



**Application for Special Use Permit**

**Proposed 5-Megawatt AC Ground - Mounted Community Solar Facility**

**Kane County, Illinois**

**Project Company**

Rutland East Solar Farm, LLC

**Developer**

Surya Powered, LLC

**Project Consultants**

***Environmental Consultant*** – Baxter & Woodman, Inc.

***Civil Engineering*** – Sevee & Maher Engineers, Inc.

***Attorney*** – Franks, Gerkin, Ponitz & Greeley, P.C.

***Wetland Delineation*** – Heartland Ecological Group, Inc.

***Base Flood Elevation*** – Contigo Engineering, PLLC

***Phase I ESA*** – Stateline Environmental Consulting Services, Inc.

***Phase I Archaeological Survey*** – Cynthia L. Balek, Ph.D.

***ALTA/NSPS Survey*** – Vanderstappen Land Surveying, Inc.

***Technical Consulting and Engineering Services*** – TRC Companies, Inc.

# Table of Contents

Rutland East Solar Farm, LLC Development Team .....	6
Project Narrative .....	8
I. Project Description .....	9
<i>Parcel Historical Use &amp; Existing Conditions</i> .....	9
<i>Power Output</i> .....	9
<i>Solar Energy Basics</i> .....	9
<i>Regulatory Compliance</i> .....	10
II. Construction Plan .....	12
<i>Traffic Maintenance</i> .....	13
<i>Construction Route &amp; Parking</i> .....	13
<i>Road Authority Use &amp; Pre-Construction Road Conditions</i> .....	14
III. Operations & Maintenance .....	14
<i>Preventative Maintenance</i> .....	15
<i>Corrective Maintenance</i> .....	15
<i>Monitoring</i> .....	15
IV. Emergency Services & Scenario Planning .....	15
<i>Fire &amp; Other Hazards</i> .....	15
<i>Fire Protection District &amp; Correspondence</i> .....	15
<i>Emergency Response Planning</i> .....	15
<i>Facility Signage</i> .....	16
<i>Emergency Services Plan</i> .....	16
<i>Public Safety</i> .....	17
V. Facility Product Specification Sheets .....	17
<i>Forge Solar Comprehensive Glare Analysis</i> .....	17
<i>FAA Notice Criteria Tool</i> .....	18
<i>Product Specification Sheets – Proposed Module Type</i> .....	18
<i>Product Specification Sheets – Proposed Inverter</i> .....	18
VI. Environmental Due Diligence .....	19
<i>Wetland Delineation Report</i> .....	19
<i>Flood Zones Review</i> .....	19
<i>Soil and Water Conservation District</i> .....	20
<i>Drainage Systems</i> .....	20



*Illinois Department of Natural Resources (IDNR)*..... 20

*United States Fish and Wildlife Services (USFWS)*..... 21

*Illinois State Historic Preservation Office (SHPO)*..... 21

*Illinois Department of Agriculture (IDOA)* ..... 22

**VII. Vegetation Management & Landscape Plan** ..... 22

*Vegetation Management Plan* ..... 22

*Landscape Plan* ..... 25

**VIII. Decommissioning** ..... 26

**IX. Additional Considerations**..... 27

**X. Insurance Information**..... 27

**XI. Interconnection** ..... 27

**XII. Concluding Remarks** ..... 27

<b>EXHIBIT A: Site Plot</b> .....	28
<b>EXHIBIT B: Boundary Survey</b> .....	29
<b>EXHIBIT C: Landscape Plan (<i>Proposed Seed Mixtures</i>)</b> .....	30
<b>EXHIBIT D: Glare Study and FAA Notice Criteria Filing</b> .....	31
<b>EXHIBIT E: Product Cut Sheets</b> .....	32
<b>EXHIBIT F: Wetland Delineation Report</b> .....	33
<b>EXHIBIT G: USFWS No Effect Letter</b> .....	34
<b>EXHIBIT H: IDNR EcoCat</b> .....	35
<b>EXHIBIT I: SHPO Response Letter</b> .....	36
<b>EXHIBIT J: NRI Report</b> .....	37
<b>EXHIBIT K: Decommissioning Plan &amp; Cost Estimates</b> .....	38
<b>EXHIBIT L: Evidence of Interconnection Application with the Utility Company</b> .....	39
<b>EXHIBIT M: Legal Description</b> .....	40
<b>EXHIBIT N: Local Jurisdictional Contacts</b> .....	41
<b>EXHIBIT O: Evidence of Outreach to Road Authority</b> .....	42
<b>EXHIBIT P: Agricultural Impact Mitigation Agreement (AIMA)</b> .....	43
<b>EXHIBIT Q: Solar Photovoltaic Module Composition (MSDS Report)</b> .....	44
<b>EXHIBIT R: Drain Tile Mitigation Plan</b> .....	45
<b>EXHIBIT S: Conformance To Stormwater Management</b> .....	46
<b>EXHIBIT T: Noise Study</b> .....	47
<b>EXHIBIT U: Subsurface Soil Exploration</b> .....	48
<b>EXHIBIT V: Phase 1 ESA</b> .....	49



## EXHIBITS

- **EXHIBIT A:** Site Plan
- **EXHIBIT B:** Boundary Survey
- **EXHIBIT C:** Landscape Plan (*Proposed Seed Mixtures*)
- **EXHIBIT D:** Glare Study and F.A.A. Notice Criteria Filing
- **EXHIBIT E:** Product Cut Sheets
- **EXHIBIT F:** Wetland Delineation Report
- **EXHIBIT G:** USFWS No Effect Letter
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- **EXHIBIT J:** NRI Report
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- **EXHIBIT V:** Phase 1 ESA

## Rutland East Solar Farm, LLC Development Team

### **Developer and Applicant**

#### ***Surya Powered, LLC***

Surya Powered, LLC is a local Illinois-based community solar developer. Surya's initiative is to assist in the state's renewable energy transition which calls for 100% clean energy by 2050. Surya's mission includes delivering clean and affordable energy to residents and businesses throughout Illinois. With extensive knowledge of renewable energy and its unique development requirements, Surya successfully partners with multiple developers across the United States to deliver the highest quality solar developments.

#### ***Rutland East Solar Farm, LLC***

Rutland East Solar Farm, LLC (RESF) is a limited liability company owned and operated by Surya Powered, LLC, created for the purpose of developing this project. Rutland East Solar Farm, LLC (Applicant) has prepared this application, seeking a Special Use Permit (SUP) to develop a 5-megawatt AC (MWac) community-scale solar facility in unincorporated Kane County, Illinois.

### **Professional Consultants**

#### ***Environmental Consultant – Baxter & Woodman, Inc.***

Baxter & Woodman (B&W) has been retained to review, advise, and create environmental plans for Rutland East Solar Farm, LLC. B&W is primarily focused on environmental engineering, surveying, and providing environmental consulting expertise to clients across the Midwest. With deep roots in Illinois, B&W's experience and knowledge in all types of project development brings extensive professional expertise to the process.

#### ***Civil Engineering Consultants – Sevee & Maher Engineers, Inc.***

Sevee & Maher Engineers has been contracted by the applicant to review, advise, and design civil plans for Rutland East Solar Farm, LLC. Sevee & Maher Engineers has a staff of experienced Illinois certified engineers with a wide range of backgrounds and experiences in development.

#### ***Attorney – Franks, Gerkin, Ponitz & Greeley, P.C.***

Franks, Gerkin, Ponitz & Greeley, P.C. has been retained to provide legal services and represent the project as needed. Franks, Gerkin, Ponitz & Greeley, P.C. are experienced attorneys with extensive knowledge in land use, zoning, and development across multiple industries.

### ***Wetland Delineation – Heartland Ecological Group, Inc.***

Heartland Ecological Group has been retained to advise RESF on the impact onsite wetlands would have on the design of the proposed solar facility, as well as regulatory consultations and mitigation support. Heartland's expertise in assessing and delineating wetlands contributes to the project's environmental design, supports the development of a stormwater management plan in full compliance with Kane County code, and the overall preservation of the onsite ecosystem. Heartland is also a Qualified Wetland Review Specialist certified by the Kane County Environmental and Water Resources department.

### ***Base Flood Elevation – Contigo Engineering, PLLC***

Contigo Engineering has been retained to advise RESF on the impact onsite flood zones would have on the design of the proposed solar facility, as well as regulatory consultations and mitigation support. Contigo's expertise in assessing and delineating flood zones contributes to the project's environmental design, supports the development of a stormwater management plan in full compliance with Kane County code, and the overall preservation of the onsite ecosystem. Contigo Engineering, LLC is a woman-owned, civil engineering firm based in Bartlett, Illinois that specializes in hydrologic and hydraulic modeling, mapping and permitting.

### ***Phase I ESA – Stateline Environmental Consulting Services, Inc.***

Stateline Environmental Consulting Services, Inc. has been retained by RESF to conduct detailed research into the current and historical uses of the property; attempting to assess whether adverse impacts associated with previous uses have impacted either soils or groundwater and affected the environment and/or human health. Research includes, but is not limited to, reviews of numerous federal, state, local, and tribal regulatory databases, historical records and maps, and state and local agency records.

### ***Technical Consulting Services – TRC Companies, Inc.***

TRC Companies, Inc. is a national leader in energy development consulting services, partnering with industry leaders in renewable energy. RESF has retained TRC Companies to utilize their multi-disciplined expertise from Chicago-based staff to complete specific tasks related to this project:

- ❖ ***Noise Analysis:*** reviewing anticipated noise emission levels of the equipment to be installed for the long-term operation of the proposed solar generation facility.
- ❖ ***Decommissioning Plan & Cost Estimate:*** covering the removal of solar facility equipment including foundations, site restoration, and financial surety, in compliance with the IDOA's Agriculture Impact Mitigation Agreement (AIMA) and Kane County requirements.
- ❖ ***Commercial Solar Facility Engineer's Certificate:*** noting that specific soil and subsurface conditions at the site are anticipated to be able to support the apparatus, given local soil, subsurface and climate conditions

## Project Narrative

The applicant, Rutland East Solar Farm, LLC, is seeking approval of a community solar project through Kane County's Special Use Permit (SUP) process, as required by the provisions of the County's Zoning Ordinance. Project details are provided below.

Applicant:	<b><i>Rutland East Solar Farm, LLC</i></b>
Project Name:	<b><i>Rutland East Solar Farm</i></b>
Location:	<b><i>16N845 Reinking Road, Hampshire IL 60140</i></b>
Property Owner:	<b><i>Home State Bank NATL ASSOC, TRUST. TR #3091 Dawn &amp; Rich Milne, Route 47 LLC</i></b>
Abbreviated Legal Description:	<b><i>PT NE ¼ SEC 19-42-7 Desc in Doc 96K079740 Lying East of Reinking Road</i></b>
APN/PIN:	<b><i>02-19-200-007</i></b>
Acreage:	<b><i>57.19 Acres ... per Rutland Township Assessor</i></b>
Current Zoning:	<b><i>Farming (F) District ... Community Solar requires a Special Use Permit</i></b>

The Rutland East Solar Farm, LLC application addresses the following:

- ❖ Project Narrative & Existing Conditions
- ❖ Construction Plan, Maintenance of Traffic, & Road Authority
- ❖ Operations & Maintenance (O&M) Plan & Decommissioning Plan
- ❖ Signage, Emergency Services Plan & Fire District
- ❖ Noise & Glare, FAA, & Facility Product Specifications
- ❖ Environmental Due Diligence
  - Wetlands Delineation and Flood Zone determination
  - Natural Resource Inventory Report (NRI), produced by the Kane-DuPage County Soil and Water Conservation District (KDSWCD)
  - EcoCAT Report, prepared by the Illinois Department of Natural Resources (IDNR)
  - United States Fish and Wildlife Services (USFWS) Determination
  - Illinois State Historic Preservation Office (SHPO) Review
  - Agricultural Impact Mitigation Agreement (AIMA), executed with the Illinois Department of Agriculture (IDOA)
- ❖ Vegetation Plan/ Proposed Screening/ Ground Cover and Pollinators Maintenance/ Mowing/ Vegetation O&M/ fencing
- ❖ Interconnection Application to Commonwealth Edison (ComEd)
- ❖ Insurance, Project Bonding
- ❖ Concluding Remarks



## I. Project Description

Rutland East Solar Farm, LLC. ("RESF" the Applicant) is requesting administrative approval for a Special Use Permit (SUP) to allow for the development of a 5 MWac ground-mounted distributed generation photovoltaic solar facility in accordance with Kane County development protocol and in full compliance with the State of Illinois guidelines (HB 4412) for renewable energy development.

The project is proposed for a parcel of land located on the east side of Reinking Road, bounded on the north by Big Timber Road and to the southeast by Illinois Route 47, in unincorporated Kane County, Illinois. County records indicate the parcel identification number (PIN) is 02-19-200-007 and the current zoning is Farming (F).

The Applicant has determined that the subject property is highly feasible for development as a solar facility based on a variety of factors including:

- ❖ A zoning designation which allows for solar development as a special use.
- ❖ Proximity to local utility infrastructure with available hosting capacity.
- ❖ Limited presence of wetlands/flood zones impacting project design.
- ❖ Suitable topography; minimizing the need for grading onsite.
- ❖ Excellent road access for construction access, maintenance vehicles and equipment deliveries.

### ***Parcel Historical Use & Existing Conditions***

Historically, portions of the subject parcel have been utilized for agriculture. Existing site conditions feature predominantly flat, open land primarily used as cropland with vegetation primarily limited to the perimeter. The parcel of land will need to be prepped for development, including minimal grading and excavation for underground wiring and electrical infrastructure in accordance with construction plans approved during the building permit process.

### ***Power Output***

The anticipated power output of the Rutland East Solar Farm, LLC project is 11,500,000 kWh annually - enough to power approximately 1,300 homes.

### ***Solar Energy Basics***

Community solar facilities generate electricity to be sent to metered accounts through a participating electric utility; in this case, Commonwealth Edison (ComEd). For those utility customers that cannot meet their own energy needs by installing a personal solar energy system onsite, a community solar subscription provides these customers with the ability to participate in a renewable, sustainable energy economy, while potentially hedging on future energy escalation; an especially valuable feature for subscribers with low to moderate incomes.

RESF will contain bifacial solar modules manufactured by Tier 1 suppliers certified by Underwriters Laboratories (UL). These modules will sit on single axis tracking systems; a racking system that follows the sun. The modules face east in the morning, transition to horizontal during midday, and then conclude their rotation west in the evening. Modules will have an anti-reflective coating to reduce glare.

All solar equipment used in the development of RESF will comply with the most recent version of the National Electric Code (NEC), Underwriters Laboratories (UL), or International Electrotechnical Commission (IEC) product standards.

The production of energy is summarized below in 4 steps:

1. Sunlight strikes solar photovoltaic (PV) cells, which converts photons of light into electrons, producing low-voltage, direct current (DC) electricity.
2. Direct current (DC) electricity is transmitted to an inverter, this converts low voltage direct current (DC) to alternating current (AC).
3. Transformers step up alternating current (AC) electricity to the appropriate voltage to feed into the utility grid’s electrical transmission system.
4. Electrical transmission systems are connected to the local substation where electricity is delivered directly to the utility grid’s ratepayers.

This process creates energy for the local utility in a safe and efficient manner while mitigating any form of hazardous materials or substances affecting the local hosting environment. The production of energy from this process and this facility is considered safe and poses no potential negative impacts.

The components of the proposed facility include PV modules, transformers, inverters, combiner boxes, underground cabling, single-axis tracker racking systems, equipment pads, a gravel access road, and fencing.

**Regulatory Compliance**

The Applicant has compiled development plans designed to fully comply with the State of Illinois Siting Standards published in HB 4412, the *Kane County Zoning Ordinance*, Chapter 25, and specific provisions applicable to community solar projects structured as conditions of approval.

Construction plans will be fully compliant with *Buildings and Construction*, Chapter 6, and the *Stormwater Management Ordinance*, Chapter 9. In addition, the Applicant will work with local authorities having specific jurisdiction over aspects of the subject parcel’s development to assure public safety is achieved.

<b>Table 1 - Proposed Findings of Fact Kane County Zoning Ordinance, Chapter 25-4-8-2</b>	
<p><i>That the establishment, maintenance or operation of the special use will not be unreasonably detrimental to or endanger the public health, safety, morals, comfort or general welfare</i></p>	<p>The Applicant’s proposed site plan does not endanger health, safety, morals, comfort or general welfare. The project will provide a reliable source of renewable energy, construction jobs and increased tax revenues, while preserving the site’s future value as farmland, post-decommissioning.</p>

<p><i>That the special use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish and impair property values within the neighborhood</i></p>	<p>With extensive perimeter landscaping and a secured perimeter, the project will not adversely impact the value of adjacent property. Numerous studies conducted nationwide have repeatedly indicated solar has little or no impact on property values.</p> <p>In addition, the Applicant has submitted professional documentation regarding the absence of glare reflected from panels and the measurement of noise emitted from equipment.</p>
<p><i>That the establishment of the special use will not impede the normal and orderly development and improvement of surrounding property for uses permitted in the district</i></p>	<p>To the extent that renewable energy sources support overall economic development, providing energy for current and future development of all types, the RESF project will enhance the future growth of Kane County while serving its existing energy needs.</p>
<p><i>That adequate utility, access roads, drainage and/or other necessary facilities have been or are being provide</i></p>	<p>The Applicant's site plan provides a single access road into the site; located to maximize access to the project's equipment, while minimizing any potential for traffic congestion.</p> <p>The Applicant is committed to a complete drain tile survey and the repair or replacement of damaged drainage infrastructure during either construction or decommissioning.</p>
<p><i>That adequate measures have been or will be taken to provide ingress and egress designed to minimize traffic congestion in the public streets and roads</i></p>	<p>In addition to the single-access road, construction activity and storage will be entirely contained onsite, as will workers' parking. No vehicles will be parked on adjacent roadways.</p> <p>Remote equipment monitoring eliminates the need for onsite employees and routine maintenance of either landscape or equipment will be limited throughout the year.</p>
<p><i>That the special use shall in all other respects conform to the applicable regulations of the district in which it is located, except as such regulations may in each instance be modified by the county board pursuant to the recommendations of the zoning board of appeals</i></p>	<p>Careful analysis of the site plan and supporting documentation will reveal by-products of continual consultation with Kane County staff and input from qualified professionals retained for their solar experience and commitment to delivering a quality project which is also a valuable community asset.</p> <p>The Applicant's design meets all applicable zoning regulations and will be modified to meet reasonable conditions of approval imposed by Kane County.</p>



In reviewing the RESF SUP application, the Applicant asks Kane County Planning and Development staff to consider the following characteristics incorporated in our development plan:

- ❖ Location of proposed structures complies with County setback requirements. The use of remote monitoring (24/7/365) not only ensures proper operation, but aside from normal construction activity, limits traffic on nearby roads.
- ❖ The facility's perimeter will be fully enclosed using an eight-foot perimeter fence with gated access for construction equipment and maintenance access.
- ❖ A landscape buffer utilizing drought-resistant greenery will be provided in accordance with County requirements. Perennial ground cover vegetation will be used throughout the project; using a seed mix agreed upon prior to construction.
- ❖ All solar components and electrical equipment will be UL-certified.
- ❖ Solar panels (modules) are mounted on a tracking system affixed to a racking structure. Each panel is treated with anti-reflective coating to minimize glare.
- ❖ The racking structure is connected to steel beams. While a geotechnical analysis will be completed as part of the permit process, concrete foundations are not anticipated.
- ❖ The inverters, transformers, and associated equipment will be located on a concrete equipment pad.
- ❖ Electrical cables will be installed underground throughout the project except for poles used to connect with the ComEd utility grid at the point of interconnection illustrated on the site plan.

The Site Plan (see **EXHIBIT A**) will clarify the location of 20-foot-wide gravel access road, transformer pads and turnarounds for emergency vehicles near the transformer pads, the location and number of inverters, wetlands and flood zones identified as areas of natural interest, fencing type and height, panel setbacks, interrow spacings, vegetation buffer and landscaping, the point of interconnection, and provide details of our impervious calculations and quantities.

## II. Construction Plan

The Applicant proposes the construction of the Rutland East Solar Farm to be conducted in three major phases, site preparation, installation, and final testing.

- ❖ **Phase I – Site Preparation**
  - Site preparation begins with land clearance – the removal of trees, vegetation and current crops from the project area. Clearance enables preliminary grading and fill activity, and the implementation of measures outlined in a Stormwater Pollution Prevention Plan (SWPPP) for erosion control. A temporary access road is laid out and an area set aside for the storage of construction materials and onsite parking for workers. Debris will be properly disposed of offsite.
- ❖ **Phase II – Installation**
  - Site installation will start the excavation needed for the installation of underground wiring, trenching for foundation poles, and setting up perimeter fencing. Project components will be installed - racking systems and modules –

followed by connecting the balance of system (BoS) equipment including wiring, combiner boxes, transformers, and inverters.

❖ **Phase III – Testing**

- Site testing is the final phase, verifying the operational status of the project’s utility interconnection, BoS equipment, and monitoring equipment. Completion of this phase finalizes the facility prior to energization or its commercial operations date (COD).

The Applicant estimates the overall construction of the RESF facility will require 4-6 months; assuming no technical, product supply, or logistical setbacks, and suitable weather conditions prevail. ComEd will upgrade the capacity of nearby infrastructure systems to enable the facility to supply energy directly to the utility grid. Utility upgrades typically require 8-12 months for completion.

### ***Traffic Maintenance***

The Applicant anticipates local traffic generation as follows:

1. Equipment deliveries will begin after site preparation and before installation (Phase I Conclusion & Phase II Commencement) and continue for 5-6 weeks using commercial tractor-trailers. The Applicant projects daily equipment deliveries for a period of approximately one week; delivering transformers, inverters, electrical equipment, and racking.
2. Construction personnel onsite will total approximately 20-30 workers for onsite development for the duration of construction (4-6 months). Construction workers and managers usually drive construction vehicles. Workers’ parking will be restricted to an area onsite; no parking will be allowed on adjacent roadways.

### ***Construction Route & Parking***

Construction and maintenance routes will originate from the interstate highway system and utilize local state or county highways to directly access the project site. While routes will be finalized based on the suppliers’ locations, the Applicant is confident these segments will be the logical choice as described below.

- Northeast Towards Facility
  - IL Route 47 connecting to Big Timber Road
- South Towards Facility
  - IL Route 47 connecting to Reinking Road
- Northwest Towards Facility
  - Big Timber Road connecting to Reinking Road

The Applicant plans to minimize traffic congestion and assure public safety near the site through careful scheduling of phased construction – reducing vehicular and foot traffic to the area of development. Localized traffic congestion will be mitigated by the strategic use of onsite storage for equipment and materials and the newly constructed access road to support construction equipment and reduce traffic queues. During construction, a staging area will be allocated for construction personnel parking; no



vehicles will be parked on adjacent roads. Once constructed, operation and maintenance traffic will be minimal, consisting of 1-2 vehicles on a quarterly basis, or as needed.

### ***Road Authority Use & Pre-Construction Road Conditions***

The Applicant will work with County and Rutland Township authorities to ensure construction traffic will not cause damage to local roadways. These jurisdictions may impose permit requirements, bonds or applicable evaluations to ensure local roads are not negatively impacted by construction activity. RESF will be responsible for road maintenance and dust-control measures related to construction and installation.

In an outreach attempt to obtain comments and input regarding the project, beginning in October 2024, RESF contacted the following jurisdictions via e-mail, providing a preliminary site plan: we are awaiting their response. Evidence of communications can be found in **EXHIBIT N**.

- ❖ Village of Hampshire
- ❖ Village of Huntley
- ❖ Village of Pingree Grove
- ❖ Rutland Township
- ❖ Pingree Grove & Countryside Fire District
- ❖ Huntley Fire District (notified due to adjacency)

## **III. Operations & Maintenance**

The Applicant is outlining a preliminary operations and maintenance plan (OMP) for RESF. This plan is subject to change, pending final review by all authorities having jurisdiction over the subject parcel have evaluated the proposed facility and have recommended changes or additions to its operating schedule. The OMP is structured to enforce public safety and assure regulatory compliance while prioritizing system performance to mitigate potential impacts to energy production during operation, focusing on specific areas.

- ❖ Corrective Maintenance
- ❖ Ongoing Preventative Maintenance
- ❖ Equipment Monitoring & Evaluation
- ❖ Vegetation & Landscaping

All staff charged with operations and maintenance will be experienced contractors who specialize in solar facility operations. A local firm will be retained to ensure onsite vegetation and landscaping is maintained regularly. Development staff will ensure equipment monitoring and transmission protocols are routinely evaluated; contractors will perform preventative and corrective maintenance based on identified needs.

### ***Preventative Maintenance***

Once constructed, the Applicant anticipates 4-6 visits per year. Preventative maintenance for solar assets is a proactive strategy, reducing the chance of failure resulting in unplanned downtime. Our preventative strategy will include scheduled cleanings, component replacements, system repairs, routine inspection, testing electrical connections, and performing structural integrity checks for rust and corrosion.

### ***Corrective Maintenance***

Remote monitoring systems flag anomalies and system abnormalities. Once found, the Applicant will dispatch an experienced technician to evaluate field conditions. If the equipment is malfunctioning, our team will initiate replacement and if warranted, will promptly submit a warranty claim to the manufacturer. Our technicians will work closely with the manufacturer to identify the cause of the problem and prevent future issues.

### ***Monitoring***

Daily monitoring of solar production is critical for having the ability to diagnose problems in real-time. Monitoring involves measuring system performance of the system against normal output, identifying irregularities 24/7/365. Alarm triggers quickly identify a halt in production and provide insight into the nature of the problem. Onsite inspections will also be required to spot structural hazards.

## **IV. Emergency Services & Scenario Planning**

### ***Fire & Other Hazards***

Steel is the primary material used for the foundation and racking components of solar facilities, lessening the likelihood of fire as extremely high temperatures are needed to ignite steel foundations. While evaluated for heat resistance, the possibility of modules catching fire remains extremely low. The tempered glass offers protection from heat and minimizes the minute potential for panel ignition. The OMP further minimizes fire by ensuring all conduits, wiring, and facility components are constantly monitored 24/7/365 and evaluated or routinely inspected. The MSDS Report containing Photovoltaic (PV) module composition can be found in **EXHIBIT Q**.

### ***Fire Protection District & Correspondence***

The Pingree Grove & Countryside Fire District (PGCFD) will have the opportunity to review the proposed facility during the building permit phase; ensuring RESF follows all applicable fire and safety codes. The project design ensures the PGCFD could contain a fire within the property's perimeter. An emergency phone number will be clearly posted near the gated access, allowing PGCFD personnel to call and allow monitoring staff to deenergize the system in case of an emergency at any time.

### ***Emergency Response Planning***

Working with the applicable jurisdictions, the Applicant will work to create emergency response plans to prior to RESF's commercial operations date (COD) or as instructed by County staff. This will allow local

emergency services to review locations of the Knox Box, emergency shutoff switches, voltage signage, and familiarize themselves with the facility's design and equipment.

### **Facility Signage**

Signage with emergency contact information will be fixed on the project fence near the access gate to the facility. This signage will detail the contact information of the site operator, the utility provider, the 911 address of the appropriate AHJ, and site coordinates. Below is a sample of the signs to be placed on the fencing.



*Photo 1. Example of signage proposed along the project fence.*

### **Emergency Services Plan**

General Notes:

- ❖ All equipment will have labels as per NFPA guidelines including the project placard. In case of fire event, the remote site operator will detect equipment failures and will notify all emergency contacts configured for the site, i.e., emergency dispatch team.
- ❖ RESF will coordinate with the local first responders regarding inverter locking and shutdown procedure and will be outlined in the final emergency service plan (ESP).
- ❖ All solar AC main circuit breakers will be lockable in the off position.

The project has been designed to maximize distance from neighboring parcels for the most critical components; the following are the most hazardous equipment/locations within the Project:

- ❖ Transformers
- ❖ Inverters and disconnects.
- ❖ Field wiring and electrical boxes are associated with the system.



**Site Operation:**

Contact details for the site operator will be shared before operations commence. In the event of an emergency requiring shutdown, the ground-mount PV solar system can be deenergized remotely by the site operator.

**Site Shutoff Procedure and Locations:**

- ❖ Each inverter switch should be turned to OFF position to shut off both the AC and DC switches. This will initiate rapid shutdown of PV modules and will de-energize PV (DC source).
- ❖ The solar system main circuit breakers (labeled as per NFPA) should be manually disconnected and locked into OFF position to disconnect AC side.
- ❖ Do not operate the inverter until at least 5 minutes after disconnecting all sources from DC and AC sides.

***Public Safety***

To guarantee public safety and provide security onsite, access to the RESF is limited to trained staff and maintenance personnel only.

Solar panel arrays and the electrical equipment will be surrounded by a farm fixed knot fence or equivalent fence per the requirements of the National Electrical Code (NEC). The project site will be secured and locked and only operator personnel will have access to the project (Knox Box or daisy chain type locks may be installed at the gated access).

The installation and operation of electrical systems dictates having an emergency services plan (ESP) in place to ensure the safety of all personnel and minimize damage to the facility and its equipment. The ESP will outline the procedures and protocols for responding to emergencies that may occur during the operation of the facility.

The electrical schematic for the installation will be attached to the ESP, outlining the electrical distribution system, the main electrical components, and associated protection devices. The ESP also features a Solar System Disconnect Switch - a GAND operated air break 15kv, lockable in the off position.

Overall, an ESP provides a preliminary approach to responding to emergencies that may occur during the operation of the Rutland East Solar Farm. By following procedures and protocols, damage can be minimized and the safety of all personnel involved in responding to an emergency is assured.

## V. Facility Product Specification Sheets

***Forge Solar Comprehensive Glare Analysis***

The Applicant conducted a glare study using ForgeSolar software to evaluate potential reflectivity effects generated by the proposed solar project. This report interprets and elucidates the study's inputs, assumptions, and findings.

The ForgeSolar software incorporates GlareGauge, a prominent solar glare analysis tool compliant with Federal Aviation Administration (FAA) standards and globally utilized for glare analysis. It is grounded in

the Solar Glare Hazard Analysis Tool licensed by Sandia National Laboratories. The tool assesses potential effects of reflectivity, encompassing glint and glare, emanating from a proposed solar photovoltaic installation.

The project model, along with user-defined observation points or paths (receptors), was input into the software. The software calculates the sun's position relative to the project for every minute of the year. Results are presented in charts illustrating annual glare duration and potential ocular impact types and durations for each Receptor.

Sun reflection is most prominent when the sun is low on the horizon, causing sunlight to reflect off the panels at a very low angle along the horizon. This may be observed by individuals standing next to the solar farm, driving along a road, or residing in neighboring dwellings. The assessment comprehensively captures all potential reflections originating from the solar farm. We used multiple data points in this study and the ForgeSolar software identified Glare Compliance with all US standards. The Glare Study can be found in **EXHIBIT D**.

#### ***FAA Notice Criteria Tool***

The FAA Notice Criteria Tool evaluates proposed construction and measures if the construction activity or development will affect navigable airspace. The proposed facility has been measured through the Tool using four points of measure. These locations are evaluated, and results are attached; determining RESF does not exceed the notice criteria. FAA Notice Criteria Tool results can be found in **EXHIBIT D**.

#### ***Product Specification Sheets – Proposed Module Type***

RESF intends to use modules from Trina Solar, a public company that has deep expertise and experience in manufacturing solar panels. Trina Solar is recognized in the industry as a Tier 1 solar manufacturer, whose premium products give developers the ability to successfully finance projects like RESF. The glass of the photovoltaic module is *AR coated heat strengthened glass*. The module poses anti-reflective coating to minimize the potential for glare or afterimage effects during its use. Modules are subject to change based on availability at the time of construction and every effort will be made by the Applicant to utilize American-made products. Product Cut Sheets can be found in **EXHIBIT E**.

#### ***Product Specification Sheets – Proposed Inverter***

The proposed facility will utilize inverters from Chint Power Systems; specifically, for RESF, the Applicant proposes to use the CPS 125kW SCH100/125KTL-DO/US-600 product line, a heavy-duty product typically used for larger, utility-scale scale projects. This product allows our Operations & Maintenance monitoring team to ensure production is fluid and no anomalies exist within the facility. Inverters are subject to change based on availability at the time of construction and every effort will be made by the Applicant to utilize American-made products. Product Cut Sheets can be found in **EXHIBIT E**.

## VI. Environmental Due Diligence

The Applicant has commissioned a variety of environmental reports to ensure the development of RESF is feasible and produces no negative impacts to its local environment.

### ***Wetland Delineation Report***

RESF has contracted Heartland Ecological Group, Inc. to conduct an onsite assessment and produce a wetland delineation report. Heartland's fieldwork identified no wetlands adjacent to or onsite the RESF project boundary. However, using Kane County GIS maps, the Applicant noted the presence of an ADID wetland and FEMA flood zone immediately adjacent to our site, and has mapped these features onto the RESF site plan as either scenic or natural areas (within 1500') and our design reflects our intent to locate development activity away from these areas wherever possible, primarily through the inclusion of a 15-foot buffer between the solar arrays and wetlands. The full report can be found in **EXHIBIT F**.



**Photo 2.** Wetland Delineation Report By Heartland Ecological Group Inc.

### ***Flood Zones Review***

The Applicant conducted a desktop review of the RESF site for flood zones using FEMA's National Flood Hazard Layer (NFHL) maps on the NFHL website. All onsite wetlands and flood zones are mapped onto the site plan; no development activity will occur within these areas. The site is defined as an area of minimal flood hazard.

Responding to a request from Kane County staff, the Applicant retained Contigo Engineering, PLLC, to determine the **base flood elevation (BFE)** for the site to verify the extent of the flood zone onsite.

### ***Soil and Water Conservation District***

In compliance with Kane County requirements, the Applicant applied to the Kane-DuPage County Soil & Water Conservation District (KDSWCD) to obtain a Natural Resource Information Report (NRI) for the subject property. This site has a Land Evaluation (LE) score of 30, and a Site Assessment (SA) score of 38, with a total of 68, placing it in the **Low Protection** category for farmland.

Concerns regarding the impact of solar farm development on farmland, particularly prime farmland, are alleviated due the conservation practices implemented onsite while the solar farm is in operation; preserving the land for future agricultural use once the RESF reaches the end of its operational lifespan. In addition, once decommissioning begins, the Applicant commits to complete site restoration to its original state, in full compliance with the IDOA's fully executed AIMA. The full NRI report can be found in **EXHIBIT J**.

### ***Drainage Systems***

Based on our discussions with Kane County staff and our interpretation of the County's Stormwater Ordinance and permitting requirements, the Applicant has determined the following will need to be completed either as part of the SUP approval process or prior to the receipt of construction permits:

- ❖ Completion of a **drain tile survey** to ascertain onsite drainage patterns.
- ❖ Compile a preliminary **drain tile mitigation plan** to document mitigation efforts proposed for the RESF to supplement the measures outlined in the executed AIMA.

Consultants capable of adequately documenting onsite drain tiles and drainage patterns are currently booked 4-6 months out; completion of such a survey will unnecessarily lengthen SUP approval. Upon receiving final approval from the Kane County Board, and prior to, or in conjunction with construction permit plan review, the Applicant will commission a drain tile survey to evaluate the presence of existing drain tiles and their condition prior to construction. This survey will enable RESF to assume responsibility for repairing any damage to drain tiles linked to construction or later, to decommissioning, thus ensuring all drain tiles are properly functioning.

To ensure the RESF fully complies with not only the intent, but also with the spirit of Kane County's drainage requirements, the Applicant has consolidated all drain tile/drainage recommendations into a drain tile management plan, also presented in **EXHIBIT N**.

### ***Illinois Department of Natural Resources (IDNR)***

The Applicant has conducted a review/consultation with the Illinois Department of Natural Resources (IDNR) via its ecological compliance assessment tool (EcoCAT). The tool was developed to identify potential impacts on State-listed threatened and endangered species within the vicinity of project development sites. The EcoCAT Natural Resource Review Results show the consultation as terminated. The review was submitted on November 22<sup>nd</sup>, 2024, and identified no record of identified species,



concluding adverse effects are unlikely. The full report can be found in **EXHIBIT H** along with its recommendations.

### ***United States Fish and Wildlife Services (USFWS)***

The Applicant has contracted Baxter & Woodman to evaluate federally protected species on the project development site. An assessment was submitted on December 9<sup>th</sup>, 2024, to the online IPaC assessment tool to generate a list of potential threatened or endangered species. No critical habitats have been located within the project boundary. Potential threatened or endangered species are below.

- ❖ *Bird* – Whooping Crane *Grus Americana*
- ❖ *Insects* – Monarch Butterfly *Danaus Plexippus*, Rusty Parched Bumble Bee *Bombus Affinis*, & Western Regal Fritillary *Argynnis Idalia Occidentalis*
- ❖ *Flowering Plants* – Eastern Prairie Fringed Orchid *Platanthera Leucophaea*

The review has been evaluated by Baxter & Woodman for a no effect letter. The USFWS No Effect Letter can be found in **EXHIBIT G**.

### ***Illinois State Historic Preservation Office (SHPO)***

In accordance with the Illinois State Agency Historic Resources Protection Act, the responsibility for assessing potential impacts of the project on archaeological and/or architectural (cultural) resources lies with the Illinois State Historic Preservation Office (SHPO), a division within the Illinois Department of Natural Resources (IDNR). Agencies such as the Illinois Environmental Protection Agency (IEPA), IDNR, and the U.S. Army Corps of Engineers (USACE) are mandated to undergo SHPO evaluation concurrently with their respective reviews.

RESF has engaged in consultation with SHPO concerning the project site, applying on August 20<sup>th</sup>, 2024, and responding to initial comments on September 23<sup>rd</sup>, 2024. The Applicant's preliminary review of the SHPO HARGIS database indicates no surveys, archaeological sites, or historic buildings are listed on or within 0.5 miles of the site.

On November 3<sup>rd</sup>, 2024, SHPO requested a **Phase I Archaeological Study** due to high probability of artifacts associated with the South Branch of the Kishwaukee River. The Applicant retained Cynthia Balek, Archaeology and Geomorphology Services, to conduct this study. The study was submitted to SHPO on November 26<sup>th</sup>, 2024. The field reconnaissance concludes that while archaeological materials were located, the site does not meet requirements for National Register eligibility; project clearance is recommended. A copy of this study and additional details can be found in **EXHIBIT I**, which contains documentation submitted as part of the consultation with SHPO and any resulting correspondence.

Based on the documentation submitted and the findings of the Phase I study, the Applicant has received SHPO support, and they have issued an official finding consistent with the following:

*“Our files do not identify any known historic properties within the high probability area for archeological resources as defined in the stated Act. Accordingly, this project is EXEMPT pursuant to the Illinois State Agency Historic Resources Preservation Act (20*

*ILCS 3420/6). An archeological survey for your above referenced project is not required under STATE law.”*

### ***Illinois Department of Agriculture (IDOA)***

State law regarding solar energy facilities requires Rutland East Solar Farm, LLC to initiate an Agricultural Impact Mitigation Agreement (AIMA) with the Illinois Department of Agriculture (IDOA) to ensure specific development standards are implemented regarding the construction, decommissioning, and operation of the facility. RESF executed an AIMA with the IDOA on October 7<sup>th</sup>, 2024, countersigned by the IDOA director on October 8<sup>th</sup>, 2024. The fully executed AIMA can be found in **EXHIBIT P**.

## **VII. Vegetation Management & Landscape Plan**

### ***Vegetation Management Plan***

RESF is committed to implementing a comprehensive vegetation management plan for the duration of the project. The project will abide by the Illinois Department of Natural Resources (IDNR) guidelines and will utilize comprehensive methods to protect the health of vegetation onsite. To control noxious weeds and erosion in the project area, disturbed areas will be seeded with a native grass mix, including pollinator-friendly wildflowers. Plantings will be chosen to prevent erosion and help manage stormwater runoff.

The Applicant will consult a local ecologist for a preliminary evaluation to identify and subsequently remove all invasive species. Following completion of the finished grade, an approved native seed mix will be planted. Regular vegetation management will be conducted multiple times annually during the growing season. This proactive approach will minimize shading on the solar modules and ensure the maintenance of a well-kept site.

The proposed facility is planning to construct a fixed knot farm fence.



**Photo 3.** Example of Fixed Farm Knot Fence on Solar Site

RESF will implement a strict Weed Management Plan:

**Early Eradication:**

- ❖ Initiate eradication of invasive species before any ground-disturbing activities commences with the collaboration of the County and a local ecologist.

**Strategic Seeding with Native Mix:**

- ❖ Utilize native grasses and pollinator-friendly seed mix.
- ❖ Engage a professional with expertise in re-vegetation to approve a final seed mix, ensuring compatibility with local conditions.

**Regular Mowing:**

- ❖ Establish a routine maintenance schedule, including a minimum of 6 mowings per year within the project area.
- ❖ Adjust the frequency of mowing or grazing as needed, potentially conducting these activities during the growing season to effectively manage vegetation.

**Long-Term Monitoring and Retreatment:**

- ❖ Recognizing the longevity of weed seeds in the soil, commit to a comprehensive, long-term site and weed management process.
- ❖ Regularly monitor for any resurgence of weeds.
- ❖ Revisit areas as necessary using industry-standard weed management practices and procedures.
- ❖ Once grasses are established spot mowing and hand pulling will be administered to maintain vegetation and limit weeds.

### ***Vegetation Plan***

Subject to change, the proposed vegetation for the Rutland East Solar Farm project will consist of the Butterfly Milkweed, Spiderwort, Stiff Coreopsis, and Calico Beardtongue. As part of the planting & maintenance plan RESF proposes the following:

- ❖ Planned plant diversity in rows and under solar arrays.
- ❖ Seeding used for native perimeter and buffer areas.
- ❖ Planned number of native species in perimeter and buffer areas.
- ❖ Planned percentage of perimeter and buffer area dominated by desirable wildflowers.
- ❖ Habitat site preparation prior to implementation.

Proposed vegetation seed mixtures can be found in **EXHIBIT C**.



Butterfly Milkweed



Spiderwort



Stiff Coreopsis



Calico Beardtongue

**Photo 4.** Proposed Vegetation



### ***Pollinators***

Proposed pollinator-friendly wildflowers to minimize weeds and erosion for the life of the project.



***Photo 5. Pollinators on a solar site***



**Hoary Vervain**



**Golden Alexanders**



**Black-eyed Susan**



**Purple Prairie Clover**

***Photo 6. Proposed Pollinators for the Rutland East Solar Farm, LLC project site***



**Landscape Plan**

The vegetation proposed for the Rutland East Solar Farm, LLC will consist of native trees and shrubs such as the Serviceberry, Eastern Redbud, American Hazelnut, Shubby St. Johns Wort, and Arbor vitae. These plants have been selected for privacy and visual appeal and all species are native to the area.



**Photo 7. Proposed Landscape and Native Species**



**Photo 8. Rendered Image of Vegetation Buffer, Fixed Farm Knot Fence (8 ft tall) and Solar Panels (50 feet setback back property line. Simulated at 5-year growth and 15-year growth.**

## VIII. Decommissioning

RESF is subject to decommissioning as per the guidelines set forth in the AIMA executed with the IDOA and under Kane County code. All community solar facilities must, by state law, execute an agreement with the department to ensure the decommissioning of the system is successfully executed when the project reaches the effective end of its lifecycle.

In conformance with the AIMA, the Applicant must file a decommissioning plan with the AHJ responsible for approving the facility. Both the decommissioning plan and the required financial surety or bond will be placed with Kane County to ensure the necessary decommissioning capital is available and the site is restored to its pre-construction condition. Restoration will allow the site to be returned to agriculture after decommissioning and appropriate measures will be implemented to fulfill this objective.

Facility decommissioning is described as the removal of all system components and rehabilitation of the site to pre-construction conditions. The facility's components will either be recycled to then current standards recommended at the time of decommissioning, sold to third parties, properly disposed of, or donated to non-profit organizations if there is a need.

The decommissioning of RESF will proceed in the reverse order of installation. The step-by-step process to decommission the facility is as follows:

- 1.) The facility will be disconnected from the local utility power grid.
- 2.) Modules will be disconnected from the racking system.
- 3.) Racking systems will be disconnected, disassembled, and recycled (if possible).
- 4.) Steel foundation will be removed and recycled by an approved metals recycler.
- 5.) Above ground electrical interconnection cables will be removed and recycled or disposed of offsite at an approved facility.
- 6.) During the disassembly process, all equipment will be segregated and temporarily placed on site for transportation to its recycling or disposal facility.
- 7.) Electrical and electronic devices such as transformers & inverters will be removed and recycled or disposed of offsite.
- 8.) Fencing will be removed once all materials have been transported to offsite recycling facilities. This would then conclude the decommissioning process of the facility.

**EXHIBIT K** details a certified estimate of capital needed to decommission the site prepared by TRC Companies, Inc. Per state law, the Applicant must post a decommissioning bond equal to the cost of decommissioning. Prior to the issuance of construction permits, the Applicant will engage a third-party engineer to review projected expenses to ensure the bonded decommissioning funds are accurate and sufficient to cover costs. Once reviewed, the engineer's decommissioning estimates will be submitted to County staff for further review and final approval. The Applicant's preliminary Decommissioning Cost Estimates can be found in **EXHIBIT K** and are subject to change.

## IX. Additional Considerations

Solar Agricultural use has a variety of benefits, including the following:

- ❖ Solar farms preserve the land for future agricultural use, rather than a permanent impact by other types of development. After the project's lifecycle concludes, the Applicant is required to decommission and restore the site for agricultural use.
- ❖ No harmful chemicals are released into the ground.
- ❖ There will be native vegetation onsite, suitable for pollinators and other species.
- ❖ With a lack of regular agricultural use, the fallow ground helps preserve and restore groundwater and aquifers.
- ❖ An overall decrease in carbon emissions is attributed to public utilities and power generation due to the production of renewable energy.
- ❖ Overall, minimal impacts on adjacent properties with a fully functional, well-maintained use that promotes public safety through noise and glare reduction, while being a good neighbor.

We ask for the members of the Kane County Zoning Board of Appeals and the Kane County Board to consider these benefits and upon thorough review, approve the issuance of a special use permit.

## X. Insurance Information

Rutland East Solar Farm, LLC will be required to maintain insurance coverage under long-term contracts with various parties, including Commonwealth Edison, participating lenders, and investors.

## XI. Interconnection

- ❖ The Applicant has filed an interconnection application with ComEd and will provide a redacted copy of the Interconnection Agreement prior to the start of construction.
- ❖ The project will interconnect with ComEd's distribution system as illustrated on the site plan.

Evidence of an Interconnection Application with the Utility Company can be found in **EXHIBIT L**.

## XII. Concluding Remarks

On behalf of the Rutland East Solar Farm, LLC project team, I'd like to thank you in advance for the time spent reviewing our application. We look forward to presenting our submittal at the Zoning Board of Appeals next meeting. In the interim, please contact us with any questions regarding our submittal or if any additional information is required.

Sincerely,

Robert McNeill

Project Development Manager

Rutland East Solar Farm, LLC

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## EXHIBIT A: Site Plot

## EXHIBIT B: Boundary Survey

## EXHIBIT C: Landscape Plan (*Proposed Seed Mixtures*)

EXHIBIT D: Glare Study  
and  
FAA Notice Criteria Filing

## EXHIBIT E: Product Cut Sheets



## EXHIBIT F: Wetland Delineation Report

## EXHIBIT G: USFWS No Effect Letter

## EXHIBIT H: IDNR EcoCat

## EXHIBIT I: SHPO Response Letter

## EXHIBIT J: NRI Report

## EXHIBIT K: Decommissioning Plan & Cost Estimates

## EXHIBIT L: Evidence of Interconnection Application with the Utility Company

## EXHIBIT M: Legal Description



## EXHIBIT N: Local Jurisdictional Contacts

## EXHIBIT O: Evidence of Outreach to Road Authority

## EXHIBIT P: Agricultural Impact Mitigation Agreement (AIMA)

## EXHIBIT Q: Solar Photovoltaic Module Composition (MSDS Report)

## EXHIBIT R: Drain Tile Mitigation Plan

## EXHIBIT S: Conformance To Stormwater Management

## EXHIBIT T: Noise Study

## EXHIBIT U: Subsurface Soil Exploration



## EXHIBIT V: Phase 1 ESA