

Dane County Conditional Use Permit Application

Application Date	C.U.P Number
08/30/2021	DCPCUP-2021-02540
Public Hearing Date	
11/23/2021	

OWNER INFORMATION	AGENT INFORMATION
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OWNER NAME DANE COUNTY WASTE & RENEWABLES	Phone with Area Code (608) 266-1540	AGENT NAME DANE COUNTY SOLAR, LLC	Phone with Area Code (847) 414-0134
BILLING ADDRESS (Number, Street) 1919 ALLIANT ENERGY CENTER WAY		ADDRESS (Number, Street) N27 W24025 PAUL CT, SUITE 100	
(City, State, Zip) MADISON, WI 53713		(City, State, Zip) Pewaukee, WI 53072	
E-MAIL ADDRESS violante@countyofdane.com		E-MAIL ADDRESS bfrench@sunvest.com	

ADDRESS/LOCATION 1	ADDRESS/LOCATION 2	ADDRESS/LOCATION 3
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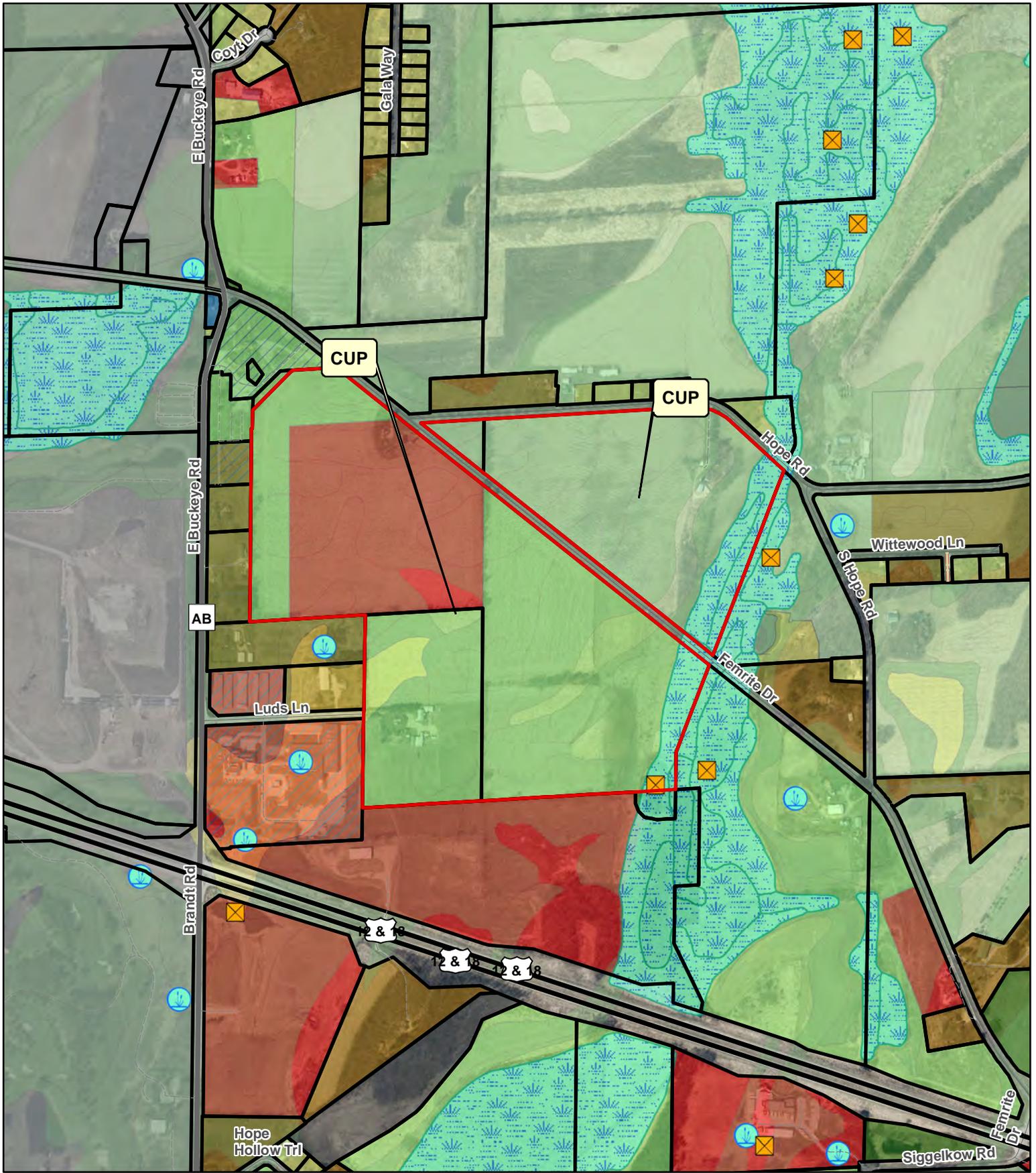
ADDRESS OR LOCATION OF CUP	ADDRESS OR LOCATION OF CUP	ADDRESS OR LOCATION OF CUP
North and East of 3087 Luds Lane		-
TOWNSHIP COTTAGE GROVE	SECTION 30	TOWNSHIP
		SECTION
PARCEL NUMBERS INVOLVED	PARCEL NUMBERS INVOLVED	PARCEL NUMBERS INVOLVED
0711-302-9501-0	302-9040-3, 301-8565-0, 302-8000-2, 302-8500-7, 193-9720-2, and 193-9350-0	

CUP DESCRIPTION

10.101(7)- Electric Generating Facility - 178-acre solar array farm

DANE COUNTY CODE OF ORDINANCE SECTION	ACRES
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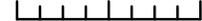
COMMENTS: ELECTRIC GENERATING FACILITY - 178-ACRE SOLAR ARRAY FARM	DEED RESTRICTION REQUIRED? <input type="checkbox"/> Yes <input type="checkbox"/> No Applicant Initials _____	Inspectors Initials RWL1	SIGNATURE:(Owner or Agent) PRINT NAME: DATE:



Legend

-  Wetland
- Significant Soils**
-  Class 1
-  Class 2



0 287.575 1,150 Feet


CUP 02540
DANE COUNTY WASTE & RENEWABLES



Dane County
Department of Planning and Development
 Zoning Division
 Room 116, City-County Building
 210 Martin Luther King Jr. Blvd.
 Madison, Wisconsin 53703
 (608) 266-4266

Application Fees	
General:	\$495
Mineral Extraction:	\$1145
Communication Tower:	\$1145 (+\$3000 RF eng review fee)
PERMIT FEES DOUBLE FOR VIOLATIONS OR WHEN WORK HAS STARTED PRIOR TO ISSUANCE OF PERMIT	

CONDITIONAL USE PERMIT APPLICATION

APPLICANT INFORMATION

Property Owner Name:	Agent Name:
Address (Number & Street):	Address (Number & Street):
Address (City, State, Zip):	Address (City, State, Zip):
Email Address:	Email Address:
Phone#:	Phone#:

SITE INFORMATION

Township:	Parcel Number(s):	
Section:	Property Address or Location:	
Existing Zoning:	Proposed Zoning:	CUP Code Section(s):

DESCRIPTION OF PROPOSED CONDITIONAL USE

Type of conditional use permit (for example: limited family business, animal boarding, mineral extraction, or any other listed conditional use):	Is this application being submitted to correct a violation? Yes <input type="checkbox"/> No <input type="checkbox"/>
Provide a short but detailed description of the proposed conditional use:	

GENERAL APPLICATION REQUIREMENTS

Applications will not be accepted until the applicant has met with department staff to review the application and determined that all necessary information has been provided. Only complete applications will be accepted. All information from the checklist below must be included. Note that additional application submittal requirements apply for particular uses or as may be required by the Zoning Administrator. Applicants for significant and/or potentially controversial conditional uses are strongly encouraged to meet with staff prior to submittal.

<input type="checkbox"/> Complete attached information sheet for standards	<input type="checkbox"/> Site Plan drawn to scale	<input type="checkbox"/> Detailed operational plan	<input type="checkbox"/> Written legal description of boundaries	<input type="checkbox"/> Detailed written statement of intent	<input type="checkbox"/> Application fee (non-refundable), payable to Dane County Treasurer
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I certify by my signature that all information presented herein is true and correct to the best of my knowledge. I hereby give permission for staff of the Dane County Department of Planning and Development to enter my property for the purpose of collecting information to be used as part of the review of this application. I acknowledge that submittal of false or incorrect information may be grounds for denial of this application.

Owner/Agent Signature: _____

Date: _____

STANDARDS FOR CONDITIONAL USE PERMITS

Applicants must provide adequate evidence demonstrating to the Town and Dane County Zoning & Land Regulation Committee that the proposed conditional use satisfies the following 8 standards for approval, along with any additional standards specific to the applicable zoning district or particular use found in sections [10.220\(1\)](#) and [10.103](#) of the code.

Please explain how the proposed land use will meet the following standards (attach additional pages, if necessary):

- | |
|---|
| 1. The establishment maintenance or operation of the conditional use will not be detrimental to or endanger the public health, safety, comfort or general welfare. |
| 2. The uses, values, and enjoyment of other property in the neighborhood for purposes already permitted shall be in no foreseeable manner substantially impaired or diminished by establishment, maintenance or operation of the conditional use. |
| 3. The establishment of the conditional use will not impede the normal and orderly development and improvement of the surrounding property for uses permitted in the district. |
| 4. Adequate utilities, access roads, drainage and other necessary site improvements have been or are being made to accommodate the conditional use. |
| 5. Adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion in the public streets. |
| 6. That the conditional use shall conform to all applicable regulations of the district in which it is located. |
| 7. The conditional use is consistent with the adopted town and county comprehensive plans. |
| 8. If the conditional use is located in a Farmland Preservation (FP) Zoning district, the conditional use is subject to the following additional standards found in section 10.220(1). Attach additional pages, if necessary. <ul style="list-style-type: none">• Explain how the use and its location in the Farmland Preservation Zoning District are consistent with the purposes of the district:
• Explain how the use and its location in the Farmland Preservation Zoning district are reasonable and appropriate, considering alternative locations:
• Explain how the use is reasonably designed to minimize the conversion of land from agricultural use or open space use:
• Explain how the use does not substantially impair or limit the current or future agricultural use of surrounding parcels zoned for agricultural use:
• Explain how construction damage to land remaining in agricultural use is minimized and repaired, to the extent feasible: |

WRITTEN STATEMENT OF INTENT AND OPERATIONS PLAN

Applicants must provide a detailed written statement of intent describing the proposed conditional use along with an operational plan that explains how the conditional use will be operated. Please use the form below and provide responses, as applicable, to your proposed conditional use. Attach additional pages, if necessary.

Describe in detail the proposed conditional use. Provide the specific location of the use(s), type of equipment used, planned property improvements, including description / size of existing or proposed new buildings to be used, and any other relevant information. For existing or proposed commercial operations, provide the name of the business and describe the nature and type of business activity.

List the proposed days and hours of operation.

List the number of employees, including both full-time equivalents and maximum number of personnel to be on the premises at any time.

List any anticipated noise, odors, dust, soot, runoff or pollution associated with the conditional use, along with any proposed measures that will be taken to mitigate impacts to neighboring properties.

Describe any materials proposed to be stored outside and any activities, processing or other operations taking place outside an enclosed building.

For proposals involving construction of new facilities and/or infrastructure, describe, as applicable, any measures being taken to ensure compliance with county stormwater and erosion control standards under [Chapter 11](#) of [Chapter 14](#), Dane County Code.

List and describe existing or proposed sanitary facilities, including adequate private onsite wastewater treatment systems, associated with the proposed conditional use. For uses involving domestic pets or livestock, list and describe measures taken to address manure storage or management.

List and describe any existing or proposed facilities for managing and removal of trash, solid waste and recyclable materials.

Describe anticipated daily traffic, types and weights of vehicles, and any provisions, intersection or road improvements or other measures proposed to accommodate increased traffic.

Provide a listing of any hazardous, toxic or explosive materials to be stored on site, and any spill containment, safety or pollution prevention measures.

Describe any existing or proposed outdoor lighting along with any measures that will be taken to mitigate light-pollution impacts to neighboring properties. The Zoning Administrator may require submittal of a photometric plan for outdoor lighting if deemed necessary to determine potential impacts to neighbors.

Describe any existing or proposed signage, including size, location, and materials, consistent with the county's sign ordinance found in s. [10.800](#).

Briefly describe the current use(s) of the property on which the conditional use is proposed.

Briefly describe the current uses of surrounding properties in the neighborhood.

August 19, 2021

Mr. Roger Lane
Zoning Administrator
Dane County Department of Planning and Development
Zoning Division
Room 116, City -County Building
210 Martin Luther King, Jr. Blvd.
Madison, Wisconsin 53703

RE: Conditional Use Permit Application – Dane County Solar, LLC

Mr. Lane,

Please find attached a Conditional Use Permit Application for Dane County Solar, LLC. The application contains the following information:

- Conditional Use Permit Application
- Legal Description of the subject parcels
- Project Summary
- Proposed project site plan and project details

SunVest Solar, LLC, doing business as Dane County Solar, LLC would like to develop a 20 MW AC solar facility on approximately 178 acres in the Town of Cottage Grove, Dane County, Wisconsin. We respectfully ask that you review the application, provide us with any questions or comments and schedule us for the next available meeting with the Dane County Zoning and Land Regulation Committee.

Should you require any additional information or have questions for us, please feel free to contact me at any time.

Regards,



Bill French
Regional Director of Project Development
bfrench@sunvest.com
(847) 414-0134

PROJECT SUMMARY

SunVest Solar, LLC, doing business as Dane County Solar, LLC is proposing to develop a 20-megawatt AC Solar Facility on Dane County owned property in the Town of Cottage Grove, WI.

PARCEL ZONING

The proposed solar facility is located within 4 different zoning classifications and is currently used for agricultural purposes. They are:

~~RR-2~~, RM-8, HC, AT-35 and FP-35

SURROUNDING PARCEL ZONING CLASSIFICATIONS

The surrounding parcels are comprised of the following zoning classifications and are made up of a variety of uses including residential, industrial, agriculture, religious and open space:

RR-2, RR-4, RR-8, SFR-08, TFR-08, FP-35, NR-C, HC and GC.

PROPERTY PIN #'S

018/0711-302-9501-0 (18.8 acres)

018/0711-301-9040-3 (50.36 acres)

018/0711-301-8565-0 (50.21 acres)

018/0711-302-8000-2 (39.80 acres)

018-0711-302-8500-7 (8.50 acres)

018-0711-193-9720-2 (7.00 acres)

018/0711-193-9350-0 (3.27 acres)

SITE ACCESS and PARKING

Access to the site will be from three (3) 12' wide entrances located on the north and south sides of Femrite Drive. An additional project entrance will be located at the east end of Lud's Lane. Off-street parking will be provided at each site entrance for 20-30 vehicles inside of the project area.

IMPACT TO ADJACENT EXISTING AND FUTURE LAND USES

The proposed use of the property will not have a negative impact on the existing and future land uses of the area. The property is currently used for agricultural purposes and the proposed location and use of the property will allow for the continued use and enjoyment of the adjacent properties. Solar facilities are generally quiet during the day and will only create 60 dBA at 1 meter. The facility will be silent at night and will not create any odors, soot, dust, runoff or pollution at any time.

IMPACT TO THE GENERAL PUBLIC'S HEALTH, SAFETY AND WELFARE

Solar gardens do not have a negative effect on surrounding properties health and safety and do not impede the welfare of the surrounding area.

PROJECT FEATURES

Site improvements will consist of photovoltaic solar panels installed on a single axis tracking system. The tracking system will be supported by galvanized steel beams, pile driven 10-14' into the ground. No concrete is anticipated to be used for the support system. The panels will be facing east-west, thus the rows of panels will be oriented in a north-south direction. The overall height of the system will be approximately 8' tall. Three, 12' wide access drives will provide year-round access to all major equipment throughout the array. The solar garden will be setback a minimum of 25 feet from the property line at its nearest point to Femrite Drive and Hope Road. The array will not impact existing wetland or flood prone areas on the property.

The entire site will be covered with diverse, pollinator friendly, native vegetation specifically designed for this project. The vegetation will be native, requiring minimal maintenance once established, and create habitat beneficial to bees, other insects, birds and other animal species.

Wooden electric support poles will be needed to transfer the power generated from the project to the local distribution lines located along County Road AB. These poles will be approximately 30' tall.

Once the project is completed there will be no on-site storage of materials. Any debris accumulated on the property will be removed daily for disposal or recycling.

STORMWATER RUNOFF MANAGEMENT

A complete Storm Water Management Report and Storm Water Pollution Prevention Plan will be submitted prior to the issuance of a Building Permit.

CONSTRUCTION ACTIVITIES

It is anticipated that 50 to 70 full time employees will be on site in the early stages of construction. This will reduce to a team of approximately 20 to 30 members toward the end of the construction activities. Typically, there will be a vehicle for each worker, approximately twelve (12) small utility vehicles for transferring equipment around the site, and temporary equipment needed to perform different construction tasks. Hours of construction will be within 7am – 7 pm. The total construction will take approximately 6 months, with major activity occurring in the middle 3 months. The first two (2) months will consist of pile driving with the balance of the construction timeline used for erecting the racking, panels and electrical equipment after that. Dust will be mitigated through the use of a water truck as needed.

FACILITY SAFETY

The facility will be surrounded by a 7' tall chain link fence with a locked gate to prevent access from unauthorized persons. All major electrical equipment will be individually locked. Access will be provided into the fence through a locked gate with keys provided to the Emergency

personnel and kept on-site in a secure Knox Box. Training will be provided to the Fire and Rescue Department at regular intervals to ensure proper safety measures are taken at all times and during emergencies.

SIGNAGE

Warning signage will be placed on the fence every 200' warning of the danger of electrical generation. Access will be provided into the fence through a locked gate with keys provided to the Emergency personnel and kept on-site in a secure Knox Box. Training will be provided to the Fire and Rescue Department at regular intervals to ensure proper safety measures are taken at all times and during emergencies.

LIGHTING

No interior lighting is planned at this facility.

OPERATIONS & MAINTENANCE

The site will be monitored off-site via a scada system and wireless phone connection. The site will be visited on an as-needed basis for the maintenance of the electrical system. This will be limited to a crew of 1-2 electrical personnel in a passenger vehicle performing annual maintenance checks and replacing equipment as needed.

VEGETATION MAINTENANCE

Once the native meadow / prairie vegetation is established, maintenance of the plantings will occur bi-annually and will consist of mowing and spot treating noxious weeds. Additional seeding will be done on an "as needed" basis to help maintain optimal vegetative cover.



Developing • Renewable • Relationships

Conditional Use Permit Application for:

Dane County Solar, LLC

A 20 MW Solar Facility



Parcel Legal Descriptions

PIN #'s: 018-0711-193-9350-0, 018-0711-193-9720-2, 018-0711-302-8000-2, 018-0711-302-8500-7

A piece of land commencing at a point 20 rods East of the Northwest corner of Section 30, Township 7 North, Range 11 East, and running thence East 96 rods; thence South 80 rods; thence West 96 rods; thence North 80 rods to the place of beginning, the whole lying in and constituting a part of the Northwest $\frac{1}{4}$ of Section 30, Township 7 North, Range 11 East, in the Town of Cottage Grove, Dane County, Wisconsin. Also, a piece of land commencing 20 rods East of the Southwest corner of Section 19, Township 7 North, Range 11 East; thence East 96 rods; thence North 40 rods; thence West 96 rods; thence South 40 rods to the place of beginning, less and except a part thereof conveyed to the Trustees of the Evangelical Lutheran St. Emanuels Church of Cottage Grove, Dane County, Wisconsin and recorded in Vol. 308 of Deeds, page 147, as #442791.

ALSO described as follows: The fractional North $\frac{1}{2}$ of the Northwest $\frac{1}{4}$ of Section 30, Township 7 North, Range 11 East, in the Town of Cottage Grove, Dane County, Wisconsin, EXCEPT the West 330 feet thereof, and part of the fractional South $\frac{1}{2}$ of the Southwest $\frac{1}{4}$ of Section 19, Township 7 North, Range 11 East, in the Town of Cottage Grove, Dane County, Wisconsin, described as follows: Beginning at a point on the South line of said Section 19, 336.5 feet East of the Southwest corner thereof; thence North 224.25 feet parallel to the West line of said Section 19; thence North $80^{\circ} 19'$ East, to a point which is 256.5 feet North of said South line and 529.5 feet East of said West line; thence North $32^{\circ} 33'$ West to a point 330 feet East of said West line, the last course extended would pass through a point 660 feet North of said South line and 267 feet East of the Southwest corner of said Section 19; thence North parallel to said West line to a point 660 feet North of the South line of said Section 19; thence East parallel to said South line to a point 16.5 feet West of the East line of said fractional South $\frac{1}{2}$ of the Southwest $\frac{1}{4}$; thence South 660 feet parallel to said East line to the South line of said Section; thence West along said South line to the point of beginning.

EXCEPTING therefrom all that part of the fractional Southwest $\frac{1}{4}$ of the Southwest $\frac{1}{4}$ and Southeast $\frac{1}{4}$ of the Southwest $\frac{1}{4}$ of Section 19, Township 7 North, Range 11 East, in the Town of Cottage Grove, Dane County, Wisconsin, lying North of Hope Road and Northeasterly of Femrite Drive and the South centerline of the drainage ditch.

ALSO EXCEPTING therefrom a parcel of land located in the Southwest $\frac{1}{4}$ of the Southwest $\frac{1}{4}$ of Section 19, Township 7 North, Range 11 East, in the Town of Cottage Grove, Dane County, Wisconsin, more particularly described as follows: Commencing at the Southwest corner of said Section 19; thence North $86^{\circ} 10' 33''$ East, 336.78 feet (recorded as North $85^{\circ} 27' 08''$ East, 336.5 feet); thence North $0^{\circ} 19' 38''$ East, 123.44 feet to the point of beginning; thence continue North $0^{\circ} 19' 38''$ East, 85.01 feet; thence North $44^{\circ} 48' 16''$ East, 264.70 feet (recorded as North $45^{\circ} 17' 04''$ East, 262.91 feet); thence North $85^{\circ} 24' 41''$ East, 83.75 feet; thence South $44^{\circ} 03' 38''$ West, 388.97 feet to the point of beginning.

AND ALSO EXCEPTING therefrom a parcel of land located in the Southwest $\frac{1}{4}$ of the Southwest $\frac{1}{4}$ of Section 19, Township 7 North, Range 11 East, in the Town of Cottage Grove, Dane County, Wisconsin, more particularly described as follows: Commencing at the Southwest corner of said Section 19; thence North $86^{\circ} 07'$ East along the South line of said Section 19, 336.58 feet to the Easterly line of the Second

Addition to the Hope Cottage Grove Cemetery Plat; thence North 0° 19' East along said East line and the East line extended, 224.50 feet; thence North 80° 19' East, 190.51 feet; thence North 32° 33' West, 139.62 feet to the point of beginning of this description; thence continuing North 32° 33' West, 333.93 feet; thence North 86° 07' East parallel to the South line of said Section 19, 360.70 feet to the centerline of Old U.S. Highway 12 and 18; thence South 52° 28' East along said centerline, 442.73 feet; thence South 86° 07' West parallel to the South line of said Section 19, 532.78 feet to the point of beginning of this description.

PIN #'s: 018/0711-302-9501-0, 018/0711-301-9040-3, 018/0711-304-8501-0

Parcel A:

The Fractional South 1/2 of the Northwest 1/4 and the North 10 acres of the Fractional North 1/2 of the Southwest 1/4, all in Section 30, Township 7 North, Range 11 East, in the Town of Cottage Grove, Dane County, Wisconsin, EXCEPTING therefrom: Beginning at the Northwest corner of said Fractional South 1/2 of the Northwest 1/4; thence North 86° 34' 01" East, 1108.65 feet; thence South 0° 4' 7" West 1539.54 feet; thence South 86° 47' 27" West to the West line of said Fractional North 1/2 of the Southwest 1/4; thence North along said West line and West line of said Fractional South 1/2 of the Northwest 1/4 to the point of beginning. Also EXCEPTING therefrom: Lands contained in Warranty Deed dated June 30, 2005, and recorded July 5, 2005, as Document No. 4075428.

PARCEL 8:

The North 1/2 of the Northwest 1/4 of the Southeast 1/4 of Section 30, Township 7 North, Range 11 East, in the Town of Cottage Grove, Dane County, Wisconsin, EXCEPTING therefrom lands contained in Warranty Deed dated June 30, 2005, and recorded July 5, 2005, as Document No. 4075428.

PARCEL C:

That part of the West 1/2 of the Northeast 1/4 of Section 30, Township 7 North, Range 11 East, in the Town of Cottage Grove, Dane County, Wisconsin, lying South and West of the centerline of old U.S. Highway 12 and 18, now known as Femrite Road, and a parcel of land in the Southeast 1/4 of the Northeast 1/4 of Section 30, Township 7 North, Range 11 East, in the Town of Cottage Grove, Dane County, Wisconsin, described as: Commencing at a point on the West line of said 40 acre tract last mentioned, 50 rods North of the Southwest corner thereof; thence North along the West line of said 40 acre tract last mentioned to the center of old U.S. Highway 12 and 18, now known as Femrite Road; thence Southeasterly along the centerline of said highway to its intersection with the centerline of Door Creek; thence Southwesterly along the centerline of Door Creek until its intersection with the West line of the 40 acre tract last mentioned; thence North along the West line of said 40 acre tract last mentioned to the point of beginning.

PIN #: 018-0711-301-8565-0

Lot 1, Certified Survey Map 12140 recorded in Vol. 75 of the Certified Survey Maps, page 28, as #4305611, in the Town of Cottage Grove, Dane County, Wisconsin.

PV SYSTEM DETAILS

ARRAY TYPE: SINGLE AXIS TRACKER (SAT)
 DC SYSTEM SIZE: 25,525.5 KW DC
 DC SYSTEM VOLTAGE: 1500 V
 AC SYSTEM SIZE: 20 MW AC
 MODULES (46,410) TRINA, DEG19C.20 550W
 INVERTERS: (5) SMA - SC-4000-UP-US
 OPTIMIZERS: N/A
 RACKING: ATI
 CLAMPS: N/A
 AZIMUTH: SAT
 ARRAY PITCH: 0°

ALLIANT ENERGY, RFP

COTTAGE GROVE, WI 55016

INSPECTION ITEMS

CONTRACTOR SHALL STRICTLY ADHERE TO THE FOLLOWING CODE STANDARDS UNLESS OTHERWISE NOTED WITHIN THE DRAWING; NEC. 2017, IBC. 2015, IFC. 2015 AND APPLICABLE LOCAL CODES.

PROGRESS INSPECTIONS:

ROUGH ELECTRIC: REQUIRED NOT REQUIRED
 ROUGH BUILDING: REQUIRED NOT REQUIRED

FINAL INSPECTIONS:

ELECTRIC: REQUIRED NOT REQUIRED
 BUILDING: REQUIRED NOT REQUIRED
 OTHER: REQUIRED NOT REQUIRED

CONTRACTOR SHALL BE KNOWLEDGEABLE OF ANY LOCAL AHJ INSPECTIONS REQUIRED NOT LISTED.



N27 W24025 PAUL CT. SUITE 100
 PEWAUKEE, WI 53072
 PHONE: (262)-547-1200
 WWW.SUNVEST.COM

STRUCTURAL ENGINEER STAMP

ELECTRICAL ENGINEER STAMP

CIVIL ENGINEER STAMP

PROFESSIONAL ENGINEER STAMPS

LICENSED ELECTRICAL ENGINEER certifies that they prepared all the electrical "E" sheets in this drawing set.
 LICENSED STRUCTURAL ENGINEER certifies that they prepared all of the structural "S" sheets in this drawing set.
 LICENSED CIVIL ENGINEER certifies that they prepared all of the civil "C" sheets in this drawing set.
 It should be noted that any plan sheets not identified above have been prepared and certified by others and have been included herein for informational purposes only.

F		L	
E	8/18/21	K	
D	5/4/21	J	
C	5/3/21	I	
B	3/12/21	H	
A	3/10/21	G	
REV	DATE	REV	DATE
DRAWN BY: TG		CHECKED BY: RA	
SCALE: AS NOTED		JOB NO: 21-702	

ALLIANT ENERGY
 RFP
 COTTAGE GROVE, WI 55016

SHEET TITLE
 TITLE SHEET

DWG. NO.
T-1.00

SCOPE OF WORK

- CONTRACTOR SHALL ACCEPT, VERIFY AND INSTALL ALL MATERIAL AS LISTED ABOVE AND ON THE B.O.M. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE DEVELOPER IMMEDIATELY.
- ALL EQUIPMENT AND MATERIAL SHALL BE INSTALLED AS PER MANUFACTURES GUIDELINES SET FORTH IN THE INSTRUCTION MANUAL AND AS PER NEC. 110.(D)
- CONTRACTOR SHALL PROVIDE PROTECTIVE MATERIALS TO PREVENT DAMAGE TO EXISTING BUILDINGS OR EQUIPMENT AND PROPOSED BUILDINGS OR EQUIPMENT.
- CONTRACTOR SHALL PERFORM A PRE-CONSTRUCTION SITE WALK AT LEAST 5 DAYS PRIOR TO MOBILIZATION TO CONFIRM SITE CONDITIONS, STAGING AREAS AND ANY OTHER SITE SPECIFIC DETAILS REQUIRED. ANY ISSUES SHALL BE PHOTO DOCUMENTED ALONG WITH A WRITTEN REPORT AND PROVIDED IMMEDIATELY TO THE NECESSARY PARTIES.
- IF DEVELOPER IS NOT CALLED, CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL TESTING/INSPECTION REQUIRED TO APPROVE SITE AT ENGINEERS DISCRETION.
- PRIOR TO FINAL SIGN-OFF THE CONTRACTOR SHALL PROVIDE A LETTER OF COMPLIANCE FOR THE WORK DONE. THE LETTER MUST REFERENCE THAT THE WORK WAS DONE IN ACCORDANCE TO THE DRAWINGS AND IN COMPLIANCE WITH THE BUILDING CODE OF THE APPLICABLE AUTHORITY HAVING JURISDICTION.

LOCATION MAP



NOTES

- THE APPLICANT PROPOSES TO INSTALL PV MODULES AND WEATHER PROOF EQUIPMENT FOR AN UNMANNED FACILITY.
- EQUIPMENT IS UNMANNED AND NOT FOR HUMAN HABITATION, HANDICAP ACCESS IS THEREFORE NOT REQUIRED.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. NON-CONFORMING CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER AND DEVELOPER FOR REMEDIAL OR CORRECTIVE ACTION.
- DEVELOPMENT AND USE OF THE SITE WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.

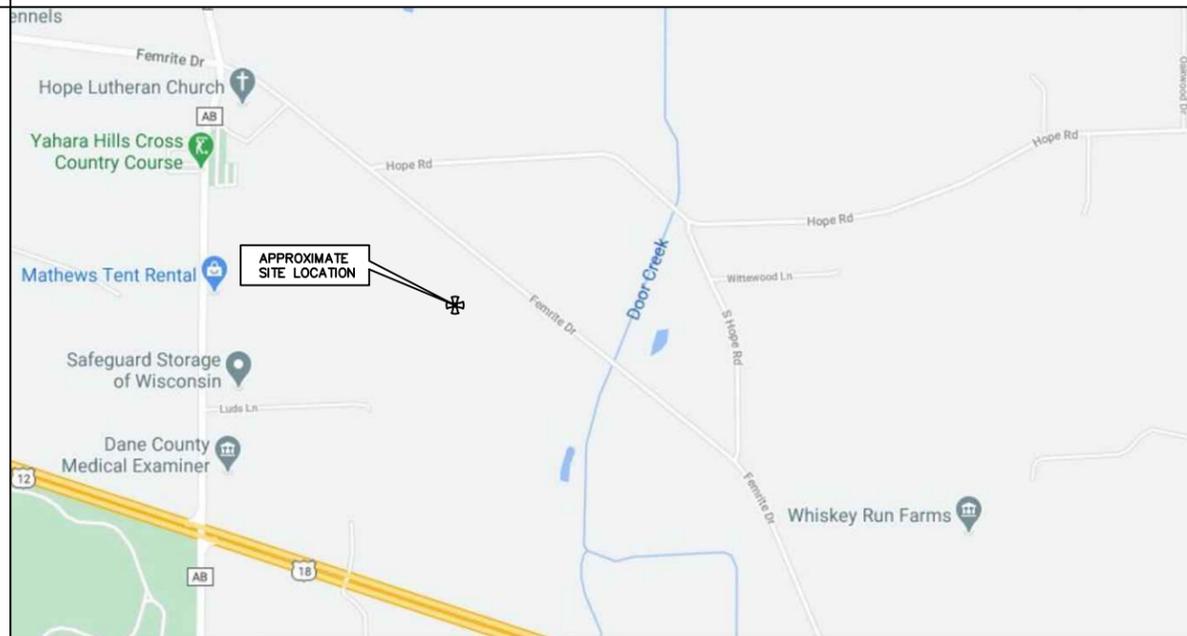
DISCLAIMER

IT IS A VIOLATION OF THE LAW FOR ANY PERSON UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER TO ALTER THIS DOCUMENT. UNLESS EXPLICITLY AGREED TO BY THE ENGINEER IN WRITING, THE ENGINEER DISCLAIMS ALL LIABILITY ASSOCIATED WITH THE REUSE, ALTERATION OR MODIFICATION OF THE CONTENTS HEREIN.

SITE INFORMATION

PROPERTY OWNER: ALLIANT ENERGY
 POWER COMPANY: ALLIANT ENERGY
 PROJECT MANAGER: PHONE:
 APPROX LEASED SQ FT: 108.7 ACRES
 13,302 L.F. OF FENCE
 TAX ID:

AERIAL MAP



DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE DEVELOPER OR ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

DWG NO:

DRAWING INDEX

SHEET TITLE

T-1.00	TITLE SHEET
PV-1.00	ARRAY LAYOUT
PV-2.00	ZONING PLAN
E-1.00	ONE-LINE DIAGRAM
E-2.00	SPEC SHEETS
E-2.10	SPEC SHEETS
E-3.00	NEC LABELS
G-1.00	GENERAL NOTES
G-2.00	GENERAL NOTES

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CIVIL ENGINEER STAMP

PROFESSIONAL ENGINEER STAMPS

LICENSED ELECTRICAL ENGINEER certifies that they prepared all the electrical "E" sheets in this drawing set.

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F		L	
E	8/18/21	K	
D	5/4/21	J	
C	5/3/21	I	
B	3/12/21	H	
A	3/10/21	G	

REV	DATE	REV	DATE

DRAWN BY: TG CHECKED BY: RA

SCALE: AS NOTED JOB NO: 21-702

ALLIANT ENERGY
RFP

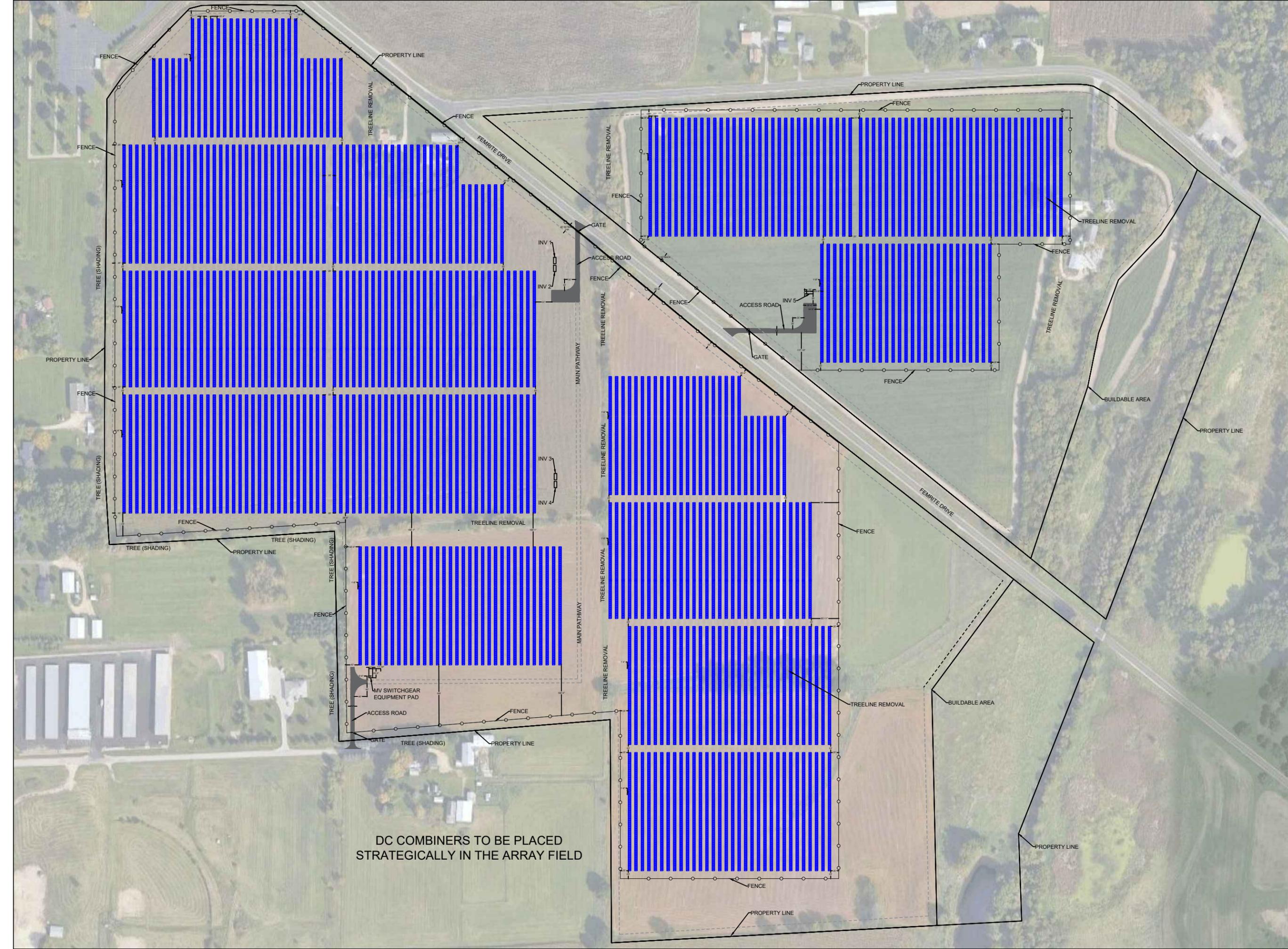
COTTAGE GROVE, WI 55016

SHEET TITLE

ARRAY LAYOUT

DWG. NO.

PV-1.00



DC COMBINERS TO BE PLACED
STRATEGICALLY IN THE ARRAY FIELD

STRUCTURAL ENGINEER STAMP

ELECTRICAL ENGINEER STAMP

CIVIL ENGINEER STAMP

PROFESSIONAL ENGINEER STAMPS

LICENSED ELECTRICAL ENGINEER certifies that they prepared all the electrical "E" sheets in this drawing set.
LICENSED STRUCTURAL ENGINEER certifies that they prepared all of the structural "S" sheets in this drawing set.
LICENSED CIVIL ENGINEER certifies that they prepared all of the civil "C" sheets in this drawing set.
It should be noted that any plan sheets not identified above have been prepared and certified by others and have been included herein for informational purposes only.

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REV	DATE	REV	DATE
DRAWN BY: TG		CHECKED BY: RA	
SCALE: AS NOTED		JOB NO: 21-702	

ALLIANT ENERGY
RFP

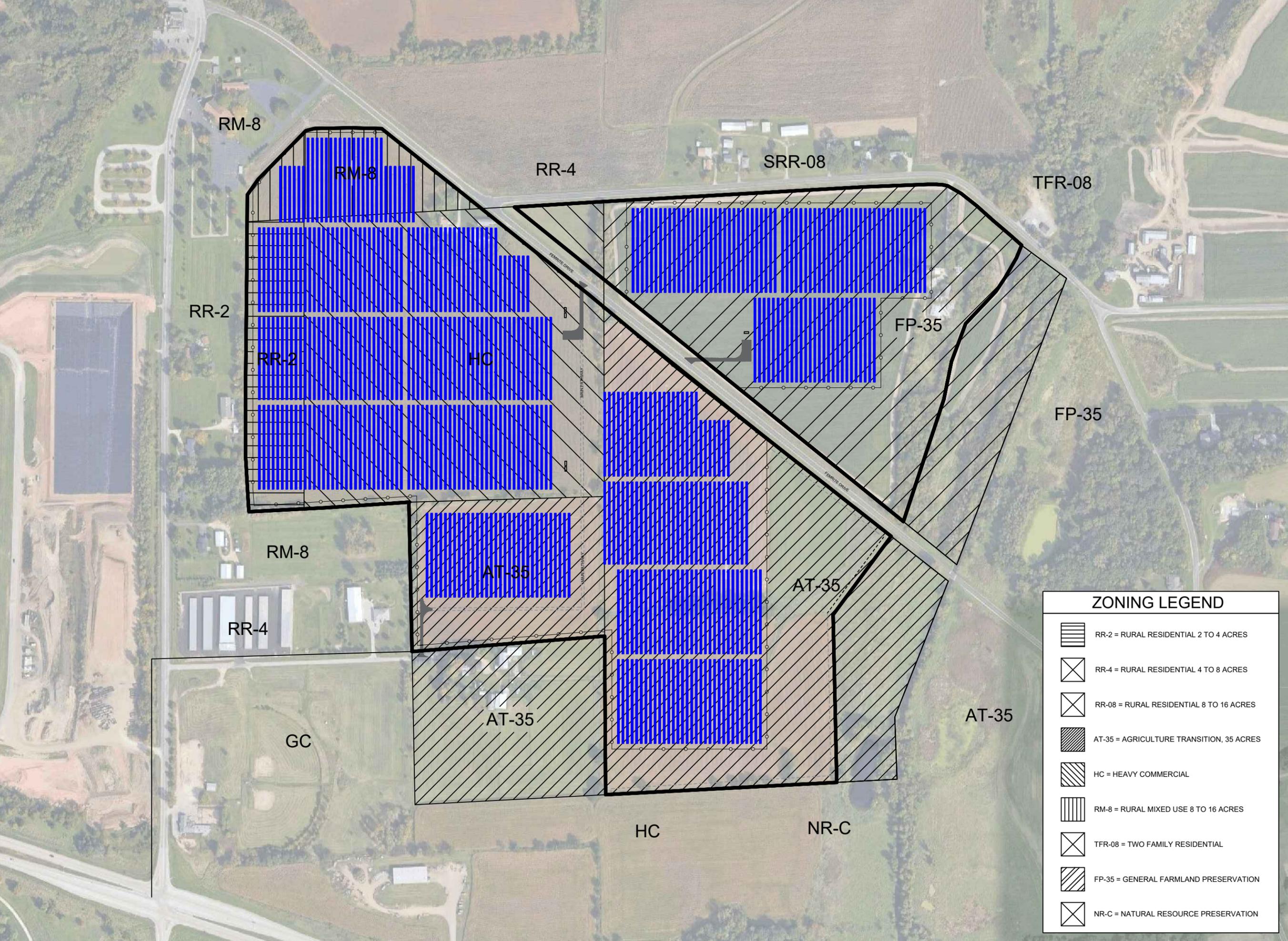
COTTAGE GROVE, WI 55016

SHEET TITLE

ZONING PLAN

DWG. NO.

PV-2.00



ZONING LEGEND

- RR-2 = RURAL RESIDENTIAL 2 TO 4 ACRES
- RR-4 = RURAL RESIDENTIAL 4 TO 8 ACRES
- RR-08 = RURAL RESIDENTIAL 8 TO 16 ACRES
- AT-35 = AGRICULTURE TRANSITION, 35 ACRES
- HC = HEAVY COMMERCIAL
- RM-8 = RURAL MIXED USE 8 TO 16 ACRES
- TFR-08 = TWO FAMILY RESIDENTIAL
- FP-35 = GENERAL FARMLAND PRESERVATION
- NR-C = NATURAL RESOURCE PRESERVATION

PV SYSTEM DETAILS

ARRAY TYPE: SINGLE AXIS TRACKER (SAT)
 DC SYSTEM SIZE: 25,525.5 KW DC
 DC SYSTEM VOLTAGE: 1500 V
 AC SYSTEM SIZE: 20 MW AC
 MODULES: (46,410) TRINA, DEG19C.20 550W
 INVERTERS: (5) SMA - SC-4000-UP-US
 OPTIMIZERS: N/A
 RACKING: ATI
 CLAMPS: N/A
 AZIMUTH: SAT
 ARRAY PITCH: 0°

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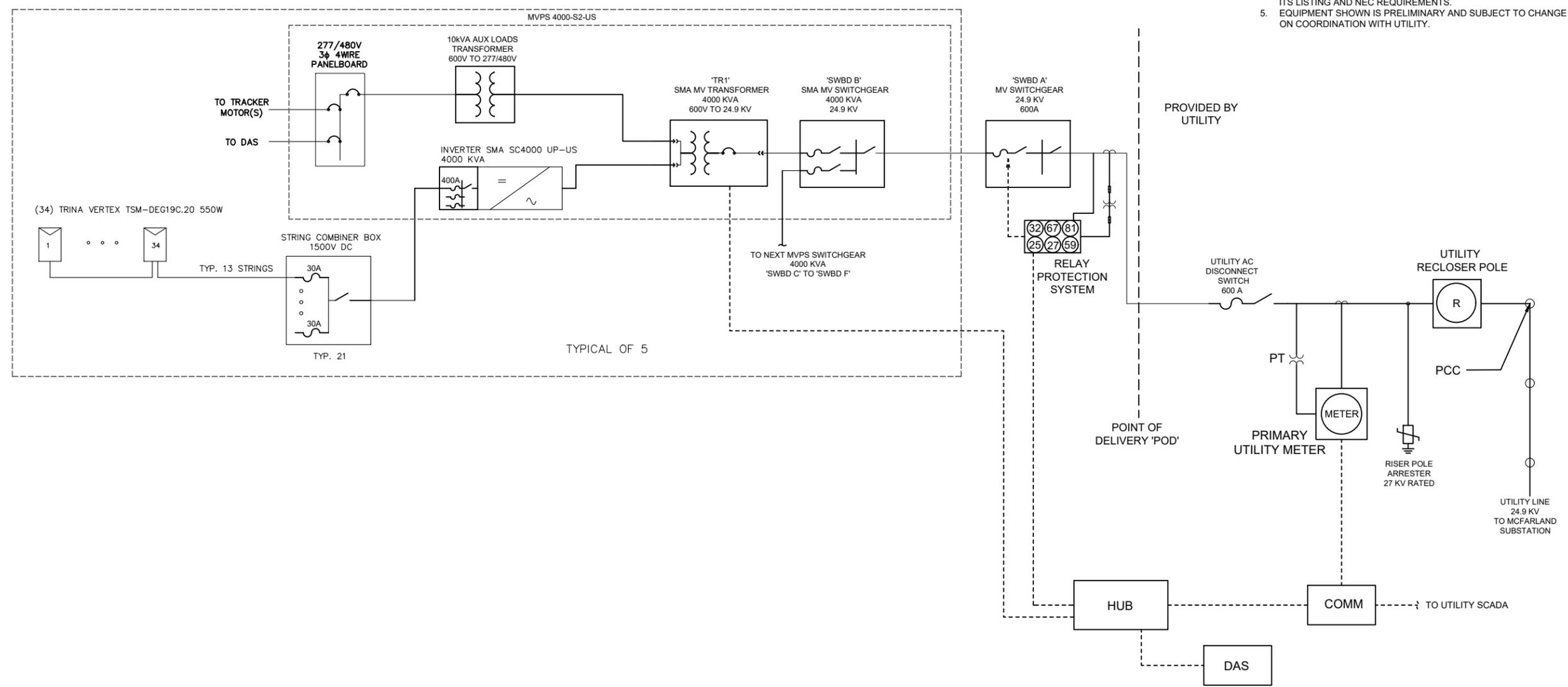
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D	5/4/21	J	
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DRAWN BY: TG		CHECKED BY: RA	
SCALE: AS NOTED		JOB NO: 21-702	

ALLIANT ENERGY RFP
 COTTAGE GROVE, WI 55016

SHEET TITLE
 ONE LINE DIAGRAM

DWG. NO.
E-1.00

1. TRANSFORMER INTEGRATED DISCONNECT SHALL BE VISIBLE BREAK, LOCKABLE AND IN THE OPEN POSITION. PROVIDE VIEWING WINDOW IN ENCLOSURE FOR VISUAL VERIFICATION OF SWITCH POSITION WITHOUT HAVING TO OPEN TRANSFORMER ENCLOSURE.
2. FINAL GROUNDING TRANSFORMER RATINGS SHALL BE DETERMINED BASED ON RESULTS OF UTILITY STUDY.
3. FINAL RELAY PROTECTION SYSTEM FUNCTIONS AND SETTINGS TO BE COORDINATED WITH UTILITY.
4. ALL EQUIPMENT SHALL BE LISTED FOR ITS PURPOSE AND INSTALLED PER ITS LISTING AND NEC REQUIREMENTS.
5. EQUIPMENT SHOWN IS PRELIMINARY AND SUBJECT TO CHANGE BASED ON COORDINATION WITH UTILITY.





BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

PRODUCT: TSM-DEGL9C20
PRODUCT RANGE: 530-550W

550W+
MAXIMUM POWER OUTPUT

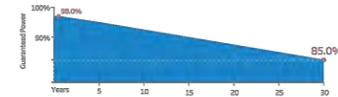
0~+5W
POSITIVE POWER TOLERANCE

21.0%
MAXIMUM EFFICIENCY



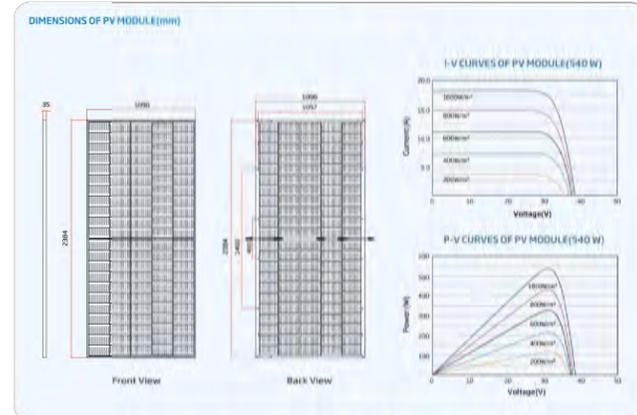
- High customer value**
 - Lower LCOE (Levelized Cost Of Energy), reduced BOS (Balance of System) cost, shorter payback time
 - Lowest guaranteed first year and annual degradation
 - Designed for compatibility with existing mainstream system components
 - Higher return on investment
- High power up to 550W**
 - Up to 21.0% module efficiency with high density interconnect technology
 - Multi-busbar technology for better light trapping effect, lower series resistance and improved current collection
- High reliability**
 - Minimized micro-cracks with innovative non-destructive cutting technology
 - Ensured PID resistance through cell process and module material control
 - Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity areas
 - Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load
- High energy yield**
 - Excellent IAM (Incident Angle Modifier) and low irradiation performance, validated by 3rd party certifications
 - The unique design provides optimized energy production under inter-row shading conditions
 - Lower temperature coefficient (-0.34%) and operating temperature
 - Up to 25% additional power gain from back side depending on albedo

Trina Solar's Vertex Bifacial Dual Glass Performance Warranty



Comprehensive Products and System Certificates

- ISO 9001:2015 Quality Management System
- ISO 14001:2015 Environmental Management System
- ISO 45001:2018 Occupational Health and Safety Management System



ELECTRICAL DATA (STC)					
Peak Power Watts-Proc (Wp)*	530	535	540	545	550
Power Tolerance-Proc (W)	0 ~ +5				
Maximum Power Voltage-Vm (V)	31.0	31.2	31.4	31.6	31.8
Maximum Power Current-Imp (A)	17.11	17.16	17.21	17.24	17.26
Open Circuit Voltage-Voc (V)	37.3	37.5	37.7	37.9	38.1
Short Circuit Current-Isc (A)	18.83	18.84	18.86	18.88	18.89
Module Efficiency-Mod (%)	20.3	20.5	20.7	20.9	21.0

ELECTRICAL DATA (NOCT)					
Maximum Power Proc (Wp)	421	425	429	433	437
Maximum Power Voltage-Vm (V)	29.8	29.9	29.9	29.9	29.9
Maximum Power Current-Imp (A)	14.00	14.07	14.13	14.18	14.24
Open Circuit Voltage-Voc (V)	35.1	35.3	35.5	35.7	35.9
Short Circuit Current-Isc (A)	14.88	14.79	14.76	14.73	14.69



CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT. © 2020 Trina Solar Limited. All rights reserved. Specifications included in this datasheet are subject to change without notice. Version number: TSM_EN_2020_P42 www.trinasolar.com



FOLLOW THE SUN. FOLLOW THE LEADER.



7% LOWER LCOE

31% LOWER LIFETIME O&M

DuraTrack® HZ v3

Three decades of field-tested design improvements have resulted in the DuraTrack® HZ v3 — the most durable, reliable tracking system under the sun. While our single-bolt module clamp and forgiving tolerances streamline installation, and our flexibly linked architecture maximizes power density, it's our innovative use of fewer components and a failure-free wind management system that makes Array Technologies the best choice for solar trackers. Better. Stronger. Smarter.

- HIGHEST POWER DENSITY.** Higher density means more power and more profit. DuraTrack HZ v3 offers the unique ability to maximize the power density of each site, boasting 100 modules per row and higher density than our closest competitor.
- LEADING TERRAIN ADAPTABILITY.** Our flexibly linked architecture, with articulating driveline joints and forgiving tolerances, creates the most adaptable system on the market for following natural land contours while creating the greatest power generation potential from every site.
- FEWER COMPONENTS. GREATER RELIABILITY.** Array was founded on a philosophy of engineered simplicity. Minimizing potential failure points (167 times fewer components than competitors), DuraTrack HZ v3 consistently delivers higher reliability and superior uptime.
- FAILURE-FREE WIND DESIGN.** DuraTrack HZ v3 was designed and field tested to withstand some of the harshest conditions on the planet. It is the only tracker on the market that reliably handles wind events with a fully integrated, fully mechanical, passive wind-load mitigation system without the need for complex communication systems, batteries, or power.
- ZERO SCHEDULED MAINTENANCE.** Maintenance-free motors and gears, fewer moving parts, and industrial-grade components—what does this mean for our customers? No scheduled maintenance required. While our competitors average two unscheduled maintenance events per day, we average only one per year.



FOLLOW THE SUN. FOLLOW THE LEADER.

COST VERSUS VALUE
We believe value is more than the cost of a tracking system. It's about building with forgiving tolerances and fewer parts so construction crews can work efficiently. It means protecting your investment with a failure-free wind management system. It also includes increasing power density. But most of all, value is measured in operational uptime, or reliability.

THE ORIGINAL LEADER IN RELIABILITY
Array has spent decades designing and testing the most reliable tracker on the planet. Fewer moving parts, stronger components and intelligent design that protects your investment in the harshest weather are just a few of the numerous differences that help your system remain flawless all day and get you getting busy at high

ARRAY TECHNOLOGIES, INC.
5901 Midway Plaza N.
Albuquerque, NM 87109 USA
+1 505 881 2581
+1 800 TRACKPV (672.2176)
+1 505 881 7572
sales@arraytechnologies.com
arraytechnic.com

30 GW YEARS OF OPERATION **167x FEWER COMPONENTS THAN COMPETITIVE TRACKERS**

STRUCTURAL & MECHANICAL FEATURES/SPECIFICATIONS	
Tracking Type	Horizontal single axis
MW per Drive Motor	Up to 1.152 MW DC using 360W crystalline
String Voltage	Up to 1,500V DC
Maximum Lined Rows	32
Maximum Row Size	100 modules crystalline, and bifacial; 240 modules First Solar 4; 78 modules First Solar 6
Drive Type	Rotating gear drive
Motor Type	2 HP 3 PH, 480V AC
Motors per 1 MW DC	Less than 1
East-West/North-South Dimensions	Site / module specific
Array Height	54" standard, adjustable (48" min height above grade)
Ground Coverage Ratio (GCR)	Flexible, 28-45% typical, others supported on request
Terrain Flexibility	N-S tolerance: 0° - 8.5° standard, 15° optional; Driveline: 40" in all directions
Modules Supported	Most commercially available, including frameless crystalline, thin film, and bifacial
Tracking Range of Motion	+ 52° standard, + 62° optional
Operating Temperature Range	-30°F to 140°F (-34°C to 60°C)
Module Configuration available.	Single-in-portrait standard, including bifacial. Four-in-landscape (thin film) also
Module Attachment	Single fastener, high-speed mounting clamps with integrated grounding. Traditional rails for crystalline in landscape, custom racking for thin film and frameless crystalline and bifacial per manufacturer specs.
Materials	Pre-galv steel, HDG steel and aluminum structural members, as required
Allowable Wind Load (ASCE 7-10)	140 mph, 3-second gust exposure C
Wind Protection	Passive mechanical system protects against wind damage — no power required

ELECTRONIC CONTROLLER FEATURES/SPECIFICATIONS	
Solar Tracking Method	Algorithm with GPS input
Control Electronics	MCU plus Central Controller
Data Feed	MODBUS over Ethernet to SCADA system
Night-time Stop	Yes
Tracking Accuracy	± 2" standard, field adjustable
Backtracking	Yes
INSTALLATION, OPERATION & MAINTENANCE	
Software	SmartTrack optimization available
PC Stamped Structural Calculations & Drawings	Yes
On-site Training and System Commissioning	Yes
Connection Type	Fully bolted connections, no welding
In-field Fabrication Required	No
Dry Slide Bearings and Articulating Driveline Connections	No lubrication required
Scheduled Maintenance	None required
Module Cleaning Compatibility	Robotic, Tractor, Manual
GENERAL	
Annual Power Consumption (kWh per 1 MW)	400 kWh per MW per year, estimated



Developing • Renewable • Relationships
10315 1st Ave. Sunvest.com
N27 W24025 PAUL CT. SUITE 100
PEWAUKEE, WI 53072
PHONE: (262)-547-1200
WWW.SUNVEST.COM

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ELECTRICAL ENGINEER STAMP

CIVIL ENGINEER STAMP

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ALLIANT ENERGY
RFP
COTTAGE GROVE, WI 55016

SHEET TITLE
SPEC SHEETS

DWG. NO.

E-2.00

MV POWER STATION
4000-S2 / 4200-S2 / 4400-S2 / 4600-S2



- | | | | |
|---|---|---|---|
| Robust <ul style="list-style-type: none"> Station and all individual components type-tested Optimally suited to extreme ambient conditions | Easy to Use <ul style="list-style-type: none"> Plug and play concept Completely pre-assembled for easy setup and commissioning | Cost-Effective <ul style="list-style-type: none"> Easy planning and installation Low transport costs due to 20-foot skid | Flexible <ul style="list-style-type: none"> One design for the whole world DC-Coupling Ready Hardware options |
|---|---|---|---|

MV POWER STATION 4000-S2 / 4200-S2 / 4400-S2 / 4600-S2
Turnkey Solution for PV Power Plants

With the power of the new robust central inverters, the Sunny Central UP or Sunny Central Storage UP, and with perfectly adapted medium-voltage components, the new MV Power Station offers even more power density and is a turnkey solution available worldwide. The solution is the ideal choice for new generation PV power plants operating at 1500 V_{DC}. Delivered pre-configured on a 20-foot High Cube Container Skid, the solution is easy to transport and quick to assemble and commission. The MVPS and all components are type-tested. The MV Power Station combines rigorous plant safety with maximum energy yield and minimized deployment and operating risk. The MV Power Station is prepared for DC-Coupling.

MV POWER STATION
4000-S2 / 4200-S2 / 4400-S2 / 4600-S2

Technical Data	MVPS 4000-S2	MVPS 4200-S2
Input [DC]	1 x SC 4000 UP or 1 x SC 3450 UP or 1 x SC 3450 UPKIT	1 x SC 4200 UP or 1 x SC 3400 UP or 1 x SC 3400 UPKIT
Available inverters	1 x SC 4000 UP or 1 x SC 3450 UP or 1 x SC 3450 UPKIT	1 x SC 4200 UP or 1 x SC 3400 UP or 1 x SC 3400 UPKIT
Max. input voltage	1500 V	1500 V
Number of DC inputs	dependent on the selected inverters	1500 V
Integrated zone monitoring	o	o
Available DC fuse sizes (per input)	200 A, 230 A, 315 A, 330 A, 400 A, 450 A, 500 A	o
Output [AC] on the medium-voltage side		
Rated power at SC UP (at 25°C / at 35°C / at 40°C optional 30°C) ¹⁾	4000 kVA / 3400 kVA	4200 kVA / 3570 kVA
Rated power at SC UP (at 25°C / at 35°C / at 40°C optional 30°C) ²⁾	3450 kVA / 2880 kVA	3620 kVA / 3020 kVA
Charging power at SC UPKIT (at 25°C / at 35°C / at 40°C optional 30°C) ³⁾	3450 kVA / 2880 kVA	3620 kVA / 3020 kVA
Discharging power at SC UPKIT (at 25°C / at 35°C / at 40°C optional 30°C) ⁴⁾	4000 kW / 3450 kW	4200 kW / 3570 kW
Typical nominal AC voltages	11 kV to 35 kV	11 kV to 35 kV
AC power frequency	50 Hz / 60 Hz	50 Hz / 60 Hz
Transformer vector group (Y11 / YN11 / YN0)	o / o / o	o / o / o
Transformer cooling method	oNAN ⁵⁾	oNAN ⁵⁾
Transformer no-load losses (Standard) / EcoDesign at 33 kV	4.0 kW / 3.1 kW	4.2 kW / 3.1 kW
Transformer short-circuit losses (Standard) / EcoDesign at 33 kV	40.0 kW / 29.5 kW	41.0 kW / 32.5 kW
Max. total harmonic distortion	< 3%	< 3%
Reactive power feed-in (up to 80% of nominal power)	o	o
Power factor at rated power / displacement power factor adjustable	1 / 0.8 overexcited to 0.8 underexcited	1 / 0.8 overexcited to 0.8 underexcited
Inverter efficiency		
Max. efficiency ⁶⁾ / European efficiency ⁷⁾ / CEC weighted efficiency ⁸⁾	98.7% / 98.6% / 98.5%	98.7% / 98.6% / 98.5%
Protective devices		
Inverter-side disconnection point	DC load break switch	DC load break switch
Out-put-side disconnection point	Medium-voltage vacuum circuit breaker	AC circuit breaker
DC overvoltage protection	Surge arrester, type I	Surge arrester, type I
AC overvoltage protection (optional)	o	Surge arrester, class 1
Lightning protection (according to IEC 62303-1)	o	Lightning Protection level III
Ground-fault monitoring / remote ground fault monitoring	o	o
Insulation monitoring	o	o
Degree of protection	IP20	NEMA 3E
General Data		
Dimensions (W / H / D)	2780 / 2318 / 1588 mm (109.4 / 91.3 / 62.5 inch)	o
Weight	< 3700 kg / < 8100 lb	o
Self-consumption (max. / partial load ⁹⁾ / average ¹⁰⁾)	< 1100 W / < 1800 W / < 2000 W	o
Self-consumption (standby)	< 370 W	o
Internal auxiliary power supply	o integrated 8.4 kVA transformer	o
Operating temperature range ¹¹⁾	-25°C to 60°C / -13°F to 140°F	o
Noise emission ¹²⁾	67 dB(A) ¹³⁾	o
Temperature range (standby)	-40°C to 60°C / -40°F to 140°F	o
Temperature range (storage)	-40°C to 70°C / -40°F to 158°F	o
Max. permissible value for relative humidity (condensing / non-condensing)	93% to 100% (2 month/year) / 0% to 93%	o
Maximum operating altitude above MSL ¹⁴⁾ 1000 m / 2000 ft	o	o
Flash or consumption	o / o (inverter temperature dependent)	o
Features		
DC connection	Terminal lug on each input (without fuse)	Terminal lug on each input (without fuse)
AC connection	With busbar system (three busbars, one per line conductor)	With busbar system (three busbars, one per line conductor)
Communication	Ethernet / Modbus Master / Modbus Slave	Ethernet / Modbus Master / Modbus Slave
Communication with SMA string inverter (transformerless inverter)	Modbus TCP / Ethernet (IO-SMA, CanS)	Modbus TCP / Ethernet (IO-SMA, CanS)
Enclosure / roof color	RAL 9016 / RAL 7004	RAL 9016 / RAL 7004
Supply transformer for external loads	o (2.5 kVA)	o (2.5 kVA)
Standards and directives complied with	UL 62109-1, UL 1741 (Chapter 31, CFR 49, UL 1741-SA, UL 1998, IEEE 1547, SA-S10-B1-00)	UL 62109-1, UL 1741 (Chapter 31, CFR 49, UL 1741-SA, UL 1998, IEEE 1547, SA-S10-B1-00)
EMC standards	FCC Part 15 Class A	FCC Part 15 Class A
Quality standards and directives complied with	VDV/VDE 2862 page 2, DIN EN ISO 9001	VDV/VDE 2862 page 2, DIN EN ISO 9001
Standard features: o Optional		
Type designation	MVPS4000-S2	MVPS4200-S2

SUNNY CENTRAL
4000 UP-US / 4200 UP-US / 4400 UP-US / 4600 UP-US

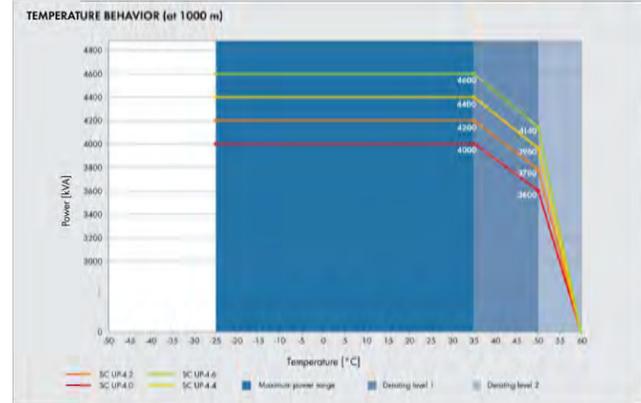
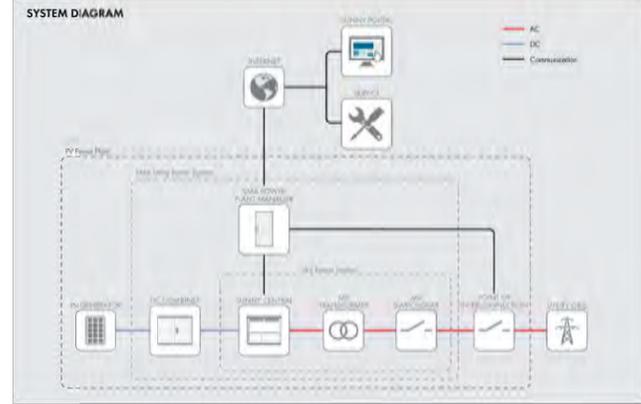


- | | | | |
|--|--|--|--|
| Efficient <ul style="list-style-type: none"> Up to 4 inverters can be transported in one standard shipping container Full power at ambient temperatures of up to 35°C | Robust <ul style="list-style-type: none"> Intelligent air cooling system OptiCool for efficient cooling Suitable for outdoor use in all climatic ambient conditions worldwide | Flexible <ul style="list-style-type: none"> Conforms to all known grid requirements worldwide On demand Available as a single device or turnkey solution, including medium-voltage block | Easy to Use <ul style="list-style-type: none"> Improved DC connection area Connection area for customer equipment Integrated voltage support for internal and external loads |
|--|--|--|--|

SUNNY CENTRAL
4000 UP-US / 4200 UP-US / 4400 UP-US / 4600 UP-US

The new Sunny Central: more power per cubic meter

With an output of up to 4600 kVA and system voltages of 1500 V DC, the SMA central inverter allows for more efficient system design and a reduction in specific costs for PV power plants. A separate voltage supply and additional space are available for the installation of customer equipment. True 1500 V technology and the intelligent cooling system OptiCool ensure smooth operation even in extreme ambient temperature as well as a long service life of 25 years.



Toll Free +1 888 4 SMA USA
www.SMA-America.com
SMA America, LLC

SUNNY CENTRAL 4000 UP-US / 4200 UP-US

Technical data	SC 4000 UP-US	SC 4200 UP-US
Input [DC]	880 to 1325 V / 1100 V	931 to 1375 V / 1030 V
Min. input voltage V _{DC, min} / Start voltage V _{DC, start}	849 V / 1030 V	891 V / 1071 V
Max. input voltage V _{DC, max}	1500 V	1500 V
Max. input current I _{DC, max}	4750 A	4750 A
Max. short-circuit current I _{DC, sc}	5400 A	6400 A
Number of DC inputs	24 double pole load (12 single pole load)	24 double pole load, 2 x 4000 watt
Max. number of DC cables per DC input (for each polarity)	2	2
Integrated zone monitoring	o	o
Available PV fuse sizes (per input)	200 A, 230 A, 315 A, 330 A, 400 A, 450 A, 500 A	o
Available battery fuse size (per input)	750 A	o
Output [AC]		
Nominal AC power at cos φ = 1 (at 35°C / at 50°C)	4000 kVA ¹⁾ / 3600 kVA	4200 kVA ¹⁾ / 3780 kVA
Nominal AC power at cos φ = 0.8 (at 35°C / at 50°C)	3300 kW ¹⁾ / 2880 kW	3360 kW ¹⁾ / 3024 kW
Nominal AC current I _{AC, nom} (at 35°C / at 50°C)	3850 A / 3465 A	3850 A / 3465 A
Max. total harmonic distortion	< 3% at nominal power	< 3% at nominal power
Nominal AC voltage / nominal AC voltage range ¹²⁾	3600 V / 4800 V, 720 V	4200 V / 5600 V, 720 V
AC power frequency / range	50 Hz / 47 Hz to 53 Hz	50 Hz / 47 Hz to 63 Hz
Min. short-circuit ratio at the AC terminals ¹³⁾	> 2	> 2
Power factor at rated power / displacement power factor adjustable ¹⁴⁾	1 / 0.8 overexcited to 0.8 underexcited	1 / 0.8 overexcited to 0.8 underexcited
Efficiency		
Max. efficiency ⁶⁾ / European efficiency ⁷⁾ / CEC efficiency ⁸⁾	98.7% / 98.6% / 98.5%	98.7% / 98.6% / 98.5%
Protective Devices		
Inverter-side disconnection point	o	DC load break switch
Out-put-side disconnection point	o	AC circuit breaker
DC overvoltage protection	o	Surge arrester, type I
AC overvoltage protection (optional)	o	Surge arrester, class 1
Lightning protection (according to IEC 62303-1)	o	Lightning Protection level III
Ground-fault monitoring / remote ground fault monitoring	o	o
Insulation monitoring	o	o
Degree of protection	IP20	NEMA 3E
General Data		
Dimensions (W / H / D)	2780 / 2318 / 1588 mm (109.4 / 91.3 / 62.5 inch)	o
Weight	< 3700 kg / < 8100 lb	o
Self-consumption (max. / partial load ⁹⁾ / average ¹⁰⁾)	< 1100 W / < 1800 W / < 2000 W	o
Self-consumption (standby)	< 370 W	o
Internal auxiliary power supply	o integrated 8.4 kVA transformer	o
Operating temperature range ¹¹⁾	-25°C to 60°C / -13°F to 140°F	o
Noise emission ¹²⁾	67 dB(A) ¹³⁾	o
Temperature range (standby)	-40°C to 60°C / -40°F to 140°F	o
Temperature range (storage)	-40°C to 70°C / -40°F to 158°F	o
Max. permissible value for relative humidity (condensing / non-condensing)	93% to 100% (2 month/year) / 0% to 93%	o
Maximum operating altitude above MSL ¹⁴⁾ 1000 m / 2000 ft	o	o
Flash or consumption	o / o (inverter temperature dependent)	o
Features		
DC connection	Terminal lug on each input (without fuse)	Terminal lug on each input (without fuse)
AC connection	With busbar system (three busbars, one per line conductor)	With busbar system (three busbars, one per line conductor)
Communication	Ethernet / Modbus Master / Modbus Slave	Ethernet / Modbus Master / Modbus Slave
Communication with SMA string inverter (transformerless inverter)	Modbus TCP / Ethernet (IO-SMA, CanS)	Modbus TCP / Ethernet (IO-SMA, CanS)
Enclosure / roof color	RAL 9016 / RAL 7004	RAL 9016 / RAL 7004
Supply transformer for external loads	o (2.5 kVA)	o (2.5 kVA)
Standards and directives complied with	UL 62109-1, UL 1741 (Chapter 31, CFR 49, UL 1741-SA, UL 1998, IEEE 1547, SA-S10-B1-00)	UL 62109-1, UL 1741 (Chapter 31, CFR 49, UL 1741-SA, UL 1998, IEEE 1547, SA-S10-B1-00)
EMC standards	FCC Part 15 Class A	FCC Part 15 Class A
Quality standards and directives complied with	VDV/VDE 2862 page 2, DIN EN ISO 9001	VDV/VDE 2862 page 2, DIN EN ISO 9001
Standard features: o Optional		

1) At nominal AC voltage, nominal AC power decreases in the same proportion.
2) Efficiency measured without internal power supply.
3) Efficiency measured with internal power supply.
4) Self-consumption at rated operation.
5) Self-consumption at < 75% Pn or 23 °C.
6) Self-consumption averaged out from 3% to 100% Pn at 25 °C.
7) Sound pressure level at a distance of 10 m.
8) Values apply only to inverters. Permissible values for SMA MV solutions from SMA can be found in the corresponding data sheets.
9) A short-circuit ratio of > 2 requires a special agreement from SMA.
10) Depending on the DC voltage.
11) Allowed power at 35 °C max DC voltage of 1030 V.
12) Self-consumption at 35 °C max DC voltage of 1030 V.
13) Allowed power at 35 °C max DC voltage of 1030 V.

TECHNICAL DATA SHEET
Medium Voltage Transformer 4000/4200/4400/4600 (UL-listed)
for Medium Voltage Power Station MVPS-XXXX-S2-US



TYPE	Medium-voltage transformer for inverter application			
DESIGN	Three-phase-oil-transformer hermetic sealed for 12 or 24 hours-operation			
RATED POWER @ 30 °C (at 40 °C for 40 °C optional)	[kVA]	3600	3780	3960
RATED POWER @ 25 °C	[kVA]	4000	4200	4400
RATED VOLTAGE (MV)	[kV]	12/13.2/13.8/13.8/20.6/22.86/24.9/27.6/34.5		
RATED VOLTAGE (LV)¹⁾	[kV]	0.6	0.63	0.66
TAP CHANGER		With/Without		
TAPPING HIGH-VOLTAGE LEVEL	[%]	±2 x 2.5%		
FREQUENCY	[Hz]	60/50		
VECTOR GROUP		Dy11 / YNd11 / YNyo		
STANDARD NO-LOAD LOSSES @ RATED VOLTAGE (E-LOSS)	[kW]	4 (3.1)	4.2 (3.1)	4.4 (3.1)
STANDARD SHORT-CIRCUIT LOSSES @ TEMP. 75 °C (E-LOSS)²⁾	[kW]	40 (29.5)	41 (32.5)	42 (35.7)
IMPEDANCE VOLTAGE AT RATED CURRENT @ TEMP. 75 °C @ RATED POWER³⁾	[%]	6 to 8.5		
TYPE OF COOLING		ONAN		
MAX. ALTITUDE ABOVE SEA LEVEL	[m]	1000/2000		
AMBIENT TEMPERATURES (MIN. / MAX.) @ 1000 m	[°C]	-25 / 50 (-25/40)		
AMBIENT TEMPERATURES (MIN. / MAX.) @ 2000 m	[°C]	30 (40)		
MAX. OVER TEMPERATURE (HOT SPOT / WINDING / OIL)	[°C]	48 (38)		
SHORT-CIRCUIT DURATION	[s]	90 / 75 / 75 (100 / 85 / 85)		
MANUFACTURER'S REGULATION		IEEE C57.12		
INSULATION LEVEL (HV)		12/12.47/13.2/13.8 : BIL 95 AC 34 20.6/22.86/24.9 : BIL 125 AC 40 27.6/34.5 : BIL 150 AC 50		
HIGH-VOLTAGE BUSBUSHING		High voltage deadfront bushings 600A, type E, per IEEE Std. 386, aluminum		
LOW-VOLTAGE BUSHING		3.6 kV bushing for at least 4000 A		
MAX. DIMENSIONS (LxWxH)	[mm]	1606 x 2200 x 2150		
TOTAL WEIGHT (MAX.)	[kg]	7500		
OIL WEIGHT (MAX.)	[kg]	1910		
OIL TYPE		Oil based natural ester		
COATING according to IEC 12944-3		C317 / C318		
NEMA ENCLOSURE TYPE		NEMA 3E		
TRANSFORMER PROTECTION		- Resistance thermocouple PT100 for analogue oil temperature measurement - Over pressure gauge with changeover contact - Oil level gauge with changeover contact - Over pressure safety valve		
ACCESSORIES		- Oil filling pipe - Oil drain and sampling valve - Lifting lugs - Earthing terminals - Nameplate		

¹⁾ Corresponding to each rated power. ²⁾ Values subject to tolerances according to IEEE C57.12

SUNVEST SOLAR LLC
Developers - Installers - Electricians
608-547-1100 - www.sunvest.com
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CIVIL ENGINEER STAMP

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ALLIANT ENERGY RFP

COTTAGE GROVE, WI 55016

SHEET TITLE
SPEC SHEETS

DWG. NO.

E-2.10

WARNING

THIS PANEL HAS SECONDARY POWER SOURCE FROM PHOTOVOLTAIC SYSTEM. TURN-OFF PHOTOVOLTAIC SYSTEM BREAKER PRIOR TO SERVICING PANEL.

RATED AC OUTPUT CURRENT: 2440 AMPS

NOMINAL OPERATING AC VOLTAGE: 480 VOLTS

LABEL #1 PLACE AT POINT OF INTERCONNECTION

WARNING

DUAL POWER SUPPLY

SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM

LABEL #2 PLACE AT POINT OF INTERCONNECTION

WARNING

SOLAR GENERATOR UTILITY LOCKABLE AC DISCONNECT SWITCH

AUTHORIZED PERSONNEL ONLY HIGH VOLTAGE - KEEP AWAY

LABEL #3 PLACE AT UTILITY LOCKABLE DISCONNECT

WARNING

POTENTIAL ARC FLASH HAZARD

LABEL #4 PLACE AT PV SWITCHBOARD

WARNING

TURN OFF AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

AUTHORIZED PERSONNEL ONLY HIGH VOLTAGE - KEEP AWAY

LABEL #5 PLACE AT AC COMBINER PANEL

WARNING

PV ARRAY DC DISCONNECT

-ELECTRICAL SHOCK HAZARD-
-DO NOT TOUCH TERMINALS-
TERMINALS ON BOTH THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

MAXIMUM CIRCUIT CURRENT: 162 Adc
MAXIMUM VOLTAGE: 1000 vdc

LABEL #6 PLACE ON DC DISCONNECTS

WARNING

POWER METER AND AC DISCONNECT TURN OFF INVERTER PRIOR TO OPERATING AC DISCONNECT

AUTHORIZED PERSONNEL ONLY HIGH VOLTAGE - KEEP AWAY

LABEL #7 PLACE AT AC DISCONNECT

WARNING

ELECTRIC SHOCK HAZARD

IF GROUND FAULT IS INDICATED ALL NORMALLY GROUNDED CONDUCTORS MAY BE UNGROUNDED AND ENERGIZED

LABEL #8 PLACE ON INVERTERS

WARNING

ELECTRIC SHOCK HAZARD

TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT

LABEL #9 PLACE ON DC DISCONNECTS AND AC DISCONNECTS

WARNING

PULL BOX

AUTHORIZED PERSONNEL ONLY HIGH VOLTAGE - KEEP AWAY

LABEL #10 PLACE AT PULL BOXES

CAUTION: SOLAR ELECTRIC SYSTEM CONNECTED

LABEL #11 PLACE ON DC DISCONNECTS AND INVERTERS

CAUTION SOLAR CIRCUIT

LABEL #12 PLACE ON CONDUIT, JUNCTION BOXES AND COMBINER BOXES AT EVERY 10'

WARNING

DC JUNCTION BOX

LABEL #13 PLACE ON DC JUNCTION BOXES

INV-01

LABEL #14 PLACE AT INVERTERS

ACB-01

LABEL #15 PLACE AT AC COMBINER PANELS

ACSB-01

LABEL #16 PLACE AT AC SWITCHBOARD

D-01

LABEL #17 PLACE AT SYSTEM AC DISCONNECT

M-01

LABEL #18 PLACE AT SYSTEM METER CABINET

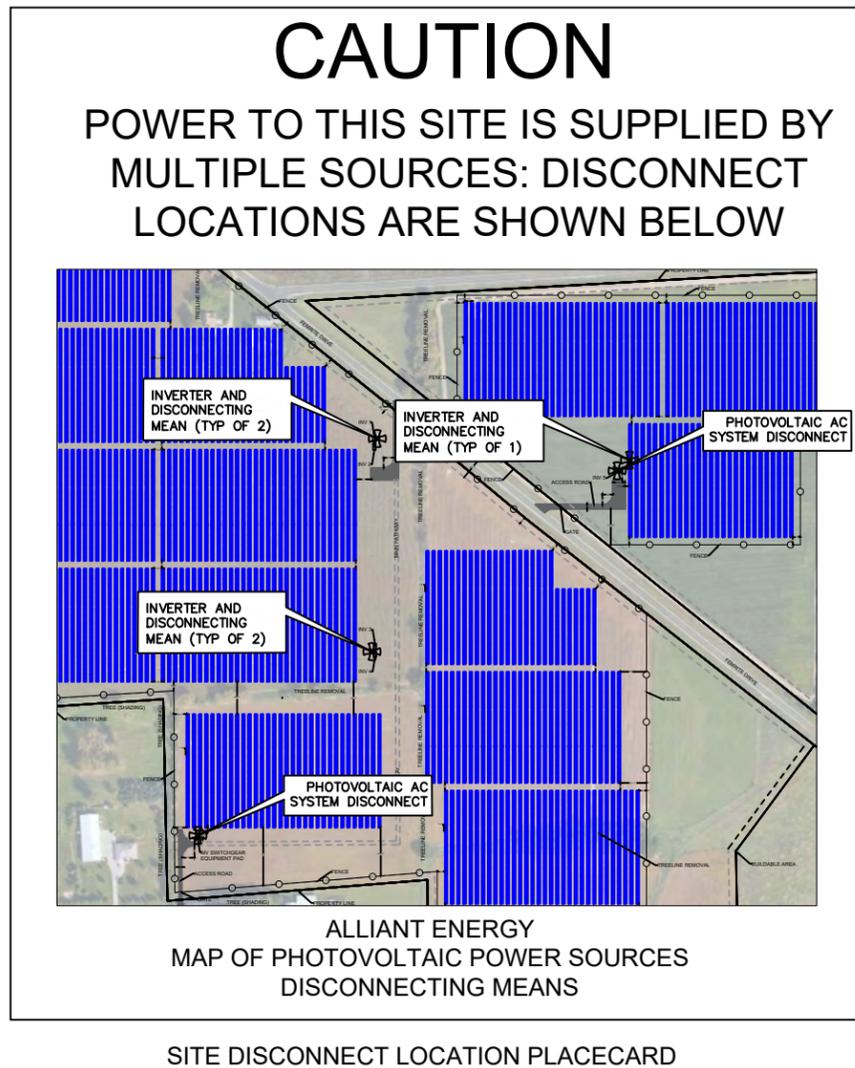
CAUTION: SOLAR ELECTRIC SYSTEM CONNECTED

LABEL #19 PLACE AT RAPID SHUTDOWN DISCONNECTS

SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN

TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN ARRAY

LABEL #20 PLACE AT MAIN SERVICE DISCONNECT



SHEET NOTES:

1. SYSTEM LABELS SHALL BE PERMANENTLY ATTACHED BY MECHANICAL MEANS OR SECURED WITH UV-RESISTANT ADHESIVE.
2. MATERIALS USED IN THE CONSTRUCTION OF THE LABELS SHALL BE UV RESISTANT.
3. ELECTRICAL EQUIPMENT, SUCH AS SWITCHBOARDS, PANELBOARDS, INDUSTRIAL CONTROL PANELS, METER SOCKET ENCLOSURES, AND MOTOR CONTROL CENTERS, THAT ARE IN OTHER THAN DWELLING OCCUPANCIES, AND ARE LIKELY TO REQUIRE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE WHILE ENERGIZED SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT. [NEC 110.16]
4. ALL INTERACTIVE SYSTEM(S) POINTS OF INTERCONNECTION WITH OTHER SOURCES SHALL BE MARKED AT AN ACCESSIBLE LOCATION AT THE DISCONNECTING MEANS AS A POWER SOURCE AND WITH THE RATED AC OUTPUT CURRENT AND THE NOMINAL OPERATING AC VOLTAGE. [NEC 690.54]

KEYED NOTES:

1. PROVIDE 9" X 3" ENGLISH/SPANISH ELECTRICAL WARNING SIGN AT EACH OF THE SITE ENTRANCES AND EVERY 200' ALONG THE FENCE.
2. PROVIDE SITE DISCONNECT LOCATION PLACARD AT EACH OF THE SITE ENTRANCES. MARK "YOU ARE HERE" AT EACH OF THE LOCATIONS ON THE MAP.
3. TEXT SHALL BE CAPITALIZED AND BE MINIMUM 8" TALL.

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ALLIANT ENERGY
RFP

COTTAGE GROVE, WI 55016

SHEET TITLE
NEC LABELS

DWG. NO.

E-3.00

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ALLIANT ENERGY
RFP

COTTAGE GROVE, WI 55016

SHEET TITLE
GENERAL NOTES

DWG. NO.

G-1.00

1. GENERAL REQUIREMENTS:

- 1.1 THE WORK TO BE DONE UNDER THIS PROJECT INCLUDES PROVIDING ALL EQUIPMENT, MATERIALS, LABOR AND SERVICES NOT INCLUDED IN THE B.O.M, AND PERFORMING ALL OPERATIONS FOR COMPLETE AND OPERATING SYSTEMS. ANY WORK NOT SPECIFICALLY COVERED BUT NECESSARY TO COMPLETE THIS INSTALLATION, SHALL BE PROVIDED. ALL EQUIPMENT AND WIRING TO BE NEW AND PROVIDED UNDER THIS CONTRACT UNLESS OTHERWISE NOTED.
- 1.2 ENTIRE INSTALLATION, INCLUDING MATERIALS, EQUIPMENT AND WORKMANSHIP, SHALL CONFORM TO THE CURRENT EDITION OF THE NATIONAL ELECTRIC CODE (NEC) AS WELL AS ALL APPLICABLE LAWS AND REGULATIONS AND REGULATORY BODIES HAVING JURISDICTION OVER THIS WORK:
- 1.3 THE TERM "FURNISH" SHALL MEAN TO OBTAIN AND SUPPLY TO THE JOB SITE. THE TERM "INSTALL" SHALL MEAN TO FIX IN POSITION AND CONNECT FOR USE. THE TERM "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL. THE TERM "CONTRACTOR" SHALL MEAN ELECTRICAL CONTRACTOR.
- 1.4 ONLY WRITTEN CHANGES AND/OR MODIFICATIONS APPROVED BY THE ENGINEER, CONSULTING ENGINEER OR OWNER'S REPRESENTATIVE WILL BE RECOGNIZED.
- 1.5 THE ELECTRICAL CONTRACTOR SHALL SUBMIT, FOR THE ENGINEER'S APPROVAL, DETAILED SHOP DRAWINGS OF ALL EQUIPMENT SPECIFIED.
- 1.6 CONTRACTOR SHALL COORDINATE WITH SPECIFICATIONS PROVIDED BY OTHER TRADES.
- 1.7 PROVIDE OPERATING AND MAINTENANCE MANUALS, PER SPECIFICATIONS, AND GIVE INSTRUCTIONS TO USER FOR ALL EQUIPMENT AND SYSTEMS PROVIDED UNDER THIS CONTRACT AFTER ALL ARE CLEANED AND OPERATING.
- 1.8 KEEP PREMISES FREE FROM RUBBISH. REMOVE ALL ELECTRICAL RUBBISH FROM SITE.
- 1.9 ALL WORK SHALL BE INSTALLED CONCEALED UNLESS OTHERWISE NOTED.
- 1.10 THE WORK SHALL INCLUDE ALL PANELS, DEVICES, FEEDERS AND BRANCH CIRCUIT WIRING AS REQUIRED FOR THE DISTRIBUTION SYSTEM INDICATED AND CALLED FOR ON THE DRAWINGS, REQUIRED BY SPECIFICATIONS AND AS NECESSARY FOR COMPLETE FUNCTIONAL SYSTEMS PRESENTED AND INTENDED.
- 1.11 THE CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR, TOOLS, EQUIPMENT, CONSUMABLES AND SERVICES REQUIRED FOR OBTAINING, DELIVERY, INSTALLATION, CONNECTION, DISCONNECTION, REMOVAL, RELOCATION, REPAIR, REPLACEMENT, TESTING AND COMMISSIONING OF ALL EQUIPMENT AND DEVICES INCLUDED IN OR NECESSARY FOR THE WORK, AS APPLICABLE. THIS INCLUDES SCAFFOLDING, LADDERS, RIGGING, HOISTING, ETC.
- 1.12 ELECTRICAL WORK SHALL INCLUDE ALL REQUIRED CUTTING, PATCHING AND THE FULL RESTORATION OF WALL AND FLOOR STRUCTURE AND SURFACES. ALL EQUIPMENT, WALLS, FLOORS, ETC., DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER, AT THE CONTRACTORS EXPENSE.
- 1.13 BEFORE SUBMITTING HIS BID, THE CONTRACTOR SHALL FULLY AQUAINT HIMSELF/HERSELF WITH THE JOB CONDITIONS AND DIFFICULTIES THAT WILL PERTAIN TO THE EXECUTION OF THIS WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE. LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.
- 1.14 THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING UTILITIES.
- 1.15 UPON COMPLETION OF THE ELECTRICAL WORK, THE CONTRACTOR SHALL TEST THE COMPLETE ELECTRICAL SYSTEM FOR SHORTS, GROUNDS, AND PROPER OPERATION, IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE.
- 1.16 UPON COMPLETION OF WORK, THE CONTRACTOR SHALL CLEAN AND ADJUST ALL EQUIPMENT AND LIGHTING AND TEST SYSTEMS TO THE SATISFACTION OF OWNER AND ENGINEER. RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- 1.17 THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS OF FINISHED CONSTRUCTION PRIOR TO FABRICATION AND INSTALLATION OF FIXTURES AND EQUIPMENT.
- 1.18 EXACT ROUTING OF CONDUITS AND "MC" CABLES SHALL BE DETERMINED IN THE FIELD.

- 1.19 IF THE OWNER AND/OR HIS REPRESENTATIVE CONSIDERS ANY WORK TO BE INFERIOR, THE RESPECTIVE CONTRACTOR SHALL REPLACE SAME WITH CONTRACT STANDARD WORK WITHOUT ADDITIONAL CHARGE. ALL WORK SHALL BE DONE IN A NEAT, WORKMANLIKE MANNER, LEFT CLEAN AND FREE FROM DEFECTS, AND COMPLETELY OPERABLE.
 - 1.20 THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AS SHOWN ON THE DRAWINGS AND/OR AS SPECIFIED. ALL MATERIALS SHALL BE NEW, AND BEAR THE UL LABEL. ALL WORK SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER.
 - 1.21 DRAWINGS ARE TO BE CONSIDERED DIAGRAMMATIC, AND SHALL BE FOLLOWED AS CLOSELY AS CONDITIONS ALLOW TO COMPLETE THE INTENT OF THE CONTRACT. THE DRAWINGS AND SPECIFICATIONS COMPLIMENT ONE ANOTHER, AND WHAT IS SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, AND VICE VERSA, IS TO BE INCLUDED IN THE SCOPE OF WORK.
 - 1.22 ALL EQUIPMENT CONNECTIONS SHALL BE INSTALLED PER APPLICABLE SEISMIC REQUIRMENTS.
 - 1.23 ENGINEER WILL MAKE A FINAL INSPECTION WITH THE OWNER AND CONTRACTOR AND WILL NOTIFY THE CONTRACTOR IN WRITING OF ALL PARTICULARS IN WHICH THIS INSPECTION REVEALS THAT THE WORK IS INCOMPLETE OR DEFECTIVE. THE CONTRACTOR SHALL IMMEDIATELY TAKE SUCH MEASURES AS ARE NECESSARY TO COMPLETE SUCH WORK OR REMEDY SUCH DEFICIENCIES.
 - 1.24 THE CONTRACTOR SHALL PERFORM ALL EXCAVATION, TRENCHING AND BACKFILL REQUIRED FOR ELECTRICAL WORK. BACKFILL SHALL BE SUITABLE MATERIAL PROPERLY COMPACTED TO 95% DENSITY N EACH LAYER OF SIX (6) INCH DEPTH. CONDUIT SHALL BE MINIMUM 36" BELOW FINISHED GRADE.
- 2. PROJECT COORDINATION:**
- 2.1 THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS AT THE SITE AND NOTIFY THE OWNER OF ANY DISCREPANCIES, PRIOR TO COMMENCING WITH THE WORK.
 - 2.2 THE CONTRACTOR SHALL REVIEW AND COORDINATE WITH THE DOCUMENTS OF ALL TRADES.
 - 2.3 THE CONTRACTOR SHALL FURNISH A SCHEDULE INDICATING HIS PORTION OF TIME, WITHIN THE OVERALL SCHEDULE, REQUIRED TO COMPLETE THE WORK, IN CONJUNCTION WITH ALL TRADES. ALL WORK THAT MAY AFFECT OPERATION OF BUILDING SYSTEMS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE.
 - 2.4 REFER TO THE CONSTRUCTION DRAWINGS AND APPROPRIATE VENDORS APPROVED DIMENSIONED LAYOUT DRAWINGS FOR THE LOCATIONS OF ALL ELECTRICAL DEVICES AND EQUIPMENT.
 - A. EXTERIOR, BUILDING MOUNTED LUMINARIES
 - B. SWITCHES
 - 2.5 REFER TO THE PLUMBING DRAWINGS (IF APPLICABLE) FOR THE LOCATIONS OF THE FOLLOWING:
 - A. GENERATOR
 - 2.6 SHUT DOWN OF POWER SHALL BE COORDINATED WITH THE OWNER, ARCHITECT AND PROJECT MANAGER AT LEAST 14 WORKING DAYS PRIOR TO SHUT DOWN. SHUT DOWNS LONGER THAN 2 DAYS SHALL BE COORDINATED WITH THE ABOVE PERSONNEL AT LEAST ONE MONTH IN ADVANCE. TEMPORARY POWER FOR CONSTRUCTION SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR FOR SHUT DOWNS OVER 2 DAYS.
 - 2.7 ALL CONDUITS AND DEVICE BOXES SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR, INCLUDING ALL TECHNOLOGY CONDUITS AND BOXES.
 - 2.8 EXACT LOCATIONS OF OUTLETS AND EQUIPMENT SHALL BE COORDINATED WITH ARCHITECTURAL AND MILLWORK PLANS. ALL OUTLET AND EQUIPMENT LAYOUTS SHALL BE VERIFIED AND COORDINATED WITH WORK OF OTHER TRADES.
 - 2.9 PROVIDE TEMPORARY LIGHTING AND POWER IN ACCORDANCE WITH ARTICLE 305 OF THE NEC. TEMPORARY LIGHTING FIXTURES IN UNFINISHED AREAS SHALL REMAIN CONNECTED UNTIL REMOVAL IS REQUESTED BY THE CONTRACTOR.
 - 2.10 COLORS AND FINISHES OF ALL LIGHTING FIXTURES SHALL BE AS DETERMINED BY THE PROPERTY OWNER WHO SHALL SELECT SAME FROM THOSE AVAILABLE AS STANDARD OF THE EQUIPMENT SPECIFIED.

2.11 THE CONTRACTOR SHALL CONTACT THE BUILDING MANAGER TO OBTAIN A COPY OF THE GENERAL REQUIREMENTS AND/OR CONDITIONS TO BE USED FOR THIS PROJECT.

2.12 INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES. ALARM AND EMERGENCY SYSTEMS SHALL NOT BE INTERRUPTED. TEMPORARY SHUT DOWNS OF ANY SYSTEM SHALL BE COORDINATED WITH AND APPROVED BY THE OWNER AND ARCHITECT.

2.13 CONTRACTOR SHALL VERIFY ALL EQUIPMENT POWER REQUIREMENTS AND REQUIRED OUTLET TYPES WITH EQUIPMENT MANUFACTURER AND OWNER PRIOR TO POWER DISTRIBUTION AND RECEPTACLE INSTALLATION.

3. PROTECTION OF WORK:

3.1 EFFECTIVELY PROTECT ALL MATERIALS AND EQUIPMENT FROM ENVIRONMENTAL AND PHYSICAL DAMAGE UNTIL FINAL ACCEPTANCE. CLOSE AND PROTECT ALL OPENINGS DURING CONSTRUCTION. PROVIDE NEW MATERIALS AND EQUIPMENT TO REPLACE ITEMS DAMAGED.

4. WARRANTIES:

4.1 ALL MATERIALS AND EQUIPMENT SHALL BE GUARANTEED IN WRITING FOR A MINIMUM OF ONE YEAR AFTER FINAL ACCEPTANCE BY OWNER.

4.2 WORKMANSHIP SHALL BE GUARANTEED IN WRITING FOR A MINIMUM OF 5 YEARS AFTER FINAL ACCEPTANCE BY OWNER

4.2 OBTAIN AND DELIVER TO THE OWNER'S REPRESENTATIVE ALL GUARANTEES AND CERTIFICATES OF COMPLIANCE.

5. PERMITS:

5.1 CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND INSPECTION FEES FOR ELECTRICAL WORK.

6. RACEWAYS:

6.1 ALL CONDUIT SHALL BE MINIMUM SIZE OF 3/4" FOR POWER CIRCUITS AND CONTROL CIRCUITS EXCEPT WHERE FLEXIBLE CONDUIT IS CALLED FOR ON PROJECT DOCUMENTS. ALL EXTERIOR EXPOSED CONDUIT SHALL BE GRC (GALVANIZED RIGID METAL CONDUIT). ALL UNDERGROUND, IN SLAB OR UNDER SLAB SHALL BE RNC (RIGID NONMETALLIC CONDUIT). CHANGE TO RIGID METALLIC CONDUIT OR INTERMEDIATE METALLIC CONDUIT BEFORE EXITING OUT OF CONCRETE OR PENETRATING A WALL, FLOOR OR ROOF. EMT IS ALLOWED IN INTERIOR DRY LOCATIONS WHERE NOT SUBJECT TO DAMAGE.

6.2 ALL FLEXIBLE CONDUIT IN WET OR DRY AREAS SHALL BE LIQUID TIGHT CONDUIT. NONMETALLIC FLEXIBLE CONDUIT IS SPECIFICALLY PROHIBITED.

6.3 CONDUIT SHALL BE RUN AT RIGHT ANGLES AND PARALLEL TO BUILDING LINES, SHALL BE NEATLY RACKED AND SECURELY FASTENED. JUNCTION BOXES SHALL BE PROVIDED WHERE REQUIRED TO FACILITATE INSTALLATION OF WIRES.

6.4 ALL CONDUIT AND ELECTRICAL EQUIPMENT SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN AN APPROVED MANNER.

6.5 ALL EMPTY RACEWAYS SHALL BE FURNISHED WITH A 200 LB. TEST NYLON DRAG LINE.

6.6 ARRANGEMENT OF CONDUIT AND EQUIPMENT SHALL BE AS INDICATED, UNLESS MODIFICATION IS REQUIRED TO AVOID INTERFERENCES.

7. BOXES:

- 7.1 INTERIOR OUTLET BOXES SHALL BE METALLIC, EXCEPT AS NOTED. FAN MOUNTING BOXES SHALL BE RATED FOR THE APPLICATION AND FOR THE WEIGHT OF THE FAN. EXTERIOR OUTLET BOXES SHALL BE CAST ALUMINUM AND SHALL BE MADE WEATHERTIGHT.
- 7.2 INTERIOR JUNCTION BOXES SHALL BE SHEET STEEL. EXTERIOR JUNCTION BOXES SHALL BE NONMETALLIC, WITH SCREW COVERS. BOXES SHALL BE SUPPORTED INDEPENDENTLY OF CONDUITS.
- 7.3 MOUNTING HEIGHTS OF EQUIPMENT AND DEVICES SHALL BE AS FOLLOWS:
 - A. RECEPTACLES (WALL MOUNTED) – 18" A.F.F.
 - B. RECEPTACLES (COUNTER HEIGHT) – 9" ABOVE COUNTER
 - C. RECEPTACLES (EXTERIOR) – 24" ABOVE FINISHED GRADE
 - D. COMMUNICATION OUTLETS – SAME AS RECEPTACLES
 - E. LIGHTING SWITCHES AND CONTROLS – 44" A.F.F.
 - F. PANELBOARDS AND CABINETS – 78" TO TOP OF ENCLOSURE
- 7.4 WHERE MULTIPLE SWITCHES AND RECEPTACLES ARE INDICATED AT THE SAME LOCATION, THEY SHALL BE MOUNTED BEHIND A COMMON FACEPLATE. TECHNOLOGY OUTLETS SHALL BE SEPARATED FROM AND BE PROVIDED WITH SEPARATE FACEPLATES FROM THE ASSOCIATED POWER RECEPTACLES.
- 7.5 RECEPTACLES SHALL BE ACCESSIBLE EXCEPT A DEDICATED RECEPTACLE MAY BE OBSTRUCTED BY THE REMOVABLE EQUIPMENT IT SERVES.
- 7.6 OUTLET BOXES IN EXISTING CONCRETE FLOORS WITH ACCESS FROM BELOW SHALL BE FIRE RATED, POKE-THROUGH TYPE FOR POWER AND LOW TENSION SERVICE. SERVICE FITTING HEADS SHALL BE ANODIZED ALUMINUM AND SHALL CONTAIN DEVICES AS SHOWN ON THE DRAWINGS. BOXES SHALL BE AS MANUFACTURED BY STEEL CITY OR HUBBELL.
- 7.7 SET BOXES SQUARE AND TRUE WITH BUILDING FINISH. INSTALL RECEPTACLE AND SWITCH OUTLETS IN ADVANCE OF FURRING AND FIREPROOFING. SECURE TO BUILDING STRUCTURE IN ACCORDANCE WITH NEC REQUIREMENTS.
- 7.8 FURNISH OUTLET BOXES WITH RAISED COVERS AND FIXTURE STUDS WHERE REQUIRED. WHERE NO FIXTURE OR DEVICE IS INSTALLED, PROVIDE OUTLET BOX WITH BLANK COVER. OFFSET BACK-TO-BACK OUTLETS WITH MINIMUM 6 INCH HORIZONTAL SEPARATION.

8. WIRING:

- 8.1 ALL WIRE SHALL BE MADE OF COPPER WITH INSULATION SUITABLE FOR THE APPLICABLE ENVIRONMENT AND VOLTAGE. CONTRACTOR SHALL GET APPROVAL FOR ANY OTHER WIRE TYPE.
- 8.2 UNDER NO CIRCUMSTANCES SHALL FEEDERS BE SPLICED.
- 8.3 ALL COMPUTER CIRCUITS SHALL HAVE SEPARATE NEUTRAL CONDUCTORS. ALL OTHER CIRCUITS MAY SHARE GROUND AND NEUTRAL CONDUCTORS.
- 8.4 WHERE EQUIPMENT, LIGHTING FIXTURES AND WIRING DEVICES ARE SHOWN WITH CIRCUIT NUMBERS ONLY, THE MINIMUM BRANCH CIRCUITING REQUIREMENTS SHALL BE AS FOLLOWS:
 - A. LIGHTING FIXTURES – (2)#12 & #12 GND.
 - B. RECEPTACLES – (2)#12 & #12 GND.
 - C. BRANCH CIRCUIT BREAKERS (120 VOLT) – 1P, 20A
 - D. HOMERUNS TO PANEL BOARDS SHALL CONTAIN NO MORE THAN THREE CIRCUITS.
 - E. WHERE LIGHTING SWITCH INDICATIONS ARE NOT SHOWN SWITCHES SHALL BE CONNECTED TO CONTROL ALL SWITCHED FIXTURES WITHIN THE CORRESPONDING SPACE.

8.5 ALL ELECTRICAL TERMINAL TEMPERATURE RATINGS ASSUMED TO BE 75° C UNLESS SITE CONDITIONS REQUIRE OTHERWISE.

8.6 WIRE SIZES SHALL BE INCREASED WHERE NECESSARY TO LIMIT VOLTAGE DROP AS FOLLOWS:
A. 1% TOTAL AND 2% FOR ANY INDIVIDUAL RUN, FROM MODULE TO INVERTER.
B. 1% TOTAL AND 2% FOR ANY INDIVIDUAL RUN, FROM INVERTER TO POINT OF INTERCONNECTION.

9. GROUNDING:

- 9.1 PROVIDE A COMPLETE EQUIPMENT GROUND SYSTEM FOR THE ELECTRICAL SYSTEM AS REQUIRED BY ARTICLE 250, OF THE NEC, AND AS SPECIFIED HEREIN.
- 9.2 ALL BRANCH CIRCUITS FOR POWER WIRING SHALL CONTAIN A COPPER GROUND WIRE. NO FLEXIBLE METAL CONDUIT OF ANY KIND OR LENGTH SHALL BE USED AS THE EQUIPMENT GROUNDING CONDUCTOR.

10. MECHANICAL SYSTEMS POWER:

- 10.1 EXCEPT AS OTHERWISE NOTED, EQUIPMENT FURNISHED UNDER THE MECHANICAL TRADE WILL INCLUDE MOTORS, STARTERS, CONTROL EQUIPMENT, INTERLOCK AND CONTROL WIRING. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL POWER WIRING FROM SOURCE THROUGH INTERVENING EQUIPMENT TO MOTOR TERMINALS. STARTERS SHALL BE INSTALLED BY ELECTRICAL CONTRACTOR.
- 10.2 DISCONNECT SWITCHES SHALL BE HEAVY DUTY, HORSEPOWER RATED, QUICK MAKE, QUICK BREAK TYPE, ENCLOSED IN A HEAVY SHEET METAL ENCLOSURE WITH HINGED INTERLOCKING COVER, IN PROPER NEMA RATED ENCLOSURES. FUSED OR NON-FUSED AS REQUIRED. DISCONNECT SWITCHES SHALL BE PROVIDED BY CONTRACTOR, EXCEPT AS NOTED ON DRAWINGS.
- 10.3 THE RATING FOR DISCONNECT SWITCHES SHALL BE THE SAME AS, OR GREATER THAN, THE PROTECTIVE DEVICE SERVING THE EQUIPMENT.
- 10.4 COORDINATE ALL RECEPTACLES, PLUGS, WIRING AND LOCATIONS WITH THE EQUIPMENT PROVIDED PRIOR TO ROUGH IN.
- 10.5 A STRUT FRAME SHALL BE PROVIDED AT ALL LOCATIONS WHERE STRUCTURE WILL NOT ADEQUATELY SUPPORT EQUIPMENT, OR FOR FREESTANDING EQUIPMENT.
- 10.6 THE CONTRACTOR SHALL WIRE ALL MECHANICAL AND FIRE PROTECTION EQUIPMENT SHOWN ON THE DRAWINGS. COORDINATE WITH MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS.
- 10.7 ELECTRICAL EQUIPMENT SHIPPED LOOSE BY THE MANUFACTURER SHALL BE INSTALLED AND WIRED BY THE CONTRACTOR. EQUIPMENT MOUNTED IN THE DUCTWORK WILL BE MOUNTED BY THE MECHANICAL CONTRACTOR AND WIRED BY THE CONTRACTOR.
- 10.8 THE CONTRACTOR SHALL PROVIDE REMOTE INDICATORS FOR ALL DUCT DETECTORS LOCATED ABOVE REMOVABLE CEILINGS. DUCT DETECTORS SHALL BE INSTALLED FOR ALL VENTILATION UNITS WITH 200 CFM OR GREATER SUPPLY AIR. REMOTE INDICATORS SHALL BE WALL MOUNTED 12" BELOW CEILING IN CLOSE PROXIMITY TO CONCEALED DUCT DETECTOR, UON.

11. DEVICES:

- 11.1 THE CONTRACTOR SHALL VERIFY COLOR, LOCATION AND MOUNTING HEIGHT OF ALL DEVICES WITH ARCHITECT PRIOR TO INSTALLATION.
- 11.2 RECEPTACLES SHALL BE DUPLEX TYPE, 20 AMP, 125 VOLT RATING, WITH SIDE AND BACK WIRING. HUBBELL 5362 OR APPROVED EQUAL.
- 11.3 GROUND FAULT INTERRUPTERS SHALL BE SPECIFICATION GRADE. HUBBELL GF5362 OR APPROVED EQUAL.
- 11.4 SWITCHES SHALL BE SPECIFICATION GRADE, 20 AMP AT 120/277 VOLTS, QUIET, AC, SINGLE OR DOUBLE POLE, THREE OR FOUR WAY AS REQUIRED, ROCKER STYLE WITH BACK AND SIDE WIRING.
- 11.5 ALL RECEPTACLES MARKED WP SHALL BE GROUND FAULT PROTECTED AND WEATHER TIGHT WHILE IN USE.
- 11.6 THE COLOR OF FACEPLATES SHALL MATCH COLOR OF DEVICE WHICH IT COVERS. ALL PLATES SHALL BE METALLIC.

12. PANEL BOARDS:

- 12.1 PANELBOARDS: SWITCHING UNITS SHALL BE 3 PHASE, 4 WIRE CIRCUIT BREAKER TYPE UNLESS OTHERWISE NOTED ON PANEL SCHEDULES. BUS BARS SHALL BE HARD DRAWN COPPER, MINIMUM 98% CONDUCTIVITY, AND SILVER OR TIN-PLATED JOINTS. CABINETS SHALL BE GALVANIZED SHEET STEEL BACK BOX, WITH DOOR AND TRIM AND LAPPED AND WELDED CORNERS. HARDWARE SHALL BE CHROME-PLATED WITH FLUSH LOCK/LATCH HANDLE ASSEMBLY (UP TO 48 IN. HIGH DOORS) OR VAULT HANDLE, LOCK AND 3-POINT CATCH (LARGER THAN 48 IN. HIGH DOORS). HINGES SHALL BE SEMI-CONCEALED, 5-KNUCKLE STEEL WITH NONFERROUS PINS, 180-DEG OPENING, LOCATED A MAXIMUM 26 IN. ON CENTERS. PROVIDE DOOR-IN-DOOR CONSTRUCTION. MINIMUM GUTTER SPACES FOR LIGHTING PANELS SHALL BE 5- BOTTOM. DIRECTORY HOLDER SHALL BE METAL FRAME WITH CLEAR PLASTIC, TRANSPARENT COVER.
- 12.2 PROVIDE A NEW TYPE WRITTEN CIRCUIT DIRECTORY FOR EACH PANEL AFFECTED BY THIS PROJECT.
- 12.3 WHEREVER POSSIBLE, PANELBOARDS SHALL BE RECESSED IN WALL. SURFACE MOUNTED PANELBOARDS SHALL BE MOUNTED ON A PLYWOOD BACKBOARD. PLYWOOD SHALL BE MOUNTED ON TOP OF GYPSUM BOARD. PLYWOOD SHALL BE PAINTED ON ALL SIDES AND EDGES. COORDINATE WITH OWNER FOR COLOR.
- 12.4 PROVIDE LIGHTNING SURGE PROTECTION FOR MAIN SWITCHBOARD OR MAIN SERVICE PANEL BOARD. PROVIDE GROUNDING OF SURGE DEVICE PER THE NEC.
- 12.5 CIRCUIT NUMBERS SHOWN SHALL BE GENERALLY FOLLOWED. HOWEVER, CONTRACTOR IS RESPONSIBLE FOR BALANCING LOADS ON ALL PHASES AND MAY ALTER ASSIGNMENT OF CIRCUITS FOR BALANCING PHASES.
- 12.6 CIRCUIT SCHEDULES ARE INTENDED TO REPRESENT THE GENERAL WIRING NEEDS OF THE EQUIPMENT SERVICED FROM THE PANEL. THE EXACT CIRCUIT ARRANGEMENT WILL BE DETERMINED BY PANEL SHOP DRAWING AND ARRANGEMENT WILL BE DETERMINED BY PANEL SHOP DRAWING AND PANELS ACTUALLY FURNISHED.

13. LIGHTING:

- 13.4 PROVIDE LIGHTING FIXTURES AS SHOWN ON THE CONSTRUCTION DRAWINGS, COMPLETE WITH ALL STEMS, RODS, SUPPORTS, PLASTER FRAMES, ETC., NECESSARY FOR AN INSTALLATION IN OR ON THE MATERIAL FINISHES PROVIDED. PROVIDE ALL LAMPS FOR LIGHTING FIXTURES. FIXTURES SHALL HAVE ENERGY SAVING LAMPS, AND WHERE APPLICABLE, ENERGY SAVING BALLASTS WITH HIGH POWER FACTOR.
- 13.5 SEE DRAWINGS AND SPECIFICATIONS FOR FIXTURE REQUIREMENTS.

14. IDENTIFICATION:

- 14.1 PROVIDE BLACK PHENOLIC IDENTIFICATION PLATES, WITH WHITE LETTERS ON ALL ELECTRICAL EQUIPMENT FURNISHED IN THIS CONTRACT. ATTACH WITH SUITABLE ADHESIVE.
- 14.2 INSTALL NAMEPLATES ON ALL MAJOR EQUIPMENT, INCLUDE STARTERS, TRANSFORMERS, PANELBOARDS, DISCONNECT SWITCHES AND OTHER ELECTRICAL BOXES AND CABINETS INSTALLED UNDER THIS CONTRACT.
- 14.3 APPLY CABLE/CONDUCTOR IDENTIFICATION MARKERS ON EACH CABLE AND CONDUCTOR IN EACH BOX, ENCLOSURE OR CABINET.

15. RECORD DRAWINGS:

- 15.1 THE CONTRACTOR SHALL SUBMIT SIX (6) COPIES OF SHOP DRAWINGS. THE APPROVAL OF SHOP DRAWINGS SHALL ONLY BE CONSTRUED TO APPLY TO THE GENERAL LAYOUT AND CONFORMANCE TO THE DESIGN CONCEPT OF THE PROJECT AND FOR THE COMPLIANCE WITH THE GENERAL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL RETAIN THE RESPONSIBILITY FOR ANY DEVIATIONS FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
- 15.2 PROVIDE SHOP DRAWINGS FOR THE LIGHTING FIXTURES, PANEL BOARDS, CIRCUIT BREAKERS, WIRING DEVICES, FIRE ALARM DEVICES AND SEALS FOR FIRE AND WATER STOPPING.
- 15.3 DURING CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN A RECORD SET OF INSTALLATION PRINTS. HE SHALL NEATLY AND CLEARLY RECORD ON THESE PRINTS ALL DEVIATIONS FROM THE CONTRACT DRAWINGS IN SIZES, LOCATIONS AND DETAILS.
- 15.4 UPON PROJECT COMPLETION, THE CONTRACTOR SHALL COMPLETE THE MARK UP OF ALL PROJECT DRAWINGS TO RECORD INSTALLED CONDITIONS.
- 15.5 REPRODUCIBLE "RECORD" DRAWINGS PREPARED IN CAD FORMAT SHALL BE PROVIDED AS INSTALLED CONDITIONS OF THE WORK. A FULL SIZE PRINT OUT OF THE "RECORD" DRAWING FILE SHALL BE PROVIDED AFTER COMPLETION OF THE INSTALLATION.
- 15.6 UPON COMPLETION AND ACCEPTANCE OF WORK, THE CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS AND EQUIPMENT MANUALS AND DEMONSTRATE TO SPRINT THE PROPER OPERATIONS AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED UNDER THIS CONTRACT.

THESE GENERAL NOTES ACT AS THE GUIDELINES FOR CONSTRUCTION OF THE PROJECT. THEY ARE SUPERSEDED BY ANY MORE STRINGENT CONTRACT REQUIREMENTS OR PROJECT SPECIFICATION PROVIDED BY THE OWNER.



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STRUCTURAL ENGINEER STAMP

ELECTRICAL ENGINEER STAMP

CIVIL ENGINEER STAMP

PROFESSIONAL ENGINEER STAMPS

LICENSED ELECTRICAL ENGINEER certifies that they prepared all the electrical "E" sheets in this drawing set.
LICENSED STRUCTURAL ENGINEER certifies that they prepared all of the structural "S" sheets in this drawing set.
LICENSED CIVIL ENGINEER certifies that they prepared all of the civil "C" sheets in this drawing set.
It should be noted that any plan sheets not identified above have been prepared and certified by others and have been included herein for informational purposes only.

F		L	
E	8/18/21	K	
D	5/4/21	J	
C	5/3/21	I	
B	3/12/21	H	
A	3/10/21	G	
REV	DATE	REV	DATE
DRAWN BY: TG		CHECKED BY: RA	
SCALE: AS NOTED		JOB NO: 21-702	

ALLIANT ENERGY
RFP

COTTAGE GROVE, WI 55016

SHEET TITLE

GENERAL NOTES

DWG. NO.

G-2.00