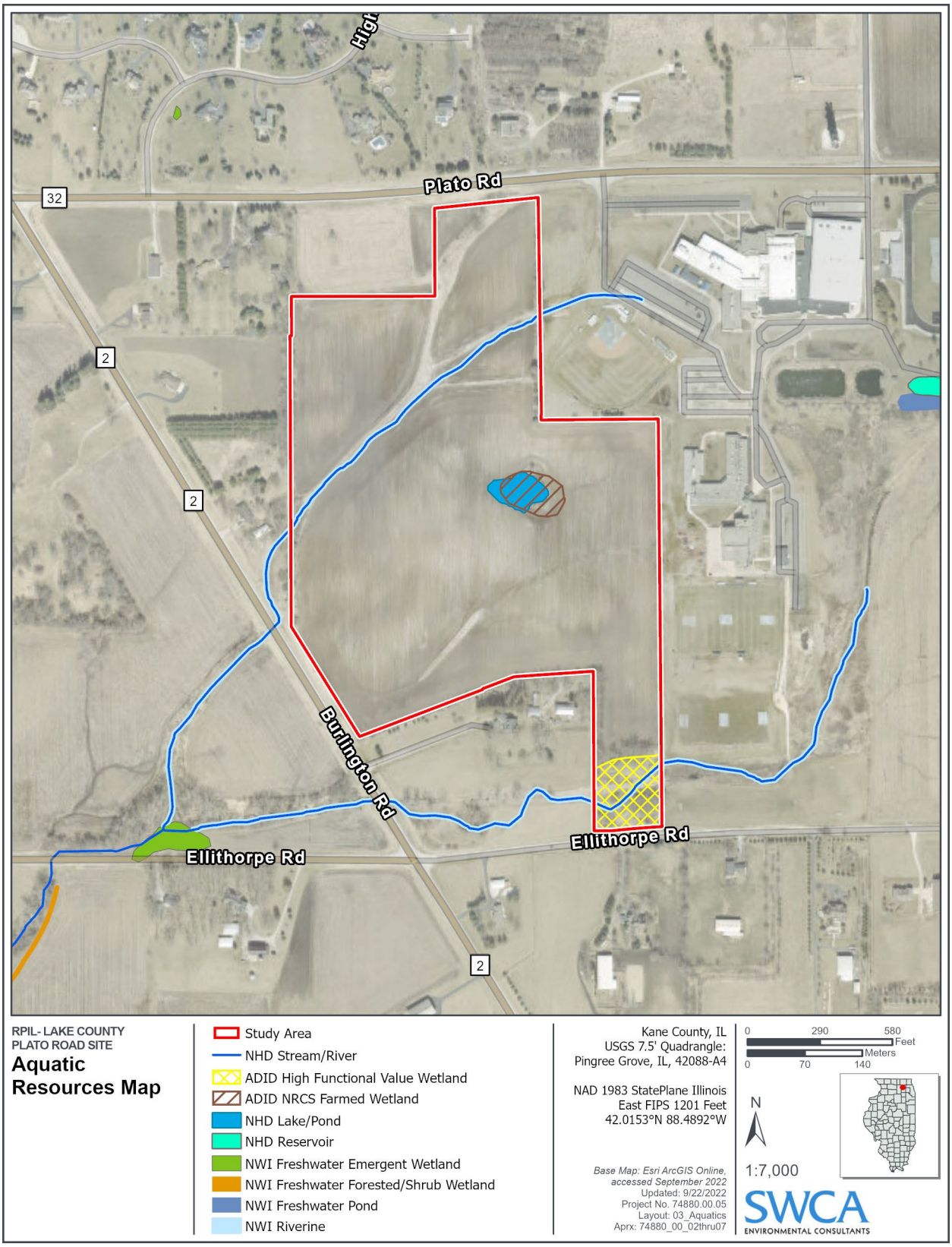

Figure 3. Aquatic resources map for the Plato Road Solar Project, Kane County, Illinois, 2022.

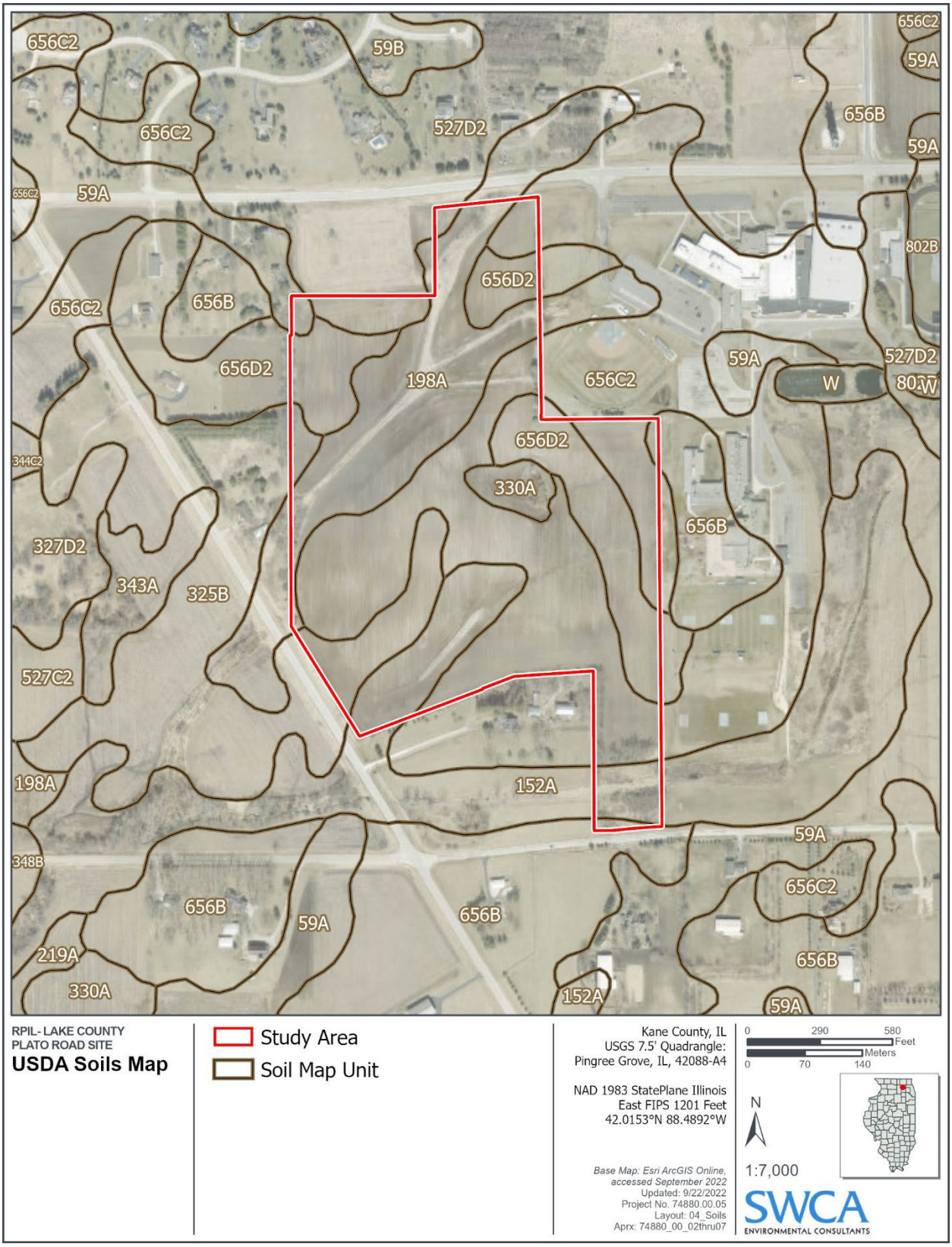

Figure 4. NRCS soil locations within the Plato Road Solar Project, Kane County, Illinois, 2022.

3.1.4 *Hydrology*

Precipitation data from the National Weather Service's Elgin (Kane County), Illinois, station, which is approximately 10.8 miles northeast of the Study Area, was used to determine the baseline of normal rainfall over the Study Area in May, June, and July 2022 (Applied Climate Information System 2022). This was compared with the DAREM calculations data for Kane County, Illinois, for the 3 months prior to the field survey The DAREM calculations for the 3 months prior to the survey were calculated using observed rainfall data and comparative WETS data (Table 2). Based on these calculations, the 3-month time period prior to the field survey in August 2022 was found to have normal precipitation patterns.

Table 2. Rainfall Summary for Kane County, Illinois, August 2022

Prior Month	WETS Rainfall Percentile (inches)		Measured Rainfall (inches)	Evaluation Month: August 2022		
	30th	70th		Condition[a]	Month Weight[b]	Score[c]
July	2.65	4.65	9.30	3	3	6
June	2.99	5.48	2.74	1	2	2
May	3.23	6.02	5.73	2	1	2
					Total:	**10**
Description[d]					**Normal**	

Source: Applied Climate Information System (2022).

[a] Condition values are 1 for <30th percentile, 2 for between 30th and 70th percentile, 3 for >70th percentile.

[b] Month weight is 3 for the most recent month prior, 2 for the second month prior, and 1 for the third month prior.

[c] Score is the product of the condition and month weight.

[d] Description: Drier than normal (sum is 6–9), normal (sum is 10–14), wetter than normal (sum is 15–18)

3.1.5 *National Wetlands Inventory*

SWCA reviewed the USFWS NWI mapping data to determine the potential presence of wetland features within the Study Area (USFWS 2022). NWI wetlands are classified according to the Cowardin system, as described in *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979). NWI data suggests the presence of two wetlands within the Study Area (see Figure 3).

3.1.6 *National Hydrography Dataset*

SWCA reviewed USGS NHD mapping to determine the potential presence of streams and waterbodies within the Study Area (USGS 2020). NHD data suggests the presence of two streams and one waterbody within the Study Area (see Figure 3). Please see Section 3.3.2 for additional details concerning the confirmed absence of streams on site.

3.1.7 *Kane County ADID*

SWCA reviewed the Kane County ADID mapping data to determine the potential presence of wetland features within the Study Area (Kane County 2022). Kane County data suggests the presence of one high

function value ADID wetland feature and one NRCS farmed wetland feature within the Study Area (see Figure 3).

3.1.8 *Farmed Wetland Determination*

The Study Area consists primarily of agricultural land. SWCA reviewed aerial photographs from one wet year (2020) and five years (2017, 2009, 2007, 2006, 1998) to determine if wet signatures were consistently present within the Study Area for at least 3 normal precipitation years. Designation of an area on the NWI map also constitutes 1 year of wetland signature. Presence of a mapped NRCS certified farmed wetland feature on the Kane County ADID map designates an area as a farmed wetland (Kane County 2022, Kane County 2004). As a result of this review, SWCA identified one farmed wetland signature within the Study Area (Table 3; see Appendix A).

3.2 Field Delineation

SWCA conducted the field delineation on August 31, 2022, to assess the general site characteristics, ground-truth any mapped features identified during the desktop analysis, assess the likelihood of wetland presence in areas mapped as hydric soils, and delineate the boundaries of all features determined to be present. Wetland delineation data sheets are provided in Appendix B. The FQI for each wetland is provided in Appendix C. Photographs of the delineated features are provided in Appendix D.

3.2.1 *Wetlands*

SWCA delineated one palustrine emergent (PEM) wetland, one PEM/palustrine scrub-shrub (PSS) wetland, and one PEM/PSS mosaic wetland totaling 2.24 acres within the Study Area (Figure 5; see Table 3). Mosaic wetlands are defined as areas of multiple small concentrations of various wetland types occurring in one wetland area.

Table 3. Wetlands Identified within the Plato Road Solar Study Area, Kane County, Illinois

Feature ID	Preliminary Jurisdictional Status*	Classification	Acreage within Study Area	Native Mean C-Value	Native FQI	Kane County Wetland Buffer†
WC001	Kane County	PEM/PSS	0.33	1.71	4.54	50 feet
WC002‡	Kane County	PEM	0.72	N/A	N/A	50 feet
WC003	USACE Jurisdictional	PEM/PSS mosaic	1.19	2.08	7.49	50 feet
Total			**2.24**			

Note: PEM = palustrine emergent; PSS = palustrine scrub-shrub; USACE = U.S. Army Corps of Engineers

* This determination is SWCA's professional opinion. A jurisdictional determination through Kane County and USACE will be required to determine the official jurisdictional status of each feature.

‡ Denotes farmed wetland.

3.2.2 *Streams*

SWCA did not identify any streams within the Study Area (Figure 5). During the field delineation SWCA determined that the NHD channels identified during the desktop assessment no longer exist in the Study Area. The NHD areas have been converted to upland and wetland swales that likely convey water, but do not exhibit the characteristics that are required such as a defined bed and bank. See photos in Appendix D.

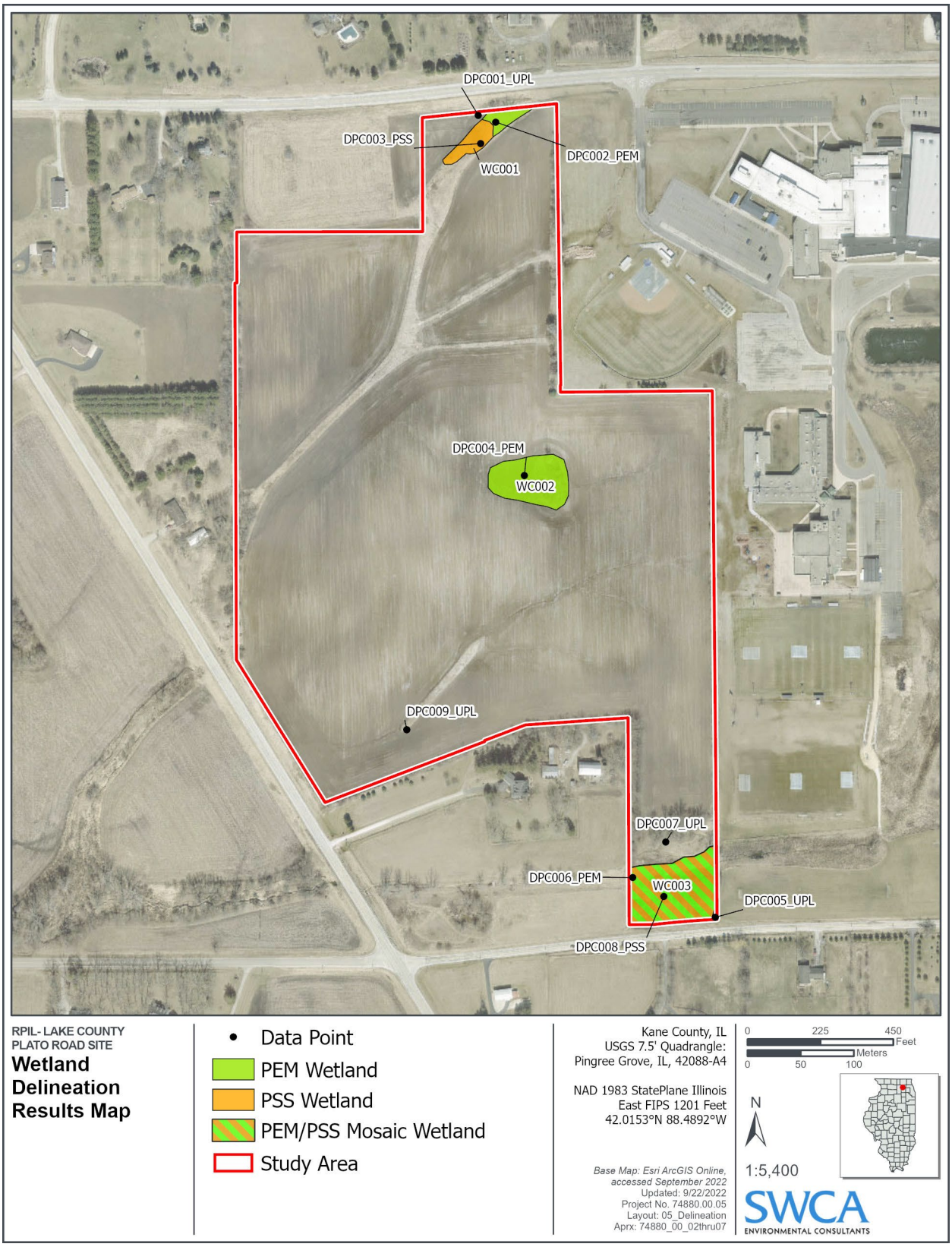

Figure 5. Water Resources Delineation Map for the Plato Road Solar Project, Kane County, Illinois, 2022.

3.2.2.1 VEGETATION COMMUNITIES

Mapped land cover types within the Study Area were verified as generally accurate during the field delineation, although no cultivated crops were observed. SWCA observed four vegetation community types within the Study Area including two wetland community types (i.e., PEM, PSS) and two non-wetland/upland community types (i.e., herbaceous, forested). The species identified at each data point along with their areal coverage are recorded on the data forms in Appendix B. A photographic log of the wetland communities observed within the Study Area is provided in Appendix D. The dominant species identified within each vegetation community type are listed in the following sections.

3.2.2.1.1 Palustrine Emergent Wetland

The PEM wetland community consists of a prevalence of hydrophytic non-woody vegetation and woody plants less than 1 m in height. Dominant herbaceous species include reed canary grass (*Phalaris arundinacea*) and saw-tooth sunflower (*Helianthus grosseserratus*).

3.2.2.1.2 Palustrine Shrub-Scrub Wetland

The scrub-shrub upland community consists of woody plants less than 3 inches diameter at breast height and greater than 1 m tall. Dominant shrub species include red osier (*Cornus alba*) and sandbar willow (*Salix interior*). The dominant tree species in the shrub-scrub upland community is eastern cottonwood (*Populus deltoides*). Dominant herbaceous species in the shrub-scrub upland community include reed canary grass and eastern poison ivy (*Toxicodendron radicans*).

3.2.2.1.3 Herbaceous Upland

The herbaceous upland community consists of non-wetland areas dominated by non-woody vegetation and woody plants less than 1 m in height. Dominant herbaceous species include Japanese bristle grass (*Setaria faberi*), corn (*Zea mays*), yellow bristle grass (*Setaria pumila*), hairy cupgrass (*Eriochloa villosa*), and Kentucky blue grass (*Poa pratensis*).

3.2.2.1.4 Forested Upland

The forested upland community consists of non-wetland areas dominated by woody vegetation with a diameter at breast height of 3 inches or greater, regardless of height. Dominant tree species include ash-leaf maple (*Acer negundo*) and white mulberry (*Morus alba*). Dominant herbaceous species in the forested upland community include Kentucky blue grass and wild chervil (*Anthriscus sylvestris*).

3.2.2.2 HYDROLOGY

Primary wetland hydrology indicators observed in the Study Area include High Water Table (A2) and Saturation (A3). Secondary wetland hydrology indicators observed in the Study Area include Drainage Patterns (B10), Saturation Visible on Aerial Imagery (C9), Geomorphic Position (D2) and a positive FAC-Neutral Test (D5) (see Appendix B).

3.2.2.3 HYDRIC SOIL INDICATORS

Hydric soil indicators observed in the Study Area include Depleted Matrix (F3) and Redox Dark Surface (F6) (see Appendix B).

4 CONCLUSIONS

SWCA conducted a field delineation of the Study Area on August 31, 2022. The SWCA wetland ecologist identified three wetlands. A summary of potential wetland jurisdiction status and buffer requirements for identified features is provided in Table 3.

The USACE Chicago District and Kane County have final authority in determining the status and presence of regulated waters and the extent of their boundaries. Any areas not meeting the definition of jurisdictional waters of the U.S. will be considered Isolated Waters, as defined in the Kane County Stormwater Management Ordinance (Kane County 2020).

5 LITERATURE CITED

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APPENDIX A

Farmed Wetland Evaluation

CLIMATIC EVALUATION OF PRECIPITATION

Weather Station: Elgin

DATE: 8/29/2022
COUNTY: Kane
Project No. 74880
PREPARED BY: Megan O'Loughlin

	Average	<30%	>30%
Jan	1.84	1.19	2.22
February	1.64	0.88	2
March	2.27	1.38	2.75
April	3.91	2.83	4.61
May	5	3.23	6.02
June	4.56	2.99	5.48
July	3.89	2.65	4.65
August	4.4	2.93	5.27
September	3.49	2.03	4.24

Evaluation Date	March Precipitation	Type of Month	April Precipitation	Type of Month	May Precipitation	Type of Month	March Score 1X	April Score 2X	May Score 3X	Score for Year	Type of Year
Jun-20	**3.69**	**Wet**	**5.06**	**Wet**	**8.9**	**Wet**	**3**	**6**	**9**	**18**	**WET**
Evaluation Date	June Precipitation	Type of Month	July Precipitation	Type of Month	August Precipitation	Type of Month	June Score 1X	July Score 2X	August Score 3X	Score for Year	Type of Year
Sep-17	**5.45**	**Normal**	**9.69**	**Wet**	**2.14**	**Dry**	**2**	**6**	**3**	**11**	**NORMAL**
Evaluation Date	July Precipitation	Type of Month	August Precipitation	Type of Month	September Precipitation	Type of Month	July Score 1X	August Score 2X	September Score 3X	Score for Year	Type of Year
Oct-09	**2.44**	**Dry**	**6.57**	**Wet**	**0.7**	**Dry**	**1**	**6**	**3**	**10**	**NORMAL**
Evaluation Date	July Precipitation	Type of Month	August Precipitation	Type of Month	September Precipitation	Type of Month	July Score 1X	August Score 2X	September Score 3X	Score for Year	Type of Year
Oct-07	**5.91**	**Wet**	**15.69**	**Wet**	**0.77**	**Dry**	**3**	**6**	**3**	**12**	**NORMAL**
Evaluation Date	May Precipitation	Type of Month	June Precipitation	Type of Month	July Precipitation	Type of Month	May Score 1X	June Score 2X	July Score 3X	Score for Year	Type of Year
Aug-06	**4.76**	**Normal**	**4.39**	**Normal**	**3.75**	**Normal**	**2**	**4**	**6**	**12**	**NORMAL**
Evaluation Date	January Precipitation	Type of Month	February Precipitation	Type of Month	March Precipitation	Type of Month	January Score 1X	February Score 2X	March Score 3X	Score for Year	Type of Year
Apr-98	**3.64**	**Wet**	**1.56**	**Normal**	**2.17**	**Normal**	**3**	**4**	**6**	**13**	**NORMAL**

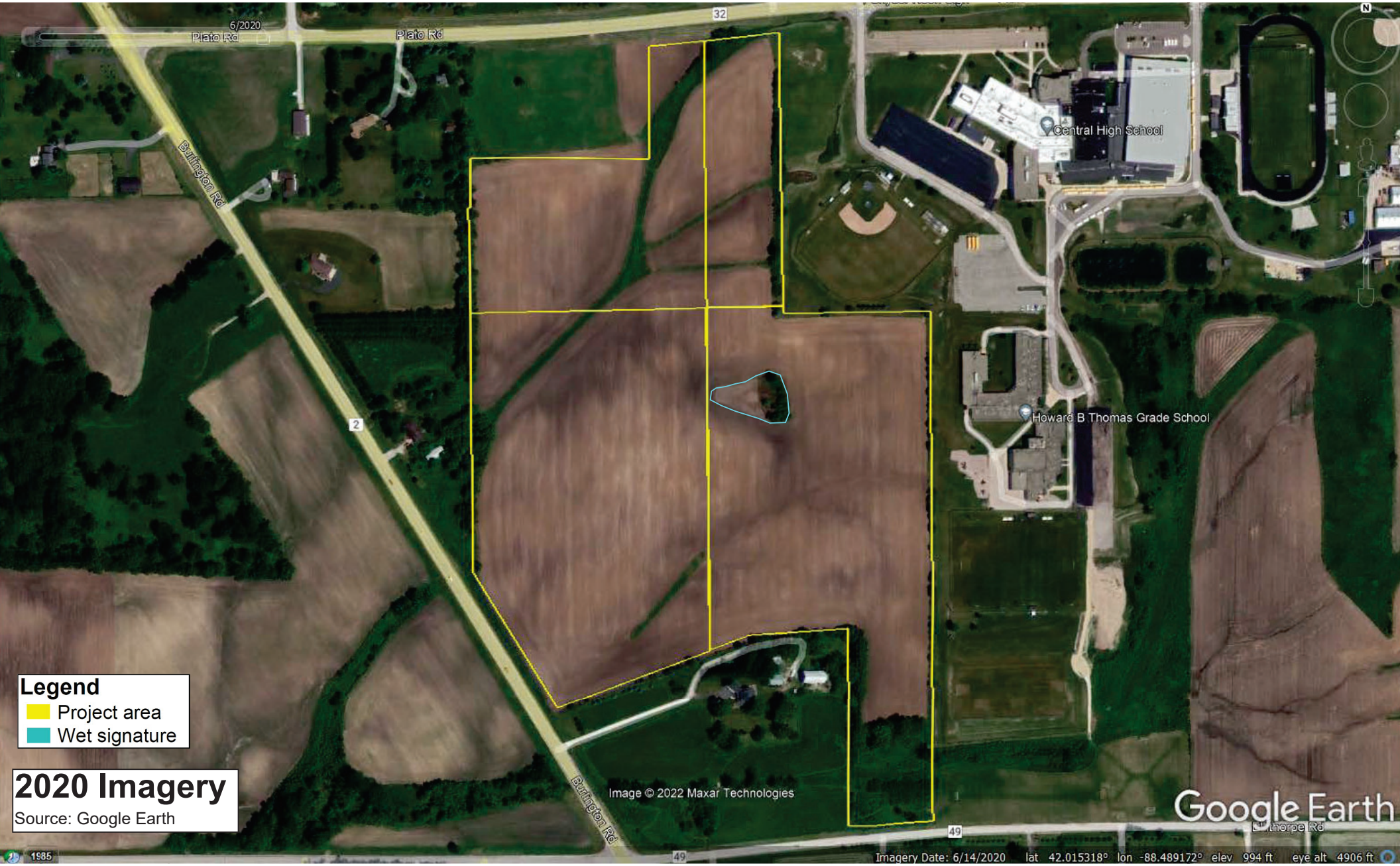
SCORE

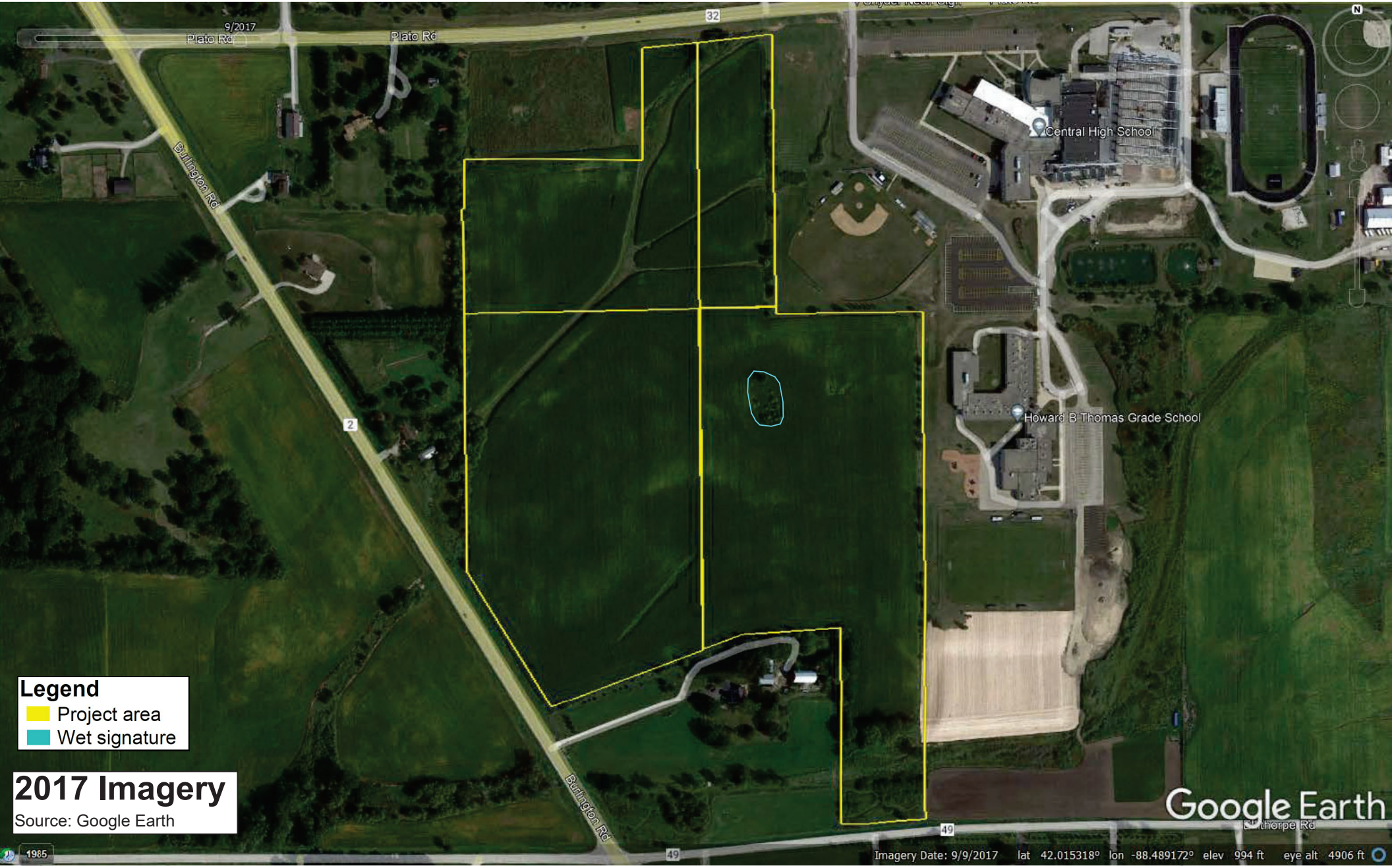
Dry =	1
Normal =	2
Wet =	3

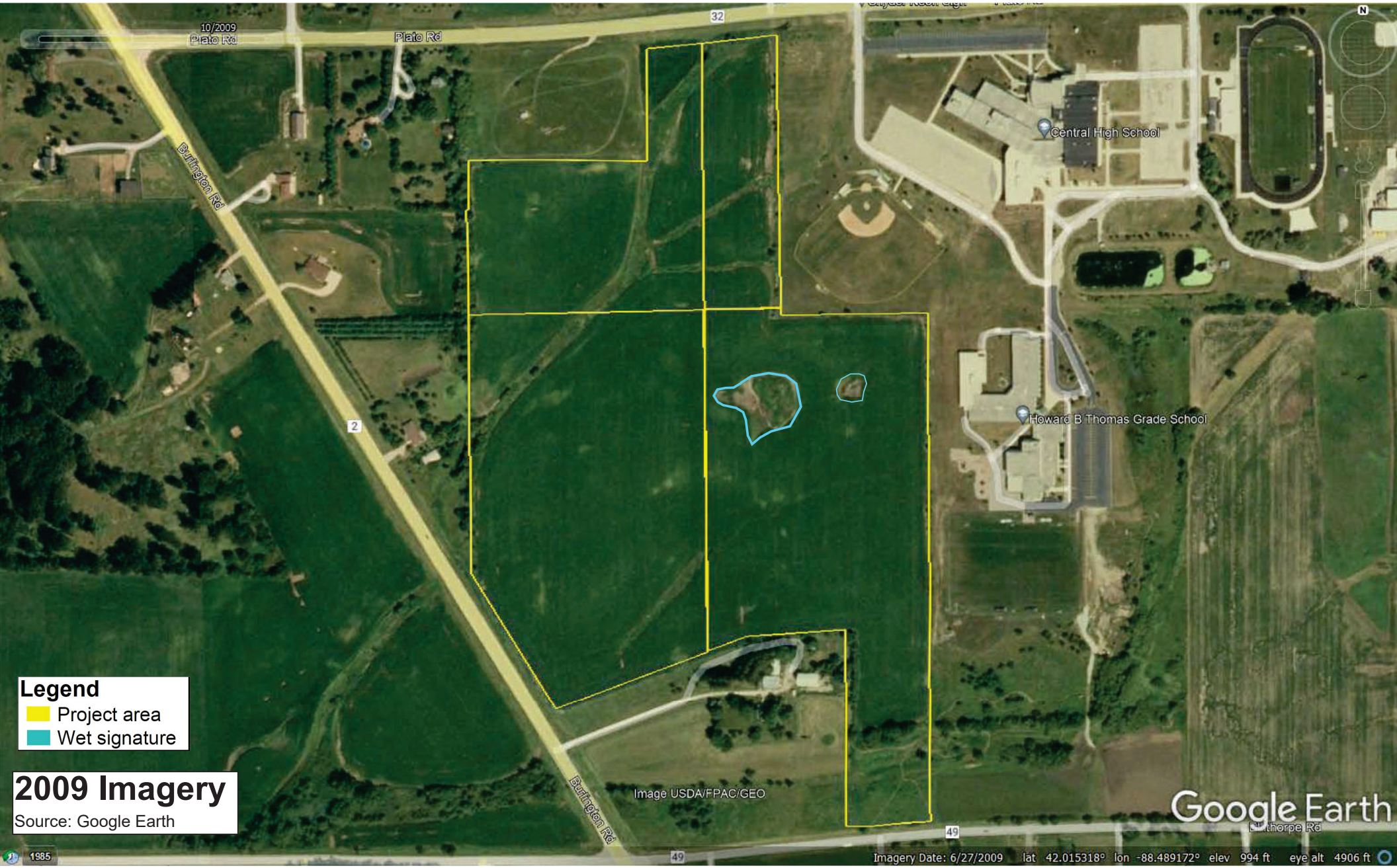
TYPE OF YEAR

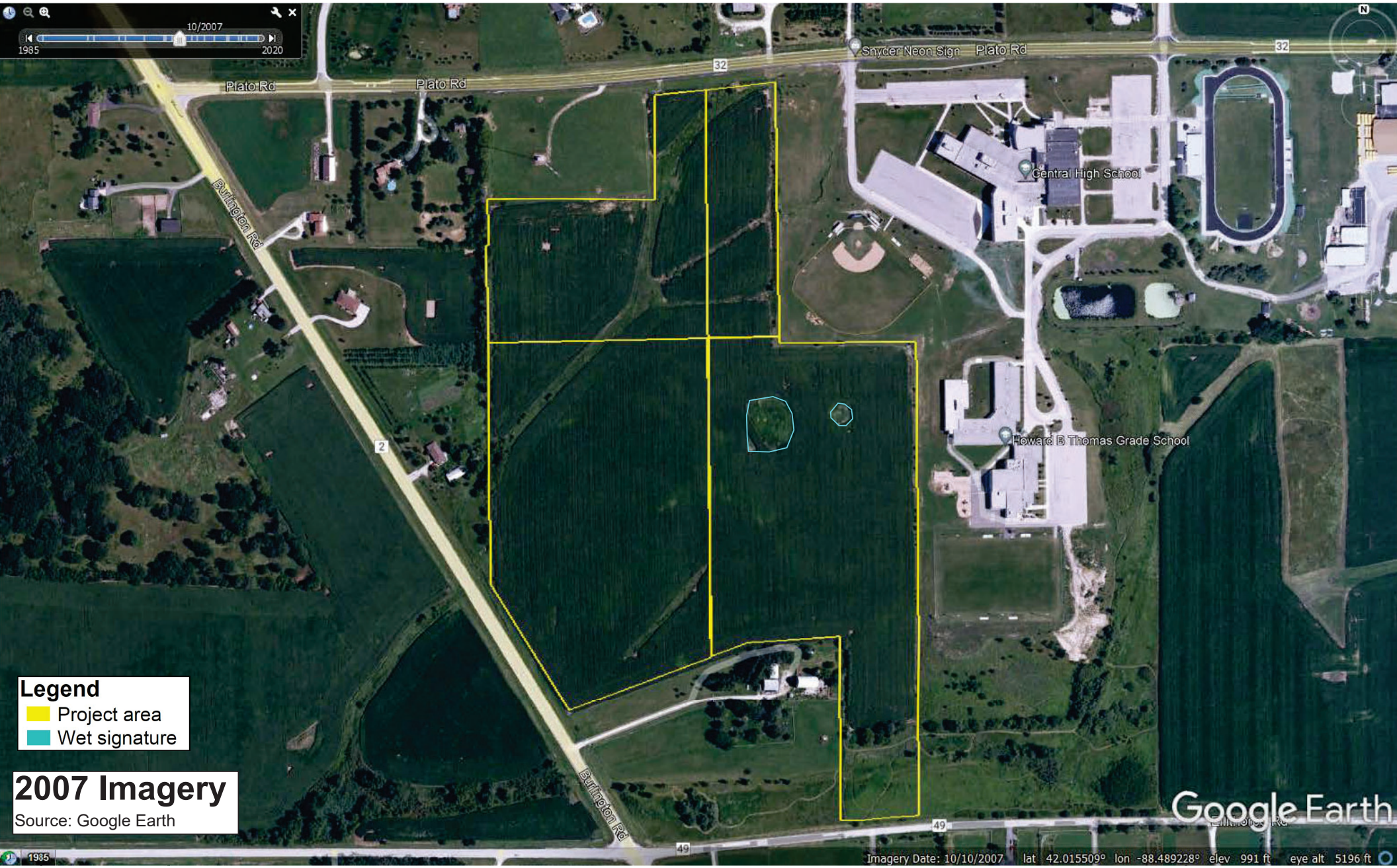
Dry =	6 to 9
Normal =	10 to 14
Wet =	14 to 18

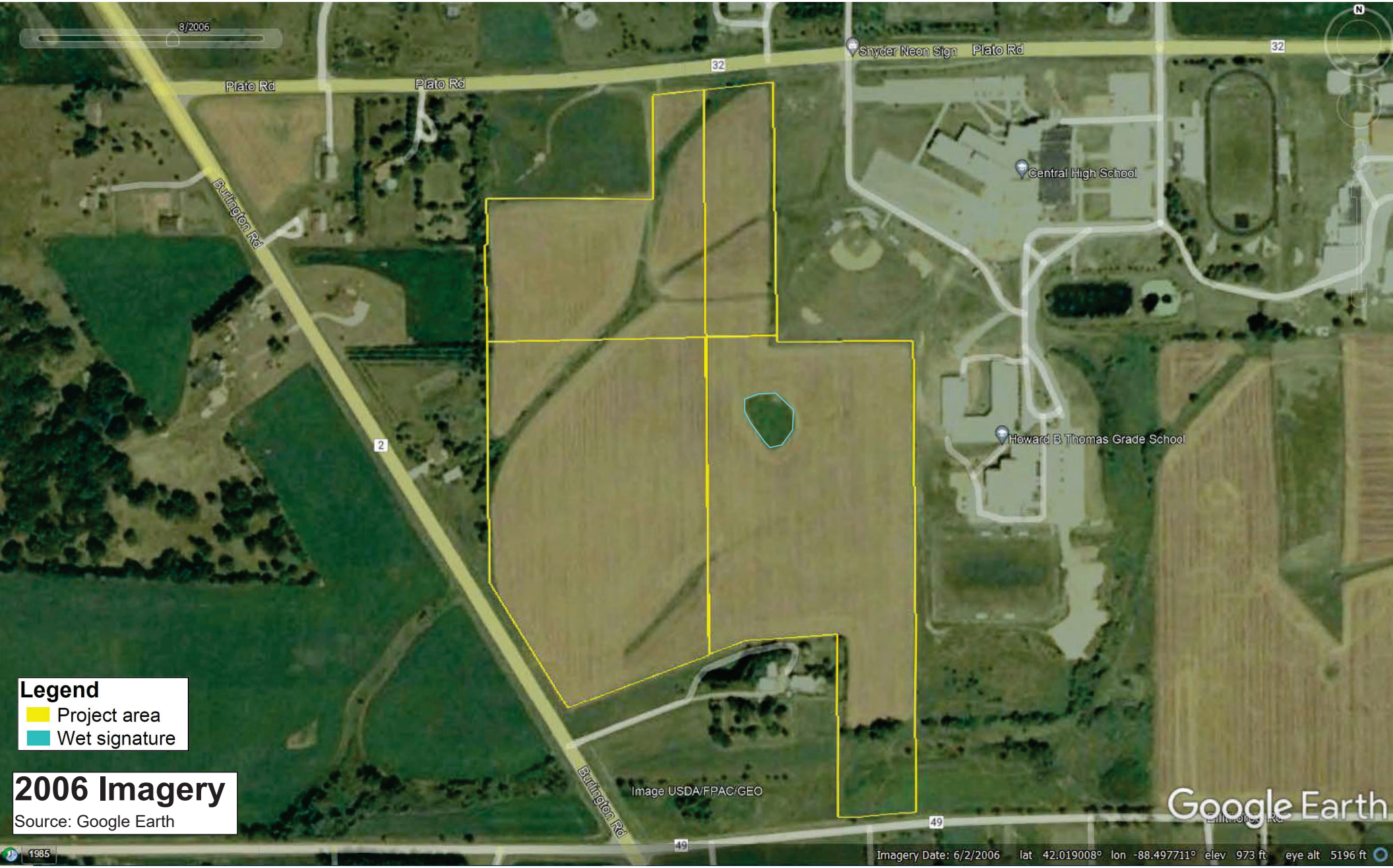
COMMENTS:


6/2020
Plato Rd
Plato Rd
32
Burlington Rd
Central High School
Howard B Thomas Grade School
2
Legend
Project area
Wet signature
2020 Imagery
Source: Google Earth
Image © 2022 Maxar Technologies
Burlington Rd
49
Google Earth
49
1985
Imagery Date: 6/14/2020 lat 42.015318° lon -88.489172° elev 994 ft eye alt 4906 ft


9/2017
Plato Rd
Plato Rd
32
Burlington Rd
Central High School
Howard B Thomas Grade School
2
Burlington Rd
49
49
Legend
Project area
Wet signature
2017 Imagery
Source: Google Earth
Google Earth
1985
Imagery Date: 9/9/2017 lat 42.015318° lon -88.489172° elev 994 ft eye alt 4906 ft


10/2009
Plato Rd
Plato Rd
32
Burlington Rd
Central High School
Howard B Thomas Grade School
2
Legend
Project area
Wet signature
2009 Imagery
Source: Google Earth
Image USDA/FPAC/GEO
Burlington Rd
49
Google Earth
1985
Imagery Date: 6/27/2009 lat 42.015318° lon -88.489172° elev 994 ft eye alt 4906 ft


10/2007
1985
2020
Plato Rd
Plato Rd
Plato Rd
Snyder Neon Sign
32
32
Central High School
Howard B Thomas Grade School
Burlington Rd
Burlington Rd
2
49
49
Legend
Project area
Wet signature
2007 Imagery
Source: Google Earth
Google Earth
1985
Imagery Date: 10/10/2007 lat 42.015509° lon -88.489228° elev 991 ft eye alt 5196 ft


8/2006
Plato Rd
Plato Rd
Plato Rd
Shyder Neon Sign
32
32
Central High School
Howard B Thomas Grade School
Burlington Rd
Burlington Rd
2
49
49
Image USDA/FPAC/GEO
Google Earth
1985
Imagery Date: 6/2/2006 lat 42.019008° lon -88.497711° elev 973 ft eye alt 5196 ft
Legend
Project area
Wet signature
2006 Imagery
Source: Google Earth


4/1998
Plato Rd
Plato Rd
Plato Rd
Snyder Neon Sign
32
32
Central High School
Burlington Rd
2
Howard B Thomas Grade School
Legend
Project area
Wet signature
1998 Imagery
Source: Google Earth
Image U.S. Geological Survey
Burlington Rd
49
49
Google Earth
1985
Imagery Date: 4/4/1998 lat 42.015509° lon -88.489228° elev 991 ft eye alt 5196 ft

APPENDIX B

USACE Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region

Project/Site: Plato Road Solar Project City/County: Kane County Sampling Date: 08/31/2022

Applicant/Owner: Wildcat Renewables State: IL Sampling Point: DPC001_UPL

Investigator(s): M. O'Loughlin Section, Township, Range: Sec. 19 T41N R7E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear Slope Slope (%): <5%

Subregion (LRR or MLRA): MLRA 95B , LRR K Lat: 42.0187 Long: -88.4891 Datum: NAD83

Soil Map Unit Name: 198A - Elburn silt loam, 0 to 2 percent slopes NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes:		No:	X
Hydric Soil Present?	Yes:		No:	X
Wetland Hydrology Present?	Yes:		No:	X

Is the Sampled Area within a Wetland? **Yes** _____ **No** **X**

If yes, optional Wetland Site ID: WC001

Remarks: (Explain alternative procedures here or in a separate report.) WC001

HYDROLOGY

Wetland Hydrology Indicators:

Primary indicators (minimum of one 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)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	

Wetland Hydrology Present? **Yes** _____ **No** **X**

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DPC001_UPL

Tree Stratum: (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	=Total Cover	
Sapling/Shrub Stratum: (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	=Total Cover	
Herb Stratum: (Plot size: 5)			
1. Setaria faberi	40	Y	FACU
2. Zea mays	20	Y	UPL
3. Setaria pumila	20	Y	FAC
4. Eriochloa villosa	10	N	UPL
5. Bromus inermis	5	N	UPL
6. Taraxacum officinale	5	N	FACU
7. Solidago altissima	5	N	FACU
8.			
9.			
10.			
11.			
12.			
	105	=Total Cover	
Woody Vine Stratum: (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Domant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	20	x 3 =	60	
FACU species	50	x 4 =	200	
UPL species	35	x 5 =	175	
Column Totals:	105	(A)	435	(B)
Prevalence Index = B/A=			4.14	

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] (Profice supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: DPC001_UPL

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type [1]	Loc [2]	Texture	Remarks
0-16	10YR 2/1	100		0			Silty 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)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (**LRR R, MLRA 149B**)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Dark Surface (S7) (**LRR K, L**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ 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** **X**

Remarks:

WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region

Project/Site: Plato Road Solar Project City/County: Kane County Sampling Date: 08/31/2022

Applicant/Owner: Wildcat Renewables State: IL Sampling Point: DPC002_PEM

Investigator(s): M. O'Loughlin Section, Township, Range: Sec. 19 T41N R7E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): <5%

Subregion (LRR or MLRA): MLRA 95B , LRR K Lat: 42.0187 Long: -88.4891 Datum: NAD83

Soil Map Unit Name: 198A - Elburn silt loam, 0 to 2 percent slopes NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes:	X	No:		
Hydric Soil Present?	Yes:	X	No:	**Is the Sampled Area within a Wetland?**	**Yes X No**
Wetland Hydrology Present?	Yes:	X	No:	If yes, optional Wetland Site ID:	WC001

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

HYDROLOGY

Wetland Hydrology Indicators:

Primary indicators (minimum of one 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)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	___	No	X	Depth (inches): _____
Water Table Present?	Yes	___	No	X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes	___	No	X	Depth (inches): _____

Wetland Hydrology Present? **Yes X No** _____

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DPC002_PEM

Tree Stratum: (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra	5	Y	OBL
2. Populus deltoides	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	

Sapling/Shrub Stratum: (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	=Total Cover	

Herb Stratum: (Plot size: 5)			
1. Phalaris arundinacea	80	Y	FACW
2. Helianthus grosseserratus	25	Y	FACW
3. Solidago altissima	10	N	FACU
4. Convolvulus arvensis	5	N	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	120	=Total Cover	

Woody Vine Stratum: (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Domant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	5	x 1 =	5	
FACW species	105	x 2 =	210	
FAC species	5	x 3 =	15	
FACU species	10	x 4 =	40	
UPL species	5	x 5 =	25	
Column Totals:	130	(A)	295	(B)

Prevalence Index = B/A= 2.27

Hydrophytic Vegetation Indicators:

___ 1 - Rapid test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Profice supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes X No** ___

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

SOIL

Sampling Point: DPC002_PEM

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type [1]	Loc [2]	Texture	Remarks
0-6	10YR 3/1	100		0			Silty Clay Loam	
6-16	10YR 3/1	95	10YR 4/6	5	C	M	Silty 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)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (**LRR R, MLRA 149B**)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
X Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Dark Surface (S7) (**LRR K, L**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ 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** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region

Project/Site: Plato Road Solar Project City/County: Kane County Sampling Date: 08/31/2022

Applicant/Owner: Wildcat Renewables State: IL Sampling Point: DPC003_PSS

Investigator(s): M. O'Loughlin Section, Township, Range: Sec. 19 T41N R7E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): <5%

Subregion (LRR or MLRA): MLRA 95B , LRR K Lat: 42.0185 Long: -88.4891 Datum: NAD83

Soil Map Unit Name: 198A - Elburn silt loam, 0 to 2 percent slopes NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes:	X	No:		
Hydric Soil Present?	Yes:	X	No:	**Is the Sampled Area within a Wetland?**	**Yes X No**
Wetland Hydrology Present?	Yes:	X	No:	If yes, optional Wetland Site ID:	WC001

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

HYDROLOGY

Wetland Hydrology Indicators:

Primary indicators (minimum of one 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)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches):	
Water Table Present?	Yes ___	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches):	

Wetland Hydrology Present? Yes X No _____

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DPC003_PSS

Tree Stratum: (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	

Sapling/Shrub Stratum: (Plot size: 15)			
1. Salix interior	60	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	60	=Total Cover	

Herb Stratum: (Plot size: 5)			
1. Phalaris arundinacea	80	Y	FACW
2. Salix interior	5	N	FACW
3. Convolvulus arvensis	5	N	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90	=Total Cover	

Woody Vine Stratum: (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	=Total Cover	

Dominance Test worksheet:

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

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

Percent of Domant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	145	x 2 =	290	
FAC species	10	x 3 =	30	
FACU species	0	x 4 =	0	
UPL species	5	x 5 =	25	
Column Totals:	160	(A)	345	(B)

Prevalence Index = B/A= 2.16

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Profice supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes X No** ___

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

SOIL

Sampling Point: DPC003_PSS

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type [1]	Loc [2]	Texture	Remarks
0-4	10YR 3/1	100		0			Silty Clay Loam	
4-16	10YR 3/1	95	10YR 4/6	5	C	M	Silty 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)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (**LRR R, MLRA 149B**)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
X Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Dark Surface (S7) (**LRR K, L**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ 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** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region

Project/Site: Plato Road Solar Project City/County: Kane County Sampling Date: 08/31/2022

Applicant/Owner: Wildcat Renewables State: IL Sampling Point: DPC004_PEM

Investigator(s): M. O'Loughlin Section, Township, Range: Sec. 19 T41N R7E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): <5%

Subregion (LRR or MLRA): MLRA 95B , LRR K Lat: 42.0156 Long: -88.4886 Datum: NAD83

Soil Map Unit Name: 330A - Peotone silty clay loam, 0 to 2 percent slopes NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes:		No:	X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** **X**
Hydric Soil Present?	Yes:	X	No:		
Wetland Hydrology Present?	Yes:	X	No:		If yes, optional Wetland Site ID: WC002

Remarks: (Explain alternative procedures here or in a separate report.) Farmed wetland WC002

HYDROLOGY

Wetland Hydrology Indicators:

Primary indicators (minimum of one 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)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? **Yes** **X** **No** ____

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DPC004_PEM

Tree Stratum: (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	=Total Cover	

Sapling/Shrub Stratum: (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	=Total Cover	

Herb Stratum: (Plot size: 5)			
1. Zea mays	40	Y	UPL
2. Ranunculus sceleratus	5	N	OBL
3. Amaranthus tuberculatus	5	N	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50	=Total Cover	

Woody Vine Stratum: (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	=Total Cover	

Dominance Test worksheet:

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

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

Percent of Domant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	10	x 1 =	10	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	40	x 5 =	200	
Column Totals:	50	(A)	210	(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] (Profice supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: DPC004_PEM

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type [1]	Loc [2]	Texture	Remarks
0-16	10YR 3/2	40	10YR 4/2	30	D	M	Silty Clay Loam	
0-16	10YR 3/2	40	10YR 4/6	30	C	M	Silty 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)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (**LRR R, MLRA 149B**)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
X Depleted Matrix (F3)
X Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Dark Surface (S7) (**LRR K, L**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ 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** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region

Project/Site: Plato Road Solar Project City/County: Kane County Sampling Date: 08/31/2022

Applicant/Owner: Wildcat Renewables State: IL Sampling Point: DPC005_UPL

Investigator(s): M. O'Loughlin Section, Township, Range: Sec. 19 T41N R7E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear Slope Slope (%): <5%

Subregion (LRR or MLRA): MLRA 95B , LRR K Lat: 42.0119 Long: -88.4864 Datum: NAD83

Soil Map Unit Name: 152A - Drummer silty clay loam, 0 to 2 percent slopes NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes:		No:	X
Hydric Soil Present?	Yes:		No:	X
Wetland Hydrology Present?	Yes:		No:	X

Is the Sampled Area within a Wetland? **Yes** _____ **No** **X**

If yes, optional Wetland Site ID: WC003

Remarks: (Explain alternative procedures here or in a separate report.) WC003. Silt fence observed along east edge of WC003.

HYDROLOGY

Wetland Hydrology Indicators:

Primary indicators (minimum of one 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)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	

Wetland Hydrology Present? **Yes** _____ **No** **X**

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DPC005_UPL

Tree Stratum: (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	=Total Cover	

Sapling/Shrub Stratum: (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	=Total Cover	

Herb Stratum: (Plot size: 5)			
1. Poa pratensis	90	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90	=Total Cover	

Woody Vine Stratum: (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	=Total Cover	

Dominance Test worksheet:

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

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

Percent of Domant Species That Are OBL, FACW, or FAC: 0 (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	90	x 4 =	360	
UPL species	0	x 5 =	0	
Column Totals:	90	(A)	360	(B)
Prevalence Index = B/A=			4.00	

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] (Profice supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: DPC005_UPL

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type [1]	Loc [2]	Texture	Remarks
0-16	10YR 2/1	100		0			Silty 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)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (**LRR R, MLRA 149B**)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Dark Surface (S7) (**LRR K, L**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ 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** **X**

Remarks:

WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region

Project/Site: Plato Road Solar Project City/County: Kane County Sampling Date: 08/31/2022

Applicant/Owner: Wildcat Renewables State: IL Sampling Point: DPC006_PEM

Investigator(s): M. O'Loughlin Section, Township, Range: Sec. 19 T41N R7E

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): <5%

Subregion (LRR or MLRA): MLRA 95B , LRR K Lat: 42.0122 Long: -88.4875 Datum: NAD83

Soil Map Unit Name: 152A - Drummer silty clay loam, 0 to 2 percent slopes NWI classification: R4SBC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes:	X	No:		
Hydric Soil Present?	Yes:	X	No:		
Wetland Hydrology Present?	Yes:	X	No:		

Is the Sampled Area within a Wetland? **Yes X No** _____

If yes, optional Wetland Site ID: WC003

Remarks: (Explain alternative procedures here or in a separate report.) WC003

HYDROLOGY

Wetland Hydrology Indicators:

Primary indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	___	No	X	Depth (inches): ___
Water Table Present?	Yes	X	No	___	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0

Wetland Hydrology Present? **Yes X No** _____

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DPC006_PEM

Tree Stratum: (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Morus alba	5	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
	5	=Total Cover	
Sapling/Shrub Stratum: (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	=Total Cover	
Herb Stratum: (Plot size: 5)			
1. Phalaris arundinacea	90	Y	FACW
2. Salix interior	5	N	FACW
3. Solidago altissima	5	N	FACU
4. Symphyotrichum lanceolatum	5	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	105	=Total Cover	
Woody Vine Stratum: (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Domant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	0	x 3 =	0
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	110 (A)		240 (B)

Prevalence Index = B/A= 2.18

Hydrophytic Vegetation Indicators:

___ 1 - Rapid test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Profice supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** X **No** ___

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

SOIL

Sampling Point: DPC006_PEM

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type [1]	Loc [2]	Texture	Remarks
0-1	10YR 4/1	100		0			Muck	OM: 20%
1-16	10YR 4/1	60	10YR 4/6	10	C	M	Clay Loam	
1-16	10YR 4/1	60	10YR 5/1	30	D	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)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (**LRR R, MLRA 149B**)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
X Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Dark Surface (S7) (**LRR K, L**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ 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** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region

Project/Site: Plato Road Solar Project City/County: Kane County Sampling Date: 08/31/2022

Applicant/Owner: Wildcat Renewables State: IL Sampling Point: DPC007_UPL

Investigator(s): M. O'Loughlin Section, Township, Range: Sec. 19 T41N R7E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear Slope Slope (%): <5%

Subregion (LRR or MLRA): MLRA 95B , LRR K Lat: 42.0126 Long: -88.4871 Datum: NAD83

Soil Map Unit Name: 656C2 - Octagon silt loam, 4 to 6 percent slopes, eroded NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes:		No:	X
Hydric Soil Present?	Yes:		No:	X
Wetland Hydrology Present?	Yes:		No:	X

Is the Sampled Area within a Wetland? **Yes** _____ **No** **X**

If yes, optional Wetland Site ID: WC003

Remarks: (Explain alternative procedures here or in a separate report.) Kane County ADID disprove. WC003 boundary is south of DPC007_UPL sample plot.

HYDROLOGY

Wetland Hydrology Indicators:

Primary indicators (minimum of one 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)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

Wetland Hydrology Present? **Yes** _____ **No** **X**

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DPC007_UPL

Tree Stratum: (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Morus alba	30	Y	FACU
2. Acer negundo	20	Y	FAC
3. Ailanthus altissima	10	N	UPL
4.			
5.			
6.			
7.			
	60	=Total Cover	

Sapling/Shrub Stratum: (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	=Total Cover	

Herb Stratum: (Plot size: 5)			
1. Anthriscus sylvestris	50	Y	UPL
2. Poa pratensis	25	Y	FACU
3. Ambrosia trifida	5	N	FAC
4. Bromus inermis	5	N	UPL
5. Arctium lappa	5	N	UPL
6. Setaria pumila	5	N	FAC
7. Convolvulus arvensis	5	N	UPL
8.			
9.			
10.			
11.			
12.			
	100	=Total Cover	

Woody Vine Stratum: (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Domant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	30	x 3 =	90	
FACU species	55	x 4 =	220	
UPL species	75	x 5 =	375	
Column Totals:	160	(A)	685	(B)
Prevalence Index = B/A=			4.28	

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] (Profice supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

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

SOIL

Sampling Point: DPC007_UPL

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type [1]	Loc [2]	Texture	Remarks
0-16	10YR 3/2	100		0			Silty 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)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (**LRR R, MLRA 149B**)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Dark Surface (S7) (**LRR K, L**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ 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** **X**

Remarks:

WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region

Project/Site: Plato Road Solar Project City/County: Kane County Sampling Date: 08/31/2022

Applicant/Owner: Wildcat Renewables State: IL Sampling Point: DPC008_PSS

Investigator(s): M. O'Loughlin Section, Township, Range: Sec. 19 T41N R7E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): <5%

Subregion (LRR or MLRA): MLRA 95B , LRR K Lat: 42.012 Long: -88.4869 Datum: NAD83

Soil Map Unit Name: 152A - Drummer silty clay loam, 0 to 2 percent slopes NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes:	X	No:		
Hydric Soil Present?	Yes:	X	No:		
Wetland Hydrology Present?	Yes:	X	No:		

Is the Sampled Area within a Wetland? **Yes X No** _____

If yes, optional Wetland Site ID: WC003

Remarks: (Explain alternative procedures here or in a separate report.) WC003

HYDROLOGY

Wetland Hydrology Indicators:

Primary indicators (minimum of one 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)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	___	No	X	Depth (inches): _____
Water Table Present?	Yes	___	No	X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes	___	No	X	Depth (inches): _____

Wetland Hydrology Present? **Yes X No** _____

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DPC008_PSS

Tree Stratum: (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	=Total Cover	
Sapling/Shrub Stratum: (Plot size: 15)			
1. Cornus alba	80	Y	FACW
2. Acer negundo	10	N	FAC
3.			
4.			
5.			
6.			
7.			
	90	=Total Cover	
Herb Stratum: (Plot size: 5)			
1. Solidago altissima	20	Y	FACU
2. Toxicodendron radicans	10	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30	=Total Cover	
Woody Vine Stratum: (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Domant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	20	x 3 =	60
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	120 (A)		300 (B)

Prevalence Index = B/A= 2.50

Hydrophytic Vegetation Indicators:

___ 1 - Rapid test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Profice supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes X No** ___

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

SOIL

Sampling Point: DPC008_PSS

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type [1]	Loc [2]	Texture	Remarks
0-16	10YR 3/1	95	10YR 4/6	5	C	M	Silty 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)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (**LRR R, MLRA 149B**)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
X Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Dark Surface (S7) (**LRR K, L**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ 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** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM — Northcentral and Northeast Region

Project/Site: Plato Road Solar Project City/County: Kane County Sampling Date: 08/31/2022

Applicant/Owner: Wildcat Renewables State: IL Sampling Point: DPC009_UPL

Investigator(s): M. O'Loughlin Section, Township, Range: Sec. 24 T41N R6E

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave Slope (%): <5%

Subregion (LRR or MLRA): MLRA 95B , LRR K Lat: 42.0135 Long: -88.4899 Datum: NAD83

Soil Map Unit Name: 152A - Drummer silty clay loam, 0 to 2 percent slopes NWI classification: No

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes:		No:	X
Hydric Soil Present?	Yes:		No:	X
Wetland Hydrology Present?	Yes:		No:	X

Is the Sampled Area within a Wetland? **Yes** _____ **No** **X**

If yes, optional Wetland Site ID: _____

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

HYDROLOGY

Wetland Hydrology Indicators:

Primary indicators (minimum of one 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)
- ___ Marl Deposits (B15)
- ___ 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)
- ___ Other (Explain in Remarks)

Secondary indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	
Water Table Present?	Yes ____	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches):	

Wetland Hydrology Present? **Yes** _____ **No** **X**

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

Remarks:

VEGETATION - Use scientific names of plants.

Sampling Point: DPC009_UPL

Tree Stratum: (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	=Total Cover	
Sapling/Shrub Stratum: (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	=Total Cover	
Herb Stratum: (Plot size: 5)			
1. Eriochloa villosa	40	Y	UPL
2. Setaria pumila	20	Y	FAC
3. Bromus inermis	10	N	UPL
4. Zea mays	10	N	UPL
5. Ambrosia trifida	5	N	FAC
6. Asclepias syriaca	5	N	UPL
7.			
8.			
9.			
10.			
11.			
12.			
	90	=Total Cover	
Woody Vine Stratum: (Plot size: 30)			
1.			
2.			
3.			
4.			
	0	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Domant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	0	x 4 =	0
UPL species	65	x 5 =	325
Column Totals:	90 (A)		400 (B)

Prevalence Index = B/A= 4.44

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] (Profice supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ___ **No** **X**

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

SOIL

Sampling Point: DPC009_UPL

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type [1]	Loc [2]	Texture	Remarks
0-16	10YR 3/2	100		0			Silty 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)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Sandy Mucky Mineral (S1)
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) (**LRR R, MLRA 149B**)
___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
___ Loamy Mucky Mineral (F1) (**LRR K, L**)
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
___ Coast Prairie Redox (A16) (**LRR K, L, R**)
___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
___ Dark Surface (S7) (**LRR K, L**)
___ Polyvalue Below Surface (S8) (**LRR K, L**)
___ Thin Dark Surface (S9) (**LRR K, L**)
___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (TF12)
___ 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** **X**

Remarks:

APPENDIX C

Floristic Quality Index

SITE: Plato Road
LOCALE: Wetland WC001
BY: M. O'Loughlin
NOTES:

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	**1.71**	SPECIES RICHNESS (ALL)	11
MEAN C (ALL SPECIES)	1.09	SPECIES RICHNESS (NATIVE)	7
MEAN C (NATIVE TREES)	1.67	% NON-NATIVE	0.36
MEAN C (NATIVE SHRUBS)	2.00	WET INDICATOR (ALL)	-0.18
MEAN C (NATIVE HERBACEOUS)	1.67	WET INDICATOR (NATIVE)	-0.29
FQAI (NATIVE SPECIES)	**4.54**	% HYDROPHYTE (MIDWEST)	0.64
FQAI (ALL SPECIES)	3.62	% NATIVE PERENNIAL	0.64
ADJUSTED FQAI	13.68	% NATIVE ANNUAL	0.00
% C VALUE 0	0.64	% ANNUAL	0.00
% C VALUE 1-3	0.18	% PERENNIAL	0.91
% C VALUE 4-6	0.18		
% C VALUE 7-10	0.00		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
aceneg	Acer negundo	Acer negundo var. violaceum	Ash-Leaf Maple	0	FAC	FAC	0	Tree	Perennial	Native
ascsyr	Asclepias syriaca	Asclepias syriaca	Common Milkweed	0	FACU	UPL	1	Forb	Perennial	Native
cirvul	Cirsium vulgare	CIRSIUM VULGARE	Bull Thistle	0	FACU	FACU	1	Forb	Biennial	Adventive
conarv	Convolvulus arvensis	CONVOLVULUS ARVENSIS	Field Bindweed	0	UPL	UPL	2	Forb	Perennial	Adventive
helgro	Helianthus grosseserratus	Helianthus grosseserratus	Saw-Tooth Sunflower	4	FACW	FACW	-1	Forb	Perennial	Native
phaaru	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
popdel	Populus deltoides	Populus deltoides	Eastern Cottonwood	0	FAC	FAC	0	Tree	Perennial	Native
salint	Salix interior	Salix interior	Sandbar Willow	2	FACW	FACW	-1	Shrub	Perennial	Native
salnig	Salix nigra	Salix nigra	Black Willow	5	OBL	OBL	-2	Tree	Perennial	Native
solalt	Solidago altissima	Solidago altissima	Tall Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
typang	Typha angustifolia	TYPHA ANGUSTIFOLIA	Narrow-Leaf Cat-Tail	0	OBL	OBL	-2	Forb	Perennial	Adventive

SITE: Plato Road
LOCALE: Wetland WC003
BY: M. O'Loughlin
NOTES:

CONSERVATISM-BASED METRICS		ADDITIONAL METRICS	
MEAN C (NATIVE SPECIES)	**2.08**	SPECIES RICHNESS (ALL)	16
MEAN C (ALL SPECIES)	1.69	SPECIES RICHNESS (NATIVE)	13
MEAN C (NATIVE TREES)	0.33	% NON-NATIVE	0.19
MEAN C (NATIVE SHRUBS)	2.67	WET INDICATOR (ALL)	-0.31
MEAN C (NATIVE HERBACEOUS)	3.00	WET INDICATOR (NATIVE)	-0.46
FQAI (NATIVE SPECIES)	**7.49**	% HYDROPHYTE (MIDWEST)	0.88
FQAI (ALL SPECIES)	6.75	% NATIVE PERENNIAL	0.81
ADJUSTED FQAI	18.72	% NATIVE ANNUAL	0.00
% C VALUE 0	0.31	% ANNUAL	0.00
% C VALUE 1-3	0.50	% PERENNIAL	0.94
% C VALUE 4-6	0.19		
% C VALUE 7-10	0.00		

SPECIES ACRONYM	SPECIES NAME (NWPL/ MOHLENBROCK)	SPECIES (SYNONYM)	COMMON NAME	C VALUE	MIDWEST WET INDICATOR	NC-NE WET INDICATOR	WET INDICATOR (NUMERIC)	HABIT	DURATION	NATIVITY
aceneg	Acer negundo	Acer negundo var. violaceum	Ash-Leaf Maple	0	FAC	FAC	0	Tree	Perennial	Native
acesai	Acer saccharinum	Acer saccharinum	Silver Maple	1	FACW	FACW	-1	Tree	Perennial	Native
coralb	Cornus alba	Cornus stolonifera; Cornus baileyi; Cornus sericea	Red Osier	5	FACW	FACW	-1	Shrub	Perennial	Native
corrac	Cornus racemosa	Cornus racemosa	Gray Dogwood	1	FAC	FAC	0	Shrub	Perennial	Native
daucar	Daucus carota	DAUCUS CAROTA	Queen Anne’s Lace	0	UPL	UPL	2	Forb	Biennial	Adventive
helgro	Helianthus grosseserratus	Helianthus grosseserratus	Saw-Tooth Sunflower	4	FACW	FACW	-1	Forb	Perennial	Native
moralb	Morus alba	MORUS ALBA VAR. TATARICA	White Mulberry	0	FAC	FACU	0	Tree	Perennial	Adventive
phaaru	Phalaris arundinacea	PHALARIS ARUNDINACEA	Reed Canary Grass	0	FACW	FACW	-1	Grass	Perennial	Adventive
popdel	Populus deltoides	Populus deltoides	Eastern Cottonwood	0	FAC	FAC	0	Tree	Perennial	Native
salint	Salix interior	Salix interior	Sandbar Willow	2	FACW	FACW	-1	Shrub	Perennial	Native
solalt	Solidago altissima	Solidago altissima	Tall Goldenrod	1	FACU	FACU	1	Forb	Perennial	Native
astsim	Symphyotrichum lanceolatum	Aster simplex	White Panicled American-Aster	3	FAC	FACW	0	Forb	Perennial	Native
toxrad	Toxicodendron radicans	Rhus radicans	Eastern Poison-Ivy	2	FAC	FAC	0	Vine	Perennial	Native
typlat	Typha latifolia	Typha latifolia	Broad-Leaf Cat-Tail	5	OBL	OBL	-2	Forb	Perennial	Native
verurt	Verbena urticifolia	Verbena urticifolia var. leiocarpa	White Vervain	2	FAC	FAC	0	Forb	Perennial	Native
vitrip	Vitis riparia	Vitis riparia var. syrticola	River-Bank Grape	1	FACW	FAC	-1	Vine	Perennial	Native

APPENDIX D

Photographs

Photograph 1. Wetland WC001 (PEM), facing east (8/31/2022 by M. O'Loughlin).

Photograph 2. Wetland WC001 (PSS), facing west (8/31/2022 by M. O'Loughlin).

Photograph 3. Wetland WC002 (PEM), facing south (8/31/2022 by M. O'Loughlin).

Photograph 4. Wetland WC003 (PEM), facing east (8/31/2022 by M. O'Loughlin).

Photograph 5. Wetland WC003 (PSS), facing north (8/31/2022 by M. O'Loughlin).

Photograph 6. Herbaceous upland (DPC009_UPL), facing north (8/31/2022 by M. O'Loughlin).

Photograph 7. Forested upland (DPC007_UPL), facing north (8/31/2022 by M. O'Loughlin).

Photograph 8. Northern Upland Swale (NHD Disprove), facing north (8/31/2022 by M. O'Loughlin).

Photograph 9. Northern Upland Swale (NHD Disprove), facing south (8/31/2022 by M. O'Loughlin).

230 W. Monroe Street, Suite 1840
Chicago, IL 60606

T 630.370.0017
TRCcompanies.com

Storm Water Report

Runoff and Peak Rate Analysis

RPIL Solar 8, LLC
Storm Water Report

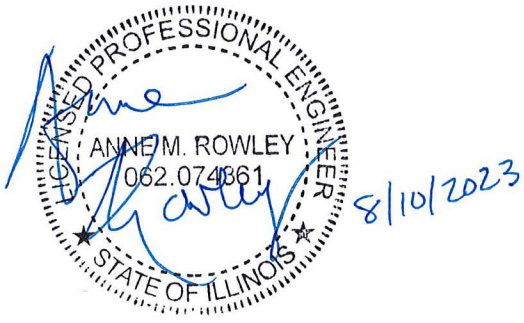
August 2023

Prepared For:

RPIL Solar 8, LLC
44 Montgomery Street - Suite #3150,
San Francisco, CA 94111

Prepared By:

TRC
999 Fourier Dr., Suite 101
Madison, Wisconsin 53717



Anne Rowley, PE
Project Manager

999 Fourier Dr., Suite 101 (53717) Madison, WI 608.826.3600

PROJECT/PROPOSAL NAME	PREPARED		CHECKED		PROJECT/PROPOSAL NO.
	By:	Date:	By:	Date:	
RPIL Solar 8, LLC	C. Zumm	8/1/2023	A. Rowley	8/9/2023	500015.0000.0006

Purpose:

The purpose of this storm water report is to estimate the change in storm water runoff volume and the peak discharge rate during the 2-year, 10-year, and 100-year, 24-hour storms resulting from the Plato Road Solar Project (the Project) located south of Plato Road in Hampshire, Kane County, Illinois (Site). This change in storm water runoff volume and the peak discharge rate will dictate which storm water controls, if any, will be required in accordance with the applicable regulations.

Methodologies:

- Analysis of storm water runoff for the post condition was completed using HydroCAD®, Version 10, storm water modeling software (HydroCAD). HydroCAD is largely based on the United States Department of Agriculture (USDA) Soil Conservation Service's (SCS), (also known as the Natural Resources Conservation Service [NRCS]) Technical Release 55 (TR-55) and TR-20 hydrology methods. HydroCAD also incorporates capabilities such as outlet hydraulics, exfiltration calculations, and a range of other features that are not applicable to the TR-55 and TR-20 methods. Additionally, it is able to calculate different distributions, such as the Huff distribution.
- Drainage areas (subcatchments) and time of concentration lines for both the pre- and post-development conditions were delineated using Autodesk AutoCAD® Civil 3D design software (refer to Figures 1 and 2). These subcatchments and the corresponding time of concentration lines were then entered into HydroCAD. Surface runoff characteristics were determined based on the existing soils and topography at the Site, as well as planned final conditions. Rainfall quantities and storm distributions were determined based on the updated Bulletin 70 (see Attachment 1). HydroCAD was used to generate hydrographs from which the volume and peak discharge of storm water runoff were obtained.
- Both the pre- and post-development conditions were modeled based on topographic survey data performed by WT Group on March 22, 2023.

Assumptions:

- The following assumptions and input parameters were used when modeling the storm water runoff (refer to the attached HydroCAD outputs and references of this section):
  - It will not be necessary for the gravel access road for the Site to have graded storm water ditches to convey flow. Therefore, the flow of storm water will be dependent primarily on the existing topography.
  - Storm water runoff for the existing conditions is modeled as agricultural with overland flow.
  - Storm water runoff for the developed conditions is modeled as meadow with overland flow.

PROJECT/PROPOSAL NAME	PREPARED		CHECKED		PROJECT/PROPOSAL NO.
	By:	Date:	By:	Date:	
RPIL Solar 8, LLC	C. Zumm	8/1/2023	A. Rowley	8/9/2023	500015.0000.0006

- The length of sheet flow is 100 feet for each subcatchment.
- Calculations in this report are based on a 12-foot-wide gravel access road into the Site. The Project has consulted with the corresponding Fire Protection District to validate the modeled assumptions for safety.
- Solar panel piles, with an overall occupation of less than 30 square feet across the project, will not negatively impact site drainage or alter drainage flow paths. Piles will be designed and installed to withstand applicable weather events both on and off-site.

Runoff and Routing Methods

- The Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS) was utilized to determine existing soil groups on Site. Group B, C, and D hydrologic soil groups (HSG) are present on Site.
- Runoff curve numbers were assumed as described below using land type and hydrologic soil group:

Land Description	Area	Curve Number (HSG B)	Curve Number (HSG C)	Curve Number (HSG D)	Reference
Row crops, SR + CR, Good	1, 2, 3, 4	75	82	85	TR-55
>75% Grass cover, Good	1, 3	61	74	80	TR-55
Woods, Fair	1, 2, 3, 4	60	73	79	TR-55
Meadow, non-grazed	1, 2, 3, 4	58	71	78	TR-55
Gravel roads	1	85	89	91	TR-55

Storm Events

- The values are based on Illinois State Water Survey (ISWS) Updated Bulletin 70 for standard precipitation estimates (see Attachment 1).
- A 3rd Quartile Huff rainfall distribution was utilized when producing runoff hydrographs.
- A 2-year, 24-hour storm event in the vicinity of the Site produces 3.34 inches of rain.
- A 10-year, 24-hour storm event in the vicinity of the Site produces 5.15 inches of rain.
- A 100-year, 24-hour storm event in the vicinity of the Site produces 8.57 inches of rain.

Storm Water Runoff Results:

The results of the storm water runoff calculations are summarized in the tables below. In summary, the Project has been designed to provide an overall runoff reduction. The 2-year, 24-hour storm and 100-year, 24-hour storm have the peak runoff rate and total runoff volume

PROJECT/PROPOSAL NAME	PREPARED		CHECKED		PROJECT/PROPOSAL NO.
	By:	Date:	By:	Date:	
RPIL Solar 8, LLC	C. Zumm	8/1/2023	A. Rowley	8/9/2023	500015.0000.0006

summarized in Tables 1 and 2. Table 3 shows the percentage runoff reduction from the pre-development to the post-development conditions. Runoff rates for the 10-year, 24-hour storm are provided in Table 4 to compare the pre-development conditions and the post-development conditions. Decreased runoff rates in the post-development condition are attributed to improved ground conditions (meadow). Runoff rates shown below are considered to be conservative for both the pre and post conditions, and do not account for the presence of drain tile. The Project will adhere to all drain tile requirements outlined in the Project's Agricultural Impact Mitigation Agreement with the Illinois Department of Agriculture. Please Refer to the attached HydroCAD outputs in Attachments 2 and 3 for more details on runoff calculations.

Table 1: Pre-Development Storm Water Runoff Summary

Watershed ID	Area (acres)	Time of Concentration (minutes)	2-Year, 24-Hour Storm		100-Year, 24-Hour Storm	
			Peak Runoff Rate (cfs)	Peak Runoff Volume (acre-ft)	Peak Runoff Rate (cfs)	Peak Runoff Volume (acre-ft)
S-1	23.35	39.2	5.35	3.21	18.08	12.46
S-2	7.56	9.9	1.74	1.04	5.94	4.03
S-3	20.57	26.5	4.58	2.71	15.86	10.77
S-4	5.28	15.2	1.10	0.64	4.00	2.66
Total Site	55.76	-	-	7.60	-	29.92

Table 2: Post-Development Storm Water Runoff Summary

Watershed ID	Area (acres)	Time of Concentration (minutes)	2-Year, 24-Hour Storm		100-Year, 24-Hour Storm	
			Peak Runoff Rate (cfs)	Peak Runoff Volume (acre-ft)	Peak Runoff Rate (cfs)	Peak Runoff Volume (acre-ft)
S-1	23.35	40.5	4.35	2.43	16.82	11.05
S-2	7.56	10.9	1.42	0.79	5.52	3.58
S-3	20.57	28.9	3.28	1.75	14.04	8.91
S-4	5.28	15.6	1.03	0.58	3.90	2.55
Total Site	55.76	-	-	5.54	-	26.09

PROJECT/PROPOSAL NAME	PREPARED		CHECKED		PROJECT/PROPOSAL NO.
	By:	Date:	By:	Date:	
RPIL Solar 8, LLC	C. Zumm	8/1/2023	A. Rowley	8/9/2023	500015.0000.0006

Table 3: Difference in Storm Water Runoff Summary

Watershed ID	2-Year, 24-Hour Storm	100-Year, 24-Hour Storm
	Percent Volume Reduction (%)	Percent Volume Reduction (%)
S-1	24.3	11.3
S-2	24.0	11.2
S-3	35.4	17.3
S-4	9.4	4.1
Total Site	27.0	12.8

Table 4: 10-Year, 24-Hour Storm Runoff Rates

Watershed ID	10-Year, 24-Hour Storm	
	Pre-Development Peak Runoff Rate (cfs)	Post-Development Peak Runoff Rate (cfs)
S-1	9.72	8.51
S-2	3.18	2.77
S-3	8.44	6.79
S-4	2.08	1.98

The results indicate a decrease in storm water runoff from each subcatchment. With these results, it is anticipated that no detention storage or other storm water runoff controls will be required for the Site to maintain equal to or better than previous outflow.

Proposed Best Management Practices:

The proposed development adds approximately 21,000 square feet of impervious area to the Site. In accordance with the Kane County Stormwater Management Ordinance, Category I Best Management Practices (BMPs) are required to be incorporated into the Project. The proposed BMPs will provide runoff volume reduction and water quality treatment for one inch of rainfall over the added impervious area. The volume of water reduction and treatment required is approximately 1,750 cubic feet. Permanent Vegetation is proposed to meet the Category I BMP requirements. A native seeding mix that is suitable for Site conditions will be selected in accordance with the Practice Standards of the Illinois Urban Manual. Permanent Vegetation (Code 880) will establish a permanent cover to stabilize soils and enhance permeability while reducing runoff and erosion. The solar farm seed mix will be planted across the Site as shown in the landscaping details. This seed mix will be implemented and maintained to meet Permanent

PROJECT/PROPOSAL NAME	PREPARED		CHECKED		PROJECT/PROPOSAL NO.
	By:	Date:	By:	Date:	
RPIL Solar 8, LLC	C. Zumm	8/1/2023	A. Rowley	8/9/2023	500015.0000.0006

Vegetation BMP requirements in a 75-foot-wide strip downhill of the access road within subcatchment S-1 as shown in Figure 2.

BMP Sizing

As discussed in earlier sections, ground cover improvements are proposed for the entire fenced area of the Site, however, to be flexible with seeding options, the minimum area of permanent vegetation to meet the BMP requirements was calculated. Calculations in Attachment 4 show that 26,317 square feet, or approximately 0.60 acres, of permanent vegetation must be implemented to meet the BMP volume reduction requirements.

Implementation and Maintenance

Permanent Vegetation will be implemented and maintained in accordance with Illinois Urban Manual practice standards. The landscaping details (Sheets L100 – L102) in the Civil Plan Set show proposed seed mixes, and planting locations. It is expected that this seed mix meets the requirements of practice standard 880a which lists acceptable plant species. Low-maintenance plants are prioritized in the landscaping plan. Prescribed burns and frequent mowing will not be implemented. Native grasses, forbs, and legumes are proposed. Low areas of the Site, which are prone to inundation, will be seeded with a separate seed mixture as described in the landscaping plan.

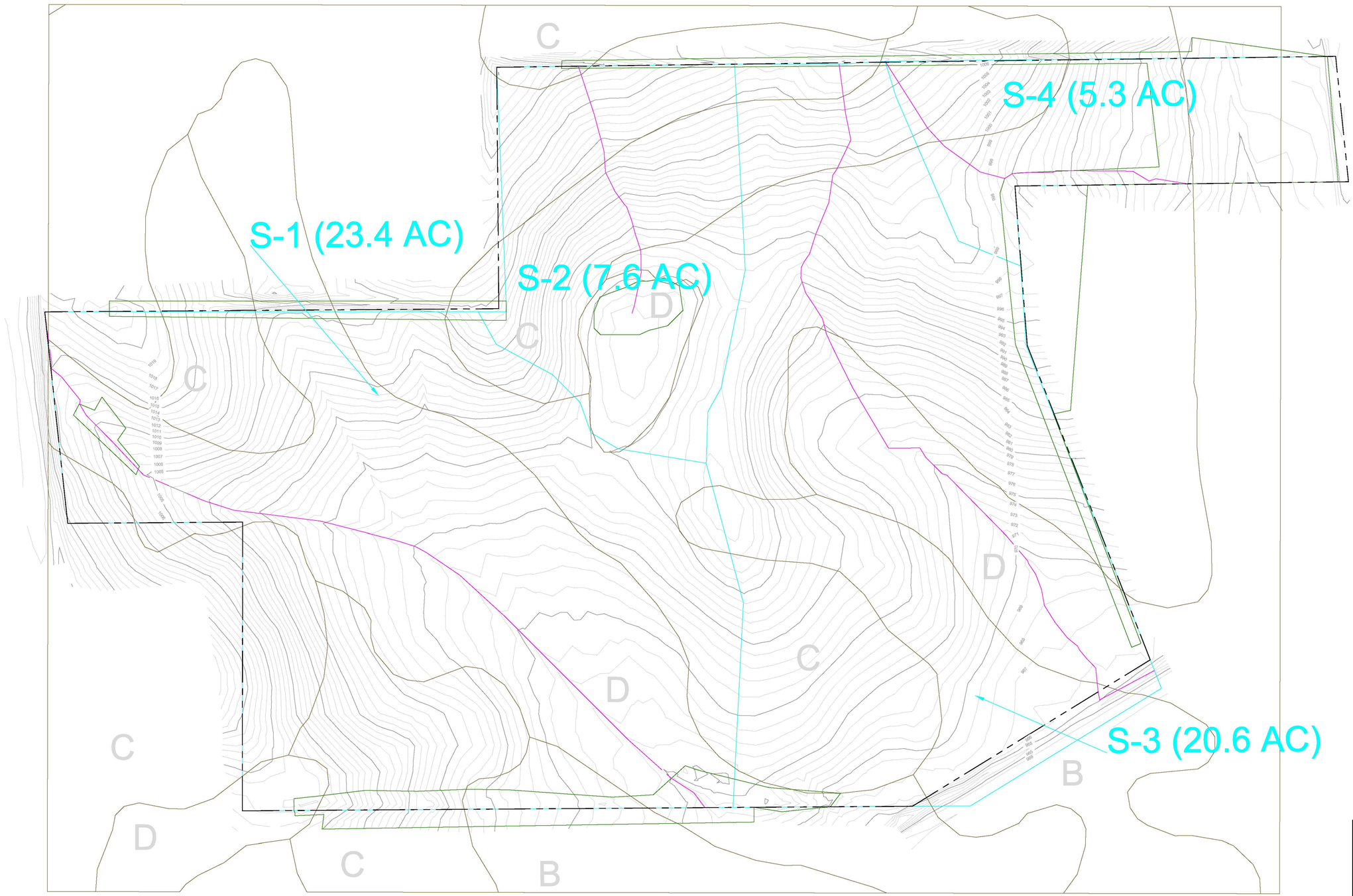
References:

HydroCAD® Software Solutions LLC (HydroCAD). 2013. HydroCAD Storm Water Modeling System. Version 10.00.

TRC Environmental Corp. Civil Plan Set, Plato Road Solar, August 2023.

US Department of Agriculture, Soil Conservation Service (SCS). Urban Hydrology for Small Watersheds. Technical Release No. 55 (TR-55). 2nd Edition. June 1986.

Figures



LEGEND

- EXISTING WOODLANDS
- PROPERTY LINE
- CATCHMENT BOUNDARY
- TIME OF CONCENTRATION LINE
- 800 EXISTING CONTOUR
- D SOIL GROUP LABEL
- SOIL GROUP BOUNDARY

10-YEAR, 24-HOUR STORM PEAK RUNOFF RATES		
CATCHMENT	PRE-DEVELOPMENT (CFS)	POST-DEVELOPMENT (CFS)
S-1	9.72	8.51
S-2	3.18	2.77
S-3	8.44	6.79
S-4	2.08	1.98

NOTES

1. GROUP A. SOILS HAVING A HIGH INFILTRATION RATE (LOW RUNOFF POTENTIAL) WHEN THOROUGHLY WET. THESE CONSIST MAINLY OF DEEP, WELL DRAINED TO EXCESSIVELY DRAINED SANDS OR GRAVELLY SANDS. THESE SOILS HAVE A HIGH RATE OF WATER TRANSMISSION.
2. GROUP B. SOILS HAVING A MODERATE INFILTRATION RATE WHEN THOROUGHLY WET. THESE CONSIST CHIEFLY OF MODERATELY DEEP OR DEEP, MODERATELY WELL DRAINED OR WELL DRAINED SOILS THAT HAVE MODERATELY FINE TEXTURE TO MODERATELY COARSE TEXTURE. THESE SOILS HAVE A MODERATE RATE OF WATER TRANSMISSION.
3. GROUP C. SOILS HAVING A SLOW INFILTRATION RATE WHEN THOROUGHLY WET. THESE CONSIST CHIEFLY OF SOILS HAVING A LAYER THAT IMPEDES THE DOWNWARD MOVEMENT OF WATER OR SOILS OF MODERATELY FINE TEXTURE OR FINE TEXTURE. THESE SOILS HAVE A SLOW RATE OF WATER TRANSMISSION.
4. GROUP D. SOILS HAVING A VERY SLOW INFILTRATION RATE (HIGH RUNOFF POTENTIAL) WHEN THOROUGHLY WET. THESE CONSIST CHIEFLY OF CLAYS THAT HAVE A HIGH SHRINK-SWELL POTENTIAL, SOILS THAT HAVE A HIGH WATER TABLE, SOILS THAT HAVE A CLAYPAN OR CLAY LAYER AT OR NEAR THE SURFACE, AND SOILS THAT ARE SHALLOW OVER NEARLY IMPERVIOUS MATERIAL. THESE SOILS HAVE A VERY SLOW RATE OF WATER TRANSMISSION.

0 100 200 300 400

SCALE IN FEET

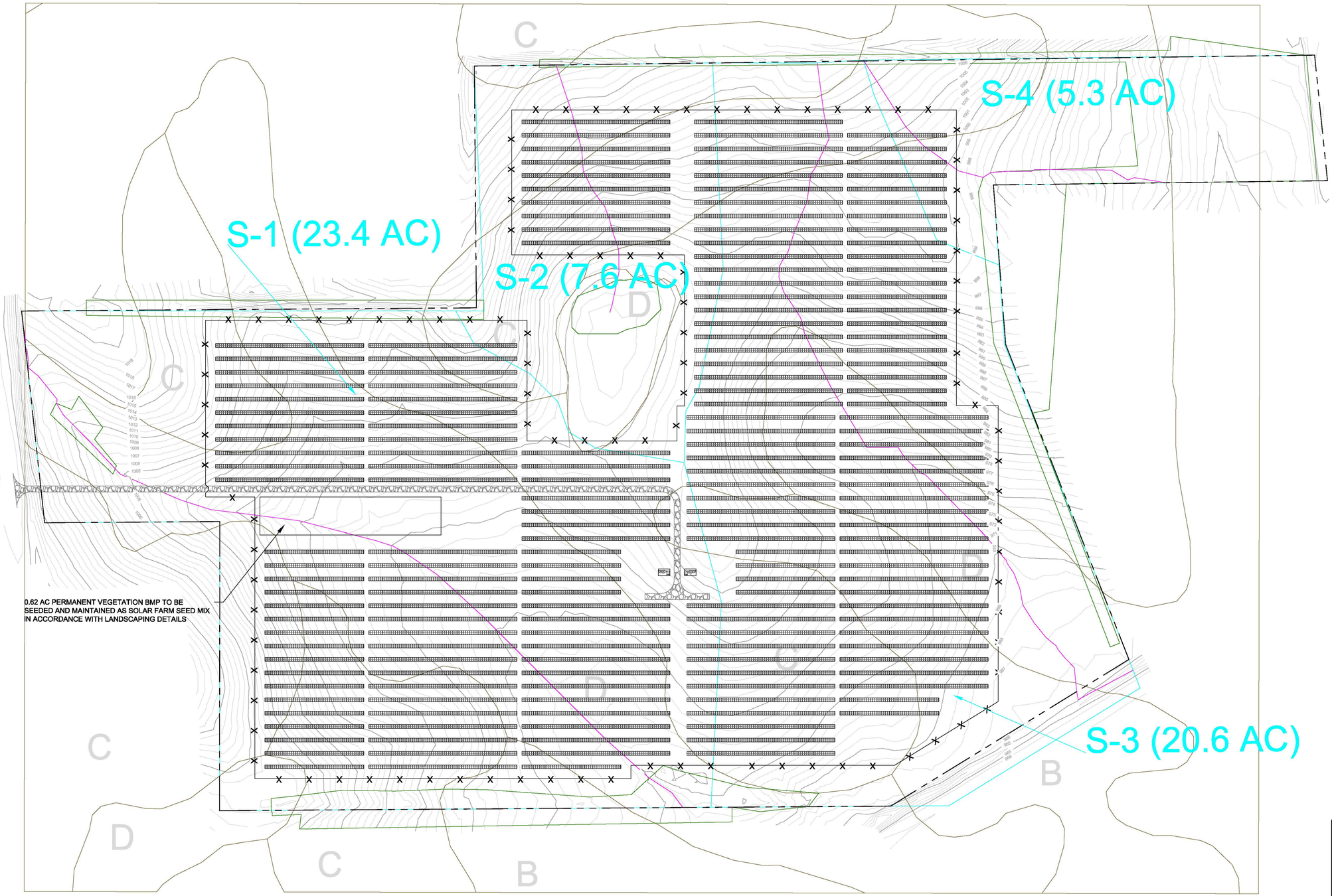
PROJECT:
RPIL SOLAR 8, LLC
PLATO ROAD SOLAR
KANE COUNTY, IL

TITLE:
PRE-DEVELOPMENT STORMWATER CATCHMENTS

DRAWN BY:	C. ZUMM	PROJ. NO.:	500015.0000.0006
CHECKED BY:	A. ROWLEY		
APPROVED BY:	A. ROWLEY		**FIGURE 1**
DATE:	AUGUST 2023		

TRC
230 West Monroe St.
Suite 1840
Chicago, IL 60606
Phone: 312.578.0870

FILE NO.: Plato Post-Dev.dwg



LEGEND

- EXISTING WOODLANDS
- PROPERTY LINE
- CATCHMENT BOUNDARY
- TIME OF CONCENTRATION LINE
- 800 EXISTING CONTOUR
- D SOIL GROUP LABEL
- SOIL GROUP BOUNDARY
- FENCE LINE
- MV TRANSFORMER
- MODULE ROW
- GRAVEL ACCESS ROAD

10-YEAR, 24-HOUR STORM PEAK RUNOFF RATES		
CATCHMENT	PRE-DEVELOPMENT (CFS)	POST-DEVELOPMENT (CFS)
S-1	9.72	8.51
S-2	3.18	2.77
S-3	8.44	6.79
S-4	2.08	1.98

NOTES

1. GROUP A. SOILS HAVING A HIGH INFILTRATION RATE (LOW RUNOFF POTENTIAL) WHEN THOROUGHLY WET. THESE CONSIST MAINLY OF DEEP, WELL DRAINED TO EXCESSIVELY DRAINED SANDS OR GRAVELLY SANDS. THESE SOILS HAVE A HIGH RATE OF WATER TRANSMISSION.
2. GROUP B. SOILS HAVING A MODERATE INFILTRATION RATE WHEN THOROUGHLY WET. THESE CONSIST CHIEFLY OF MODERATELY DEEP OR DEEP, MODERATELY WELL DRAINED OR WELL DRAINED SOILS THAT HAVE MODERATELY FINE TEXTURE TO MODERATELY COARSE TEXTURE. THESE SOILS HAVE A MODERATE RATE OF WATER TRANSMISSION.
3. GROUP C. SOILS HAVING A SLOW INFILTRATION RATE WHEN THOROUGHLY WET. THESE CONSIST CHIEFLY OF SOILS HAVING A LAYER THAT IMPEDES THE DOWNWARD MOVEMENT OF WATER OR SOILS OF MODERATELY FINE TEXTURE OR FINE TEXTURE. THESE SOILS HAVE A SLOW RATE OF WATER TRANSMISSION.
4. GROUP D. SOILS HAVING A VERY SLOW INFILTRATION RATE (HIGH RUNOFF POTENTIAL) WHEN THOROUGHLY WET. THESE CONSIST CHIEFLY OF CLAYS THAT HAVE A HIGH SHRINK-SWELL POTENTIAL, SOILS THAT HAVE A HIGH WATER TABLE, SOILS THAT HAVE A CLAYPAN OR CLAY LAYER AT OR NEAR THE SURFACE, AND SOILS THAT ARE SHALLOW OVER NEARLY IMPERVIOUS MATERIAL. THESE SOILS HAVE A VERY SLOW RATE OF WATER TRANSMISSION.

0 100 200 300 400
SCALE IN FEET

PROJECT:
RPIL SOLAR 8, LLC
PLATO ROAD SOLAR
KANE COUNTY, IL

TITLE:
POST-DEVELOPMENT STORMWATER CATCHMENTS

DRAWN BY:	C. ZUMM	PROJ. NO.:	500015.0000.0006
CHECKED BY:	A. ROWLEY		**FIGURE 2**
APPROVED BY:	A. ROWLEY		
DATE:	AUGUST 2023		

TRC
230 West Monroe St.
Suite 1840
Chicago, IL 60606
Phone: 312.578.0870

FILE NO.: Plato Post-Dev.dwg

Attachment 1
Bulletin 70 Precipitation Estimates

Results

Frequency Estimates

To determine the precipitation frequency, the previously described regional frequency analysis was applied to the AMS data. The results were then converted to the PDS domain based on the relationship defined in Eq. 1 and adjusted for the trend (Eq. 3). These results, however, still had occasional minor inconsistencies caused by several factors, such as variable data length for different durations, which resulted in irregular frequency curves. To produce the final curves, these irregularities had to be smoothed out, which was done based on the authors' professional judgment and knowledge of specific regions and gages.

The results for all sections are shown in the following tables. Table 4 displays the key for the codes used in Table 5 where the results are presented numerically. The results are shown graphically in Figures 8–12.

Table 4 Storm and Sectional Codes for Table 5

Storm Code	
1	240 hours
2	120 hours
3	72 hours
4	48 hours
5	24 hours
6	18 hours
7	12 hours
8	6 hours
9	3 hours
10	2 hours
11	1 hour

Sectional Code	
1	Northwest
2	Northeast
3	West
4	Central
5	East
6	West Southwest
7	Southeast
8	Southwest
9	Southeast
10	South

Table 5 Rainfall Frequencies

		Rainfall (inches) for given recurrence interval						
Storm code	Section code	2-year	5-year	10-year	25-year	50-year	100-year	500-year
1	1	5.48	6.86	7.98	9.55	10.84	12.14	15.65
1	2	5.60	7.09	8.25	9.90	11.26	12.65	16.00
1	3	5.62	7.00	8.10	9.60	10.65	11.64	13.99
1	4	5.46	6.87	8.04	9.53	10.55	11.50	13.65
1	5	5.50	6.84	7.90	9.35	10.45	11.55	13.96
1	6	6.00	7.38	8.47	9.95	10.99	11.95	14.08
1	7	6.57	7.86	8.90	10.20	11.20	12.06	13.95
1	8	6.75	8.18	9.30	10.80	11.95	13.10	15.95
1	9	7.06	8.30	9.22	10.37	11.21	11.96	13.75
1	10	6.36	7.65	8.76	10.40	11.66	12.96	16.20
2	1	4.35	5.51	6.46	7.88	8.96	10.20	13.33
2	2	4.42	5.63	6.68	8.16	9.39	10.66	13.81
2	3	4.51	5.66	6.62	7.94	8.93	9.83	11.99
2	4	4.27	5.42	6.42	7.75	8.72	9.60	11.54
2	5	4.34	5.43	6.41	7.73	8.79	9.80	11.93
2	6	4.49	5.60	6.49	7.77	8.69	9.57	11.53
2	7	5.00	6.11	7.01	8.23	9.11	9.95	11.71
2	8	5.31	6.51	7.47	8.79	9.81	10.84	13.45
2	9	5.73	6.78	7.60	8.64	9.47	10.20	11.97
2	10	5.18	6.30	7.29	8.69	9.78	10.91	13.84
3	1	3.90	4.95	5.87	7.21	8.30	9.45	12.30
3	2	3.97	5.08	6.05	7.49	8.64	9.85	12.81
3	3	4.11	5.18	6.08	7.34	8.31	9.18	11.27
3	4	3.88	4.96	5.90	7.17	8.09	8.98	10.81
3	5	3.88	4.90	5.78	7.04	8.01	8.93	11.00
3	6	4.00	5.00	5.83	7.01	7.91	8.73	10.61
3	7	4.35	5.37	6.19	7.34	8.19	8.97	10.57
3	8	4.74	5.82	6.71	7.96	8.89	9.86	12.32
3	9	5.13	6.09	6.86	7.87	8.63	9.34	10.93
3	10	4.54	5.61	6.50	7.78	8.79	9.86	12.55

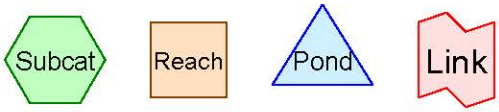
Table 5 (continued)

Storm code	Section code	Rainfall (inches) for given recurrence interval 2-year	5-year	10-year	25-year	50-year	100-year	500-year
4	1	3.61	4.59	5.43	6.72	7.73	8.83	11.53
4	2	3.66	4.71	5.62	6.99	8.13	9.28	12.10
4	3	3.76	4.76	5.62	6.81	7.72	8.60	10.58
4	4	3.59	4.61	5.47	6.65	7.55	8.40	10.21
4	5	3.54	4.49	5.32	6.48	7.38	8.27	10.26
4	6	3.66	4.61	5.38	6.48	7.33	8.11	9.93
4	7	3.92	4.85	5.61	6.67	7.46	8.21	9.76
4	8	4.28	5.29	6.10	7.25	8.15	9.08	11.40
4	9	4.64	5.54	6.27	7.24	7.94	8.58	10.06
4	10	4.06	5.02	5.86	7.04	8.01	9.02	11.56
5	1	3.34	4.22	5.03	6.20	7.20	8.25	10.84
5	2	3.34	4.30	5.15	6.45	7.50	8.57	11.24
5	3	3.48	4.45	5.24	6.38	7.25	8.06	9.91
5	4	3.32	4.30	5.10	6.20	7.05	7.85	9.53
5	5	3.12	3.97	4.71	5.78	6.62	7.43	9.32
5	6	3.23	4.07	4.76	5.79	6.56	7.31	9.04
5	7	3.49	4.33	5.00	5.98	6.71	7.40	8.84
5	8	3.69	4.56	5.27	6.30	7.14	7.96	10.06
5	9	4.07	4.89	5.55	6.42	7.06	7.68	8.99
5	10	3.63	4.52	5.28	6.38	7.29	8.23	10.57
6	1	3.14	3.97	4.73	5.83	6.77	7.75	10.19
6	2	3.14	4.04	4.84	6.06	7.05	8.06	10.57
6	3	3.27	4.18	4.93	6.00	6.82	7.58	9.32
6	4	3.12	4.04	4.79	5.83	6.63	7.38	8.96
6	5	2.93	3.73	4.43	5.43	6.22	6.98	8.76
6	6	3.04	3.83	4.47	5.44	6.17	6.87	8.50
6	7	3.28	4.07	4.70	5.62	6.31	6.96	8.31
6	8	3.47	4.29	4.95	5.92	6.71	7.48	9.45
6	9	3.83	4.60	5.22	6.03	6.64	7.22	8.45
6	10	3.41	4.25	4.96	6.00	6.85	7.73	9.93

Attachment 2
Pre-Development HydroCAD Calculations

Created by AE
7.26.2023 Checked by:
CZ 8.1.23

Subcat S-1 Subcat S-2 Subcat S-3 Subcat S-4



Routing Diagram for Plato Pre-Dev
Prepared by TRC Companies, Printed 8/2/2023

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Huff B70 0-10sm	3Q	Scale	24.00	1	3.34	2
2	10-Year	Huff B70 0-10sm	3Q	Scale	24.00	1	5.15	2
3	100-Year	Huff B70 0-10sm	3Q	Scale	24.00	1	8.57	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.008	61	>75% Grass cover, Good, HSG B (S-1)
0.535	74	>75% Grass cover, Good, HSG C (S-1)
2.715	80	>75% Grass cover, Good, HSG D (S-1, S-3)
0.005	82	Row crops, SR + CR, Good (S-1)
4.402	75	Row crops, SR + CR, Good, HSG B (S-1, S-3)
30.769	82	Row crops, SR + CR, Good, HSG C (S-1, S-2, S-3, S-4)
13.845	85	Row crops, SR + CR, Good, HSG D (S-1, S-2, S-3, S-4)
0.244	60	Woods, Fair, HSG B (S-1)
2.244	73	Woods, Fair, HSG C (S-1, S-2, S-3, S-4)
1.987	79	Woods, Fair, HSG D (S-1, S-2, S-3, S-4)
56.755	**81**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
4.654	HSG B	S-1, S-3
33.548	HSG C	S-1, S-2, S-3, S-4
18.548	HSG D	S-1, S-2, S-3, S-4
0.005	Other	S-1
56.755		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.008	0.535	2.715	0.000	3.258	>75% Grass cover, Good	S-1, S-3
0.000	4.402	30.769	13.845	0.005	49.022	Row crops, SR + CR, Good	S-1, S-2, S-3, S-4
0.000	0.244	2.244	1.987	0.000	4.474	Woods, Fair	S-1, S-2, S-3, S-4
0.000	**4.654**	**33.548**	**18.548**	**0.005**	**56.755**	**TOTAL AREA**	

Time span=0.00-30.00 hrs, dt=0.10 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment S-1: Subcat S-1 Runoff Area=23.346 ac 0.00% Impervious Runoff Depth=1.65"
Flow Length=1,740' Tc=39.2 min CN=82 Runoff=5.35 cfs 3.213 af

Subcatchment S-2: Subcat S-2 Runoff Area=7.559 ac 0.00% Impervious Runoff Depth=1.65"
Flow Length=518' Tc=9.9 min CN=82 Runoff=1.74 cfs 1.040 af

Subcatchment S-3: Subcat S-3 Runoff Area=20.572 ac 0.00% Impervious Runoff Depth=1.58"
Flow Length=1,652' Tc=26.5 min CN=81 Runoff=4.58 cfs 2.709 af

Subcatchment S-4: Subcat S-4 Runoff Area=5.278 ac 0.00% Impervious Runoff Depth=1.44"
Flow Length=719' Tc=15.2 min CN=79 Runoff=1.10 cfs 0.635 af

Total Runoff Area = 56.755 ac Runoff Volume = 7.596 af Average Runoff Depth = 1.61"
100.00% Pervious = 56.755 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment S-1: Subcat S-1

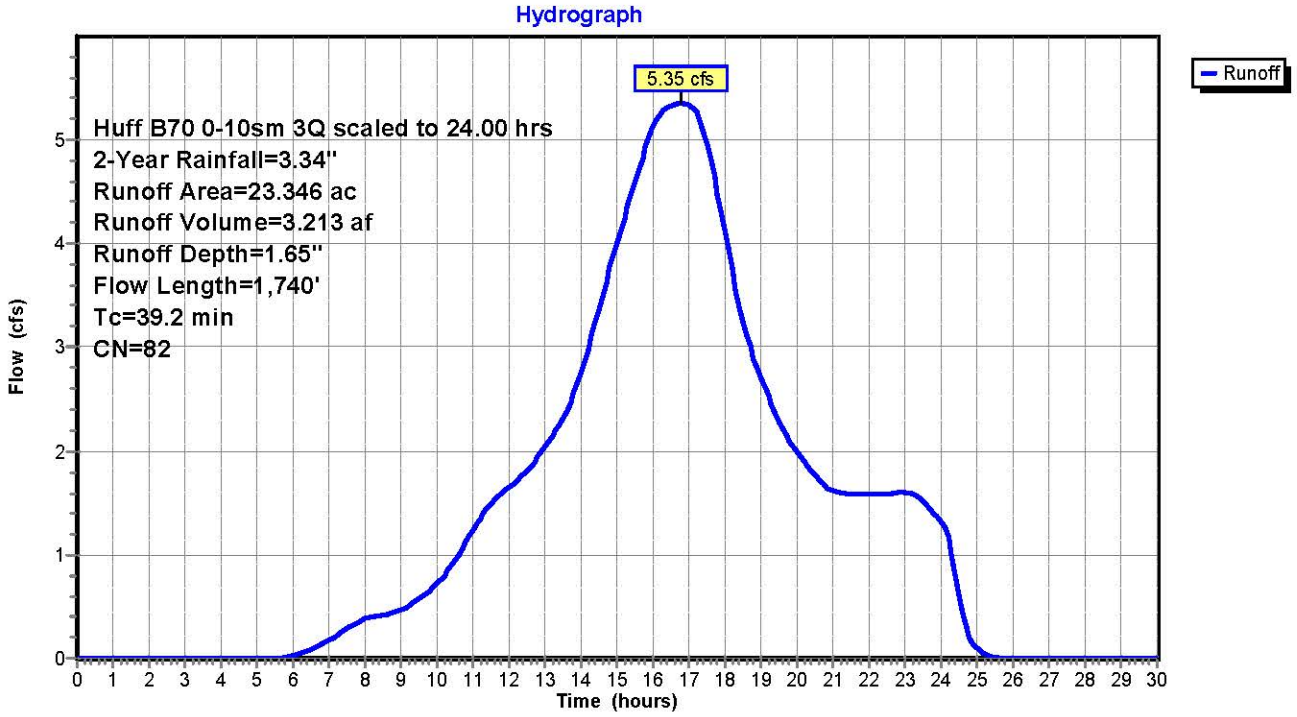
Runoff = 5.35 cfs @ 16.80 hrs, Volume= 3.213 af, Depth= 1.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 2-Year Rainfall=3.34"

	Area (ac)	CN	Description
*	0.000	74	>75% Grass cover, Good
	0.008	61	>75% Grass cover, Good, HSG B
	0.535	74	>75% Grass cover, Good, HSG C
	2.508	80	>75% Grass cover, Good, HSG D
*	0.005	82	Row crops, SR + CR, Good
	0.595	75	Row crops, SR + CR, Good, HSG B
	10.159	82	Row crops, SR + CR, Good, HSG C
	8.537	85	Row crops, SR + CR, Good, HSG D
	0.244	60	Woods, Fair, HSG B
	0.409	73	Woods, Fair, HSG C
	0.346	79	Woods, Fair, HSG D
	23.346	82	Weighted Average
	23.346		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	100	0.0250	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.34"
1.4	107	0.0330	1.27		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.1	175	0.0364	0.95		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
19.5	1,268	0.0240	1.08		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	90	0.0161	0.63		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
39.2	1,740	Total			

Subcatchment S-1: Subcat S-1



Hydrograph for Subcatchment S-1: Subcat S-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.08	0.00	0.00
2.00	0.12	0.00	0.00
2.50	0.16	0.00	0.00
3.00	0.21	0.00	0.00
3.50	0.26	0.00	0.00
4.00	0.31	0.00	0.00
4.50	0.36	0.00	0.00
5.00	0.40	0.00	0.00
5.50	0.45	0.00	0.00
6.00	0.49	0.00	0.02
6.50	0.53	0.00	0.08
7.00	0.59	0.01	0.18
7.50	0.64	0.02	0.29
8.00	0.69	0.03	0.38
8.50	0.73	0.03	0.42
9.00	0.78	0.05	0.46
9.50	0.83	0.06	0.57
10.00	0.89	0.08	0.72
10.50	0.96	0.10	0.95
11.00	1.05	0.13	1.24
11.50	1.13	0.17	1.49
12.00	1.21	0.20	1.65
12.50	1.30	0.24	1.81
13.00	1.39	0.29	2.04
13.50	1.50	0.34	2.31
14.00	1.61	0.41	2.76
14.50	1.75	0.49	3.37
15.00	1.90	0.58	4.00
15.50	2.06	0.69	4.59
16.00	2.22	0.80	5.13
16.50	2.39	0.92	**5.34**
17.00	2.54	1.03	**5.34**
17.50	2.67	1.12	4.96
18.00	2.77	1.20	4.12
18.50	2.84	1.26	3.24
19.00	2.91	1.31	2.71
19.50	2.97	1.35	2.29
20.00	3.02	1.39	1.99
20.50	3.06	1.43	1.76
21.00	3.10	1.46	1.61
21.50	3.15	1.49	1.59
22.00	3.19	1.53	1.59
22.50	3.23	1.56	1.59
23.00	3.27	1.60	1.60
23.50	3.31	1.63	1.51
24.00	**3.34**	**1.65**	1.32
24.50	3.34	1.65	0.61
25.00	3.34	1.65	0.09
25.50	3.34	1.65	0.01
26.00	3.34	1.65	0.00
26.50	3.34	1.65	0.00
27.00	3.34	1.65	0.00
27.50	3.34	1.65	0.00
28.00	3.34	1.65	0.00
28.50	3.34	1.65	0.00
29.00	3.34	1.65	0.00
29.50	3.34	1.65	0.00
30.00	3.34	1.65	0.00

Summary for Subcatchment S-2: Subcat S-2

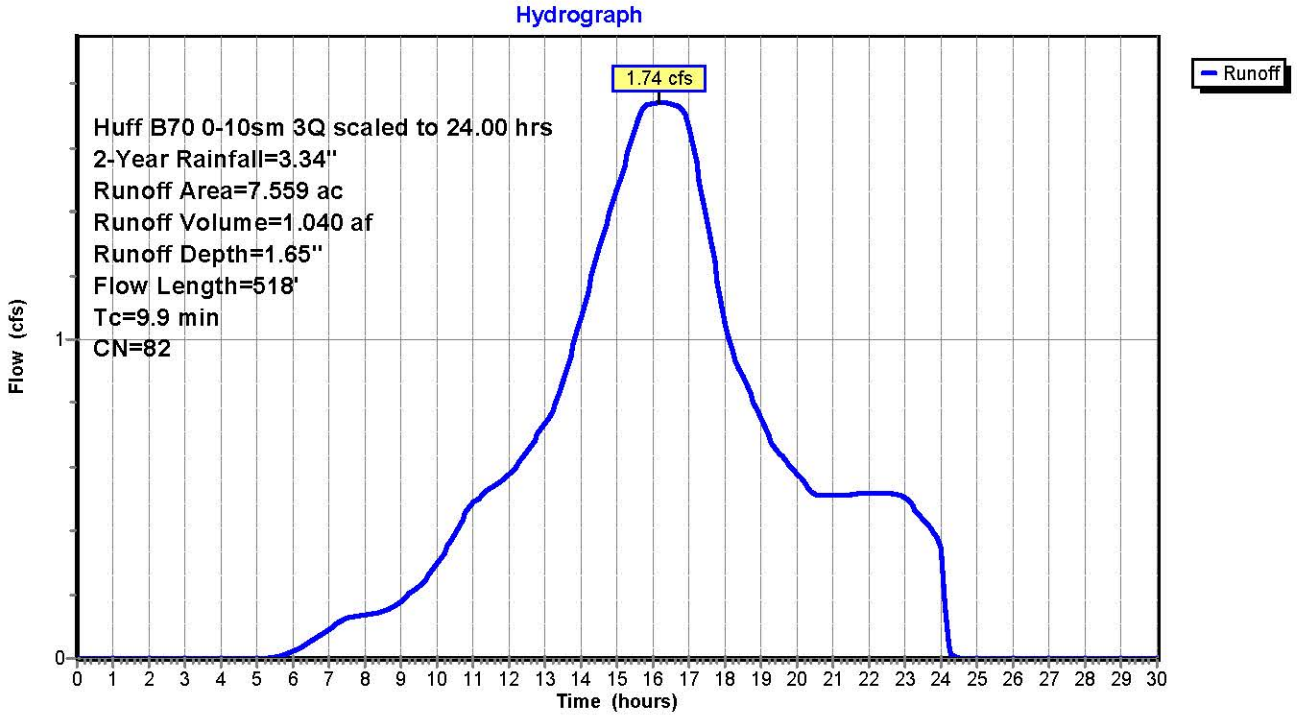
Runoff = 1.74 cfs @ 16.14 hrs, Volume= 1.040 af, Depth= 1.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 2-Year Rainfall=3.34"

Area (ac)	CN	Description
6.146	82	Row crops, SR + CR, Good, HSG C
1.005	85	Row crops, SR + CR, Good, HSG D
0.063	73	Woods, Fair, HSG C
0.344	79	Woods, Fair, HSG D
7.559	82	Weighted Average
7.559		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	100	0.0682	0.26		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 3.34"
2.5	353	0.0671	2.33		**Shallow Concentrated Flow, Farmland** Cultivated Straight Rows Kv= 9.0 fps
0.9	65	0.0328	1.27		**Shallow Concentrated Flow, Grass** Short Grass Pasture Kv= 7.0 fps
9.9	518	Total			

Subcatchment S-2: Subcat S-2



Hydrograph for Subcatchment S-2: Subcat S-2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.08	0.00	0.00
2.00	0.12	0.00	0.00
2.50	0.16	0.00	0.00
3.00	0.21	0.00	0.00
3.50	0.26	0.00	0.00
4.00	0.31	0.00	0.00
4.50	0.36	0.00	0.00
5.00	0.40	0.00	0.00
5.50	0.45	0.00	0.00
6.00	0.49	0.00	0.02
6.50	0.53	0.00	0.05
7.00	0.59	0.01	0.09
7.50	0.64	0.02	0.13
8.00	0.69	0.03	0.14
8.50	0.73	0.03	0.14
9.00	0.78	0.05	0.18
9.50	0.83	0.06	0.23
10.00	0.89	0.08	0.29
10.50	0.96	0.10	0.39
11.00	1.05	0.13	0.49
11.50	1.13	0.17	0.53
12.00	1.21	0.20	0.58
12.50	1.30	0.24	0.65
13.00	1.39	0.29	0.74
13.50	1.50	0.34	0.86
14.00	1.61	0.41	1.07
14.50	1.75	0.49	1.28
15.00	1.90	0.58	1.47
15.50	2.06	0.69	1.66
16.00	2.22	0.80	**1.74**
16.50	2.39	0.92	**1.74**
17.00	2.54	1.03	1.67
17.50	2.67	1.12	1.37
18.00	2.77	1.20	1.05
18.50	2.84	1.26	0.88
19.00	2.91	1.31	0.75
19.50	2.97	1.35	0.64
20.00	3.02	1.39	0.58
20.50	3.06	1.43	0.51
21.00	3.10	1.46	0.51
21.50	3.15	1.49	0.51
22.00	3.19	1.53	0.52
22.50	3.23	1.56	0.52
23.00	3.27	1.60	0.50
23.50	3.31	1.63	0.44
24.00	**3.34**	**1.65**	0.34
24.50	3.34	1.65	0.00
25.00	3.34	1.65	0.00
25.50	3.34	1.65	0.00
26.00	3.34	1.65	0.00
26.50	3.34	1.65	0.00
27.00	3.34	1.65	0.00
27.50	3.34	1.65	0.00
28.00	3.34	1.65	0.00
28.50	3.34	1.65	0.00
29.00	3.34	1.65	0.00
29.50	3.34	1.65	0.00
30.00	3.34	1.65	0.00

Summary for Subcatchment S-3: Subcat S-3

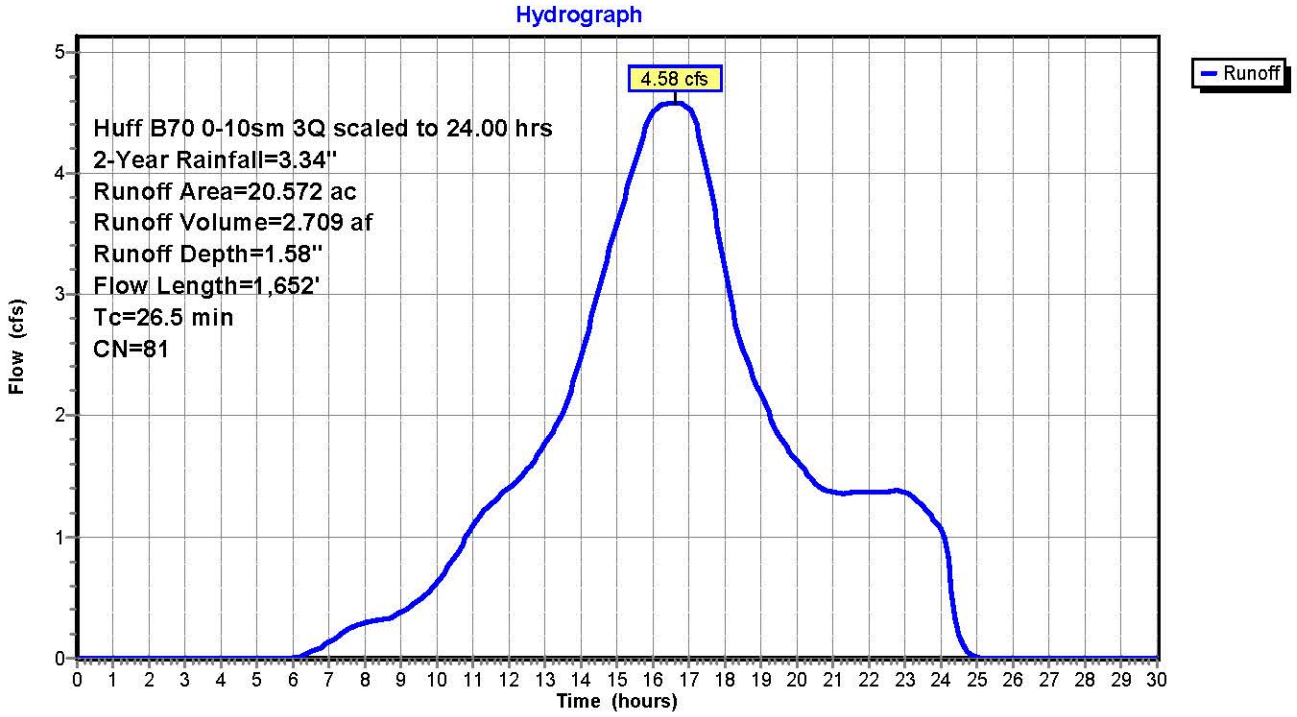
Runoff = 4.58 cfs @ 16.60 hrs, Volume= 2.709 af, Depth= 1.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 2-Year Rainfall=3.34"

Area (ac)	CN	Description
0.207	80	>75% Grass cover, Good, HSG D
3.807	75	Row crops, SR + CR, Good, HSG B
11.652	82	Row crops, SR + CR, Good, HSG C
4.303	85	Row crops, SR + CR, Good, HSG D
0.365	73	Woods, Fair, HSG C
0.237	79	Woods, Fair, HSG D
20.572	81	Weighted Average
20.572		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	100	0.0490	0.23		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 3.34"
6.7	758	0.0434	1.87		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
4.8	284	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.6	510	0.0154	1.12		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
26.5	1,652	Total			

Subcatchment S-3: Subcat S-3



Hydrograph for Subcatchment S-3: Subcat S-3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.08	0.00	0.00
2.00	0.12	0.00	0.00
2.50	0.16	0.00	0.00
3.00	0.21	0.00	0.00
3.50	0.26	0.00	0.00
4.00	0.31	0.00	0.00
4.50	0.36	0.00	0.00
5.00	0.40	0.00	0.00
5.50	0.45	0.00	0.00
6.00	0.49	0.00	0.00
6.50	0.53	0.00	0.05
7.00	0.59	0.01	0.13
7.50	0.64	0.01	0.23
8.00	0.69	0.02	0.30
8.50	0.73	0.03	0.32
9.00	0.78	0.04	0.38
9.50	0.83	0.05	0.48
10.00	0.89	0.06	0.62
10.50	0.96	0.09	0.84
11.00	1.05	0.11	1.10
11.50	1.13	0.15	1.28
12.00	1.21	0.18	1.40
12.50	1.30	0.22	1.55
13.00	1.39	0.26	1.77
13.50	1.50	0.31	2.03
14.00	1.61	0.38	2.49
14.50	1.75	0.45	3.04
15.00	1.90	0.54	3.58
15.50	2.06	0.64	4.08
16.00	2.22	0.75	4.50
16.50	2.39	0.86	**4.58**
17.00	2.54	0.97	**4.55**
17.50	2.67	1.06	4.02
18.00	2.77	1.14	3.22
18.50	2.84	1.20	2.55
19.00	2.91	1.25	2.17
19.50	2.97	1.29	1.84
20.00	3.02	1.33	1.63
20.50	3.06	1.36	1.45
21.00	3.10	1.39	1.36
21.50	3.15	1.43	1.36
22.00	3.19	1.46	1.37
22.50	3.23	1.49	1.38
23.00	3.27	1.53	1.38
23.50	3.31	1.56	1.25
24.00	**3.34**	**1.58**	1.06
24.50	3.34	1.58	0.19
25.00	3.34	1.58	0.01
25.50	3.34	1.58	0.00
26.00	3.34	1.58	0.00
26.50	3.34	1.58	0.00
27.00	3.34	1.58	0.00
27.50	3.34	1.58	0.00
28.00	3.34	1.58	0.00
28.50	3.34	1.58	0.00
29.00	3.34	1.58	0.00
29.50	3.34	1.58	0.00
30.00	3.34	1.58	0.00

Summary for Subcatchment S-4: Subcat S-4

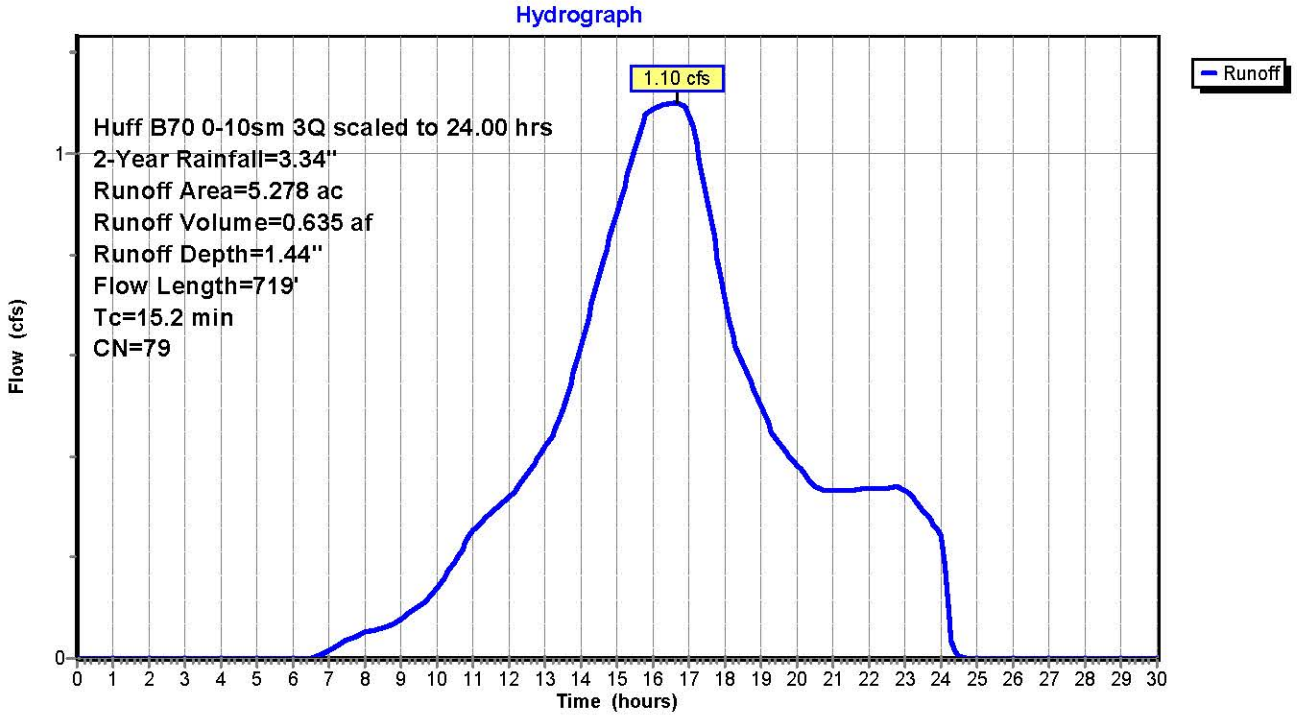
Runoff = 1.10 cfs @ 16.69 hrs, Volume= 0.635 af, Depth= 1.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 2-Year Rainfall=3.34"

Area (ac)	CN	Description
2.812	82	Row crops, SR + CR, Good, HSG C
0.000	85	Row crops, SR + CR, Good, HSG D
1.406	73	Woods, Fair, HSG C
1.059	79	Woods, Fair, HSG D
5.278	79	Weighted Average
5.278		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	100	0.0539	0.23		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 3.34"
2.1	245	0.0470	1.95		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
6.0	374	0.0429	1.04		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
15.2	719	Total			

Subcatchment S-4: Subcat S-4



Hydrograph for Subcatchment S-4: Subcat S-4

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.08	0.00	0.00
2.00	0.12	0.00	0.00
2.50	0.16	0.00	0.00
3.00	0.21	0.00	0.00
3.50	0.26	0.00	0.00
4.00	0.31	0.00	0.00
4.50	0.36	0.00	0.00
5.00	0.40	0.00	0.00
5.50	0.45	0.00	0.00
6.00	0.49	0.00	0.00
6.50	0.53	0.00	0.00
7.00	0.59	0.00	0.01
7.50	0.64	0.00	0.04
8.00	0.69	0.01	0.05
8.50	0.73	0.01	0.06
9.00	0.78	0.02	0.08
9.50	0.83	0.03	0.10
10.00	0.89	0.04	0.14
10.50	0.96	0.06	0.19
11.00	1.05	0.08	0.25
11.50	1.13	0.11	0.29
12.00	1.21	0.14	0.32
12.50	1.30	0.17	0.36
13.00	1.39	0.21	0.42
13.50	1.50	0.26	0.49
14.00	1.61	0.31	0.62
14.50	1.75	0.38	0.76
15.00	1.90	0.46	0.88
15.50	2.06	0.56	1.01
16.00	2.22	0.66	1.09
16.50	2.39	0.76	**1.10**
17.00	2.54	0.86	**1.08**
17.50	2.67	0.95	0.91
18.00	2.77	1.02	0.71
18.50	2.84	1.08	0.58
19.00	2.91	1.12	0.50
19.50	2.97	1.17	0.43
20.00	3.02	1.20	0.38
20.50	3.06	1.23	0.34
21.00	3.10	1.26	0.33
21.50	3.15	1.30	0.33
22.00	3.19	1.33	0.34
22.50	3.23	1.36	0.34
23.00	3.27	1.39	0.33
23.50	3.31	1.42	0.29
24.00	**3.34**	**1.44**	0.24
24.50	3.34	1.44	0.00
25.00	3.34	1.44	0.00
25.50	3.34	1.44	0.00
26.00	3.34	1.44	0.00
26.50	3.34	1.44	0.00
27.00	3.34	1.44	0.00
27.50	3.34	1.44	0.00
28.00	3.34	1.44	0.00
28.50	3.34	1.44	0.00
29.00	3.34	1.44	0.00
29.50	3.34	1.44	0.00
30.00	3.34	1.44	0.00

Time span=0.00-30.00 hrs, dt=0.10 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment S-1: Subcat S-1 Runoff Area=23.346 ac 0.00% Impervious Runoff Depth=3.21"
Flow Length=1,740' Tc=39.2 min CN=82 Runoff=9.72 cfs 6.252 af

Subcatchment S-2: Subcat S-2 Runoff Area=7.559 ac 0.00% Impervious Runoff Depth=3.21"
Flow Length=518' Tc=9.9 min CN=82 Runoff=3.18 cfs 2.024 af

Subcatchment S-3: Subcat S-3 Runoff Area=20.572 ac 0.00% Impervious Runoff Depth=3.12"
Flow Length=1,652' Tc=26.5 min CN=81 Runoff=8.44 cfs 5.346 af

Subcatchment S-4: Subcat S-4 Runoff Area=5.278 ac 0.00% Impervious Runoff Depth=2.93"
Flow Length=719' Tc=15.2 min CN=79 Runoff=2.08 cfs 1.289 af

Total Runoff Area = 56.755 ac Runoff Volume = 14.911 af Average Runoff Depth = 3.15"
100.00% Pervious = 56.755 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment S-1: Subcat S-1

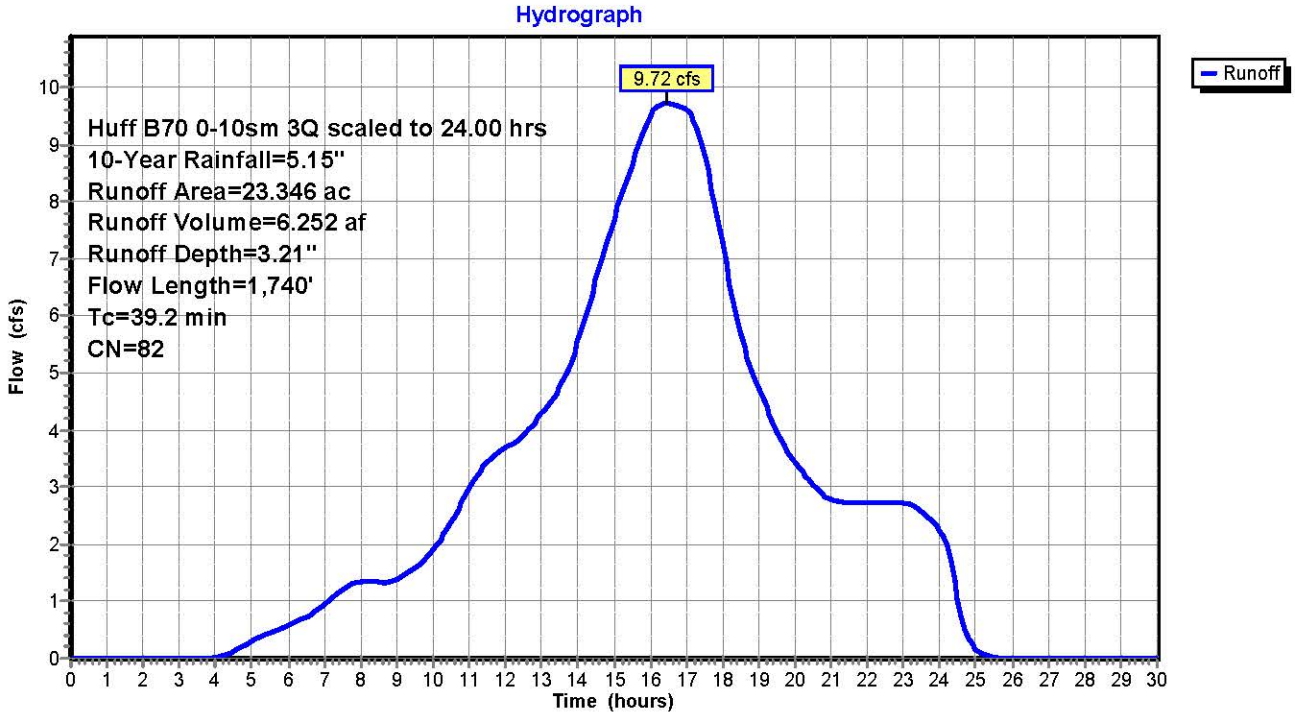
Runoff = 9.72 cfs @ 16.47 hrs, Volume= 6.252 af, Depth= 3.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 10-Year Rainfall=5.15"

	Area (ac)	CN	Description
*	0.000	74	>75% Grass cover, Good
	0.008	61	>75% Grass cover, Good, HSG B
	0.535	74	>75% Grass cover, Good, HSG C
	2.508	80	>75% Grass cover, Good, HSG D
*	0.005	82	Row crops, SR + CR, Good
	0.595	75	Row crops, SR + CR, Good, HSG B
	10.159	82	Row crops, SR + CR, Good, HSG C
	8.537	85	Row crops, SR + CR, Good, HSG D
	0.244	60	Woods, Fair, HSG B
	0.409	73	Woods, Fair, HSG C
	0.346	79	Woods, Fair, HSG D
	23.346	82	Weighted Average
	23.346		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	100	0.0250	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.34"
1.4	107	0.0330	1.27		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.1	175	0.0364	0.95		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
19.5	1,268	0.0240	1.08		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	90	0.0161	0.63		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
39.2	1,740	Total			

Subcatchment S-1: Subcat S-1



Hydrograph for Subcatchment S-1: Subcat S-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.18	0.00	0.00
2.50	0.25	0.00	0.00
3.00	0.32	0.00	0.00
3.50	0.40	0.00	0.00
4.00	0.48	0.00	0.01
4.50	0.56	0.01	0.13
5.00	0.62	0.01	0.30
5.50	0.69	0.03	0.44
6.00	0.75	0.04	0.58
6.50	0.82	0.06	0.72
7.00	0.90	0.08	0.94
7.50	0.99	0.11	1.21
8.00	1.06	0.14	1.35
8.50	1.13	0.17	1.34
9.00	1.20	0.20	1.36
9.50	1.28	0.23	1.59
10.00	1.38	0.28	1.90
10.50	1.49	0.34	2.38
11.00	1.61	0.41	2.98
11.50	1.74	0.49	3.44
12.00	1.87	0.57	3.68
12.50	2.01	0.65	3.91
13.00	2.15	0.75	4.28
13.50	2.31	0.86	4.74
14.00	2.49	0.99	5.54
14.50	2.70	1.14	6.62
15.00	2.93	1.32	7.70
15.50	3.17	1.52	8.65
16.00	3.43	1.73	9.50
16.50	3.68	1.93	**9.72**
17.00	3.92	2.13	9.60
17.50	4.11	2.30	8.81
18.00	4.27	2.43	7.26
18.50	4.39	2.54	5.68
19.00	4.49	2.63	4.72
19.50	4.58	2.70	3.97
20.00	4.65	2.77	3.44
20.50	4.72	2.83	3.05
21.00	4.79	2.89	2.78
21.50	4.85	2.95	2.73
22.00	4.92	3.00	2.72
22.50	4.98	3.06	2.73
23.00	5.05	3.12	2.73
23.50	5.10	3.17	2.58
24.00	**5.15**	**3.21**	2.25
24.50	5.15	3.21	1.03
25.00	5.15	3.21	0.16
25.50	5.15	3.21	0.02
26.00	5.15	3.21	0.00
26.50	5.15	3.21	0.00
27.00	5.15	3.21	0.00
27.50	5.15	3.21	0.00
28.00	5.15	3.21	0.00
28.50	5.15	3.21	0.00
29.00	5.15	3.21	0.00
29.50	5.15	3.21	0.00
30.00	5.15	3.21	0.00

Summary for Subcatchment S-2: Subcat S-2

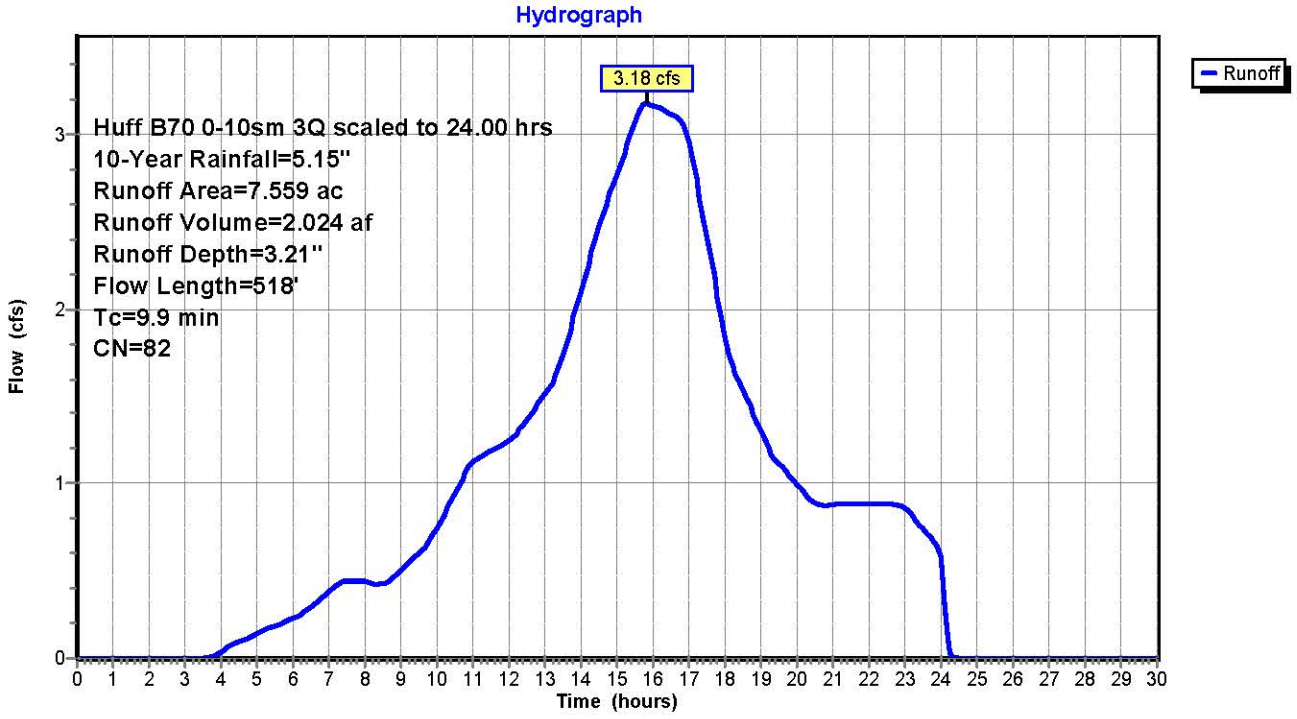
Runoff = 3.18 cfs @ 15.82 hrs, Volume= 2.024 af, Depth= 3.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 10-Year Rainfall=5.15"

Area (ac)	CN	Description
6.146	82	Row crops, SR + CR, Good, HSG C
1.005	85	Row crops, SR + CR, Good, HSG D
0.063	73	Woods, Fair, HSG C
0.344	79	Woods, Fair, HSG D
7.559	82	Weighted Average
7.559		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	100	0.0682	0.26		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 3.34"
2.5	353	0.0671	2.33		**Shallow Concentrated Flow, Farmland** Cultivated Straight Rows Kv= 9.0 fps
0.9	65	0.0328	1.27		**Shallow Concentrated Flow, Grass** Short Grass Pasture Kv= 7.0 fps
9.9	518	Total			

Subcatchment S-2: Subcat S-2



Hydrograph for Subcatchment S-2: Subcat S-2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.18	0.00	0.00
2.50	0.25	0.00	0.00
3.00	0.32	0.00	0.00
3.50	0.40	0.00	0.00
4.00	0.48	0.00	0.03
4.50	0.56	0.01	0.10
5.00	0.62	0.01	0.14
5.50	0.69	0.03	0.18
6.00	0.75	0.04	0.23
6.50	0.82	0.06	0.29
7.00	0.90	0.08	0.38
7.50	0.99	0.11	0.45
8.00	1.06	0.14	0.44
8.50	1.13	0.17	0.42
9.00	1.20	0.20	0.50
9.50	1.28	0.23	0.60
10.00	1.38	0.28	0.75
10.50	1.49	0.34	0.94
11.00	1.61	0.41	1.12
11.50	1.74	0.49	1.19
12.00	1.87	0.57	1.25
12.50	2.01	0.65	1.37
13.00	2.15	0.75	1.51
13.50	2.31	0.86	1.74
14.00	2.49	0.99	2.10
14.50	2.70	1.14	2.48
15.00	2.93	1.32	2.77
15.50	3.17	1.52	**3.07**
16.00	3.43	1.73	**3.17**
16.50	3.68	1.93	3.12
17.00	3.92	2.13	2.96
17.50	4.11	2.30	2.41
18.00	4.27	2.43	1.84
18.50	4.39	2.54	1.54
19.00	4.49	2.63	1.30
19.50	4.58	2.70	1.11
20.00	4.65	2.77	1.00
20.50	4.72	2.83	0.88
21.00	4.79	2.89	0.88
21.50	4.85	2.95	0.88
22.00	4.92	3.00	0.88
22.50	4.98	3.06	0.89
23.00	5.05	3.12	0.86
23.50	5.10	3.17	0.74
24.00	**5.15**	**3.21**	0.59
24.50	5.15	3.21	0.00
25.00	5.15	3.21	0.00
25.50	5.15	3.21	0.00
26.00	5.15	3.21	0.00
26.50	5.15	3.21	0.00
27.00	5.15	3.21	0.00
27.50	5.15	3.21	0.00
28.00	5.15	3.21	0.00
28.50	5.15	3.21	0.00
29.00	5.15	3.21	0.00
29.50	5.15	3.21	0.00
30.00	5.15	3.21	0.00

Summary for Subcatchment S-3: Subcat S-3

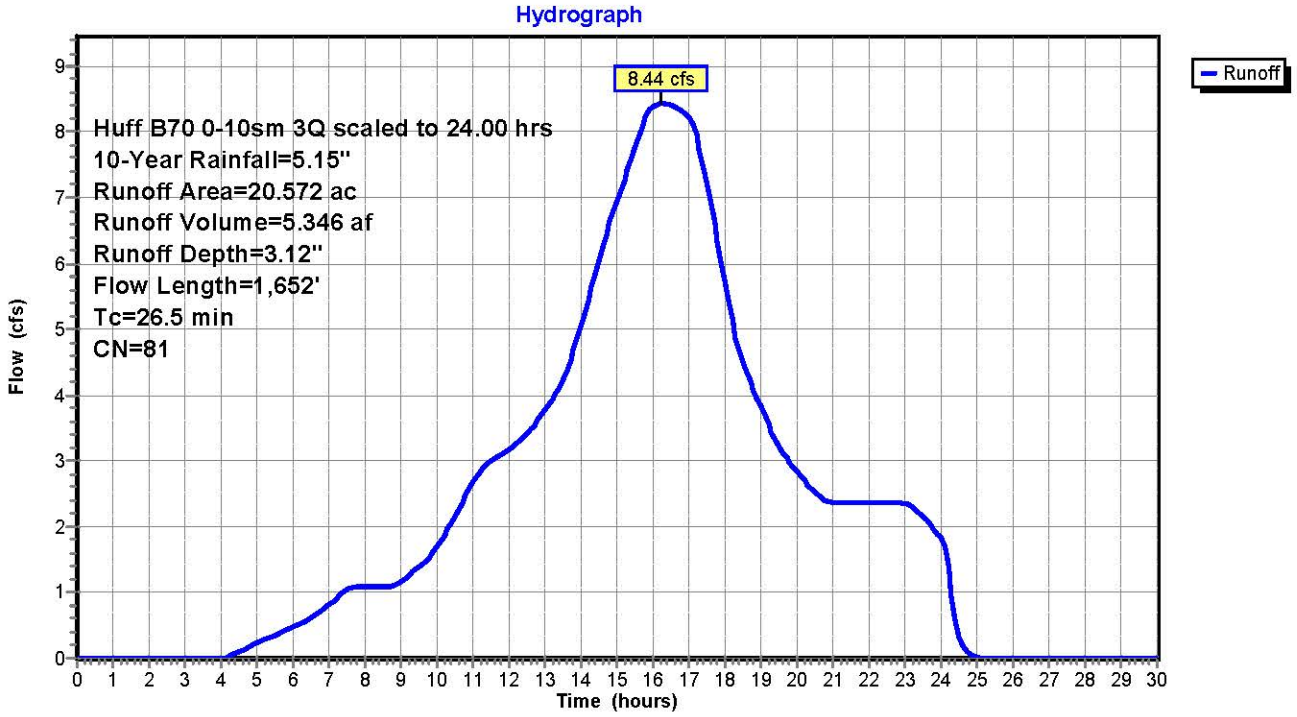
Runoff = 8.44 cfs @ 16.21 hrs, Volume= 5.346 af, Depth= 3.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 10-Year Rainfall=5.15"

Area (ac)	CN	Description
0.207	80	>75% Grass cover, Good, HSG D
3.807	75	Row crops, SR + CR, Good, HSG B
11.652	82	Row crops, SR + CR, Good, HSG C
4.303	85	Row crops, SR + CR, Good, HSG D
0.365	73	Woods, Fair, HSG C
0.237	79	Woods, Fair, HSG D
20.572	81	Weighted Average
20.572		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	100	0.0490	0.23		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 3.34"
6.7	758	0.0434	1.87		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
4.8	284	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.6	510	0.0154	1.12		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
26.5	1,652	Total			

Subcatchment S-3: Subcat S-3



Hydrograph for Subcatchment S-3: Subcat S-3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.18	0.00	0.00
2.50	0.25	0.00	0.00
3.00	0.32	0.00	0.00
3.50	0.40	0.00	0.00
4.00	0.48	0.00	0.00
4.50	0.56	0.00	0.10
5.00	0.62	0.01	0.24
5.50	0.69	0.02	0.36
6.00	0.75	0.03	0.47
6.50	0.82	0.05	0.61
7.00	0.90	0.07	0.82
7.50	0.99	0.09	1.05
8.00	1.06	0.12	1.10
8.50	1.13	0.15	1.07
9.00	1.20	0.17	1.16
9.50	1.28	0.21	1.39
10.00	1.38	0.25	1.70
10.50	1.49	0.31	2.16
11.00	1.61	0.37	2.69
11.50	1.74	0.45	3.00
12.00	1.87	0.53	3.17
12.50	2.01	0.61	3.41
13.00	2.15	0.70	3.78
13.50	2.31	0.81	4.22
14.00	2.49	0.93	5.06
14.50	2.70	1.09	6.05
15.00	2.93	1.26	6.95
15.50	3.17	1.45	7.76
16.00	3.43	1.65	**8.40**
16.50	3.68	1.85	**8.40**
17.00	3.92	2.05	8.23
17.50	4.11	2.22	7.20
18.00	4.27	2.35	5.72
18.50	4.39	2.45	4.50
19.00	4.49	2.54	3.82
19.50	4.58	2.61	3.22
20.00	4.65	2.68	2.84
20.50	4.72	2.74	2.52
21.00	4.79	2.80	2.37
21.50	4.85	2.85	2.37
22.00	4.92	2.91	2.37
22.50	4.98	2.97	2.38
23.00	5.05	3.03	2.37
23.50	5.10	3.08	2.16
24.00	**5.15**	**3.12**	1.83
24.50	5.15	3.12	0.33
25.00	5.15	3.12	0.02
25.50	5.15	3.12	0.00
26.00	5.15	3.12	0.00
26.50	5.15	3.12	0.00
27.00	5.15	3.12	0.00
27.50	5.15	3.12	0.00
28.00	5.15	3.12	0.00
28.50	5.15	3.12	0.00
29.00	5.15	3.12	0.00
29.50	5.15	3.12	0.00
30.00	5.15	3.12	0.00

Summary for Subcatchment S-4: Subcat S-4

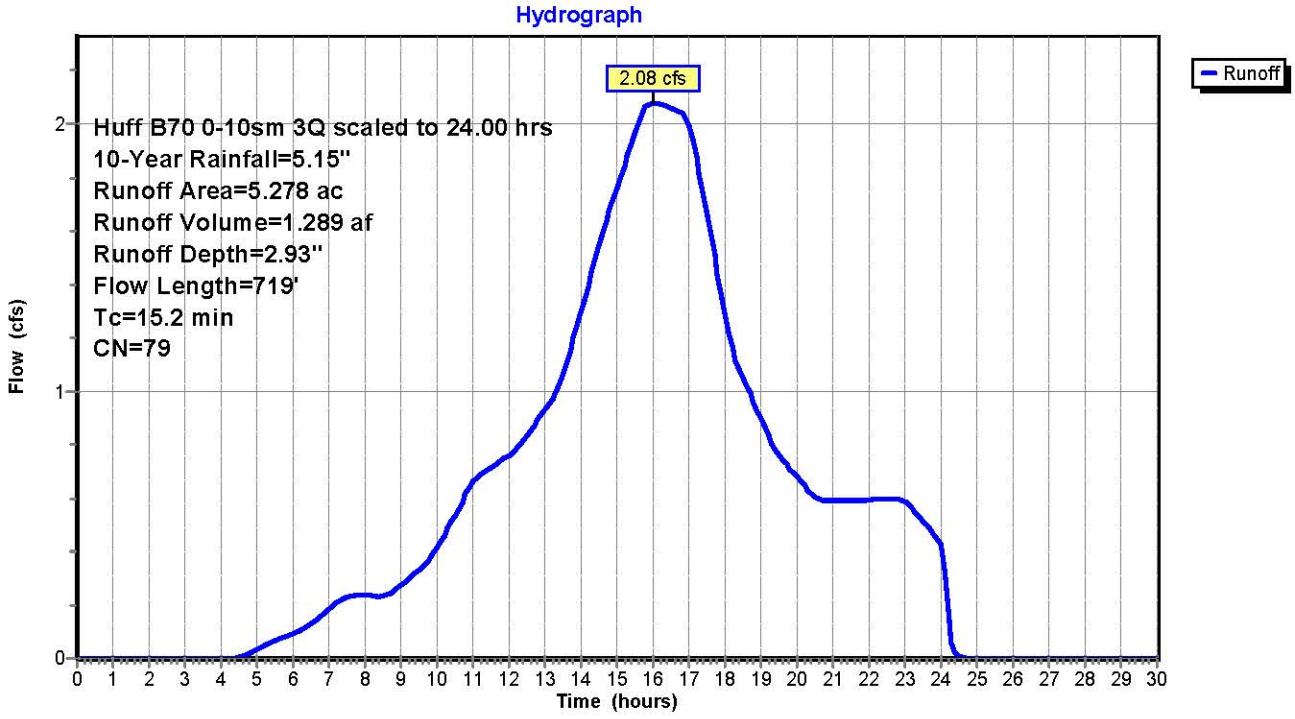
Runoff = 2.08 cfs @ 16.00 hrs, Volume= 1.289 af, Depth= 2.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 10-Year Rainfall=5.15"

Area (ac)	CN	Description
2.812	82	Row crops, SR + CR, Good, HSG C
0.000	85	Row crops, SR + CR, Good, HSG D
1.406	73	Woods, Fair, HSG C
1.059	79	Woods, Fair, HSG D
5.278	79	Weighted Average
5.278		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	100	0.0539	0.23		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 3.34"
2.1	245	0.0470	1.95		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
6.0	374	0.0429	1.04		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
15.2	719	Total			

Subcatchment S-4: Subcat S-4



Hydrograph for Subcatchment S-4: Subcat S-4

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.18	0.00	0.00
2.50	0.25	0.00	0.00
3.00	0.32	0.00	0.00
3.50	0.40	0.00	0.00
4.00	0.48	0.00	0.00
4.50	0.56	0.00	0.00
5.00	0.62	0.00	0.03
5.50	0.69	0.01	0.06
6.00	0.75	0.02	0.09
6.50	0.82	0.03	0.13
7.00	0.90	0.05	0.18
7.50	0.99	0.07	0.23
8.00	1.06	0.09	0.24
8.50	1.13	0.11	0.23
9.00	1.20	0.14	0.27
9.50	1.28	0.17	0.33
10.00	1.38	0.20	0.41
10.50	1.49	0.25	0.53
11.00	1.61	0.31	0.66
11.50	1.74	0.38	0.71
12.00	1.87	0.45	0.76
12.50	2.01	0.53	0.83
13.00	2.15	0.61	0.93
13.50	2.31	0.71	1.06
14.00	2.49	0.83	1.30
14.50	2.70	0.97	1.55
15.00	2.93	1.13	1.76
15.50	3.17	1.32	1.97
16.00	3.43	1.51	**2.08**
16.50	3.68	1.71	2.06
17.00	3.92	1.89	2.00
17.50	4.11	2.06	1.66
18.00	4.27	2.18	1.29
18.50	4.39	2.28	1.05
19.00	4.49	2.37	0.90
19.50	4.58	2.44	0.76
20.00	4.65	2.51	0.68
20.50	4.72	2.56	0.60
21.00	4.79	2.62	0.59
21.50	4.85	2.67	0.59
22.00	4.92	2.73	0.59
22.50	4.98	2.79	0.59
23.00	5.05	2.84	0.59
23.50	5.10	2.89	0.51
24.00	**5.15**	**2.93**	0.42
24.50	5.15	2.93	0.01
25.00	5.15	2.93	0.00
25.50	5.15	2.93	0.00
26.00	5.15	2.93	0.00
26.50	5.15	2.93	0.00
27.00	5.15	2.93	0.00
27.50	5.15	2.93	0.00
28.00	5.15	2.93	0.00
28.50	5.15	2.93	0.00
29.00	5.15	2.93	0.00
29.50	5.15	2.93	0.00
30.00	5.15	2.93	0.00

Time span=0.00-30.00 hrs, dt=0.10 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment S-1: Subcat S-1 Runoff Area=23.346 ac 0.00% Impervious Runoff Depth=6.40"
Flow Length=1,740' Tc=39.2 min CN=82 Runoff=18.08 cfs 12.456 af

Subcatchment S-2: Subcat S-2 Runoff Area=7.559 ac 0.00% Impervious Runoff Depth=6.40"
Flow Length=518' Tc=9.9 min CN=82 Runoff=5.94 cfs 4.033 af

Subcatchment S-3: Subcat S-3 Runoff Area=20.572 ac 0.00% Impervious Runoff Depth=6.28"
Flow Length=1,652' Tc=26.5 min CN=81 Runoff=15.86 cfs 10.769 af

Subcatchment S-4: Subcat S-4 Runoff Area=5.278 ac 0.00% Impervious Runoff Depth=6.04"
Flow Length=719' Tc=15.2 min CN=79 Runoff=4.00 cfs 2.657 af

Total Runoff Area = 56.755 ac Runoff Volume = 29.915 af Average Runoff Depth = 6.33"
100.00% Pervious = 56.755 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment S-1: Subcat S-1

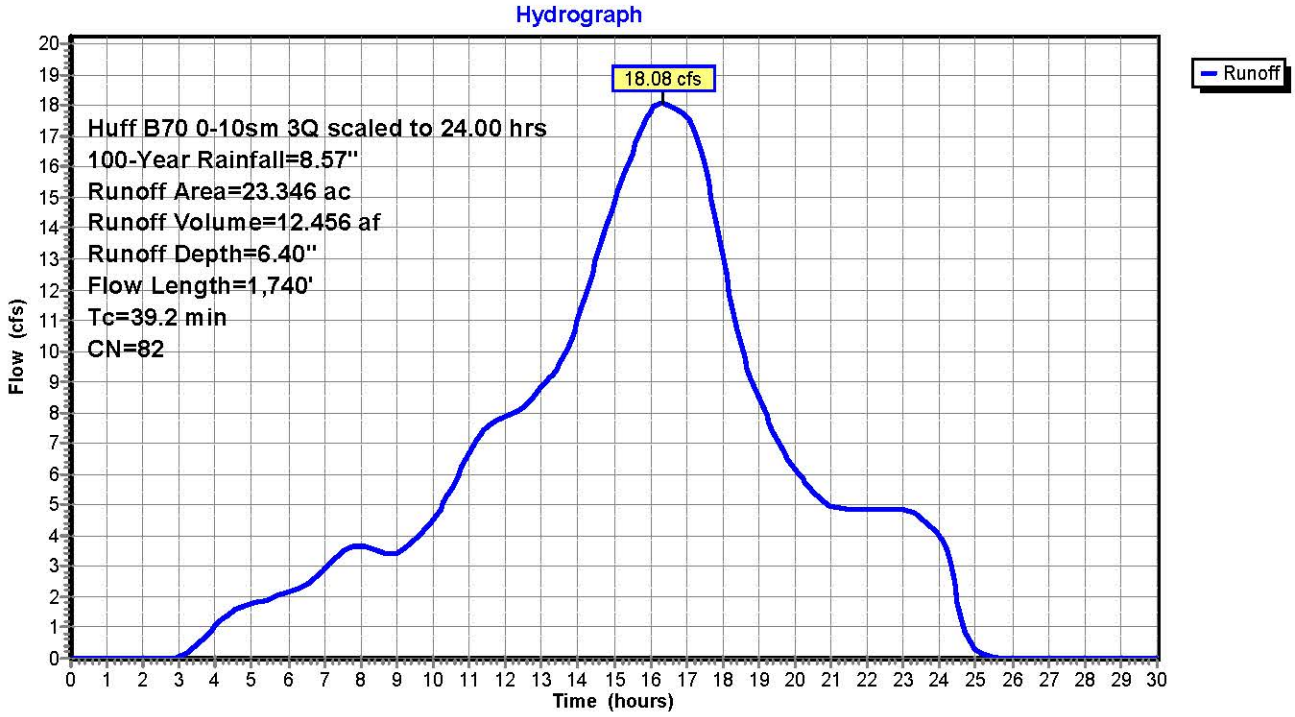
Runoff = 18.08 cfs @ 16.33 hrs, Volume= 12.456 af, Depth= 6.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 100-Year Rainfall=8.57"

	Area (ac)	CN	Description
*	0.000	74	>75% Grass cover, Good
	0.008	61	>75% Grass cover, Good, HSG B
	0.535	74	>75% Grass cover, Good, HSG C
	2.508	80	>75% Grass cover, Good, HSG D
*	0.005	82	Row crops, SR + CR, Good
	0.595	75	Row crops, SR + CR, Good, HSG B
	10.159	82	Row crops, SR + CR, Good, HSG C
	8.537	85	Row crops, SR + CR, Good, HSG D
	0.244	60	Woods, Fair, HSG B
	0.409	73	Woods, Fair, HSG C
	0.346	79	Woods, Fair, HSG D
	23.346	82	Weighted Average
	23.346		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	100	0.0250	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.34"
1.4	107	0.0330	1.27		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
3.1	175	0.0364	0.95		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
19.5	1,268	0.0240	1.08		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.4	90	0.0161	0.63		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
39.2	1,740	Total			

Subcatchment S-1: Subcat S-1



Hydrograph for Subcatchment S-1: Subcat S-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.19	0.00	0.00
2.00	0.30	0.00	0.00
2.50	0.41	0.00	0.00
3.00	0.53	0.00	0.04
3.50	0.66	0.02	0.44
4.00	0.80	0.05	1.09
4.50	0.93	0.09	1.56
5.00	1.04	0.13	1.79
5.50	1.15	0.17	1.94
6.00	1.26	0.22	2.16
6.50	1.37	0.28	2.42
7.00	1.50	0.35	2.90
7.50	1.64	0.43	3.47
8.00	1.77	0.50	3.65
8.50	1.88	0.57	3.48
9.00	2.00	0.65	3.43
9.50	2.14	0.74	3.88
10.00	2.29	0.85	4.51
10.50	2.47	0.98	5.50
11.00	2.68	1.13	6.69
11.50	2.90	1.30	7.54
12.00	3.12	1.47	7.88
12.50	3.34	1.65	8.19
13.00	3.58	1.85	8.81
13.50	3.84	2.07	9.59
14.00	4.14	2.32	11.02
14.50	4.49	2.63	12.96
15.00	4.87	2.96	14.86
15.50	5.28	3.33	16.45
16.00	5.71	3.72	**17.82**
16.50	6.12	4.10	**18.03**
17.00	6.52	4.46	17.64
17.50	6.84	4.77	16.06
18.00	7.10	5.01	13.14
18.50	7.30	5.20	10.24
19.00	7.47	5.36	8.48
19.50	7.62	5.50	7.12
20.00	7.74	5.62	6.15
20.50	7.86	5.72	5.44
21.00	7.96	5.83	4.95
21.50	8.07	5.93	4.85
22.00	8.18	6.03	4.84
22.50	8.29	6.13	4.85
23.00	8.40	6.24	4.85
23.50	8.49	6.33	4.58
24.00	**8.57**	**6.40**	3.98
24.50	8.57	6.40	1.83
25.00	8.57	6.40	0.28
25.50	8.57	6.40	0.04
26.00	8.57	6.40	0.00
26.50	8.57	6.40	0.00
27.00	8.57	6.40	0.00
27.50	8.57	6.40	0.00
28.00	8.57	6.40	0.00
28.50	8.57	6.40	0.00
29.00	8.57	6.40	0.00
29.50	8.57	6.40	0.00
30.00	8.57	6.40	0.00

Summary for Subcatchment S-2: Subcat S-2

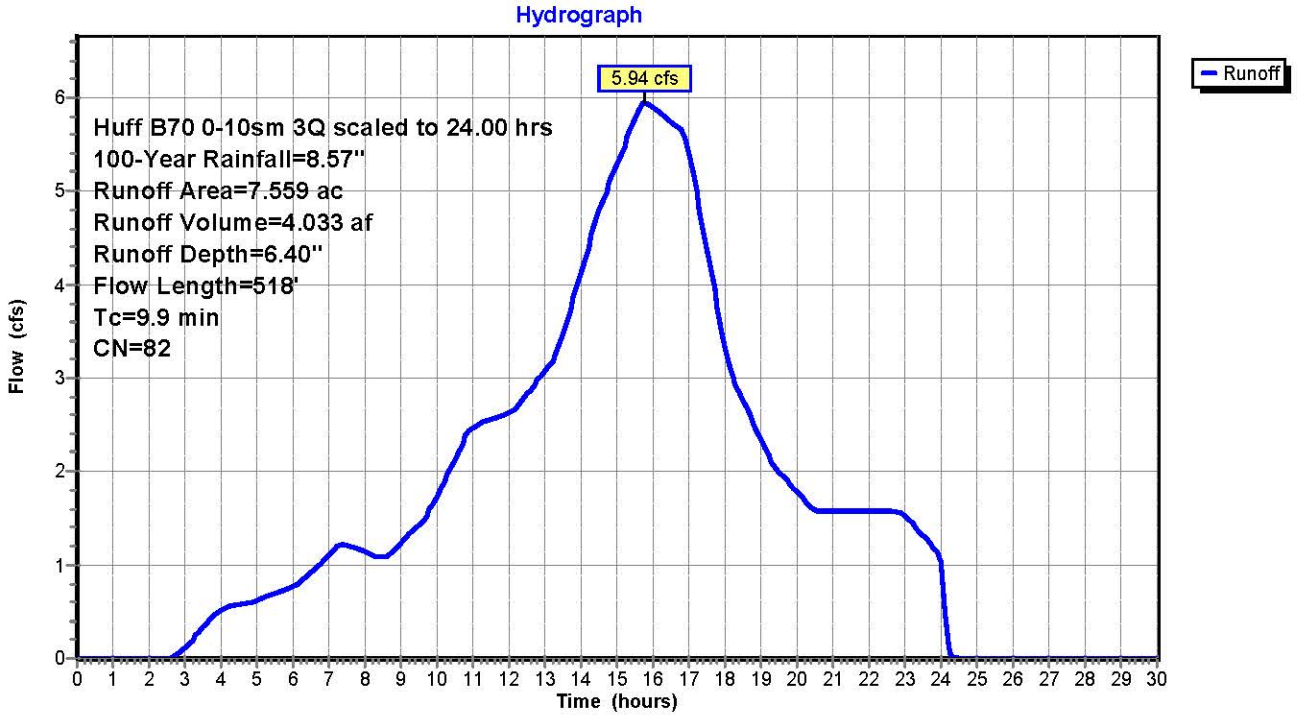
Runoff = 5.94 cfs @ 15.77 hrs, Volume= 4.033 af, Depth= 6.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 100-Year Rainfall=8.57"

Area (ac)	CN	Description
6.146	82	Row crops, SR + CR, Good, HSG C
1.005	85	Row crops, SR + CR, Good, HSG D
0.063	73	Woods, Fair, HSG C
0.344	79	Woods, Fair, HSG D
7.559	82	Weighted Average
7.559		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	100	0.0682	0.26		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 3.34"
2.5	353	0.0671	2.33		**Shallow Concentrated Flow, Farmland** Cultivated Straight Rows Kv= 9.0 fps
0.9	65	0.0328	1.27		**Shallow Concentrated Flow, Grass** Short Grass Pasture Kv= 7.0 fps
9.9	518	Total			

Subcatchment S-2: Subcat S-2



Hydrograph for Subcatchment S-2: Subcat S-2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.19	0.00	0.00
2.00	0.30	0.00	0.00
2.50	0.41	0.00	0.00
3.00	0.53	0.00	0.11
3.50	0.66	0.02	0.33
4.00	0.80	0.05	0.51
4.50	0.93	0.09	0.58
5.00	1.04	0.13	0.62
5.50	1.15	0.17	0.69
6.00	1.26	0.22	0.76
6.50	1.37	0.28	0.91
7.00	1.50	0.35	1.11
7.50	1.64	0.43	1.21
8.00	1.77	0.50	1.14
8.50	1.88	0.57	1.06
9.00	2.00	0.65	1.23
9.50	2.14	0.74	1.43
10.00	2.29	0.85	1.73
10.50	2.47	0.98	2.13
11.00	2.68	1.13	2.47
11.50	2.90	1.30	2.55
12.00	3.12	1.47	2.62
12.50	3.34	1.65	2.82
13.00	3.58	1.85	3.07
13.50	3.84	2.07	3.47
14.00	4.14	2.32	4.13
14.50	4.49	2.63	4.79
15.00	4.87	2.96	5.28
15.50	5.28	3.33	**5.77**
16.00	5.71	3.72	**5.89**
16.50	6.12	4.10	5.74
17.00	6.52	4.46	5.40
17.50	6.84	4.77	4.37
18.00	7.10	5.01	3.32
18.50	7.30	5.20	2.76
19.00	7.47	5.36	2.34
19.50	7.62	5.50	1.99
20.00	7.74	5.62	1.78
20.50	7.86	5.72	1.58
21.00	7.96	5.83	1.56
21.50	8.07	5.93	1.57
22.00	8.18	6.03	1.57
22.50	8.29	6.13	1.57
23.00	8.40	6.24	1.53
23.50	8.49	6.33	1.31
24.00	**8.57**	**6.40**	1.03
24.50	8.57	6.40	0.00
25.00	8.57	6.40	0.00
25.50	8.57	6.40	0.00
26.00	8.57	6.40	0.00
26.50	8.57	6.40	0.00
27.00	8.57	6.40	0.00
27.50	8.57	6.40	0.00
28.00	8.57	6.40	0.00
28.50	8.57	6.40	0.00
29.00	8.57	6.40	0.00
29.50	8.57	6.40	0.00
30.00	8.57	6.40	0.00

Summary for Subcatchment S-3: Subcat S-3

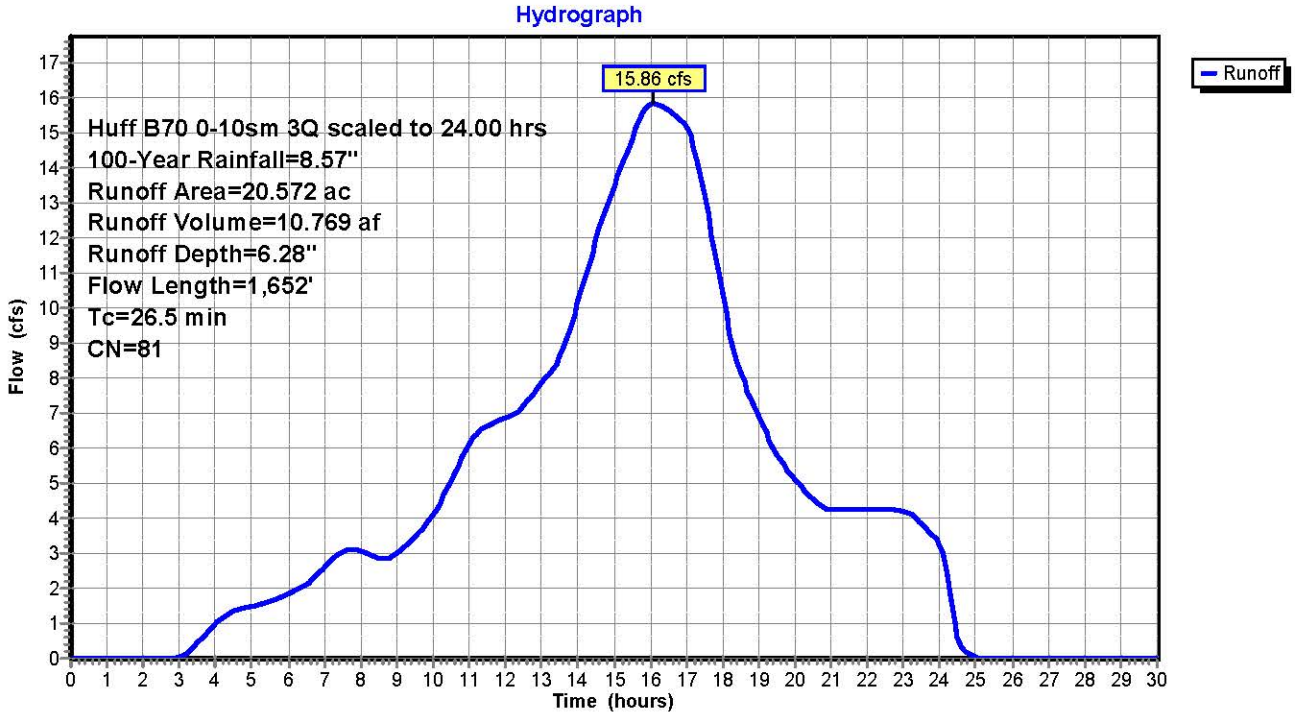
Runoff = 15.86 cfs @ 16.10 hrs, Volume= 10.769 af, Depth= 6.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 100-Year Rainfall=8.57"

Area (ac)	CN	Description
0.207	80	>75% Grass cover, Good, HSG D
3.807	75	Row crops, SR + CR, Good, HSG B
11.652	82	Row crops, SR + CR, Good, HSG C
4.303	85	Row crops, SR + CR, Good, HSG D
0.365	73	Woods, Fair, HSG C
0.237	79	Woods, Fair, HSG D
20.572	81	Weighted Average
20.572		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	100	0.0490	0.23		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 3.34"
6.7	758	0.0434	1.87		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
4.8	284	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
7.6	510	0.0154	1.12		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
26.5	1,652	Total			

Subcatchment S-3: Subcat S-3



Hydrograph for Subcatchment S-3: Subcat S-3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.19	0.00	0.00
2.00	0.30	0.00	0.00
2.50	0.41	0.00	0.00
3.00	0.53	0.00	0.03
3.50	0.66	0.01	0.44
4.00	0.80	0.04	1.00
4.50	0.93	0.08	1.33
5.00	1.04	0.11	1.48
5.50	1.15	0.15	1.64
6.00	1.26	0.20	1.84
6.50	1.37	0.25	2.12
7.00	1.50	0.32	2.59
7.50	1.64	0.39	3.07
8.00	1.77	0.46	3.06
8.50	1.88	0.53	2.85
9.00	2.00	0.61	2.99
9.50	2.14	0.69	3.47
10.00	2.29	0.80	4.10
10.50	2.47	0.92	5.07
11.00	2.68	1.08	6.13
11.50	2.90	1.24	6.64
12.00	3.12	1.40	6.86
12.50	3.34	1.58	7.22
13.00	3.58	1.77	7.85
13.50	3.84	1.99	8.62
14.00	4.14	2.24	10.15
14.50	4.49	2.54	11.93
15.00	4.87	2.87	13.50
15.50	5.28	3.24	14.85
16.00	5.71	3.62	**15.84**
16.50	6.12	3.99	**15.67**
17.00	6.52	4.36	15.20
17.50	6.84	4.66	13.19
18.00	7.10	4.90	10.42
18.50	7.30	5.08	8.16
19.00	7.47	5.24	6.91
19.50	7.62	5.38	5.80
20.00	7.74	5.50	5.11
20.50	7.86	5.61	4.53
21.00	7.96	5.71	4.25
21.50	8.07	5.81	4.24
22.00	8.18	5.91	4.24
22.50	8.29	6.02	4.25
23.00	8.40	6.12	4.24
23.50	8.49	6.21	3.84
24.00	**8.57**	**6.28**	3.26
24.50	8.57	6.28	0.59
25.00	8.57	6.28	0.03
25.50	8.57	6.28	0.00
26.00	8.57	6.28	0.00
26.50	8.57	6.28	0.00
27.00	8.57	6.28	0.00
27.50	8.57	6.28	0.00
28.00	8.57	6.28	0.00
28.50	8.57	6.28	0.00
29.00	8.57	6.28	0.00
29.50	8.57	6.28	0.00
30.00	8.57	6.28	0.00

Summary for Subcatchment S-4: Subcat S-4

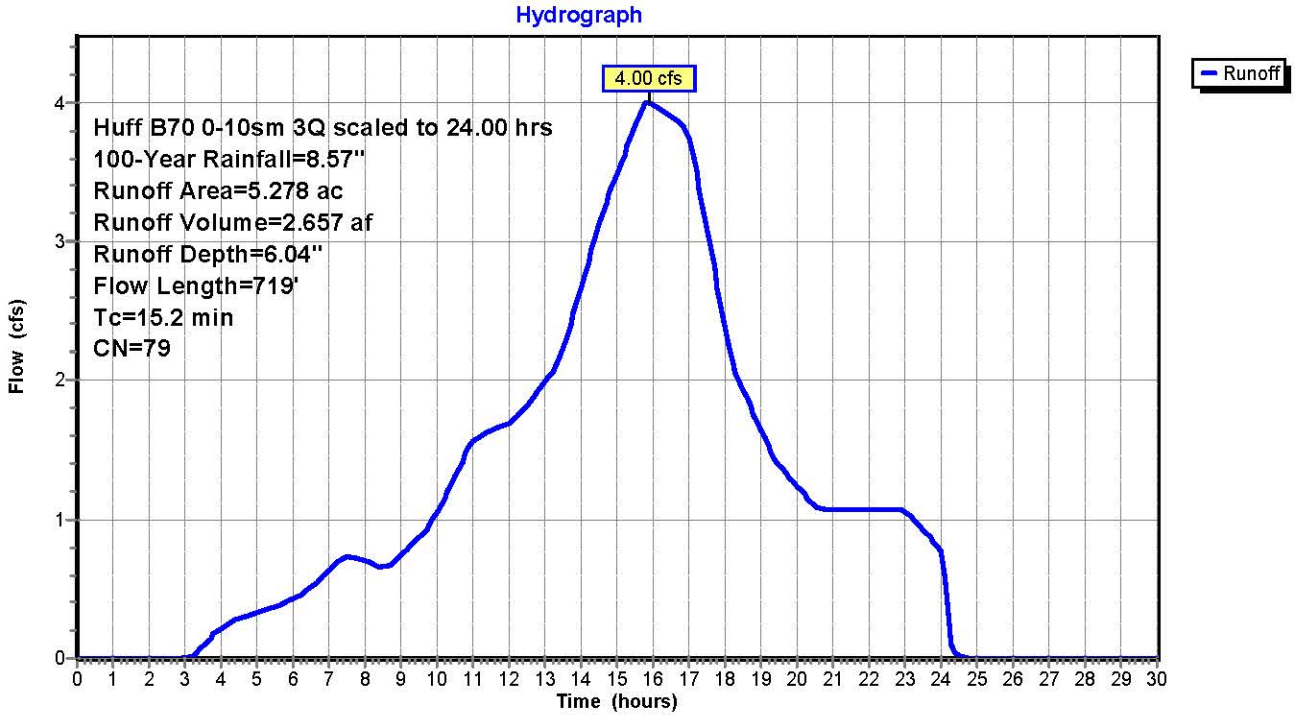
Runoff = 4.00 cfs @ 15.89 hrs, Volume= 2.657 af, Depth= 6.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 100-Year Rainfall=8.57"

Area (ac)	CN	Description
2.812	82	Row crops, SR + CR, Good, HSG C
0.000	85	Row crops, SR + CR, Good, HSG D
1.406	73	Woods, Fair, HSG C
1.059	79	Woods, Fair, HSG D
5.278	79	Weighted Average
5.278		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	100	0.0539	0.23		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 3.34"
2.1	245	0.0470	1.95		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
6.0	374	0.0429	1.04		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
15.2	719	Total			

Subcatchment S-4: Subcat S-4



Hydrograph for Subcatchment S-4: Subcat S-4

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.19	0.00	0.00
2.00	0.30	0.00	0.00
2.50	0.41	0.00	0.00
3.00	0.53	0.00	0.00
3.50	0.66	0.01	0.09
4.00	0.80	0.03	0.22
4.50	0.93	0.05	0.29
5.00	1.04	0.08	0.32
5.50	1.15	0.12	0.37
6.00	1.26	0.15	0.42
6.50	1.37	0.20	0.51
7.00	1.50	0.26	0.63
7.50	1.64	0.33	0.73
8.00	1.77	0.39	0.70
8.50	1.88	0.46	0.65
9.00	2.00	0.52	0.74
9.50	2.14	0.60	0.87
10.00	2.29	0.70	1.05
10.50	2.47	0.82	1.31
11.00	2.68	0.96	1.56
11.50	2.90	1.12	1.64
12.00	3.12	1.27	1.69
12.50	3.34	1.44	1.82
13.00	3.58	1.63	1.99
13.50	3.84	1.83	2.23
14.00	4.14	2.08	2.67
14.50	4.49	2.37	3.12
15.00	4.87	2.69	3.49
15.50	5.28	3.05	**3.83**
16.00	5.71	3.42	**3.99**
16.50	6.12	3.79	3.91
17.00	6.52	4.14	3.74
17.50	6.84	4.44	3.09
18.00	7.10	4.67	2.38
18.50	7.30	4.86	1.93
19.00	7.47	5.02	1.64
19.50	7.62	5.15	1.39
20.00	7.74	5.27	1.24
20.50	7.86	5.37	1.10
21.00	7.96	5.47	1.07
21.50	8.07	5.58	1.07
22.00	8.18	5.68	1.07
22.50	8.29	5.78	1.08
23.00	8.40	5.88	1.06
23.50	8.49	5.97	0.92
24.00	**8.57**	**6.04**	0.76
24.50	8.57	6.04	0.01
25.00	8.57	6.04	0.00
25.50	8.57	6.04	0.00
26.00	8.57	6.04	0.00
26.50	8.57	6.04	0.00
27.00	8.57	6.04	0.00
27.50	8.57	6.04	0.00
28.00	8.57	6.04	0.00
28.50	8.57	6.04	0.00
29.00	8.57	6.04	0.00
29.50	8.57	6.04	0.00
30.00	8.57	6.04	0.00

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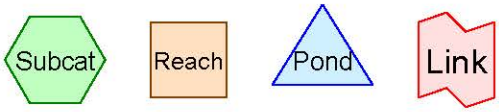
Attachment 3
Post-Development HydroCAD Calculations

Created by AE
7.26.2023 Checked by:
CZ 8.1.23

Subcat S-1 Subcat S-2 Subcat S-3 Subcat S-4



Routing Diagram for Plato Post-Dev
Prepared by TRC Companies, Printed 8/2/2023

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Huff B70 0-10sm	3Q	Scale	24.00	1	3.34	2
2	10-Year	Huff B70 0-10sm	3Q	Scale	24.00	1	5.15	2
3	100-Year	Huff B70 0-10sm	3Q	Scale	24.00	1	8.57	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.162	74	>75% Grass cover, Good, HSG C (S-1)
0.681	80	>75% Grass cover, Good, HSG D (S-1)
0.030	85	Gravel roads, HSG B (S-1)
0.181	89	Gravel roads, HSG C (S-1)
0.234	91	Gravel roads, HSG D (S-1)
3.200	58	Meadow, non-grazed, HSG B (S-1, S-3)
23.065	71	Meadow, non-grazed, HSG C (S-1, S-2, S-3, S-4)
12.290	78	Meadow, non-grazed, HSG D (S-1, S-2, S-3)
1.172	75	Row crops, SR + CR, Good, HSG B (S-1, S-3)
7.901	82	Row crops, SR + CR, Good, HSG C (S-1, S-2, S-3, S-4)
3.223	85	Row crops, SR + CR, Good, HSG D (S-1, S-2, S-3, S-4)
0.252	60	Woods, Fair, HSG B (S-1)
2.244	73	Woods, Fair, HSG C (S-1, S-2, S-3, S-4)
2.120	79	Woods, Fair, HSG D (S-1, S-2, S-3, S-4)
56.755	**75**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
4.654	HSG B	S-1, S-3
33.553	HSG C	S-1, S-2, S-3, S-4
18.548	HSG D	S-1, S-2, S-3, S-4
0.000	Other	
56.755		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.162	0.681	0.000	0.843	>75% Grass cover, Good	S-1
0.000	0.030	0.181	0.234	0.000	0.445	Gravel roads	S-1
0.000	3.200	23.065	12.290	0.000	38.556	Meadow, non-grazed	S-1, S-2, S-3, S-4
0.000	1.172	7.901	3.223	0.000	12.295	Row crops, SR + CR, Good	S-1, S-2, S-3, S-4
0.000	0.252	2.244	2.120	0.000	4.616	Woods, Fair	S-1, S-2, S-3, S-4
0.000	**4.654**	**33.553**	**18.548**	**0.000**	**56.755**	**TOTAL AREA**	

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Width (inches)	Diam/Height (inches)	Inside-Fill (inches)	Node Name
1	S-1	0.00	0.00	42.0	0.0330	0.025	0.0	15.0	0.0	

Time span=0.00-30.00 hrs, dt=0.10 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment S-1: Subcat S-1 Runoff Area=23.346 ac 0.00% Impervious Runoff Depth=1.25"
Flow Length=1,809' Tc=40.5 min CN=76 Runoff=4.35 cfs 2.433 af

Subcatchment S-2: Subcat S-2 Runoff Area=7.559 ac 0.00% Impervious Runoff Depth=1.25"
Flow Length=518' Tc=10.9 min CN=76 Runoff=1.42 cfs 0.788 af

Subcatchment S-3: Subcat S-3 Runoff Area=20.572 ac 0.00% Impervious Runoff Depth=1.02"
Flow Length=1,653' Tc=28.9 min CN=72 Runoff=3.28 cfs 1.745 af

Subcatchment S-4: Subcat S-4 Runoff Area=5.278 ac 0.00% Impervious Runoff Depth=1.31"
Flow Length=720' Tc=15.6 min CN=77 Runoff=1.03 cfs 0.577 af

Total Runoff Area = 56.755 ac Runoff Volume = 5.542 af Average Runoff Depth = 1.17"
100.00% Pervious = 56.755 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment S-1: Subcat S-1

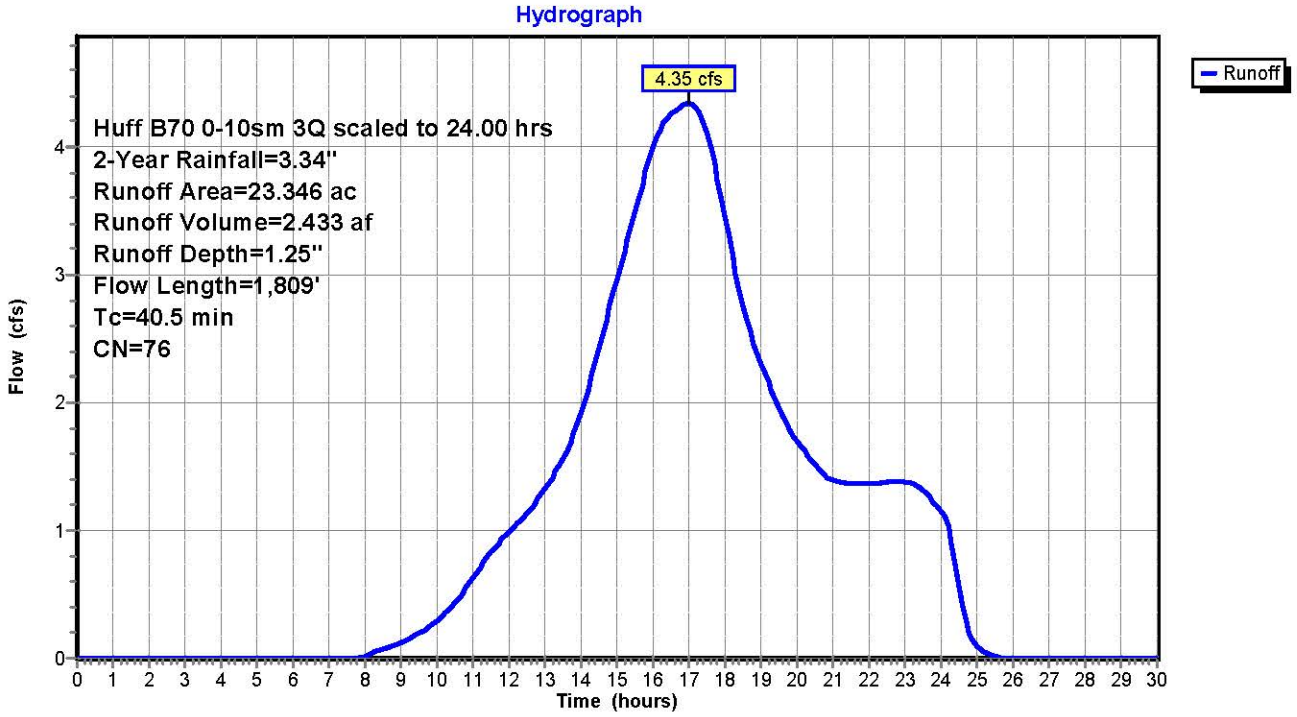
Runoff = 4.35 cfs @ 17.02 hrs, Volume= 2.433 af, Depth= 1.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 2-Year Rainfall=3.34"

Area (ac)	CN	Description
0.162	74	>75% Grass cover, Good, HSG C
0.681	80	>75% Grass cover, Good, HSG D
0.030	85	Gravel roads, HSG B
0.181	89	Gravel roads, HSG C
0.234	91	Gravel roads, HSG D
0.393	58	Meadow, non-grazed, HSG B
8.172	71	Meadow, non-grazed, HSG C
9.078	78	Meadow, non-grazed, HSG D
0.172	75	Row crops, SR + CR, Good, HSG B
2.183	82	Row crops, SR + CR, Good, HSG C
0.919	85	Row crops, SR + CR, Good, HSG D
0.252	60	Woods, Fair, HSG B
0.410	73	Woods, Fair, HSG C
0.479	79	Woods, Fair, HSG D
23.346	76	Weighted Average
23.346		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	100	0.0250	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.34"
3.1	175	0.0360	0.95		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.1	175	0.0364	0.95		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.9	69	0.0310	1.23		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	42	0.0330	4.97	6.10	**Pipe Channel, CMP_Round 15"** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.025 Corrugated metal
17.6	1,120	0.0230	1.06		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.5	38	0.0180	1.21		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
2.4	90	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
40.5	1,809	Total			

Subcatchment S-1: Subcat S-1



Hydrograph for Subcatchment S-1: Subcat S-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.08	0.00	0.00
2.00	0.12	0.00	0.00
2.50	0.16	0.00	0.00
3.00	0.21	0.00	0.00
3.50	0.26	0.00	0.00
4.00	0.31	0.00	0.00
4.50	0.36	0.00	0.00
5.00	0.40	0.00	0.00
5.50	0.45	0.00	0.00
6.00	0.49	0.00	0.00
6.50	0.53	0.00	0.00
7.00	0.59	0.00	0.00
7.50	0.64	0.00	0.00
8.00	0.69	0.00	0.02
8.50	0.73	0.00	0.07
9.00	0.78	0.01	0.12
9.50	0.83	0.01	0.19
10.00	0.89	0.02	0.29
10.50	0.96	0.03	0.44
11.00	1.05	0.05	0.63
11.50	1.13	0.07	0.83
12.00	1.21	0.09	0.98
12.50	1.30	0.12	1.13
13.00	1.39	0.15	1.33
13.50	1.50	0.19	1.56
14.00	1.61	0.23	1.92
14.50	1.75	0.29	2.42
15.00	1.90	0.36	2.97
15.50	2.06	0.44	3.49
16.00	2.22	0.53	4.00
16.50	2.39	0.63	4.26
17.00	2.54	0.72	**4.35**
17.50	2.67	0.80	4.11
18.00	2.77	0.86	3.46
18.50	2.84	0.91	2.75
19.00	2.91	0.96	2.31
19.50	2.97	0.99	1.96
20.00	3.02	1.03	1.70
20.50	3.06	1.06	1.52
21.00	3.10	1.09	1.39
21.50	3.15	1.11	1.37
22.00	3.19	1.14	1.37
22.50	3.23	1.17	1.38
23.00	3.27	1.20	1.39
23.50	3.31	1.23	1.32
24.00	**3.34**	**1.25**	1.15
24.50	3.34	1.25	0.56
25.00	3.34	1.25	0.09
25.50	3.34	1.25	0.01
26.00	3.34	1.25	0.00
26.50	3.34	1.25	0.00
27.00	3.34	1.25	0.00
27.50	3.34	1.25	0.00
28.00	3.34	1.25	0.00
28.50	3.34	1.25	0.00
29.00	3.34	1.25	0.00
29.50	3.34	1.25	0.00
30.00	3.34	1.25	0.00

Summary for Subcatchment S-2: Subcat S-2

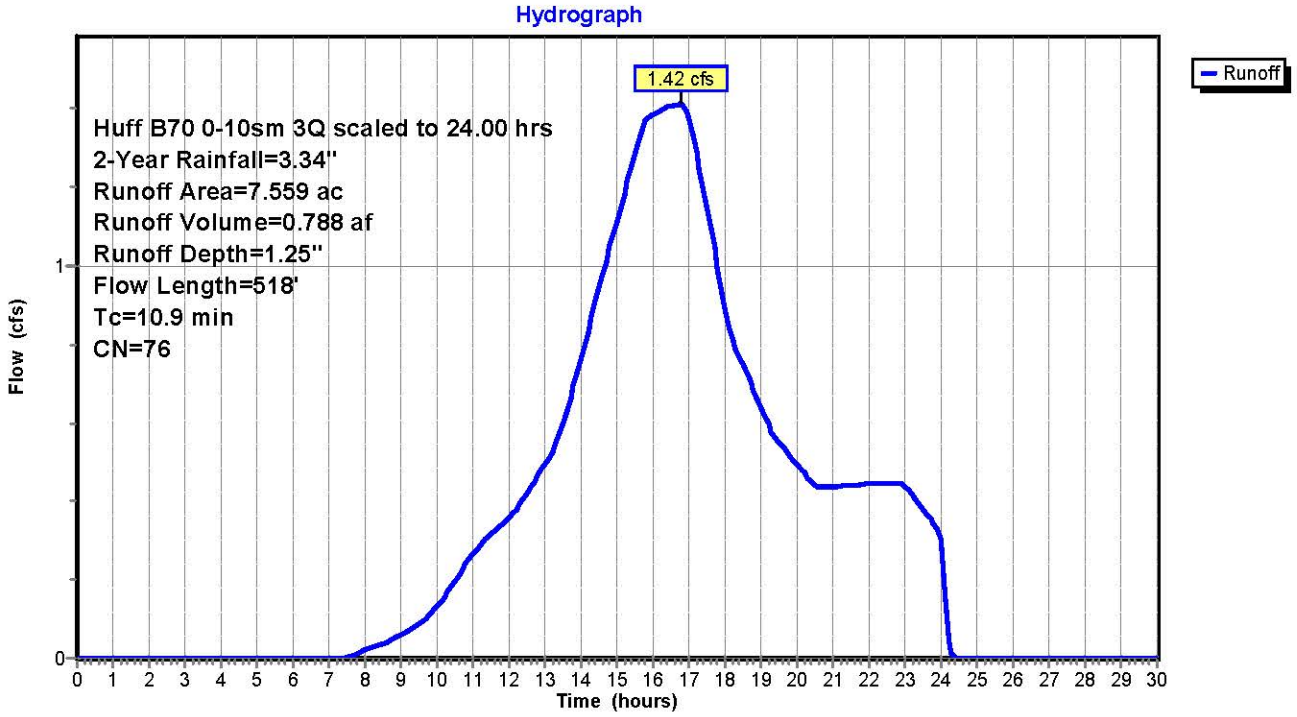
Runoff = 1.42 cfs @ 16.76 hrs, Volume= 0.788 af, Depth= 1.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 2-Year Rainfall=3.34"

Area (ac)	CN	Description
3.935	71	Meadow, non-grazed, HSG C
0.059	78	Meadow, non-grazed, HSG D
2.211	82	Row crops, SR + CR, Good, HSG C
0.946	85	Row crops, SR + CR, Good, HSG D
0.063	73	Woods, Fair, HSG C
0.344	79	Woods, Fair, HSG D
7.559	76	Weighted Average
7.559		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	100	0.0682	0.26		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 3.34"
2.9	322	0.0697	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	31	0.0398	1.80		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
1.2	65	0.0328	0.91		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.9	518	Total			

Subcatchment S-2: Subcat S-2



Hydrograph for Subcatchment S-2: Subcat S-2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.08	0.00	0.00
2.00	0.12	0.00	0.00
2.50	0.16	0.00	0.00
3.00	0.21	0.00	0.00
3.50	0.26	0.00	0.00
4.00	0.31	0.00	0.00
4.50	0.36	0.00	0.00
5.00	0.40	0.00	0.00
5.50	0.45	0.00	0.00
6.00	0.49	0.00	0.00
6.50	0.53	0.00	0.00
7.00	0.59	0.00	0.00
7.50	0.64	0.00	0.00
8.00	0.69	0.00	0.02
8.50	0.73	0.00	0.04
9.00	0.78	0.01	0.06
9.50	0.83	0.01	0.09
10.00	0.89	0.02	0.13
10.50	0.96	0.03	0.20
11.00	1.05	0.05	0.27
11.50	1.13	0.07	0.32
12.00	1.21	0.09	0.36
12.50	1.30	0.12	0.42
13.00	1.39	0.15	0.50
13.50	1.50	0.19	0.60
14.00	1.61	0.23	0.76
14.50	1.75	0.29	0.95
15.00	1.90	0.36	1.12
15.50	2.06	0.44	1.29
16.00	2.22	0.53	1.39
16.50	2.39	0.63	**1.41**
17.00	2.54	0.72	**1.38**
17.50	2.67	0.80	1.15
18.00	2.77	0.86	0.89
18.50	2.84	0.91	0.75
19.00	2.91	0.96	0.64
19.50	2.97	0.99	0.55
20.00	3.02	1.03	0.50
20.50	3.06	1.06	0.44
21.00	3.10	1.09	0.44
21.50	3.15	1.11	0.44
22.00	3.19	1.14	0.45
22.50	3.23	1.17	0.45
23.00	3.27	1.20	0.44
23.50	3.31	1.23	0.38
24.00	**3.34**	**1.25**	0.31
24.50	3.34	1.25	0.00
25.00	3.34	1.25	0.00
25.50	3.34	1.25	0.00
26.00	3.34	1.25	0.00
26.50	3.34	1.25	0.00
27.00	3.34	1.25	0.00
27.50	3.34	1.25	0.00
28.00	3.34	1.25	0.00
28.50	3.34	1.25	0.00
29.00	3.34	1.25	0.00
29.50	3.34	1.25	0.00
30.00	3.34	1.25	0.00

Summary for Subcatchment S-3: Subcat S-3

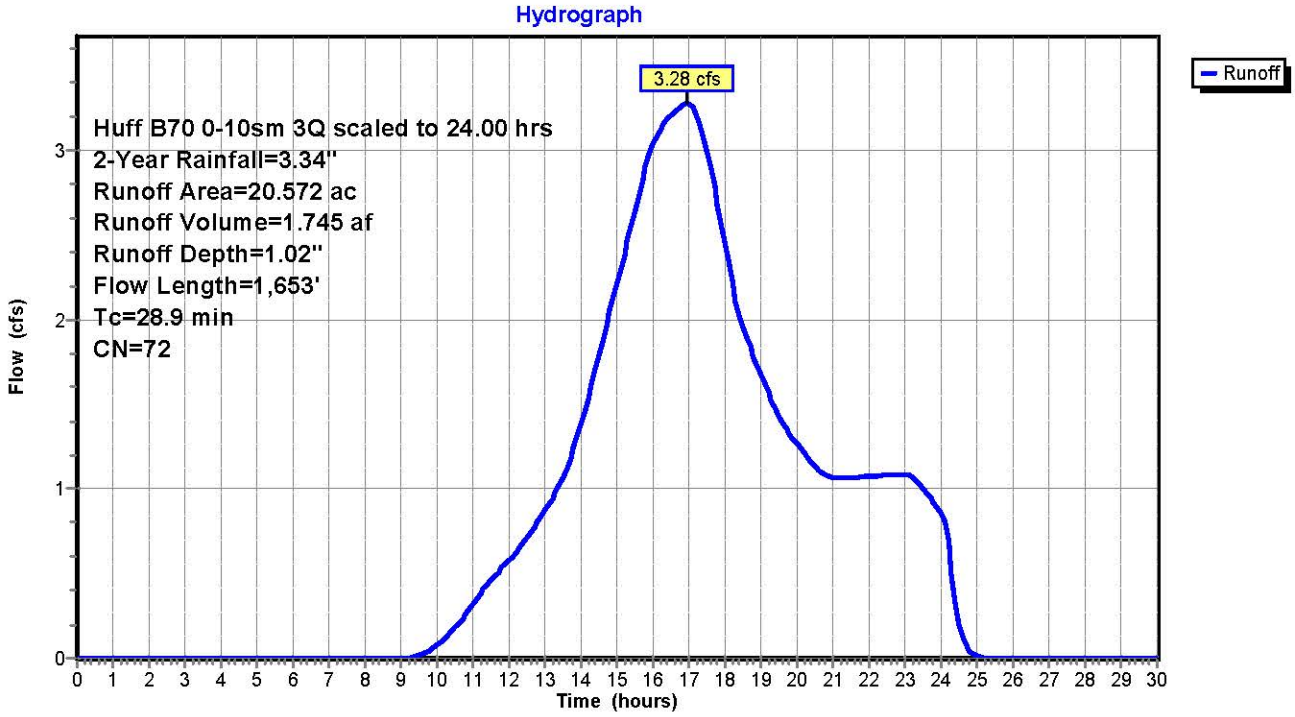
Runoff = 3.28 cfs @ 16.97 hrs, Volume= 1.745 af, Depth= 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 2-Year Rainfall=3.34"

Area (ac)	CN	Description
2.807	58	Meadow, non-grazed, HSG B
10.192	71	Meadow, non-grazed, HSG C
3.153	78	Meadow, non-grazed, HSG D
1.000	75	Row crops, SR + CR, Good, HSG B
1.461	82	Row crops, SR + CR, Good, HSG C
1.357	85	Row crops, SR + CR, Good, HSG D
0.365	73	Woods, Fair, HSG C
0.237	79	Woods, Fair, HSG D
20.572	72	Weighted Average
20.572		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	100	0.0490	0.23		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 3.34"
15.8	1,131	0.0291	1.19		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.7	422	0.0189	1.24		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
28.9	1,653	Total			

Subcatchment S-3: Subcat S-3



Hydrograph for Subcatchment S-3: Subcat S-3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.08	0.00	0.00
2.00	0.12	0.00	0.00
2.50	0.16	0.00	0.00
3.00	0.21	0.00	0.00
3.50	0.26	0.00	0.00
4.00	0.31	0.00	0.00
4.50	0.36	0.00	0.00
5.00	0.40	0.00	0.00
5.50	0.45	0.00	0.00
6.00	0.49	0.00	0.00
6.50	0.53	0.00	0.00
7.00	0.59	0.00	0.00
7.50	0.64	0.00	0.00
8.00	0.69	0.00	0.00
8.50	0.73	0.00	0.00
9.00	0.78	0.00	0.00
9.50	0.83	0.00	0.02
10.00	0.89	0.00	0.08
10.50	0.96	0.01	0.18
11.00	1.05	0.02	0.32
11.50	1.13	0.03	0.46
12.00	1.21	0.04	0.58
12.50	1.30	0.06	0.71
13.00	1.39	0.08	0.87
13.50	1.50	0.11	1.07
14.00	1.61	0.15	1.38
14.50	1.75	0.19	1.79
15.00	1.90	0.25	2.21
15.50	2.06	0.32	2.64
16.00	2.22	0.39	3.04
16.50	2.39	0.47	3.20
17.00	2.54	0.55	**3.28**
17.50	2.67	0.62	2.99
18.00	2.77	0.67	2.45
18.50	2.84	0.72	1.96
19.00	2.91	0.76	1.68
19.50	2.97	0.79	1.43
20.00	3.02	0.82	1.27
20.50	3.06	0.85	1.13
21.00	3.10	0.87	1.07
21.50	3.15	0.90	1.07
22.00	3.19	0.92	1.08
22.50	3.23	0.95	1.08
23.00	3.27	0.97	1.09
23.50	3.31	1.00	1.00
24.00	**3.34**	**1.02**	0.86
24.50	3.34	1.02	0.20
25.00	3.34	1.02	0.01
25.50	3.34	1.02	0.00
26.00	3.34	1.02	0.00
26.50	3.34	1.02	0.00
27.00	3.34	1.02	0.00
27.50	3.34	1.02	0.00
28.00	3.34	1.02	0.00
28.50	3.34	1.02	0.00
29.00	3.34	1.02	0.00
29.50	3.34	1.02	0.00
30.00	3.34	1.02	0.00

Summary for Subcatchment S-4: Subcat S-4

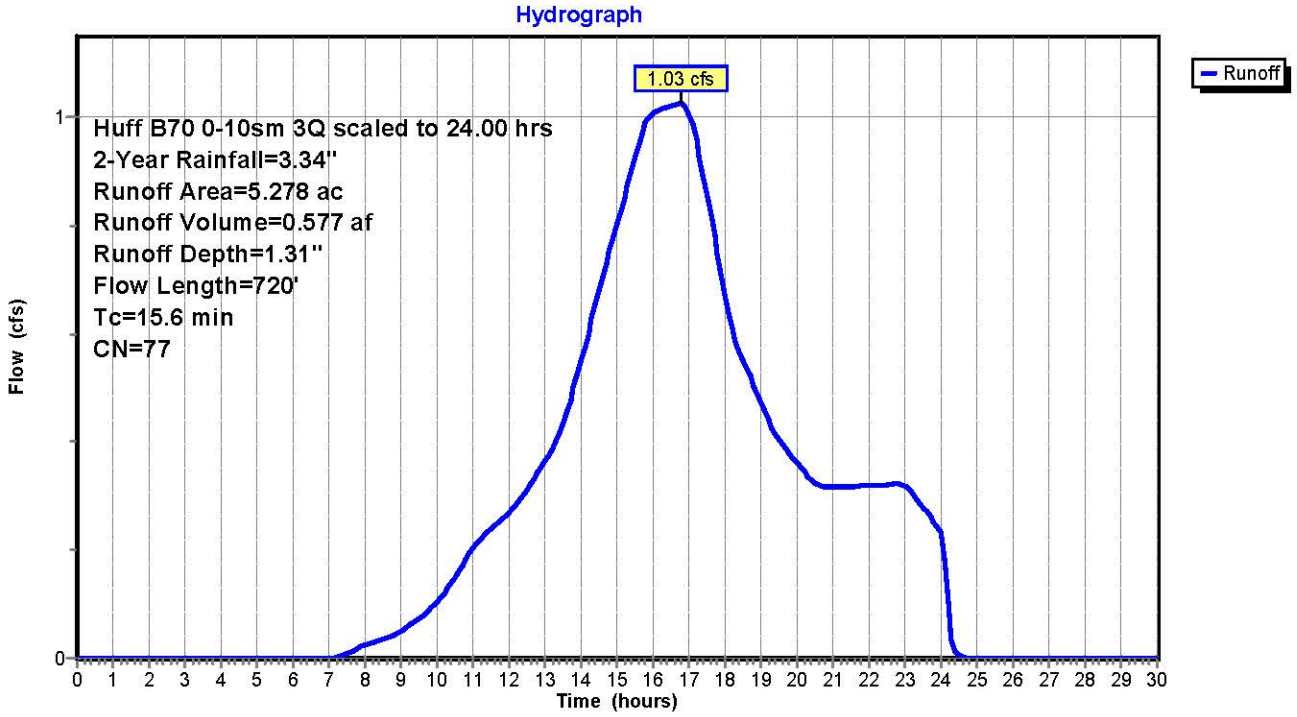
Runoff = 1.03 cfs @ 16.78 hrs, Volume= 0.577 af, Depth= 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 2-Year Rainfall=3.34"

Area (ac)	CN	Description
0.767	71	Meadow, non-grazed, HSG C
2.046	82	Row crops, SR + CR, Good, HSG C
0.000	85	Row crops, SR + CR, Good, HSG D
1.406	73	Woods, Fair, HSG C
1.059	79	Woods, Fair, HSG D
5.278	77	Weighted Average
5.278		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	100	0.0539	0.23		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 3.34"
0.2	26	0.0469	1.95		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
2.2	201	0.0461	1.50		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	19	0.0562	2.13		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
6.0	374	0.0429	1.04		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
15.6	720	Total			

Subcatchment S-4: Subcat S-4



Hydrograph for Subcatchment S-4: Subcat S-4

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.04	0.00	0.00
1.50	0.08	0.00	0.00
2.00	0.12	0.00	0.00
2.50	0.16	0.00	0.00
3.00	0.21	0.00	0.00
3.50	0.26	0.00	0.00
4.00	0.31	0.00	0.00
4.50	0.36	0.00	0.00
5.00	0.40	0.00	0.00
5.50	0.45	0.00	0.00
6.00	0.49	0.00	0.00
6.50	0.53	0.00	0.00
7.00	0.59	0.00	0.00
7.50	0.64	0.00	0.01
8.00	0.69	0.00	0.02
8.50	0.73	0.01	0.03
9.00	0.78	0.01	0.05
9.50	0.83	0.02	0.07
10.00	0.89	0.03	0.10
10.50	0.96	0.04	0.15
11.00	1.05	0.06	0.20
11.50	1.13	0.08	0.24
12.00	1.21	0.11	0.27
12.50	1.30	0.13	0.31
13.00	1.39	0.17	0.36
13.50	1.50	0.21	0.43
14.00	1.61	0.26	0.55
14.50	1.75	0.32	0.68
15.00	1.90	0.39	0.80
15.50	2.06	0.48	0.92
16.00	2.22	0.57	1.01
16.50	2.39	0.67	**1.02**
17.00	2.54	0.77	**1.01**
17.50	2.67	0.85	0.86
18.00	2.77	0.91	0.67
18.50	2.84	0.97	0.55
19.00	2.91	1.01	0.47
19.50	2.97	1.05	0.40
20.00	3.02	1.08	0.36
20.50	3.06	1.11	0.32
21.00	3.10	1.14	0.32
21.50	3.15	1.17	0.32
22.00	3.19	1.20	0.32
22.50	3.23	1.23	0.32
23.00	3.27	1.26	0.32
23.50	3.31	1.29	0.28
24.00	**3.34**	**1.31**	0.23
24.50	3.34	1.31	0.01
25.00	3.34	1.31	0.00
25.50	3.34	1.31	0.00
26.00	3.34	1.31	0.00
26.50	3.34	1.31	0.00
27.00	3.34	1.31	0.00
27.50	3.34	1.31	0.00
28.00	3.34	1.31	0.00
28.50	3.34	1.31	0.00
29.00	3.34	1.31	0.00
29.50	3.34	1.31	0.00
30.00	3.34	1.31	0.00

Time span=0.00-30.00 hrs, dt=0.10 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment S-1: Subcat S-1 Runoff Area=23.346 ac 0.00% Impervious Runoff Depth=2.66"
Flow Length=1,809' Tc=40.5 min CN=76 Runoff=8.51 cfs 5.174 af

Subcatchment S-2: Subcat S-2 Runoff Area=7.559 ac 0.00% Impervious Runoff Depth=2.66"
Flow Length=518' Tc=10.9 min CN=76 Runoff=2.77 cfs 1.675 af

Subcatchment S-3: Subcat S-3 Runoff Area=20.572 ac 0.00% Impervious Runoff Depth=2.31"
Flow Length=1,653' Tc=28.9 min CN=72 Runoff=6.79 cfs 3.967 af

Subcatchment S-4: Subcat S-4 Runoff Area=5.278 ac 0.00% Impervious Runoff Depth=2.75"
Flow Length=720' Tc=15.6 min CN=77 Runoff=1.98 cfs 1.209 af

Total Runoff Area = 56.755 ac Runoff Volume = 12.026 af Average Runoff Depth = 2.54"
100.00% Pervious = 56.755 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment S-1: Subcat S-1

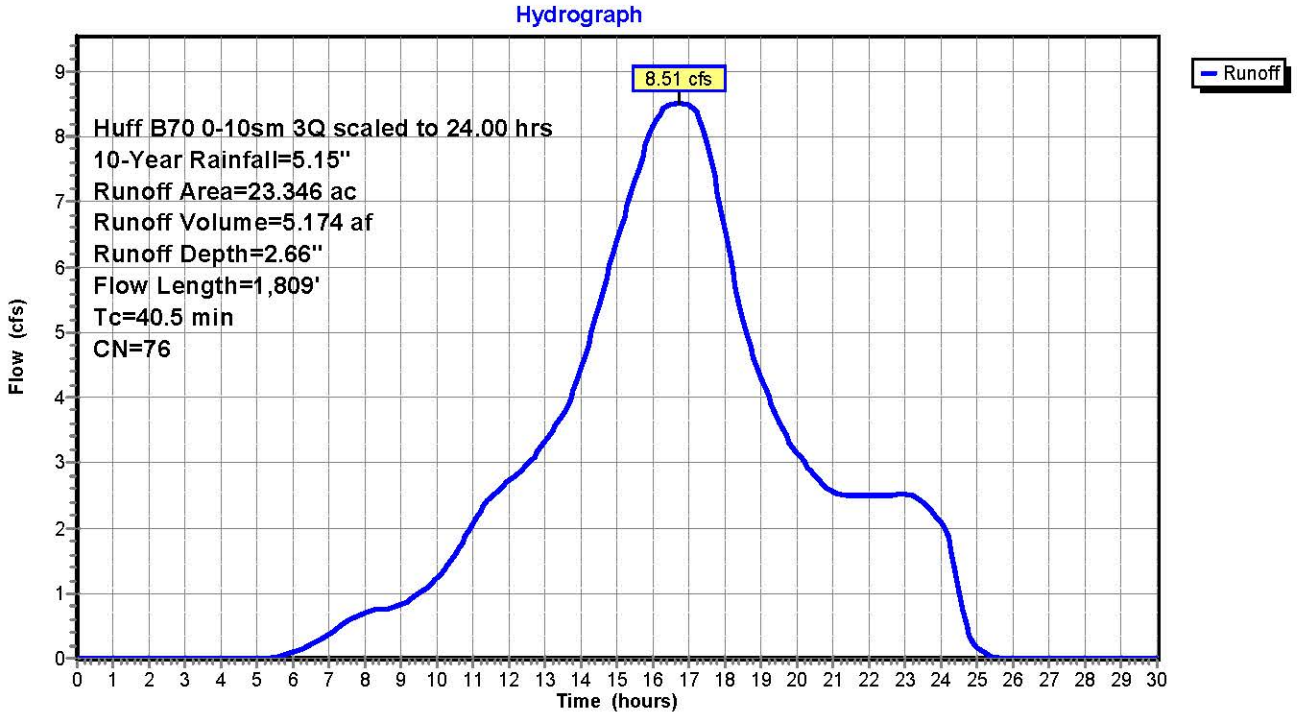
Runoff = 8.51 cfs @ 16.75 hrs, Volume= 5.174 af, Depth= 2.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 10-Year Rainfall=5.15"

Area (ac)	CN	Description
0.162	74	>75% Grass cover, Good, HSG C
0.681	80	>75% Grass cover, Good, HSG D
0.030	85	Gravel roads, HSG B
0.181	89	Gravel roads, HSG C
0.234	91	Gravel roads, HSG D
0.393	58	Meadow, non-grazed, HSG B
8.172	71	Meadow, non-grazed, HSG C
9.078	78	Meadow, non-grazed, HSG D
0.172	75	Row crops, SR + CR, Good, HSG B
2.183	82	Row crops, SR + CR, Good, HSG C
0.919	85	Row crops, SR + CR, Good, HSG D
0.252	60	Woods, Fair, HSG B
0.410	73	Woods, Fair, HSG C
0.479	79	Woods, Fair, HSG D
23.346	76	Weighted Average
23.346		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	100	0.0250	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.34"
3.1	175	0.0360	0.95		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.1	175	0.0364	0.95		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.9	69	0.0310	1.23		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	42	0.0330	4.97	6.10	**Pipe Channel, CMP_Round 15"** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.025 Corrugated metal
17.6	1,120	0.0230	1.06		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.5	38	0.0180	1.21		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
2.4	90	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
40.5	1,809	Total			

Subcatchment S-1: Subcat S-1



Hydrograph for Subcatchment S-1: Subcat S-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.18	0.00	0.00
2.50	0.25	0.00	0.00
3.00	0.32	0.00	0.00
3.50	0.40	0.00	0.00
4.00	0.48	0.00	0.00
4.50	0.56	0.00	0.00
5.00	0.62	0.00	0.00
5.50	0.69	0.00	0.01
6.00	0.75	0.00	0.10
6.50	0.82	0.01	0.21
7.00	0.90	0.02	0.37
7.50	0.99	0.04	0.56
8.00	1.06	0.05	0.70
8.50	1.13	0.07	0.76
9.00	1.20	0.09	0.81
9.50	1.28	0.11	0.99
10.00	1.38	0.14	1.23
10.50	1.49	0.18	1.60
11.00	1.61	0.23	2.07
11.50	1.74	0.29	2.48
12.00	1.87	0.35	2.73
12.50	2.01	0.42	2.97
13.00	2.15	0.49	3.32
13.50	2.31	0.58	3.75
14.00	2.49	0.69	4.45
14.50	2.70	0.82	5.40
15.00	2.93	0.97	6.41
15.50	3.17	1.13	7.32
16.00	3.43	1.32	8.17
16.50	3.68	1.50	**8.49**
17.00	3.92	1.67	**8.49**
17.50	4.11	1.83	7.90
18.00	4.27	1.94	6.57
18.50	4.39	2.04	5.18
19.00	4.49	2.12	4.31
19.50	4.58	2.19	3.64
20.00	4.65	2.25	3.15
20.50	4.72	2.31	2.80
21.00	4.79	2.36	2.55
21.50	4.85	2.41	2.50
22.00	4.92	2.47	2.50
22.50	4.98	2.52	2.51
23.00	5.05	2.57	2.52
23.50	5.10	2.62	2.39
24.00	**5.15**	**2.66**	2.09
24.50	5.15	2.66	1.01
25.00	5.15	2.66	0.17
25.50	5.15	2.66	0.03
26.00	5.15	2.66	0.00
26.50	5.15	2.66	0.00
27.00	5.15	2.66	0.00
27.50	5.15	2.66	0.00
28.00	5.15	2.66	0.00
28.50	5.15	2.66	0.00
29.00	5.15	2.66	0.00
29.50	5.15	2.66	0.00
30.00	5.15	2.66	0.00

Summary for Subcatchment S-2: Subcat S-2

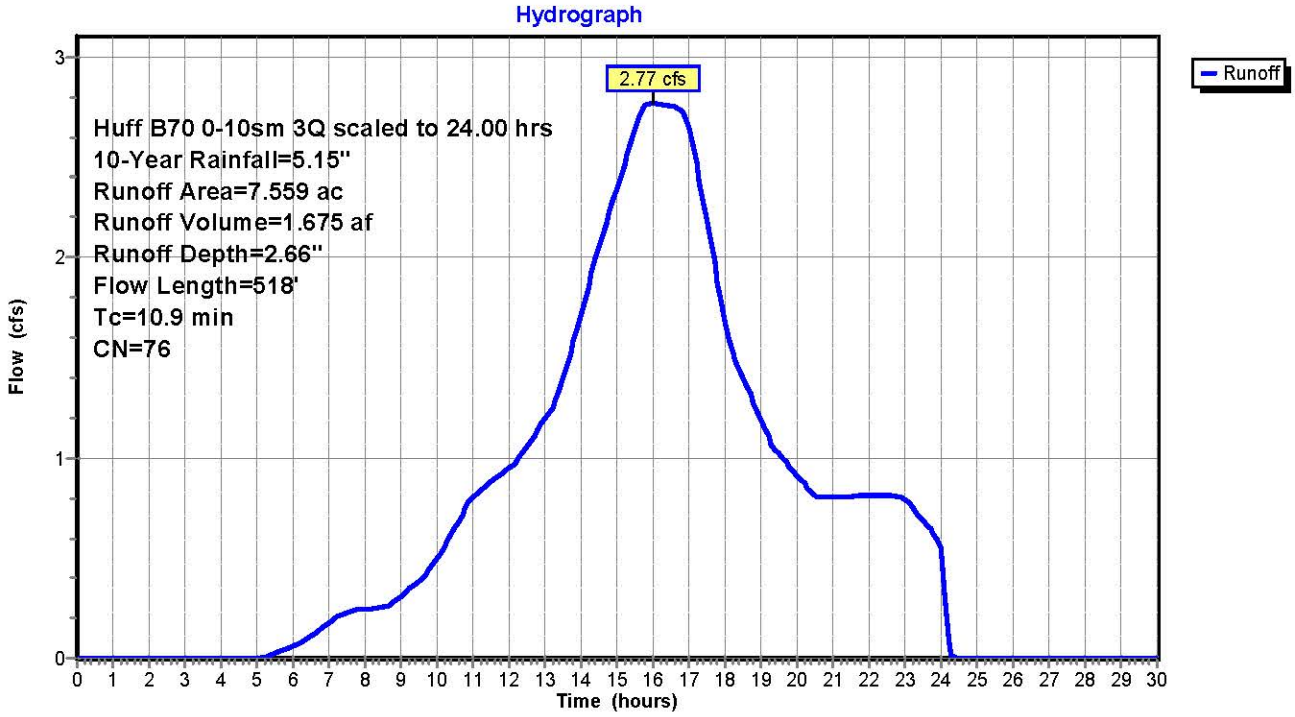
Runoff = 2.77 cfs @ 16.02 hrs, Volume= 1.675 af, Depth= 2.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 10-Year Rainfall=5.15"

Area (ac)	CN	Description
3.935	71	Meadow, non-grazed, HSG C
0.059	78	Meadow, non-grazed, HSG D
2.211	82	Row crops, SR + CR, Good, HSG C
0.946	85	Row crops, SR + CR, Good, HSG D
0.063	73	Woods, Fair, HSG C
0.344	79	Woods, Fair, HSG D
7.559	76	Weighted Average
7.559		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	100	0.0682	0.26		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 3.34"
2.9	322	0.0697	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	31	0.0398	1.80		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
1.2	65	0.0328	0.91		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.9	518	Total			

Subcatchment S-2: Subcat S-2



Hydrograph for Subcatchment S-2: Subcat S-2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.18	0.00	0.00
2.50	0.25	0.00	0.00
3.00	0.32	0.00	0.00
3.50	0.40	0.00	0.00
4.00	0.48	0.00	0.00
4.50	0.56	0.00	0.00
5.00	0.62	0.00	0.00
5.50	0.69	0.00	0.03
6.00	0.75	0.00	0.06
6.50	0.82	0.01	0.11
7.00	0.90	0.02	0.18
7.50	0.99	0.04	0.23
8.00	1.06	0.05	0.25
8.50	1.13	0.07	0.25
9.00	1.20	0.09	0.31
9.50	1.28	0.11	0.39
10.00	1.38	0.14	0.50
10.50	1.49	0.18	0.65
11.00	1.61	0.23	0.81
11.50	1.74	0.29	0.88
12.00	1.87	0.35	0.95
12.50	2.01	0.42	1.06
13.00	2.15	0.49	1.20
13.50	2.31	0.58	1.40
14.00	2.49	0.69	1.71
14.50	2.70	0.82	2.06
15.00	2.93	0.97	2.35
15.50	3.17	1.13	2.64
16.00	3.43	1.32	**2.77**
16.50	3.68	1.50	2.76
17.00	3.92	1.67	2.65
17.50	4.11	1.83	2.18
18.00	4.27	1.94	1.68
18.50	4.39	2.04	1.40
19.00	4.49	2.12	1.19
19.50	4.58	2.19	1.02
20.00	4.65	2.25	0.91
20.50	4.72	2.31	0.81
21.00	4.79	2.36	0.81
21.50	4.85	2.41	0.81
22.00	4.92	2.47	0.81
22.50	4.98	2.52	0.82
23.00	5.05	2.57	0.80
23.50	5.10	2.62	0.69
24.00	**5.15**	**2.66**	0.55
24.50	5.15	2.66	0.00
25.00	5.15	2.66	0.00
25.50	5.15	2.66	0.00
26.00	5.15	2.66	0.00
26.50	5.15	2.66	0.00
27.00	5.15	2.66	0.00
27.50	5.15	2.66	0.00
28.00	5.15	2.66	0.00
28.50	5.15	2.66	0.00
29.00	5.15	2.66	0.00
29.50	5.15	2.66	0.00
30.00	5.15	2.66	0.00

Summary for Subcatchment S-3: Subcat S-3

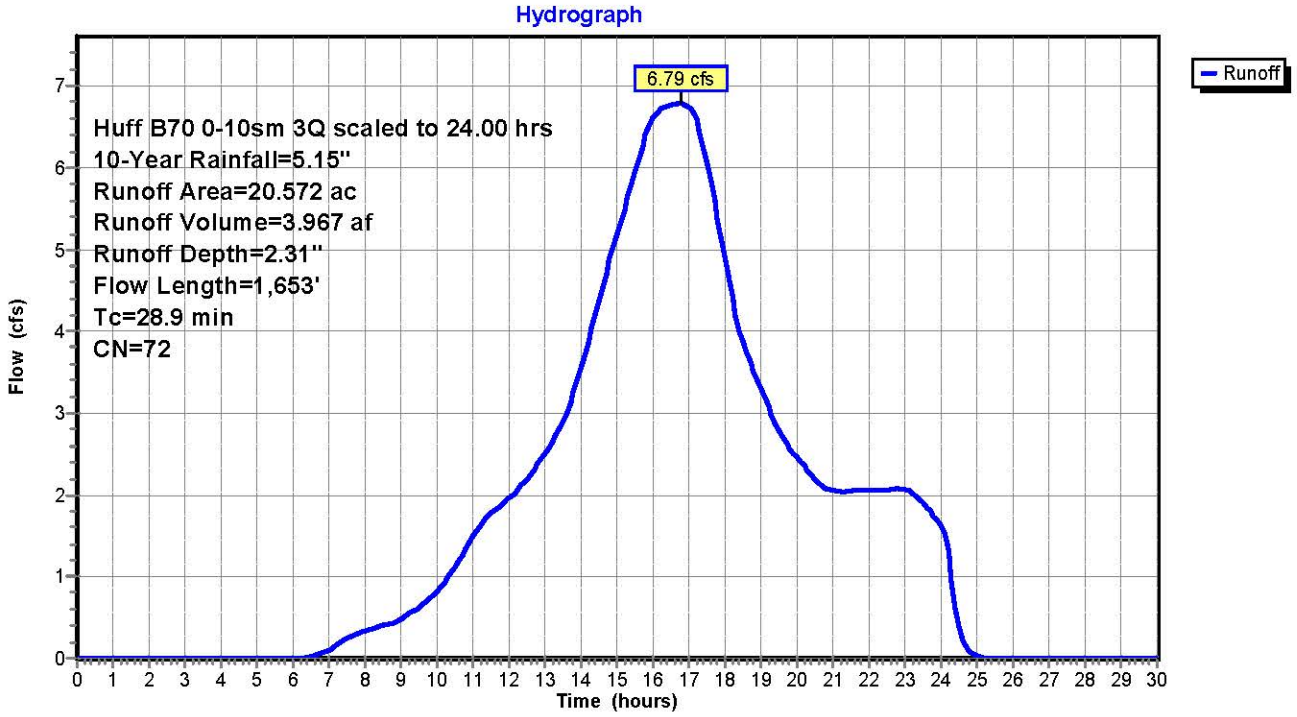
Runoff = 6.79 cfs @ 16.77 hrs, Volume= 3.967 af, Depth= 2.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 10-Year Rainfall=5.15"

Area (ac)	CN	Description
2.807	58	Meadow, non-grazed, HSG B
10.192	71	Meadow, non-grazed, HSG C
3.153	78	Meadow, non-grazed, HSG D
1.000	75	Row crops, SR + CR, Good, HSG B
1.461	82	Row crops, SR + CR, Good, HSG C
1.357	85	Row crops, SR + CR, Good, HSG D
0.365	73	Woods, Fair, HSG C
0.237	79	Woods, Fair, HSG D
20.572	72	Weighted Average
20.572		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	100	0.0490	0.23		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 3.34"
15.8	1,131	0.0291	1.19		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.7	422	0.0189	1.24		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
28.9	1,653	Total			

Subcatchment S-3: Subcat S-3



Hydrograph for Subcatchment S-3: Subcat S-3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.18	0.00	0.00
2.50	0.25	0.00	0.00
3.00	0.32	0.00	0.00
3.50	0.40	0.00	0.00
4.00	0.48	0.00	0.00
4.50	0.56	0.00	0.00
5.00	0.62	0.00	0.00
5.50	0.69	0.00	0.00
6.00	0.75	0.00	0.00
6.50	0.82	0.00	0.01
7.00	0.90	0.00	0.10
7.50	0.99	0.01	0.24
8.00	1.06	0.02	0.35
8.50	1.13	0.03	0.40
9.00	1.20	0.04	0.48
9.50	1.28	0.06	0.63
10.00	1.38	0.08	0.82
10.50	1.49	0.11	1.12
11.00	1.61	0.15	1.49
11.50	1.74	0.19	1.77
12.00	1.87	0.24	1.97
12.50	2.01	0.30	2.19
13.00	2.15	0.36	2.51
13.50	2.31	0.43	2.89
14.00	2.49	0.52	3.55
14.50	2.70	0.63	4.37
15.00	2.93	0.76	5.19
15.50	3.17	0.91	5.95
16.00	3.43	1.08	6.61
16.50	3.68	1.24	**6.78**
17.00	3.92	1.40	**6.77**
17.50	4.11	1.54	6.06
18.00	4.27	1.65	4.90
18.50	4.39	1.74	3.87
19.00	4.49	1.81	3.29
19.50	4.58	1.88	2.79
20.00	4.65	1.93	2.46
20.50	4.72	1.99	2.19
21.00	4.79	2.03	2.05
21.50	4.85	2.08	2.05
22.00	4.92	2.13	2.06
22.50	4.98	2.18	2.07
23.00	5.05	2.23	2.07
23.50	5.10	2.28	1.90
24.00	**5.15**	**2.31**	1.62
24.50	5.15	2.31	0.38
25.00	5.15	2.31	0.03
25.50	5.15	2.31	0.00
26.00	5.15	2.31	0.00
26.50	5.15	2.31	0.00
27.00	5.15	2.31	0.00
27.50	5.15	2.31	0.00
28.00	5.15	2.31	0.00
28.50	5.15	2.31	0.00
29.00	5.15	2.31	0.00
29.50	5.15	2.31	0.00
30.00	5.15	2.31	0.00

Summary for Subcatchment S-4: Subcat S-4

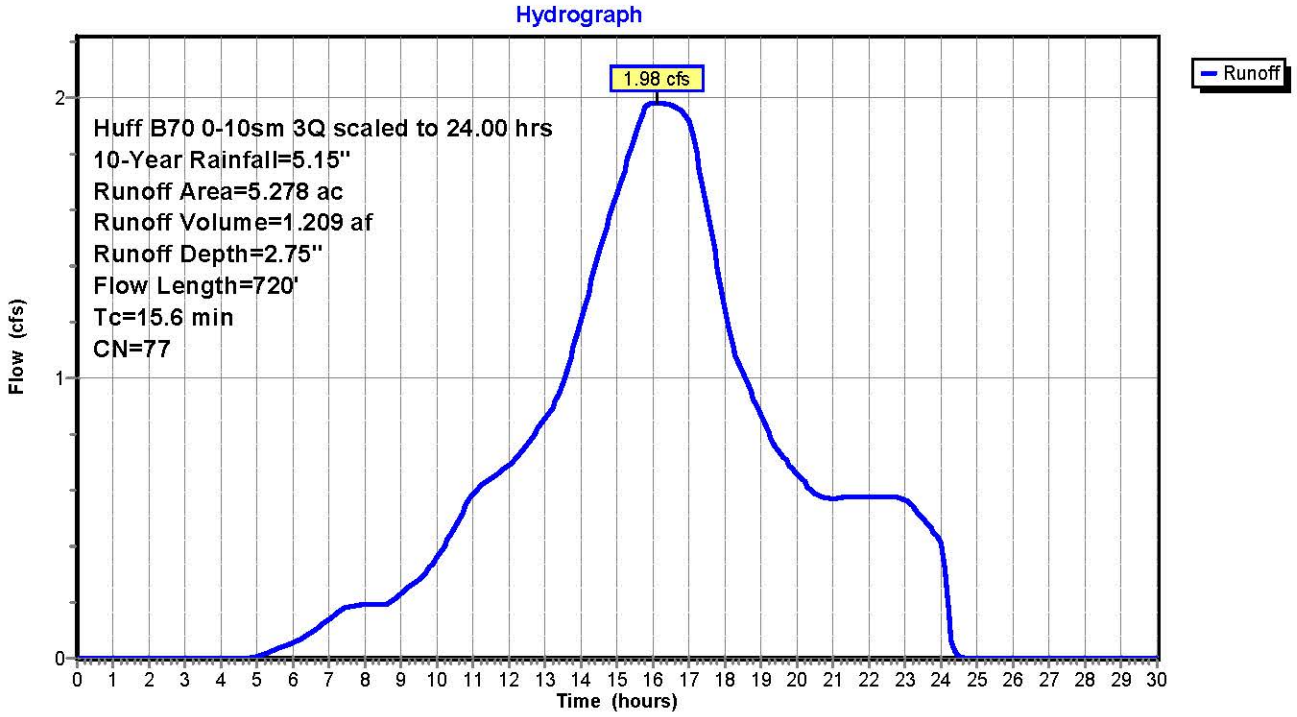
Runoff = 1.98 cfs @ 16.09 hrs, Volume= 1.209 af, Depth= 2.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 10-Year Rainfall=5.15"

Area (ac)	CN	Description
0.767	71	Meadow, non-grazed, HSG C
2.046	82	Row crops, SR + CR, Good, HSG C
0.000	85	Row crops, SR + CR, Good, HSG D
1.406	73	Woods, Fair, HSG C
1.059	79	Woods, Fair, HSG D
5.278	77	Weighted Average
5.278		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	100	0.0539	0.23		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 3.34"
0.2	26	0.0469	1.95		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
2.2	201	0.0461	1.50		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	19	0.0562	2.13		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
6.0	374	0.0429	1.04		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
15.6	720	Total			

Subcatchment S-4: Subcat S-4



Hydrograph for Subcatchment S-4: Subcat S-4

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.01	0.00	0.00
1.00	0.05	0.00	0.00
1.50	0.12	0.00	0.00
2.00	0.18	0.00	0.00
2.50	0.25	0.00	0.00
3.00	0.32	0.00	0.00
3.50	0.40	0.00	0.00
4.00	0.48	0.00	0.00
4.50	0.56	0.00	0.00
5.00	0.62	0.00	0.00
5.50	0.69	0.00	0.03
6.00	0.75	0.01	0.06
6.50	0.82	0.02	0.09
7.00	0.90	0.03	0.14
7.50	0.99	0.04	0.18
8.00	1.06	0.06	0.19
8.50	1.13	0.08	0.19
9.00	1.20	0.10	0.23
9.50	1.28	0.13	0.28
10.00	1.38	0.16	0.36
10.50	1.49	0.20	0.47
11.00	1.61	0.26	0.59
11.50	1.74	0.32	0.64
12.00	1.87	0.38	0.69
12.50	2.01	0.45	0.76
13.00	2.15	0.53	0.86
13.50	2.31	0.62	0.98
14.00	2.49	0.73	1.21
14.50	2.70	0.87	1.45
15.00	2.93	1.02	1.66
15.50	3.17	1.19	1.86
16.00	3.43	1.38	**1.98**
16.50	3.68	1.56	**1.97**
17.00	3.92	1.75	1.92
17.50	4.11	1.90	1.61
18.00	4.27	2.02	1.25
18.50	4.39	2.12	1.02
19.00	4.49	2.20	0.87
19.50	4.58	2.27	0.74
20.00	4.65	2.34	0.66
20.50	4.72	2.39	0.58
21.00	4.79	2.44	0.57
21.50	4.85	2.50	0.57
22.00	4.92	2.55	0.58
22.50	4.98	2.61	0.58
23.00	5.05	2.66	0.57
23.50	5.10	2.71	0.50
24.00	**5.15**	**2.75**	0.41
24.50	5.15	2.75	0.01
25.00	5.15	2.75	0.00
25.50	5.15	2.75	0.00
26.00	5.15	2.75	0.00
26.50	5.15	2.75	0.00
27.00	5.15	2.75	0.00
27.50	5.15	2.75	0.00
28.00	5.15	2.75	0.00
28.50	5.15	2.75	0.00
29.00	5.15	2.75	0.00
29.50	5.15	2.75	0.00
30.00	5.15	2.75	0.00

Time span=0.00-30.00 hrs, dt=0.10 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment S-1: Subcat S-1 Runoff Area=23.346 ac 0.00% Impervious Runoff Depth=5.68"
Flow Length=1,809' Tc=40.5 min CN=76 Runoff=16.82 cfs 11.049 af

Subcatchment S-2: Subcat S-2 Runoff Area=7.559 ac 0.00% Impervious Runoff Depth=5.68"
Flow Length=518' Tc=10.9 min CN=76 Runoff=5.52 cfs 3.577 af

Subcatchment S-3: Subcat S-3 Runoff Area=20.572 ac 0.00% Impervious Runoff Depth=5.20"
Flow Length=1,653' Tc=28.9 min CN=72 Runoff=14.04 cfs 8.911 af

Subcatchment S-4: Subcat S-4 Runoff Area=5.278 ac 0.00% Impervious Runoff Depth=5.80"
Flow Length=720' Tc=15.6 min CN=77 Runoff=3.90 cfs 2.551 af

Total Runoff Area = 56.755 ac Runoff Volume = 26.088 af Average Runoff Depth = 5.52"
100.00% Pervious = 56.755 ac 0.00% Impervious = 0.000 ac

Summary for Subcatchment S-1: Subcat S-1

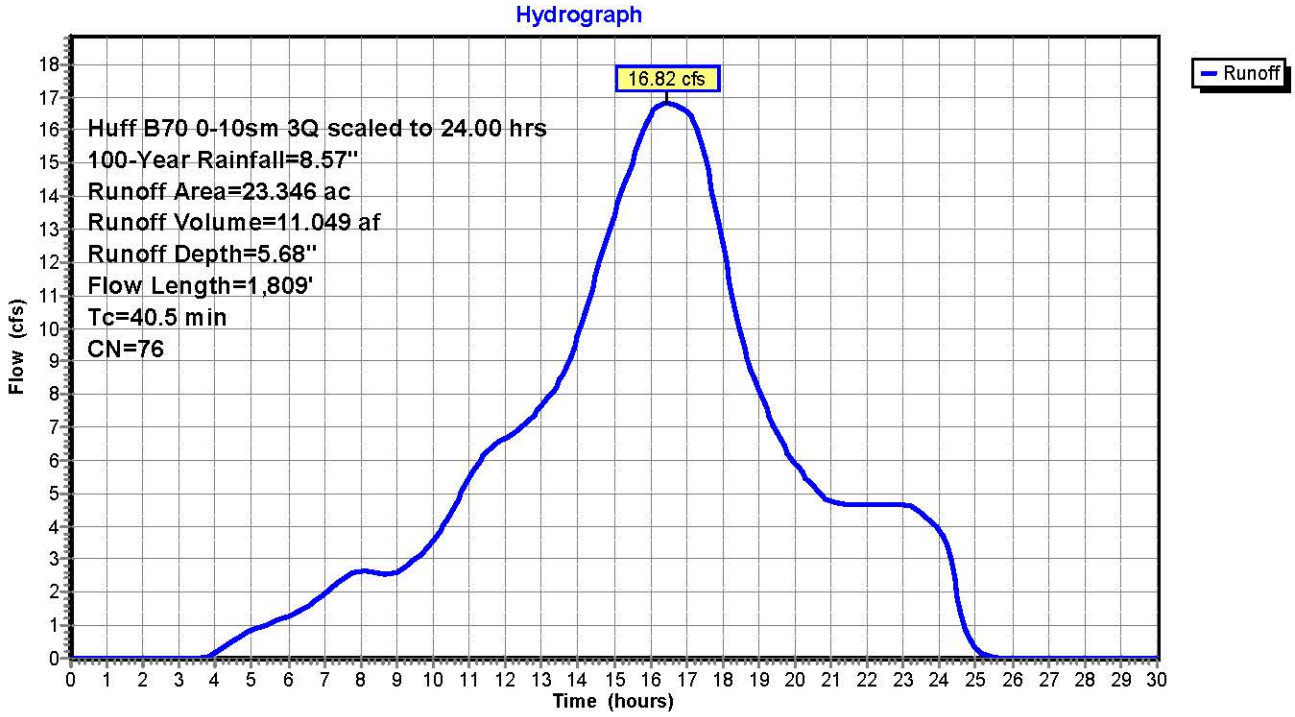
Runoff = 16.82 cfs @ 16.44 hrs, Volume= 11.049 af, Depth= 5.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 100-Year Rainfall=8.57"

Area (ac)	CN	Description
0.162	74	>75% Grass cover, Good, HSG C
0.681	80	>75% Grass cover, Good, HSG D
0.030	85	Gravel roads, HSG B
0.181	89	Gravel roads, HSG C
0.234	91	Gravel roads, HSG D
0.393	58	Meadow, non-grazed, HSG B
8.172	71	Meadow, non-grazed, HSG C
9.078	78	Meadow, non-grazed, HSG D
0.172	75	Row crops, SR + CR, Good, HSG B
2.183	82	Row crops, SR + CR, Good, HSG C
0.919	85	Row crops, SR + CR, Good, HSG D
0.252	60	Woods, Fair, HSG B
0.410	73	Woods, Fair, HSG C
0.479	79	Woods, Fair, HSG D
23.346	76	Weighted Average
23.346		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.8	100	0.0250	0.13		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.34"
3.1	175	0.0360	0.95		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
3.1	175	0.0364	0.95		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
0.9	69	0.0310	1.23		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	42	0.0330	4.97	6.10	**Pipe Channel, CMP_Round 15"** 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.025 Corrugated metal
17.6	1,120	0.0230	1.06		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.5	38	0.0180	1.21		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
2.4	90	0.0150	0.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
40.5	1,809	Total			

Subcatchment S-1: Subcat S-1



Hydrograph for Subcatchment S-1: Subcat S-1

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.19	0.00	0.00
2.00	0.30	0.00	0.00
2.50	0.41	0.00	0.00
3.00	0.53	0.00	0.00
3.50	0.66	0.00	0.00
4.00	0.80	0.01	0.16
4.50	0.93	0.03	0.55
5.00	1.04	0.05	0.85
5.50	1.15	0.07	1.07
6.00	1.26	0.10	1.29
6.50	1.37	0.14	1.54
7.00	1.50	0.19	1.94
7.50	1.64	0.24	2.42
8.00	1.77	0.30	2.65
8.50	1.88	0.36	2.60
9.00	2.00	0.41	2.61
9.50	2.14	0.49	3.00
10.00	2.29	0.57	3.55
10.50	2.47	0.68	4.40
11.00	2.68	0.81	5.46
11.50	2.90	0.95	6.28
12.00	3.12	1.09	6.67
12.50	3.34	1.25	7.03
13.00	3.58	1.42	7.65
13.50	3.84	1.62	8.42
14.00	4.14	1.85	9.75
14.50	4.49	2.12	11.59
15.00	4.87	2.43	13.43
15.50	5.28	2.77	15.03
16.00	5.71	3.13	**16.45**
16.50	6.12	3.49	**16.81**
17.00	6.52	3.83	16.57
17.50	6.84	4.12	15.23
18.00	7.10	4.35	12.56
18.50	7.30	4.53	9.83
19.00	7.47	4.68	8.14
19.50	7.62	4.81	6.84
20.00	7.74	4.92	5.91
20.50	7.86	5.03	5.23
21.00	7.96	5.13	4.76
21.50	8.07	5.22	4.65
22.00	8.18	5.32	4.64
22.50	8.29	5.42	4.65
23.00	8.40	5.52	4.65
23.50	8.49	5.61	4.41
24.00	**8.57**	**5.68**	3.85
24.50	8.57	5.68	1.87
25.00	8.57	5.68	0.31
25.50	8.57	5.68	0.05
26.00	8.57	5.68	0.00
26.50	8.57	5.68	0.00
27.00	8.57	5.68	0.00
27.50	8.57	5.68	0.00
28.00	8.57	5.68	0.00
28.50	8.57	5.68	0.00
29.00	8.57	5.68	0.00
29.50	8.57	5.68	0.00
30.00	8.57	5.68	0.00

Summary for Subcatchment S-2: Subcat S-2

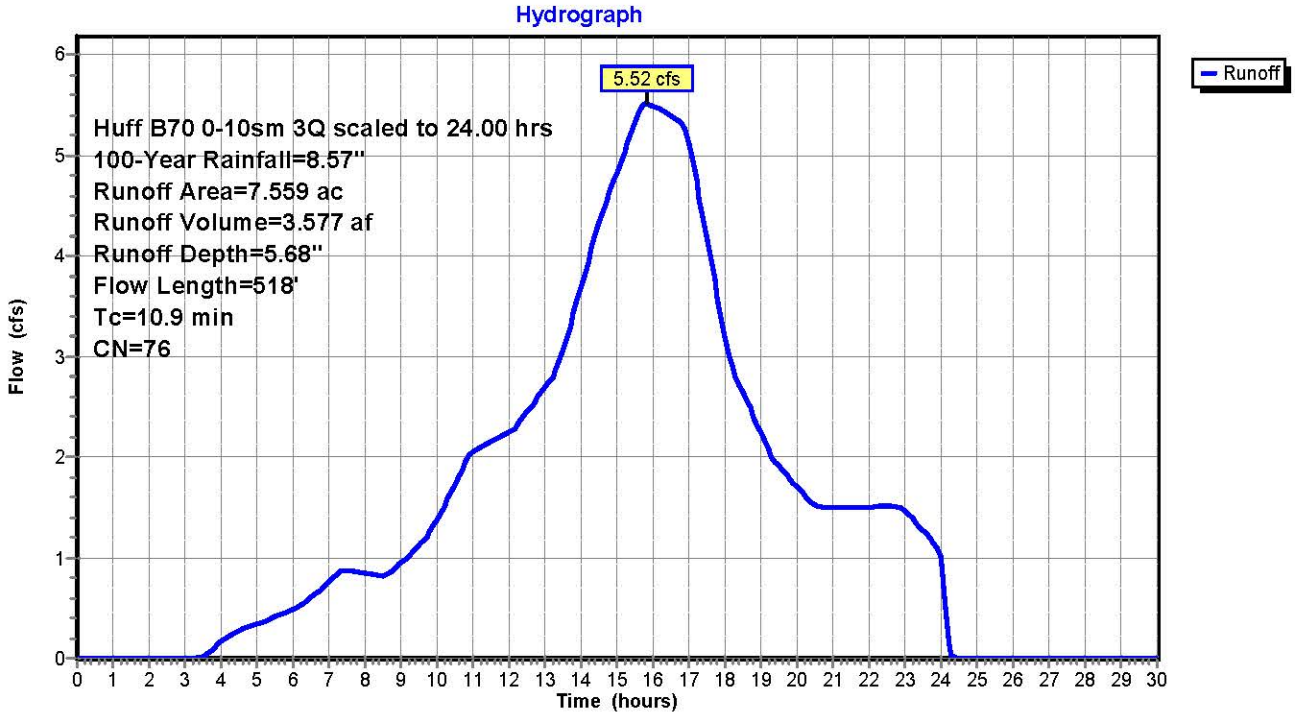
Runoff = 5.52 cfs @ 15.82 hrs, Volume= 3.577 af, Depth= 5.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 100-Year Rainfall=8.57"

Area (ac)	CN	Description
3.935	71	Meadow, non-grazed, HSG C
0.059	78	Meadow, non-grazed, HSG D
2.211	82	Row crops, SR + CR, Good, HSG C
0.946	85	Row crops, SR + CR, Good, HSG D
0.063	73	Woods, Fair, HSG C
0.344	79	Woods, Fair, HSG D
7.559	76	Weighted Average
7.559		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	100	0.0682	0.26		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 3.34"
2.9	322	0.0697	1.85		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.3	31	0.0398	1.80		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
1.2	65	0.0328	0.91		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
10.9	518	Total			

Subcatchment S-2: Subcat S-2



Hydrograph for Subcatchment S-2: Subcat S-2

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.19	0.00	0.00
2.00	0.30	0.00	0.00
2.50	0.41	0.00	0.00
3.00	0.53	0.00	0.00
3.50	0.66	0.00	0.01
4.00	0.80	0.01	0.17
4.50	0.93	0.03	0.28
5.00	1.04	0.05	0.34
5.50	1.15	0.07	0.41
6.00	1.26	0.10	0.48
6.50	1.37	0.14	0.61
7.00	1.50	0.19	0.77
7.50	1.64	0.24	0.88
8.00	1.77	0.30	0.85
8.50	1.88	0.36	0.81
9.00	2.00	0.41	0.95
9.50	2.14	0.49	1.12
10.00	2.29	0.57	1.38
10.50	2.47	0.68	1.73
11.00	2.68	0.81	2.06
11.50	2.90	0.95	2.16
12.00	3.12	1.09	2.25
12.50	3.34	1.25	2.45
13.00	3.58	1.42	2.69
13.50	3.84	1.62	3.07
14.00	4.14	1.85	3.69
14.50	4.49	2.12	4.33
15.00	4.87	2.43	4.83
15.50	5.28	2.77	**5.32**
16.00	5.71	3.13	**5.49**
16.50	6.12	3.49	5.39
17.00	6.52	3.83	5.11
17.50	6.84	4.12	4.17
18.00	7.10	4.35	3.18
18.50	7.30	4.53	2.64
19.00	7.47	4.68	2.24
19.50	7.62	4.81	1.91
20.00	7.74	4.92	1.71
20.50	7.86	5.03	1.51
21.00	7.96	5.13	1.50
21.50	8.07	5.22	1.50
22.00	8.18	5.32	1.51
22.50	8.29	5.42	1.51
23.00	8.40	5.52	1.47
23.50	8.49	5.61	1.27
24.00	**8.57**	**5.68**	1.02
24.50	8.57	5.68	0.00
25.00	8.57	5.68	0.00
25.50	8.57	5.68	0.00
26.00	8.57	5.68	0.00
26.50	8.57	5.68	0.00
27.00	8.57	5.68	0.00
27.50	8.57	5.68	0.00
28.00	8.57	5.68	0.00
28.50	8.57	5.68	0.00
29.00	8.57	5.68	0.00
29.50	8.57	5.68	0.00
30.00	8.57	5.68	0.00

Summary for Subcatchment S-3: Subcat S-3

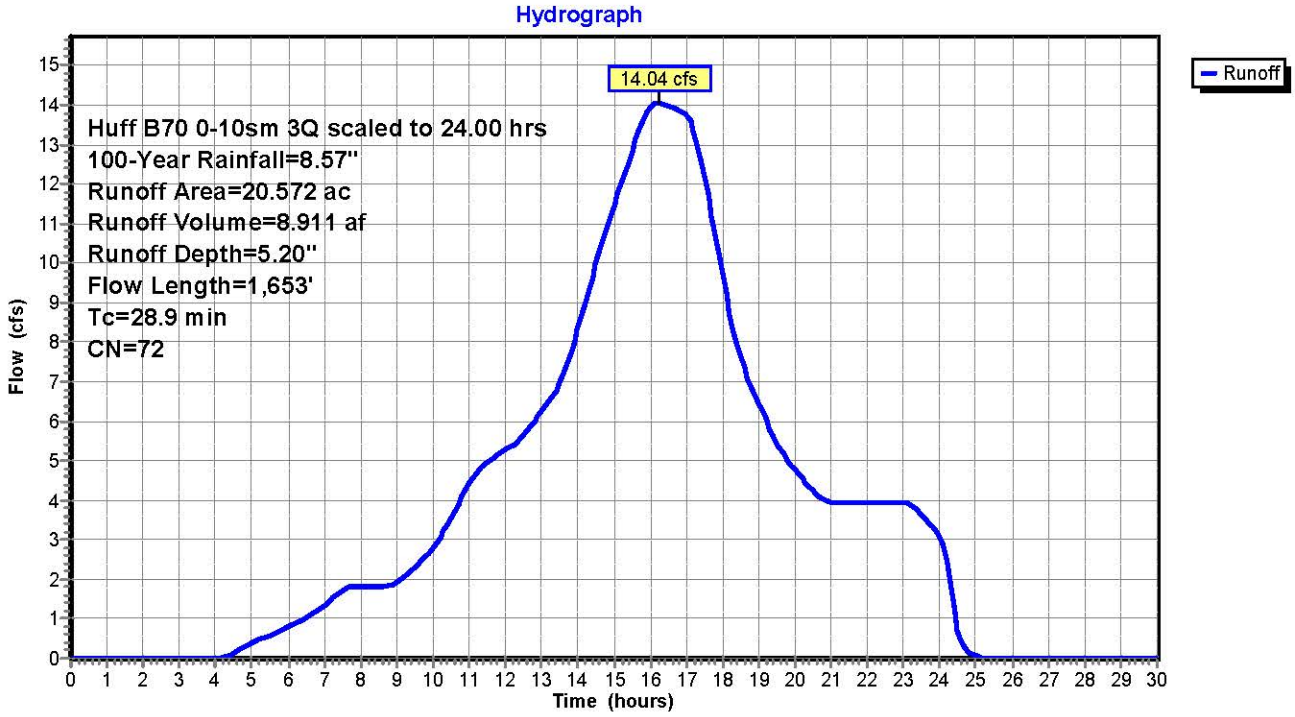
Runoff = 14.04 cfs @ 16.25 hrs, Volume= 8.911 af, Depth= 5.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 100-Year Rainfall=8.57"

Area (ac)	CN	Description
2.807	58	Meadow, non-grazed, HSG B
10.192	71	Meadow, non-grazed, HSG C
3.153	78	Meadow, non-grazed, HSG D
1.000	75	Row crops, SR + CR, Good, HSG B
1.461	82	Row crops, SR + CR, Good, HSG C
1.357	85	Row crops, SR + CR, Good, HSG D
0.365	73	Woods, Fair, HSG C
0.237	79	Woods, Fair, HSG D
20.572	72	Weighted Average
20.572		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.4	100	0.0490	0.23		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 3.34"
15.8	1,131	0.0291	1.19		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
5.7	422	0.0189	1.24		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
28.9	1,653	Total			

Subcatchment S-3: Subcat S-3



Hydrograph for Subcatchment S-3: Subcat S-3

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.19	0.00	0.00
2.00	0.30	0.00	0.00
2.50	0.41	0.00	0.00
3.00	0.53	0.00	0.00
3.50	0.66	0.00	0.00
4.00	0.80	0.00	0.00
4.50	0.93	0.01	0.15
5.00	1.04	0.02	0.39
5.50	1.15	0.03	0.59
6.00	1.26	0.05	0.78
6.50	1.37	0.08	1.01
7.00	1.50	0.11	1.35
7.50	1.64	0.16	1.72
8.00	1.77	0.20	1.84
8.50	1.88	0.24	1.80
9.00	2.00	0.29	1.92
9.50	2.14	0.35	2.30
10.00	2.29	0.42	2.79
10.50	2.47	0.51	3.55
11.00	2.68	0.63	4.43
11.50	2.90	0.75	4.97
12.00	3.12	0.88	5.27
12.50	3.34	1.02	5.64
13.00	3.58	1.17	6.25
13.50	3.84	1.35	6.97
14.00	4.14	1.56	8.32
14.50	4.49	1.81	9.95
15.00	4.87	2.10	11.48
15.50	5.28	2.42	12.83
16.00	5.71	2.76	**13.94**
16.50	6.12	3.09	**14.00**
17.00	6.52	3.42	13.75
17.50	6.84	3.70	12.15
18.00	7.10	3.91	9.71
18.50	7.30	4.09	7.61
19.00	7.47	4.23	6.45
19.50	7.62	4.36	5.43
20.00	7.74	4.47	4.78
20.50	7.86	4.57	4.24
21.00	7.96	4.66	3.96
21.50	8.07	4.76	3.94
22.00	8.18	4.85	3.95
22.50	8.29	4.95	3.96
23.00	8.40	5.04	3.96
23.50	8.49	5.13	3.62
24.00	**8.57**	**5.20**	3.09
24.50	8.57	5.20	0.72
25.00	8.57	5.20	0.05
25.50	8.57	5.20	0.00
26.00	8.57	5.20	0.00
26.50	8.57	5.20	0.00
27.00	8.57	5.20	0.00
27.50	8.57	5.20	0.00
28.00	8.57	5.20	0.00
28.50	8.57	5.20	0.00
29.00	8.57	5.20	0.00
29.50	8.57	5.20	0.00
30.00	8.57	5.20	0.00

Summary for Subcatchment S-4: Subcat S-4

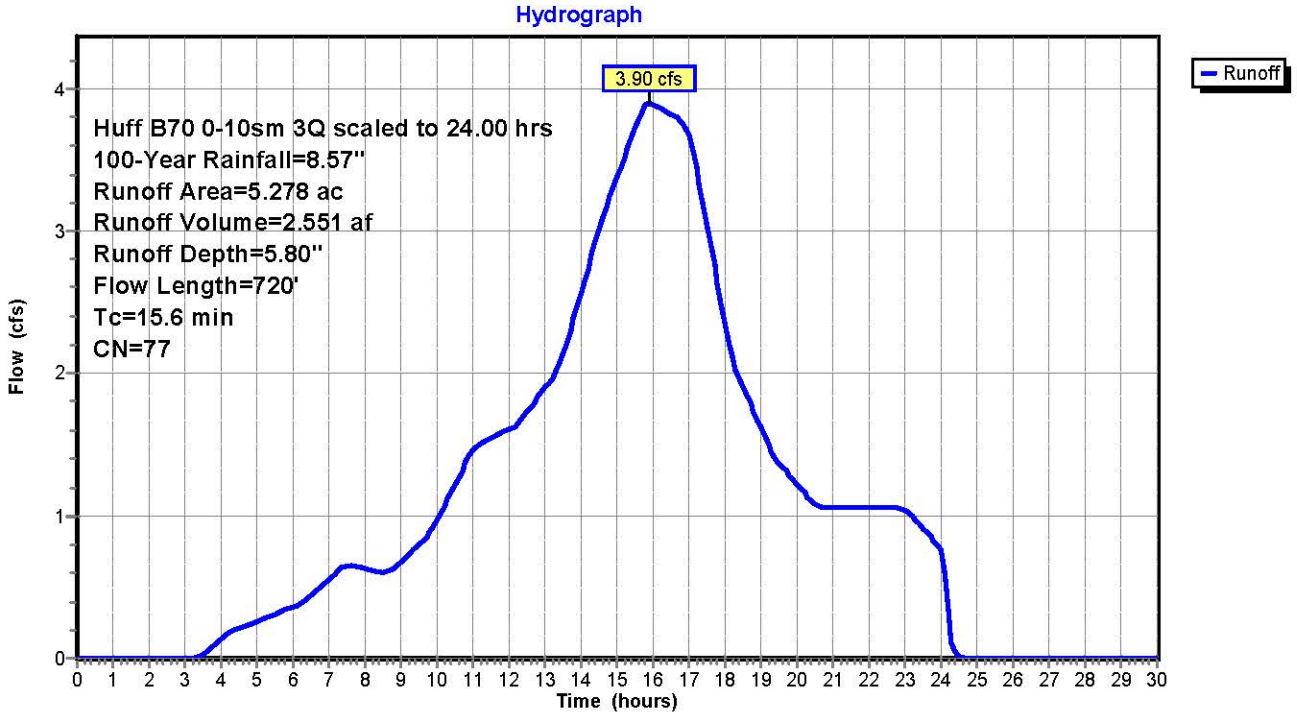
Runoff = 3.90 cfs @ 15.91 hrs, Volume= 2.551 af, Depth= 5.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.10 hrs
Huff B70 0-10sm 3Q scaled to 24.00 hrs 100-Year Rainfall=8.57"

Area (ac)	CN	Description
0.767	71	Meadow, non-grazed, HSG C
2.046	82	Row crops, SR + CR, Good, HSG C
0.000	85	Row crops, SR + CR, Good, HSG D
1.406	73	Woods, Fair, HSG C
1.059	79	Woods, Fair, HSG D
5.278	77	Weighted Average
5.278		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	100	0.0539	0.23		**Sheet Flow,** Cultivated: Residue>20% n= 0.170 P2= 3.34"
0.2	26	0.0469	1.95		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
2.2	201	0.0461	1.50		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
0.1	19	0.0562	2.13		**Shallow Concentrated Flow,** Cultivated Straight Rows Kv= 9.0 fps
6.0	374	0.0429	1.04		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
15.6	720	Total			

Subcatchment S-4: Subcat S-4



Hydrograph for Subcatchment S-4: Subcat S-4

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00
0.50	0.02	0.00	0.00
1.00	0.09	0.00	0.00
1.50	0.19	0.00	0.00
2.00	0.30	0.00	0.00
2.50	0.41	0.00	0.00
3.00	0.53	0.00	0.00
3.50	0.66	0.00	0.02
4.00	0.80	0.01	0.14
4.50	0.93	0.03	0.22
5.00	1.04	0.06	0.26
5.50	1.15	0.09	0.31
6.00	1.26	0.12	0.36
6.50	1.37	0.16	0.44
7.00	1.50	0.21	0.56
7.50	1.64	0.27	0.65
8.00	1.77	0.33	0.63
8.50	1.88	0.39	0.59
9.00	2.00	0.45	0.68
9.50	2.14	0.52	0.80
10.00	2.29	0.61	0.97
10.50	2.47	0.72	1.22
11.00	2.68	0.86	1.46
11.50	2.90	1.00	1.55
12.00	3.12	1.15	1.60
12.50	3.34	1.31	1.73
13.00	3.58	1.49	1.90
13.50	3.84	1.69	2.14
14.00	4.14	1.92	2.56
14.50	4.49	2.20	3.01
15.00	4.87	2.51	3.38
15.50	5.28	2.86	**3.72**
16.00	5.71	3.23	**3.89**
16.50	6.12	3.59	3.82
17.00	6.52	3.93	3.67
17.50	6.84	4.23	3.04
18.00	7.10	4.45	2.35
18.50	7.30	4.64	1.90
19.00	7.47	4.79	1.62
19.50	7.62	4.92	1.37
20.00	7.74	5.04	1.22
20.50	7.86	5.14	1.08
21.00	7.96	5.24	1.06
21.50	8.07	5.34	1.06
22.00	8.18	5.44	1.06
22.50	8.29	5.54	1.06
23.00	8.40	5.64	1.05
23.50	8.49	5.73	0.91
24.00	**8.57**	**5.80**	0.76
24.50	8.57	5.80	0.02
25.00	8.57	5.80	0.00
25.50	8.57	5.80	0.00
26.00	8.57	5.80	0.00
26.50	8.57	5.80	0.00
27.00	8.57	5.80	0.00
27.50	8.57	5.80	0.00
28.00	8.57	5.80	0.00
28.50	8.57	5.80	0.00
29.00	8.57	5.80	0.00
29.50	8.57	5.80	0.00
30.00	8.57	5.80	0.00

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Attachment 4
BMP Sizing Calculations

999 Fourier Drive, Suite 101, Madison, WI 53717 • www.TRCcompanies.com

PROJECT NAME / LOCATION: Highway 20 Solar		
SUBJECT: BMP Volume Reduction Calculations		
PREPARED BY: C. Zumm	DATE: 8/2/2023	PROJECT NO.
CHECKED BY: A. Rowley	DATE: 8/2/2023	50015.0000.0006

BMP Sizing

Purpose: This calculation determines the required area of Permanent Vegetation that must be implemented to meet volume reduction requirements.

Methodology: The TR-55 Method was determined to be appropriate for calculating runoff volumes. The curve number (CN) is the primary variable for calculation of runoff volumes. The Kane County Stormwater Management Ordinance requires volume reduction of 1-inch over the proposed impervious area. To be conservative, these calculations use the 2-year, 24-hour storm value of 3.34 inches over the impervious area as the standard for volume reduction.

Curve numbers are representative of existing and proposed land covers. Existing and proposed covers on-site include row crops, meadow, and gravel roads.

Variables: Q = total runoff (in), P = rainfall (in), S = potential maximum retention after runoff begins (in), I_a = initial abstraction (in)

RUNOFF VOLUME COMPUTATION			
TR-55			
EXISTING SITE INFO			
	CN=	75	(Row crops, SR+CR, Good)
	2-year, 24-hour P=	3.34	in
S=(1000/CN)-10			
	S=	3.33	
INITIAL ABSTRACTION			
	I_a = 0.2*S =	0.67	in
RUNOFF			
$Q = (P-I_a)^2 / (P-I_a+S)$			
	Q=	1.19	in

RUNOFF VOLUME COMPUTATION			
TR-55			
PROPOSED SITE INFO			
	CN=	58	(Meadow, non-grazed)
	2-year, 24-hour P=	3.34	in
S=(1000/CN)-10			
	S=	7.24	
INITIAL ABSTRACTION			
	I_a=	1.45	in
RUNOFF			
$Q = (P-I_a)^2 / (P-I_a+S)$			
	Q=	0.39	in

REQUIRED VOLUME REDUCTION COMPUTATION			
	Proposed Impevious Area=	21000	sf
	24 hr P=	1.00	in
RUNOFF VOLUME (NO ABSTRACTIONS)			
V=A*P			
	V=	1750.00	cf

ACTUAL VOLUME REDUCTION COMPUTATION			
$\Delta Q = Q_{existing} - Q_{proposed}$			
	$Q_{existing} - Q_{proposed}$ =	0.80	in
	Proposed BMP AREA = A =	26317	sf
Proposed Volume Reduction			
V=Q*A			
	V=	1750	cf

Results: The proposed BMP volume reduction requirements will be met by adding a minimum of 26,317 square feet (approximately 0.61 acres) of permanent vegetation.

230 W. Monroe Street, Suite 1840
Chicago, IL 60606

T 630.370.0017
TRCcompanies.com

Decommissioning Plan

PLATO ROAD SOLAR PROJECT
4.99 MW (AC)
DECOMMISSIONING PLAN

Plato Road,

Hampshire, Kane County, Illinois 60140

Prepared For:

RENEWABLE PROPERTIES

RPIL Solar 8, LLC
879 Sanchez Street
San Francisco, CA 9411

Prepared By:

TRC
230 West Monroe Street
Suite 1840
Chicago, IL 60606

August 2023

LICENSED PROFESSIONAL ENGINEER
MICHAEL C. BUTLER
062-057487
STATE OF ILLINOIS

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PRELIMINARY DECOMMISSIONING PLAN AND COST ESTIMATE
RPIL Solar 8, LLC

BACKGROUND

On behalf of RPIL Solar 8, LLC, TRC has prepared this decommissioning plan and cost estimate (Plan) for the Plato Road Solar facility (Facility), a photovoltaic (PV) facility, Solar Energy System (SES) and/or or Solar Farm located on Plato Road, Kane County, Illinois. The project site is located north of Ellithorpe Road and east of Burlington Road. The Facility will consist of an approximately 4.99 megawatt (MW) alternating current (AC) solar electrical array covering a total area of approximately 35 acres on an approximately 55-acre parcel of agricultural land. The Facility will include ground-mounted, solar arrays, perimeter security fencing, concrete pads for transformers and switch gears, and a gravel access road. The Facility will produce power using PV panels, mounted on ground support galvanized piles.

The purpose of this Plan is to provide the general scope of decommissioning work as well as a construction cost estimate for a decommissioning financial assurance mechanism of the Facility as described herein and subject to the Kane County Zoning Ordinance (Ordinance). This document outlines the decommissioning activities required to remove above-ground structures, debris, underground foundations, and cables and restore soil and vegetation after termination of operations of the SES. This decommissioning plan and cost estimate has been prepared in accordance with the Kane County Ordinance.

The attached decommissioning cost estimate was prepared based on estimated quantities of site features, panels, racking, and electrical equipment from the preliminary plan set and experience in the design and construction of energy facilities and are subject to final engineering. Costs generally include contractor fees, sitework removal & restoration, racking & module removal, power conditioning equipment removal, and corresponding salvage, which reflect the overall decommissioning process. The reported costs include labor, materials, taxes, insurance, transport costs, disposal fees, equipment rental, contractor's overhead, and contractor's profit; the labor costs have been estimated using regional labor rates and labor efficiencies from the Bureau of Labor statistics along with previous decommission plan estimates completed for other similar projects.

Owner/Operator

RPIL Solar 8, LLC, or its designee will be responsible for the completion of final civil and electrical engineering plans. TRC is the consultant responsible for the preparation of the independent decommissioning plan.

Facility Description

The Facility will consist of a 4.99 MW AC solar electrical array covering a total area of approximately 35 acres on an approximately 55-acre parcel of agricultural land. The Facility will be secured within a security fence surrounding the solar panels and electrical equipment. The site can be accessed via lock-controlled gates located on the proposed gravel access road. The Facility will include the following site features:

- Total site development area with solar panels, associated electrical equipment, racking, and a gravel access road of approximately 35 acres; (fenced area with approximately 13,000 solar panels);
- Two (2) concrete electrical pads with transformers, and switchgears;
- 12-foot-wide gravel access road and turnaround;
- Eight (8)-foot Fixed-Knot, Woven Wire Agricultural fencing (encasing entire project area);
- Above-ground electrical wire conduits; and
- Underground electrical wire conduits.

DECOMMISSIONING ACTIVITIES

The Facility will be decommissioned by completing the following major steps:

1. Removal of modules, racking, and piles;
2. Removal of cabling, trays, and electrical equipment;
3. Removal of concrete pads, foundations, fence, and debris;
4. Removal of the gravel access road (if required by the landowner);
5. Site stabilization by placing soil and reseeding; and
6. Removal and Disposal or Recycling of materials

The procedures for decommissioning of the project will involve restoring soils and vegetation to agricultural productivity or pre-existing conditions.

Schedule

The decommissioning process is estimated to take approximately two (2) months but may change depending on weather and soil moisture conditions and is intended to occur outside of the winter season.

Decommissioning During Construction (Abandonment of Project)

If construction or operation activities cease prior to facility completion, with no expectation to restart for more than twelve (12) months, the Facility would be decommissioned as follows in this plan. Any installed components will be removed and managed, as per the following sections, and the site will be restored to a vegetated condition.

If RPIL Solar 8, LLC or its designee has not paid landowners an amount owed in accordance with their lease agreements for a period of six (6) consecutive months, the Facility would be decommissioned as follows in this plan. Any installed components will be removed and managed, as per the following sections, and the site will be restored to a vegetated condition.

If RPIL Solar 8, LLC dissolves or abandons the Commercial Solar Energy Facility without first transferring the Commercial Solar Energy Facility to a successor-in-interest or assign, the Facility

would be decommissioned as follows in this plan. Any installed components will be removed and managed, as per the following sections, and the site will be restored to a vegetated condition.

If any part of the Commercial Solar Energy Facility falls into disrepair or creates any other health and safety issue as determined in good faith by the County, and cannot be repaired, the Facility would be decommissioned as follows in this plan. Any installed components will be removed and managed, as per the following sections, and the site will be restored to a vegetated condition.

Decommissioning After Ceasing Operation

Properly maintained PV panels have an expected lifespan of thirty-five (35) years. At this time or if the facility has not been in operation and stops producing energy for a period of twelve (12) months, it shall be considered a "cessation or abandonment of operations". Installed components will be removed and reused/recycled where possible, and the site restored in accordance with the activities discussed below. The proposed date of discontinued operations and plans for removal shall be provided by the owner or operator to the County by certified mail.

Additional Provisions

The terms of the decommissioning and site reclamation plan shall be binding upon the RPIL Solar 8, LLC including any of its successors-in-interest and assigns. Kane County shall have the legal right to transfer applicable Commercial Solar Energy Facility material to salvage firms; Kane County shall have access to the site, pursuant to reasonable notice to affect or complete decommissioning.

Offsite Impacts During Decommissioning

As with the project's construction, noise levels during the decommission work will temporarily increase. Proper steps will be followed to minimize the disturbance, such as using proper equipment for removing the support piles. Work hours, as practicable are assumed to be eight (8) hours a day. Road traffic in the area may increase temporarily due to crews and equipment movements. Further details of the on-site restoration are included in subsequent sections.

Dismantlement and Demolition

Decommissioning shall include removal of all solar electric systems, buildings, ballasts, cabling, electrical components, road(s), foundations, pilings, and any other associated facilities as required. This will include removal of all items identified in the decommissioning activities above.

A significant amount of the components of the PV system at the Facility will include recyclable or re-saleable components, including copper, aluminum, galvanized steel, and panels. Due to their resale monetary value, these components will be dismantled and disassembled rather than being demolished and disposed of.

Following coordination with the local utility company regarding timing and required procedures for disconnecting the Facility from the utility, all electrical connections to the system will be disconnected and all connections will be tested locally to confirm that no electric current is running through them before proceeding. All electrical connections to the panels will be disconnected at the panel and then removed from their framework by cutting or dismantling the connections to the supports. Then panels, inverters, transformers, meters, fans, lighting fixtures, and other electrical structures will be removed. Disposal of these materials at a landfill will be governed by federal, state, and local laws, governing waste disposal at local area landfills, which may be amended from time to time. Any materials deemed to be hazardous at the time of disposal will be handled and disposed according to applicable laws and regulations.

The PV mounting system framework will be dismantled and recycled. The galvanized support piles will be completely removed and recycled. Finally, all associated structures will be demolished and removed from the site for recycling or disposal. This will include the site fence, gates, access road(s), equipment foundations, and underground cables, which will be removed or recycled as required.

Consultation with the landowner and the County will determine if the access roads should be left in place for their continued use. If the access road is deemed unnecessary, the contractor will remove the access roads and all non-adaptable parts of the in accordance with the Agricultural Impact Mitigation Agreement (AIMA). All concrete associated with the Facility on-site will be broken and removed in its entirety, and clean concrete will be crushed and disposed of or recycled off-site. Final stabilization thresholds on the entire site shall be met prior to approval of site decommissioning. Underground conduits and raceways are to be removed as required. Above ground lines and poles that are not owned by the utility will be removed, along with associated equipment (isolation switches, fuses, metering) and holes will be filled with clean topsoil. Temporary sanitary facilities will be provided on-site for the workers conducting the decommissioning of the Facility.

Erosion and sediment control measures are required during the decommissioning process. These measures include construction access, silt fence, concrete washout stations, and land stabilization. The owner/operator will restore the project location to a vegetated condition consistent with pre-construction conditions.

Disposal or Recycle

During the decommissioning phase, a variety of excess materials can be salvaged. A significant amount of the materials used in a solar facility are reusable, including copper, aluminum, galvanized steel, and the PV panels. Due to their resale monetary value, these components will be dismantled and disassembled rather than being demolished and disposed. Any remaining materials will be removed and disposed of off-site at an appropriate facility. The project general contractor will maximize recycling and reuse and will work with manufacturers, local subcontractors and waste firms to segregate material to be recycled, reused and/or disposed of properly.

The project owner/operator will be responsible for arranging the collection or recycling of fence, racking piles, PV panels, panel tracker equipment, AC and DC wiring, inverters, and miscellaneous equipment for salvage value.

Gravel may be reused as general fill on site with landowner approval. Remaining gravel, geotextile fabric, concrete, and debris need to be separated and transported off-site by truck to the appropriate facilities for recycling and disposal in accordance with federal, state, and local waste management regulations. A final site walkthrough with the appropriate local authorities may be conducted to verify removal of debris and/or trash generated within the site during the decommissioning process and will include removal and proper disposal of any debris that may have been wind-blown to areas outside the immediate footprint of the facility being removed.

Removal of Landscape Materials and Site Stabilization:

The areas of the Facility that are disturbed during decommissioning will be subject to minor re-grading (no imported soil is anticipated), to establish a uniform slope and stabilization, including application of a selected grass seed mix to surfaces disturbed during the decommissioning process. The seed mix is expected to be a blend of various fescue and/or rye grass seeds. The actual seed blend will depend on factors including availability and time of year that planting would occur.

It is assumed that major site grading activities are not proposed as part of the project. Imported fill will be provided, if necessary, to restore to original conditions. Only minor grading is anticipated with regards to site restoration and access road removal. All site stabilization activities will be completed in accordance with all relevant regulatory requirements.

PERMITTING REQUIREMENTS FOR DECOMMISSIONING

Approvals are currently required prior to initiation of ground-disturbing activity. This cost estimate assumes the same approvals are required when decommissioning occurs in the future. The permitting requirements listed below will be reviewed and might be subject to revisions based on local, state, and federal regulations at the time of decommissioning.

National Pollutant Discharge Elimination System (NPDES) Construction General Permit

U.S. Environmental Protection Agency - Ground disturbance of greater than 1 acre requires preparation of a Storm Water Pollution Prevention Plan, including erosion and sedimentation controls.

Kane County Stormwater Management Permit

A Kane County Stormwater Management permit is required prior to beginning any decommissioning work.

Building Permit

A building permit is required to construct the facility. A building permit must also be obtained for any construction, alteration, repair, demolition, or change to the use or occupancy of a building.

Permit Requirement Assumptions

No significant ground disturbance or grading associated with decommissioning, including temporary laydown areas, are required within areas subject to additional local, state, or federal permitting.

SOLAR DECOMMISSIONING ESTIMATE

The following items can be salvaged and recycled: fence material, racking piles, PV panels, miscellaneous tracker equipment, AC and DC wiring, combiner boxes, inverters, transformers, medium voltage equipment, electrical equipment posts, and customer owned utility poles.

The decommissioning cost estimate is based on July 2023 Kane County prevailing labor rates equipment rates and credits for salvaging project material in 2023. The equipment rates have been estimated using publicly available data from the Federal Emergency Management Agency (FEMA) published Schedule of Equipment Rates, 2021. The salvage value rates have been estimated using publicly available data (e.g., http://www.scrapmonster.com), as well as industry provided actual salvage values and previous experience with similar projects.

The estimated costs utilize hourly and monthly rates listed below:

2023 Wages

- Labor at $49.65hr;
- Operating engineer at $60.60/hr;
- Truck driver at $43.31/hr;
- Electrician at $59.01/hr;
- Skid steer rental at $2,350.00/month;
- Excavator rental at $4,925.00/month; and
- Dump truck rental at $52.96/hr

2023 Salvage Values

- Steel (e.g., fence, racking, posts) at $0.15/lb.;
- PV panels at $20/panel;
- Electrical components (e.g., combiner boxes, inverters, transformer) at $0.28/lb.;
- DC wiring (copper) at $1.50/lb.; and
- AC wiring (copper and aluminum) at $1.31/lb.

The estimated cost of construction activities associated with decommissioning using current wages is $598,594. The material salvage value is $343,565 for a net decommissioning cost of $255,029. The detailed costs are attached.

PRELIMINARY DECOMMISSIONING PLAN AND COST ESTIMATE
RPIL Solar 8, LLC

The attached preliminary decommissioning cost estimate is based on the Project's plan set included in its application for special use permit. Changes to the plans and construction details may affect the scope and costs of Facility decommissioning. The opinion of probable costs is based on experience in the design and construction of energy facilities and are subject to final engineering/construction.

If at any time in the future, the prevailing professionally accepted standards of economic feasibility of recycling and or environmental implications of hazardous waste changes to increase the costs associated with decommissioning, the cost estimate may need to be revised, and the bonds may need to be modified accordingly to cover said cost.

This opinion assumes a third-party contractor, experienced in the construction and decommissioning of photovoltaic facilities will lead the effort. The reported costs include labor materials, taxes, insurance, transport costs, equipment rental, contractor's overhead, and contractor's profit; the labor costs have been estimated using regional labor rates and labor efficiencies that have been published for the local area along with previous decommissioning plan estimates completed for other similar projects.

RPIL Solar 8, LLC, by its duly authorized representative's signature below, hereby acknowledges that it has reviewed this Decommissioning Plan, and approves of the same, and agrees to be bound by the terms and conditions contained therein.

Authorized Representative: 

Print Name: Stephanie Loucas

Title: Chief Development Officer

Date: August 4, 2023

RPIL Solar 8, LLC

Decommissioning Cost Estimate

Preliminary Decommissioning Cost Estimate
RPIL Solar 8, LLC

Task	Unit	Estimated Quantity	Cost per Unit 2023	Total Gross Cost 2023	Salvage Value 2023	Net Costs 2023
Engineering & Permitting	LS	1	$ 11,250.00	$ 11,250.00		$ 11,250.00
Mobilization	LS	1	$ 37,990.70	$ 37,990.70		$ 37,990.70
Silt Fence	LF	6,890	$ 3.00	$ 20,670.00		$ 20,670.00
Access Road Removal & Restoration	SF	20,360	$ 5.40	$ 109,944.00		$ 109,944.00
Equipment Pad & Restoration	EA	2	$ 900.00	$ 1,800.00		$ 1,800.00
Seed Disturbed Areas (50% disturbed area)	AC	20	$ 948.00	$ 18,960.00		$ 18,960.00
Fence Removal	LF	6,890	$ 3.10	$ 21,359.00	$ (5,126.16)	$ 16,232.84
Site Clean Up	AC	40	$ 270.00	$ 10,800.00		$ 10,800.00
Rack and Post Removal	EA	2,200	$ 90.00	$ 198,000.00	$ (82,500.00)	$ 115,500.00
Remove Panels	EA	13,000	$ 3.70	$ 48,100.00	$ (247,000.00)	$ (198,900.00)
AC Wiring-Direct Burial and Overhead	LF	27,300	$ 0.27	$ 7,453.08	$ (3,206.39)	$ 4,246.69
DC Wire Removal	LF	49,100	$ 0.50	$ 24,550.00	$ (2,946.00)	$ 21,604.00
Electrical Disconnect	EA	1	$ 240.00	$ 240.00		$ 240.00
Combiner Box	EA	0	$ -	$ -	$ (0.00)	$ (0.00)
Inverter	EA	40	$ 210.00	$ 8,400.00	$ (1,084.16)	$ 7,315.84
Transformer	EA	2	$ 500.00	$ 1,000.00	$ (1,702.40)	$ (702.40)
SUBTOTAL				**$ 520,516.78**	**$ (343,565.11)**	**$ 176,951.67**
Other Costs						
Contractor Profit	%	8%		$ 41,641.34		$ 41,641.34
Contractor Overhead & Management	%	5%		$ 26,025.84		$ 26,025.84
Contractor Insurance	%	2%		$ 10,410.34		$ 10,410.34
SUBTOTAL				**$ 78,077.52**		**$ 78,077.52**
DECOMMISSIONING TOTAL				**$ 598,594.29**		**$ 255,029.19**

**Material labor cost estimated utilizing labor rates using the posted July 2023 Kane County prevailing wage (Foreman Hourly Rate) and FEMA 2019 schedule.

Bond No. _____

DECOMMISSIONING BOND

KNOW ALL BY THESE PRESENTS: That we, _____ as Principal, and , _____a_____ corporation duly authorized under the laws of the State of _____, as Surety, are held and firmly bound unto _____as Obligee in the maximum aggregate penal sum of _____Dollars ($_____), lawful money of the United States of America, to be paid to the said Obligee, successors or assigns; for which payment, well and truly to be made, we bind ourselves, our heirs, executors, successors, administrators and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE OBLIGATION IS SUCH THAT:

Whereas, the Principal and Obligee have entered into an agreement whereby principal agrees to complete decommissioning in accordance with the _____, which said agreement, dated _____, is hereby referred to and made a part hereof; and

Whereas, said Principal is required under the terms of said agreement to furnish a bond for the faithful performance of the decommissioning referred to in said agreement.

Now, Therefore, the condition of this obligation is such that if the above bounded Principal, his or its heirs, executors, administrators, successors or assigns, shall in all thing stand to and abide by, and well and truly keep and perform the decommissioning provisions in the said agreement and any alteration thereof made as therein provided, on his or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the Obligee, its officers, agents and employees, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

Provided further, that if the Principal fails to respond to the Obligee's notice of default or fails to perform its Decommissioning responsibilities as outlined in said agreement the Surety shall promptly and at the Surety's election and expense take one of the following actions:

1. Arrange for the Principal, with consent of the Obligee, to perform and complete the Decommissioning; or
2. Undertake to perform and complete the Decommissioning itself, through its agents or through independent contractors; or
3. Waive its right to perform the Decommissioning and forfeit the full bond penalty to the Obligee.

The surety may cancel this bond at any time by giving the Obligee sixty (60) days written notice of its desire to be relieved of Liability. Should the Principal fail to provide a replacement bond or alternate financial assurance acceptable to the Obligee within thirty (30) days of the receipt by the Obligee of the Notice of Cancellation, the surety may choose to reinstate this bond, otherwise the Surety will be in default and shall forfeit the full Penal Sum of this Bond to Obligee.

Nonpayment of the premiums associated with this Bond will not invalidate this Bond nor shall Obligee be obligated for the payment thereof.

Bond No. _____

The liability of the Surety under this bond and all continuation certificates issued in connection therewith shall not be cumulative and shall in no event exceed the amount as set forth in this bond or in any additions, riders, or endorsements properly issued by the Surety as supplements thereto.

IN WITNESS WHEREOF, the signature of said Principal is hereto affixed and the corporate seal and the name of the Surety is hereto affixed and attested by its duly authorized Attorney-in-Fact, this ____ day of _____.

_____ _____

By: _____ By:_____

_____, Attorney-in-Fact

230 W. Monroe Street, Suite 1840
Chicago, IL 60606

T 630.370.0017
TRCcompanies.com

Natural Resources Survey

6737 West Washington St.
Ste. 2100
West Allis, WI 53214

T 262.879.1212
TRCcompanies.com

Natural Resources Survey
Technical Memorandum

Date:	August 7, 2023
To:	Jeremy Price, Renewable Properties
From:	Laura Giese, TRC
Subject:	Kane County, IL RPIL Solar 8, LLC
Project No.:	500015.0000.0006

1.0 Introduction

On behalf of Renewable Properties LLC, TRC conducted a natural resources survey for the Kane County RPIL Solar 8, LLC Solar Project (Project). The Project will be located on approximately 55 acres along Plato Road/Burlington Road/Ellithorpe Road (Attachment A). The Project plans to generate approximately 4.99 megawatts alternating current of electrical output and connect to ComEd's electrical distribution system.

2.0 Statement of Qualifications

Dr. Laura A.B. Giese is a Senior Biologist/Forester with over 25 years of experience working in natural resources. Her credentials include Senior Professional Wetland Scientist (#1363), Professional Wetland Delineator – VA, Lake County, Illinois Certified Wetland Specialist, Certified Forester (#801), Registered Professional Forester-MD (#364), and Certified Senior Ecologist. She has been the principal investigator on surveys including rare, threatened and endangered species; botanical and floristic quality; wetlands and streams; anuran, avian, and reptile; forestry; and other natural resource assessments.

3.0 Methodology

The conducted natural resources survey involved traversing the parcel to evaluate the potential presence of natural areas (woodlands, significant trees, and habitat for threatened and endangered species) within the Project area.

Laura Giese, TRC biologist/forester conducted a site visit on February 7, 2023, to complete the natural resources survey within the Project area.

Although Kane County does not have specific woodland protection standards, the natural resources survey adopted standards similar to those utilized by Lake County, Illinois. Woodland categories and heritage/significant trees are categorized as such based on the Lake County Ordinance:

(a) *Mature woodlands.* A mature woodland is an area or stand of trees whose total combined canopy covers an area of 20,000 square feet or more, at least 50% of which is composed of trees having a diameter breast height of 16 inches or more.

(b) *Groves.* A grove is a stand of five or more individual trees whose total combined canopy covers an area of less than 20,000 square feet, at least 50% of which is composed of trees having a diameter breast height of 16 inches or more.

(c) *Young woodlands.* A young woodland is an area or stand of trees whose total combined canopy covers an area of 20,000 square feet or more, at least 50% of which is composed of trees having a diameter breast height of at least three inches and less than 16 inches.

(d) *Significant/Heritage trees.* Significant trees are trees having a diameter breast height (four and one-half feet above average ground elevation) of 24/25 inches or greater for deciduous trees and 12 inches or greater for evergreen trees.

Both heritage and significant trees were GPS-located and given a condition health rating of one of the following categories: excellent, very good, good, fair, or poor.

Undesirable or non-native tree species (i.e., noxious species) such as *Acer negundo* (box elder), *Robinia pseudoacacia* (black locust), *Rhamnus cathartica* (common buckthorn), *Rhamnus frangula* (smooth buckthorn), *Ailanthus altissima* (tree of heaven), *Morus alba* (white or common mulberry), *Eleagnus angustifolia* (Russian olive), *Eleagnus umbellata* (autumn olive), *Populus alba* (white poplar) and *Ulmus pumila* (Siberian elm) generally shall not require protection.

Prior to the field survey a review for federally-and state-listed threatened and endangered species that may occur within the Study Areas was conducted by reviewing the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) website (https://ecos.fws.gov/ipac/). A review for state-listed species was conducted using the Illinois Department of Natural Resources (IDNR) Ecological Compliance Assessment Tool (EcoCAT). The data obtained from the USFWS IPaC report and IDNR EcoCAT tool was reviewed, and habitat requirements of federally- and state-listed species was considered while completing the field survey.

As discussed below, maps were prepared to show areas that meet a woodland category definition, heritage and significant tree location, and areas that may be considered to have suitable habitat for state or federal threatened or endangered species within the Project area.

4.0 Survey Findings

Woodlands and Significant/Heritage Trees

The Study Area is primarily comprised of agricultural fields (row-cropped) with several naturally vegetated swales that cross through the Study Area. A small woodlot is located in the southeastern portion. Wetlands are located in the northern, central, and southeastern portions of the Project area.

Four significant/heritage trees were GPS – located and are shown on Attachment B. Species included cottonwood (*Populus deltoides*), silver maple (*Acer saccharinum*), and box elder (*Acer negundo*). The heritage/significant trees are primarily in the small southeastern woodlot with one tree in the north. The significant/heritage trees ranged from poor to good health with fair form. No young woodlands, mature woodlands or groves were present within the Project area.

Per the Project's layout included in the Project's current special use application, each of the four significant/heritage trees noted above will be avoided by the Project. The current layout also avoids impacts to delineated wetlands on-site.

Threatened and Endangered Species Habitat

Several species that may be present within the Project area were identified from the IPaC (Attachment C). The potential for suitable habitat with the Project area is discussed below.

Generally suitable roosting habitat was not present for the northern long-eared bat (*Myotis septentrionalis*). The multi-trunked silver maple tree (Attachment B, Figure 2, Tree 2) might provide roosting habitat under its loose bark. However, more suitable roosting habitat is likely present nearby, and it is not anticipated that this silver maple tree will be utilized by the northern long-eared bat.

No milkweed plants (*Asclepias syriaca*), the host plant for the Monarch butterfly (*Danaus plexippus*), were observed. Also, there was no suitable habitat for the eastern prairie fringed orchid (*Platanthera leucophaea*).

The IDNR EcoCAT noted the absence of state-listed threatened or endangered species, Illinois Natural Area sites, Nature Preserves or Land and Water Reserves within the Project area; therefore, consultation was terminated (Attachment C).

5.0 Conclusions

The natural resources survey identified four heritage/significant trees, and one, unlikely but potentially suitable, roosting location for the northern long-eared bat.

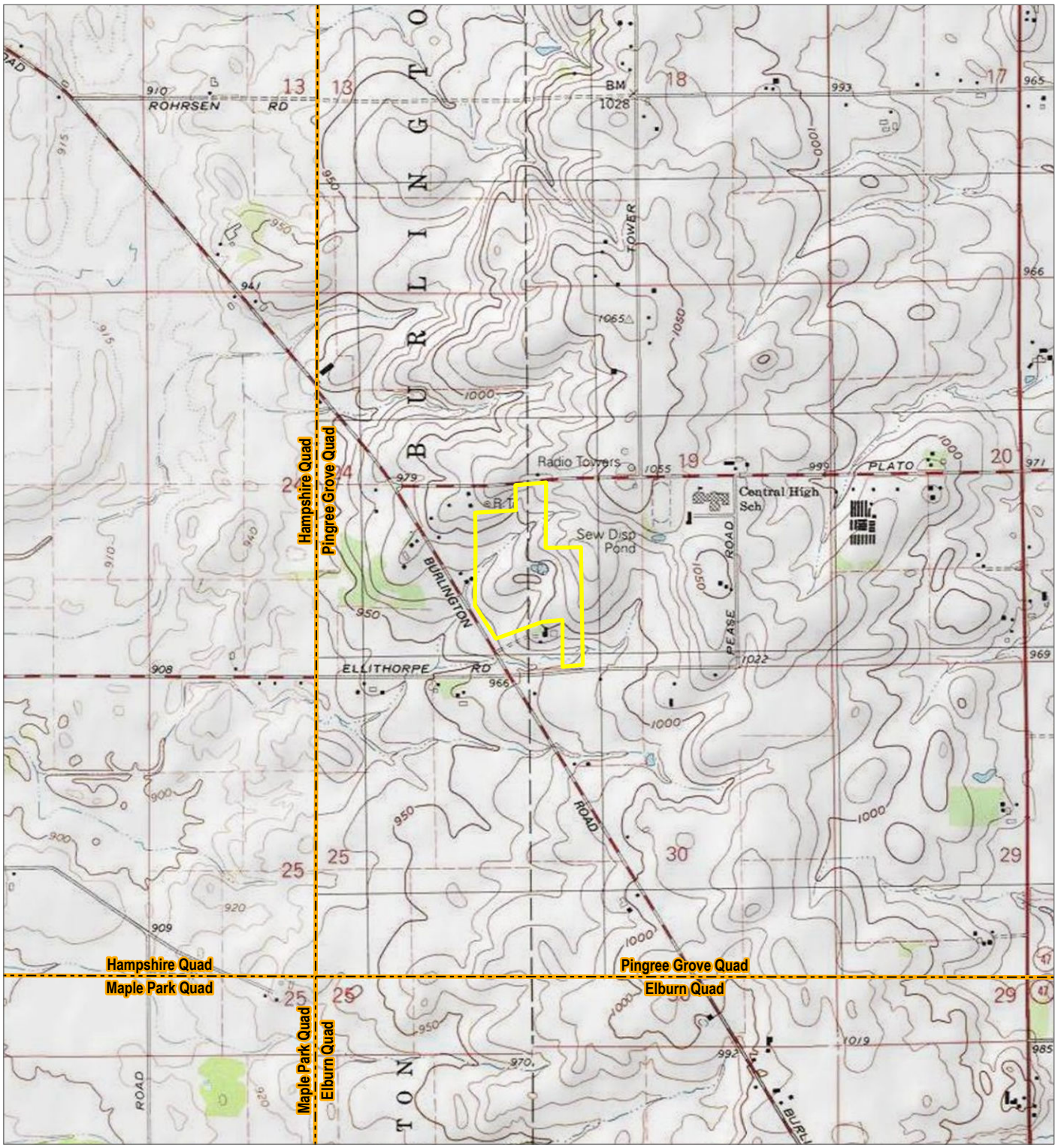
The proposed development plan does not involve removal of any native vegetation and entails construction in previously disturbed areas (e.g., active agricultural fields or otherwise un-vegetated areas that do not require impacts to trees). In addition, TRC has determined there are no potential impacts to surface or groundwater that could have consequences for species or critical habitats. Based on these factors, a "No Effect" determination is appropriate because the proposed development will not remove suitable habitat for any listed species and/or no habitat disturbance is anticipated. Hence, no listed species or designated critical habitat is anticipated to be directly or indirectly affected by the proposed development and additional consultation with the USFWS is not warranted.

Should the proposed development plan change, and the silver maple tree (Tree ID 2 in Attachment B) identified as potentially suitable habitat for the northern long-eared bat cannot be avoided, further consultation with the USFWS is recommended to ensure adverse effects are not anticipated. Although no milkweed plants were observed, and conservation of monarch butterfly habitat is not regulated or required since it is a candidate species, it is recommended that common milkweed plants be conserved if encountered.

Attachment A: Site Location Map
Attachment B: Woodland and Potential Habitat Map
Attachment C: USFWS IPaC and IDNR EcoCAT/Termination Letter
Attachment D: Representative Photographs

ATTACHMENT A

SITE LOCATION MAP

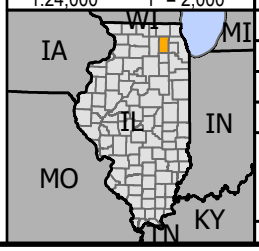


STUDY AREA

USGS QUAD

BASE MAP: USA TOPO MAPS MAP SERVICE , PINGREE GROVE QUAD
DATA SOURCES: TRC

0 1,000 2,000
FEET
1:24,000 1" = 2,000'



PROJECT:
RENEWABLE PROPERTIES - PLATO ROAD
KANE COUNTY, IL

TITLE:
SITE LOCATION MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	500015.0006
CHECKED BY:	L. GIESE		
APPROVED BY:	L. GIESE		**FIGURE 1**
DATE:	FEBRUARY 2023		

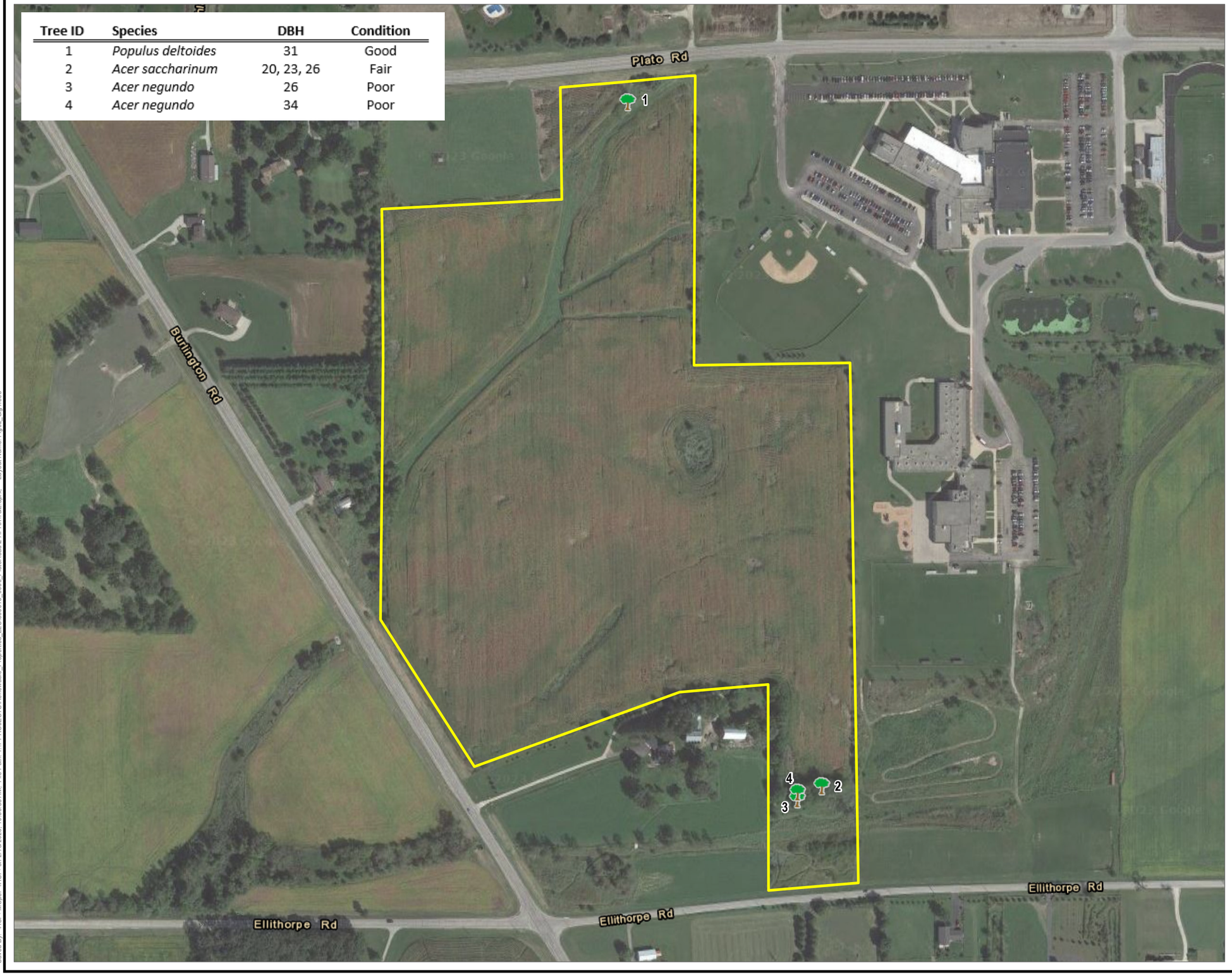
TRC
6737 W WASHINGTON ST.
SUITE 2100
WEST ALLIS, WI 53214
PHONE: 262.879.1212

FILE: T&E

ATTACHMENT B

WOODLAND AND POTENTIAL HABITAT MAP

Tree ID	Species	DBH	Condition
1	*Populus deltoides*	31	Good
2	*Acer saccharinum*	20, 23, 26	Fair
3	*Acer negundo*	26	Poor
4	*Acer negundo*	34	Poor



STUDY AREA

HERITAGE/SIGNIFICANT TREE

NOTES:
1. BASE MAP IMAGERY FROM GOOGLE, SEPTEMBER 2015.

1:3,600
1" = 300'

0 300 600 FEET

PROJECT:
RENEWABLE PROPERTIES - PLATO ROAD
KANE COUNTY, IL

TITLE:
WOODLANDS AND POTENTIAL HABITAT MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	500015.0006
CHECKED BY:	L. GIESE		
APPROVED BY:	L. GIESE		
DATE:	FEBRUARY 2023		

FIGURE 2

TRC
6737 W WASHINGTON ST.
SUITE 2100
WEST ALLIS, WI 53214
PHONE: 262.879.1212

FILE: T&E.aprx

Coordinate System: NAD 1983 StatePlane Illinois East FIPS 1201 Feet; Map Rotation: 0
Saved By: 44CPMOpel 2/13/2023 10:53:33 AM; File Path: T:\PROJECTS\Renewable_Properties_LLC\500015_0006_PlatoRoad\3-APRX\T&E.aprx; Layout Name: Fig02_SigTrees

ATTACHMENT C

USFWS IPaC,
IDNR EcoCAT/TERMINATION

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Kane County, Illinois

Local office

Chicago Ecological Service Field Office

(312) 485-9337

U.s. Fish And Wildlife Service Chicago Ecological Services Office
230 South Dearborn St., Suite 2938

Chicago, IL 60604-1507

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. 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.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Northern Long-eared Bat Myotis septentrionalis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Eastern Prairie Fringed Orchid Platanthera leucophaea Wherever found This species only needs to be considered if the following condition applies: • Follow the guidance provided at https://www.fws.gov/midwest/endangered/section7/s7process/plants/epfos7guide.html No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/601	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Golden-plover Pluvialis dominica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

Bald Eagle Haliaeetus leucocephalus — Breeds Oct 15 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Bobolink Dolichonyx oryzivorus — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Chimney Swift Chaetura pelagica — Breeds Mar 15 to Aug 25
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Henslow's Sparrow Ammodramus henslowii — Breeds May 1 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3941

Hudsonian Godwit Limosa haemastica — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

Red-headed Woodpecker Melanerpes erythrocephalus — Breeds May 10 to Sep 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Ruddy Turnstone Arenaria interpres morinella — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Rusty Blackbird Euphagus carolinus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Wood Thrush Hylocichla mustelina — Breeds May 10 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

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 and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

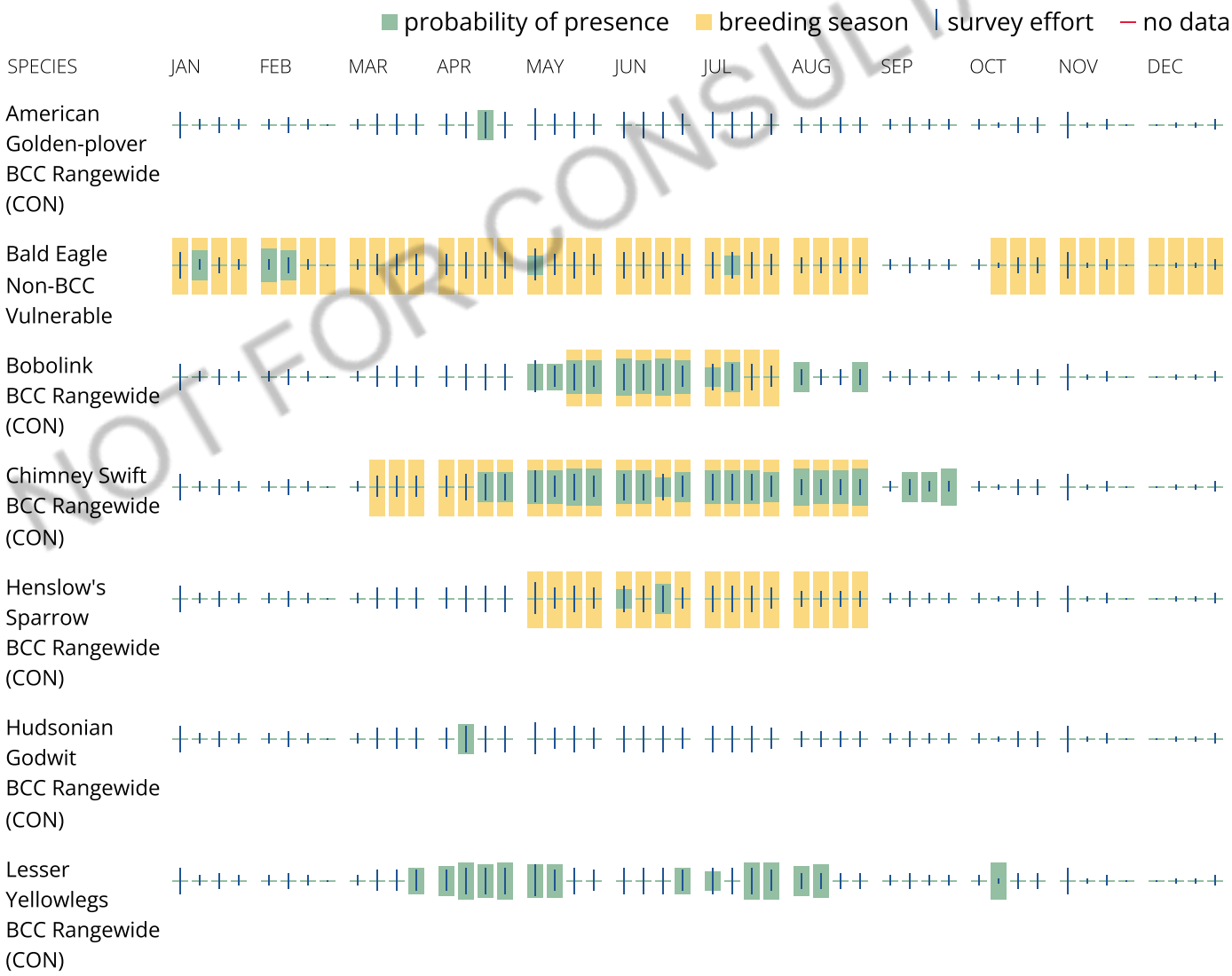
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

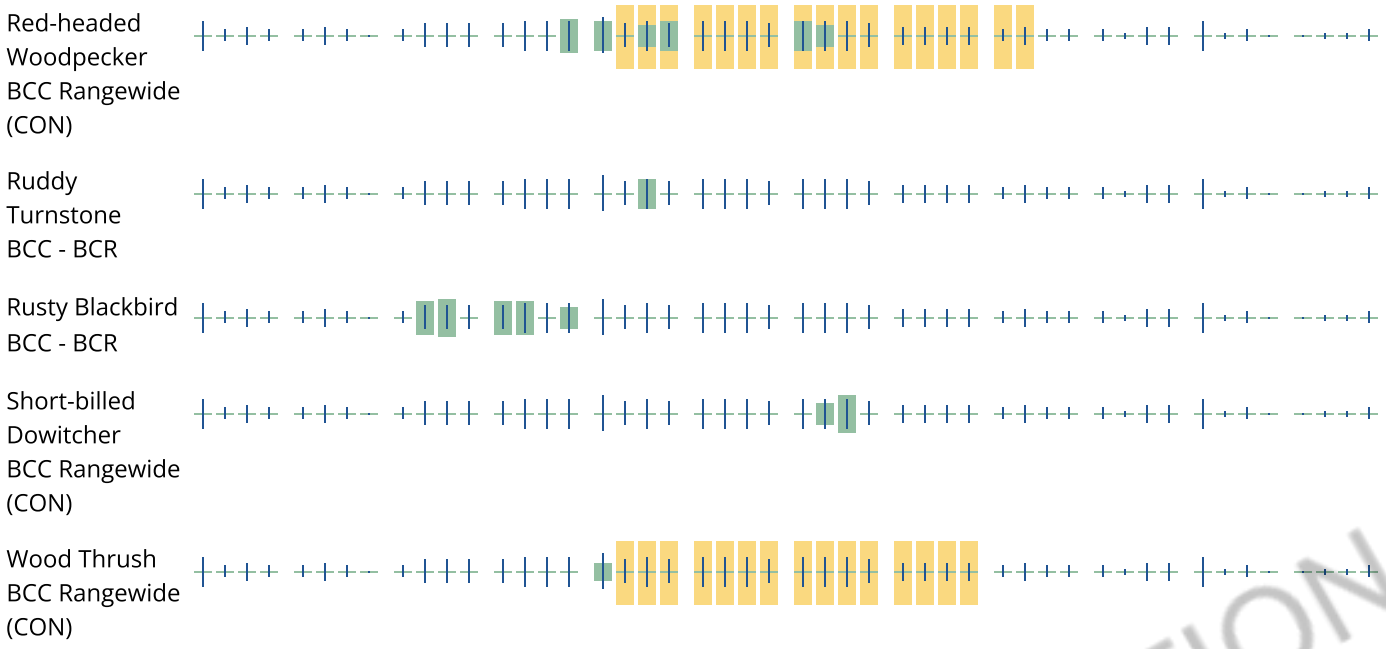
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

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 at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

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.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local

government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

EcoCAT
Ecological Compliance Assessment Tool

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

Applicant: TRC
Contact: Gio Del Rivero
Address: 230 Monroe Street
Suite 1840
Chicago, IL 60606

IDNR Project Number: 2309917
Date: 02/06/2023

Project: Plato Road
Address: Plato Road, Hampshire

Description: Proposed ground-mounted solar PV energy generation project site in Kane County, Illinois, referred to as Plato Road Solar. The Plato Road Project area includes a fenced area of approximately 39 acres on an approximately 57-acre parcel of land. System size is approximately 5 MW.

Natural Resource Review Results

Consultation for Endangered Species Protection and Natural Areas Preservation (Part 1075)

The Illinois Natural Heritage Database contains no record of State-listed threatened or endangered species, Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves, or registered Land and Water Reserves in the vicinity of the project location.

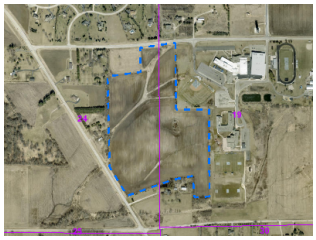
Consultation is terminated. This consultation is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary. Termination does not imply IDNR's authorization or endorsement.

Location

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

County: Kane

Township, Range, Section:
41N, 6E, 24
41N, 7E, 19



IL Department of Natural Resources Contact
Adam Rawe
217-785-5500
Division of Ecosystems & Environment

Government Jurisdiction
IL Environmental Protection Agency
Division of Water Pollution Control
Post Office Box 19276
Attention: Permit Section
Springfield, Illinois 62794 -9276

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.

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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.

ATTACHMENT D

REPRESENTATIVE PHOTOGRAPHS

Site Photographs

Project Name	Site Location	Project No.
Plato Road Solar	Plato Rd/Burlington Rd, Kane County, IL	500015.0000.0006

Photo No.	Date
1	Feb. 2023

Description

Overview of the agricultural field.

Looking south from Plato Road.

Photo No.	Date
2	Feb. 2023

Description

Overview of the agricultural field.

Looking north from the central portion of the Project area.

Site Photographs

Project Name	Site Location	Project No.
Plato Road Solar	Plato Rd/Burlington Rd, Kane County, IL	500015.0000.0006

Photo No.	Date
3	Feb. 2023

Description

Overview of the agricultural field.

Looking south from the central portion of the Project area.

Photo No.	Date
4	Feb. 2023

Description

Emergent and scrub-shrub wetland in the northeastern portion of the Project area with Specimen tree #1 (cottonwood).

Looking southwest.

Site Photographs

Project Name	Site Location	Project No.
Plato Road Solar	Plato Rd/Burlington Rd, Kane County, IL	500015.0000.0006

Photo No.	Date
5	Feb. 2023

Description

West-central part of the Project area where the vegetated swale changes to stream.

Looking southwest.

Photo No.	Date
6	Feb. 2023

Description

A few box elder trees along the west-central portion of the Project area.

Looking north.

Site Photographs

Project Name	Site Location	Project No.
Plato Road Solar	Plato Rd/Burlington Rd, Kane County, IL	500015.0000.0006

Photo No.	Date
7	Feb. 2023

Description

Small pocket wetland in the central portion of the Project area.

Looking south/southwest.

Photo No.	Date
8	Feb. 2023

Description

Scrubby woody vegetation along the northwestern boundary of the Project area.

Looking south.

Site Photographs

Project Name	Site Location	Project No.
Plato Road Solar	Plato Rd/Burlington Rd, Kane County, IL	500015.0000.0006

Photo No.	Date
9	Feb. 2023

Description

Emergent and scrub-shrub wetland in the southeastern portion of the Project area.

Looking east/northeast.

Photo No.	Date
10	Feb. 2023

Description

Small woodlot in the southeastern portion of the Project area primarily comprised of box elder trees.

Looking west.

Site Photographs

Project Name	Site Location	Project No.
Plato Road Solar	Plato Rd/Burlington Rd, Kane County, IL	500015.0000.0006

Photo No.	Date
11	Feb. 2023

Description

Narrow border of maple trees along the western border of the southeast-ern portion of the Project area.

Looking south.

230 W. Monroe Street, Suite 1840
Chicago, IL 60606

T 630.370.0017
TRCcompanies.com

AIMA Application

RPIL Solar 8, LLC (Plato Road) AIMA

JP

Jeremy Price
To AGR.AIMA@illinois.gov; Evers, Jeff
Cc Rowley, Anne

Reply | Reply All | Forward

Thu 8/3/2023 1:26 PM

RPIL Solar 8, LLC - Plato Road Solar AIMA_8.3.23 (Final).pdf
1 MB

Dear AIMA Inbox and Mr. Evers:

Please find the attached AIMA application, exhibit, and partially executed agreement on behalf of RPIL Solar 8, LLC.

Once processed, the original can be mailed to the landowner's designee at the following address:

Lisbeth Matson
46W289 Ellithorpe Road
Hampshire IL, 60140

Thanks in advance for the support, please let me know if there are any questions or concerns.

Sincerely,

Jeremy Price
Project Developer

RENEWABLE PROPERTIES

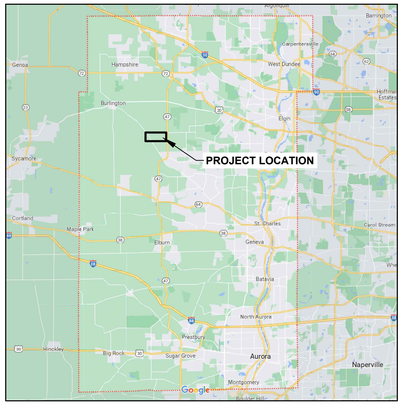
M: (978) 382 - 1751
jprice@renewprop.com

RPIL SOLAR 8, LLC
(PLATO ROAD SOLAR)

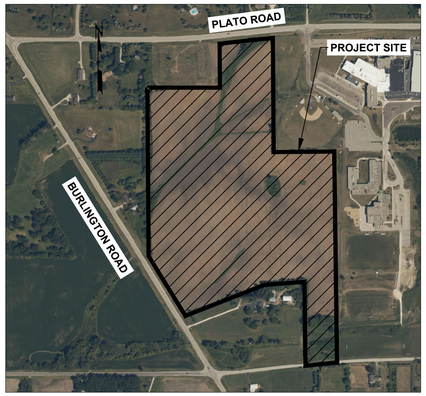
COUNTY LOCATION

KANE COUNTY, ILLINOIS

VICINITY MAP



PROJECT LOCATION



Illinois Department of Agriculture
AGRICULTURAL SITE - REVIEW INFORMATION
For **Solar Projects** Requesting Agricultural Impact Mitigation Agreements

Return to: **Illinois Department of Agriculture**
Bureau of Land and Water Resources
Phone 217-782-6297
Email AGR.AIMA@illinois.gov

Complete this Agricultural Site Review Information sheet and attach to each Solar Agricultural Impact Mitigation Agreement being submitted. Be sure to **include an aerial location map** delineating the site in relation to the city/village's corporate boundaries. **Email** all information to AGR.AIMA@illinois.gov

Date Submitted 8/3/2023

APPLICANT RPIL Solar 8, LLC **County** Kane

Contact Person Jeremy Price **Phone** (978) 382-1751

Email jprice@renewprop.com

List the project's contact person in the event that additional information is required. It is preferable to list the project's consultant and/or engineer since they usually possess the more detailed information needed to complete our review. The IDOA has a 30-day review period in which to provide comments to the applicant once all pertinent information has been received.

Address Adjacent to: 45W075 Plato Road

City Hampshire, Illinois **ZIP** 60140

1. Number of acres in the site 56.33 TWP 41 N Range 6E/7E Section 24/19
2. Will the site me converted from an agricultural to a non-agricultural use? ☐ Yes ☒ No
3. Site is located within municipality's corporate boundaries ☐ Yes ☒ No
4. Distance of site to nearest incorporated municipal boundaries 1.45 miles
   (specify to nearest tenth-mile)

LAND USE

5. List the number of acres for each land use.
   Cropland 56.33 ac Pasture ____ ac Forest ____ ac Other ____ ac
   If ***Other,*** specify land use and land cover ____
6. County Permit issued? ☐ Yes ☒ No
7. Will other state or federal funds be used for this project? ☐ Yes ☒ No
   If **YES**, list the name(s) of participating agencies:

	state $	*federal $*
1) - ____	☐	☐
2) - ____	☐	☐

Submit by Email