Memorandum

DATE: October 16, 2018

TO: Village of Poplar Grove Planning and Zoning Commission

FROM: Gina DelRose, Community Development Planner

SUBJECT: Staff advisory memo for case: 2018-08: Poplar Grove Solar, LLC, 4324 IL Route 173 (West Half)

REQUEST AND LOCATION:
The applicant, Poplar Grove Solar, PO Box 310, Highland Park, IL 60035, on behalf of the property owner, DYN 173, LLC (First Midwest Group), 6801 Spring Creek Road, Rockford, IL 61114, is requesting a special use to install non-building mounted solar collectors (total of 18 acres, western phase) for export of energy for use by an electrical utility at 4324 Illinois Route 173 within LI, Light Industrial District (Poplar Grove Zoning Ordinance Sections 8-6-11-B-2 and 8-5-7 Special Use. Part of PIN: 03-14-300-002. The property is rectangular in shape and is currently being farmed. The solar farm will be on the northwestern part of the property, away from Illinois Route 173. There is a cluster of single family residential to the east and a farmstead to the northwest.

BACKGROUND:
The property is currently zoned light industrial on the western half and general business on the eastern half and was annexed into the Village of Poplar Grove in 2005. Along with the special uses for Phase 1 (east half) and Phase II (west half) of a solar farm, the applicant has also petitioned for a rezoning of the northeastern half of the property to Light Industrial. The Light Industrial District allows for vehicle related sales/services, light manufacturing/industrial and wireless communication facilities by right and rail transit stations, airports/heliports and indoor warehouse/wholesale by special use. Development in the light industrial district can create 65% lot coverage, buildings can be 50 feet in height and constructed 20 feet from the side lot line and 30 feet from the rear lot line.

Although traditional development is permitted 20 feet from the western property line and 30 feet from the northern property line, the solar panels will be constructed 75 feet from the western property line and 30 feet from the northern property line.

The special uses consist of Phase II of a two phase soar The special use consists of two adjacent projects totaling 36 acres and encompassing an area approximately 2,215 feet wide and 600 feet deep, not including access roads and power lines. The front portion of the property will remain in agricultural production. The projects are designed to be Community Solar projects, allowing residences and businesses to subscribe to use the electricity. The projects will be 2 MW AC each in size and are anticipated to power 600-800 homes. Once the projects are completed, there will be minimal traffic generated from the routine monitoring and maintenance of the property.

The solar panels will be up to 12 feet in height and mounted into the ground on poles, not concrete pads. The panels will be configured in a north-south layout with the capability to rotate in order to track the sun throughout the day. There will be an anti-reflective coating placed on

the panels to help minimize glare. Due to the mounting style of the solar panels, there will be minimal lot coverage; however, there will be a 6'x10' concrete pad for the transformer associated with each project as well as a set of three onsite poles that will convey power lines to the utility owned poles. Electrical collection lines will be underground and brought together for connection to the transmission network rather than directly to a substation. Security lighting is not anticipated to be used; there will, however, be a 7' chain link fence and warning signs around the perimeter of the projects.

The projects have a 25-year design life and all equipment (above and below ground) will be required to be removed and the site restored per the approved decommissioning plan. The projects will be required to be landscaped with low maintenance plants that act as natural pollinators. These plantings shall be reviewed and approved by the Boone County Conservation District.

According to the Natural Resources Inventory Report (NRI) #1594 there is a drainage way on the western half of the property (Phase II) and agricultural drainage tiles that serve the properties to the west and north that traverse the subject property. The tiles feed into a tile breather located south of Illinois 173. Since an NRI was not done at time of annexation or rezoning, these factors were not considered during the rezoning of the property. Through the special use process conditions such as leaving the drainage ways unobstructed and locating and protecting the agricultural drainage tile system can be enacted to help minimize the negative impacts to adjacent property owners.

Construction of special uses shall begin within 365 days of their approval and special uses shall be operational within 730 days of approval by the Village Board. Due to the regulations of the Illinois Power Agency and the Illinois Commerce Commission, it is anticipated that the project could take longer than the permitted time to begin work and be completed. Application for extensions shall be submitted at the appropriate time.

The adjacent property owners were sent certified notices on August 3, 2018 and the green cards have been returned. The request was published in the Boone County Journal on August 3, 2018. The appropriate village staff and other agencies were notified on August 3, 2018. No objections from the agencies were received.

FINDINGS OF FACT:
Per Section 8-5-7(D) of the Village of Poplar Grove Zoning Ordinance, the criteria for granting a Special Use Permit are as follows:

A. **Findings: The establishment, maintenance or operation of the special use would not be detrimental to or endanger the public health, safety, morals, comfort or general welfare.**

There are many kinds of solar farms, each having their own set of environmental impacts. Solar farms can be thousands of acres in size, some require that all vegetation be removed which impacts wildlife by loss of habitat, some are constructed on cement pads that increase surface water run-off, some radiate heat and some feed into a tower that can be dangerous for birds and insects. The proposed solar farm will be 36 acres in size, have adequate vegetation, create minimal surface water run-off and is not anticipated to create a noticeable amount of heat or glare.

Considering the existing zoning of the property and the potential development that is permitted, the solar farms, with proper conditions of approval, would have less of an impact to neighboring properties. An increased setback is being utilized along the west property line to provide an additional buffer between the project and nearby properties. The addition of pollinating plants will benefit the community while providing a low maintenance vegetative cover rather than grass seed which can become unsightly.

B. **Findings: The special use would not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted or substantially diminish or impair property values within the neighborhood.**

Industrial and commercial development are already permitted. The solar farm will be required to adhere to all local, state and federal regulations in addition to the conditions of approval. The height (and potential shadow casting) and lot coverage of the solar panels are less than what is permitted while the setbacks are greater. The amount of traffic generated by the solar farm is less than an industrial or commercial development would create. Due to the NRI report, drainage ways and agricultural drainage tiles were discovered and can now be protected.

C. **Findings: The establishment of the special use will not impede the normal or orderly development and improvements of the surrounding property for uses permitted in the district.**

The solar farms are not anticipated to impact the ability for the surrounding properties to be used agriculturally. The addition of pollinators is intended to be a benefit to the agricultural community. The solar farm is not anticipated to create additional heat, odor, light or noise that would infringe on the nearby residents' enjoyment of their properties.

D. **Findings: Adequate utilities, access roads, drainage and/or necessary facilities will be provided.**

The property is located along Illinois Route 173 which can adequately handle construction equipment and increased traffic during construction. Access roads, drainage and additional power lines and power poles will be installed by the developer in accordance to the project's needs and submitted narrative and site plan.

E. **Findings: Adequate measures have been taken to provide ingress or egress so designed as to minimize traffic congestion in the public streets.**

Once construction of the special use is complete there will be minimal traffic generated by the routine maintenance and monitoring of the site. An access road will be wide enough to handle two-way traffic for instance when multiple vehicles are present.

F. **Findings: The special use shall, in all other respects, conform to the applicable regulations of the districts in which it is located.**

The special use will be required to conform to all the applicable regulations of the Zoning Ordinance, the Subdivision Ordinance, all other regulations and to any conditions of approval enacted by the Village Board.

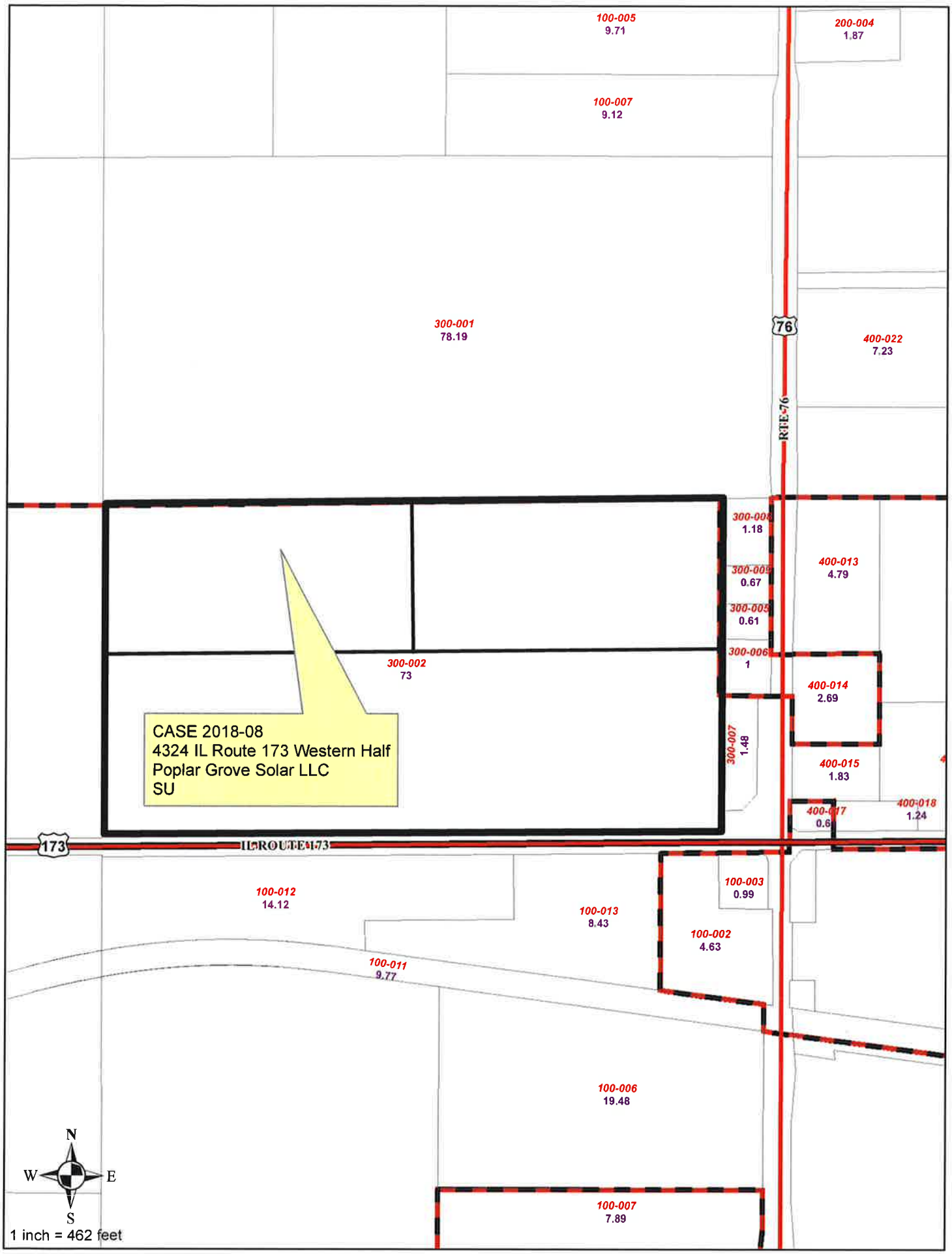
RECOMMENDATION:
The planning staff recommends approval of case 2018-08 subject to following conditions:

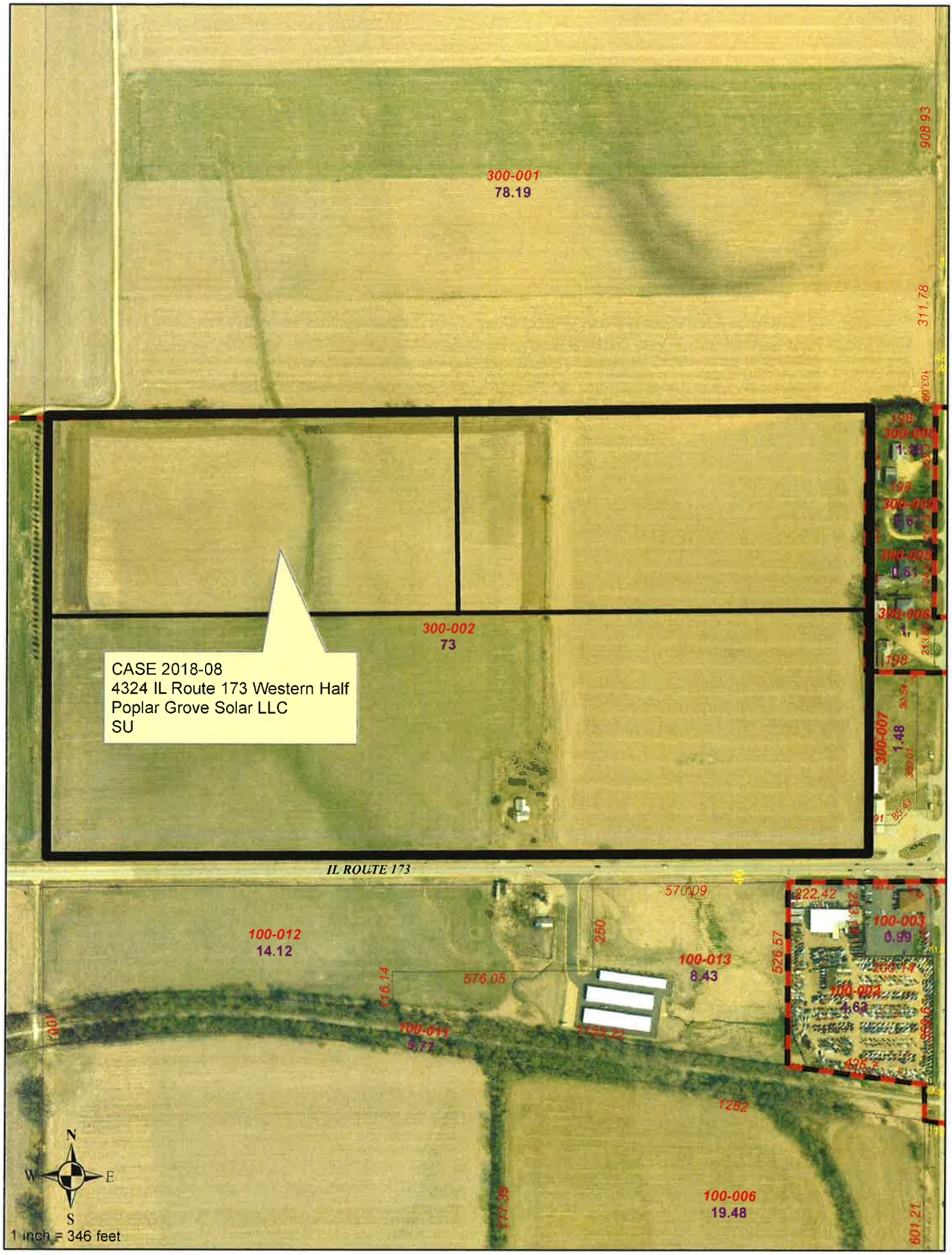
1. Substantial compliance with the narrative and site plan submitted, unless otherwise noted.
2. All vegetation shall be approved by the Boone County Conservation District. Pollinator friendly vegetation shall be used.
3. A decommissioning and reclamation plan shall be submitted to and approved by the Village of Poplar Grove prior to the commencement of the development.
4. A surety, covering the complete execution of the decommissioning and reclamation plan for when the project ends shall be posted prior to the commencement of the development.
5. An agricultural drainage tile system survey shall be conducted prior to commencement of the project. All identified drain tile shall be protected and repaired if damaged.
6. The drainage way located in Phase II shall be left unobstructed.
7. The applicant shall provide training to Boone County Fire District 3 pertaining to the hazards in conducting fire control and extinguishment of the proposed solar system.

PLANNING AND ZONING COMMISSION/VILLAGE BOARD ACTION
The Planning and Zoning Commission shall make and forward findings of fact as to the compliance of the proposed special use with the standards and make a recommendation to the Village Board. The Village Board shall review the findings and recommendation and may accept or reject the findings and recommendation of the Planning and Zoning Commission in whole or in part; or the Village Board may refer the matter back to the Planning and Zoning Commission for further consideration. Any approval shall be considered the approval of a unique request and not be construed as precedent for any other proposed special use.

ATTACHMENTS

1. Location Map submitted by Planning Staff.
2. Aerial Photo submitted by Planning Staff.
3. Narrative submitted by the Applicant.
4. Site Plan submitted by the Applicant.
5. Site pictures from NRI #1594.
6. Overview and Opinion from NRI #1594.
7. Drainage way and agricultural drainage tile information from NRI #1594.
8. Letter from Boone County Health Department, Amanda Mehl, October 11, 2018.
9. Letter from Illinois Department of Transportation, Kevin Marchek, October 11, 2018.


100-005
9.71
200-004
1.87
100-007
9.12
300-001
78.19
76
400-022
7.23
RTE-76
300-008
1.18
400-013
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300-005
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300-009
0.61
300-006
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300-002
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400-014
2.69
CASE 2018-08
4324 IL Route 173 Western Half
Poplar Grove Solar LLC
SU
300-007
1.48
400-015
1.83
400-018
1.24
400-017
0.6
173
IL ROUTE 173
100-012
14.12
100-003
0.99
100-013
8.43
100-002
4.63
100-011
9.77
100-006
19.48
100-007
7.89
N
W
E
S
1 inch = 462 feet


300-001
78.19
908.93
311.78
300-002
73
CASE 2018-08
4324 IL Route 173 Western Half
Poplar Grove Solar LLC
SU
300-007
1.48
IL ROUTE 173
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100-003
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100-012
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100-011
9.77
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1282
100-006
19.48
777.39
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1 inch = 346 feet

EXECUTIVE SUMMARY

Poplar Grove Solar – Phase 2

Poplar Grove Solar, LLC - Phase 2 (the "Applicant") proposes to develop a community solar project approximately 2 MW AC in size, on approximately 17 acres of land located north of Illinois Route 173 and west of Fairgrounds Road in the Village of Poplar Grove, Boone County, Illinois. The Poplar Grove Solar, LLC community solar project (the "Solar Project") will be located within a portion of the parcel with PIN 03-14-300-002 (the "Project Parcel") owned by DYN 173, LLC (the "Landowner"). The Applicant is submitting this Petition for Special Use pursuant to and in compliance with the requirements set forth under Sections 8-5-4 and 8-5-7 of the Village of Poplar Grove Zoning Ordinance (the "Zoning Ordinance"), as amended by the Applicant's approved Text Amendment Submitted July 24th, 2017.

The proposed Solar Project will serve the electricity needs of 300 to 400 homes. Once installed and commissioned, the Solar Project will be continuously monitored, and engineers and maintenance technicians will visit the Solar Project a few times a year for routine maintenance and any required repairs. Post-construction, the Solar Project will generate minimal traffic, with visits to the site occurring solely in connection with routine and required maintenance.

About Trajectory Energy Partners, LLC

Poplar Grove Solar, LLC is a wholly owned indirect subsidiary of Trajectory Energy Partners, LLC. Trajectory Energy Partners, LLC brings together communities, organizations, and land owners to develop clean energy projects that are integrated into the local landscape and community.

The Future Energy Jobs Act and Community Solar Projects

Under Illinois Public Act 99-0906, commonly known as the Future Energy Jobs Act ("FEJA"), the Illinois Power Agency is currently promulgating a set of regulations and incentives to allow the creation of such community solar projects. The Solar Project is intended to be a community solar project under FEJA, which would allow residential and commercial customers to subscribe to the Solar Project. The Solar Project will support FEJA's goals of increasing the adoption and availability of renewable energy to Illinois residents and businesses.

Economic and Environmental Benefits

The Solar Project will provide economic and environmental benefits to the community. Poplar Grove residents and businesses will have an opportunity to subscribe to the Solar Project. These subscribers will support clean energy in their community while benefiting from savings on their electricity bills. In addition, the Solar Project will create new tax revenues for the community and generate economic activity through local construction, materials, and services.

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Exhibit A: Project Location

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Exhibit C: Zoning Diagram

Exhibit D: EcoCAT Consultation

Exhibit E: Impacts Study

I. APPLICANT INFORMATION

The Applicant is a limited liability company, a wholly owned indirect subsidiary of Trajectory Energy Partners, LLC. Jonathan Carson is an Authorized Representative of the Applicant.

Applicant:

Poplar Grove Solar, LLC
c/o Trajectory Energy Partners, LLC
Attn: Jon Carson
P.O. Box 310
Highland Park, IL 60035
(312) 882-3713
legal@trajectoryenergy.com

Landowner:

DYN 173, LLC
c/o First Midwest Group
Attn: Marvin L. Keys
6801 Spring Creek Road
Rockford, IL, 61114
(815)-229-3000

II. PROJECT DESCRIPTION

a. General Description

The Solar Project will be located on approximately 17 acres in the Village of Poplar Grove, Section 14, Township 45 North, Range 3, Boone County, Illinois, Property Index Number: 03-14-300-002. See Exhibit A: Project Location.

Legal Description

PIN 03-14-300-002:

THE SOUTH HALF OF THE SOUTHWEST QUARTER OF SECTION 14; ALSO ALL THAT PART OF THE NORTH HALF OF THE NORTHWEST QUARTER OF SECTION 23, LYING NORTH OF THE RIGHT OF WAY OF THE CHICAGO NORTHWESTERN RAILWAY COMPANY, EXCEPTING FROM THE ABOVE ONE ACRE IN SAID NORTHWEST QUARTER OF SECTION 23, DEEDED TO WAYNE WHEELER, AS APPEARS OF RECORD IN BOOK 94 OF DEEDS, PAGE 533, BOONE COUNTY RECORDS, AND EXCEPTING 4.84 ACRES IN THE SOUTH HALF OF THE SOUTHWEST QUARTER OF SECTION 14, DEED TO FLOYD NEWHOUSE, AS APPEARS OF RECORD IN BOOK 103 OF DEEDS, ON PAGE 444 ALSO EXCEPTING "TRACT A" CONTAINING .971 ACRES AND "TRACT B" CONTAINING 4.856 ACRES IN SOUTH HALF OF THE SOUTHWEST QUARTER OF SECTION 14 DEED TO FLOYD NEWHOUSE AND WIFE, AS APPEARS OF RECORD IN BOOK 111 OF DEEDS PAGE 359 BOONE COUNTY RECORDS AND ALSO EXCEPTING THAT PART OF THE NORTHWEST QUARTER OF SAID SECTION 23 DEED TO JOHN BULLARD AND

WIFE, AS APPEARS OF RECORD IN BOOK 106 OF DEEDS, ON PAGE 504 BOONE COUNTY RECORDS ALL OF THE ABOVE SITUATED IN TOWNSHIP 45 NORTH, RANGE 3 EAST OF THE THIRD PRINCIPAL MERIDIAN, IN BOONE COUNTY, STATE OF ILLINOIS AND MORE PARTICULARLY DESCRIBED AS FOLLOWS TO WIT:

PART OF THE SOUTHWEST QUARTER (1/4) OF SECTION FOURTEEN (14), TOWNSHIP FORTY-FIVE (45) NORTH, RANGE THREE (3) EAST OF THE THIRD (3RD) PRINCIPAL MERIDIAN, BOUNDED AND DESCRIBED AS FOLLOWS, TO WIT: BEGINNING AT THE SOUTHWEST CORNER OF THE SOUTHWEST QUARTER OF SAID SECTION; THENCE NORTH 00°36'51" EAST, ALONG THE WEST LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 1326.34 FEET TO
THE NORTH LINE OF THE SOUTH HALF OF THE SOUTHWEST QUARTER OF SAID SECTION; THENCE SOUTH 89°49'33" EAST, ALONG THE NORTH LINE OF THE SOUTH HALF OF THE SOUTHWEST QUARTER OF SAID SECTION, 2400.02 FEET TO THE WEST LINE OF TRACT "A" OF PREMISES CONVEYED ALLAN B. WARES TO FLOYD NEWHOUSE AND SHIRLEY NEWHOUSE BY QUIT CLAIM DEED DATED DECEMBER 26, 1952 AND RECORDED IN BOOK 111 OF DEEDS ON PAGE 359 IN THE RECORDER'S OFFICE OF BOONE COUNTY, ILLINOIS; THENCE SOUTH 00°38'50" WEST, ALONG THE WEST LINE OF TRACT "A" OF SAID PREMISES SO CONVEYED TO NEWHOUSE AS AFORESAID AND THE SOUTHERLY EXTENSION THEREOF, 1324.88 FEET TO THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SAID SECTION; THENCE NORTH 89°51'38" WEST, ALONG THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SAID SECTION, 2399.26 FEET TO THE POINT OF BEGINNING. SUBJECT TO THE RIGHTS OF THE PUBLIC AND STATE OF ILLINOIS IN AND TO THOSE PORTIONS THEREOF TAKEN, USE OR DEDICATED FOR PUBLIC ROAD PURPOSES. SITUATED IN THE COUNTY OF BOONE AND STATE OF ILLINOIS

The project is located on the portion of the Project Parcel that is currently zoned as Light Industrial District. Pursuant to the Applicant's requested text amendment under Sections 8-5-4 the Zoning Ordinance, solar farms are permitted as a special use in the Light Industrial District. See Exhibit C: Zoning Diagram.

b. Site Plan and Phases

A Site Plan detailing the placement of the solar arrays and proposed access is included in this application. The proposed Solar Project is indicated on the Site Plan as Phase 2. The Applicant is concurrently submitting a Special Use Application for Phase 1. Each Phase contains a single 2MW AC community solar farm. Pursuant to the regulations and policies implementing FEJA, a single parcel may contain up to two 2MW AC community solar farms. The incentives required to construct each community solar farm are intended to be allocated by lottery, and thus each Phase may be awarded such incentives separately, and if both receive incentives, at different times. Thus, the Applicant may construct Phase 2 prior to Phase 1, or may only construct one of the two Phases if incentives are not available for both Phases. See Exhibit B: Site Plan.

c. Equipment Detail

The Solar Project will consist of equipment to generate electricity from solar energy, including rows of photovoltaic cell panels on a single-axis tracking system, racking, inverters, and perimeter fencing. Support poles will be driven into the ground. Transformers and other electrical equipment will be located on one to two small concrete pads measuring approximately 6' x 10' for each Phase. Panels will be installed in a north-south configuration on a rotating mounting system that will track the sun throughout the day. The panels will be

designed with an anti-reflective coating to minimize glare from the Solar Project and prevent impacts to avian wildlife including birds and bats. The Solar Project is intended to operate for a period of at least 25 years and will be constructed with solar panels and other electrical equipment with long-term warranties and very low expected rates of replacement.

The components of the Solar Project will comply with the current edition of the National Electric Code and be UL listed or meet a comparable safety standard. The Solar Project's electrical collection lines will be underground and then brought together for connection to the transmission network rather than directly to a substation. For each Phase, three on-site poles will convey powerlines to utility-owned poles and on to a proposed interconnection point within the Solar Project's footprint. See Exhibit B: Site Plan.

d. Fencing, Access, Drainage and Landscaping

Each Phase of the Solar Project will be enclosed by a 7' chain-link fence, as required by the National Electrical Code. The Solar Project will be accessed from IL 173 along a dedicated access road and through a gated entrance with a maximum width of 24'.

Vegetation under and around the Solar Project will be maintained by periodic mowing, inspections, and weed management as appropriate. The Solar Project will add cover vegetation to the site that traditionally been utilized for row crop. In doing so, drainage and runoff is expected to improve through the improved absorption of rain and melting snow and ice. No impervious surfaces will be added to Parcel, with the exception of one to two small concrete pads measuring roughly 6' x 10' for each Phase. The Solar Project will adhere to the Illinois Environmental Protection Agency (IEPA) Construction Stormwater Permit Requirements.

In addition, the Solar Project will work with the Village and the Landowner to specify low-growing grasses or pollinator-friendly plantings to be planted as a buffer around the Solar Project. The pollinator-friendly species are intended to facilitate local pollinator habitat, improve water infiltration, prevent compaction, and control erosion while increasing microbial activity and production of organic matter.

e. Total Height of Solar Arrays and Other Structures

The total overall height of the facility will not exceed 12'.

f. Requested Duration

The Illinois Power Agency and Illinois Commerce Commission are currently finalizing rules for community solar projects under FEJA, and are not expected to have finalized those rules and opened applications for renewable energy credits until the end of 2018. The Applicant will not be able to move forward with constructing either Phase of the Solar Project until it has received approval for such renewable energy credits, and until weather and ground conditions are favorable for installation. Therefore, in order to anticipate any delays in the implementation of

FEJA or the required interconnection engineering work with ComEd, the Applicant requests that the duration of the Special Use Permit be set at 36 months.

g. Proposed Setback Dimensions

See Exhibit B: Site Plan

TABLE 1: SETBACK TABLE

	Village Requirement	Proposed Setbacks
Light Industrial: Front	30'	> 650'
Light Industrial: Western Side	20'	> 700'
Light Industrial: Eastern Side	20'	100' with buffer plantings proposed.
Light Industrial: Rear	30'	30'

See Exhibit B: Site Plan.

h. Environmental Impact

The Illinois Department of Natural Resources' Ecological Compliance Assessment Tool (EcoCAT) consultation has been terminated with respect to the Solar Project site. See Exhibit D: EcoCAT Consultation.

The Solar Project will comply with all local, state, and federal environmental regulations. A Natural Resource Inventory (NRI) has been requested from the Boone County Soil and Water Conservation District.

The Solar Project shall be constructed, operated and maintained in compliance with federal, state, and local laws, including with respect to the removal and disposal of solid waste generated thereby. The Solar Project will also be maintained in a clean and neat manner, and any such solid waste will be removed as appropriate, with all costs borne by the Applicant.

i. Ingress and Egress During Construction and Thereafter

One improved, gravel access road will provide ingress and egress from the Solar Project site to IL 173 both during construction and thereafter. The applicant will use a watering truck as necessary to control dust during construction. See Exhibit B: Site Plan.

j. Construction and Maintenance; Traffic

The active construction period for each Phase of the Solar Project is expected to begin at the earliest in Spring 2019 and the construction of each Phase will last approximately 3 to 6 months. Construction will require trucks no larger than a typical 18-wheeler to deliver materials to the site, and onsite equipment will be used to drive pilings into the ground and install the panels, supports, and tracking equipment. Construction workers and personnel will

arrive in pick-up trucks. Typically, solar installations do not require the use of cranes. Construction hours will follow a typical daily construction schedule.

The operations and maintenance of the Solar Project will generate minimal traffic. Because the Solar Project will be continuously monitored electronically off-site, engineers and maintenance technicians will visit the Solar Project a few times a year for routine maintenance and any repairs. Landscaping will be managed regularly during the growing season as described below.

k. Public Road Routes

The public road route will utilize IL 173, which is paved and designed for construction traffic.

l. Warning Signage

The Applicant will place signs warning of high voltage at the entrance to the solar facility as well as on the base of all pad mounted transformers. In addition, the Solar Project will prominently display a sign providing emergency contact information including the name of the solar facility, address, and the emergency contact telephone numbers for the Solar Project and the Operations and Maintenance contractor.

m. Conformance to Industry and Code Standards/Engineer Certification

The Solar Project will comply with all applicable local and county codes for the electrical, mechanical, and structural components of the facility.

n. Lighting

The Solar Project does not require lighting. No lighting will be installed.

o. Decommissioning

Upon the cessation of operations of the Solar Project, the Applicant will remove the installed Solar Project equipment and restore the site pursuant to its obligations to the Landowner, and will comply with the requirements of any governmental agency respecting the decommissioning and reclamation obligations for the Parcel. In connection with such decommissioning, the Applicant will remove the above-ground structures as well as the installed underground electrical equipment.

p. Property Value Impacts

Property valuation experts from CohnReznick have studied the value of properties that adjoin solar farms in Illinois and Indiana and concluded that the solar farms do not adversely affect the property values in either the short or long term.

The study included solar farms in Lasalle and Winnebago Counties in Illinois; as well as Elkhart, Lake, Madison, Marion and Porter Counties in Indiana. Experts analyzed property sale prices and marketability of single family homes and agricultural land that adjoins solar farms and compared this data to comparable properties in the same county. The study also included interviews with county assessors and local real estate professionals, all of whom concluded that

solar farms in their area had not impacted property values. Similar research has been conducted in other states across the U.S. and none of these studies have found that solar farms adversely affect nearby property values. Please see Exhibit E: Impacts Study.

q. Owners of Record

The following landowners are adjacent to the Project Parcel:

PIN#	Name/Trust No.	Street	City	Zip
03-15-400-011	LINDBERG, DONALD A TR	3952 IL ROUTE 173	Caledonia	61011
03-15-400-010	LINDBERG, DONALD A TR	3952 IL ROUTE 173	Caledonia	61011
03-14-300-001	LINDBERG, DONALD A TR	3952 IL ROUTE 173	Caledonia	61011
03-14-300-008	MCINTYRE, MICHAEL S & JANE A (HAAS)	15302 IL ROUTE 76	Poplar Grove	61065
03-14-300-009	RABE, DALE A & CANDY E	15270 IL ROUTE 76	Poplar Grove	61065
03-14-300-005	RABE, BENJAMIN	15246 IL ROUTE 76	Poplar Grove	61065
03-14-300-006	GUTHRIE, GLENN S & COLLEEN	15214 IL ROUTE 76	Poplar Grove	61065
03-14-300-007	DELIJAHN INCORPORATED	PO BOX 305	Caledonia	61011
03-23-100-003	NEBIU, ERGEN & NADRIT & MURAT	4481 IL ROUTE 173	Caledonia	61011
03-23-100-002	GRACEFFA, PETER J	4557 IL ROUTE 173	Caledonia	61011
03-23-100-013	POPLAR GROVE STORAGE LLC	6801 SPRING CREEK RD	Rockford	61114
03-23-100-012	DYN 173 LLC	6801 SPRING CREEK RD	Rockford	61114
03-22-200-002	BOONE/POPLAR GROVE LLC	6277 E RIVERSIDE BLVD	Rockford	61114

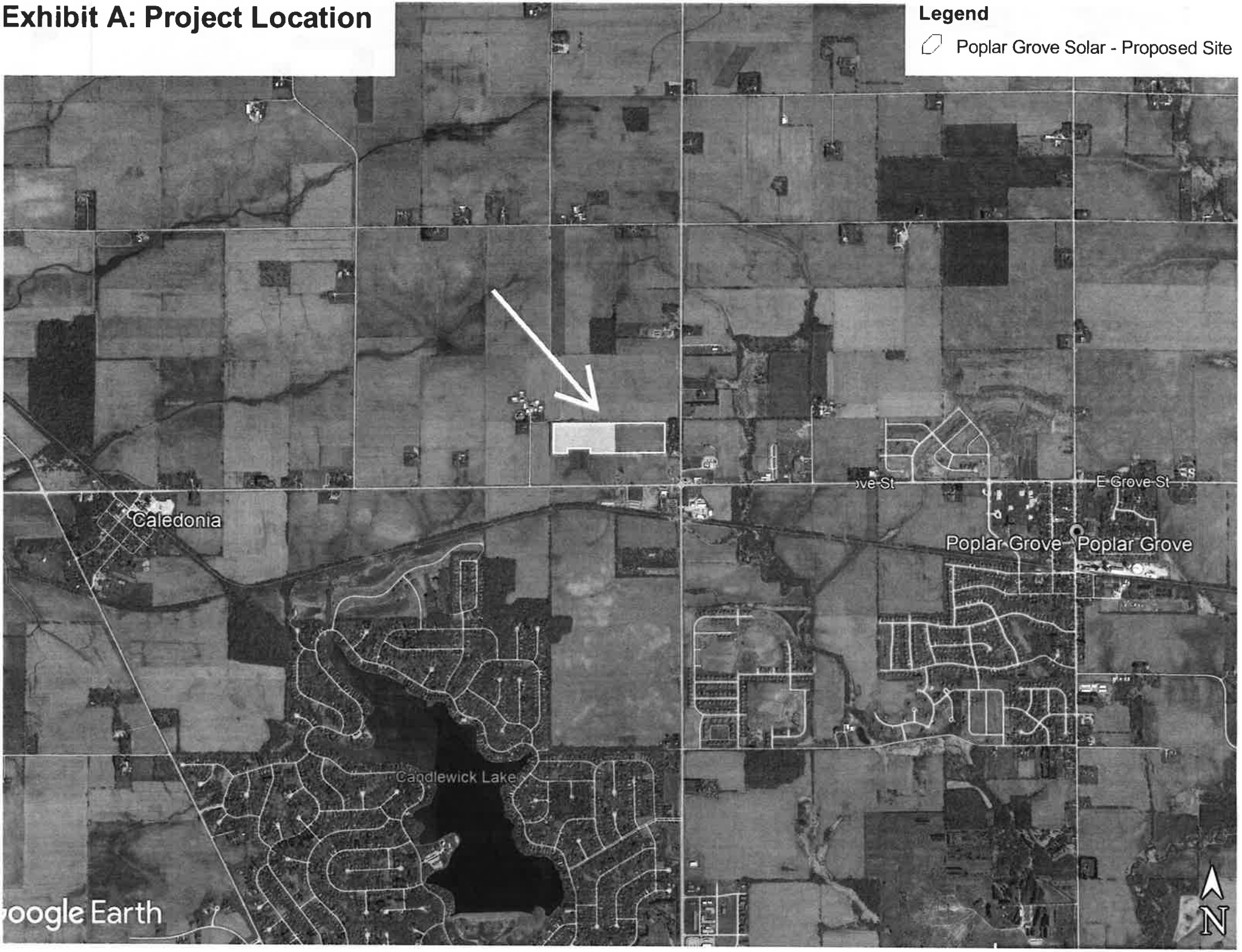
r. Special Use for Corporations, Partnerships, and Joint Venture

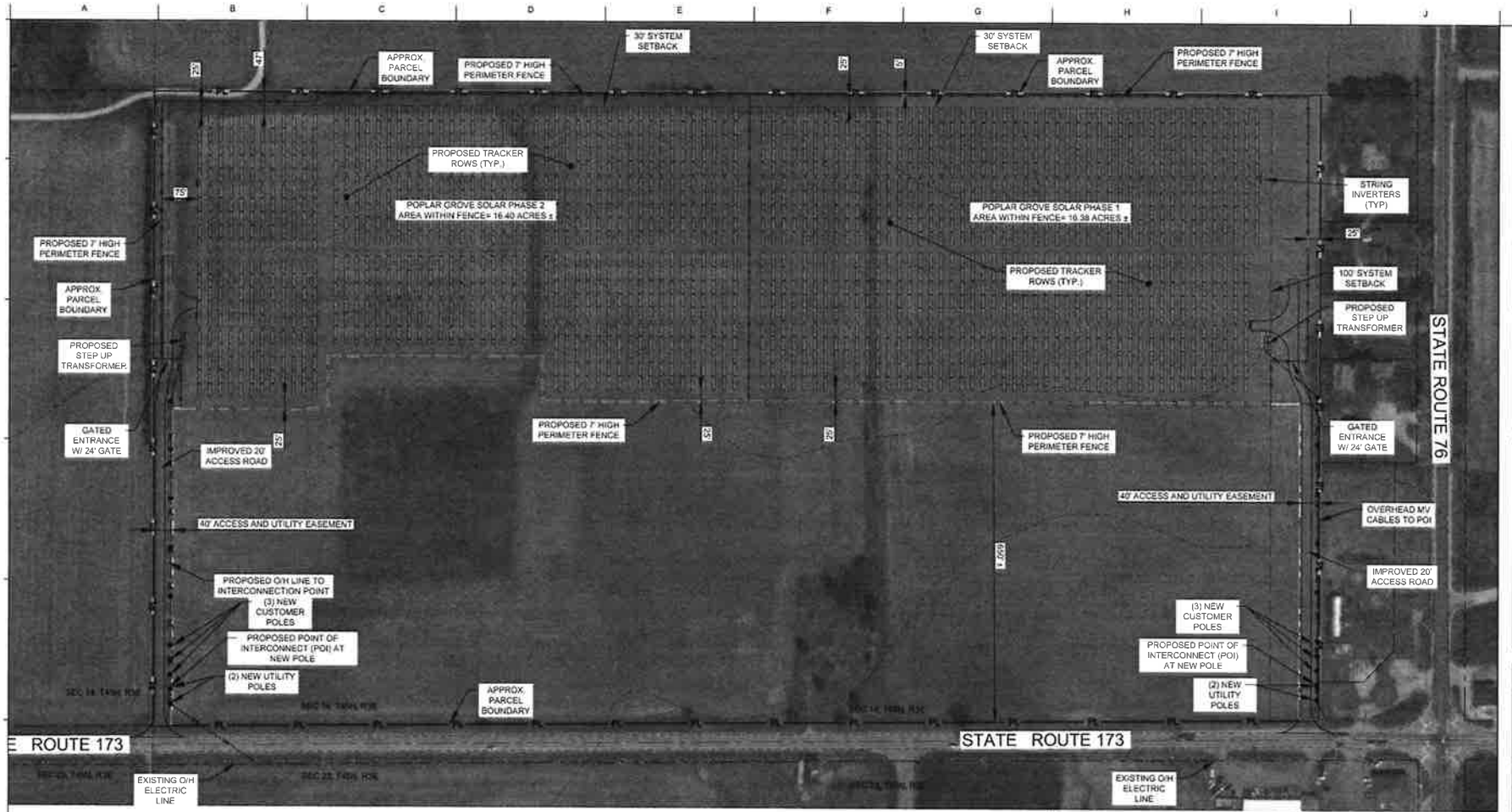
a. The Applicant is not a corporation, partnership or joint venture.
b. The Applicant is not doing business under an assumed name.
c. The Applicant is acting on its behalf.
d. Poplar Grove Solar, LLC is a wholly owned indirect subsidiary of Trajectory Energy Partners, LLC, P.O. Box 310, Highland Park, IL 60035.

s. Special Use Fees

The Applicant has enclosed the filing fee with this application.

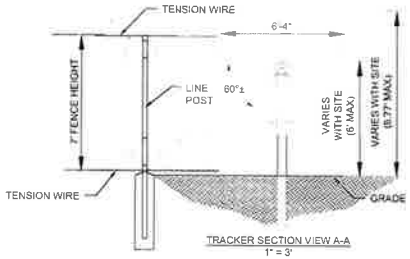
Exhibit A: Project Location





LEGEND

EXISTING		NEW
○	ELECTRICAL/TELEPHONE POLE	●
OH	OVERHEAD POWER LINE	OH
E	UNDERGROUND POWER LINE	E
	EXISTING FENCE	
	NEW CHAIN LINK FENCE	
PL	PROPERTY LINE	
	SETBACK LINE	
	CENTERLINE	
	STREAM / WATER COURSE	
215	MAJOR CONTOURS	215
214	MINOR CONTOURS	214
	SECTION LINE	



TRACKER SECTION VIEW A-A
1" = 3'

GENERAL NOTES

1. ALL DIMENSIONS SHOWN ARE APPROXIMATE AND SUBJECT TO CHANGE.
2. NO PERMANENT PARKING IS PROPOSED
3. NO PERMANENT SITE LIGHTING IS PROPOSED.
4. ALL EQUIPMENT SELECTION AND SPECIFICATIONS SUBJECT TO CHANGE WITH FINAL DESIGN.
5. NO RESIDENCES WITHIN 100' OF SYSTEM

SYSTEM DETAILS	
SITE AREA	35.21 ± ACRES
DC SYSTEM SIZE	5,232 KW
AC SYSTEM SIZE	4,000 KW
DC / AC RATIO	1.308
POCC/POI VOLTAGE	12.5KV
PHOTOVOLTAIC MODULES	
MANUFACTURER	TBD
MODEL	TBD
DC POWER @ STC	340 W
DC VOLTAGE	1500 V
MODULES PER STRING	27
TOTAL MODULES	15,390
INVERTERS	
MANUFACTURER	SUNGROW
MODEL	SG125HV
NOMINAL POWER RATING	125KW
TOTAL INVERTERS	32
SINGLE-AXIS TRACKER	
MANUFACTURER / MODEL	TBD
ROW SPACING	21'-6"
RANGE OF MOTION	+/- 60°

N

0 20' 50' 100' 200'
1" = 100'-0"

PRELIMINARY

SEAL:

CONFIDENTIALITY STATEMENT

THIS DRAWING AND ALL INFORMATION HEREIN IS THE PROPERTY OF ENGINEER. ANY REPRODUCTION, MODIFICATION OR USE OF THIS DRAWING FOR OTHER THAN THE INTENDED PROJECT WITHOUT PRIOR WRITTEN AUTHORIZATION FROM ENGINEER IS STRICTLY FORBIDDEN.

ENGINEERING MANAGER:

i1 Energy

i1 ENERGY, LLC
525 BIG BEND TRAIL
SUGAR HILL, GA 30518

OWNER/DEVELOPER:

Trajectory Energy Partners

TRAJECTORY ENERGY PARTNERS
P.O. BOX 310
HIGHLAND PARK, IL 60035

PROJECT: POPLAR GROVE SOLAR, LLC
42.373954 N, 88.856898 W
4324 IL HWY 173 (APPROXIMATE)
POPLAR GROVE, IL 61011
BOONE COUNTY, IL

REVISIONS		
#	DESCRIPTION	DATE
A	ISSUED FOR APPROVAL	23FEB18
B	ISSUED FOR INFORMATION	25JUL18

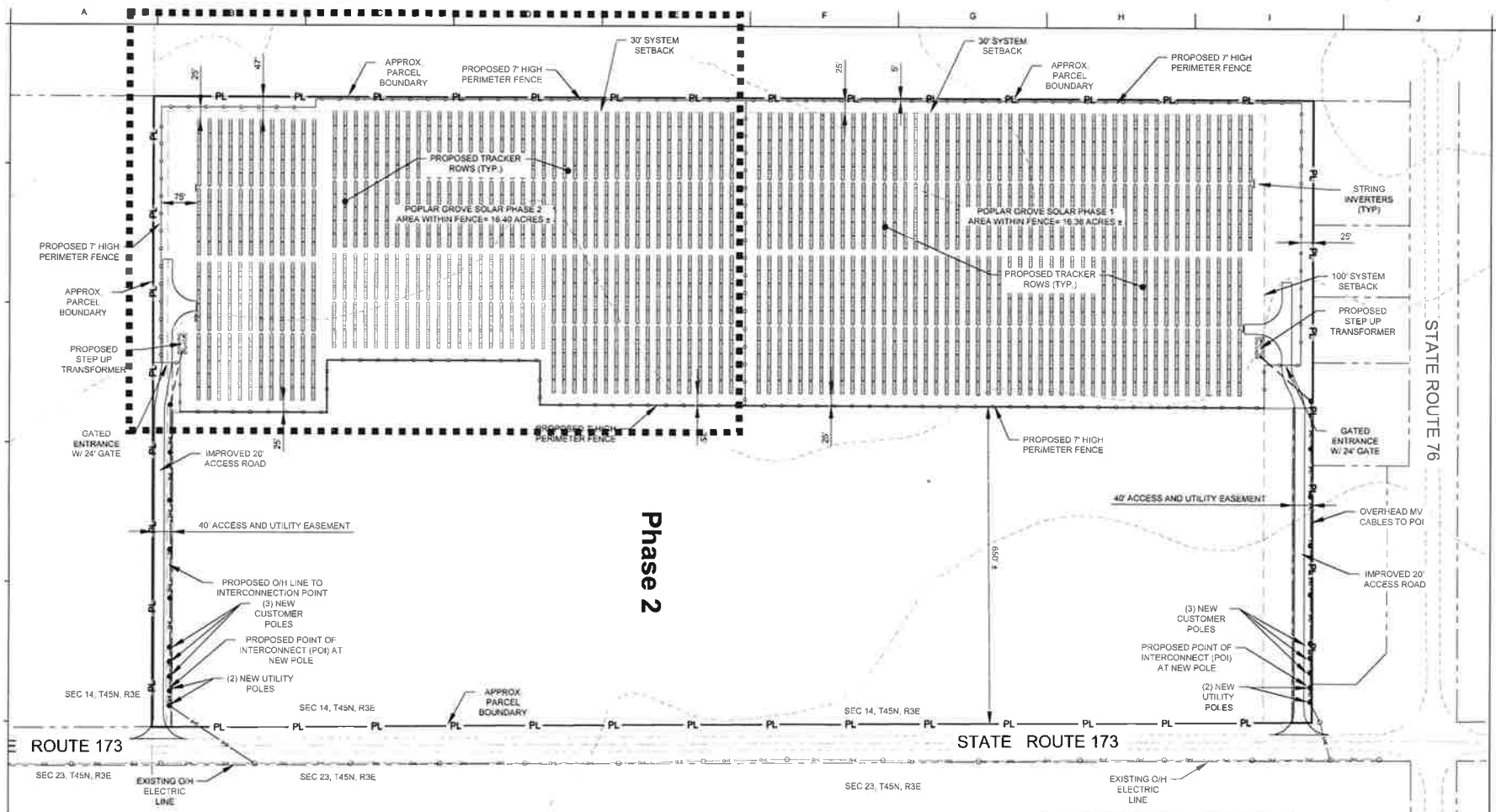
PROJECT NO.	DWN	CHK	APP	START DATE
	JCS	HSM	RJR	14FEB18

PLOT DATE: July 25, 2018

NOT FOR CONSTRUCTION

SHEET TITLE:
POPLAR GROVE SOLAR
PHASE 1 AND 2
CONCEPTUAL SITE PLAN

SHEET NO.
C-100

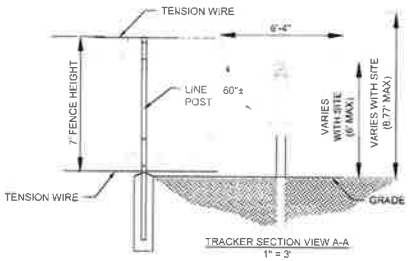


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SINGLE-AXIS TRACKER	
MANUFACTURER / MODEL	TBD
ROW SPACING	21'-6"
RANGE OF MOTION	+/- 60°

LEGEND

EXISTING		NEW
○	ELECTRICAL/TELEPHONE POLE	●
	OVERHEAD POWER LINE	OHL
	UNDERGROUND POWER LINE	E
	EXISTING FENCE	
	NEW CHAIN LINK FENCE	
PL	PROPERTY LINE	
	SETBACK LINE	
	CENTERLINE	
	STREAM / WATER COURSE	
215	MAJOR CONTOURS	
214	MINOR CONTOURS	
	SECTION LINE	



TRACKER SECTION VIEW A-A
1" = 3'

GENERAL NOTES

1. ALL DIMENSIONS SHOWN ARE APPROXIMATE AND SUBJECT TO CHANGE.
2. NO PERMANENT PARKING IS PROPOSED
3. NO PERMANENT SITE LIGHTING IS PROPOSED.
4. ALL EQUIPMENT SELECTION AND SPECIFICATIONS SUBJECT TO CHANGE WITH FINAL DESIGN.
5. NO RESIDENCES WITHIN 100' OF SYSTEM

N

0 20' 50' 100' 200'
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42.373954 N, 88.856896 W
4324 IL HWY 173 (APPROXIMATE)
POPLAR GROVE, IL 61011
BOONE COUNTY, IL

REVISIONS

#	DESCRIPTION	DATE
A	ISSUED FOR APPROVAL	2/21/2018
B	ISSUED FOR INFORMATION	2/5/2018

PROJECT NO.	DWN	CHK	APP	START DATE
	JCS	HRM	RJB	12/5/2018

PLOT DATE: July 25, 2018

NOT FOR CONSTRUCTION

SHEET TITLE:
POPLAR GROVE SOLAR
PHASE 1 AND 2
CONCEPTUAL SITE PLAN

SHEET NO.
C-100

4. Site Photographs



Figure 2. View toward AOI, looking northwest toward structures at 3952 Illinois Route 173, Caledonia, Illinois (top left); Area for proposed access road and chain link fence along western property boundary, looking north (top right); Drainage way (circled in orange), looking southeast (bottom).

15. Overview

This report details information for several natural resource topics. Most of the details for individual topics are presented in a special section. This section highlights the natural resource concerns, which are most important to this site, the environment, and the community:

1. The land evaluation score for this site is 84.42 (Table 13) and most soils are listed as prime farmland or prime farmland when drained (Table 6). The BCSWCD Board has historically opposed zoning changes with land evaluation scores of 69 points or higher; however, characteristics of the proposed project may also influence the Board's final decision.

2. It appears some solar arrays are proposed within a main drainage way (Figures 15 & 16). These areas should be left unobstructed to avoid additional ponding (Tables 9, & 10). Likewise, within a main drainage way Sable silty clay loam (68A) is present. This soil has characteristics that describe it as 85 percent hydric (Figure 9; Table 8), poorly drained (Table 9), and frequently ponds (Table 10). Approximately eight percent of the AOI contains hydric soils (Figure 9; Table 8)

3. Based on mapped soil types, topography, watershed data, and an onsite investigation, a complex agricultural drainage tile system is likely present and should be ***located and protected prior to construction***. During onsite inspection a main drainage way was noticeable near the northwest AOI boundary (Figure 2). Drainage tile maps have been provided from adjacent properties and illustrate several existing drainage tiles (some old clay tiles are also included) (Appendix D). References and maps show a natural drainage from northern border of the AOI trending south-southeast towards Illinois Route 173. Corn crop on this parcel currently masks evidence of any physical drainage way. Additionally, a tile breather south of Illinois Route 173 across from expected natural drainage way was observed during the site inspection, indicated water is likely being intercepted from the AOI and neighboring properties. If drainage tile systems are disrupted, additional ponding and flooding will likely occur.

4. Hydric soils are expected at this site, with approximately eight percent of the AOI expected to be hydric (Figure 9; Table 8).

5. Approximately 197 acres drain through this parcel and into Beaver Creek (Figure 10).

6. If this special use is approved and acreage of land disturbance is greater than one acre in size, a National Pollutant Discharge Elimination System Permit (NPDES Permit) will be required. Temporary soil stabilization, control of sediment during construction and permanent site stabilization after construction is completed is required under a NPDES permit.

2. Opinion of the BCSWCD Board

Jon Carson, on behalf of Trajectory Energy Partners, LLC., has submitted a request for a Natural Resources Information Report as part of an application for a Special Use for a solar energy facility in Section 14 of Poplar Grove Township. The Area of Interest (AOI) is less than a tenth of a mile west of the intersection of Illinois Route 76 and Illinois Route 173. The parcel identification number is 03-14-300-002; however, only about half of this parcel is proposed for the solar facility project.

The Boone County Soil & Water Conservation District Board has a

- [x] Favorable
- [ ] Unfavorable
- [ ] Other: _____

opinion of the proposed land use change. The Board concerns are stressed in the "Overview" section of the report. More detailed information is presented throughout the various sections of this document.

Signature of Board Chairman:

Bill Hall on 8-17-2018



Figure 16. Preliminary Conceptual Plan with Aerial Photograph. Preliminary site plan (provided by Trajectory Solar Partners) illustrates some solar arrays are proposed within main drainage way (circled in orange). This drainage area should be left unobstructed to avoid additional ponding (Tables 9 & 10). Approximate location of tile breather, south of Illinois Route 173, is also circled in orange, but not in AOI. The tile breather indicates water is likely being intercepted from the AOI and neighboring properties. If drainage tile systems are disrupted, additional ponding and flooding will likely occur. Drainage tiles should be located and protected prior to construction. Disruptions of tiles can also lead to additional ponding (Table 10).

Appendix D—Adjacent Property Tile Drainage Maps

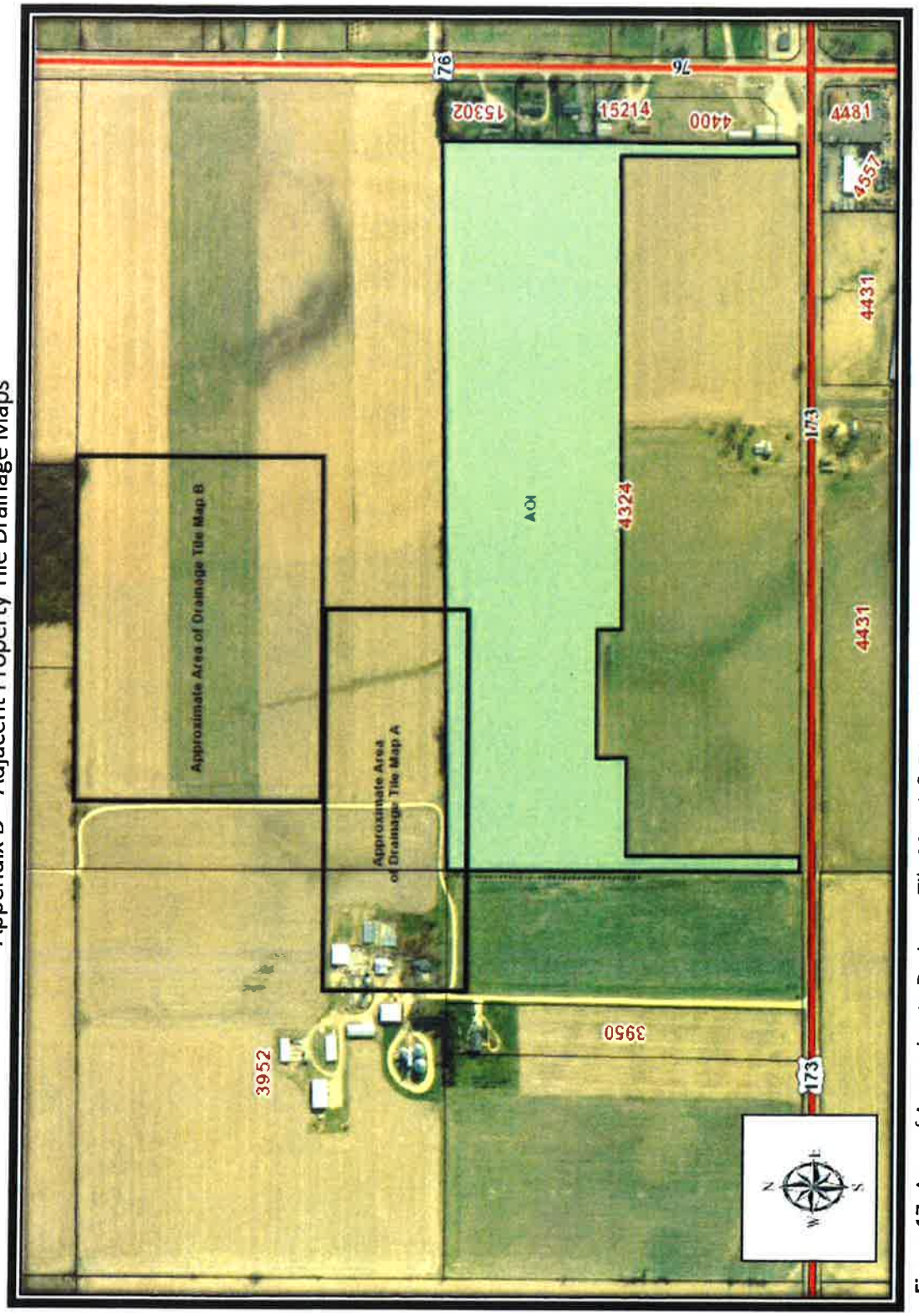


Figure 17. Area of Approximate Drainage Tile Map A & B Locations.

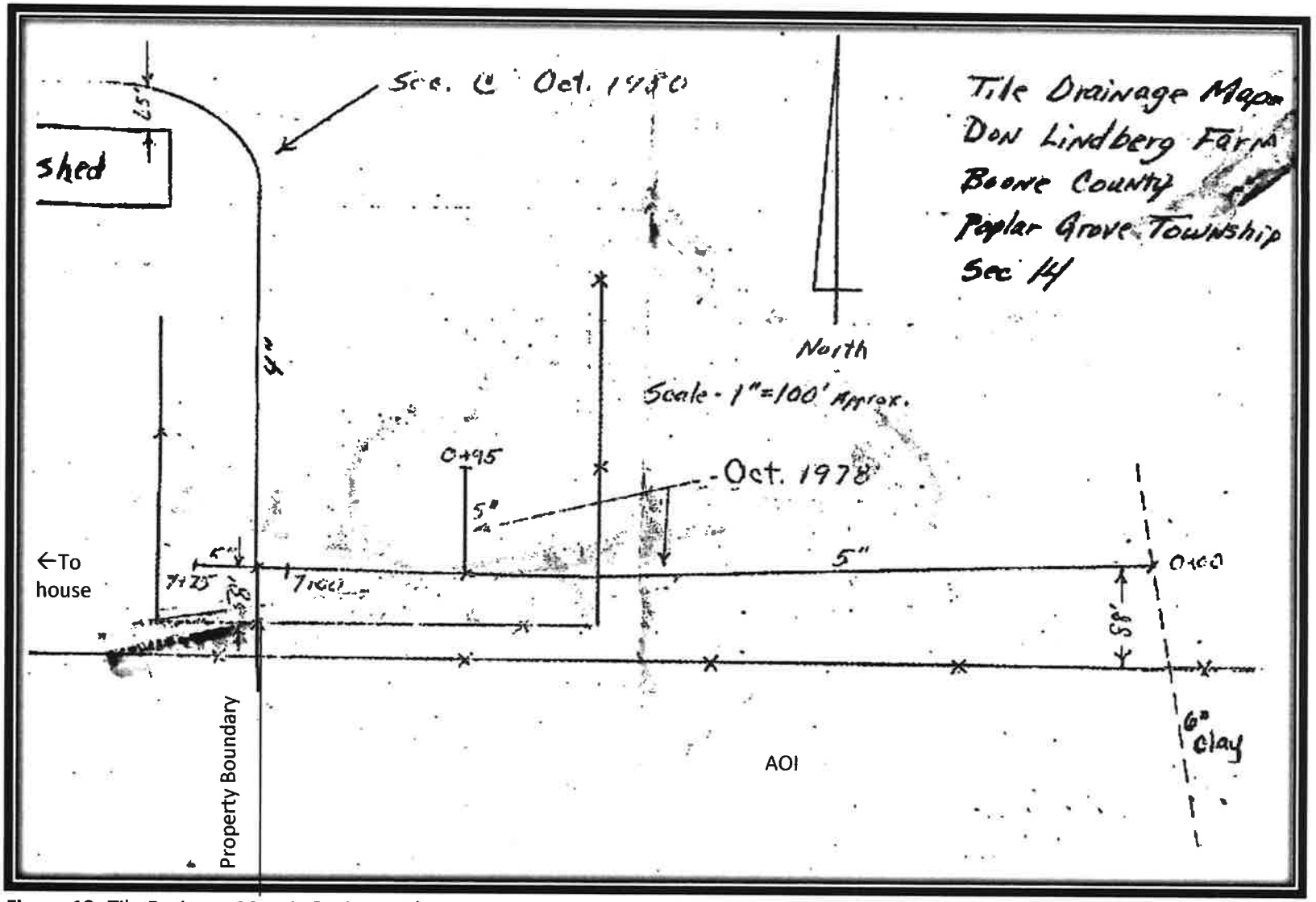


Figure 18. Tile Drainage Map A. Drainage tiles were mapped October of 1978 and 1980 by Lischka Drainage. Map illustrates there is a 6" clay tile present and enters into the AOI. There is approximately 2,980 linear feet of drainage tile mapped. Tile drainage map was provided by Don Lindberg August 15, 2018 and modified to define property boundary, location to house, and AOI.

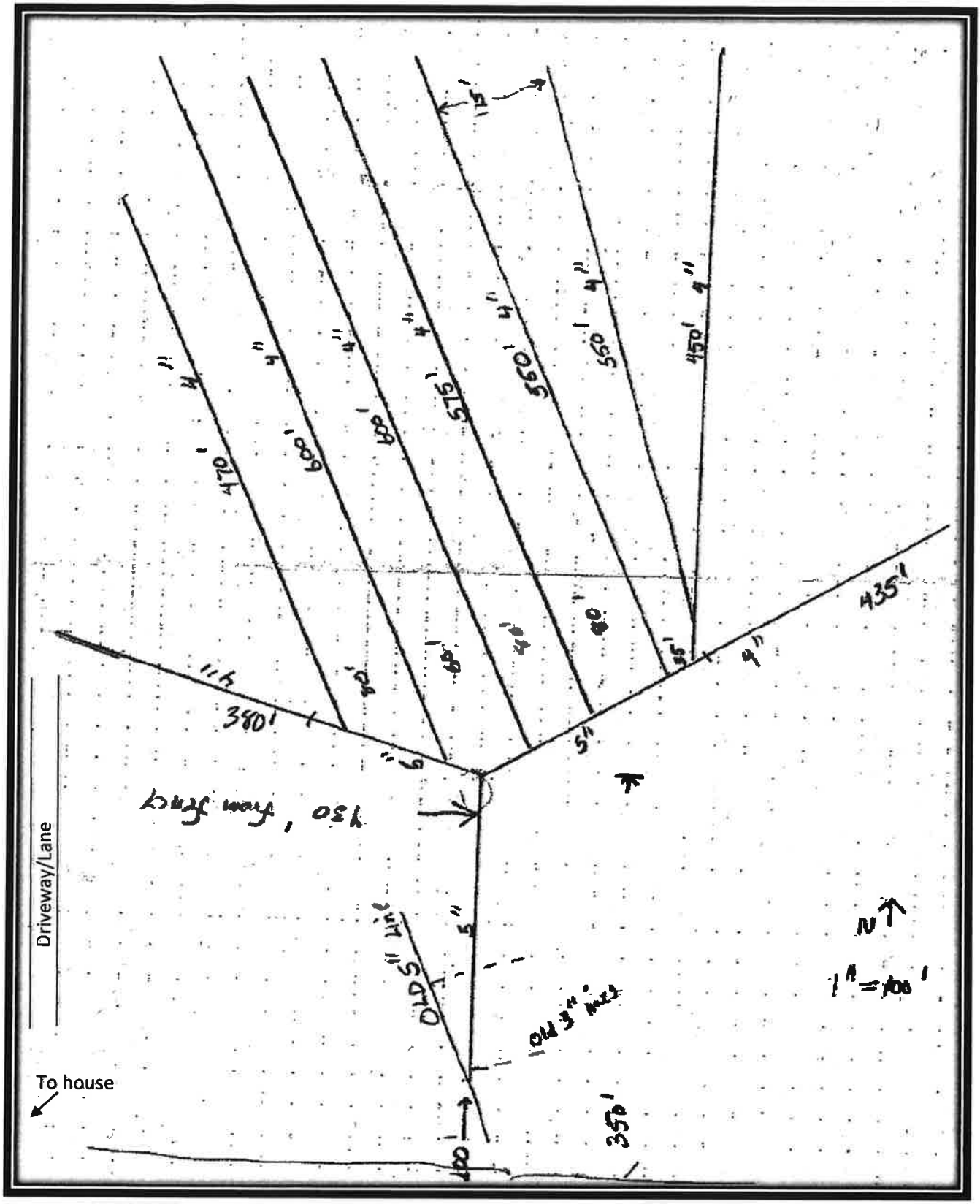


Figure 19. Tile Drainage Map B. Drainage tiles were mapped November 2000. There is approximately 5,040 linear feet of drainage tile mapped. This also indicates there are old 3" and 5" clay tiles. Tile drainage map was provided by Don Lindberg August 15, 2018 and was modified to include location to house and driveway/ lane boundary locations.

Public Health
Prevent. Promote. Protect.

Boone County Health Department
1204 Logan Avenue, Belvidere, Illinois 61008
Main Office 815.544.2951 Clinic 815.544.9730 Fax 815.544.2050
www.boonehealth.org

The mission of the Boone County Health Department is to serve our community by preventing the spread of disease, promoting optimal wellness & protecting the public's health.

October 11, 2018

FAX: 815-547-0789

Gina DelRose
Community Development Planer
401 Whitney Blvd Suite 300
Belvidere, IL 61008

Planning Services for Poplar Grove

Re: Case: 2018-08, Poplar Grove Solar, LLC 4324 Il Route 173

Dear Gina,

We are in receipt of the special use request to allow an operation of an energy facility. At this time the Boone County Health Department has no comment.

If you have any questions, or concerns, please let us know.

Thank you,

Amanda Mehl
Public Health Administrator
skm

Illinois Department of Transportation
Office of Highways Project Implementation / Region 2 / District 2
819 Depot Avenue / Dixon, Illinois 61021-3500

PROGRAM DEVELOPMENT
Programming
Boone County

October 11, 2018

Ms. Gina DelRose
Community Development Planner
City of Belvidere
401 Whitney Boulevard, Suite 300
Belvidere, Illinois 61008

Dear Ms. DelRose:

Thank you for the notification of the Public Hearing on October 24, 2018, regarding a request for a special use permit by Poplar Grove Solar to install non-building mounted solar collectors for export of energy for use by an electrical utility. The property is located at 4324 IL 173, Poplar Grove and is owned by DYN 173, LLC.

Currently our records indicate we have a resurfacing project in the multi-year program along IL 173 adjacent to this location. For questions pertaining to the reconstruction project please contact Masood Ahmad at (815) 284-5307.

Please note petitioners must apply to this office for an access permit for a new entrance or a modification to an existing entrance onto a State maintained road. Since this is intended, please have the petitioner contact Mr. Jason Stringer, Senior Permit Technician at (815) 284-5413 for access permit information.

Thank you for the opportunity to comment on the special use permit. If you have any questions, please call Ms. Katie Smith, Systems Inventory Supervisor, at (815) 284-5447.

Sincerely,

Kevin Marchek

Kevin Marchek, P.E.
Region Two Engineer

KS/fd
cc: Jason Stringer