

WABASHA PLANNING COMMISSION

March 10, 2020 6:00 PM

MEETING AGENDA

- 1) Call to Order
- 2) Approval of Minutes-
 - a) Approval of Minutes January 14, 2020
- 3) Changes or Additions to Agenda
- 4) Public Comment
- 5) Public Hearings
 - a) CUP 1 MW Solar Garden - East 17th Street
- 6) Old Business
- 7) New Business
- 8) Board of Adjustment Business
- 9) Other Business
- 10) Next Regular Meeting Date - April 14, 2020
- 11) Adjourn

Planning Commission

2) a)

Meeting Date: 03/10/2020

SUBJECT: Approval of Minutes January 14, 2020

DEPARTMENT: Planning & Zoning

TITLE:

Approval of Minutes January 14, 2020

PURPOSE:

Attachments

PC 01-14-2020

DRAFT

WABASHA PLANNING COMMISSION

January 14, 2020 6:00 PM

MEETING MINUTES

Commission Members:	Tim Wallerich, Chair	Sara Carrels
	Scott Durand	Sharon Burke
	Craig Falkum	Jeff Sulla
	Kris Kruse	

Present: Craig Falkum; Scott Durand; Chair Tim Wallerich; Kris Kruse; Sara Carrels; Jeff Sulla

Absent: Sharon Burke

Also Present: Kristi Trisko, Contracted City Planner;

- 1) Call to Order
The meeting was called to order by Chair Wallerich at 6:00 p.m.
- 2) Election of Officers
Election was conducted for the offices of Chair and Vice Chair of the Planning Commission for 2020.

Motion made by Scott Durand, seconded by Jeff Sulla to nominate Commissioner Wallerich to serve as Chair of the Planning Commission for 2020.

Vote: 6 - 0 Adopted - Unanimously

Other: Sharon Burke (ABSENT)

Motion made by Craig Falkum, seconded by Chair Tim Wallerich to nominate Commissioner Carrels to serve as Vice Chair of the Planning Commission for 2020.

Vote: 6 - 0 Adopted - Unanimously

Other: Sharon Burke (ABSENT)

- 3) Approval of Minutes-
 - a) Approval of Minutes from 12/10/19

Motion made by Craig Falkum, seconded by Sara Carrels to approve the meeting minutes.

Vote: 6 - 0 Adopted - Unanimously

Other: Sharon Burke (ABSENT)

4) Changes or Additions to Agenda

There were no changes or additions to the agenda.

5) Public Comment

There was no public comment regarding items not listed on the agenda.

6) Public Hearings

a) Hot Asphalt IUP - 1005 Shields Ave

City Planner Trisko provided background information and reviewed the IUP application. She noted that no issues or concerns were raised during last year's project. She stated that staff and the Street Commission have reviewed the application and recommend approval of the IUP.

Chair Wallerich opened the public hearing at 6:05 p.m. Chad Kelley from Rochester Sand & Gravel provided additional background information, reviewed this year's projects, and clarified the hours of operation. He discussed the truck access route, noting that this will be the same as last year. The emergency response plan was discussed. No one else came forward to speak during the public hearing. Chair Wallerich closed the public hearing at 6:08 p.m.

City Planner Trisko reviewed the public hearing notification process. The approval resolution language was reviewed and revised. Safety concerns relating to truck traffic were clarified. It was suggested to add a condition of approval pertaining to the hours of operation. City Planner Trisko summarized the changes to the resolution language, including the dates of the notification, a condition related to the hours of operation, project details, and a notation that the permit issued by Wabasha County is still in effect.

Motion made by Craig Falkum, seconded by Jeff Sulla to adopt a resolution approving the IUP, with the changes as discussed.

Vote: 6 - 0 Adopted - Unanimously

Other: Sharon Burke (ABSENT)

7) Old Business - None

8) New Business - None

9) Board of Adjustment Business

Chair Wallerich recessed the Planning Commission meeting at 6:15 p.m., in order to conduct Board of Adjustment business. Other than election of officers, there was no other business.

a) Election of Officers (*Non Council Members)

Election of officers was conducted.

Motion made by Craig Falkum, seconded by Sara Carrels to nominate Scott Durand to serve as Board of Adjustment Chair for 2020.

Vote: 6 - 0 Adopted - Unanimously

Other: Sharon Burke (ABSENT)

Motion made by Craig Falkum, seconded by Sara Carrels to nominate Kris Kruse to serve as Vice Chair of the Board of Adjustment for 2020.

Vote: 6 - 0 Adopted - Unanimously

Other: Sharon Burke (ABSENT)

- 10) Other Business
Chair Wallerich reconvened the Planning Commission meeting at 6:16 p.m. There was no other business.

- 11) Next Regular Meeting Date - February 11, 2020

- 12) Adjourn

Motion made by Sara Carrels, seconded by Scott Durand to adjourn the meeting. The meeting adjourned at 6:16 p.m.

Vote: 6 - 0 Adopted - Unanimously

Other: Sharon Burke (ABSENT)

Respectfully submitted by: _____
Wendy Busch, City Clerk

Adopted Date

Planning Commission

5) a)

Meeting Date: 03/10/2020

SUBJECT: CUP 1 MW Solar Garden - East 17th Street

DEPARTMENT: Planning & Zoning

TITLE:

CUP 1 MW Solar Garden - East 17th Street

PURPOSE:

Attachments

Staff Report

Decommissioning Plan



Memorandum

Office of the City Planner

To: Wabasha Planning Commission
From: Alex Conzemius, AICP
Date: February 26, 2020
Subject: CUP application – Solar Club 20 LLC

MEETING DATE: March 10, 2019

I. REQUEST:

- 1) **Applicant:** SolarClub 20 LLC
- 2) **Owner:** Bill and Jim Fitzgerald (William Fitzgerald)
- 3) **Location:** East 17th Street, Wabasha

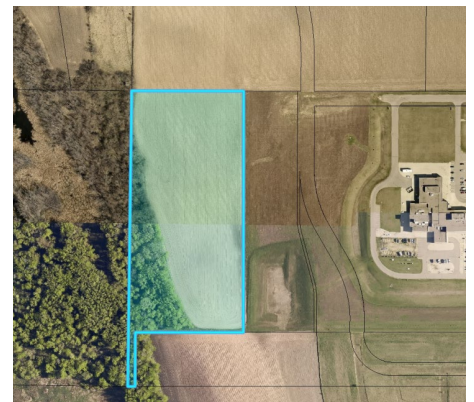
II. Staff Report

Zoning Summary

A Conditional Use Permit has been requested by Solar Club LLC on behalf of Bill and Jim Fitzgerald to construct a 1 MW Solar Garden on a 12.8 Acre site in Section 33 Township 111 Range 10 (PIN R27.0080.06). The applicant proposes to construct a series of Solar Panels encumbering a 7.5 acre site.

Zone: R-2 Residential and Shoreland Overlay S2 District
Existing Land Use: Agricultural

District Provisions	Min	Solar Site
Min. Lot Size:	6,000 SF	12.8 Acres
Min. Lot Width:	60 feet	NA
Min. Lot Frontage:	20 feet	Easement
Setbacks:	25' (Front)	Site Plan does not show
	25' (Rear)	setbacks, however application
	5' (Side)	material states compliance



Parking: 1 stall per employee plus 1 space per vehicle stored on site
Application material suggests infrequently a maintenance person may visit the site

Details of the request:

- This 1 megawatt array of photovoltaic panels will generate electricity that will be purchased by Xcel Energy under a 25-year contract.
- The solar energy conversion panels will be a single axis tracker, which will follow the sun west to east. They will be 10 to 12 feet tall. There would be approximately 4,000 solar panels.

- The racking system is installed in the ground with pilings (I-beams) that are driven directly into the ground at a depth usually between 6 feet and 8 feet depending on soil conditions.
- Building inspector will certify the design as part of the building permit.
- No gravel is proposed although some rock may be used at the entrance. Applicant claims that not using gravel will help when the site de-commissioned and returned to farming.
- Limited grading will be done on site. Additional detailed information may be required at the time of a building permit.
- Runoff will be mitigated through plantings on site and will be engineered as part of the building permit process. The S2 Zoning district limits impervious surface coverage of lots to not exceed 25% of lot area. Further discussion below.
- Section 162.106 of the Wabasha Zoning Ordinance provides specific performance standards for Solar Gardens/Farms.
 - A decommissioning plan outlining the removal of all structures and electrical components is required; the applicant has been asked to provide one. Many jurisdictions also require financial security to assure that the site is restored. Planning Commission should discuss if one could/should be provided.
 - A 7 foot galvanized fence is proposed for safety and security. The Wabasha ordinance requires screening from adjacent residential zoning districts. While there are not existing adjacent residences in the immediate proximity, (see streetview in appendices of nearest homes), the area is zoned residential and could require screening).
 - The application states: *"The inverters will be connected by directionally bored underground conduit that is housed inside of housing that will be installed 2 feet below the surface."* It is believed that the system must connect to above ground power lines. Applicant should confirm that all on-site power will be buried so as to meet ordinance standards.
- A small freestanding sign will be erected near the entrance to the site. The sign will include the site address in 6-inch letters, emergency contact information, and emergency procedures. Applicant should confirm sign will not exceed 32 square feet so as to require a IUP/CUP. Any sign is likely to require a permit.
- Infrequent maintenance is anticipated.
- The application states the site "will not create any noise, dust, fumes, glare, or other."
- No lighting is proposed.

Impervious Surface Coverage: The S2 shoreland district limits impervious surface coverage of lots to not exceed 25% of lot area. The Solar Panels exceed 25% coverage. Impervious surface is defined as:

A constructed hard surface that either prevents or retards the entry of water into the soil and causes water to run off the surface in greater quantities and at an increased rate of flow than prior to development. Examples include rooftops, sidewalks, patios, storage areas and concrete, asphalt or gravel driveways.

While solar panels are not listed as an example of impervious surface, the panels seem to meet the definition. The MPCA also publishes standards for stormwater management for determining compliance with NPDES permits. The MPCA has a detailed calculation based on a number of factors to determine acceptable standards. Unfortunately the Wabasha ordinance is unclear as to whether a solar field could be located in the S2 district. The planning commission acting as the board of adjustments should make an ordinance interpretation as to whether solar panels are impervious. If solar panels are determined to be impervious, the applicant must pursue a variance to exceed max impervious surface coverage, or request an ordinance change to write standards into ordinance that would clarify impervious surface standards for

items such as solar panels, that while meeting the definition of impervious, do not impact the amount of ground in which water is able to percolate into the soil on the site.

Hours of Operation – Daylight, with panel pivoting as sun location warrants.

Surrounding Property Uses: Open space to the west. County courthouse to the east and agricultural uses in the areas immediately north and south of the site. There are residential properties further north (700 feet) and east (1200 feet). **See attached aerial and streetview*

Neighborhood Notification: All property owners within 350' feet of this property were notified within ten days of the public hearing and published in the paper on Wednesday, February 25, 2020 that a public hearing would be held on March 10, 2020 for this conditional use permit request.

Recommended Conditions:

- 1) A decommissioning plan should be submitted and financial assurances provided to ensure the removal of the project from the site at the end of it's useful life.
- 2) The application material states that the County provided an access easement to the property. A copy of that easement should be submitted to the City of Wabasha prior to building permit consideration.
- 3) The site shall not create any noise, dust, fumes, glare, or other.
- 4) A sign permit should be obtained, if necessary.
- 5) Additional screening should be provided, if determined to be necessary

III. PLANNING COMMISSION ACTION:

Following are sample resolutions for both approval and denial which may be used by the Planning Commission in their decision.

Sample resolution for approval

**Resolution _____
CUP for a Solar Garden / Farm**

WHEREAS, the property numbered PID # R27.080.06 located along east 17th Street, Wabasha; and

WHEREAS, the site is currently utilized for agricultural purposes but zoned R2 residential, which allows Solar Gardens as a conditional use.

WHEREAS, The Planning Commission provides the following findings:

- a) SolarClub 20, LLC on behalf of Bill and Jim Fitzgerald have submitted a complete Conditional Use permit application
- b) The use, if approved will not have a negative impact on the health, welfare or safety of the area or the community in general
- c) The solar garden, if approved, will support the energy needs of the community.
- d) Conditions placed in this CUP will protect the health, safety & general welfare of the community and neighbors use and enjoyment of property and their property values.

March 4, 2020

- e) The City of Wabasha has sufficient areas zoned Residential to meet the residential needs of the City of Wabasha for the life of the Solar Garden
- f) The applicant will complete and comply with all other state and federal regulatory agencies and obtain all necessary permits.
- g) The proposed use is consistent with the City comprehensive land use plan.
- h) Ingress and egress is provided off East 17th Street through an easement provided by Wabasha County.
- i) The site does not need city sewer or water service.

NOW THEREFORE, IT IS HEREBY RESOLVED, the Planning Commission approves the Conditional Use Permit for a solar garden / farm allowing the applicant to submit plans for a building permit, with conditions:

Sample resolution for denial:

Resolution _____
CUP for a Solar Garden / Farm

WHEREAS, the property numbered PID # R27.080.06 located along east 17th Street, Wabasha; and

WHEREAS, the site is currently utilized for agricultural purposes but zoned R2 residential, which allows Solar Gardens as a conditional use.

WHEREAS, The Planning Commission provides the following findings: **[insert findings as deemed appropriate]**

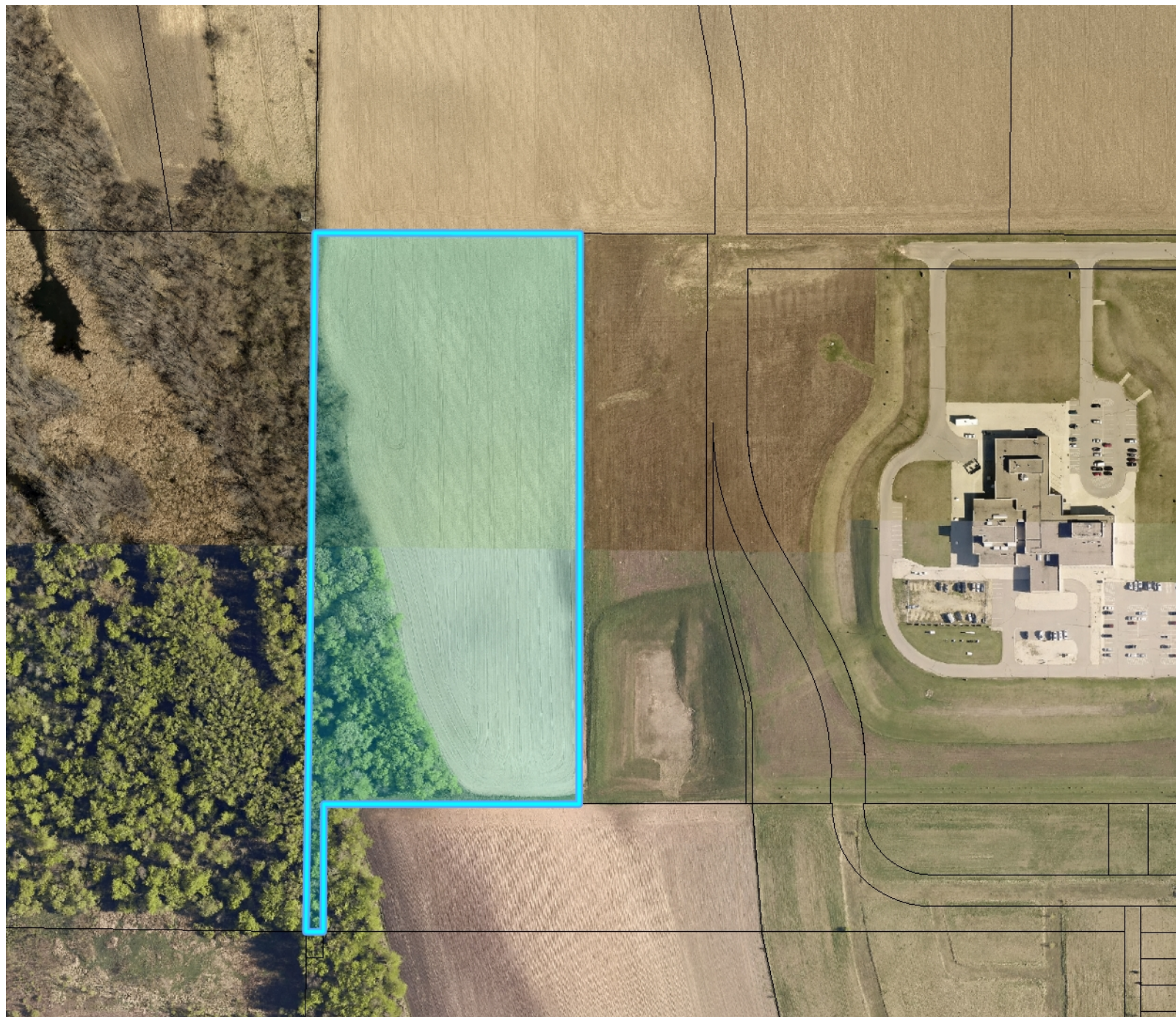
- The Solar Garden / Farm as proposed exceeds the allowable amount of impervious surface on the site
- The solar garden, as proposed, does not adequately screen the site from adjacent uses
- The use, as proposed would have negative impacts on the health, safety & general welfare and would cause hazardous, harmful or otherwise adverse impacts to the environment or the value of the neighborhood or community.
- The establishment, maintenance or operation of the use would be detrimental to or endanger the public health, safety, comfort or general welfare of the city;
- The use would 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;
- The establishment of the use will not impede the normal and orderly development of the surrounding property for uses permitted in the district;
- There is inadequate access to utilities, access road
- The solar garden, as proposed, would create drainage and erosion control issues
- The site, as proposed would provide inadequate ingress and egress so as to minimize traffic congestion in the public streets;
- The use shall does not conform to the applicable regulations of the district in which it is located;
- The site, as proposed, provided inadequate parking facilities
- The site, as proposed, does not preserve natural resources
- The site, as proposed, would obstruct scenic views
- The site, as proposed, is not of adequate size and configuration of property for the proposed use or activity;

NOW THEREFORE, IT IS HEREBY RESOLVED, the *Planning* Commission denies the Conditional Use Permit for a solar garden / farm use as requested in the application dated February 10, 2020.



Legend

-  City Limits
-  Parcels (06/01/2019)



SolarClub 20 LLC



Disclaimer:

This drawing is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records, information, and data located in various city, county, and state offices, and other sources affecting the area shown, and is to be used for reference purposes only. The City of Wabasha is not responsible for any inaccuracies herein contained.

0 263 Feet

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Legend

City Limits

Parcels (06/01/2019)

Zoning Overlay

PUD Overlay District Eagle Basin

PUD Overlay District Downtown

Historic Preservation District

Shoreland S1

Shoreland S2

Shoreland S3

Shoreland S4

Shoreland Brewery Creek

Zoning

RC - Residential Conservancy

RR/LA - Rural/Residential/Limited/Agriculture

RR/GT - Rural Residential Growth/Transitional

R1 - Low Density Residential

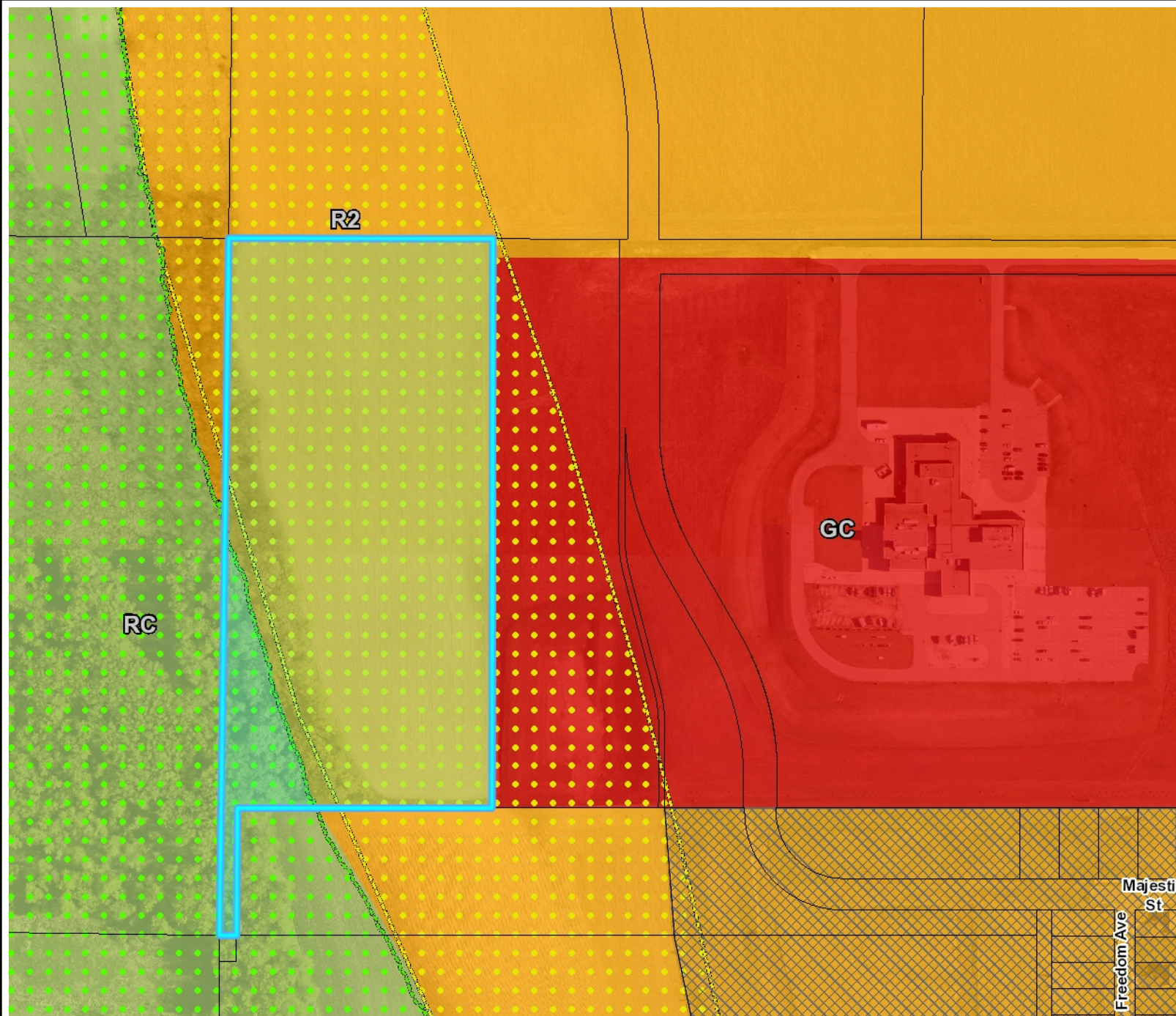
R2 - Medium Density Residential

Traditional Downtown Commercial

GC - General Commercial

HC - Highway Commercial

I - Industrial



SolarClub20 - Zoning



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0 263 Feet

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View from the North. Closest Residential Area. Solar Garden proposed 750' South.



City of Wabasha

APPLICATION FOR LAND DEVELOPMENT ACTIVITY

☐ Concept PUD ☐ Preliminary PUD ☐ Final PUD
☐ Preliminary Plat ☐ Final Plat ☐ Lawrence Boulevard Shore Improvement
☐ Site Plan Review ☐ Request for Zoning Amendment (map or text)
☐ Variance/Appeal ☒ CUP/IUP ☐ Other _____

Solar Club 20 LLC (612) 701-4855
 Applicant's Name Phone
315 Manitoba Ave #200, Wayzata MN 55391 chuck@cbresinc.com
 Mailing Address e-mail address
Bill & Jim Fitzgerald
 Property Owner's Name (if different)
16201 90th St NE, Otsego, MN 55330
 Property Owner's Mailing Address (if different)

Provide also contact information of Architects, Engineers, Contractors and/or other development professionals on separate page (s) along with a notation of their pertinent licenses

Description of Property: Parcel ID # (PIN) R27.00080.06 Current Zoning _____ Proposed Zoning _____
 Name of Development: NA
 Street Address: XXXX East 17th Street, Wabasha
 Total Acreage: 12.8 Acreage To Be Developed: 7.5
 Type of Water Supply: NA Sewage Disposal: NA

Proposed Activity (include number/size of lots and/or buildings, type of use, public Improvements proposed or need/hardship for Variance):

1 MW Solar Garden

(provide attached pages as needed)

Describe Any Development Constraints (wetlands, shoreland, floodplain, existing structures/uses, etc.):

NA

(provide attached pages as needed)

Any consultation fees charged for the review of this permit (Engineering, Legal or similar outside professionals) **shall be the responsibility of the applicant** and will be forwarded by the City to the applicant for payment. The City reserves the right to hold any and all final approvals or authorizations for proceeding on activities related to this application until such payments are made in full to the City of Wabasha.

Signatures: _____ 2/10/16
 Applicant Property Owner Date

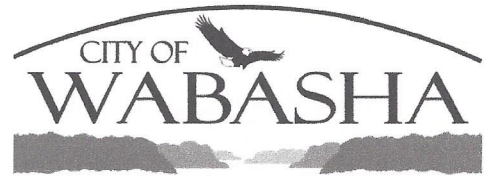
Office Use

Date Received: _____ Planner Initials: _____ Fee Paid: (amount) _____ (date) _____

Public Hearing Scheduled _____ Hearing Advertised _____ Notice Sent to Adjacent _____

Review By: _____ (date) _____
 Planning Commission Board of Adjustment City Council

City of Wabasha
Conditional Use & Interim Use
Permit Checklist



Name of Applicant Solar Club 20 LLC
Address of Applicant: 315 Manitoba Ave #200, Wayzata, MN
Intended Use: 1 MW Solar Garden
Zoning District: _____ Shoreland District: _____ Floodplain: _____

 Key Dates:

_____ Pre-Application Meeting
_____ Submittal Date -30 days (typ.) prior to Planning & Zoning Hearing
 (See Wabasha Planning Commission Deadlines for Submission)
_____ Neighborhood & Newspaper Notification (At least 10 days prior to meeting)
_____ Planning & Zoning Meeting Date
_____ Date Approved or Denied

 Checklist for the Submittal package:

- ☒ Signed and dated application form
- ☒ A building and/or site plan showing; property lines, existing and future buildings, setbacks, adjacent roads, driveways and access points, lighting, signage, water bodies, wetlands, easements, and landscaping, and all other applicable site plan elements to describe the intended use
 (See attached sheet for a detailed outline of these requirements)
- ☒ Legal description of the property
- ☒ A letter addressing the following information; description of the use/activity operation information, hours/days of business, number of employees, daily truck traffic and routes – if applicable
- ☒ Filing fee (\$200 for Residential, \$250 for Commercial)

Submitted to City of Wabasha, MN

Conditional Use Permit
Application
for a
1 MW Solar Farm

Submitted by *SolarClub 20, LLC*

SolarClub 20, LLC

February 11, 2020

City Council
City of Wabasha

Re: Conditional Use Permit Application to Develop a 1 MW Community Solar Garden

Dear Members of the Staff, Planning Commission and City Council:

SolarClub 20, LLC, is pleased to present this application to Winona County to develop and operate a community solar garden.

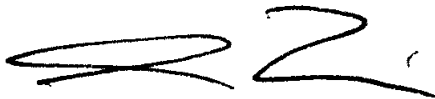
This 1 megawatt array of photovoltaic panels will generate electricity that will be purchased by Xcel Energy under a 25-year contract.

The solar garden will not generate any carbon or other harmful emissions, will be created from an inexhaustible source, the sun, will help Xcel Energy meet the State's mandate for use of renewable energy sources, and will align with the County's goals for sustainability. In addition, Xcel customers may subscribe to a share of the electrical output from the project, thus supporting this clean source of energy.

It is important to us to be a good corporate citizen and work cooperatively with each local community. This helps us respond to any concerns with conditions that create a successful energy development while supporting the County's community development objectives.

Please give our application your approval so that we can all benefit from this wise new source of electricity for our homes and businesses.

Sincerely,

A handwritten signature in black ink, appearing to read 'DL', with a stylized flourish at the end.

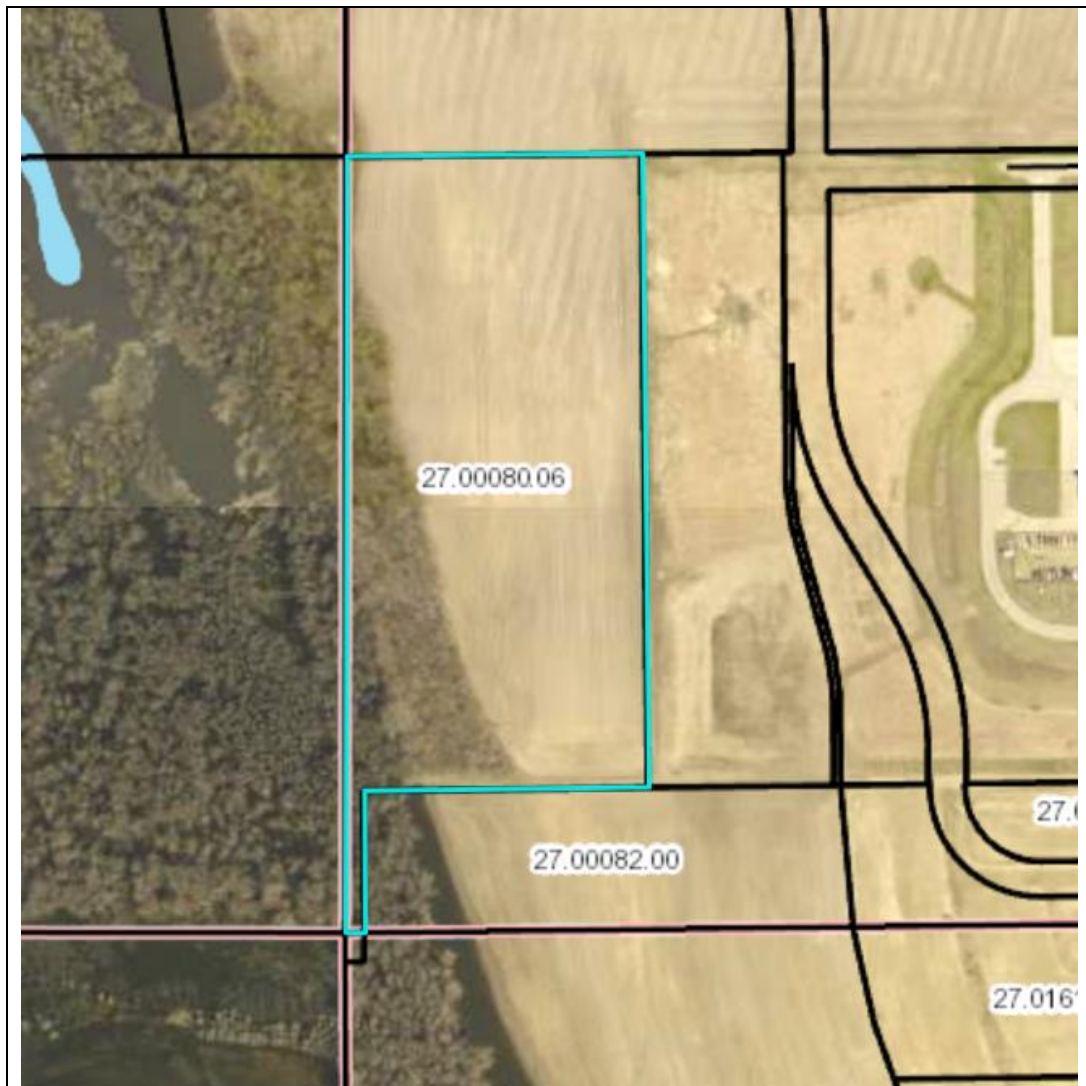
Dean Leischow
Chief Executive Officer

Project Description

Site Location

The site of the proposed community solar garden is XXXX East 17th Street, Wabasha, MN, as shown by Figure 1. The site size is approximately 12.8 acres.

The site is currently owned by Bill & Jim Fitzgerald but is under contract to be purchased when the community solar garden is constructed.



Property Description

The property identification number is R27.00080.06. S-T-R: 33 – 111 – 010.

SolarClub 20, LLC

Property legal description:

Sect-33 Twp-111 Range-010 12.80 AC N 1086.57' OF W 506.10' & W 30' OF S 242.90' OF S1/2SW1/4 (S)

Site Zoning

The site is zoned Agricultural. Solar energy systems are allowed in the Agricultural zoning district by a Conditional Use Permit.

On-Site and Nearby Land Use

The site and nearby properties are used primarily for row crops and a county building.

Topography

The site is relatively level.

Vegetation

The only vegetation on the site is the row crops and the trees on the southwestern corner of the property.

Soils

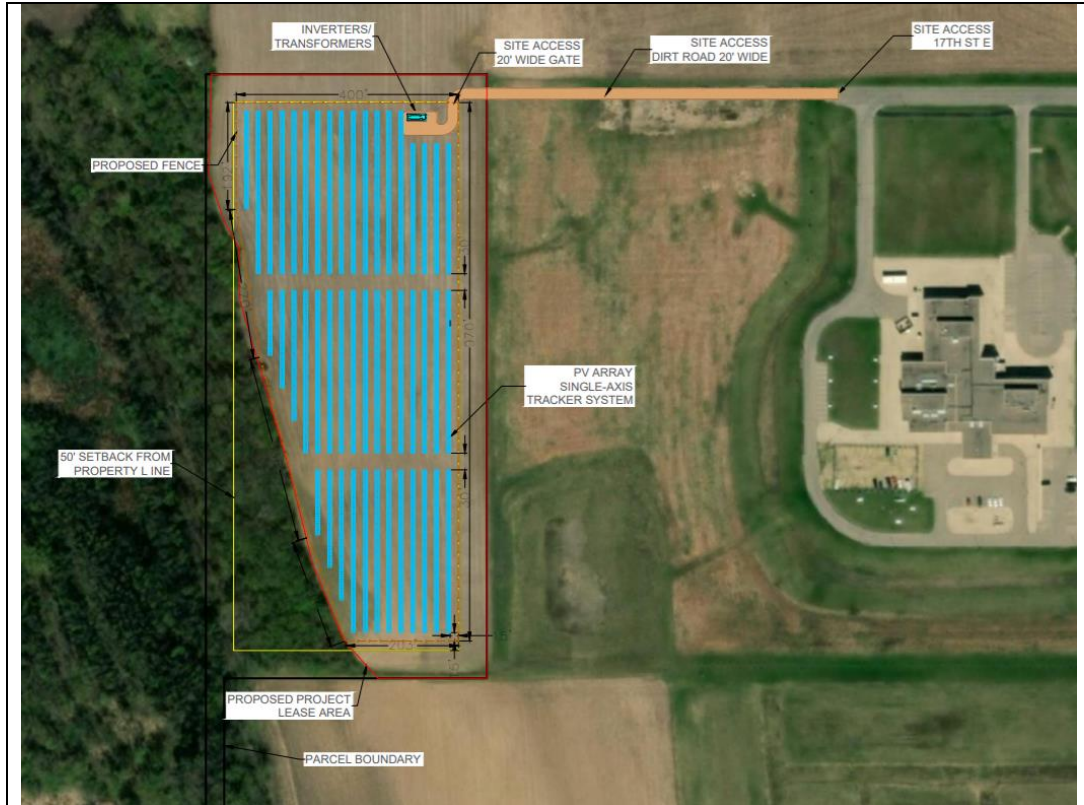
The soils are suitable for supporting solar arrays. They are also very well suited for agriculture, and the site can be returned to farming when the solar project is de-commissioned in about 31 years.

Floodplain

There is no floodplain mapped on the site by the Federal Emergency Management Administration.

Site Plan

The site development plan for the community solar garden is shown below.



Setbacks

The site development, including the security fence, conforms to the City's setback requirements for the zoning district.

Connection to the Xcel System

The proposed community solar garden will connect to the local utility grid at an existing distribution line that runs along County Road 30. A signed agreement with the local utility company will be submitted with the application for a Building Permit.

Site Access

Access to the site will be from East 17th Street. Internal movement will consist of grassy lanes. No gravel is proposed although some rock may be used at the entrance. Not using gravel will help when the site de-commissioned and returned to farming.

Grading, Drainage and Erosion Control

Grading for the community solar garden limited to the extent practical. It may include (1) creating grass-covered service roads among the blocks of arrays (2) creating pads for the electrical inverters, (3) stabilizing the construction entrances and exits and (4) establishing the parking and staging areas for vehicle and equipment storage / laydown and maintenance.

The solar arrays can conform to the slopes and do not require that terraces be created because each solar array is installed by simply drilling posts into the ground.

Storm water management measures will be determined by an engineering company with vast experience designing solar projects. Measures will include an analysis of the existing topography since no substantial grading will be required, the use of erosion control logs and silt fences where necessary, and establishment of a germinated pollinator friendly vegetative base underneath the project site before construction begins to prevent erosion. These can be specified in the Permit.

Disturbed soils will be returned closely to their original contours. The final site will be seeded with fast-growing grasses and mowed as necessary to prevent woody species from establishing. Consequently, the rate, volume and quality of the surface water runoff is expected to be improved from the present values generated by a plowed field of row crops.

The existing drainage from the site is not expected to be changed appreciably.

It is unlikely that water running from the face of the panels will create erosion under the bottom edge of the lower panels. The panels are set one-half inch apart to allow some of the runoff to drip to the sides. Water dripping from the bottom edge tends to disperse somewhat by wind action. Solar operators do not want erosion under the panels, as that could create minor problems.

Solar Energy Conversion Panels

The solar energy conversion panels will be a single axis tracker, which will follow the sun west to east. They will be 10 to 12 feet tall and arranged in arrays as illustrated below. There would be approximately 4,000 solar panels.



Typical Solar Arrays



Appearance of Typical Solar Panel Arrays in a Field

The panels will be mounted on a steel and aluminum racking structure and average approximately 10 to 12 feet above grade.

The racking system is installed in the ground with pilings (I-beams) that are driven directly into the ground at a depth usually between 6 feet and 8 feet depending on soil conditions.

The racking system manufacturer's engineer will provide certification that the design of the foundations and panels are within accepted professional standards, given local soil and climate controls. The equipment is designed to withstand wind up to 90 miles per hour and fifty pounds per square foot of snow.

The garden will have one concrete equipment pad, typically less than 320 square feet, to support interconnection and metering equipment.

The panels will be arranged into rows. Each row of solar panels will connect to an inverter. The inverters will be connected by directionally bored underground conduit that is housed

inside of housing that will be installed 2 feet below the surface. The conduit will lead to the concrete equipment pad for each garden. The inverters transform the direct current power generated by the photovoltaic system to alternating current power, which is then connected to the existing Xcel Energy three phase power distribution line at the point of common coupling. The solar array will be contained within an area protected by a seven-foot chain link fence with barbed wire on top of it. It will not create any noise, dust, fumes, glare, or other.

Visual Compatibility and Screening

We have conducted a site visit and visual impact analysis of the project. We believe that the community solar garden will be visually compatible with its agricultural and rural residential vicinity by virtue of these characteristics:

- The solar collectors will be 10 to 12 feet in height at their highest point.
- The existing vegetation around the perimeter of the site will be retained. The site is very well screened from neighboring homes by distance and existing structures.

Ground Cover

Native plantings will be used as ground cover. These grasses and forbs will enhance local biodiversity, consistent with the Pollinator Protection Pledge of the local solar power industry. They will be especially helpful to pollinator species such as bees and butterflies.

The ground cover will be kept mowed to a workable height, and noxious weeds will not be allowed to flourish and spread into nearby farm fields.

Tree Protection

No trees will be removed from this site for the community solar garden.

Perimeter Fence

A 7-foot, galvanized chain-link perimeter fence will be installed for safety and security. The fence will meet the setback requirement.

The fence will only encompass the facility.

Sign

A small freestanding sign will be erected near the entrance to the site. The sign will include the site address in 6-inch letters, emergency contact information, and emergency procedures.

Construction

Site Preparation

Construction of the community solar garden will include stabilizing the construction entrances and exits and access road and establishing the parking and staging areas for vehicle and equipment storage / laydown and maintenance. The laydown areas will be used for pre-assembly of components and materials storage and staging. These areas will also provide construction worker parking. The site access roads will remain in place for the operational phase of the Project.

The extent of grading will be determined during final design. Grading will be minimized to the extent practicable. Typically, grading will consist of small cut and fill areas needed to reshape slopes to allow for photovoltaic modules to be installed within a range of 4 to 7 feet off of the ground when at their zero-degree position for trackers, which is when they are horizontal to the ground. Some grading will also be required for structure foundations, but grading for access roads will be limited to removal of unsuitable soils since they will be designed and constructed at-grade when possible. Dust suppression on access roads will follow MPCA guidelines.

During final design, the location of stripped and stockpiled topsoil may be removed during grading will be designated. Soil stockpiles could be as tall as 6 feet. During decommissioning, the stripped and stockpiled topsoil will be replaced following the de-commissioning plan.

General facility grading will occur in entrance access areas and preparation of the staging / lay down area. The temporary staging / lay down areas will be about 1 to 3 acres and located at various locations within the facility. The staging/lay down areas will be used for storage of construction materials and shipped equipment containers, receiving construction deliveries, and temporary parking for Project related vehicles. A temporary construction office trailer will be located at the facility during construction.

Electrical Power Collection and Distribution System

The solar modules will convert sunlight into direct current (DC) electricity. The DC power will be collected from each of the multiple rows of solar modules through one or more combiner boxes and conveyed to an inverter. The inverter will convert the DC power to alternating current (AC) power, which will then flow to a medium-voltage transformer that converts the output of the inverter to 480 volts. Multiple medium-voltage transformers will be connected in a daisy-chain configuration, and power will be delivered to the onsite main distribution switchgear from separate 34.5kV circuits. This switchgear acts as the primary interconnection point, after which power is transmitted to the utility-owned grid via overhead power lines. Inverters, transformers and switchgear will be mounted on poured concrete foundations.

Heavy Equipment

It is estimated that there will be between 10 and 20 large trucks used daily for equipment delivery during construction. Light duty trucks will also be used on a daily basis for transportation of construction workers to and from each facility. Construction equipment such

SolarClub 20, LLC

as scrapers, bulldozers, dump trucks, watering trucks, motor graders, vibratory compactors, backhoes and the following will be used during construction:

Construction Timeline for the Project

Day Elapsed	Construction Milestones
+ 1	Project approval and construction begins: ■ Installation of job facility trailers, temporary restroom facilities ■ Grading and vegetation clearing where necessary, ■ Preparation of roadways, staging/lay down yards, ■ Installation of piers and racking (installation possible year round)
+ 30	Footings in place
+ 45	Primary wiring completed
+ 90	Control wiring completed
+ 100	Start acceptance testing
+ 120	Generation operational. Regular NPDES / SWPPP inspection during and after construction. Provide to the County an as-built drawing for the drainage improvements

Solar Equipment Installation

The solar energy system (arrays, collection and distribution systems) will be installed along with access roads after site preparation. The solar facility will be constructed in blocks, and multiple blocks will be constructed simultaneously. The Project will be constructed in approximately 4 - 6 months. Electrical testing and equipment inspections will be conducted prior to beginning commercial operations.

As portions of the Project near completion, temporary staging and lay down areas will be vacated, and disturbed areas will be reseeded and re-vegetated. Once installation is complete, the primary staging areas will be reduced in size and the supply structure and associated permanent infrastructure will be constructed.

After construction, temporarily disturbed areas within the Project will be restored to their pre-construction condition. The Project facility will be graded to pre-construction grades where possible, and soil will be loosened and seeded with low-growing perennial grass and forb species. Once construction is complete, the permanent access roads within the Project facility will be repaired and dressed as necessary to ensure their long-term function. Erosion control methods during and after construction will depend on the contours of the land, as well as requirements of relevant permits. Construction clean-up and facility restoration activities will last approximately two to four weeks.

Telecommunication Line and Other Construction

A redundant set of telecommunication lines will be installed to the facility. This will connect and interact with the Xcel's electrical system. We will coordinate with Xcel and/or the local telecommunications utility to arrange for a connection to the existing system.

PROPERTY OF
SUNRISE ENERGY
VENTURES
315 Manitoba Avenue
Suite 200
Wayzata, MN 55391
Tel: (612) 293-9900
Fax: (612) 293-3839

PROJECT NAME: WABASHA COUNTY JAIL
SITE ADDRESS: 17TH ST E
WABASHA, MN 55981
COUNTY: WABASHA
PARCEL ID: 27.00080.06
COORDINATES:
LATITUDE: 44°27'05" N
LONGITUDE: 92°01'41" W

REV.	DATE	REVISION DESCRIPTION	REVISION NO.	REV.
1	11/12/19	CHANGING DIMENSIONS	46	
2	11/12/19	CHANGING DIMENSIONS	46	

PRELIMINARY DESIGN

PARAMETERS;

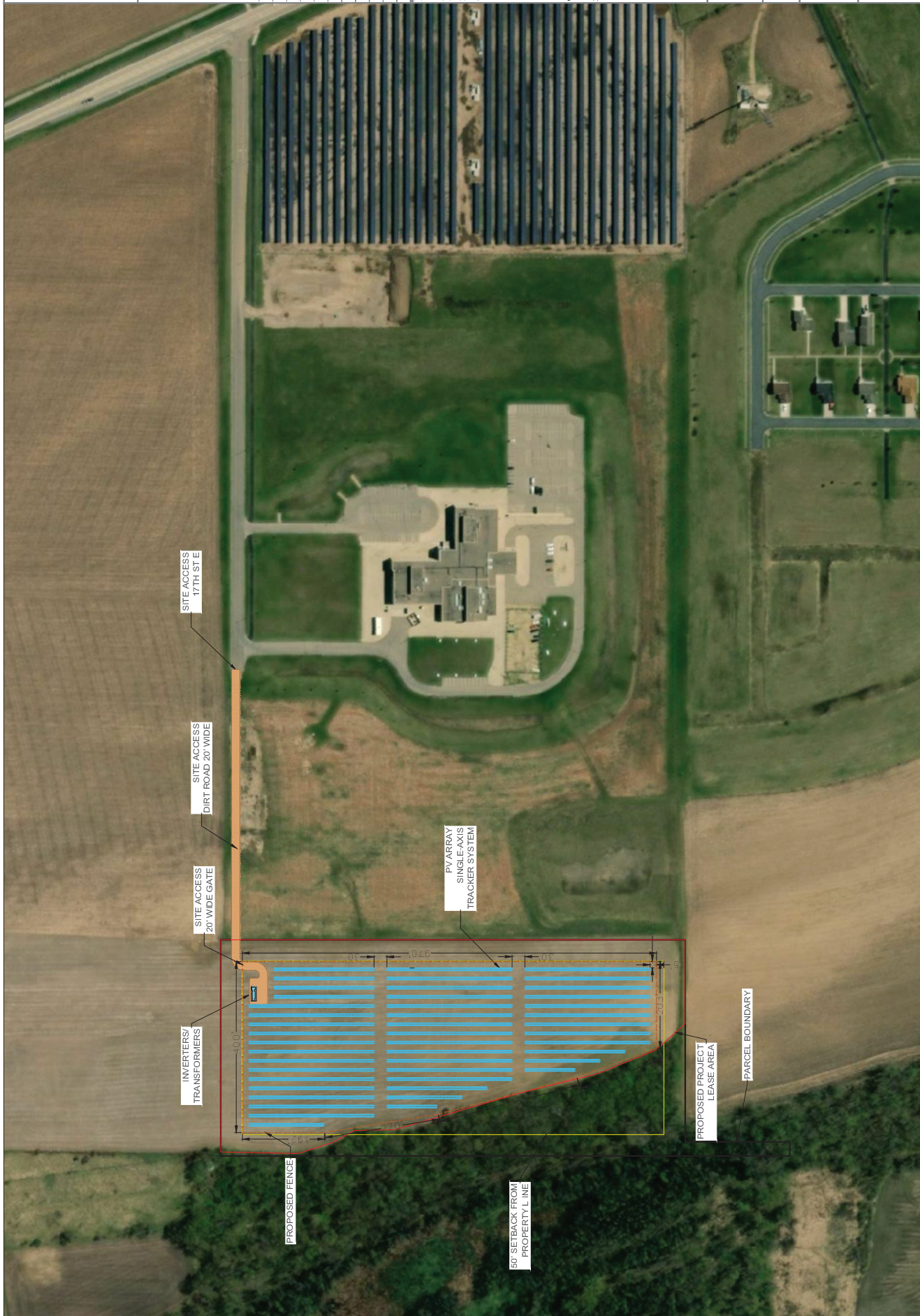
NOMINAL POWER DC: 1,335.6 KW
 AC POWER: 1,000 KW
 TOTAL MODULES: 3,816
 MODULE TYPE:
 TRING SOLAR TSM-300D14A
 STRING SIZE: 18 MODULES/STRING
 TOTAL STRINGS: 212
 36, 36, 54, 54, 72 and 90 MODULE ROWS
 GCR: 0.4:
 EDGE TO EDGE ROW DISTANCE:
 21.4 FT
 DISTANCE BETWEEN ROWS: 15 FT
 PARCEL BOUNDARY: 12.8 ACRES
 PROJECT LEASE AREA: 9.8 ACRES
 FEE AREA: 7.5 ACRES

DRAWING TITLE:
SITE LAYOUT

DRAWN BY: MD	CHECKED BY:	DATE: 07/01/2019
------------------------	-------------	----------------------------

DWG No.: SY

DWG Scale: $\frac{1''}{8'}$



Operations and Maintenance

Monitoring

The solar garden site will operate and be monitored 24 hours a day, 365 days a year after construction has been completed.

Equipment Inspection

Equipment inspection will occur at regular intervals, including:

- PV modules: visual check of the PV modules, tracking system and surrounding grounds to verify the integrity of the PV modules and racking structure, or the presence of animals and nests, etc.;
- Inverters, transformer and electrical panels: visual check of the devices including the connection equipment and the grounding network.
- Check for presence of water and dust;
- Electrical check: measurement of the insulation level and dispersion.
- Check of the main switches and safety devices (fuses);
- Noise: check of abnormal sounds;
- Cabling and wiring: visual check of electrical lines (where visible) and connection box to verify its status.

Performance Monitoring

Performance monitoring will consist of a real-time and continuous assimilation of the data acquired by the facility meteorological station, energy meter and SCADA system. Operators and or maintenance personnel will be immediately notified of abnormalities so timely corrective action such as repair or replacement on: modules, racking, the collection system, and etc., can occur.

Maintenance Plan

A maintenance plan will be created for the project to ensure ongoing performance, including a scheduled check of the facility's components and a predictive maintenance approach for the devices subjected to derating / degradation. Derating / degradation refer to the known process of components losing efficiency over the expected useful life. Like all technology and physical components, a certain amount, sometimes 20 percent, of this efficiency loss is unavoidable over the expected component life. We will plan for and maintain the facility to ensure the maximum performance over the expected life of the components. Once construction is complete, staff will be present on a monthly basis, with potentially more personnel at the facility at intervals associated with the maintenance.

Facility Maintenance

Routine maintenance of the Project will include road maintenance, fence and gate inspection. Module washing is not needed on a scheduled basis. Rain keeps the modules sufficiently clean and the site is vegetated to keep dust down so that washing modules would occur infrequently and only as determined by maintenance technicians. Snow and ice removal is not needed. The

trackers and modules are designed to shed rain, snow and ice. Vegetation maintenance will include scheduled mowing and spot spraying weeds using registered herbicides.

All maintenance activities will be performed by qualified personnel during the day to the extent that they do not significantly disrupt energy production. Activities that have the potential for substantial noise generation will be performed during the day to minimize impacts to residents. It may be desirable to perform certain maintenance functions after sunset to minimize loss of power production. If a particular solar module, tracker row or tracker block within the community solar garden needs repairing, only that particular component will need to be disconnected and will be done by opening the combiner box circuit.

The solar module can then be replaced and the combiner box circuit closed. Because of the modular way the that community solar garden components are assembled and controlled, a temporary shutdown such as this would result in only a minimal loss of energy production. Additionally, the power production circuits are separated from the tracking circuits. This allows the PV modules to operate during an unscheduled outage of the tracker system. A reserve of spare parts, components and tools for maintenance will be kept at a supply structure.

Maintenance Frequency

The electrical and mechanical components of the community solar garden would be checked on a regular basis to ensure safety and reliability. The maintenance schedule would range from weekly to yearly depending on the component.

Miscellaneous Information:

SWPPP – The SWPPP and all associated permits are currently in process and will be submitted to the city when the building permit is applied for. We will follow all recommendations of the SWPPP and permits.

Xcel – The project has been submitted into the Xcel Queue. We will provide a copy of the Interconnection Agreement upon applying for the Building Permit.

Wetlands – There are no wetlands in the project area. A Wetland Delineation will be conducted and submitted upon applying for the Building Permit.

CUP Criteria – Section 305.04 B.

4. Criteria a. General Standards. No conditional or interim use shall be granted by the Planning Commission unless the Board shall find

i. That the establishment, maintenance, or operation of the use will not be detrimental to or endanger the public health, safety, comfort, or general welfare of the City; *The use will not be detrimental as once constructed will generate little traffic and the perimeter will have a fence for security.*

ii. That the 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; *The use will not be injurious to the surrounding properties nor will it diminish the surrounding property values.*

iii. That the establishment of the use will not impede the normal and orderly development of the surrounding property for uses permitted in the district; *The use is compatible with the surrounding uses and will not deter orderly development of surrounding vacant properties.*

iv. That adequate public or private/community septic and wells for allowed private utilities, access road and sidewalks for the proposed use, drainage and erosion control, and/or necessary facilities have been or are being provided; *The use will not require any additional public improvements.*

v. That adequate ingress and egress so designed as to minimize traffic congestion in the public streets; including provisions for pedestrian, bicycle, and boat traffic where appropriate. *Yes, there are adequate facilities for the use.*

vi. That the use shall, in all other respects, conform to the applicable regulations of the district in which it is located. *Yes, the use meets the requirements of the City zoning ordinance.*

vii. Conditions such as landscaping, architectural design, type of construction, construction commencement and completion dates, sureties, lighting which prevents light pollution, screening (including fencing and/or plantings to screen from roads and residential uses), security provisions, refuse management, operational control, hours of operation, improved traffic circulation, deed restrictions, highway access restrictions, increased yards, or parking requirements, may be required by the Board upon its finding that these are necessary to fulfill

the purpose and intent of this Section or other sections of City Code. *Understood. However the use should require very little of these.*

viii. Adequate parking facilities and loading areas or the use; *The project has ample loading and parking areas.*

ix. Preservation of natural resources including but not limited to filling and grading limitations. *The project will have minimal grading and will preserve the natural resources.*

x. Use does not obstruct scenic views from public right-of-ways or existing residential uses. *The use does not obstruct views from the right-of-way or residential structures.*

xi. Adequate size and configuration of property for the proposed use or activity. *The property is an adequate size for the use.*

xii. Adequacy of other standards will be determined by the Planning Commission based upon the proposed type and intensity of use and specific site conditions. *Understood.*

xiii. Hours of business operation; *The hours of operation are dusk until dawn.*

xiv. No application for a conditional or interim use that has been denied wholly or in part shall be resubmitted for a period of one (1) year from the date of said order or denial, except on the grounds of new evidence or proof of change of conditions found to be valid by the Planning Department; *Understood.*

xv. In any case where a conditional or interim use has not been established within one (1) year after the date of granting thereof, then, without further action by the Planning Commission, the conditional use or authorization shall be null and void. *Understood.*

xvi. A date or event which will terminate an Interim Use Permit will be identified on the permit and may include termination by a change to the zoning regulations. *Understood, however the use will be permitted via a Conditional Use Permit.*

xvii. An interim use will not be granted if there is a finding by the Commission that its issuance will impose additional costs on the public if it is necessary for the public to take the property in the future. *Understood, however the use will be permitted via a Conditional Use Permit.*

xviii. Termination schedule of IUP's will be determined at the time of permit issuance and may be based on the following or similar circumstances: anticipated or resulting changes to the surrounding environment (e.g. changes in zoning, land use, environmental conditions, or development projects), sale or transfer of property, violation of laws or codes (health codes, etc.), termination or lapse of other required permits, change of management or ownership. *Understood, however the use will be permitted via a Conditional Use Permit.*

xix. Conditions as required in the zoning district of the proposed project property including requirements of all zoning overlay districts as specified in Section 305.06 of this ordinance (or as amended) shall also apply. *Understood.*

Prepared For:



DECOMMISSIONING PLAN

PROJECT NAME: SOLARCLUB 20



RADIANT ENERGY GROUP
5630 Turkey Oak Dr. Charlotte, NC 28227

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OPENING STATEMENT

The community solar garden consists of numerous recyclable materials, including glass, semiconductor material, steel, aluminum, copper, and plastics. When the project reaches the end of its operational life, which is expected to be 25 (twenty five) years from date of PTO (Permission To Operate) from interconnecting Utility and local Authority having Jurisdiction (AHJ), but could be in excess of 40 (forty) or more years, the component parts will be dismantled and recycled as described below. In addition, the decommissioning can also take place after twelve (12) months of non-operation, as required by the site lease and the county.

At the time of decommissioning, the project components will be dismantled and removed by use of minimal ground surface impact construction equipment, and materials will be safely recycled and or disposed of in accordance with requirements. Specific opportunities for reuse or recycling (e.g., panels) will be considered to the maximum amount practicable. Where such options are not viable, components will be decommissioned and disposed of at an appropriately licensed facility.

As laid out below, the security fence and equipment will be dismantled, stored on site and then transported to the appropriate locations. All access roads will be removed and grading will be returned to as close to its original state (unless determined otherwise by the landowner and/or county). Based on our preliminary designs, we expect that the solar gardens will be installed with minimal, if any, grading required. Hence any restoration activities at the time of decommissioning will likewise require minimal re-grading.

GENERAL DECOMMISSIONING SCOPE

The Project LLC owner will be responsible for all the decommissioning costs. The general scope of such decommissioning will be:

- 1) Obtain any permits required for the decommissioning, removal and legal disposal prior to commencement of decommissioning activities
- 2) Remove and disposal of all equipment components
- 3) Remove all hazardous materials (if any) and transport them to be disposed of by licensed contractors at the appropriate facility, in accordance with rules and regulations.
- 4) If appropriate, re-grade, and revegetate in accordance with lease, permits and in compliance with all applicable rules and regulations
- 5) To the best extent possible, preserve and reclaim the soils on the project site to a level of pre-project quality
- 6) Reclaim soils in access driveway and equipment pad areas by removing imported aggregate material and concrete foundations and replaced with soils as needed
- 7) Remove electrical conduits and backfill trenches with the native soils removed
- 8) Reseed as much disturbed areas using a seed mix pre-approved by the county

SEQUENCE OF WORK

The sequence for decommissioning of the project generally occurs in the reverse order of the installation:

- 1) The solar system will be disconnected from the power grid.
- 2) PV modules will be disconnected, unattached, collected, and removed.
- 3) Site aboveground and underground electrical interconnection and distribution cables will be removed and recycled off-site by an approved recycler.

- 4) PV module support racking will be removed and resold or recycled off-site by an approved recycler.
- 5) PV module support steel and support posts will be removed and recycled off-site by an approved recycler.
- 6) Electrical devices, including transformers, and inverters, will be removed and recycled off-site by an approved recycler.
- 7) Concrete pads will be removed and recycled off-site by an approved recycler.
- 8) Fencing will be removed and recycled by an approved recycler.

The project site may be converted to other uses in accordance with applicable land use regulations at the time of decommissioning. There are no permanent changes to the site, and it can be restored to its original condition. This is one of the many great advantages about solar gardens. If desired, the site can return to productive farmland after the system is removed.

TEMPORARY EROSION CONTROL

During the decommissioning of the project, Decommissioning Contractor will use if necessary, appropriate temporary (construction-related) and sedimentation control best management practices as described in the project Storm-water Pollution Prevention Plan (SWPPP).

SYSTEM REMOVAL COSTS

The breakdown of costs for removal of the Community Solar Garden is found in TABLE 1 below. The costs are based upon typical quantities for a 1mwAC/1.35mwDC array. Costs may slightly vary depending on site specific quantities at time of construction.

TABLE 1 (Decommissioning Costs)

	<u>Quantity</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Total Cost</u>
Mobilization/Demobilization				
Mobilization/Demobilization	1	Lump Sum	\$10,000.00	\$10,000.00
Subtotal Mob/Demob				<u>\$10,000.00</u>
Permitting				
State Permits	1	Lump Sum	\$1,200.00	\$1,200.00
Subtotal Permitting				<u>\$1,200.00</u>
Civil Infrastructure				
Removal Gravel Surfacing from Road	325	CY	\$5.80	\$1,885
Haul Gravel Removed from Road	325	CY	\$6.84	\$2,223
Disposal of Gravel Removal from Road	325	CY	\$0.00	\$0
Removal Geotextile Fabric from Road Area	16,000	SF	\$0.10	\$1,600
Culvert Removal and Disposal	0	Each	\$1,200	\$0.00
De-Compact and Grade Road Corridor	1,000	LF	\$1.00	\$1,000.00
Topsoil and Stabilization on Removed Road Area	0.45	Acres	\$17,000.00	\$7,650.00
Removal of Security Fence	2,300	LF	\$6.50	\$14,950.00
Subtotal Civil Infrastructure				<u>\$29,308</u>
Structural Infrastructure				

Remove PV Rack Steel Posts to a 4' Depth	550	Each	\$13.00	\$7,150
Haul PV Rack Array Steel Post	29	Ton	\$6.75	\$196
Removal Transformer Station Post to a 4' Depth	10	Each	\$13.00	\$130
Haul Transformer Station Post	0.4	Ton	\$6.75	\$3
Removal Array Racking	120	Each	\$75.00	\$9,000
Haul Array Racking	75	Ton	\$6.75	\$506
Remove, Load, Haul Concrete Electrical Pads	30	CY	\$150.00	\$4,500
Subtotal Structural Infrastructure				<u>\$21,485</u>
Electrical Collection/Transmission System				
Removal of PV Modules	4,032	Each	\$10.00	\$40,320
Haul PV Modules	80	Ton	\$6.75	\$540
Remove and Load Inverters	2	Each	\$300.00	\$600
Haul Inverters	2	Ton	\$135.00	\$270
Removal Loading and Freight of Transformers	1	Each	\$400.00	\$400
Removal, Loading and Freight of Electrical Equipment	1	Each	\$500.00	\$500
Removal and Disposal of SCADA Equipment	1	Each	\$300.00	\$300
Removal and Load Underground Collector System Cables	10,000	LF	\$0.07	\$700
Haul Underground Cable	3	Ton	\$135.00	\$405
Subtotal Electrical Collection/Transmission System				<u>\$44,035</u>
Site Restoration				
Perimeter Controls	2,000	LF	\$4.00	\$8,000
Topsoil and Turf Establishment on area within Removed Array	9	Acres	\$1,300.00	\$11,700
Subtotal Site Restoration				<u>\$19,700</u>
Grand Total: Decommissioning & Site Restoration				<u>\$125,728</u>

SALVAGE VALUE

Solar Power Systems retain some of their value after their operating life. The solar modules are known to continue to have useful life and in turn can be resold or recycled due to the metallurgic properties. Additionally, the Community Solar Garden has large usage of steel piers, aluminum railing, copper and aluminum conductors and various other materials that have salvage value.

The breakdown of the salvage values are found in [TABLE 2](#) below. The salvage values are based on typical quantities for a 1mwAC/1.35mwDC Fixed Tilt array. Values may slightly vary depending on site specific quantities at time of construction.

TABLE 2 (Salvage Value)

	Quantity	Unit	Unit Cost	Total Cost
Salvage				
Fencing	6	Tons	\$50.00	\$300
Steel Posts	29	Tons	\$175.00	\$5,075
Module Racking	75	Tons	\$175.00	\$13,125
PV Modules	4,032	Each	\$20.00	\$80,640
Transformers	1	Each	\$2,500.00	\$2,500

Switch Gear, Capacitors, Fuses, Etc.	1	Each	\$0.00	\$0
Collection Lines	5,200	Pounds	\$0.02	\$104
Subtotal Salvage				\$101,744
Total Demolition Minus Salvage Value				<u>(\$23,984)</u>

NET COSTS FOR DECOMMISSIONING

The estimated cost, salvage value, and net costs of decommissioning the project are below. The net cost to the project after salvage value is; **\$23,984.00 (twenty three thousand, nine hundred and eighty four dollars and zero cents).**

Demo & Restoration Cost	\$ 125,728
Salvage Value	\$ (101,744)
Total Net Cost	\$ (23,984)

DECOMMISSIONING FUND

- 1) Defined conditions upon which decommissioning will be initiated:

A solar farm/garden that ceases to produce energy on a continuous basis for 12 (twelve) months shall be considered abandoned and the property owner or other responsible party shall be required to decommission the facility and restore the site to substantially its prior condition within 12 months from the time that the facility is deemed to be abandoned, unless substantial evidence is presented to the County of the intent to maintain and reinstate the operation of the facility.

Decommissioning must commence within 60 days of the expiration or termination of the GIA (Generator Interconnection Agreement) or upon termination of the CUP (Conditional Use Permit).

- 2) The anticipated manner in which the solar farm project will be decommissioned and site restored:

The manner in which the solar farm will be decommissioned is found in aforementioned in this document.

- 3) Timetable for completion of decommissioning:

The decommissioning will be completed within 6 (six) months of the commencement of decommissioning.

- 4) The party responsible for decommissioning:

The permittee or its assignee shall be responsible for the decommissioning. In the event the property owner and/or responsible party fail to timely decommission the solar farm/garden facility as required above, the County shall be entitled to take all measures allowed by the Minnesota State Statutes, as well as the right to levy penalties as provided in the County Code, the right to obtain a permanent injunction ordering the removal of such solar farm/garden facility, and the right to obtain a court order permitting the County to remove such solar farm/garden facility.

5) Financial Assurance:

The County requires assurance that funds will be there for the necessary decommissioning work when the project reaches the end of its purposeful life, been condemned, or has been abandoned. A “financial assurance level” of 20% of total project decommissioning costs shall be established by year 10 with increases over time until it reaches 100% for year 25 of operation. Assurance can be achieved via Surety Bond, Letter of Credit approved by the County Attorney or cash set aside in an escrow account controlled by a third-party insurance company.

Upon successful decommissioning, the County shall release the escrow/letter of credit within 30 days of a request. Partial release(s) commensurate with the decommissioning completed as of the date of the request shall be permitted.