

	FUSE
	SURGE PROTECTION DEVICE/ SURGE ARRESTER MOV STYLE
	CIRCUIT BREAKER
	GROUND
	GROUNDING WYE
	DELTA
	MV DISCONNECT
	POTENTIAL TRANSFORMER (PT)
	CPT CONTROL POWER TRANSFORMER
	CT CURRENT TRANSFORMER (CT)
	CS CURRENT SENSOR (CS)
	VOLTAGE SENSOR (VS)
	METER
	INVERTER
	INVERTER WITH INTEGRATED DISCONNECT
	PANELBOARD
	MAIN DISTRIBUTION SWITCHBOARD
	FUSED DISCONNECT
	NON FUSED DISCONNECT

1. GENERAL REQUIREMENTS:

1. THE WORK 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 COMPLEMENT 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 REQUIREMENTS.
- 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 IN EACH LAYER OF SIX (6) INCH DEPTH. CONDUIT SHALL BE MINIMUM 30" BELOW FINISHED GRADE.



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SOLAR LLC

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(608) 547-1000 www.sunvest.com

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

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ALLIANT
UW KEGONSA
(42.957620, -89.292360)

SHEET TITLE

GENERAL NOTES
AND SYMBOLS

DWG. NO.

GN-1.00

GENERAL NOTES:

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 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.
- 2.5 ALL CONDUITS AND DEVICE BOXES SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR, INCLUDING ALL TECHNOLOGY CONDUITS AND BOXES.
- 2.6 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.
- 2.7 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.
- 2.8 THE CONTRACTOR SHALL CONTACT THE BUILDING MANAGER TO OBTAIN A COPY OF THE GENERAL REQUIREMENTS AND/OR CONDITIONS TO BE USED FOR THIS PROJECT.

3. PROTECTION OF WORK:

- 3.1EFFECTIVELY 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
- 4.3 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 1/2” FOR POWER CIRCUITS AND CONTROL CIRCUITS EXCEPT WHERE FLEXIBLE CONDUIT IS CALLED FOR ON PROJECT DOCUMENTS. ALL EXTERIOR EXPOSED CONDUIT SHALL BE PVC. ALL UNDERGROUND, IN SLAB OR UNDER SLAB SHALL BE SCH. 40 PVC. CHANGE TO SCH. 80 PVC CONDUIT BEFORE EXITING OUT OF UNDERGROUND SECTIONS. 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.
- 6.7 ALL RACEWAY AND WIRING SHALL BE CONCEALED IN FINISHED AREAS. RACEWAY IN MECHANICAL ROOMS, BASEMENTS AND CRAWL SPACES MAY BE SURFACE MOUNTED.
- 6.8 FOR CONDUITS CROSSING EXPANSION JOINTS, PROVIDE EXPANSION FITTINGS FOR SIZE 1–1/4”, AND LARGER. PROVIDE SECTIONS OF FLEXIBLE CONDUIT WITH GROUNDING JUMPERS FOR SIZES 1” AND SMALLER.
- 6.9 THE CONTRACTOR SHALL SEAL ALL PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS WITH APPROVED FIRE RATED SEALANT. ALL PENETRATIONS THROUGH ALL WALLS AND FLOORS SHALL BE SEALED. FOR ALL SLAB PENETRATIONS THE METHOD, DEPTHS AND LOCATIONS SHALL BE PRE–APPROVED BY THE BUILDING ENGINEER PRIOR TO THE START OF WORK.
- 6.10 THE CONTRACTOR SHALL INSTALL DETECTABLE UNDERGROUND TAPES FOR THE PROTECTION, LOCATION AND IDENTIFICATION OF UNDERGROUND CONDUIT INSTALLATION.
- 6.11 EXACT ROUTING OF CONDUITS AND CABLES SHALL BE DETERMINED IN FIELD.
- 6.12 ALL PENETRATIONS THROUGH FLOORS SHALL BE FIRE STOPPED AND SEALED WITH APPROVED SEALANT.
- 6.13 ELECTRICAL RACEWAY CONNECTIONS TO VIBRATING EQUIPMENT AND MACHINERY, SHALL BE MADE WITH FLEXIBLE LIQUID TIGHT METALLIC CONDUIT.
- 6.14 SECURE ALL SUPPORTS TO BUILDING STRUCTURE UTILIZING TOGGLE BOLTS IN HOLLOW MASONRY, EXPANSION SHIELDS OR INSERTS IN CONCRETE AND BRICK. MACHINE SCREWS IN METAL, BEAM CLAMPS IN FRAMEWORK AND WOOD SCREWS IN WOOD. NAILS, RAWL PLUGS AND WOOD PLUGS ARE NOT PERMITTED. WHERE REQUIRED BY STRUCTURE, PROVIDE THRU BOLTS AND FISH PLATES. SUPPORT RACEWAY RISERS AT EACH FLOOR LEVEL. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO BUILDING LINES.
- 6.15 DO NOT RUN RACEWAYS CLOSER THAN 6 INCHES WHEN PARALLEL TO HOT WATER OR STEAM PIPES. WHEN CROSSING WATER OR STEAM PIPES CROSS A MINIMUM OF 3 INCHES ABOVE. IF CROSSING BELOW IS UNAVOIDABLE, PROVIDE DRIP SHIELDS EXTENDING 6 INCHES BEYOND THE WATER OR STEAMPIPE. BOXES INSTALLED IN PROXIMITY TO WATER OR STEAM PIPE SHALL BE RATED NEMA 4X.

7. BOXES:

- 7.1 INTERIOR JUNCTION BOXES SHALL BE SHEET STEEL. EXTERIOR JUNCTION BOXES SHALL BE NONMETALLIC, WITH SCREW COVERS. BOXES SHALL BE SUPPORTED INDEPENDENTLY OF CONDUITS.

8. WIRING:

- 8.1 ALL WIRE SHALL BE MADE OF COPPER WITH INSOLATION SUITABLE FOR THE APPLICABLE ENVIROMENT AND VOLTAGE. CONTRACTOR SHALL GET APPROVAL FOR ANY OTHER WIRE TYPE.
- 8.2 UNDER NO CIRCUMSTANCES SHALL FEEDERS BE SPLICED.
- 8.3 ALL ELECTRICAL TERMINAL TEMPERATURE RATINGS ASSUMED TO BE 75° C UNLESS SITE CONDITIONS REQUIRE OTHERWISE.
- 8.4 WIRE SIZES SHALL BE INCREASED WHERE NECESSARY TO LIMIT AC VOLTAGE DROP TO 1.5% TOTAL FROM INVERTER TO POINT OF COMMON COUPLING

9. GROUNDING:

- 9.1 PROVIDE A COMPLETE EQUIPMENT GROUND SYSTEM FOR THE ELECTRICAL SYSTEM AS REQUIRED BY ARTICLE 250 AND 690, OF THE NEC, AND AS SPECIFIED HEREIN.
- 9.2 ALL BRANCH CIRCUITS AND FEEDERS 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 DISCONNECT SWITCHES SHALL BE HEAVY DUTY, 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.
- 10.2 THE RATING FOR DISCONNECT SWITCHES SHALL BE THE SAME AS, OR GREATER THAN, THE PROTECTIVE DEVICE SERVING THE EQUIPMENT.
- 10.3 A STRUT FRAME SHALL BE PROVIDED AT ALL LOCATIONS WHERE STRUCTURE WILL NOT ADEQUATELY SUPPORT EQUIPMENT, OR FOR FREESTANDING EQUIPMENT.

11. PANEL BOARDS:

- 11.1 PANELBOARDS: SWITCHING UNITS SHALL BE 3 PHASE, 4 WIRE CIRCUIT BREAKER TYPE UNLESS OTHERWISE NOTED. 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.
- 11.2 PROVIDE A NEW TYPE WRITTEN CIRCUIT DIRECTORY FOR EACH PANEL AFFECTED BY THIS PROJECT.
- 11.3 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 GYMPSUM BOARD. PLYWOOD SHALL BE PAINTED ON ALL SIDES AND EDGES. COORDINATE WITH OWNER FOR COLOR.
- 11.4 PROVIDE LIGHTNING SURGE PROTECTION FOR MAIN SWITCHBOARD OR MAIN SERVICE PANEL BOARD. PROVIDE GROUNDING OF SURGE DEVICE PER THE NEC.
- 11.5 CONTRACTOR IS RESPONSIBLE FOR BALANCING LOADS ON ALL PHASES AND MAY ALTER ASSIGNMENT OF CIRCUITS FOR BALANCING PHASES.
- 11.6 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.

12. IDENTIFICATION:

- 12.1 REFER TO NEC LABELS DRAWING FOR LABELING REQUIREMENTS
- 12.2 INSTALL NAMEPLATES ON ALL MAJOR EQUIPMENT, INCLUDE STARTERS, TRANSFORMERS, PANELBOARDS, DISCONNECT SWITCHES AND OTHER ELECTRICAL BOXES AND CABINETS INSTALLED UNDER THIS CONTRACT.
- 12.3 APPLY CABLE/CONDUCTOR IDENTIFICATION MARKERS ON EACH CABLE AND CONDUCTOR IN EACH BOX, ENCLOSURE OR CABINET.

13. RECORD DRAWINGS:

- 13.1 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.
- 13.2 PROVIDE SHOP DRAWINGS FOR THE LIGHTING FIXTURES, PANEL BOARDS, CIRCUIT BREAKERS, WIRING DEVICES, FIRE ALARM DEVICES AND SEALS FOR FIRE AND WATER STOPPING.
- 13.3 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.
- 13.4 UPON PROJECT COMPLETION, THE CONTRACTOR SHALL COMPLETE THE MARK UP OF ALL PROJECT DRAWINGS TO RECORD INSTALLED CONDITIONS.
- 13.5 REPRODUCIBLE "RECORD" DRAWNGS 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.
- 13.6 UPON COMPLETION AND ACCEPTANCE OF WORK, THE CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS AND EQUIPMENT MANUALS AND DEMONSTRATE THE PROPER OPERATIONS AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED UNDER THIS CONTRACT.



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608.547.1200 www.sunvest.com

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

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SCALE: AS NOTED		JOB NO: 01730	

ALLIANT
UW KEGONSA
(42.957620,–89.292360)

SHEET TITLE

GENERAL NOTES
AND SYMBOLS

DWG. NO.

GN-2.00

SCHNEIDER DR

DC COMBINERS TO BE PLACED
STRATEGICALLY IN THE ARRAY FIELD

50'-0"

CROP LINE

UNDERGROUND FIBER AND
PRIMARY CABLE FROM
SCHNEIDER DR. TO
DYERSON TO POI ON B

15FT WIDE ACCESS ROAD

15FT WIDE ACCESS GATE
PROPOSED TEMPORARY
LOADING/UNLOADING AREA

EQUIPMENT PAD
(1) MAIN SWITCHBOARD
RELAY
METER

(1) TRANSFORMER
INVERTERS AND DC DISCONNECTS
RESEARCH EQUIPMENT STORAGE

EXCLUSION ZONE LIMITS

LOCATION OF AGRICULTURE
EQUIPMENT CROSSING ACCESS

NORTHERN PRIME FARMLAND

ZONING DISTRICT AT-35
PARCEL ID. 028/0610-271-8000-4

ZONING DISTRICT AT-35
PARCEL ID. 028/0610-271-9500-7

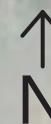
PARCEL BOUNDARY

SOUTHERN PRIME FARMLAND

8FT TALL DEER FENCE

WETLANDS

100'-0" WETLANDS BUFFER



0 25 50 100 200
SCALE BAR 1:1250

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ALLIANT
UW KEGONSA
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SHEET TITLE
CONCEPTUAL ARRAY LAYOUT

DWG. NO.

PV-1.00

SCHNEIDER DR



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(262) 547-1200 www.sunvest.com

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

DC COMBINERS TO BE PLACED STRATEGICALLY IN THE ARRAY FIELD

UNDERGROUND FIBER AND PRIMARY CABLE FROM SCHNEIDER DR. TO DYERSON TO POI ON B

CROP LINE

15FT WIDE ACCESS ROAD

15FT WIDE ACCESS GATE

KEY

-  RESEARCH BASED FIXED TILT
-  TRACKER
-  FIXED TILT

EXCLUSION ZONE LIMITS

LOCATION OF AGRICULTURE EQUIPMENT CROSSING ACCESS

NORTHERN PRIME FARMLAND

ZONING DISTRICT AT-35
PARCEL ID. 028/0610-271-8000-4

ZONING DISTRICT AT-35
PARCEL ID. 028/0610-271-9500-7

PARCEL BOUNDARY

SOUTHERN PRIME FARMLAND

8FT TALL DEER FENCE

WETLANDS

100'-0" WETLANDS BUFFER



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ALLIANT
UW KEGONSA
(42.957620,-89.292360)

SHEET TITLE
CONCEPTUAL ARRAY TYPES

DWG. NO.
PV-1.01

SCHNEIDER DR



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(608) 547-1200 www.sunvest.com

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

DC COMBINERS TO BE PLACED
STRATEGICALLY IN THE ARRAY FIELD

UNDERGROUND FIBER AND
PRIMARY CABLE FROM
SCHNEIDER DR. TO
DYERSON TO POI ON B

CROP LINE

15FT WIDE ACCESS ROAD

15FT WIDE ACCESS GATE

50'-0"

EXCLUSION ZONE

1.463 ACRES

EXCLUSION ZONE LIMITS

NORTH PRIME FARMLAND AREA

1.261 ACRES

LOCATION OF AGRICULTURE
EQUIPMENT CROSSING ACCESS

SOLAR ARRAY AREA

NORTHERN PRIME FARMLAND

ZONING DISTRICT AT-35
PARCEL ID. 028/0610-271-8000-4

PARCEL BOUNDARY

9.841 TOTAL
ARRAY ACRES

ZONING DISTRICT AT-35
PARCEL ID. 028/0610-271-9500-7

15 ACRES TOTAL FENCED AREA

SOUTH PRIME FARMLAND AREA

SOUTHERN PRIME FARMLAND

WETLANDS

2.724 ACRES

8FT TALL DEER FENCE

100'-0" WETLANDS BUFFER



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SCALE: AS NOTED		JOB NO: 01730	

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SHEET TITLE
PRIME FARMLAND VS. SOLAR

DWG. NO.
PV-1.02



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SHEET TITLE
CONCEPTUAL VEGETATION

DWG. NO.
PV-1.03

PV SYSTEM DETAILS	
ARRAY TYPE:	GROUND MOUNT FIXED TILT AND TRACKER
DC SYSTEM SIZE:	2.852 MW DC
DC SYSTEM VOLTAGE:	1500 V
AC SYSTEM SIZE:	2.250 MW AC
MODULES	(5382) HELIENE 144HC M10 530W
INVERTERS:	(18) SUNNY HIGHPOWER PEAK3 125-US
OPTIMIZERS:	N/A
RACKING:	RBI AND ATI
CLAMPS:	N/A
AZIMUTH:	180°
ARRAY PITCH:	32'-3"
ARRAY TILT:	25°

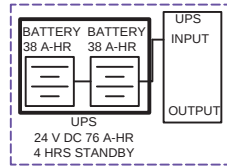
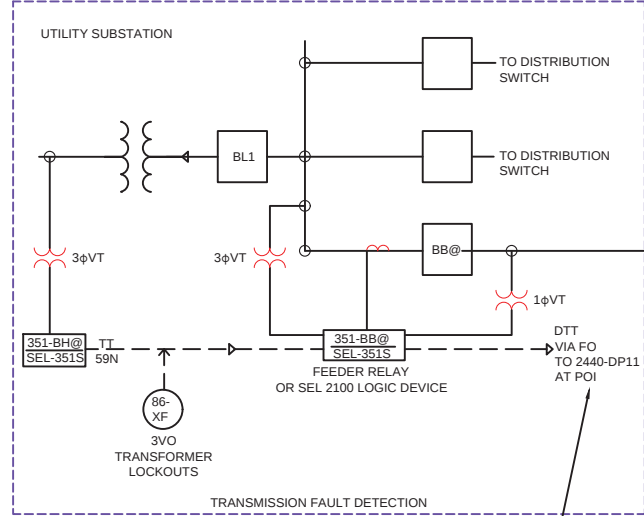
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SHEET TITLE

ONE LINE DIAGRAM

E-1.00





NOT TO SCALE



NOT TO SCALE



NOT TO SCALE

E-3.00

⚠️ WARNING

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

MAX AC OUTPUT CURRENT:

AMPS

MAX AC OUTPUT VOLTAGE:

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

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

AUTHORIZED PERSONNEL ONLY
HIGH VOLTAGE- KEEP AWAY

LABEL #6

PLACE AT AC DISCONNECT

⚠️ WARNING

ELECTRIC SHOCK HAZARD

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

LABEL #7

PLACE AT INVERTERS

CAUTION: SOLAR ELECTRIC SYSTEM CONNECTED

LABEL #8

PLACE ON DC DISCONNECTS AND INVERTERS

CAUTION: SOLAR CIRCUIT

LABEL #9

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

⚠️ WARNING

DC JUNCTION BOX

LABEL #10

PLACE ON DC JUNCTION BOXES

⚠️ 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 CURRENT:

A

OPERATING VOLTAGE:

Vdc

LABEL #11

PLACE ON DC DISCONNECTS

⚠️ WARNING

ELECTRIC SHOCK HAZARD

DO NOT TOUCH TERMINALS
TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

LABEL #12

PLACE ON DC DISCONNECTS AND AC DISCONNECTS

⚠️ WARNING

PULL BOX

AUTHORIZED PERSONNEL ONLY
HIGH VOLTAGE- KEEP AWAY

LABEL #13

PLACE AT PULL BOXES

INV-1

LABEL #14

PLACE AT INVERTERS

D-01

LABEL #15

PLACE AT SYSTEM DISCONNECT

CB-1

LABEL #16

PLACE AT DC COMBINER BOXES

MDP M-01

LABEL #17

PLACE AT SWITCHBOARDS

XFMR T-1

LABEL #18

PLACE AT MAIN TRANSFORMERS

PNL- P1

LABEL #18

PLACE AT PANELS

CAUTION

POWER TO THIS SITE IS SUPPLIED BY MULTIPLE SOURCES: DISCONNECT LOCATIONS ARE SHOWN BELOW

ALLIANT UW KEGONSA
MAP OF PHOTOVOLTAIC POWER SOURCES
DISCONNECTING MEANS

SITE DISCONNECT LOCATION PLACECARD

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)
5. DIRECT-CURRENT PV POWER SOURCES SHALL BE PERMANENTLY LABELED PER NEC 690.53
6. PROVIDE ALL ADDITIONAL LABELS AS REQUIRED PER NEC, NESC, AND OTHER APPLICABLE CODES AND STANDARDS

KEYED NOTES:

1. PROVIDE 9"X3" ENGLISH/SPANISH ELECTRICAL WARNING SIGN AT EACH OF THE SITE ENTRANCES AND EVERY 200' ALONG THE FENCE.
2. PROVIDE SITE DISCONNECT LOCATION PLACECARD AT EACH OF THE SITE ENTRANCES. MARK "YOU ARE HERE" AT EACH OF THE LOCATIONS ON THE MAP

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952.527.1200 www.sunvest.com

N27 W24025 PAUL CT. SUITE 100
PEWAUKEE, WI 53072
PHONE: (262)–547–1200
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SHEET TITLE
NEC LABELS

DWG. NO.
E-5.00