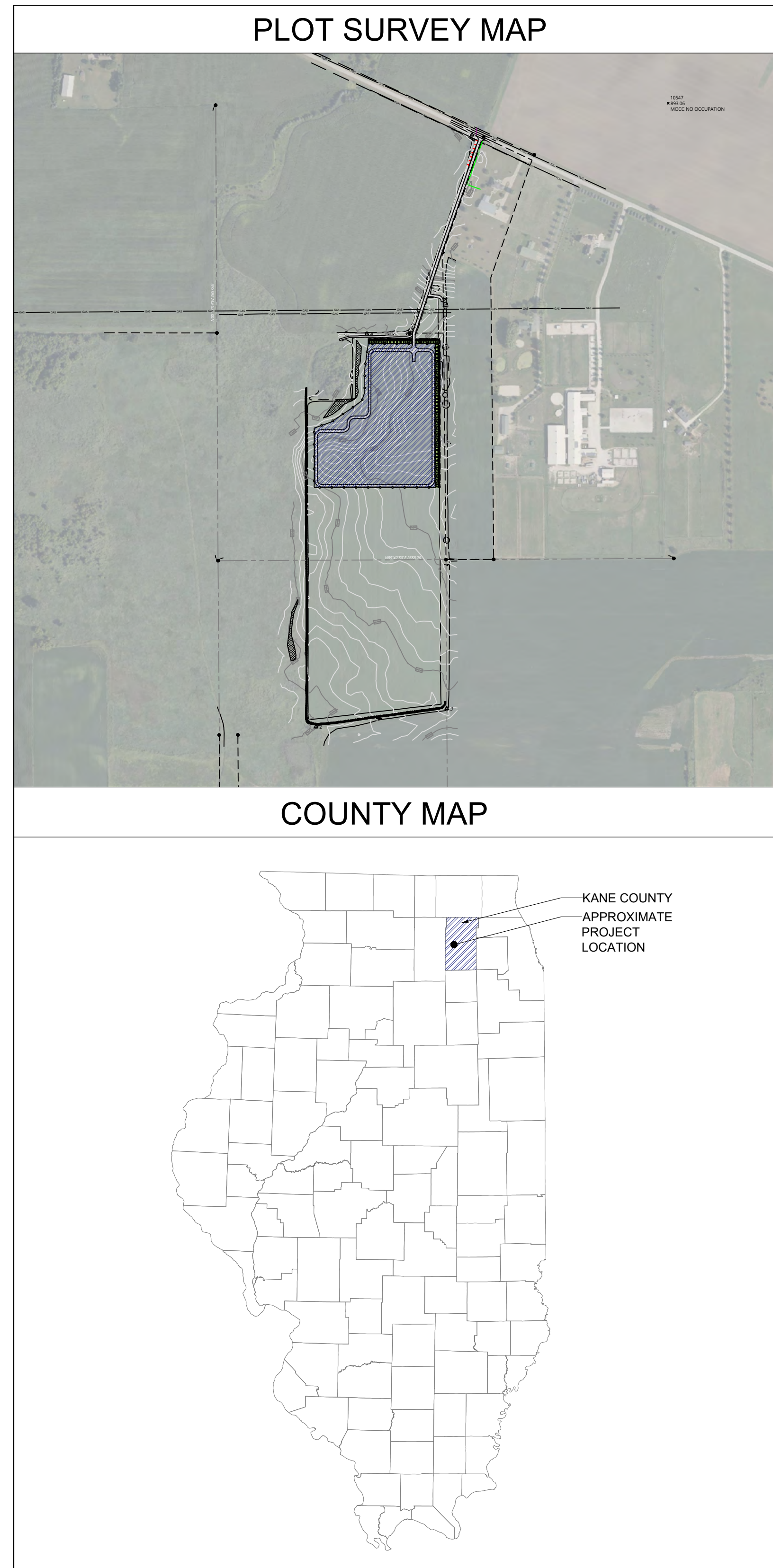


SV CSG WELTER ROAD SOLAR, LLC
(41°56'19.2"N, 88°29'34.4"W)

PV SYSTEM DETAILS	
ARRAY TYPE:	SINGLE AXIS TRACKER (SAT)
DC SYSTEM SIZE:	2.3222 MW
DC SYSTEM VOLTAGE:	1500 V
AC SYSTEM SIZE:	1.5 MVA @ PF=1
DC/AC RATIO:	1.54813
MODULE QTY:	3,657
MODULE TYPE:	HANWHA/QCELL Q.TRON XL-G2 SERIES BIFACIAL
MODULE WATTAGE:	635 W
INVERTER QTY:	12
INVERTER TYPE:	KACO 125 TL3 M1 WM OD (XL) 600V:120.3A 3ϕ + PE
INVERTER AC OUTPUT :	125 kVA
STRING SIZE:	23
TOTAL STRINGS:	159
OPTIMIZER TYPE:	N/A
RACKING:	AMPACITY
CLAMPS:	N/A
AZIMUTH:	180°
PILE TO PILE SPACING:	24'-1"
ARRAY TILT:	+/- 52° (SAT)
GCR:	33%
UTILITY INFORMATION	
UTILITY COMPANY:	COMED
INTERCONNECTION VOLTAGE:	12.47 kV
FEEDER #:	F5416
CIVIL QUANTITIES	
FENCE LINEAR FEET:	2,900' LF
APPROXIMATE FENCED ACREAGE:	9.77 AC
LAYDOWN YARD:	7,000 SQFT
ONSITE ROAD AGGREGATE:	1,178 CY (ASSUMES 6" ON ROADS; 63,607 SQFT)
OFFSITE ROAD AGGREGATE:	N/A
ENTRANCE APRON:	N/A
GEOTEXTILE:	63,607" SQFT (ENTIRE ACCESS/EMERGENCY ROAD)
CULVERT:	40', 18" RCP
FLARED END SECTIONS:	2
RIPRAP:	N/A
ARRAY GRADING (CUT/FILL):	N/A
VEHICLE GATE (24"):	1
PEDESTRIAN GATE (4"):	2
SILT FENCE:	2,940' LF
COMPOST FILTER SOCK:	N/A
SEEDING:	SEE LANDSCAPE PLANS (IF APPLICABLE)
LANDSCAPE SCREENING - TREE:	SEE LANDSCAPE PLANS (IF APPLICABLE)
LANDSCAPE SCREENING - SHRUB:	SEE LANDSCAPE PLANS (IF APPLICABLE)

[illegible]

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ELECTRICAL ENGINEER STAMP:

PROFESSIONAL ENGINEER STAMP

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TITLE SHEET

SCALE:	DRAWN BY: TLG
JOB NO.: N/A	DATE: 6/11/26

SHEET NO.:

T-100

SYMBOLS LEGEND:

ELECTRIC SYMBOLS:		
	FUSE	
	SURGE PROTECTION DEVICE/ SURGE ARRESTER MOV STYLE	
	CIRCUIT BREAKER	
	GROUND	
	GROUNDED WYE	
	DELTA	
	MV DISCONNECT	
	NON-FUSED CUTOUT	
	POTENTIAL TRANSFORMER (PT)	
	CONTROL POWER TRANSFORMER	
	CURRENT TRANSFORMER (CT)	
	CURRENT SENSOR (CS)	
	VOLTAGE SENSOR (VS)	
	METER	
	INVERTER	
	INVERTER WITH INTEGRATED DISCONNECT	
	PANELBOARD	
	MAIN DISTRIBUTION SWITCHBOARD	
	FUSED DISCONNECT	
	NON FUSED DISCONNECT	
	AIRBREAK (GOAB) DISCONNECT SWITCH	

SITE LAYOUT SYMBOLS:	
	PARCEL BOUNDARY
	PARCEL SETBACKS
	ARRAY FENCE
	WETLANDS
	WETLAND SETBACK
	FLOODPLAIN
	FLOODPLAIN SETBACK
	BUILDING
	BUILDING SETBACK
	INVERTER STRINGING (11 STRINGS)
	INVERTER STRINGING (12 STRINGS)
	INVERTER STRINGING (13 STRINGS)
	DC TRENCHING
	AC TRENCHING
	POWER UNDERGROUND
	POWER OVERHEAD
	ACCESS ROAD
	MODULE
	TORQUE TUBE
	ACCESS GATE
	UTILITY/CUSTOMER POLES
	EQUIPMENT PAD
	INVERTER RACK
	MAIN SWITCHBOARD
	TRANSFORMER
	TRACKER MOTOR
	DC COMBINER BOX
	POLLINATOR
	TREE (VEGETATION)
	SHRUB (VEGETATION)
	AUXILLARY TRANSFORMER
	BESS EQUIPMENT PAD

GENERAL NOTES/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 IN EACH LAYER OF SIX (6) INCH DEPTH. CONDUIT SHALL BE MINIMUM 30" BELOW FINISHED GRADE.

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GENERAL NOTES/REQUIREMENTS:

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. CONNECTORS:

- 3.1 DO NOT CROSS MATE CONNECTORS ON ANY SYSTEM. ENSURE THAT CONNECTOR SELECTION MEETS THE LEGAL BASIS THE EXCLUDE CROSS-CONNECTIONS OF:
- PRODUCT NORMS ((IEC 62852 (EN62852)) AND UL 6703 PRODUCT NORM RESP. UL 1703 MODULE NORM

• INSTALLATION NORMS AND LOCAL REGULATIONS

• ASSEMBLY INSTRUCTIONS OF THE MANUFACTURER

VALID PV STANDARDS (IEC 60364-7-712:2017; E343181) STATE THAT "MALE AND FEMALE CONNECTORS [...] SHALL BE OF THE SAME TYPE FROM THE SAME MANUFACTURER" AND THAT UL CERTIFICATION FOR CONNECTORS ONLY APPLIES IF PRODUCTS FROM THE SAME PRODUCT FAMILY HAVE BEEN MATED

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 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 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 GYPSUM 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" 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.
- 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.

14. PROTECTION OF WORK:

- 14.1 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.

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SHEET TITLE:

OVERALL SITE
LAYOUT

SCALE: 1" = 100'

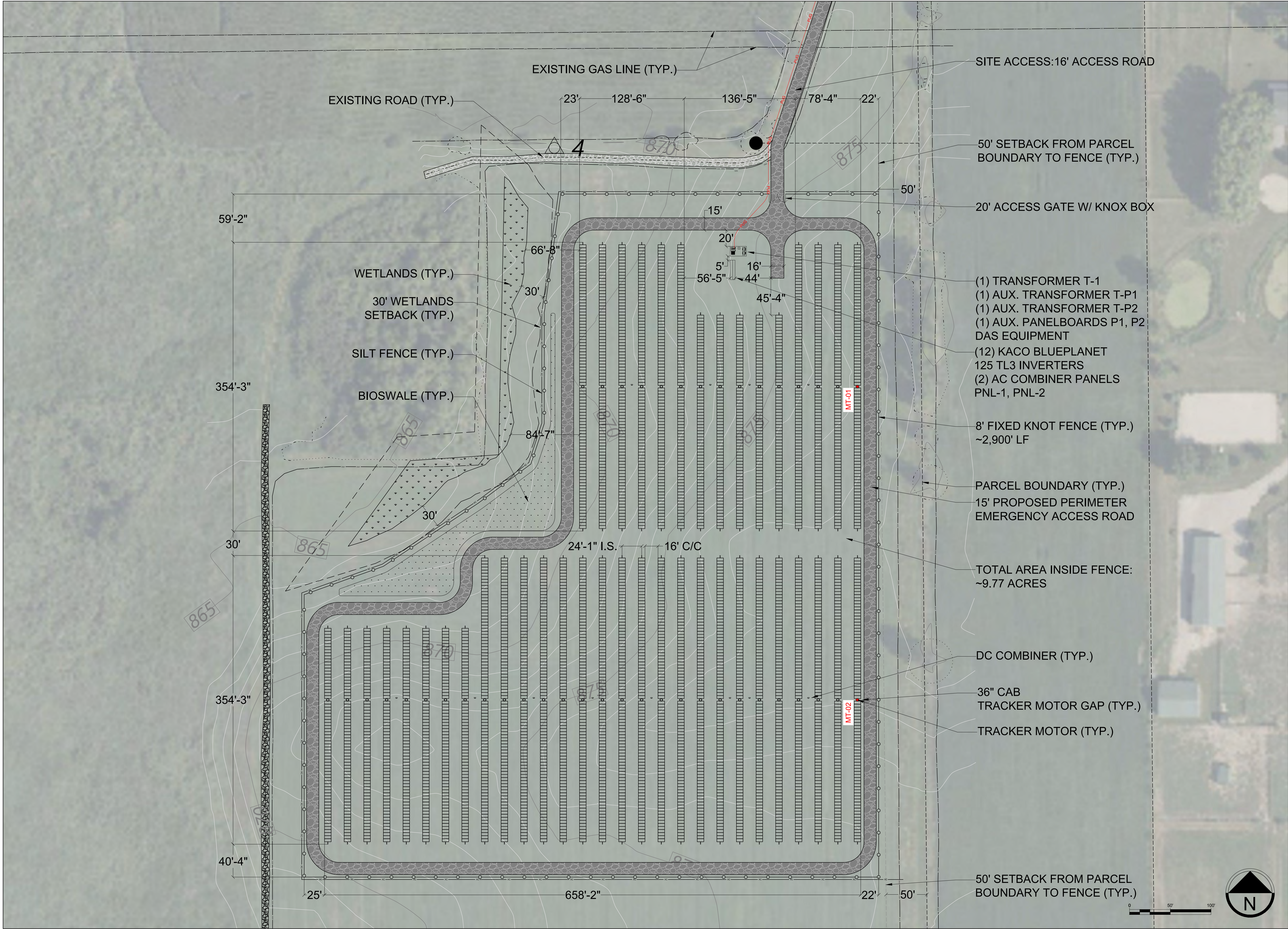
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JOB NO.: N/A

DATE: 6/11/26

SHEET NO.:

A-100





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ELECTRICAL ENGINEER STAMP:

PROFESSIONAL ENGINEER STAMP

SV CSG WELTER ROAD SOLAR, LLC

PROJECT ADDRESS: (41°56'19.2" N 88°29'34.4"W)

ISSUANCE:

30% ELECTRICAL
PRELIMINARY PLAN SET
(FOR QUOTATION
PURPOSES ONLY)

ISSUANCE:		
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SHEET TITLE:
ARRAY LAYOUT

SCALE: 1" = 50'

DRAWN BY: TLG

JOB NO.:
N/A

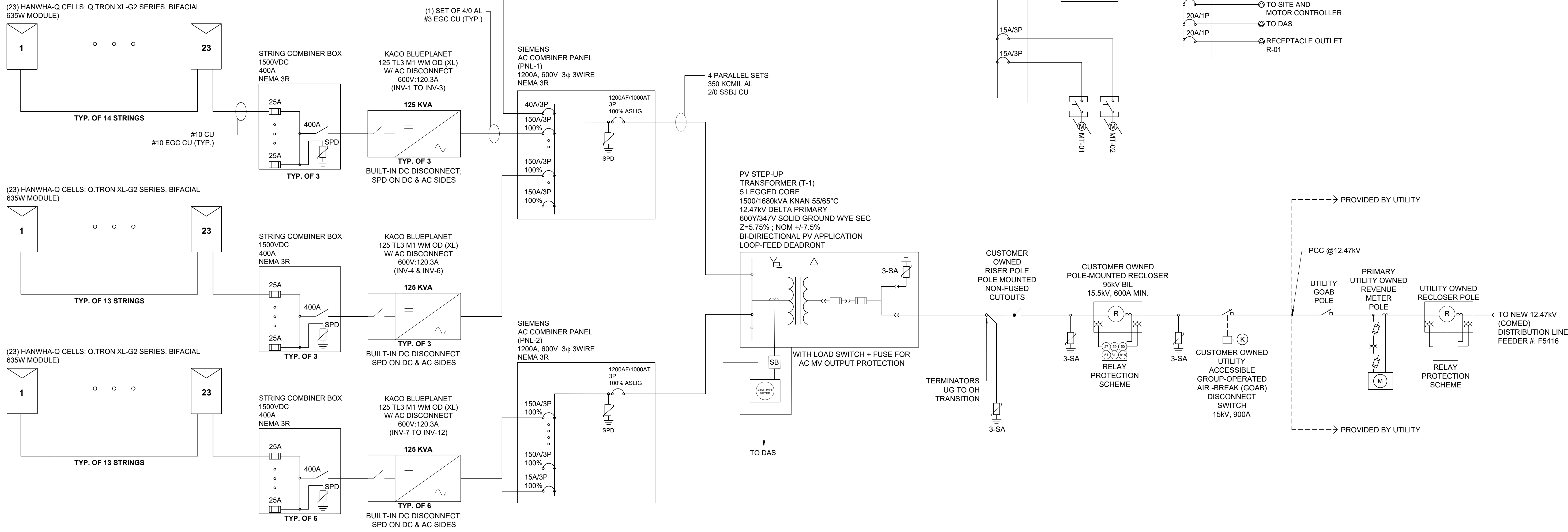
DATE:
6/11/26

SHEET NO.:
A-101

PV SYSTEM DETAILS	
ARRAY TYPE:	SINGLE AXIS TRACKER (SAT)
DC SYSTEM SIZE:	2.3222 MW
DC SYSTEM VOLTAGE:	1500 V
AC SYSTEM SIZE:	1.5 MVA @ PF=1
DC/AC RATIO:	1.54813
MODULE QTY:	3,657
MODULE TYPE:	HANWHA/QCELL Q-TRON XL-G2 SERIES BIFACIAL
MODULE WATTAGE:	635 W
INVERTER QTY:	12
INVERTER TYPE:	KACO 125 TL3 M1 WM OD (XL) 600V-120.3A 3ø + PE
INVERTER AC OUTPUT :	125 kW
STRING SIZE:	23
TOTAL STRINGS:	159

UTILITY INFORMATION	
UTILITY COMPANY:	COMED
INTERCONNECTION VOLTAGE:	12.47 kV
SUBSTATION #:	F5416

ELECTRICAL NOTES	
1. INVERTER UNDERFREQUENCY AND OVER FREQUENCY SETTINGS SHALL BE COORDINATED WITH THE UTILITY STANDARDS	
2. COORDINATE INVERTER SETTINGS WITH RECLOSING SETTINGS.	
3. INVERTERS SHALL COMPLY WITH IEEE 1547, IEEE 519 AND UL1741.	
4. PROVIDE A POLE MOUNTED VISIBLE OPEN, GANG OPERATED AIR BREAK, LOAD BREAK DISCONNECT SWITCH THAT IS VISIBLY MARKED "GENERATING FACILITY GENERATION DISCONNECT" AND IS ACCESSIBLE TO AND LOCABLE BY THE UTILITY AT ALL TIMES. LOCATE DISCONNECT IN CLOSE PROXIMITY TO THE UTILITY METER.	
5. PROVIDE VISIBLE LABEL "OF GENERATION BREAKER" ON MAIN BREAKERS. BREAKERS SHALL HAVE LOTO PROVISIONS.	
6. PROVIDE A POLE MOUNTED 3-PHASE VACUUM INTERRUPTER POLYMER RECLOSER, 15.5kV 600A MIN, WITH INTEGRAL CURRENT TRANSFORMERS & (6) LEA VOLTAGE SENSORS ON BOTH SIDES OF RECLOSER. VOLTAGE SENSOR SHALL HAVE A MIN. ACCURACY PER IEEE1547. PROVIDE RECLOSER WITH 120V CPT AND SURGE ARRESTERS ON BOTH SOURCE & LOAD SIDE. PROVIDE WITH MANUFACTURER FURNISHED ADVANCED RECLOSER CONTROL RELAY WITH MINIMUM PROTECTION FUNCTIONS SHOWN AND WITH CONTROL CABLE AND POWER CABLE. PROVIDE WILDLIFE PROTECTORS. RECLOSER SHALL BE TAVRIDA ELECTRIC WITH SEL-651R RECLOSER OR APPROVED EQUAL IN STAINLESS STEEL CONTROL CABINET WITH BATTERY BACKUP AND HEATER PACKAGE. COMMUNICATE STATUS OF RECLOSER TO DAS.	
7. PROVIDE A PERMANENT AND WEATHERPROOF ONE-LINE DIAGRAM OF THE GENERATING FACILITY LOCATED AT THE POINT OF SERVICE CONNECTION TO THE UTILITY.	
8. PROVIDE MAIN TRANSFORMERS WITH EXTERNALLY ACCESSIBLE AND REPLACEABLE BAY-O-NET FUSES OR EQUIVALENT WITH SERIES CURRENT LIMITING FUSE.	
9. MAIN TRANSFORMERS SHALL BE RATED FOR PV APPLICATION WITH BI-DIRECTIONAL POWER FLOW CAPABILITY.	
10. INTERRUPTING AND WITHSTAND RATINGS SHALL BE CONFIRMED DURING CONSTRUCTION DESIGN PROCESS.	
11. DESIGN SHALL BE IN COMPLIANCE WITH NEC, COMED AND ALL OTHER APPLICABLE CODES AND STANDARDS.	





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SHEET TITLE:

ONE LINE DIAGRAM

SCALE:

JOB NO.: N/A

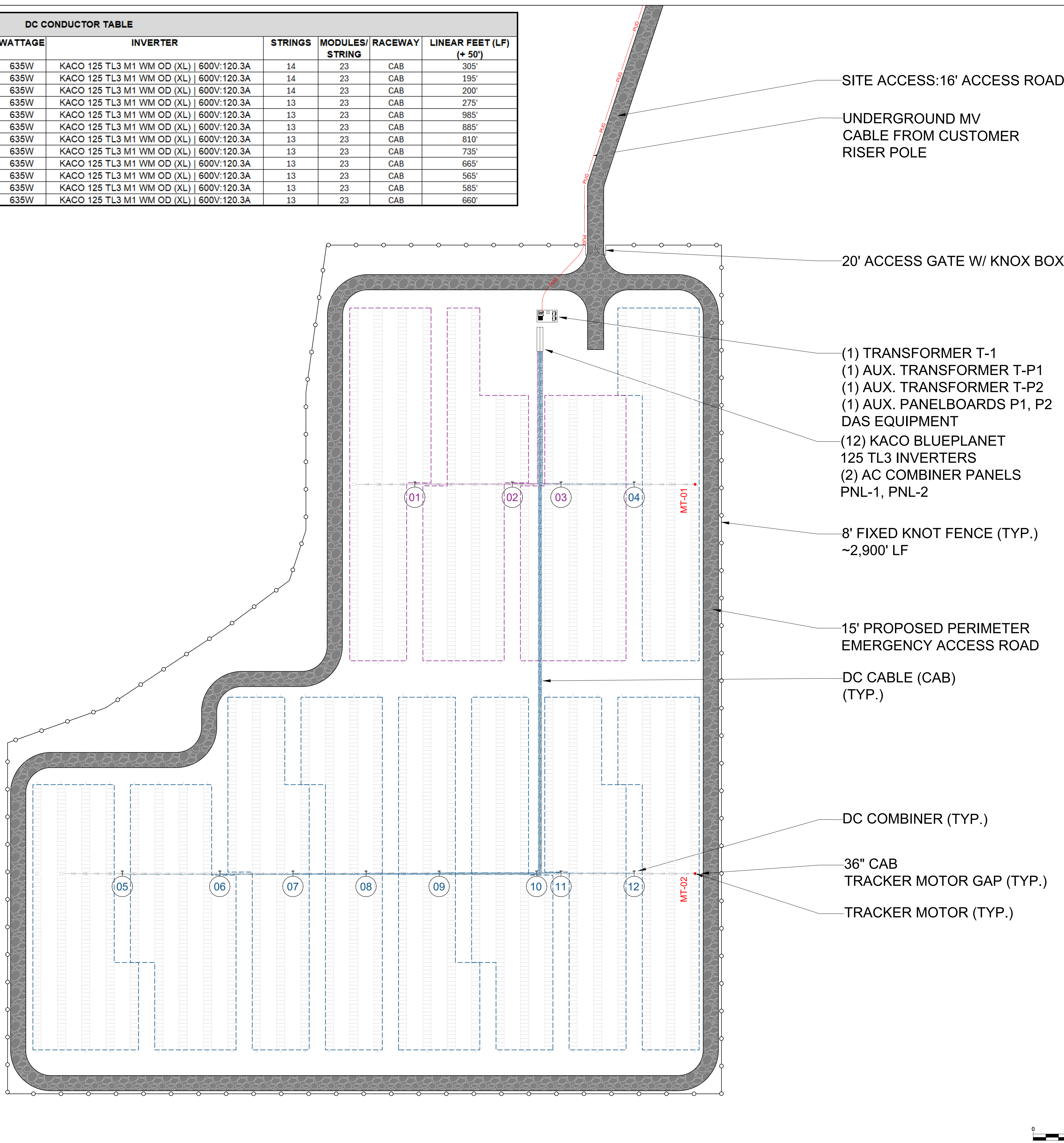
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DATE: 6/11/26

SHEET NO.:

E-100

DC CONDUCTOR TABLE									
CB #	INV #	PNL #	MODULE	WATTAGE	INVERTER	STRINGS	MODULES/ STRING	RACEWAY	LINEAR FEET (LF) (+ 50')
1	1	PNL-1	HANWHA/QCELL: Q.TRON XL-G2 SERIES, BIFACIAL	635W	KACO 125 TL3 M1 WM OD (XL) 600V:120.3A	14	23	CAB	305'
2	2	PNL-1	HANWHA/QCELL: Q.TRON XL-G2 SERIES, BIFACIAL	635W	KACO 125 TL3 M1 WM OD (XL) 600V:120.3A	14	23	CAB	195'
3	3	PNL-1	HANWHA/QCELL: Q.TRON XL-G2 SERIES, BIFACIAL	635W	KACO 125 TL3 M1 WM OD (XL) 600V:120.3A	14	23	CAB	200'
4	4	PNL-1	HANWHA/QCELL: Q.TRON XL-G2 SERIES, BIFACIAL	635W	KACO 125 TL3 M1 WM OD (XL) 600V:120.3A	13	23	CAB	275'
5	5	PNL-1	HANWHA/QCELL: Q.TRON XL-G2 SERIES, BIFACIAL	635W	KACO 125 TL3 M1 WM OD (XL) 600V:120.3A	13	23	CAB	985'
6	6	PNL-1	HANWHA/QCELL: Q.TRON XL-G2 SERIES, BIFACIAL	635W	KACO 125 TL3 M1 WM OD (XL) 600V:120.3A	13	23	CAB	885'
7	7	PNL-2	HANWHA/QCELL: Q.TRON XL-G2 SERIES, BIFACIAL	635W	KACO 125 TL3 M1 WM OD (XL) 600V:120.3A	13	23	CAB	810'
8	8	PNL-2	HANWHA/QCELL: Q.TRON XL-G2 SERIES, BIFACIAL	635W	KACO 125 TL3 M1 WM OD (XL) 600V:120.3A	13	23	CAB	735'
9	9	PNL-2	HANWHA/QCELL: Q.TRON XL-G2 SERIES, BIFACIAL	635W	KACO 125 TL3 M1 WM OD (XL) 600V:120.3A	13	23	CAB	665'
10	10	PNL-2	HANWHA/QCELL: Q.TRON XL-G2 SERIES, BIFACIAL	635W	KACO 125 TL3 M1 WM OD (XL) 600V:120.3A	13	23	CAB	565'
11	11	PNL-2	HANWHA/QCELL: Q.TRON XL-G2 SERIES, BIFACIAL	635W	KACO 125 TL3 M1 WM OD (XL) 600V:120.3A	13	23	CAB	585'
12	12	PNL-2	HANWHA/QCELL: Q.TRON XL-G2 SERIES, BIFACIAL	635W	KACO 125 TL3 M1 WM OD (XL) 600V:120.3A	13	23	CAB	660'





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INVERTER STRING
PLAN

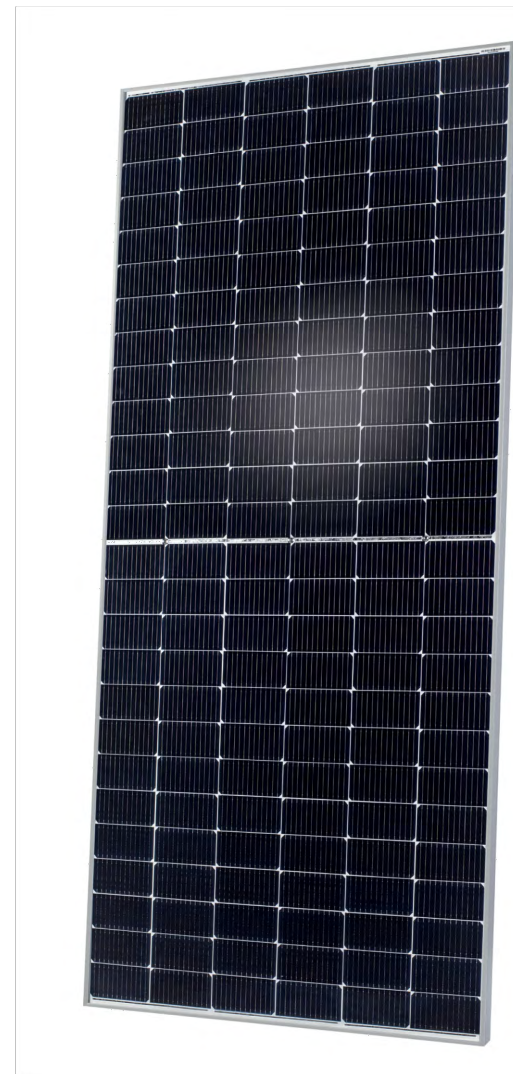
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DRAWN BY: TLG
DATE: 6/11/26

SHEET NO.:
E-300

Q.TRON XL-G2 SERIES

610-640 Wp | 156 Cells
22.9% Maximum Module Efficiency

MODEL QTRON XL-G2.3/BFG



The ideal solution for:



Q.TRON XL-G2 SERIES

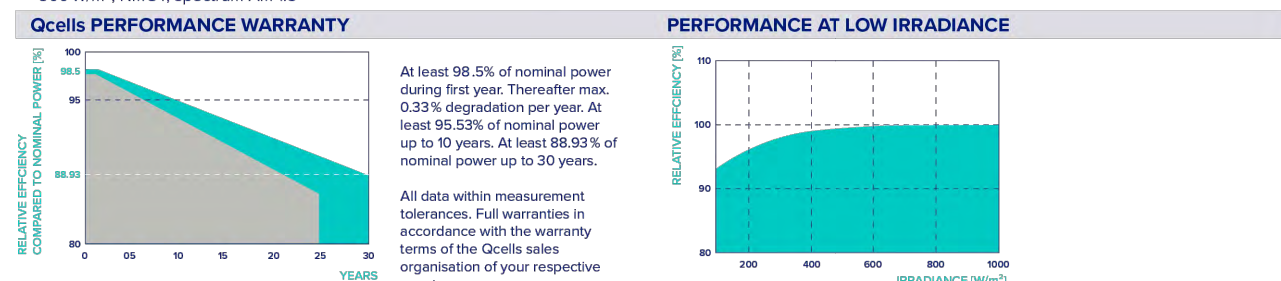
Mechanical Specification

Format	95.9 in × 44.6 in × 1.38 in (including frame) (2452 mm × 1134 mm × 35 mm)
Weight	78.0 lbs (35.4 kg)
Front Cover	0.08 in (2.0 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	0.08 in (2.0 mm) semi-tempered glass
Frame	Anodized aluminum
Cell	6 × 26 monocrystalline QANTUM NEO solar half cells
Junction box	2.09 x 3.58 x 126.236 x 0.58-0.71 in (53.03 mm × 32.60 mm × 15-18 mm) Protection class IP68, with bypass diodes
Cable	4 mm ² Solar cable; (+) ≥ 29.5 in (750 mm), (-) ≥ 13.8 in (350 mm)
Connector	Stäubli MC4-Evo2 : IP68

Electrical Characteristics

POWER CLASS	610	615	620	625	630	635	640
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC (POWER TOLERANCE: ±0.5W/-0.0W)							
Minimum	Power at MPPT ¹	P _{MPPT} [W]	610	615	620	625	630
	Short Circuit Current ¹	I _{sc} [A]	13.65	15.13	13.71	15.19	13.76
	Open Circuit Voltage ¹	V _{oc} [V]	56.31	56.34	56.39	56.62	56.67
	Current at MPPT	I _{mp} [A]	12.95	14.34	13.00	14.40	13.05
	Voltage at MPPT	V _{mp} [V]	47.90	47.09	47.30	47.29	47.50
Efficiency ²	η [%]		>21.8	>22.0	>22.2	>22.4	>22.6

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT ³							
Minimum	Power at MPPT	P _{MPPT} [W]	461.1	464.9	468.7	472.5	476.2
	Short Circuit Current	I _{sc} [A]	11.00	11.05	11.09	11.14	11.18
	Open Circuit Voltage	V _{oc} [V]	53.24	53.51	53.77	54.04	54.31
	Current at MPPT	I _{mp} [A]	10.38	10.22	10.26	10.30	10.34
	Voltage at MPPT	V _{mp} [V]	45.28	45.48	45.67	45.86	46.05



TEMPERATURE COEFFICIENTS	α [%/°C]	-0.04	Temperature Coefficient of V _{oc}	β [%/°C]	-0.24
Temperature Coefficient of I _{sc}					
Temperature Coefficient of P _{mp}	γ [%/°C]	-0.30	Nominal Module Operating Temperature	NMOT [°F]	109 ± 5.4 (43 ± 3 °C)

Properties for System Design

Maximum System Voltage	V _{sys} [V]	1500	PV module classification	Class II
Maximum Series Fuse Rating	[A DC]	30	Fire Rating based on ANSI/UL 61730	TYPE 29 ^a
Max. Push Load ^a , Test/Design	[lbs./ft.]	113 (5400 Pa) / 75 (3600 Pa)	Permitted Module Temperature on Continuous Duty	-40°F up to +185°F (-40°C up to +85°C)
Max. Pull Load ^a , Test/Design	[lbs./ft.]	78 (3750 Pa) / 52 (2500 Pa)		

Qualifications and Certificates

UL 61730-1 & UL 61730-2, CE compliant, Quality Controlled PV, TÜV Rheinland IEC 61215:2016, IEC 61730:2016, U.S. Patent No. 9,893,275 (solar cells)
* See Installation Manual for instructions
* Contact your Qcells Sales Representative for details regarding the module's eligibility to be Buy American Act (BAA) compliant.
Qcells pursues minimizing paper output in consideration of the global environment.
Qcells North America 300 Spectrum Center Drive, Suite 500, Irvine, CA 92618, USA T: 949.249.7700 (US), sales@qcells.com | WWW.qcells.com



American-made photovoltaic string inverters

The trendsetter among inverters



Features	125 TL3	155 TL3
Optimized for solar power plants with 1,500 volt modules	• Optimized for solar power plants with 1,500 volt modules	• Optimized for solar power plants with 1,500 volt modules
	• Extensive grid management functions	• Extensive grid management functions
	• Special properties for extreme climatic conditions	• Farsighted technical features for future requirements
	• Farsighted technical features for future requirements	• Lean commissioning and maintenance via remote services
	• 5 year standard warranty; optional 10 year warranty available	• 5 year standard warranty; optional 10 year warranty available

Technical Data

DC input data	125 TL3	155 TL3
MPP range	875 – 1,300 V	875 – 1,300 V
Operating range	875 – 1,450 V	875 – 1,450 V
Rated DC voltage / start voltage	900 V / 1,000 V	900 V / 1,000 V
Max. no-load voltage	1,500 V	1,500 V
Max. input current	160 A	183 A
Max. short circuit current I _{sc, max}	300 A	300 A
Number of MPP tracker	1	1
Connection per tracker	1 – 2	1 – 2
AC output data	125 TL3	155 TL3
Rated output	125,000 VA	155,000 VA
Max. power	137,500 VA	155,000 VA
Line voltage	600 V (3P+PE)	600 V (3P+PE)
Voltage range (Ph-Ph)	480 – 760 V	480 – 690 V
Rated frequency (range)	50 Hz / 60 Hz (45 – 65 Hz)	50 Hz / 60 Hz (45 – 65 Hz)
Rated current	3 x 120.3 A	3 x 149.5 A
Max. current	3 x 132.3 A	3 x 152.0 A
Reactive power / cos phi	0 – 100 % S _{om} / 0.3 ind. – 0.30 cap.	0 – 100 % S _{om} / 0.30 ind. – 0.30 cap.
Max. total harmonic distortion (THD)	≤ 3 %	≤ 3 %
Number of grid phases	3	3

2

American-made photovoltaic string inverters

Technical Data (continued)

General data	125 TL3	155 TL3
Max. efficiency	99.2 %	99.1 %
Europ. efficiency	99.1 %	98.9 %
CEC efficiency	99.0 %	98.9 %
Standby consumption	< 10 W	7 W
Circuitry topology	Transformerless	Transformerless
Mechanical data	125 TL3	155 TL3
Display	LEDs	LEDs
Control units	Webserver, supports mobile devices	Webserver, supports mobile devices
Interfaces	Ethernet (Modbus TCP, Sunspec), RS485 (Modbus RTU, Sunspec, KACD-protocol), USB, optional: 4-DI, WiFi	Ethernet (Modbus TCP, Sunspec), RS485 (KACD-protocol), USB, optional: 4-DI, WiFi
Fault signalling relay	Potential-free NOC max. 30 V / 1 A	Potential-free NOC max. 30 V / 1 A
DC connection	Cable lug, max. two pairs of 240 mm ² (500 MCM) Cu or Al conductors or one pair of 300 mm ² (600 MCM) Cu or Al conductors	Cable lug, max. two pairs of 240 mm ² (500 MCM) Cu or Al conductors or one pair of 300 mm ² (600 MCM) Cu or Al conductors
AC connection	Cable lug, max. of 240 mm ² (500 MCM) per phase Cu or Al conductors	Cable lug, max. of 240 mm ² (500 MCM) per phase Cu or Al conductors
Ambient temperature	-13 °F – +140 °F / -25 °C – +60 °C [Ⓢ]	-13 °F – +140 °F / -25 °C – +60 °C [Ⓢ]
Humidity	0 – 100 %	0 – 100 %
Max. installation elevation (above MSL)	9,843 ft / 3,000 m	9,843 ft / 3,000 m
Min. distance from coast	1,640 ft / 500 m	1,640 ft / 500 m
Cooling	Temperature controlled fan	Temperature controlled fan
Protection class	IP66 / NEMA 4X	IP66 / NEMA 4X
Noise emission	59.2 db (A)	59.2 db (A)
H x W x D	28.3 x 27.5 x 17.7 in / 719 x 699 x 450 mm	28.3 x 27.5 x 18.1 in / 719 x 699 x 460 mm
Weight	172.4 lb / 78.2 kg	172.4 lb / 78.2 kg
Certifications	125 TL3	155 TL3
Safety	UL62109-1, UL1741 SA, UL1741 SB, CSA-C22.2 No. 62109-1, CSA-C22.2 No. 62109-2, CSA-C22.2 No. 107-1, IEC 62109-1/-2, EN 61000-6-1/-2/-3, EN 61000-3-11/-12	UL62109-1, UL1741 SA, UL1741 SB, CSA-C22.2 No. 62109-1, CSA-C22.2 No. 62109-2, CSA-C22.2 No. 107-1, IEC 62109-1/-2, EN 61000-6-1/-2/-3, EN 61000-3-11/-12
Grid connection rule	Overview see homepage / download area	Overview see homepage / download area

Ⓢ Power derating at high ambient temperatures

Versions	S	XL
Number of DC inputs	1 – 2	1 – 2
DC switch	–	✓
DC SPD	Type 1 + 2	Type 1 + 2
AC SPD	o	o
RS485 interface SPD	o	o
Ethernet interface SPD	o	o
PID Set	o	o
	Standard = ✓	Upgradeable = o

Utility 1500 volt Disconnect Combiner Box

- Innovative design reduces heat resulting in longer life and avoids blown fuses and nuisance tripping
- Visible blade switch (2- Pole)
- Fuses up to 65A included in listing
- Up to 32 inputs circuits
- Mounts at any angle
- Reduced O & M costs with optional IR window
- 90°C terminals with NEMA bolt pattern
- Disconnect only versions also available



Utility 1500 Volt Disconnect Combiner

The new generation in utility devices are based on the successful platform which delivers maximum reliability with little to no maintenance. Working hand in hand with all popular central and string inverters, making them user friendly and safe. Installation flexibility is achieved with the ability to mount horizontally or vertically. The ISU combiner is designed for use in all markets. Even the most demanding requirements are met by our premium component selection, making ISU the solution for your code requirements.

Designed & Manufactured by:
INNOVATIVE SOLAR UTILITY



Utility 1500 volt Disconnect Combiner Box

Size Enclosure	Standard	Over-Size
Operating Voltage Range	0 – 1500 VDC	
Max Output Current	400 A	
Number of fused inputs	6 to 24	6 to 32
Fuse Size Range (A)	3 – 32, 40, 50A, 60, 65A (1 leg only, per NEC 2017)	
Non-fused leg	Switched (per NEC 2017)	
Input Conductor Size	10 – 8 AWG Copper only (up to 1/0 for 40 – 50A)	
No. of output conductors	1 or 2 (per polarity)	
Output Connection	Dual M12 (1/2") studs, 1.75" Spacing (Optional Mechanical Lugs)	
Max Output Conductor Size	1000 MCM (Dual 600 MCM)	
Ground Connections	(2) 2/0 + (10) 14 – 4 AWG	
Surge	Optional	
Enclosure Fiberglass (Standard)	NEMA 4X	
Dimensions H x W x D (inches)	24 x 30 x 10	Not Available
Net weight (approx.)	75 lb.	Not Available
Enclosure – Powder Coated CRS (Optional)	NEMA 3R/4	
Dimensions H x W x D (inches)	24 x 30 x 10	30 x 30 x 10
Net weight (approx.)	80 lb.	100 lb.
Environmental		
Operating temperature	-40°C to 50°C (-40°F to 122°F)	
Storage temperature	-40°C to 85°C (-40°F to 185°F)	
Certifications	UL1741, UL1669B, CSA 22.2 No. 290-15	
Standard Limited Warranty	2 Years	
Standard Features		
White exterior finish; Breather vent; Padlockable door; Door interlocked with switch; Integral mounting ears on fiberglass		



Optional: UL listed combiner cables (whips) at 8AWG or 10AWG

visit: www.innovativesolarinc.com
ISU_DTS_1500volt_Combiner_06162021

Designed & Manufactured by:
INNOVATIVE SOLAR UTILITY



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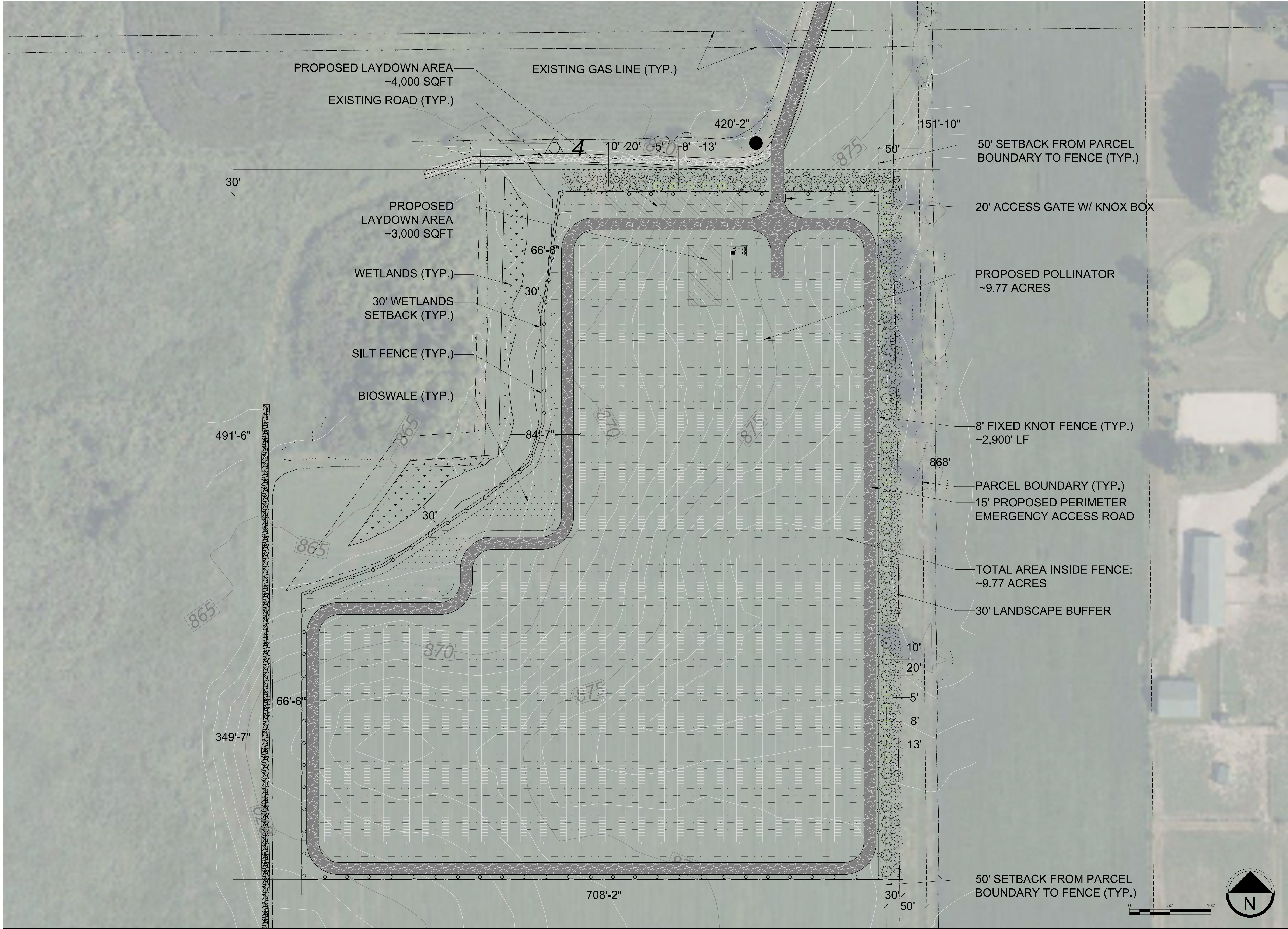
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SPEC SHEET

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SHEET NO.:

E-600



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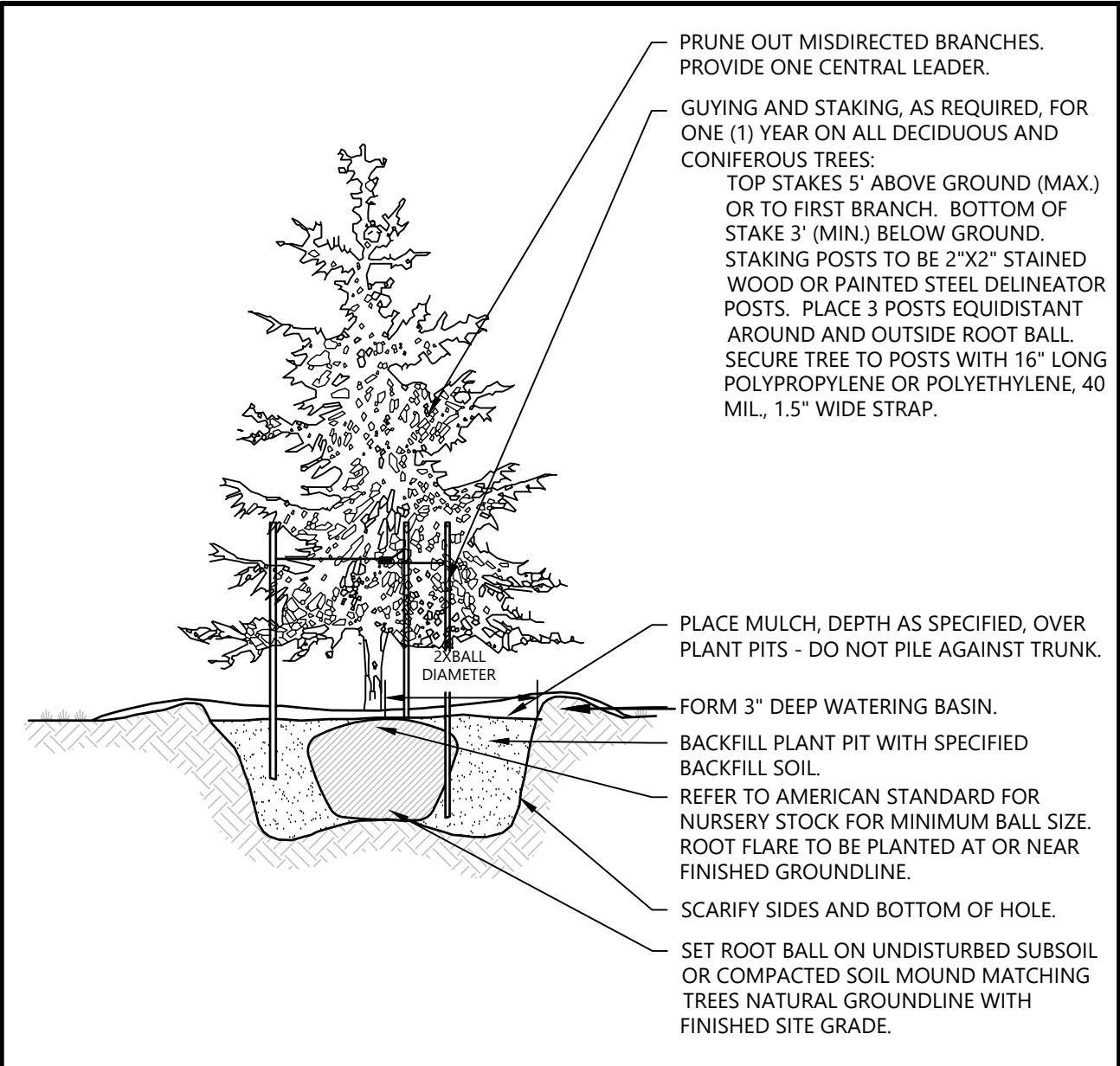
LANDSCAPE PLAN

SCALE: 1" = 50'	DRAWN BY: TLG
JOB NO.: N/A	DATE: 6/11/26

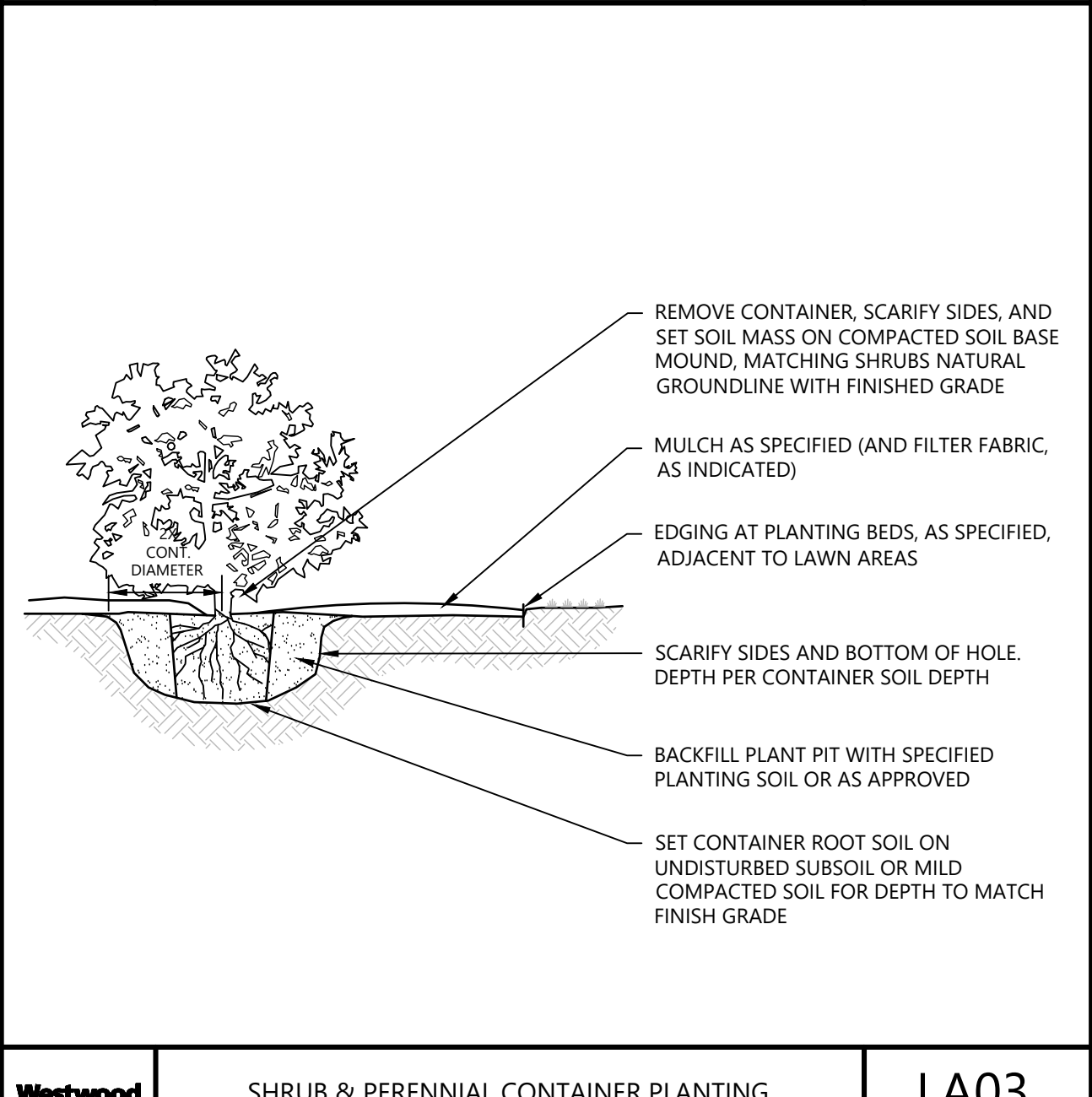
SHEET NO.:

C-500

PLANTING DETAILS



Westwood EVERGREEN TREE PLANTING NOT TO SCALE LA01



Westwood SHRUB & PERENNIAL CONTAINER PLANTING NOT TO SCALE LA03

SOLAR ORDINANCE - LANDSCAPE SCREENING REQUIREMENTS

KANE COUNTY ORDINANCE NO. 25-5-4-9: COMMERCIAL SOLAR ENERGY FACILITIES		REQUIREMENT MEET BY PROPOSED LANDSCAPE SCREENING
E. DESIGN AND INSTALLATION:		
4. AESTHETICS AND LIGHTING:		
a. VEGETATIVE SCREENING.		
A VEGETATIVE SCREEN SHALL BE PROVIDED FOR ANY PART OF THE COMMERCIAL SOLAR ENERGY FACILITY THAT IS VISIBLE TO NON-PARTICIPATING RESIDENCE(S). THE LANDSCAPING SCREEN SHALL BE LOCATED BETWEEN THE REQUIRED FENCING AND THE PROPERTY LINE OF THE PARTICIPATING PARCEL UPON WHICH THE FACILITY SITS. THE VEGETATIVE SCREENING SHALL INCLUDE A CONTINUOUS LINE OF NATIVE EVERGREEN FOLIAGE AND/OR NATIVE SHRUBS AND/OR NATIVE TREES AND/OR ANY EXISTING WOODED AREA AND/OR PLANTINGS OF TALL NATIVE GRASSES AND OTHER NATIVE FLOWERING PLANTS.		

LANDSCAPE SCREENING PLANT MATERIAL



LANDSCAPE SCREENING INTENT & SELECTION

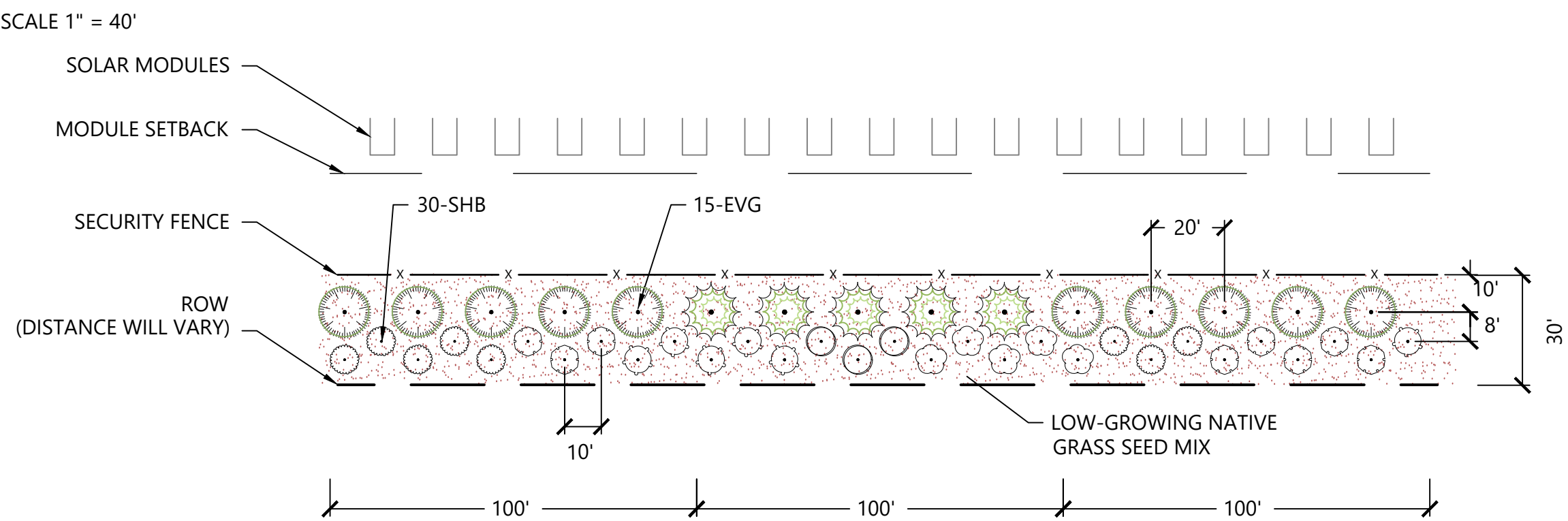
THE PROPOSED PLANS INCLUDE STRATEGICALLY PLACED VEGETATIVE LANDSCAPE BUFFERS DESIGNED TO REDUCE DIRECT VIEWS OF THE SOLAR ARRAY. WHERE COMMERCIALLY PRACTICABLE, THESE BUFFERS WILL UTILIZE REGIONALLY APPROPRIATE TREES AND SHRUBS THAT ARE WELL-ADAPTED TO THE LOCAL CLIMATE WHICH ALLOWS FOR BETTER ESTABLISHMENT AND HIGHER SURVIVAL RATES. THE BUFFER DESIGN INCORPORATES A MIX OF EVERGREEN TREES FOR YEAR-ROUND VISUAL SCREENING AND DECIDUOUS SHRUBS SELECTED FOR SEASONAL INTEREST--SUCH AS FOLIAGE COLOR, FLOWERING, AND FRUITING CHARACTERISTICS. SHRUBS WILL BE PLANTED IN SMALL GROUPINGS TO ENSURE THAT VARIOUS AESTHETIC FEATURES ARE VISIBLE THROUGHOUT THE YEAR. IN ADDITION TO VISUAL SCREENING, THE PLANTINGS OFFER ECOLOGICAL BENEFITS BY SUPPORTING POLLINATORS AND PROVIDING FORAGE, SHELTER, AND OVERWINTERING HABITAT FOR LOCAL WILDLIFE. AS THE PLANTINGS MATURE, THEY WILL FORM A DENSE, NATURAL HEDGE THAT ENHANCES BOTH FUNCTIONAL AND ENVIRONMENTAL PERFORMANCE.

PROPOSED LANDSCAPE SCREENING PLANT SPECIES LIST

SYMBOL	EST. QYT	COMMON / BOTANICAL NAME	SIZE	SPACING O.C.	MATURE SIZE
TREES					
	30	WHITE FIR / ABIES CONCOLOR	6' HT. B&B	20' O.C.	H 40'-65' W 15'-25'
	32	BLACK HILLS SPRUCE / PICEA GLAUCA DENSATA	6' HT. B&B	20' O.C.	H 25'-40' W 20'-25'
SHRUBS					
	24	RED TWIG DOGWOOD / CORNUS SERICEA	#5 CONT.	10' O.C.	H 6-10' W 6-10'
	25	SPICEBUSH / LINDERA COMMUNIS	#5 CONT.	10' O.C.	H 6-10' W 6-10'
	27	NINEBARK / PHYSOCARPUS OPULIFOLIUS	#5 CONT.	10' O.C.	H 6-10' W 3-6'
	24	AMERICAN ELDERBERRY / SAMBUCUS CANADENSIS	#5 CONT.	10' O.C.	H 6-10' W 6-10'
	24	ARROWWOOD VIBURNUM / VIBURNUM DENTATUM 'ARROWWOOD'	#5 CONT.	10' O.C.	H 6-10' W 6-10'

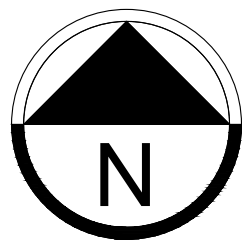
- NOTES:
1. QUANTITIES ON PLAN SUPERSEDE LIST QUANTITIES IN THE EVENT OF A DISCREPANCY.
 2. B.B. SPECIFIES ROOT TYPE AS BALLED AND BURLAPPED.
 3. H.T. SPECIFIES MINIMUM SPECIMEN HEIGHT UPON INSTALLATION.
 4. #5 CONT. TO MEET MINIMUM SIZE REQUIREMENT OF 24"H OR 30"W FOR DECIDUOUS SHRUBS UPON INSTALLATION. IF PLANT SIZE UNAVAILABLE AT #5 CONT. UPSIZE CONTAINER UNTIL MINIMUM PLANT SIZE REQUIREMENT IS MET.
 5. PLANT SPECIES SUBJECT TO CHANGE BASED UPON AVAILABILITY AT TIME OF PLANTING.

PROPOSED LANDSCAPE SCREENING DETAIL



PLANTING NOTES

1. CONTRACTOR SHALL CONTACT ILLINOIS DIG SAFE SYSTEM (811) TO VERIFY LOCATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF ANY PLANTS OR LANDSCAPE MATERIAL.
2. ACTUAL LOCATION OF PLANT MATERIAL IS SUBJECT TO FIELD AND SITE CONDITIONS AS WELL AS DO NOT INTERFERE WITH INSTALLED FACILITY COMPONENTS (DRAINTILE, UNDERGROUND WIRING, FENCING).
3. NO PLANTING WILL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
4. ALL SUBSTITUTIONS MUST BE APPROVED BY THE OWNER PRIOR TO SUBMISSION OF ANY BID AND/OR QUOTE BY THE LANDSCAPE CONTRACTOR.
5. CONTRACTOR SHALL PROVIDE ONE YEAR GUARANTEE OF ALL PLANT MATERIALS. THE GUARANTEE BEGINS ON THE DATE OF THE OWNER'S WRITTEN ACCEPTANCE OF THE INITIAL PLANTING. REPLACEMENT PLANT MATERIAL SHALL HAVE A ONE YEAR GUARANTEE COMMENCING UPON PLANTING.
6. ALL PLANTS TO BE SPECIMEN GRADE, ILLINOIS-GROWN AND/OR HARDY. SPECIMEN GRADE SHALL ADHERE TO, BUT IS NOT LIMITED BY, THE FOLLOWING STANDARDS:
ALL PLANTS SHALL BE FREE FROM DISEASE, PESTS, WOUNDS, SCARS, ETC.
ALL PLANTS SHALL BE FREE FROM NOTICEABLE GAPS, HOLES, OR DEFORMITIES.
ALL PLANTS SHALL BE FREE FROM BROKEN OR DEAD BRANCHES.
ALL PLANTS SHALL HAVE HEAVY, HEALTHY BRANCHING AND LEAFING.
CONIFEROUS TREES SHALL HAVE AN ESTABLISHED MAIN LEADER AND A HEIGHT TO WIDTH RATIO OF NO LESS THAN 5:3.
7. PLANTS TO MEET AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2004 OR MOST CURRENT VERSION) REQUIREMENTS FOR SIZE AND TYPE SPECIFIED.
8. PLANTS TO BE INSTALLED AS PER ILLNA & ANSI STANDARD PLANTING PRACTICES.
9. PLANTS SHALL BE IMMEDIATELY PLANTED UPON ARRIVAL AT SITE. PROPERLY HEEL-IN MATERIALS IF NECESSARY; TEMPORARY ONLY.
10. PRIOR TO PLANTING, FIELD VERIFY THAT THE ROOT COLLAR/ROOT FLAIR IS LOCATED AT THE TOP OF THE BALLED & BURLAP TREE. IF THIS IS NOT THE CASE, SOIL SHALL BE REMOVED DOWN TO THE ROOT COLLAR/ROOT FLAIR. WHEN THE BALLED & BURLAP TREE IS PLANTED, THE ROOT COLLAR/ROOT FLAIR SHALL BE EVEN OR SLIGHTLY ABOVE FINISHED GRADE.
11. REMOVE POT ON POTTED PLANTS; SPLIT AND BREAK APART PEAT POTS.
12. PRUNE PLANTS AS NECESSARY - PER STANDARD NURSERY PRACTICE AND TO CORRECT POOR BRANCHING OF EXISTING AND PROPOSED TREES.
13. THE NEED FOR SOIL AMENDMENTS SHALL BE DETERMINED UPON SITE SOIL CONDITIONS PRIOR TO PLANTING. LANDSCAPE CONTRACTOR SHALL NOTIFY OWNER FOR THE NEED OF ANY SOIL AMENDMENTS.
14. BACKFILL SOIL AND TOPSOIL TO BE EXISTING TOP SOIL FROM SITE FREE OF ROOTS, ROCKS LARGER THAN ONE INCH, SUBSOIL DEBRIS, AND LARGE WEEDS UNLESS SPECIFIED OTHERWISE. MINIMUM 12" DEPTH TOPSOIL FOR TREE, SHRUBS, AND PERENNIALS.
15. PROVIDE MULCH FOR ALL TREE AND SHRUB PLANTINGS PER DETAIL. MULCH TO BE SHREDDED HARDWOOD AND FREE OF DELETERIOUS MATERIAL. MULCH 3" DIAMETER RING AROUND ALL TREES AND SHRUBS TO A DEPTH OF 4". KEEP MULCH OFF TRUNK.
16. CONTRACTOR SHALL PROVIDE NECESSARY WATERING OF PLANT MATERIALS UNTIL THE PLANT IS FULLY ESTABLISHED OR IRRIGATION SYSTEM IS OPERATIONAL. OWNER WILL NOT PROVIDE WATER FOR CONTRACTOR.
17. REPAIR, REPLACE, OR PROVIDE SOD/SEED AS REQUIRED FOR ANY ROADWAY BOULEVARD AREAS ADJACENT TO THE SITE DISTURBED DURING CONSTRUCTION.
18. REPAIR ALL DAMAGE TO SOILS AND VEGETATION FROM PLANTING OPERATIONS AT NO COST TO OWNER.



Westwood

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PHONE: (262) 547-1200 | WWW.SUNVEST.COM

ELECTRICAL ENGINEER STAMP:

PROFESSIONAL ENGINEER STAMP

SV CSG WELTER ROAD SOLAR, LLC

PROJECT ADDRESS: (41°56'19.2" N 88°29'34.4"W)

ISSUANCE:

30% ELECTRICAL
PRELIMINARY PLAN SET
(FOR QUOTATION
PURPOSES ONLY)

ISSUANCE:

NO.	DATE:	REVISION NOTES:
1		
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12		

SHEET TITLE:

LANDSCAPE
DETAILS

SCALE: 1" = 4'

DRAWN BY: TLG

JOB NO.:

DATE:

N/A

6/11/26

SHEET NO.:

C-501