



TRI-COUNTY
5 MW SOLAR PROJECT
7N904 IL-25, SOUTH ELGIN, IL 60177
13-NOV-2025

PRELIMINARY - NOT FOR CONSTRUCTION



7N904 IL-25, SOUTH ELGIN, IL 60177
LATITUDE: 41.982650° LONGITUDE: -88.271192°

DRAWING NO.	DESCRIPTION	DRAWING NO.	DESCRIPTION
-	COVER PAGE	E400	ARRAY GROUNDING METHODOLOGY
C100	DRAWING NOTES	E401	FENCE DETAIL & GROUNDING
E100 - 1 of 3	SITE LAYOUT - OVERALL	E500	MV SKID ELEVATIONS
E100 - 2 of 3	SITE LAYOUT - PROJECT LAYOUT	E501	MV STATION CONDUIT PLAN
E100 - 3 of 3	SITE LAYOUT - POLE DETAIL	E502	TRANSFORMER SPECIFICATIONS
E101	AC SINGLE LINE DIAGRAM-1		
E102	AUXILIARY STATION SLD	E600	MODULE SPECIFICATIONS
E104	AC CABLE SCHEDULE	E601	SKIDDED STRING MV STATION SPECS
		E602	BIG LEAD ASSEMBLY SPECIFICATIONS
E200	SCADA SLD	E604	MV VOLT TRANSFORMER SKID SPECS
E201	DAS MONITORING SITE PLAN	E605	LV WARNING LABELS & LAMACOIDS
E202 - 2 SHEETS	DAS MOUNTING DETAIL		
E203 - 4 SHEETS	DAS TERMINATION DETAILS	E700	MV SET - OVERHEAD LINE SITEP PLAN
		E701	MV SET - LOAD BREAK SWITCH POLE
E300	TRAY LOCATION	E703	MV SET - METERING POLE
		E704	MV SET - WARNING LABELS & LAMACOIDS
		E705	AC PAD GROUNDING GRID

SAFETY FIRST

- Contractor shall be responsible for all safety precautions and measures on site. Contractor to submit health and safety plans and insurance before conducting any work.
- Warning, DC voltage from the array is always present at the disconnect enclosure and the DC terminals of the inverter during daylight hours. All persons working or involved with this PV system are warned that the solar modules are energized whenever they are exposed to daylight.
- Contractor shall adhere to a lock-out/tag-out protocol when working on equipment with the potential to be energized. Contractor to submit a copy of this protocol to Owner for approval.
- Installation crew is to have a minimum of 1 master electrician on site at all times when electrical work is being performed.
- It is recommended that installation crew always has a minimum of 2 people working together.
- Personal protective equipment appropriate for the hazards must be worn.

GENERAL NOTES

- Contractor shall review all relevant construction specifications and documents such as land condition assessment report, structural report, geotechnical report and shop drawings. Contractor shall visit the construction sites prior to construction and formally submit all questions along with the project plan.
- Prior to construction, contractor shall submit a construction schedule and project plan that complies with all construction requirements, scheduled inspections, commissioning, and utility shut down dates. Contractor shall not deviate from the design without written consent from the Owner.
- Drawings are diagrammatic and define the intent of the work. Locations of equipment, devices, cable trays, conduits, equipment supports, openings etc. are approximate and are subject to modifications caused by structural conditions and equipment provided by other contractors, subcontractors or the Owner. Contractor is responsible for coordination and planning.
- Drawings shall not be scaled. They are diagrammatic and indicate the general arrangement of systems and equipment. Although size and location of equipment is drawn to scale wherever possible, contractor shall make use of all data in contract documents and verify information onsite.
- Contractor initiated changes shall be submitted in writing to the project manager for approval before making any changes. Deviation from the plans and specifications prior to approval places the contractor at risk.
- All work shall be in strict accordance with the listed and/or latest adopted editions of the following codes and standards:
 - The latest International Building Code
 - The latest National Electrical Code
 - The latest standard for electrical safety in the workplace NFPA 70E
 - All other applicable local codes and standards
- Contractor to obtain all permits required. Work must be inspected for compliance with all codes and subsequent inspection and certification fees to be paid by contractor. Contractor to deliver certifications of electrical and other inspections, or copies thereof, to the Owner upon completion.
- Contractor to provide adequate temporary electrical light and power for the project work of their trade if required.
- Contractor shall be responsible for the removal of debris generated by their work and workers at the end of each working day and for general good housekeeping by their workers. Contractor shall provide required disposal containers.
- Provide Owner with two sets of bound and indexed operation and maintenance manuals, with instructions for all electrical devices, equipment, appliances and system. Flash Drive is also acceptable.
- Provide Owner with one set of reproducible contract drawings that have been revised and annotated to reflect the as-built conditions of the project.
- Guarantee all work in writing to the Owner against any and all defects in material and workmanship for a period of one year from date of acceptance and perform all corrective work at no cost to the Owner.

WIRING AND WIRING METHODS

- Contractor is responsible for performing and submitting all pulling calculations for conduit run. Install handholes as required to avoid hitting maximum allowable cable tension per cable
- Trenches shall not be left unattended unless the area is barricaded to restrict entry to the area.
- Contractor to seal all conduit and cable entries with fire retardant foam at enclosure entry points to minimize condensation and act as pest control.
- All field wiring that is not color coded shall be tagged at both ends with permanent wire markers to identify polarity and ground.
- Wire color specifications:
 - neutral conductors shall be white or gray
 - equipment grounding conductors shall be green
 - 3-phase AC conductors shall be red(a), black (b) and blue(c)
 - DC conductors shall be red(+) and black(-)
- When transitioning from free air to conductors in a conduit, a suitable fitting shall be used to prevent the entry of moisture.
- Any metal shavings resulting from site work shall be cleaned from enclosure interiors, top surfaces of enclosure, roof surface, and any additional areas where oxidation or conductive metal shavings may cause rust, electrical short circuit or other damage.

- All DC materials shall be UL listed for minimum 1500V.
- Connectors to be torqued per device listing or manufacturer's recommendations.
- All copper termination AC and DC shall have kopr-shield or equivalent applied.
- Bends shall not damage the raceway or significantly change the internal diameter of raceway.
- All bare CU wires shall be installed to not come into contact with dissimilar metals.
- Module lead connectors shall be installed such that they are easily accessible and protected from exposure to direct sunlight or rain. They shall not be installed within tubing, conduit or module gaps.
- Install a 1/4" diameter nylon pull rope in all spare conduits.
- Terminate all control wiring between pieces of equipment on field wiring boards. Label all control wires with terminal board and terminal number identification at both ends.
- A continuity check and DC meg-ohm test shall be performed on all AC and DC power cables. The meg-ohm test shall be performed between each pair of conductors and from each conductor to ground. Each test shall be performed for 15 seconds or until the insulation resistance value stabilizes. Contractor shall record all meg-ohm values and provide a report prior to energization.
- Megger testing shall be performed at 1000VDC for all AC circuits and 600V or below and 600VDC for all DC circuits. A minimum of 250 megaohms resistance to ground is required. Do not megger conductors while attached to solar modules as this will damage the modules internal diodes.
- All wiring shall be protected from any sharp edges to avoid damage to the wire insulation.
- All PV wiring shall be bundled and secured to the racking structure with UV rated cable ties at a minimum of 4' spacing. All PV module connections shall be secured to the modules with Heyco SunRunner EZ clip or approved equal.
- Verify utility phase sequence and coordinate installation of feeder conductors to provide correct phase sequence at inverter side of step-up transformer.
- All conduits entering equipment to be equipped with bell ends to prevent abrasion.
- Unless marked as UV resistant, PVC is not approved for installation in locations subjected to direct sunlight and shall not be employed in any such location.
- When transitioning underground PVC conduit to above ground RMC, IMC or EMT conduit, use 20 mil pipe wrap tape half-lapped from 6" past transition point on PVC to 6" above ground on metallic conduit. An expansion joint shall be used in the transition to above ground conduit where required.

GROUNDING

- Unless otherwise indicated, ground all exposed non-current carrying metallic part of electrical equipment, raceway systems, structures and the neutral of all wiring systems in accordance with NEC and other applicable regulations.
- Where ground rods are indicated or used, they shall be copper clad, not less than ¾" in diameter, 10 feet long and driven full length into the earth. Make ground connections with exothermic welds or approved pressure clamps.
- All grounding connections shall be rated for direct burial, contractor is to supply supporting documentation in project submittal.
- All equipment grounding conductors installed should be copper only
- Module grounding must use tin-plate lay-in grounding lug by IlSCO or Burndy at approved module grounding location. See module installations manual for exact location. Drilling a hole or altering the module frame in any way may void the module warranty. If necessary, alternative grounding method must be approved by module manufacturer.
- The connection a module of this proposed solar system shall be so arranged that removal of a module from the string does not interrupt a grounded conductor to another string. Sets of modules interconnected as systems rated at 50 volts or less with or without blocking diodes and having a single overcurrent device shall be considered as a single string.
- Grounding system components shall be listed for their purpose, including but not limited to ground rods, grounding lugs and grounding clamps. Grounding devices exposed to the environment shall be rated for direct burial.

REQUIRED SAFETY SIGNS AND LABELS

- Contractor to provide signage as required by NEC article 690.
- All interactive system points of the interconnection with other sources shall be marked at an accessible location at the disconnection means.
- PV modules shall be marked to identify lead polarity, device ratings, and specifications for voltages, currents and power.
- Required safety signs and labels shall be permanently attached by adhesive or other mechanical means.
- Any switches, fuses or circuit breakers that can be energized in either direction shall be labeled as follows:
 - Warning:
- Electrical shock hazard do not touch terminals
- Terminals on both the line and load sides may be energized in the open position.
- A marking specifying the photovoltaic power source rated as follows shall be provided at an accessible location at the disconnection means for the power source:
 - Operating current (xx) amps
 - Operating voltage (xx) volts
 - Maximum system voltage (xx) volts
 - Short circuit current (xx) amps

EQUIPMENT

- Provide arc flash hazard warning labels complying with ANSI z535.4 on all equipment. Labels shall be applied on both inside and outside doors or barriers of outdoor equipment.
- Contractor shall review all component manuals prior to installation. It is advised that all component switches be placed in the OFF position and fuses removed prior to installation and should remain in OFF position until Owner approves installation and allows for commissioning activities.
- All material and equipment procured by the contractor shall be certified by a nationally-recognized testing laboratory (ie UL) for the intended location and labeled for its application where such listing is applicable.
- All material and equipment shall be rated for outdoor installation and rated for it's intended use.
- Submit shop drawings, product data sheets and wiring diagrams for approval for all electrical construction materials, devices, equipment, appliances and systems prior to ordering and installation. Ordering or installing prior to approval places the contractor at risk.
- Contractor is responsible for mounting all equipment per the manufacturer's specifications. If specifications are not apparent, the contractor shall use diligent efforts to mount equipment such that it will be clean, level and in solid order to last the lifetime of the PV system.
- Strut components used for support and anchoring shall be galvanized steel with galvanized or stainless steel hardware.
- Doors providing access to parts normally energized at over 600V shall be padlocked closed. Removable panels providing access to such parts shall required tools for removal or be padlocked closed.
- Medium voltage equipment installed outside of fences where accessible to the public shall comply with NEC requirements for tamper-proof construction.
- Equipment shall be anchored to concrete pads or foundations per manufacturer's instructions using galvanized steel anchor bolts embedded in pad or with 6 inch deep epoxy anchor bolts. Anchor bolt size per manufacturer recommendation.
- All openings into equipment shall be sealed with galvanized steel plate or screen to prevent entry of insects and rodents.
- Verify the following:
 - Factory wiring diagram is accurate
 - Transformer is level
 - MV and LV conduits are separated and under their own compartment
 - Lock or conical nuts
 - Hardware is proper length
 - Core has not shifted in transportation

RACKING INSTALL

- All racking components shall be installed per the manufacturer's installation manual.

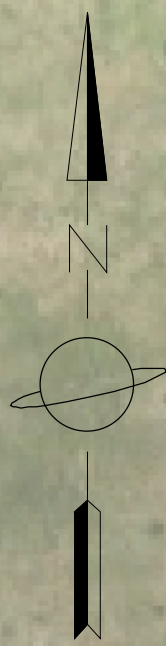
MODULE INSTALL

- Refer to the module manual for details related to rigging, unpacking, handling, planning and installation.
- Never leave a module unsupported or unsecured.

INVERTERS

- Inverters shall be stored in a secure and clean location as per manufacturer recommendations and documentation. Inverters shall be protected from harsh environments, including excessive heat, cold, moisture, dust, snow, etc.
- Inverters shall be transported by means outlined in the manufacturer documentation only.
- Inverters shall be attached to the racking system. Inverter shall be secured to the foundation using all provided mounting points. Reference manufacturer documentation for location and size of mounting points.
- All disconnect switches shall be in the open position during installation and shall remain in the open position until proper testing, inspection and commissioning has been completed.
- Do not open the inverter cabinets when it is raining or when humidity exceeds 95%.
- All fasteners shall be torqued to manufacturer recommendations.
- It is prohibited to modify the inverter or install equipment not explicitly recommended by the manufacturer. Do not store documents, instructions, plans, or any other foreign material not intended to be part of the system inside inverter cabinets.
- Inverter performance may be affected if installed in direct sunlight, avoid if possible.
- Module strings shall run horizontally whenever possible.
- Inverters should have one mppt per row of modules on table where ever possible. I.e if 3x18 tables are used, all top row string should be on one mppt, middle strings on a common mppt and likewise for the bottom strings.

 GREENWOOD SUSTAINABLE INFRASTRUCTURE GSI DEVELOPMENT CORPORATION CANADA: 140 Foundry Street, Unit A Baden, ON N3A 2P7 Phone: 519-804-9163 Toll Free: 1-866-961-8654 USA: 134 East 40th Street New York, New York 10016			
DISCLAIMER: All work shall be performed in compliance with local and federal standards. Contractor responsible for verifying all dimensions. Drawings not to be reproduced or used without GSI approval.			
NOTES: PRELIMINARY - NOT FOR CONSTRUCTION			
LEGEND:			
REV. #1: PRELIMINARY DESIGN		DATE: 13-APR-2023	
REV. #2: ISSUED FOR REVIEW		DATE: 04-APR-2024	
REV. #3: ISSUED FOR REVIEW		DATE: 24-SEP-2025	
REV. #4: ISSUED FOR REVIEW		DATE: 13-NOV-2025	
REV. #5:		DATE:	
ENGINEER'S SEAL:			
PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT			
PROJECT OWNER: GSI DEVELOPMENT CORPORATION			
TITLE:		DRAWING NOTES	
SCALE:		NOT TO SCALE	
DRAWN BY:	HEATHER SPITTAL	DESIGNED BY:	KYLE EDGINTON
DWG. NO. C100	SHEET NO. 1 of 1		REVISION 4



GREENWOOD
SUSTAINABLE INFRASTRUCTURE

GSI DEVELOPMENT CORPORATION

CANADA:
140 Foundry Street, Unit A
Baden, ON N3A 2P7
Phone: 519-804-9163
Toll Free: 1-866-961-8654

USA:
134 East 40th Street
New York, New York 10016

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NOTES:

PROPERTY ADDRESS: 7N904 IL-25, SOUTH ELGIN, IL 60177

PROPERTY CO-ORDINATES:

LATITUDE: 41.982650°

LONGITUDE: -88.271192°

PROPERTY BOUNDARY SETBACK: 50ft (15.2m)

GSI MIN. SETBACK FROM EQUIPMENT TO PROJECT FENCE: 20ft (6.1m)

PROJECT FENCE - 7ft (2.1m) HIGH

GRAVEL ACCESS ROAD: 20ft (6.1m), GRADE LESS THAN 5°

PRELIMINARY - NOT FOR CONSTRUCTION

LEGEND:

- PROPERTY BOUNDARY
- PROJECT BOUNDARY
- PROJECT FENCE
- EXISTING FENCE
- GRAVEL ACCESS ROAD (20ft/6.1m)
- PV TABLES
- TRANSFORMER/INVERTER BLOCK
- INVERTER
- 12.5 kV FEEDER LINE W7931 (UTILITY)
- 15kV CABLE
- POLES & OVERHEAD LINES (SEE SH 3 DETAIL)
- NO BUILD AREA - WETLAND w/30FT SETBACK
- NO BUILD AREA - PIPE/VENT w/10FT SETBACK
- APPROXIMATE POI LOCATION

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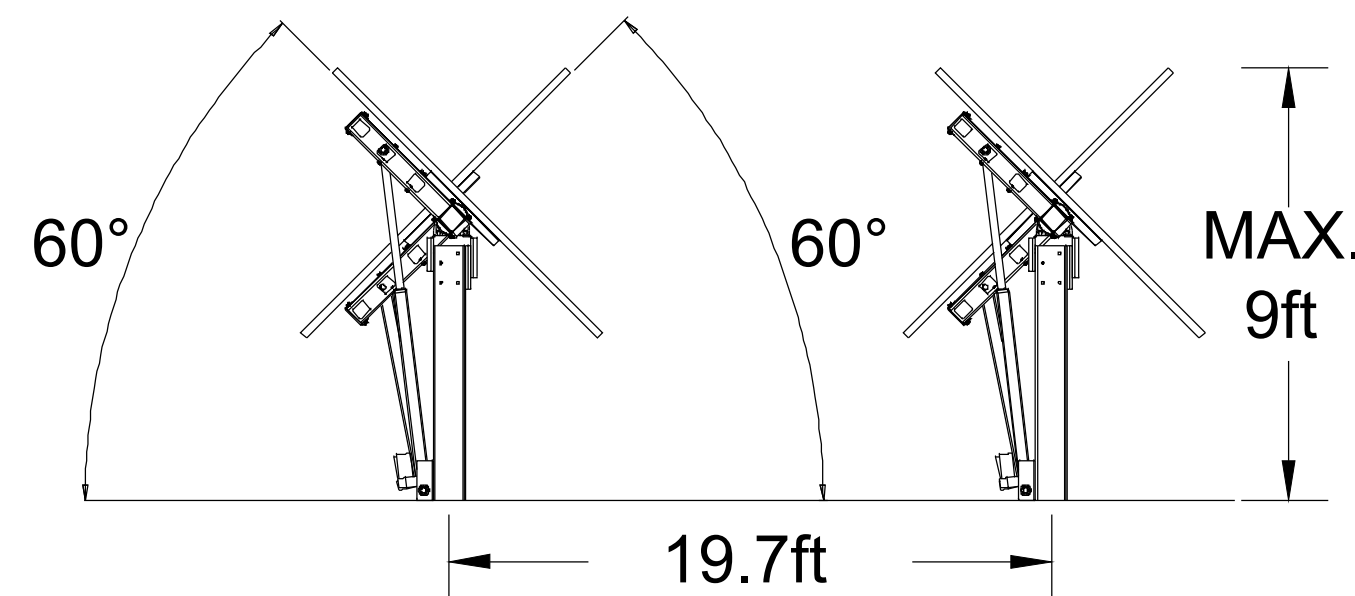
PROJECT OWNER: GSI DEVELOPMENT CORPORATION

TITLE: SITE LAYOUT - OVERALL

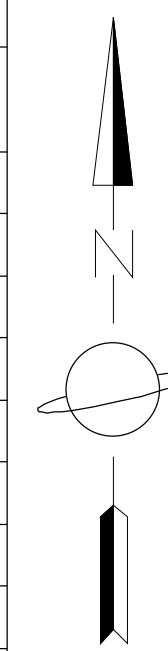
SCALE: NOT TO SCALE

DRAWN BY: HEATHER SPITTAL
DESIGNED BY: KYLE EDGINTON

DWG. NO.	SHEET NO.	REVISION
E100	1 of 3	4



TRI-COUNTY 5 MW SOLAR PROJECT SUMMARY	
CONSTRUCTIBLE PROJECT AREA (Acres)	24
PROJECT FOOTPRINT (Acres)	20
FENCE LENGTH (miles)	0.50
# OF TABLES/STRINGS	360
# OF MODULES (700W)	9,720
# OF INVERTERS(CPS SCH275KTL-DO)*	20
# OF MODULES PER STRING	27
MW-DC	6.804
MW-AC	5.000
OVERBUILD	1.361
*CPS SCH275KTL INVERTERS DE-RATED TO 250 kVA	



GREENWOOD
SUSTAINABLE INFRASTRUCTURE

GSI DEVELOPMENT CORPORATION

CANADA:
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Toll Free: 1-866-961-8654

USA:
134 East 40th Street
New York, New York 10016

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NOTES:

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PRELIMINARY - NOT FOR CONSTRUCTION

LEGEND:

-  PROPERTY BOUNDARY
-  PROJECT BOUNDARY
-  PROJECT FENCE
-  GRAVEL ACCESS ROAD (20ft/6.1m)
-  PV TABLES
-  PV MODULES (700W - 27/STRING)
-  TRANSFORMER/INVERTER BLOCK
-  INVERTER
-  12.5 kV FEEDER LINE W7931 (UTILITY)
-  15kV CABLE
-  POLES & OVERHEAD LINES (SEE SH 3 DETAIL)
-  NO BUILD AREA - WETLAND w/30FT SETBACK
-  NO BUILD AREA - PIPE/VENT w/10FT SETBACK
-  APPROXIMATE POI LOCATION

REV. #1: PRELIMINARY DESIGN DATE: 13-APR-2023

REV. #2: ISSUED FOR REVIEW	DATE: 04-APR-2024
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REV. #2: ISSUED FOR REVIEW	DATE: 01-APR-2021
REV. #3: ISSUED FOR REVIEW	DATE: 24-SEP-2025

REV. #3: ISSUED FOR REVIEW	DATE: 24-SEP-2025
REV. #4: ISSUED FOR REVIEW	DATE: 13-NOV-2025

REV. #4: ISSUED FOR REVIEW	DATE: 13-
REV. #5:	DATE:

ENGINEER'S SEAL:

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT

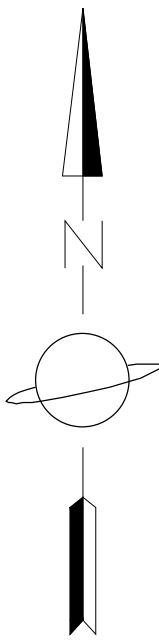
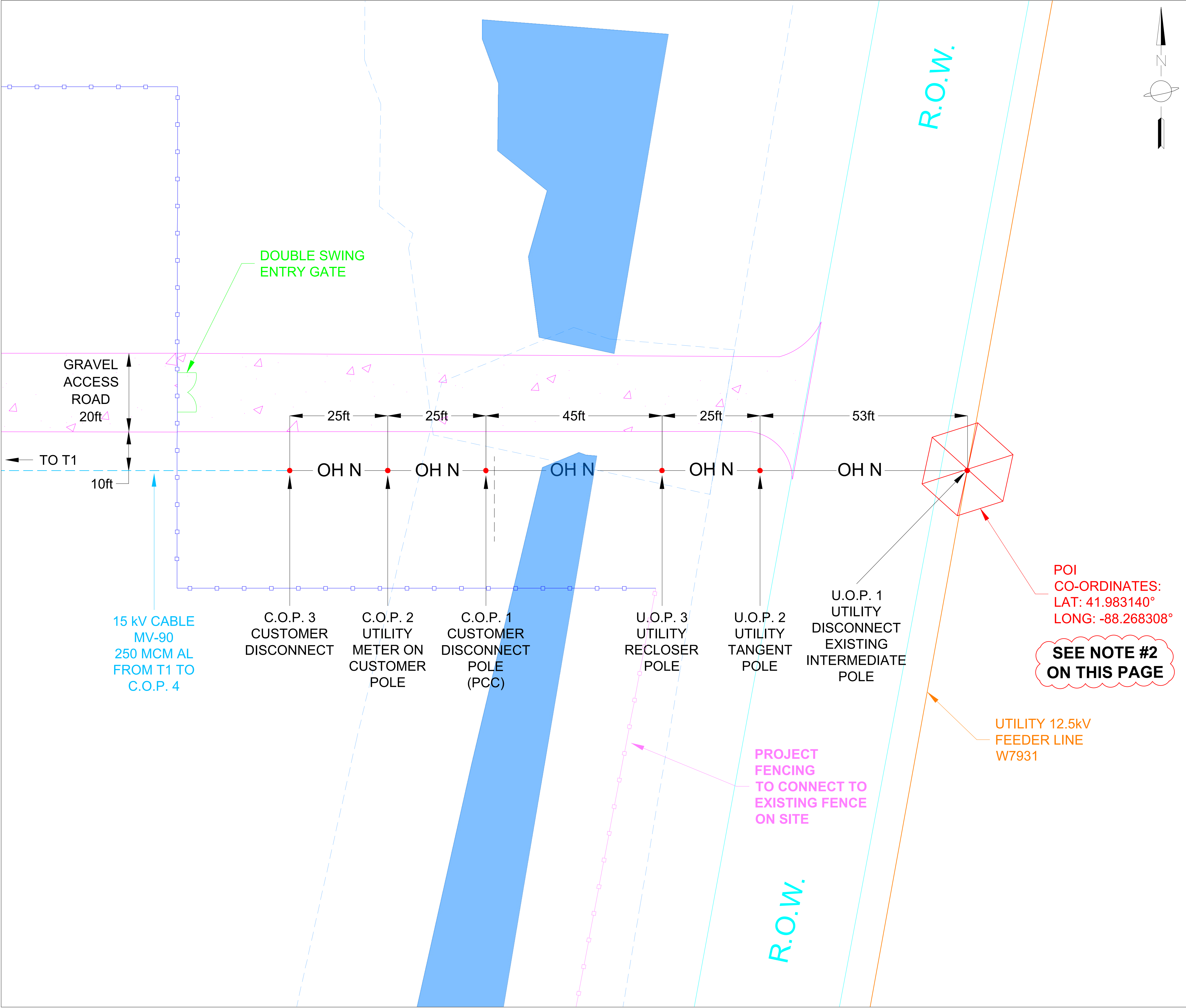
PROJECT OWNER:	GSI DEVELOPMENT CORPORATION
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TITLE: SITE LAYOUT - PROJECT LAYOUT

SCALE: NOT TO SCALE

DRAWN BY:	HEATHER SPITTAL	DESIGNED BY:	KYLE EDGINTON
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DWG. NO.	SHEET NO.	REVISION
E100	2 of 3	4



GREENWOOD
SUSTAINABLE INFRASTRUCTURE

GSI DEVELOPMENT CORPORATION

CANADA:
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Phone: 519-804-9163
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New York, New York 10016

DISCLAIMER:

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NOTES:

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PROPERTY CO-ORDINATES:

LATITUDE: 41.982650°

LONGITUDE: -88.271192°

1. CLASS 2 POLES ARE SET AT LEAST 25ft APART UNLESS OTHERWISE INDICATED

2. CONNECTION FROM U.O.P. 3 TO POI IS CONCEPTUAL. UTILITY TO DETERMINE FINAL CONNECTION FROM U.O.P. 3 TO POI

3. POI & OH WORK TO BE IN CONJUNCTION WITH UTILITY AND PER UTILITY CODES AND STANDARDS

PRELIMINARY - NOT FOR CONSTRUCTION

LEGEND:

- PROJECT FENCE
- EXISTING FENCE
- GRAVEL ACCESS ROAD (20ft/6.1m)
- 12.5 kV FEEDER LINE W7931 (UTILITY)
- 15 kV CABLE MV-90, 250 MCM AL
- POLES/OVERHEAD POLE LINES-NEW
- C.O.P. # CUSTOMER OWNED POLE (15"d)
- U.O.P. # UTILITY OWNED POLE (15"d)
- R.O.W. RIGHT OF WAY/ROAD
- NO BUILD AREA - WETLAND w/30FT SETBACK
- APPROXIMATE POI LOCATION

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REV. #5:	DATE:

ENGINEER'S SEAL:

**POI
CO-ORDINATES:
LAT: 41.983140°
LONG: -88.268308°**

**SEE NOTE #2
ON THIS PAGE**

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT

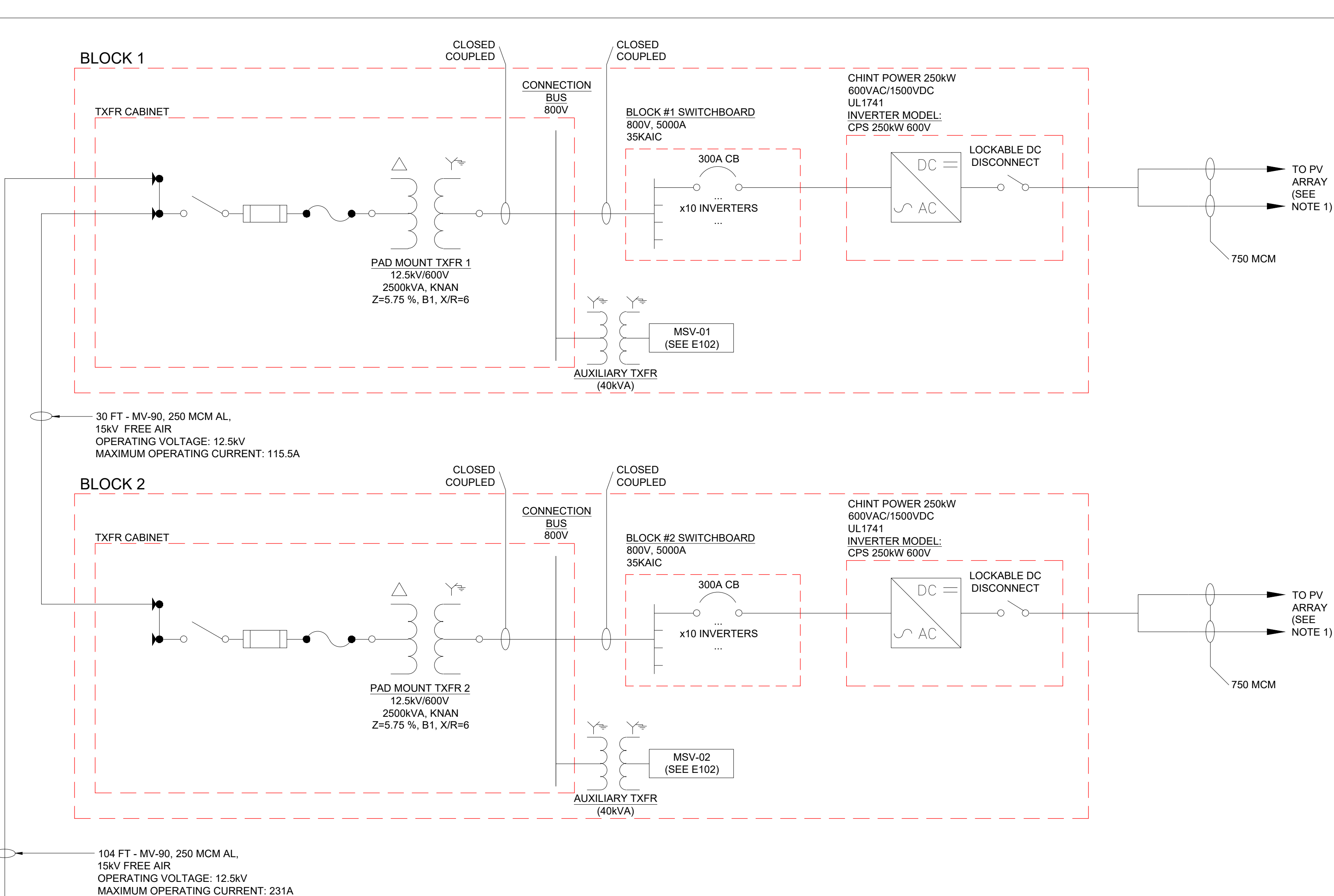
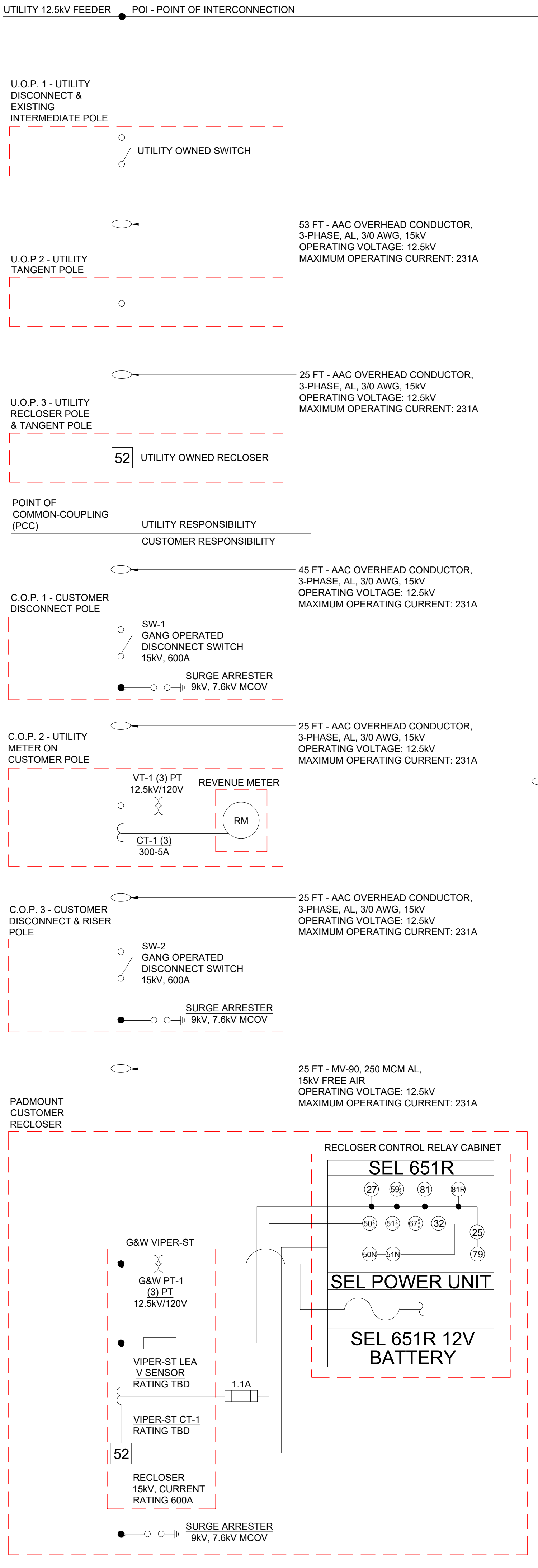
PROJECT OWNER: GSI DEVELOPMENT CORPORATION

TITLE: SITE LAYOUT - POLE DETAIL

SCALE: NOT TO SCALE

DRAWN BY: HEATHER SPITTAL
DESIGNED BY: KYLE EDGINTON

DWG. NO. E100
SHEET NO. 3 of 3
REVISION 4



TRI-COUNTY 5 MW SOLAR PROJECT CABLE SCHEDULE		
	TYPE/DESCRIPTION	LENGTH (ft)
U.O.P. 1 TO C.O.P. 3	AAC OVERHEAD CONDUCTOR, 3-PHASE, 3/0 AWG, AL 15kV, OPERATING VOLTAGE: 12.5kV MAXIMUM OPERATING CURRENT: 231A	173
C.O.P. 3 TO BLOCK 1 TXFR CABINET	15kV CABLE, UG DIRECT BURIED, MV-90, 250 MCM AL, 133% VOLTAGE RATED, UL LISTED, FULL NEUTRAL	184

SEL 651R SETTINGS								
ANSI ELEMENT #	PICKUP	REAL	UNITS	LEVEL	DELAY (sec)	TOTAL CLEAR (TIME sec)*	CURVE	DESCRIPTION
27	0.67	3179	V	44%	0.11	0.16		Instantaneous UV
27	0.76	3612	V	50%	0.95	1.00		Fast UV
27	1.32	6285	V	87%	1.95	2.00		Slow UV
59Q	0.18	867	V	12%	1.95	2.00		Negative Seq. OV
59	1.69	8019	V	111%	1.95	2.00		Slow OV
59	1.82	8670	V	120%	0.11	0.16		Fast OV
59G	0.19	939	V	13%	1.95	2.00		Neutral Shift
81U-1	56.50	56.50	Hz	94%	0.11	0.16		Fast UF
81U-2	58.50	58.50	Hz	98%	299.95	300.00		Slow UF
81O-1	62.00	62.00	Hz	103%	0.11	0.16		Fast OF
81O-2	61.20	61.20	Hz	102%	299.95	300.00		Slow OF
51Q	0.21	42	A	20%	1.95	2.00	U4	Negative Seq. TOC
51N	0.32	69.3	A	30%	1.95	2.00	U4	Timed Neutral OC
50P	16.40	3465	A	1500%	0.00	0.05		Instant. Phase OC
51P	1.64	346.5	A	150%	1.95	2.00	U4	Timed Phase OC
79	1.44	219.45	V	95%	299.95	300.00		Min Reclosing Voltage Value
79	1.60	242.55	V	105%	299.95	300.00		Max Reclosing Voltage Value
79	59.50	59.50	Hz	99%	299.95	300.00		Min Reclosing Frequency Value
79	60.50	60.50	Hz	101%	299.95	300.00		Max Reclosing Frequency Value
231A USED FOR 50/51 ELEMENTS				7200V USED FOR 27/59 ELEMENTS				
CT RATIO FACTOR = 200				LEA RATIO FACTOR = 5000				
* total clear time includes 0.05 sec breaker opening time								

TRI-COUNTY 5 MW SOLAR PROJECT EQUIPMENT SPECIFICATION			
EQUIPMENT	MANUFACTURER	MODEL	SIZE
INVERTER	CHINT POWER SYSTEMS	CPS SKIDDED MV STATION	2.5/3 MW
SOLAR MODULE	CANADIAN SOLAR	TOPBIHIKu7 - CS7N	700W
NOTE:		*CPSSCH275KTL-DO INVERTERS DE-RATED TO 250 KVA	

TRI-COUNTY 5 MW SOLAR PROJECT SUMMARY	
CONSTRUCTIBLE PROJECT AREA (Acres)	24
PROJECT FOOTPRINT (Acres)	20
FENCE LENGTH (miles)	0.50
# OF TABLES/STRINGS	360
# OF MODULES (700W)	9,720
# OF INVERTERS(CPS SCH275KTL-DO)*	20
# OF MODULES PER STRING	27
MW-DC	6.804
MW-AC	5.000
OVERBUILD	1.361
*CPS SCH275KTL INVERTERS DE-RATED TO 250 KVA	

INVERTER INTERNAL PROTECTIVE SETTINGS: UL1741-SA COMPLIANT					
ANSI ELEMENT #	PICKUP	UNITS*	LEVEL	TOTAL CLEAR (TIME sec)*	DESCRIPTION
27	352.0	V	44%	0.16	Instantaneous UV
27	400.0	V	50%	0.80	Fast UV
27	696.0	V	87%	1.60	Slow UV
59	888.0	V	111%	0.80	Slow OV
59	960.0	V	120%	0.16	Fast OV
81U-1	56.50	Hz	94%	0.16	Fast UF
81U-2	58.50	Hz	98%	1.60	Slow UF
81O-1	62.00	Hz	103%	0.16	Fast OF
81O-2	61.20	Hz	102%	1.60	Slow OF
79	760.0	V	95%	300.00	Min Reclosing Voltage Value
79	840.0	V	105%	300.00	Max Reclosing Voltage Value
79	59.6	Hz	99%	300.00	Min Reclosing Frequency Value
79	60.5	Hz	101%	300.00	Max Reclosing Frequency Value
INVERTER INTERNAL OPERATION SETTINGS					
PF Set Point	1.00				Power Factor Control
Var Control	OFF				Reactive Power Control
Ramp Rate	10%/1 sec				dkw / dt
Freq Control	OFF				Speed Control
* voltages based off 800V Line to Line					



GREENWOOD
SUSTAINABLE INFRASTRUCTURE

GSI DEVELOPMENT CORPORATION

CANADA: 140 Foundry Street, Unit A
Baden, ON N3A 2P7
Phone: 519-804-9163
Toll Free: 1-866-961-8654

USA: 134 East 40th Street
New York, New York 10016

DISCLAIMER:
All work shall be performed in compliance with local and federal standards. Contractor responsible for verifying all dimensions. Drawings not to be reproduced or used without GSI approval.

NOTES:
PROPERTY ADDRESS: 7N904 IL-25, SOUTH ELGIN, IL 60177

- EACH INVERTER IS 18 STRINGS VIA BIG LEAD ASSEMBLY (BLA)
- 1 STRING PER TABLE (27 MODULES PER STRING)
- DRAWING SUBJECT TO CHANGE BASED ON SITE CONDITIONS AND UTILITY REQUIREMENTS
- EQUIPMENT ON UTILITY POLES WILL BE SUPPLIED & INSTALLED BY THE CUSTOMER (GSI), EQUIPMENT ON CUSTOMER POLES IS CUSTOMER OWNED.
- THE GROUND GRID WILL BE CONSTRUCTED 4/0 BARE CONDUCTOR WITH A MAXIMUM RESISTANCE TO GROUND OF 5 ohms.
- THREE PHASE GANG OPERATED SWITCH TO BE MINIMUM OF 600A, 12.5kV, 20KAIC LOCKABLE IN THE OPEN POSITION

PRELIMINARY - NOT FOR CONSTRUCTION

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REV. #2: ISSUED FOR REVIEW	DATE: 04-APR-2024
REV. #3: ISSUED FOR REVIEW	DATE: 24-SEP-2025
REV. #4: ISSUED FOR REVIEW	DATE: 13-NOV-2025
REV. #5:	DATE:
ENGINEER'S SEAL:	

PROJECT:	TRI-COUNTY 5 MW SOLAR PROJECT	
PROJECT OWNER:	GSI DEVELOPMENT CORPORATION	
TITLE:	AC SLD - 1	
SCALE:	NOT TO SCALE	
DRAWN BY:	HEATHER SPITTAL	DESIGNED BY: KYLE EDGINTON
DWG. NO. E101	SHEET NO. 1 of 1	REVISION 4



CANADA:
140 Foundry Street, Unit A
Baden, ON N3A 2P7
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PRELIMINARY - NOT FOR CONSTRUCTION

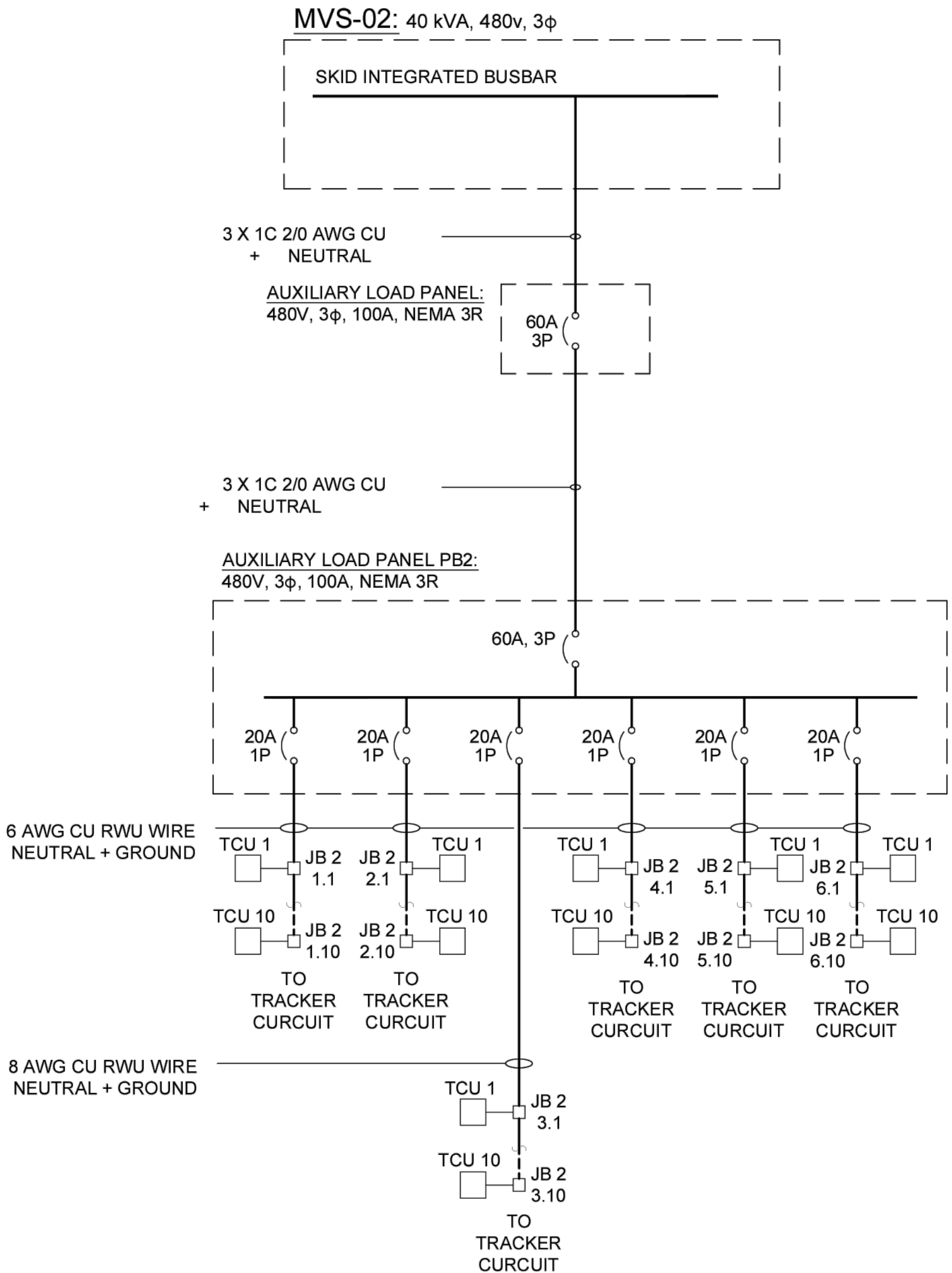
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REV. #3: ISSUED FOR REVIEW	DATE: 24-SEP-2025
REV. #4: ISSUED FOR REVIEW	DATE: 13-NOV-2025
REV. #5:	DATE:

ENGINEER'S SEAL:

PROJECT OWNER: GSI DEVELOPMENT CORPORATION

DRAWN BY: HEATHER SPITTAL DESIGNED BY: KYLE EDGINTON

DWG. NO.	SHEET NO.	REVISION
E102	1 of 1	4





GREENWOOD
SUSTAINABLE INFRASTRUCTURE

GSI DEVELOPMENT CORPORATION

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NOTES:
PROPERTY ADDRESS: 7N904 IL-25, SOUTH ELGIN, IL 60177

1. CONTRACTOR TO VERIFY ALL CABLE LENGTHS ARE ACCURATE AND NOTIFY GSI OF ANY INCONSISTENCIES.
2. LOW VOLTAGE CABLES SIZED PER AMPACITY CHARTS PRESENTED IN NEC TABLE 310.15(B). APPROPRIATE DERATE FACTORS APPLIED USING TABLES 310.15(B)(3)(a) FOR MULTIPLE PARALLEL SETS OF CONDUCTORS IN RACEWAYS AND TABLE 310.15(B)(2)(b) FOR AMBIENT TEMPERATURE.
3. MEDIUM VOLTAGE CABLES SIZED PER AMPACITY CHARTS PRESENTED IN NEC TABLE 310.60(C). APPROPRIATE DERATE FACTORS APPLIED USING TABLE 310.60(C)(4) AND ITS ASSOCIATED FORMULA FOR AMBIENT TEMPERATURE.

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REV. #4: ISSUED FOR REVIEW	DATE: 13-NOV-2025
REV. #5:	DATE:

ENGINEER'S SEAL:

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT

PROJECT OWNER: GSI DEVELOPMENT CORPORATION

TITLE: AC CABLE SCHEDULE

SCALE: NOT TO SCALE

DRAWN BY:	HEATHER SPITTAL	DESIGNED BY:	KYLE EDGINTON
-----------	-----------------	--------------	---------------

DWG. NO.	SHEET NO.	REVISION
E104	1 of 1	4

Inverter Cable Schedule

From Inverter	To	Inverter Part #	Operating Voltage (V)	Operating Current (A)	# of PV Strings per inverter	Total Run Length (m)	Bus Bar and Type	Conductor Ampacity (after derating) (A)	Isc (A)	Fuse/Breaker Size (A)	Voltage Drop (V)	Conduit Size and Type Per Parallel Set	EGC Size Per Parallel Set
INV 1	Switchboard #1	CPS 250KW-600	600	240.56	18	N/A	Close Coupled, AL	#N/A	248.125	250	#N/A	#N/A	#N/A
INV 2	Switchboard #1	CPS 250KW-600	600	240.56	18	N/A	Close Coupled, AL	#N/A	248.125	250	#N/A	#N/A	#N/A
INV 3	Switchboard #1	CPS 250KW-600	600	240.56	18	N/A	Close Coupled, AL	#N/A	248.125	250	#N/A	#N/A	#N/A
INV 4	Switchboard #1	CPS 250KW-600	600	240.56	18	N/A	Close Coupled, AL	#N/A	248.125	250	#N/A	#N/A	#N/A
INV 5	Switchboard #1	CPS 250KW-600	600	240.56	18	N/A	Close Coupled, AL	#N/A	248.125	250	#N/A	#N/A	#N/A
INV 6	Switchboard #1	CPS 250KW-600	600	240.56	18	N/A	Close Coupled, AL	#N/A	248.125	250	#N/A	#N/A	#N/A
INV 7	Switchboard #1	CPS 250KW-600	600	240.56	18	N/A	Close Coupled, AL	#N/A	248.125	250	#N/A	#N/A	#N/A
INV 8	Switchboard #1	CPS 250KW-600	600	240.56	18	N/A	Close Coupled, AL	#N/A	248.125	250	#N/A	#N/A	#N/A
INV 9	Switchboard #1	CPS 250KW-600	600	240.56	18	N/A	Close Coupled, AL	#N/A	248.125	250	#N/A	#N/A	#N/A
INV 10	Switchboard #1	CPS 250KW-600	600	240.56	18	N/A	Close Coupled, AL	#N/A	248.125	250	#N/A	#N/A	#N/A
INV 11	Switchboard #2	CPS 250KW-600	600	240.56	18	N/A	Close Coupled, AL	#N/A	248.125	250	#N/A	#N/A	#N/A
INV 12	Switchboard #2	CPS 250KW-600	600	240.56	18	N/A	Close Coupled, AL	#N/A	248.125	250	#N/A	#N/A	#N/A
INV 13	Switchboard #2	CPS 250KW-600	600	240.56	18	N/A	Close Coupled, AL	#N/A	248.125	250	#N/A	#N/A	#N/A
INV 14	Switchboard #2	CPS 250KW-600	600	240.56	18	N/A	Close Coupled, AL	#N/A	248.125	250	#N/A	#N/A	#N/A
INV 15	Switchboard #2	CPS 250KW-600	600	240.56	18	N/A	Close Coupled, AL	#N/A	248.125	250	#N/A	#N/A	#N/A
INV 16	Switchboard #2	CPS 250KW-600	600	240.56	18	N/A	Close Coupled, AL	#N/A	248.125	250	#N/A	#N/A	#N/A
INV 17	Switchboard #2	CPS 250KW-600	600	240.56	18	N/A	Close Coupled, AL	#N/A	248.125	250	#N/A	#N/A	#N/A
INV 18	Switchboard #2	CPS 250KW-600	600	240.56	18	N/A	Close Coupled, AL	#N/A	248.125	250	#N/A	#N/A	#N/A
INV 19	Switchboard #2	CPS 250KW-600	600	240.56	18	N/A	Close Coupled, AL	#N/A	248.125	250	#N/A	#N/A	#N/A
INV 20	Switchboard #2	CPS 250KW-600	600	240.56	18	N/A	Close Coupled, AL	#N/A	248.125	250	#N/A	#N/A	#N/A

Low Voltage Cable Schedule

From	To	Operating Voltage (V)	Operating Current (A)	Total Run Length (m)	Bus Bar and Type	Raceway Type	Conductor Ampacity (after derating) (A)	Isc (A)	Fuse Size (A)	Voltage Drop (V)	Conduit Size and Type (Per Parallel Set)
Switchboard #1	Transformer #1	600	2405.6	N/A	Close Coupled, AL	Cable Tray	#N/A	2481.25	2500	#N/A	#N/A
Switchboard #2	Transformer #2	600	2405.6	N/A	Close Coupled, AL	Cable Tray	#N/A	2481.25	2500	#N/A	#N/A

Medium Voltage Cable Schedule

From	To	Operating Voltage (V)	Operating Current (A)	Total Run Length (m)	Wire Gauge and Type	Conductor Ampacity (after derating) (A)	Isc (A)	Fuse Size (A)	Voltage Drop (V)	Conduit Size and Type (Per Parallel Set)	EGC Size (Per Parallel Set)
Transformer #2	Transformer #1	12500	115.4688	30	250 MCM MV-90 Aluminum	305	119.1	160	0.00%	1/2 " Schedule 40 PVC conduit	1/3 Concentric Neutral Copper
Transformer #1	Recloser #1	12500	230.9376	50	250 MCM MV-90 Aluminum	305	214.38	300	0.00%	1/2 " Schedule 40 PVC conduit	1/3 Concentric Neutral Copper

Medium Voltage Cable Schedule

From	To	Operating Voltage (V)	Operating Current (A)	Total Run Length (m)	Wire Gauge and Type	Conductor Ampacity (after derating) (A)	Isc (A)	Fuse Size (A)	Voltage Drop (V)	Conduit Size and Type (Per Parallel Set)	EGC Size (Per Parallel Set)
Recloser #1	Load Break Switch #1	12499.55539	230.9376	25	3/0 AWG AAC Aluminum	297	214.38	300	0.00%	#N/A	#3 AWG Copper
Load Break Switch #1	Primary Metering Cabinet #1	12499.22467	230.9376	25	3/0 AWG AAC Aluminum	297	214.38	300	0.00%	#N/A	#3 AWG Copper
Primary Metering Cabinet #1	Load Break Switch #2	12498.89394	230.9376	25	3/0 AWG AAC Aluminum	297	214.38	300	0.00%	#N/A	#3 AWG Copper
Load Break Switch #2	Recloser #2	12498.56321	230.9376	25	3/0 AWG AAC Aluminum	297	214.38	300	0.00%	#N/A	#3 AWG Copper
Recloser #2	Load Break Switch #3	12498.23247	230.9376	30	3/0 AWG AAC Aluminum	297	214.38	300	0.00%	#N/A	#3 AWG Copper



GREENWOOD
SUSTAINABLE INFRASTRUCTURE

GSI DEVELOPMENT CORPORATION

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Phone: 519-804-9163
Toll Free: 1-866-961-8654

USA:
134 East 40th Street
New York, New York 10016

DISCLAIMER:

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NOTES:

1. NCU - NETWORK CONTROL UNIT
2. RSU - REMOTE SENSOR UNIT
3. TCU - TRACKER CONTROL UNIT
4. WIRES BETWEEN "CPS SCH275KTL-DO" AND POWER FACTORS BLOCK WILL BE RS-485
5. EXTERNAL SENSORS: BOM, ALBEDOMETER, GHI, PYRANOMETER

PRELIMINARY - NOT FOR CONSTRUCTION

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REV. #5:	DATE:

ENGINEER'S SEAL:

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT

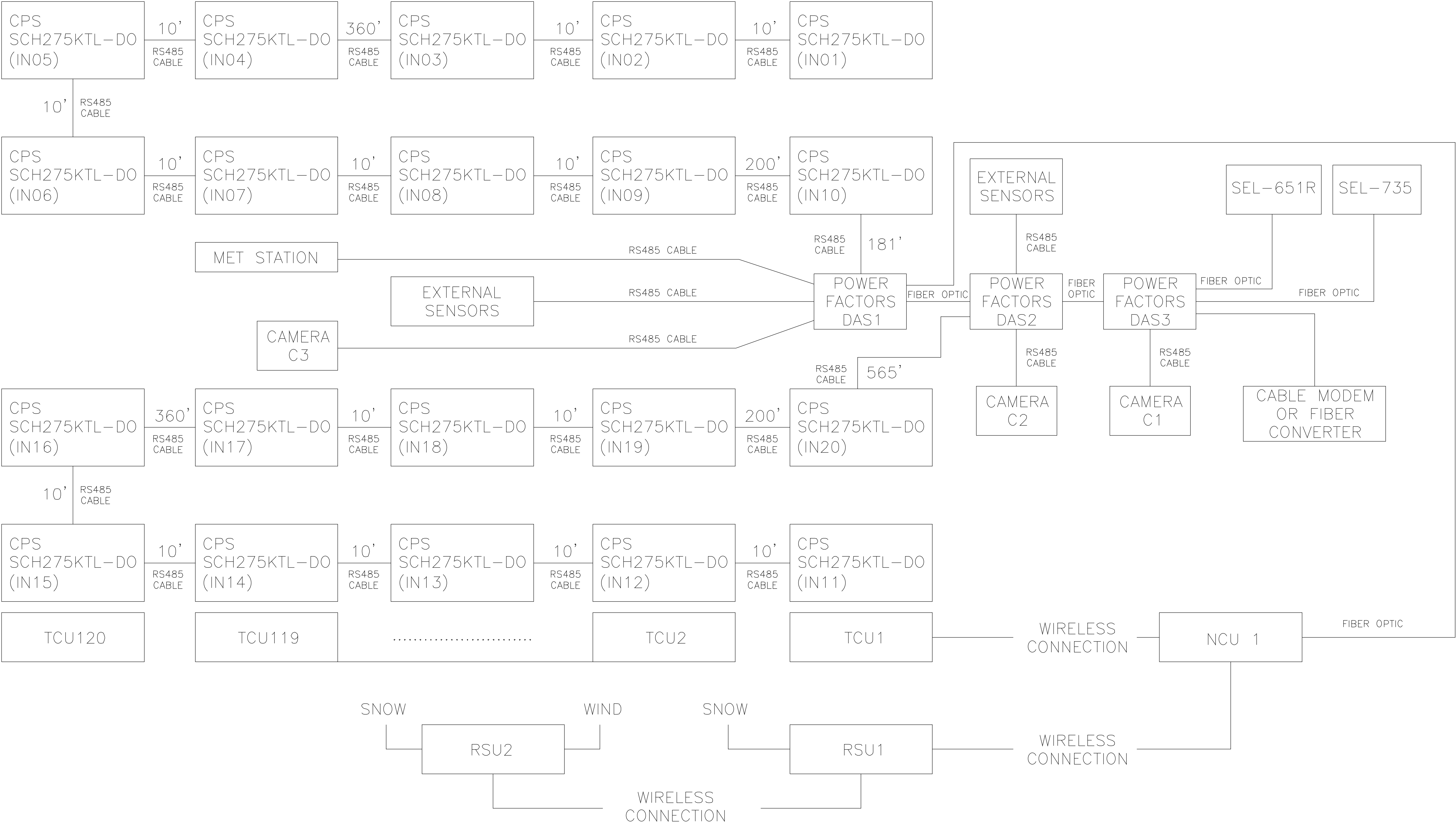
PROJECT OWNER: GSI DEVELOPMENT CORPORATION

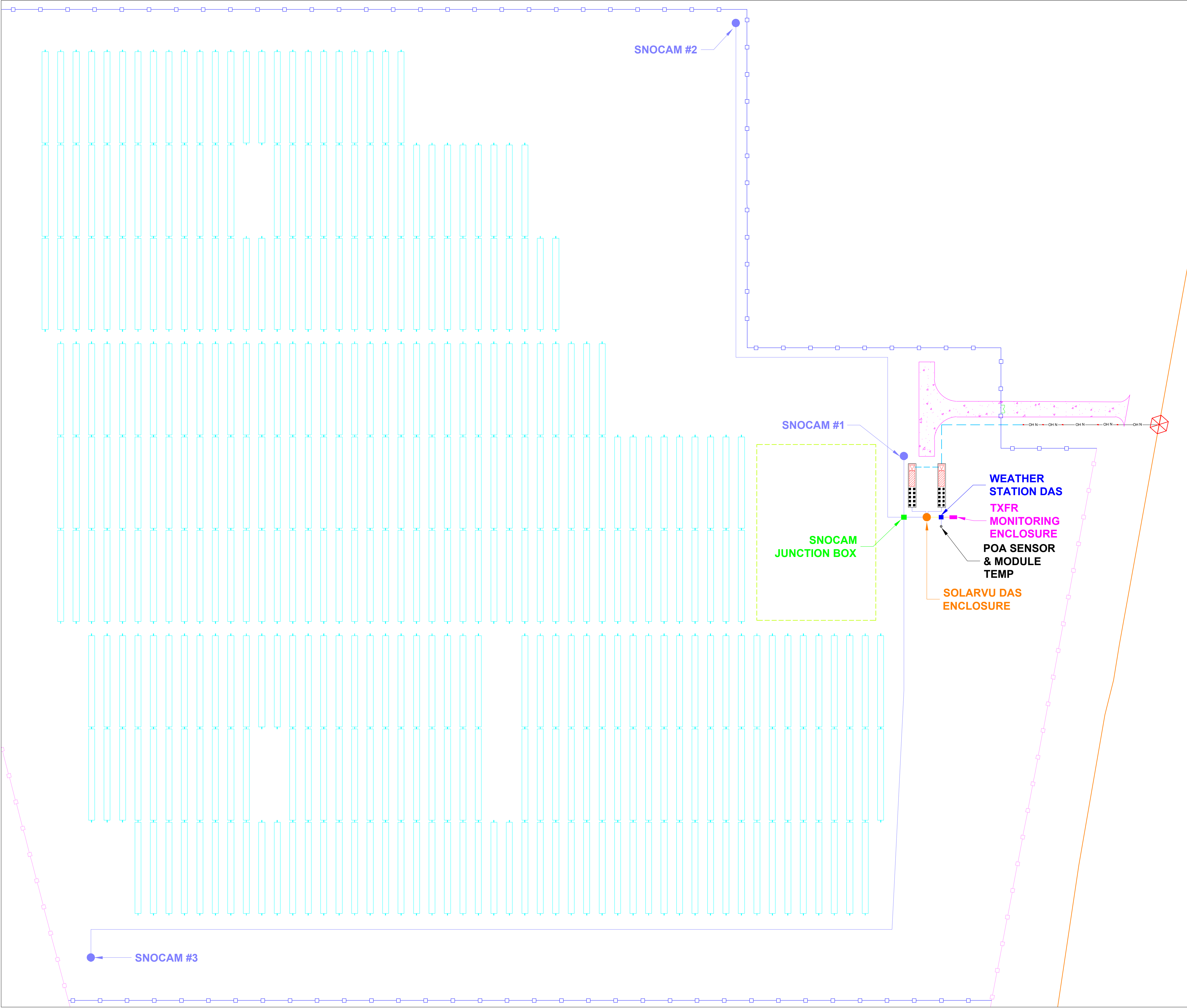
TITLE: SCADA SLD

SCALE: NOT TO SCALE

DRAWN BY: HEATHER SPITTAL
DESIGNED BY: KYLE EDGINTON

DWG. NO. E200
SHEET NO. 1 of 1
REVISION 4





GREENWOOD
SUSTAINABLE INFRASTRUCTURE

GSI DEVELOPMENT CORPORATION

CANADA:
140 Foundry Street, Unit A
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Phone: 519-804-9163
Toll Free: 1-866-961-8654

USA:
134 East 40th Street
New York, New York 10016

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NOTES:

PROPERTY ADDRESS: 7N904 IL-25, SOUTH ELGIN, IL 60177

PROPERTY CO-ORDINATES:

LATITUDE: 41.982650°

LONGITUDE: -88.271192°

PROPERTY BOUNDARY SETBACK: 50ft (15.2m)

GSI MIN. SETBACK FROM EQUIPMENT TO PROJECT FENCE: 20ft (6.1m)

PROJECT FENCE - 7ft (2.1m) HIGH

GRAVEL ACCESS ROAD: 20ft (6.1m), GRADE LESS THAN 5°

PRELIMINARY - NOT FOR CONSTRUCTION

LEGEND:

- PROJECT FENCE
- GRAVEL ACCESS ROAD (20ft/6.1m)
- PV TABLES
- TRANSFORMER/INVERTER BLOCK
- INVERTER
- 12.5 kV FEEDER LINE W7931 (UTILITY)
- 15kV CABLE
- POLES & OVERHEAD LINES
- APPROXIMATE POI LOCATION
- SNOWCAM LOCATIONS
- SNOCAM JUNCTION BOX LOCATION
- SOLARVU ENCLOSURE DAS LOCATION
- WEATHER STATION DAS CR1000X LOCATION FOR POA, GHI & PANEL TEMPERATURE
- POA SENSOR & MODULE TEMP.
- TRANSFORMER MONITORING ENCLOSURE LOCATION
- ETHERNET CABLE - SNOCAM
- RS485 CABLE - WEATHER STATION COMMUNICATION
- RS485 CABLE - INVERTER COMMUNICATION
- RS485 CABLE - TRANSFORMER MONITORING
- EXISTING FENCE

REV. #1: PRELIMINARY DESIGN DATE: 13-APR-2023

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REV. #4: ISSUED FOR REVIEW DATE: 13-NOV-2025

REV. #5: DATE:

ENGINEER'S SEAL:

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT

PROJECT OWNER: GSI DEVELOPMENT CORPORATION

TITLE: DAS MONITORING SITE PLAN

SCALE: NOT TO SCALE

DRAWN BY: HEATHER SPITTAL DESIGNED BY: KYLE EDGINTON

DWG. NO. E201 SHEET NO. 1 of 1 REVISION 4



GREENWOOD
SUSTAINABLE INFRASTRUCTURE

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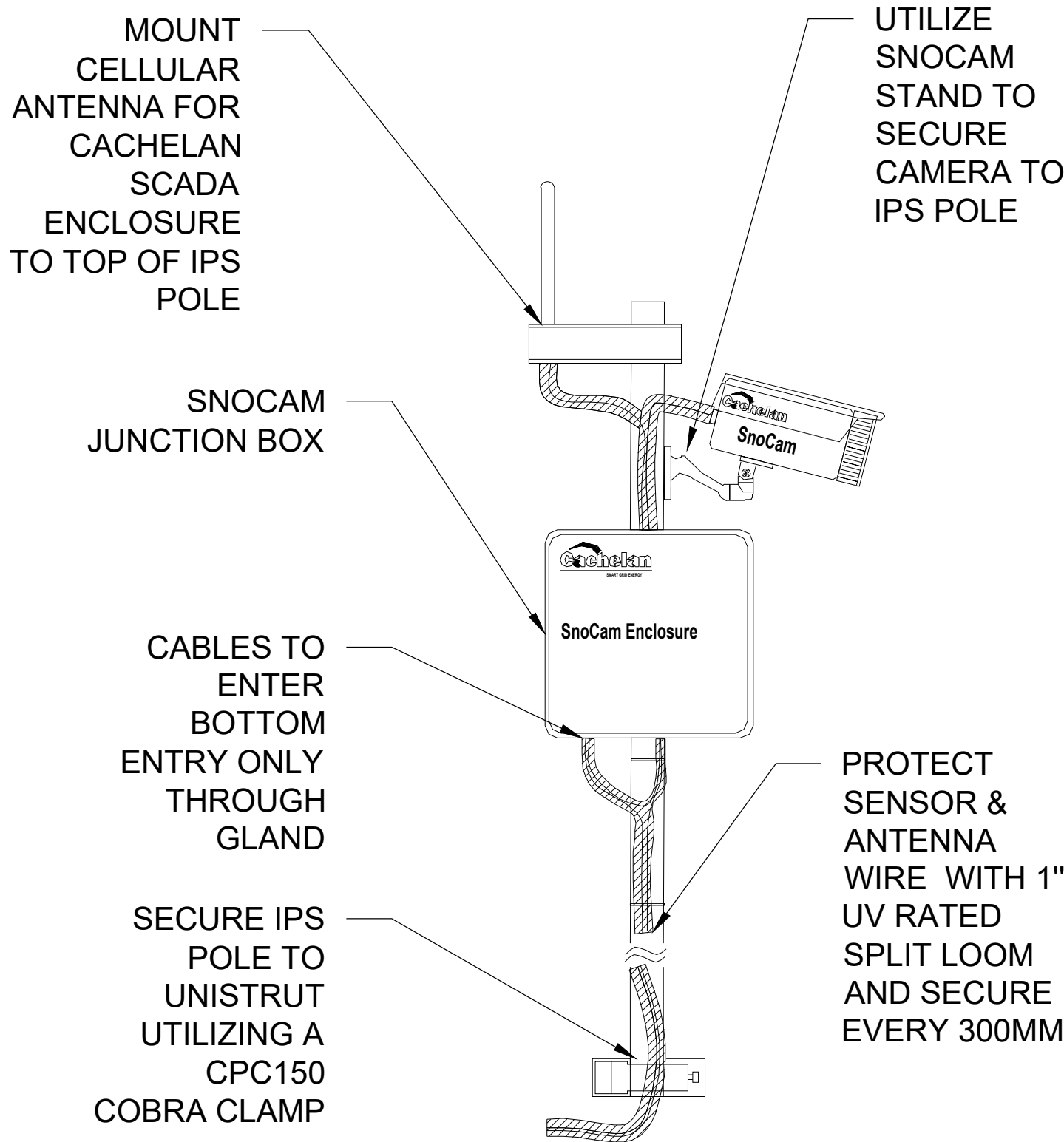
DISCLAIMER:
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NOTES:
1. CONTRACTOR TO LEAVE PRE-TERMINATED CABLES UN CUT (FACTORY CALIBRATED)

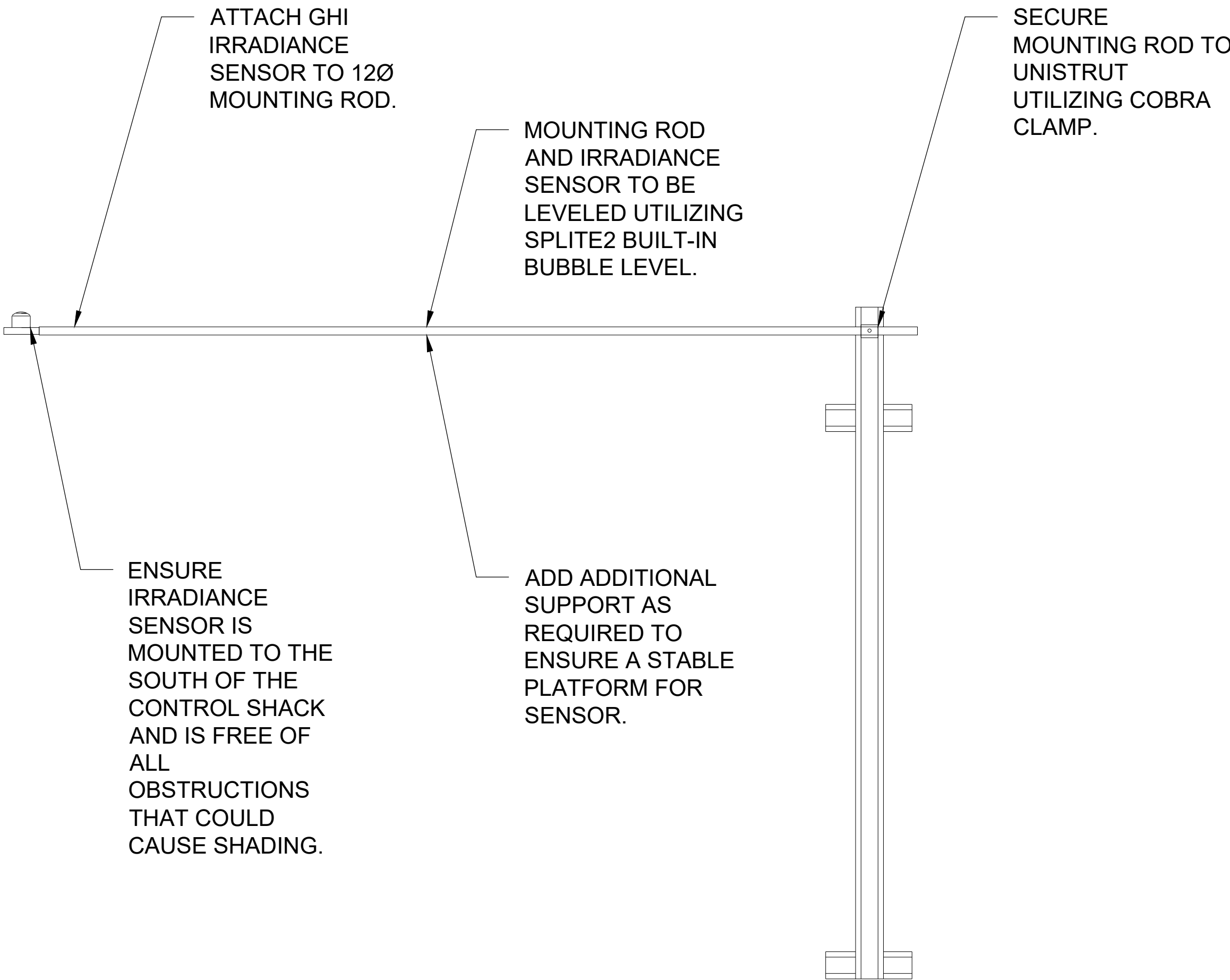
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ENGINEER'S SEAL:	

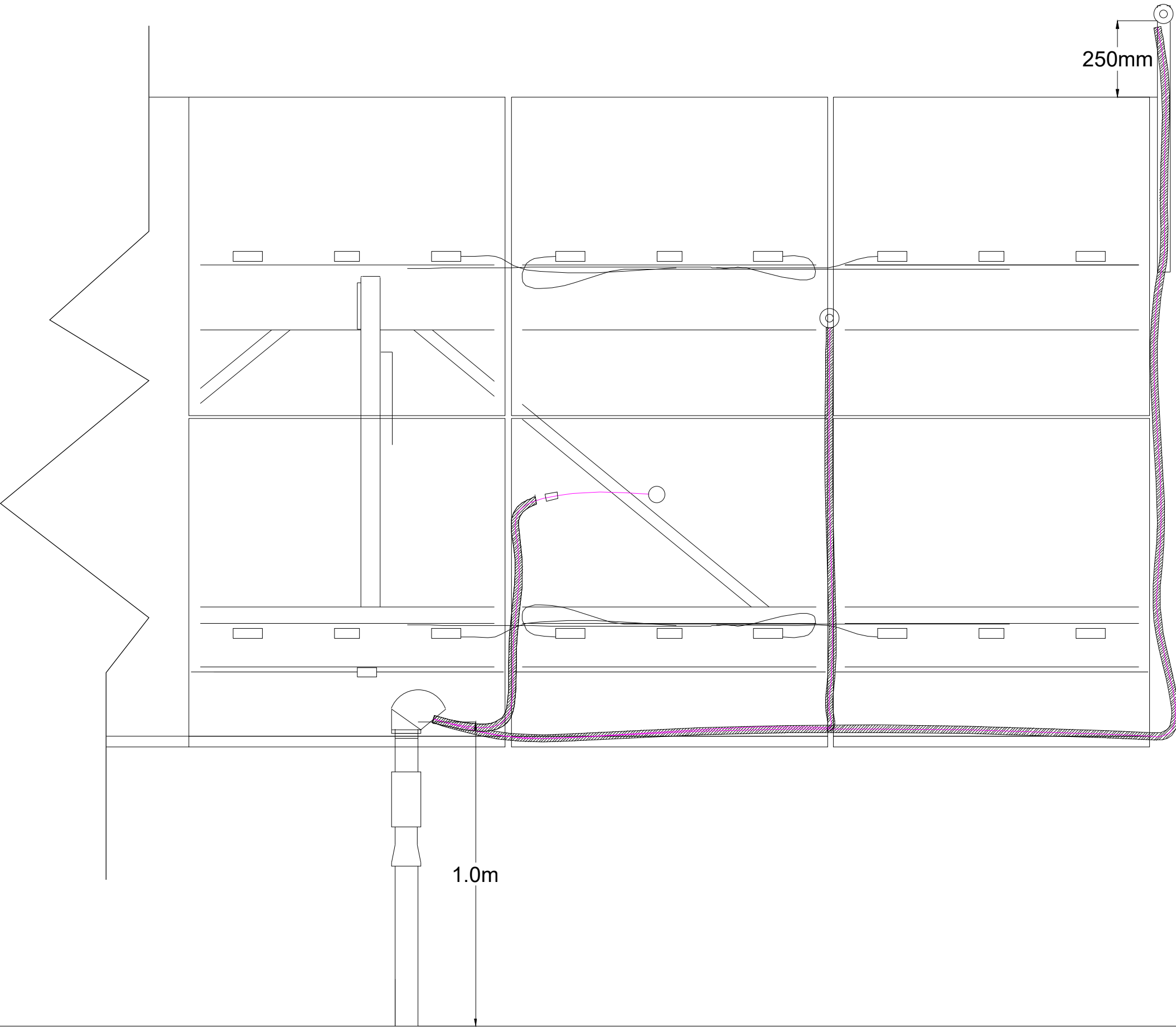
PROJECT:	TRI-COUNTY 5 MW SOLAR PROJECT		
PROJECT OWNER:	GSI DEVELOPMENT CORPORATION		
TITLE:	DAS MOUNTING DETAILS		
SCALE:	NOT TO SCALE		
DRAWN BY:	HEATHER SPITTAL	DESIGNED BY:	KYLE EDGINTON
DWG. NO.	SHEET NO.	REVISION	
E202	1 of 2	4	



A SNOCAM MOUNTING DETAIL
E-202



B GHI IRRADIANCE SENSOR MOUNTING DETAIL
E-202



C POA IRRADIANCE SENSORS AND
E-202 MODULE TEMP SENSOR MOUNTING DETAIL



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ENGINEER'S SEAL:

PROJECT:		TRI-COUNTY 5 MW SOLAR PROJECT	
PROJECT OWNER:		GSI DEVELOPMENT CORPORATION	
TITLE:		DAS MOUNTING DETAILS	
SCALE:		NOT TO SCALE	
DRAWN BY:	HEATHER SPITTAL	DESIGNED BY:	KYLE EDGINTON
DWG. NO.	E202	SHEET NO.	2 of 2
		REVISION	4



GREENWOOD
SUSTAINABLE INFRASTRUCTURE

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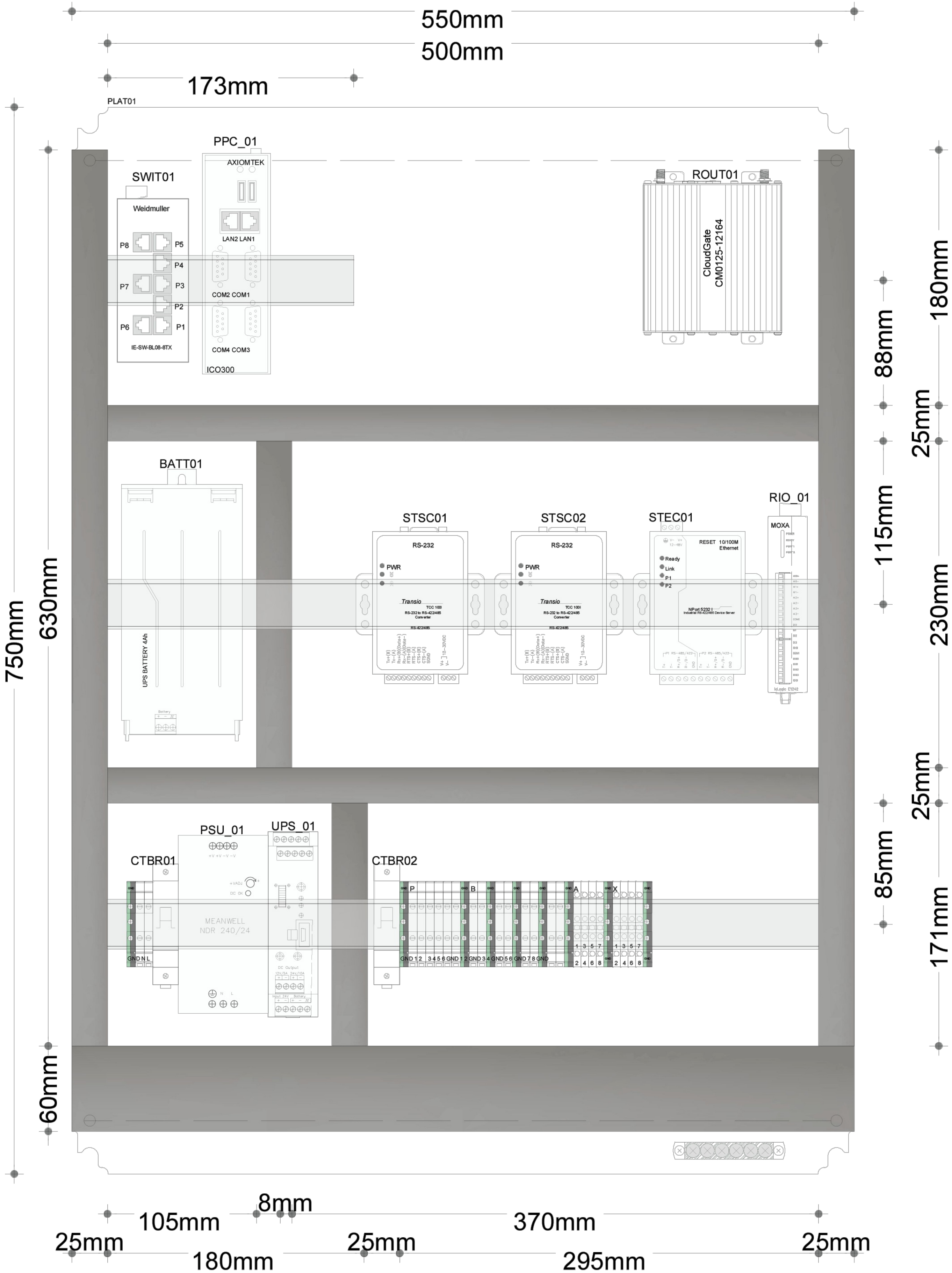
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ENGINEER'S SEAL:

PROJECT:	TRI-COUNTY 5 MW SOLAR PROJECT		
PROJECT OWNER:	GSI DEVELOPMENT CORPORATION		
TITLE:	DAS TERMINATION DETAILS		
SCALE:	NOT TO SCALE		
DRAWN BY:	HEATHER SPITTAL	DESIGNED BY:	KYLE EDGINTON
DWG. NO.	E203	SHEET NO.	1 of 4
		REVISION	4





GREENWOOD
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ENGINEER'S SEAL:

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT

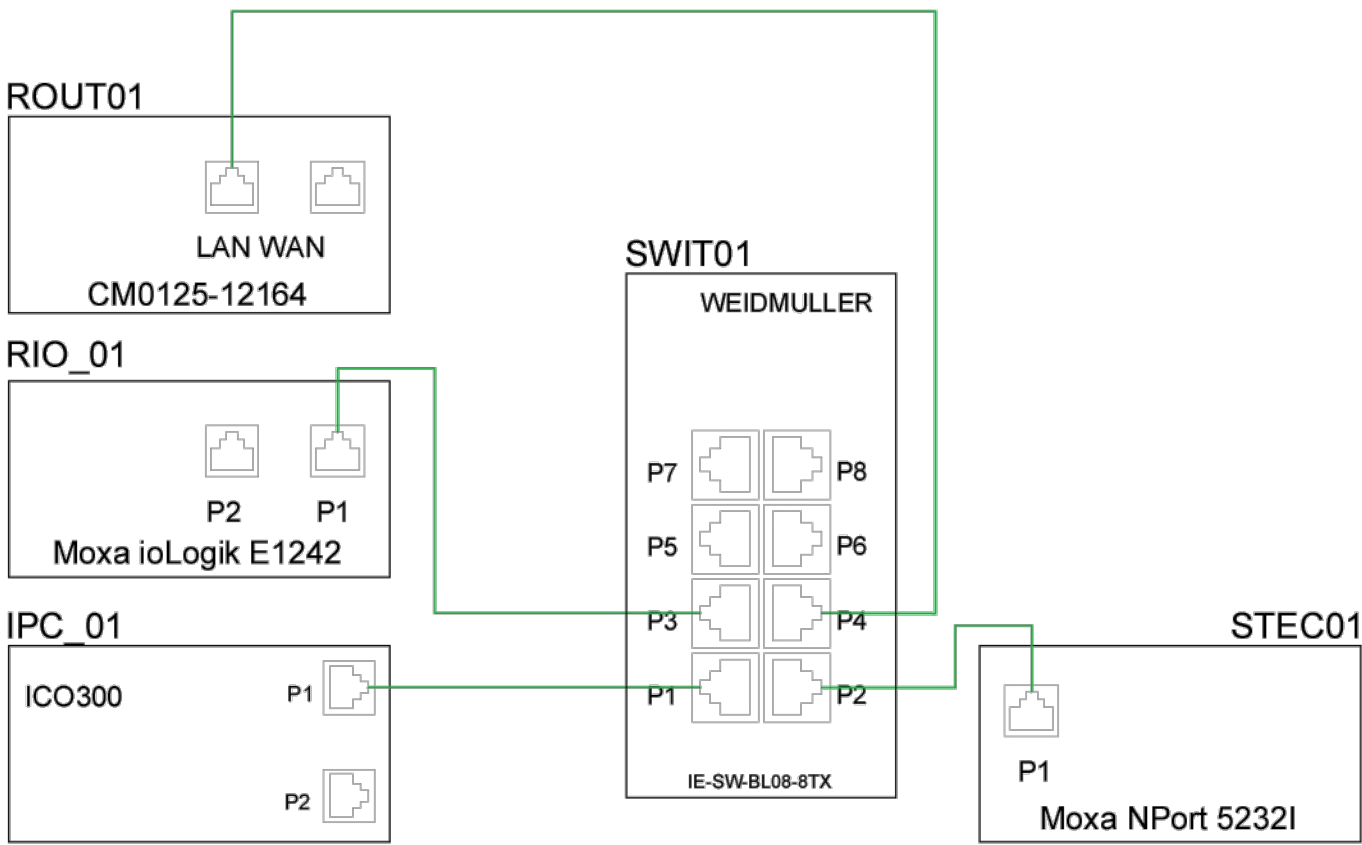
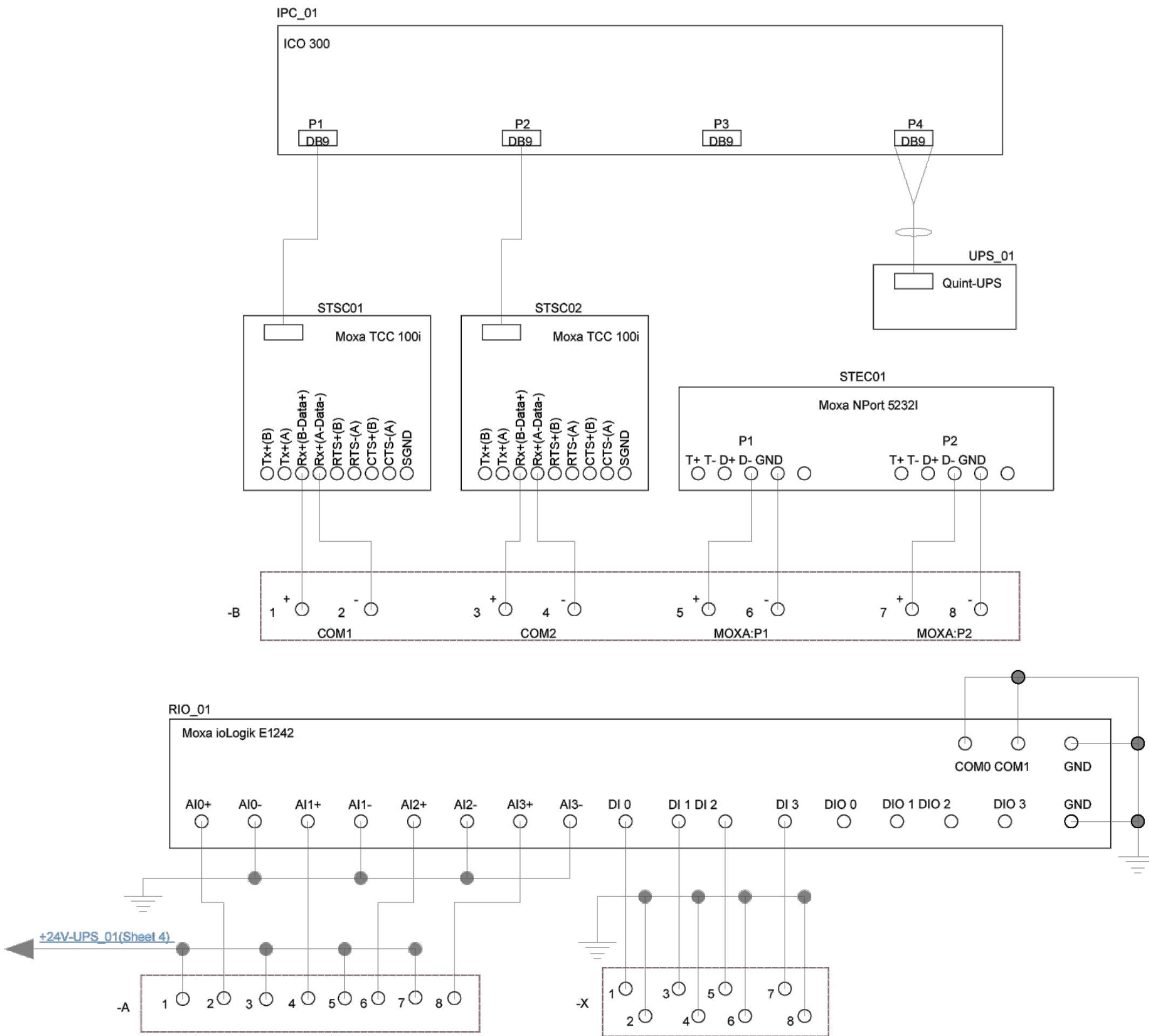
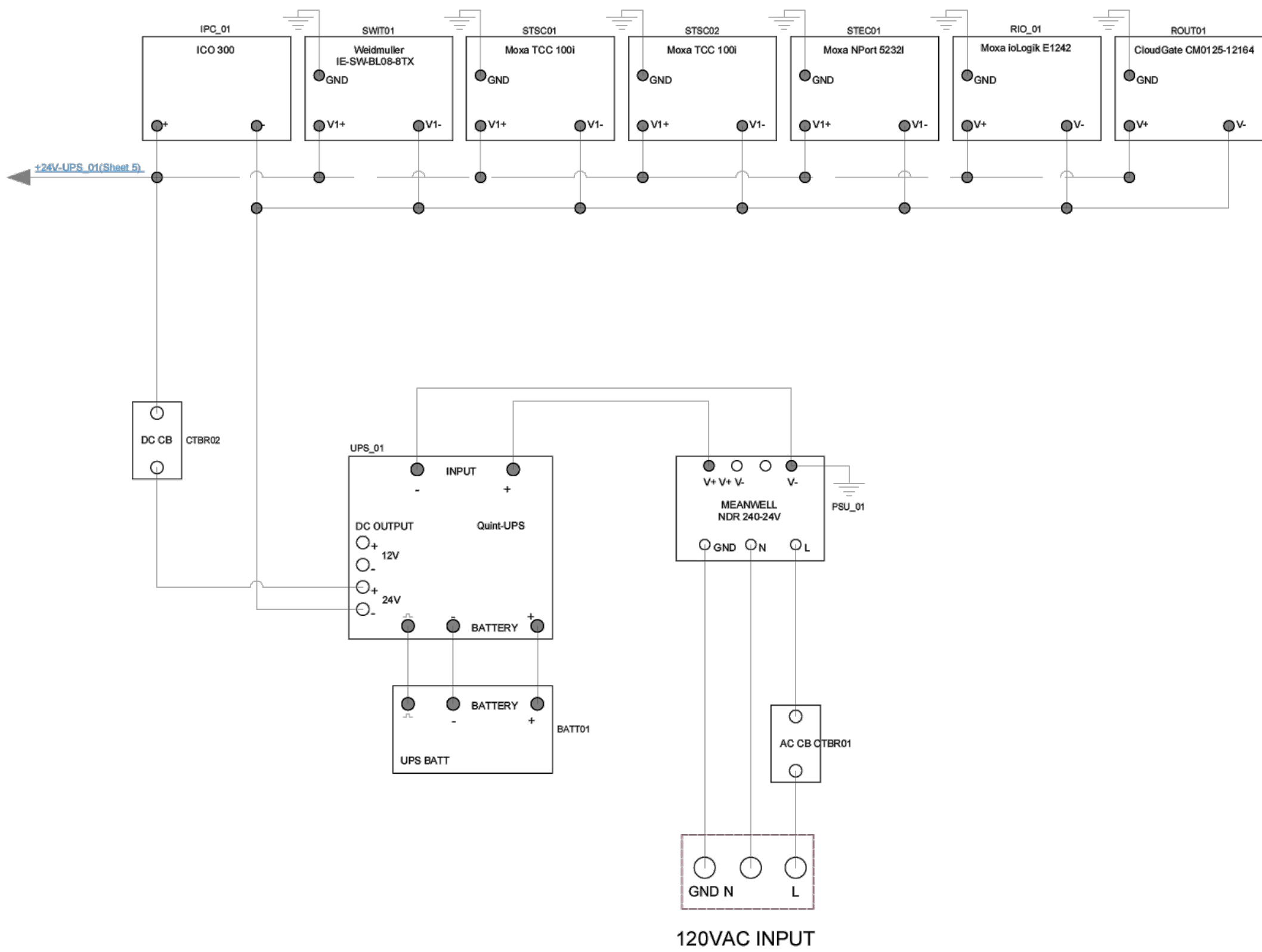
PROJECT OWNER: GSI DEVELOPMENT CORPORATION

TITLE: DAS TERMINATION DETAILS

SCALE: NOT TO SCALE

DRAWN HEATHER DESIGNED KYLE
BY: SPITTAL BY: EDGINTON

DWG. NO. SHEET NO. REVISION
E203 2 of 4 4





GREENWOOD
SUSTAINABLE INFRASTRUCTURE

GSI DEVELOPMENT CORPORATION

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REV. #5:	DATE:

ENGINEER'S SEAL:

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT

PROJECT OWNER: GSI DEVELOPMENT CORPORATION

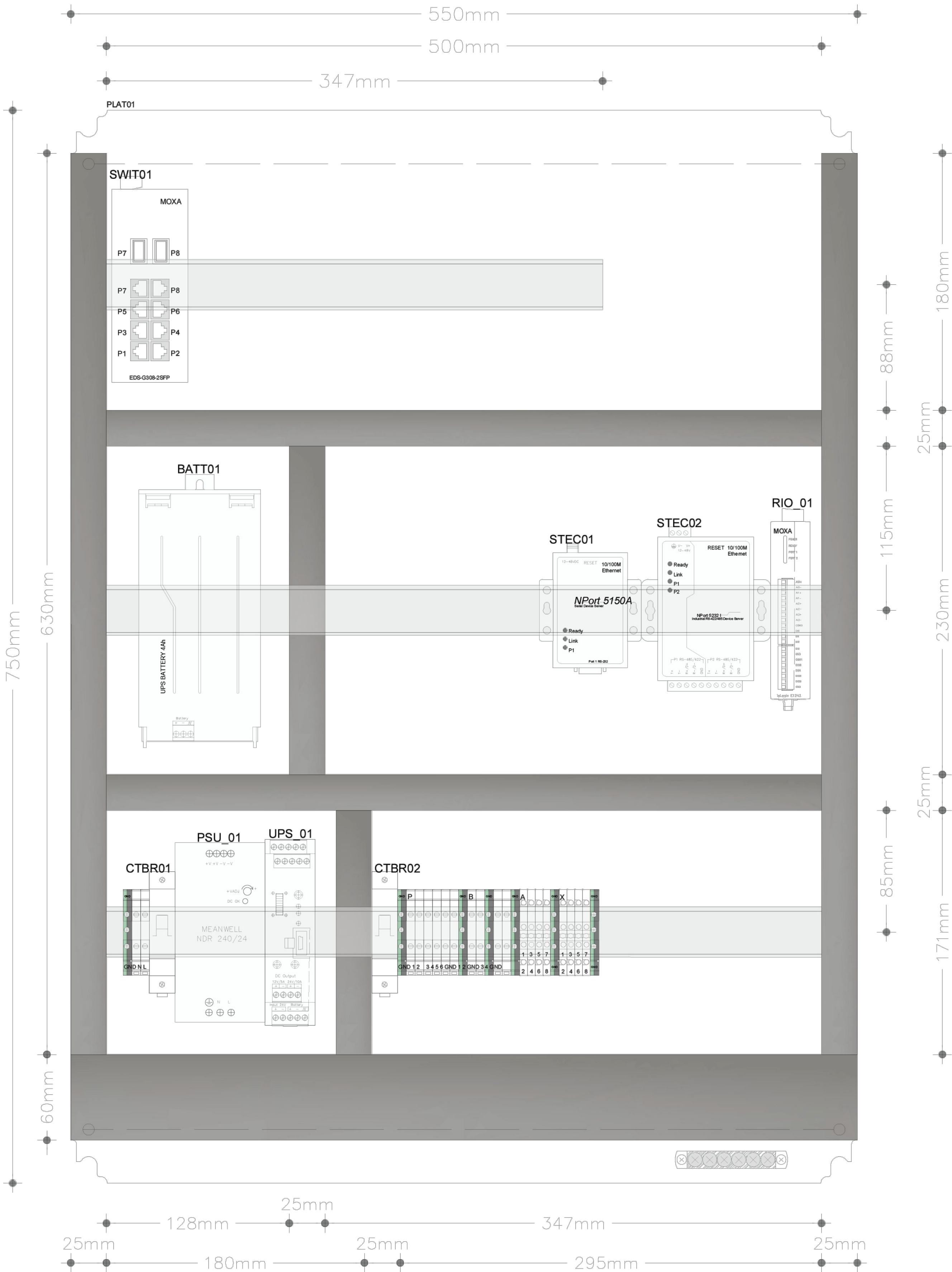
TITLE: DAS TERMINATION DETAILS

SCALE: NOT TO SCALE

DRAWN BY: HEATHER SPITTAL
DESIGNED BY: KYLE EDGINTON

DWG. NO. E203
SHEET NO. 3 of 4
REVISION 4

PSSUNC PANEL		
Tag	Model/Type	Description
CABT01	Schneider Thalassa NSYPLM86G	SCADA Cabinet
PLAT01	Schneider Electric NSYMM86	Mounting Plate
SWIT01	Moxa EDS-G308-2SFP	Unmanaged Switch
STEC01	Moxa NPORT 5150A	RS232 to Ethernet Converter
STEC02	Moxa NPORT 5232I	RS485 to Ethernet Converter
RIO_01	Moxa ioLogic E1242	Remote I/O (4xAIs,4xDIs,4xDIOs)
CTBR01	Schneider IK60N C10A	AC Circuit Breaker
CTBR02	Schneider A9N61505	DC Circuit Breaker
PSU_01	Meanwell NDR 240-24	Cabinet PSU
UPS_01	Phoenix Contact Quint UPS	Cabinet UPS
BATT01	Phoenix Contact Quint 4 AH	Cabinet UPS Battery





GREENWOOD
SUSTAINABLE INFRASTRUCTURE

GSI DEVELOPMENT CORPORATION

CANADA: 140 Foundry Street, Unit A
Baden, ON N3A 2P7
Phone: 519-804-9163
Toll Free: 1-866-961-8654

USA: 134 East 40th Street
New York, New York 10016

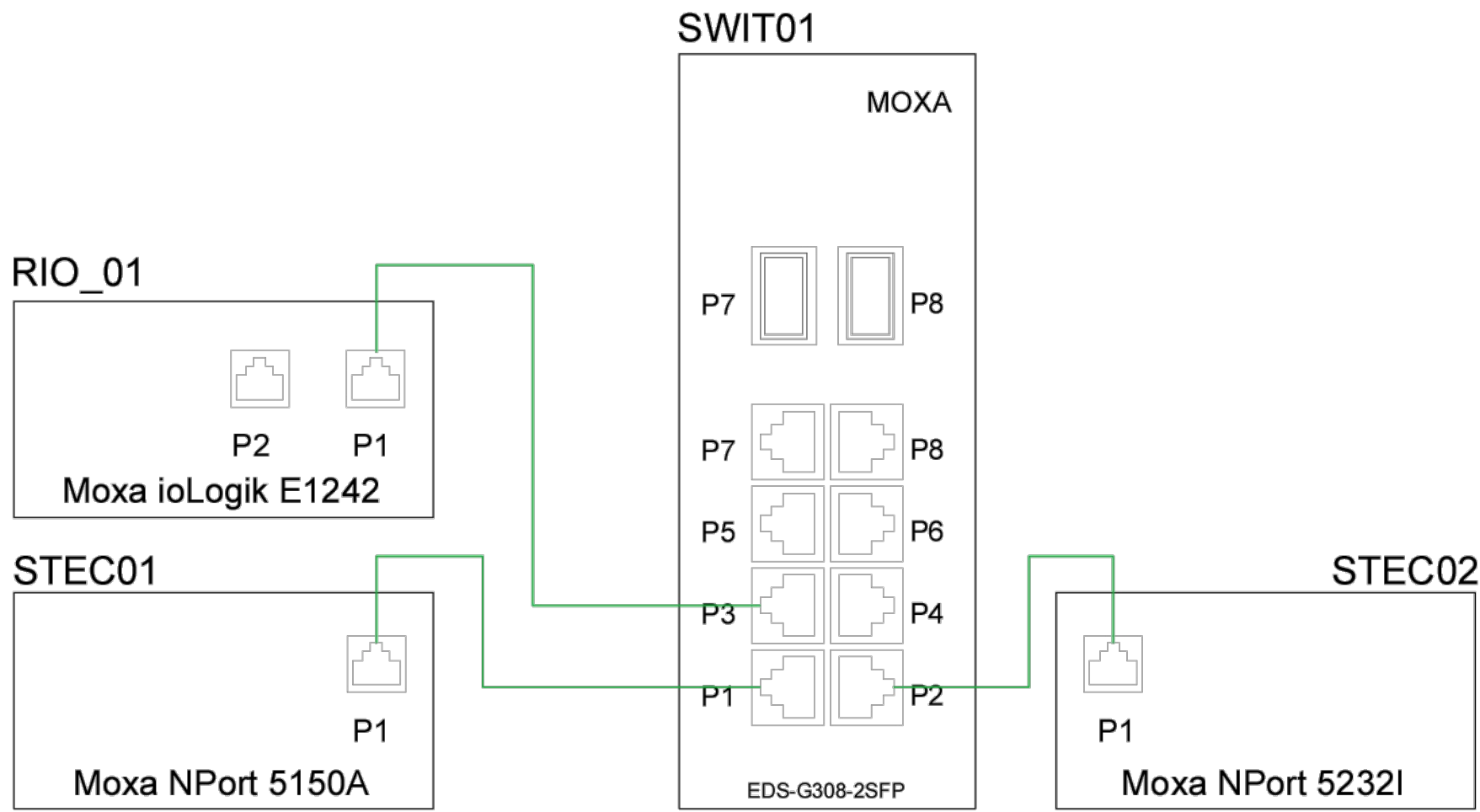
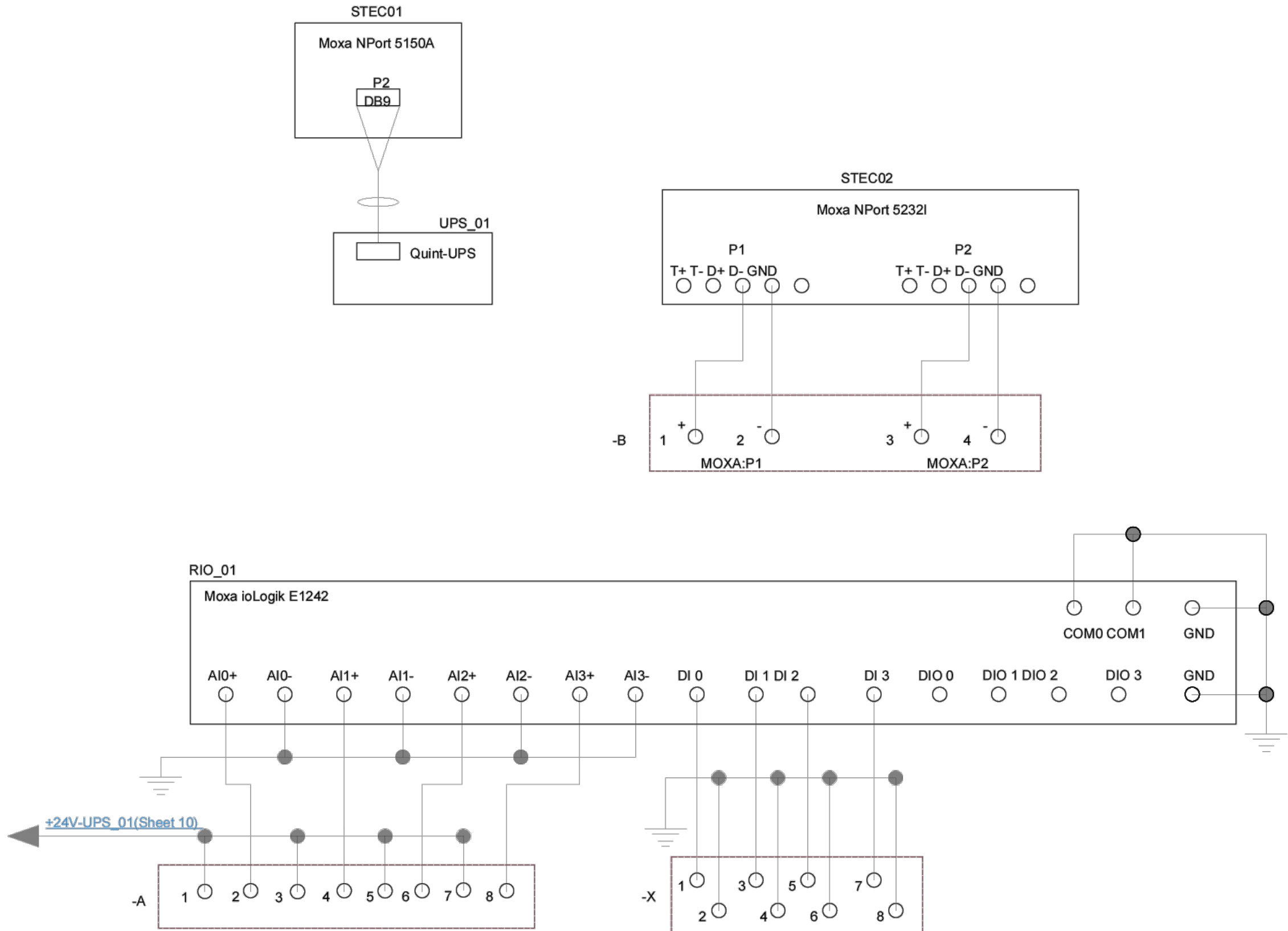
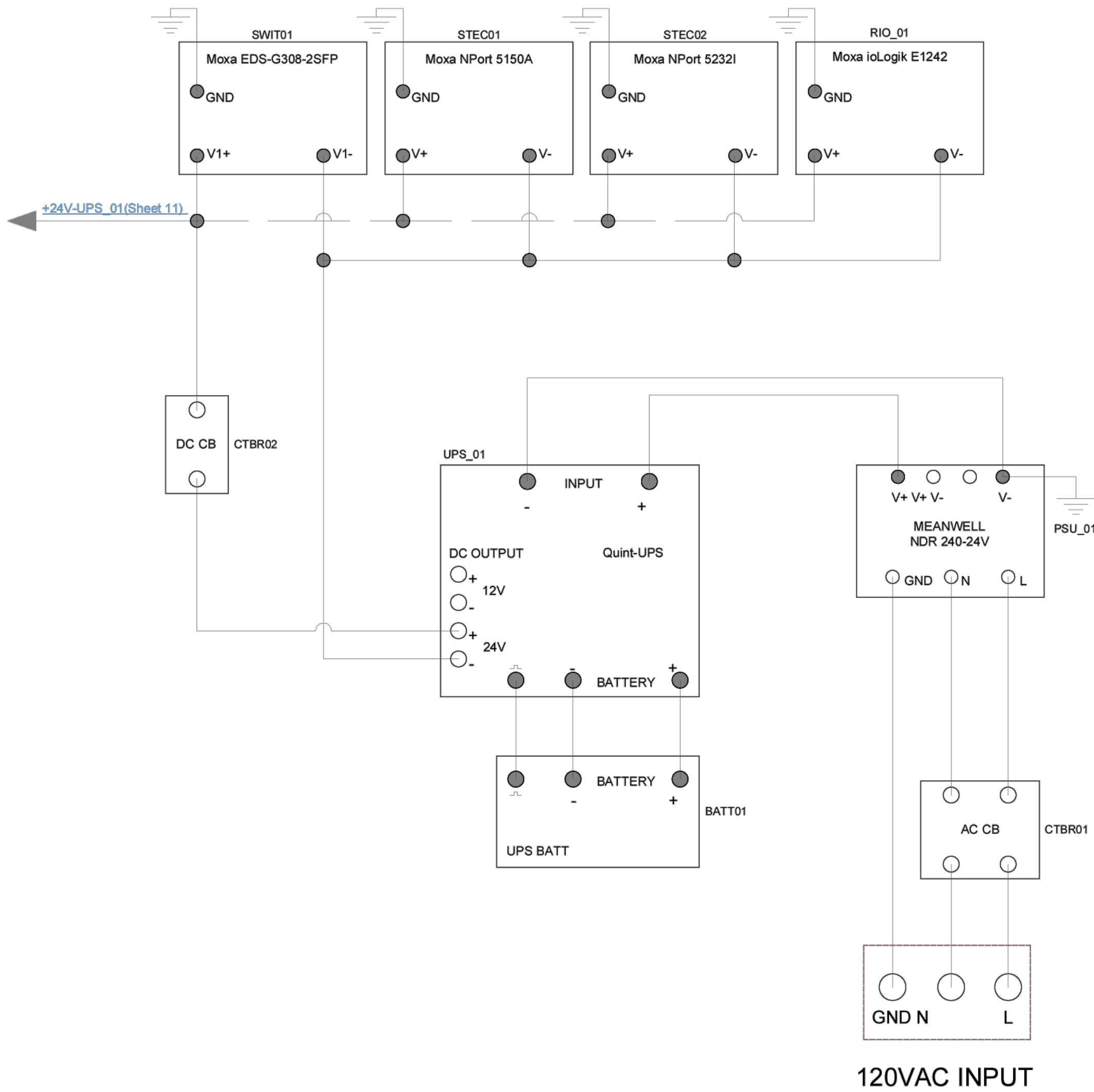
DISCLAIMER:
All work shall be performed in compliance with local and federal standards. Contractor responsible for verifying all dimensions. Drawings not to be reproduced or used without GSI approval.

NOTES:

PRELIMINARY - NOT FOR CONSTRUCTION

REV. #1: PRELIMINARY DESIGN	DATE: 13-APR-2023
REV. #2: ISSUED FOR REVIEW	DATE: 04-APR-2024
REV. #3: ISSUED FOR REVIEW	DATE: 24-SEP-2025
REV. #4: ISSUED FOR REVIEW	DATE: 13-NOV-2025
REV. #5:	DATE:
ENGINEER'S SEAL:	

PROJECT:	TRI-COUNTY 5 MW SOLAR PROJECT	
PROJECT OWNER:	GSI DEVELOPMENT CORPORATION	
TITLE:	DAS TERMINATION DETAILS	
SCALE:	NOT TO SCALE	
DRAWN BY:	HEATHER SPITTAL	DESIGNED BY: KYLE EDGINTON
DWG. NO.	SHEET NO.	REVISION
E203	4 of 4	4





GREENWOOD
SUSTAINABLE INFRASTRUCTURE

GSI DEVELOPMENT CORPORATION

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New York, New York 10016

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NOTES:

PROPERTY ADDRESS: 7N904 IL-25, SOUTH ELGIN, IL 60177

PROPERTY CO-ORDINATES:

LATITUDE: 41.982650°

LONGITUDE: -88.271192°

PROPERTY BOUNDARY SETBACK: 50ft (15.2m)

GSI MIN. SETBACK FROM EQUIPMENT TO PROJECT FENCE: 20ft (6.1m)

PROJECT FENCE - 7ft (2.1m) HIGH

GRAVEL ACCESS ROAD: 20ft (6.1m), GRADE LESS THAN 5°

PRELIMINARY - NOT FOR CONSTRUCTION

LEGEND:

- PROPERTY BOUNDARY
- PROJECT BOUNDARY
- PROJECT FENCE
- EXISTING FENCE
- GRAVEL ACCESS ROAD (20ft/6.1m)
- PV TABLES
- TRANSFORMER/INVERTER BLOCK
- INVERTER
- 12.5 kV FEEDER LINE W7931 (UTILITY)
- 15kV CABLE
- DC CABLE TRAY
- POLES & OVERHEAD LINES (SEE SH 3 DETAIL)
- NO BUILD AREA - PIPE/VENT w/10FT SETBACK
- APPROXIMATE POI LOCATION

REV. #1: PRELIMINARY DESIGN	DATE: 13-APR-2023
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REV. #4: ISSUED FOR REVIEW	DATE: 13-NOV-2025
REV. #5:	DATE:

ENGINEER'S SEAL:

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT

PROJECT OWNER: GSI DEVELOPMENT CORPORATION

TITLE: TRAY LOCATION

SCALE: NOT TO SCALE

DRAWN BY: HEATHER SPITTAL
DESIGNED BY: KYLE EDGINTON

DWG. NO. E300
SHEET NO. 1 of 1
REVISION 4



GREENWOOD
SUSTAINABLE INFRASTRUCTURE

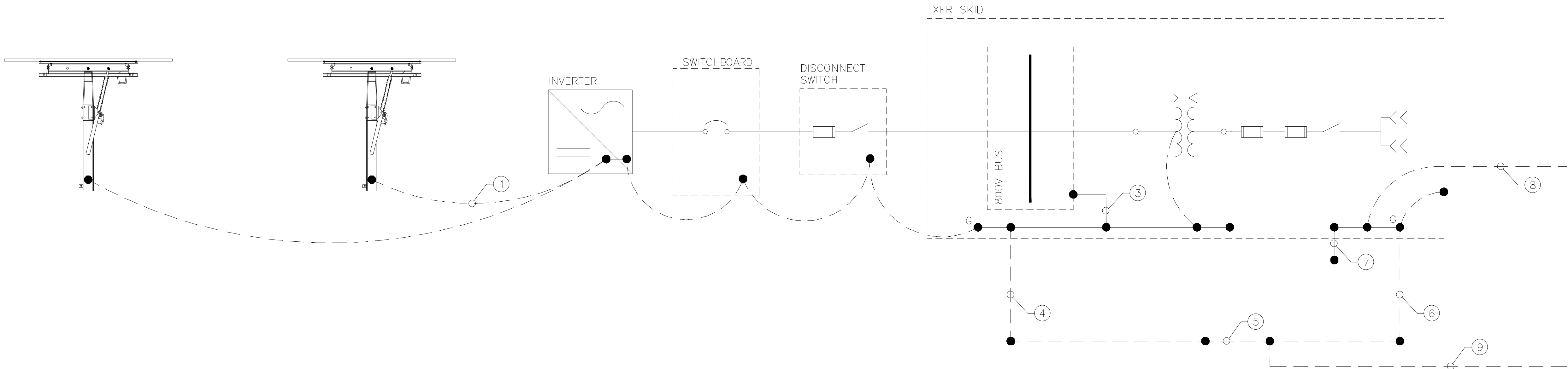
GSI DEVELOPMENT CORPORATION

CANADA:
140 Foundry Street, Unit A
Baden, ON N3A 2P7
Phone: 519-804-9163
Toll Free: 1-866-961-8654

USA:
134 East 40th Street
New York, New York 10016

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NOTES:



GROUNDING CONDUCTOR SCHEDULE	
ITEM	DESCRIPTION
*	MODULE FRAME GROUNDED TO RACK FRAME THROUGH SERRATED FLANGE BOLT
1	BONDING CONDUCTOR FROM RACKING C-CHANNEL TO INVERTER PE TERMINAL – #6 AWG INSULATED GREEN CU
2	INVERTER, BREAKER BOX, AND DISCONNECT SWITCH COMMON BONDING CONDUCTOR – #2/0 AWG BARE CU
3	BUS PIGTAIL TO MV SKID GROUND PAD – #2/0 AWG BARE CU
4	AC PANELBOARD PIGTAIL TO MV SKID GROUND GRID – #2/0 AWG BARE CU
5	MV SKID GROUND GRID – #2/0 AWG BARE CU
6	TRANSFORMER HV COMPARTMENT PIGTAIL TO MV SKID GROUND PAD – #2/0 AWG BARE CU
7	TRANSFORMER HV COMPARTMENT PIGTAIL TO MV SKID GROUND GRID – #2/0 AWG BARE CU
8	MEDIUM VOLTAGE AC CABLE CONCENTRIC NEUTRAL – 1/3 CONCENTRIC NEUTRAL
9	SITE GROUND GRID – TO BE RUN IN MV AC TRENCHES – 2 x #2/0 AWG BARE CU

PRELIMINARY - NOT FOR CONSTRUCTION

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REV. #3: ISSUED FOR REVIEW	DATE: 24-SEP-2025
REV. #4: ISSUED FOR REVIEW	DATE: 13-NOV-2025
REV. #5:	DATE:

ENGINEER'S SEAL:

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT		
PROJECT OWNER: GSI DEVELOPMENT CORPORATION		
TITLE: ARRAY GROUNDING METHODOLOGY		
SCALE: NOT TO SCALE		
DRAWN HEATHER DESIGNED KYLE BY: SPITTAL BY: EDGINTON		
DWG. NO. E400	SHEET NO. 1 of 1	REVISION 4



GREENWOOD
SUSTAINABLE INFRASTRUCTURE

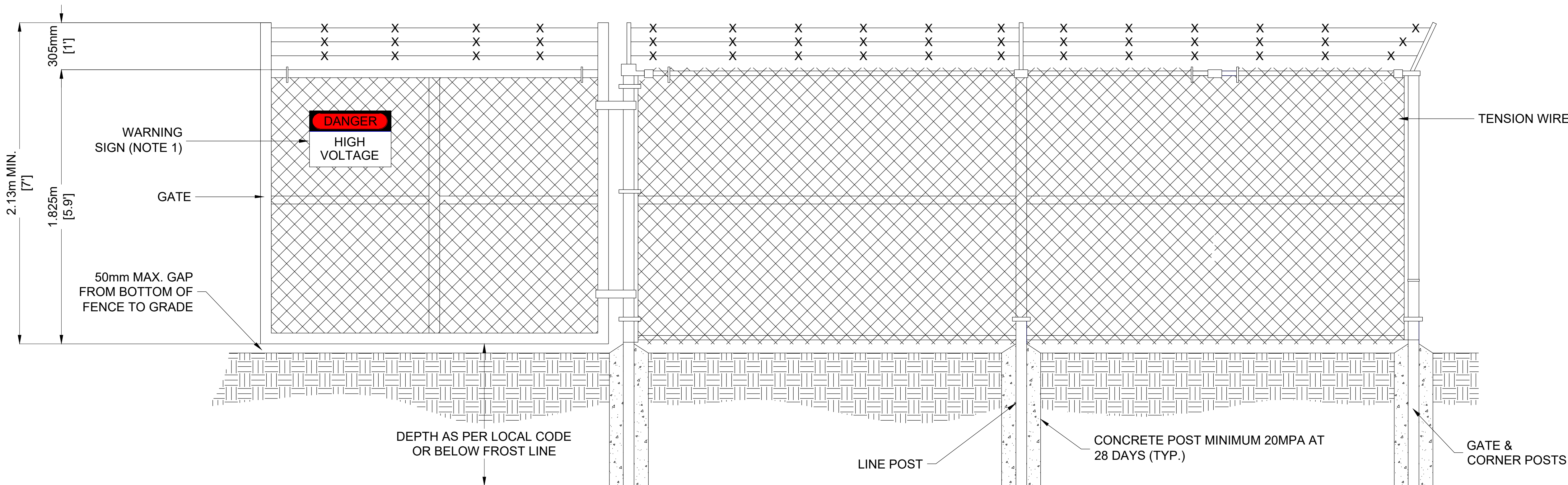
GSI DEVELOPMENT CORPORATION

CANADA:
140 Foundry Street, Unit A
Baden, ON N3A 2P7
Phone: 519-804-9163
Toll Free: 1-866-961-8654

USA:
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New York, New York 10016

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NOTES:



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REV. #4: ISSUED FOR REVIEW	DATE: 13-NOV-2025
REV. #5:	DATE:

ENGINEER'S SEAL:

PROJECT:	TRI-COUNTY 5 MW SOLAR PROJECT		
PROJECT OWNER:	GSI DEVELOPMENT CORPORATION		
TITLE:	FENCE DETAIL & GROUNDING		
SCALE:	NOT TO SCALE		
DRAWN BY:	HEATHER SPITTAL	DESIGNED BY:	KYLE EDGINTON
DWG. NO.	E401	SHEET NO.	1 of 1
		REVISION	4



GREENWOOD
SUSTAINABLE INFRASTRUCTURE

GSI DEVELOPMENT CORPORATION

CANADA:
140 Foundry Street, Unit A
Baden, ON N3A 2P7
Phone: 519-804-9163
Toll Free: 1-866-961-8654

USA:
134 East 40th Street
New York, New York 10016

DISCLAIMER:

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NOTES:

1. APPROXIMATE SKID WEIGHT: 21,000 lbs.
(WITH EQUIPMENT)

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REV. #4: ISSUED FOR REVIEW	DATE: 13-NOV-2025
REV. #5:	DATE:

ENGINEER'S SEAL:

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT

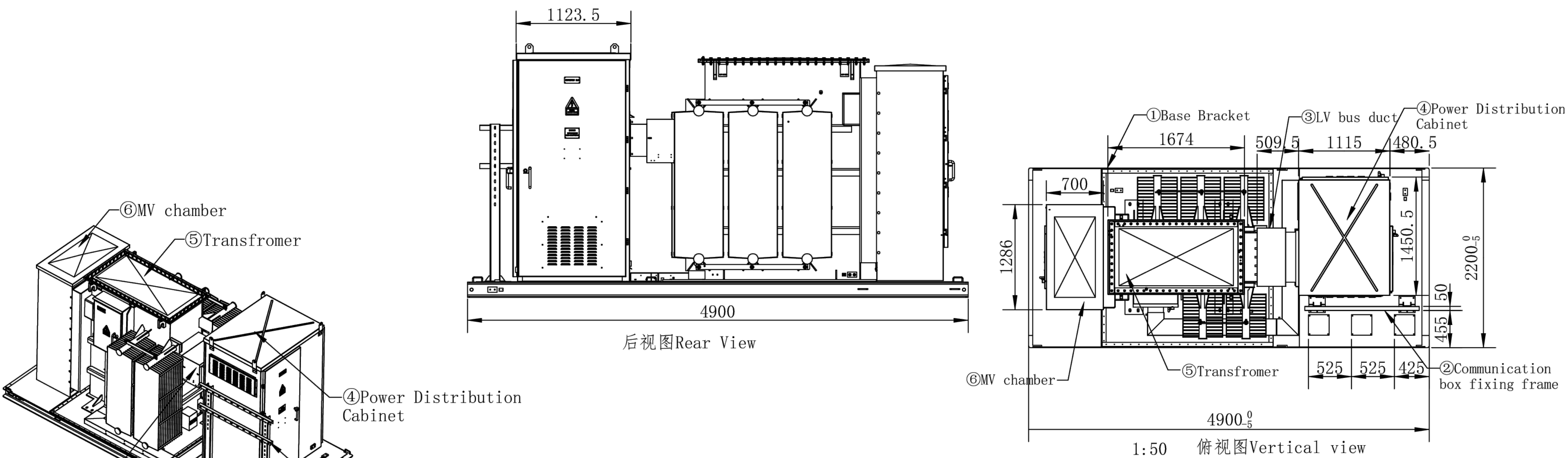
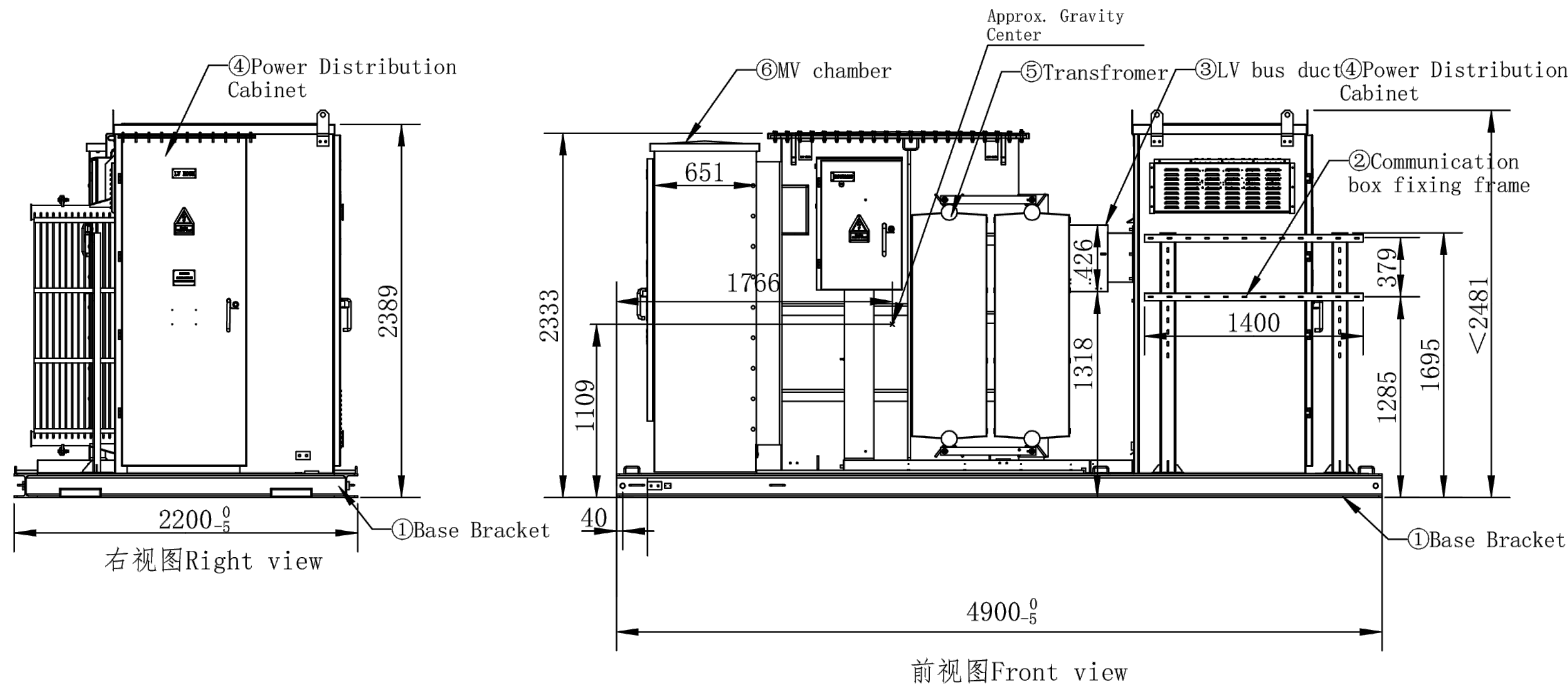
PROJECT OWNER: GSI DEVELOPMENT CORPORATION

TITLE: MV SKID ELEVATIONS

SCALE: NOT TO SCALE

DRAWN BY: HEATHER SPITTAL
DESIGNED BY: KYLE EDGINTON

DWG. NO. E500
SHEET NO. 1 of 1
REVISION 4



Technical requirements

1. Unmarked tolerances shall be in accordance with GB1804-m
2. No burrs or scratches on the surface

标记	次数	更改文件号	签名	日期
Mark	Number	Change file NO.	Sign	Date
设计	Yanping Guo	审核	Jiaohao Bai	
Design		Audit		
校核		审定		
Proofread		Approved		
工艺		批准		
Craft		Ratify		
标准化		日期	2024.04.25	
Standardization		Date		

CPS PSA2.8-34.5kV

2800kVA American
Integrated machine

图样标记	数量	重量	比例
Pattern mark	Number	Weight	Percentage
A	1		1:40
共 1 页		第 1 页	
1 pages in total		Page 1	



GREENWOOD
SUSTAINABLE INFRASTRUCTURE

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NOTES:

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REV. #5: DATE:

ENGINEER'S SEAL:

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT

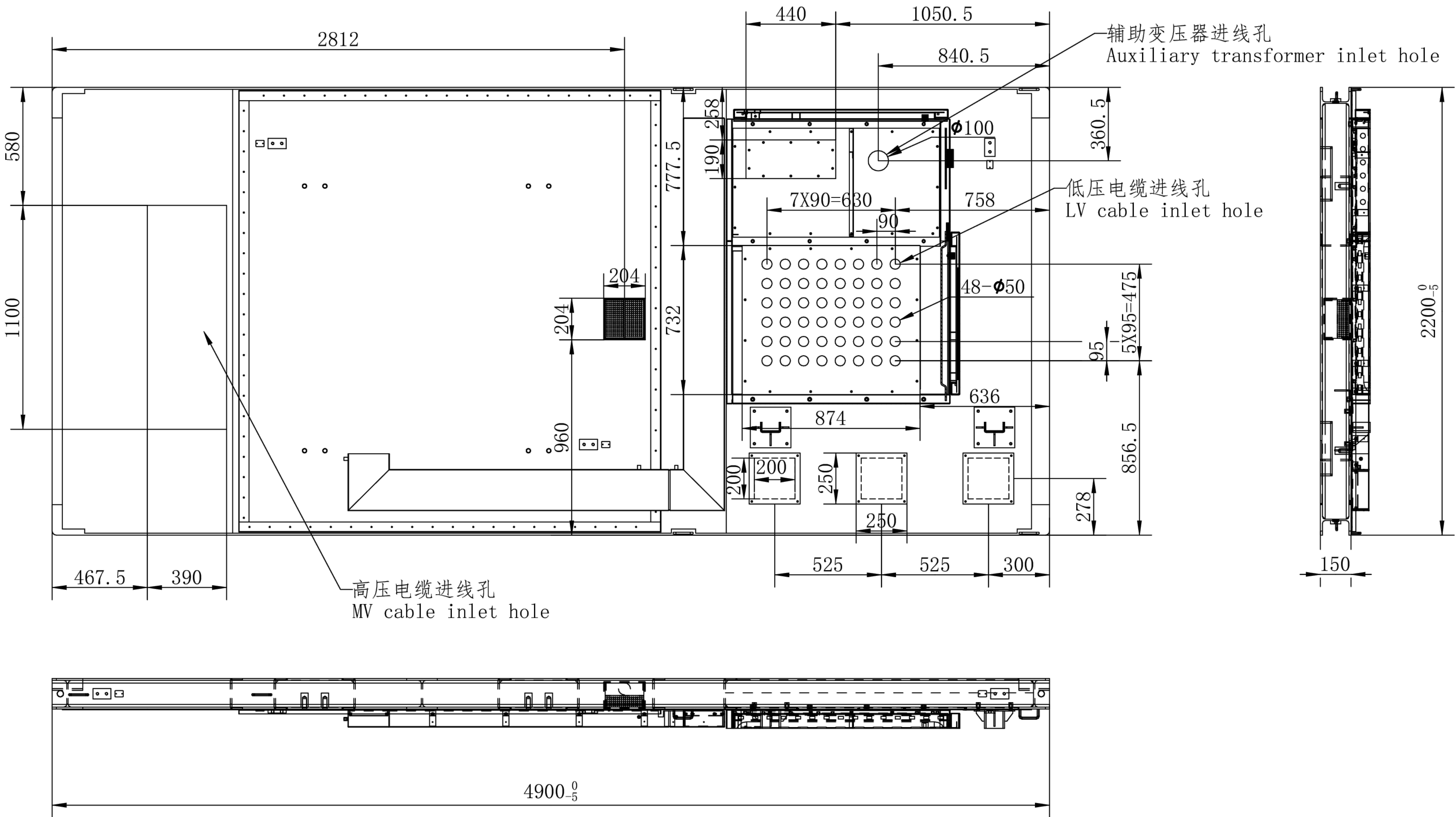
PROJECT OWNER: GSI DEVELOPMENT CORPORATION

TITLE: MV STATION CONDUIT PLAN

SCALE: NOT TO SCALE

DRAWN HEATHER DESIGNED KYLE
BY: SPITTAL BY: EDGINTON

DWG. NO. SHEET NO. REVISION
E501 1 of 1 4



标记	处数	更改文件号	签名	日期	
Mark	Number	Change file NO.	Sign	Date	
设计		Yanping Guo	审核		
Design			Audit		
校核			审定		
Proofread			Approved		
工艺			批准		
Craft			Ratify		
标准化			日期	2024.10.18	
Standardization			Date		

CPS PSA2. 8MO-34. 5kV

View of cable inlet hole

图样标记	数量	重量	比例
Pattern mark	Number	Weight	Percentage
A	1		1:40
共 1 页		第 1 页	
1 pages in total		Page 1	



GREENWOOD
SUSTAINABLE INFRASTRUCTURE

GSI DEVELOPMENT CORPORATION

CANADA:
140 Foundry Street, Unit A
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New York, New York 10016

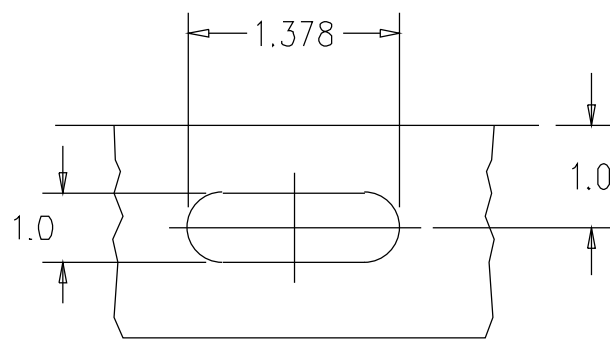
DISCLAIMER:

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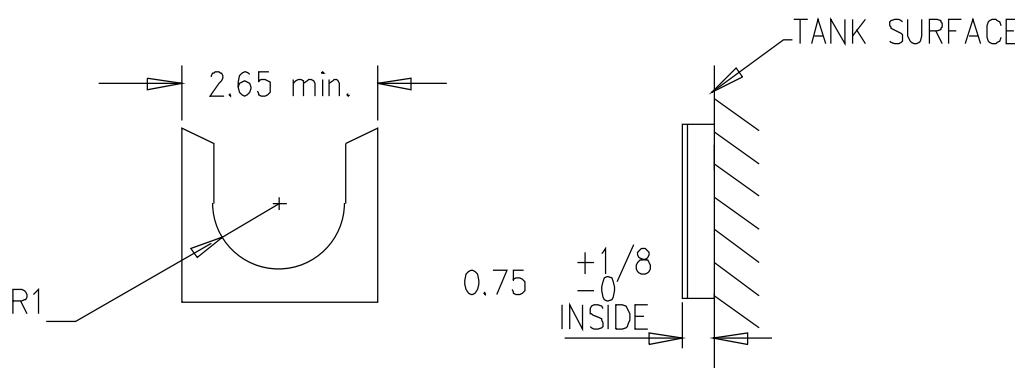
NOTES:

1. FUSE OVERMOLDS TO BE FIELD CERTIFIED IF NOT CSA/SUL CERTIFIED

FUSES	CAT No.	MANUFACTURER
EXP	345B995G27	ABB
CLF	9F59CCF125	MERSEN



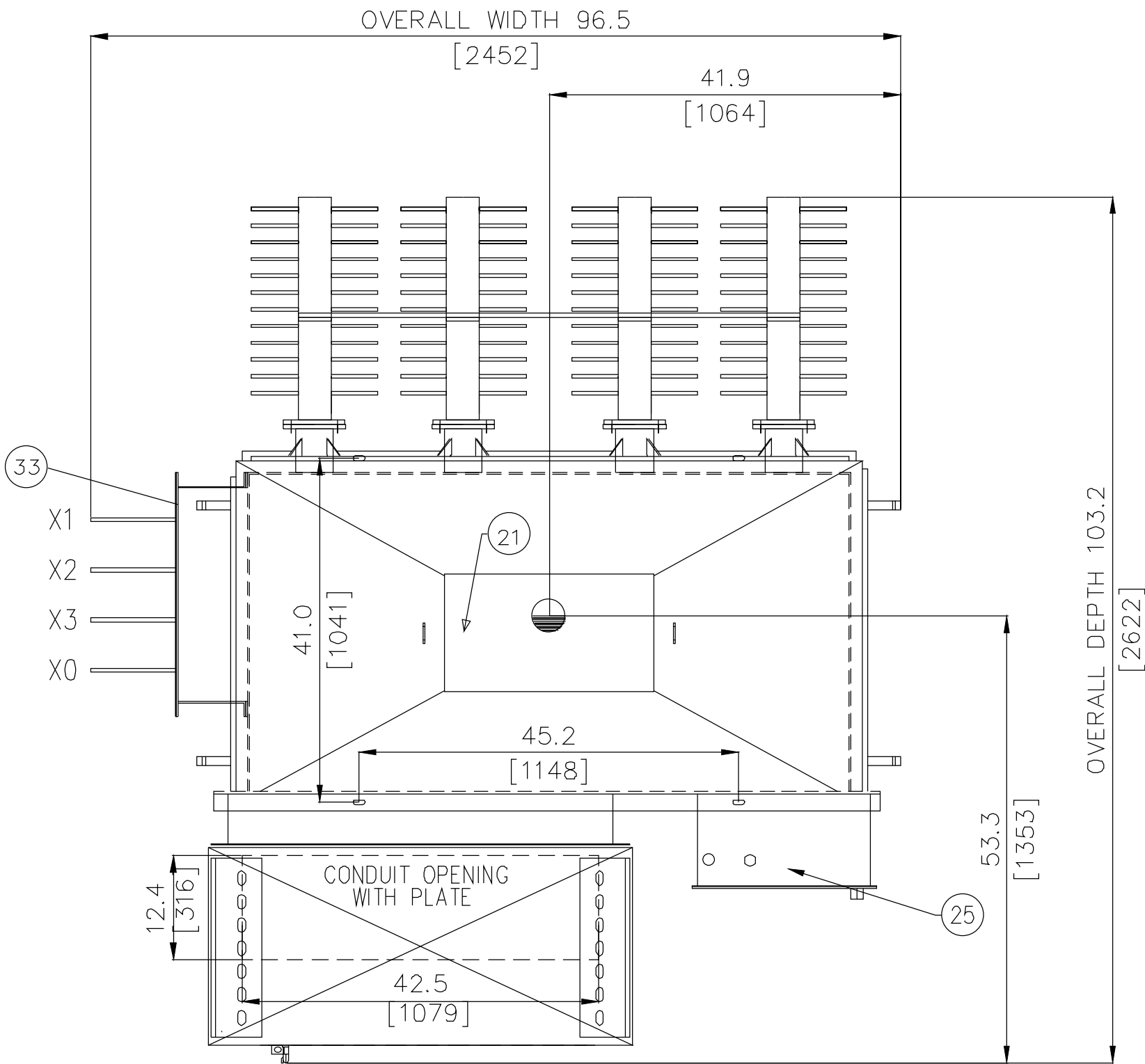
ANCHORING DETAIL



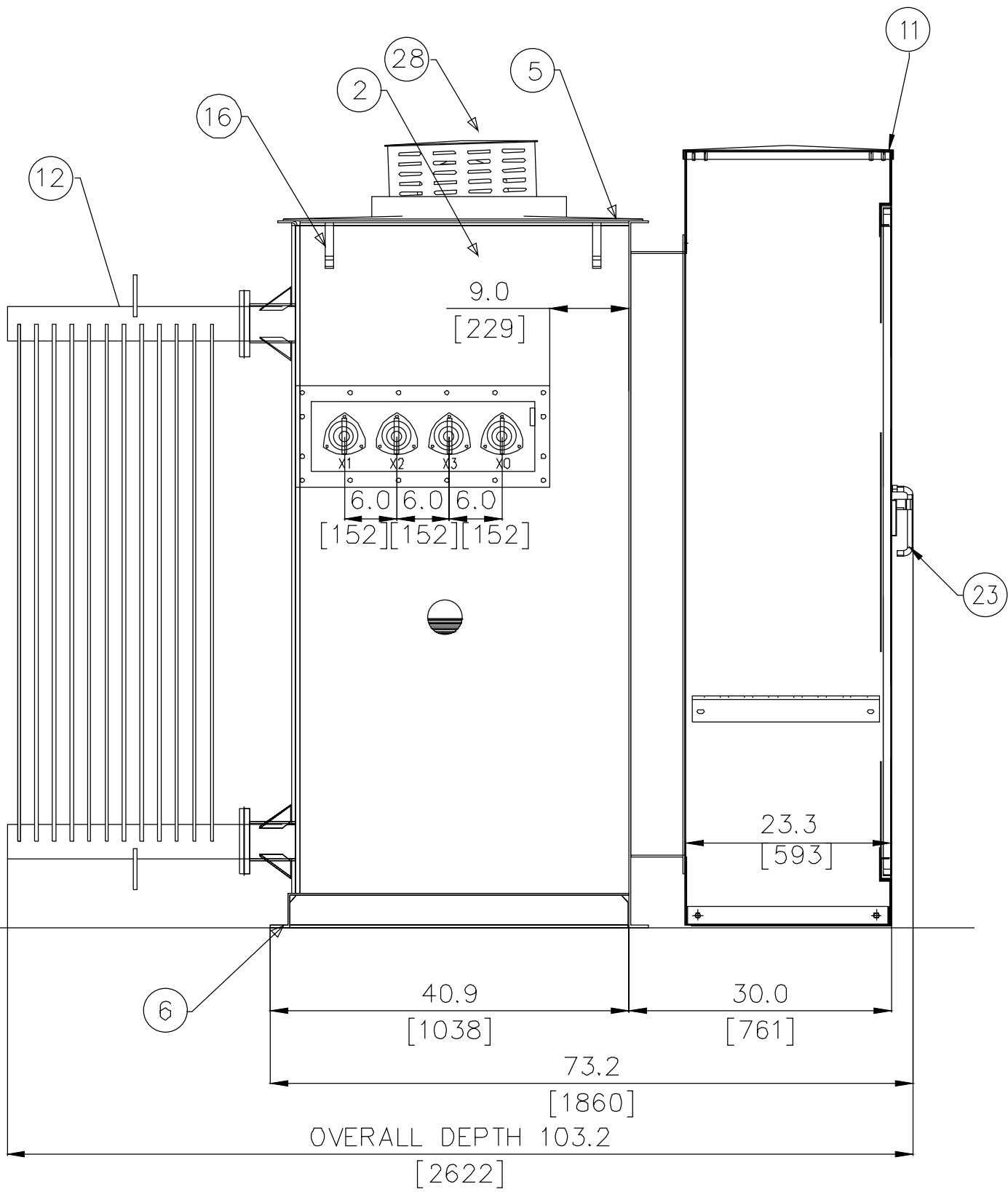
PARKING STAND DETAIL

CENTER OF GRAVITY
COLOR: RAL7035
DESIGNED TO OPERATE BELOW 3300.0 FEET ABOVE SEA LEVEL

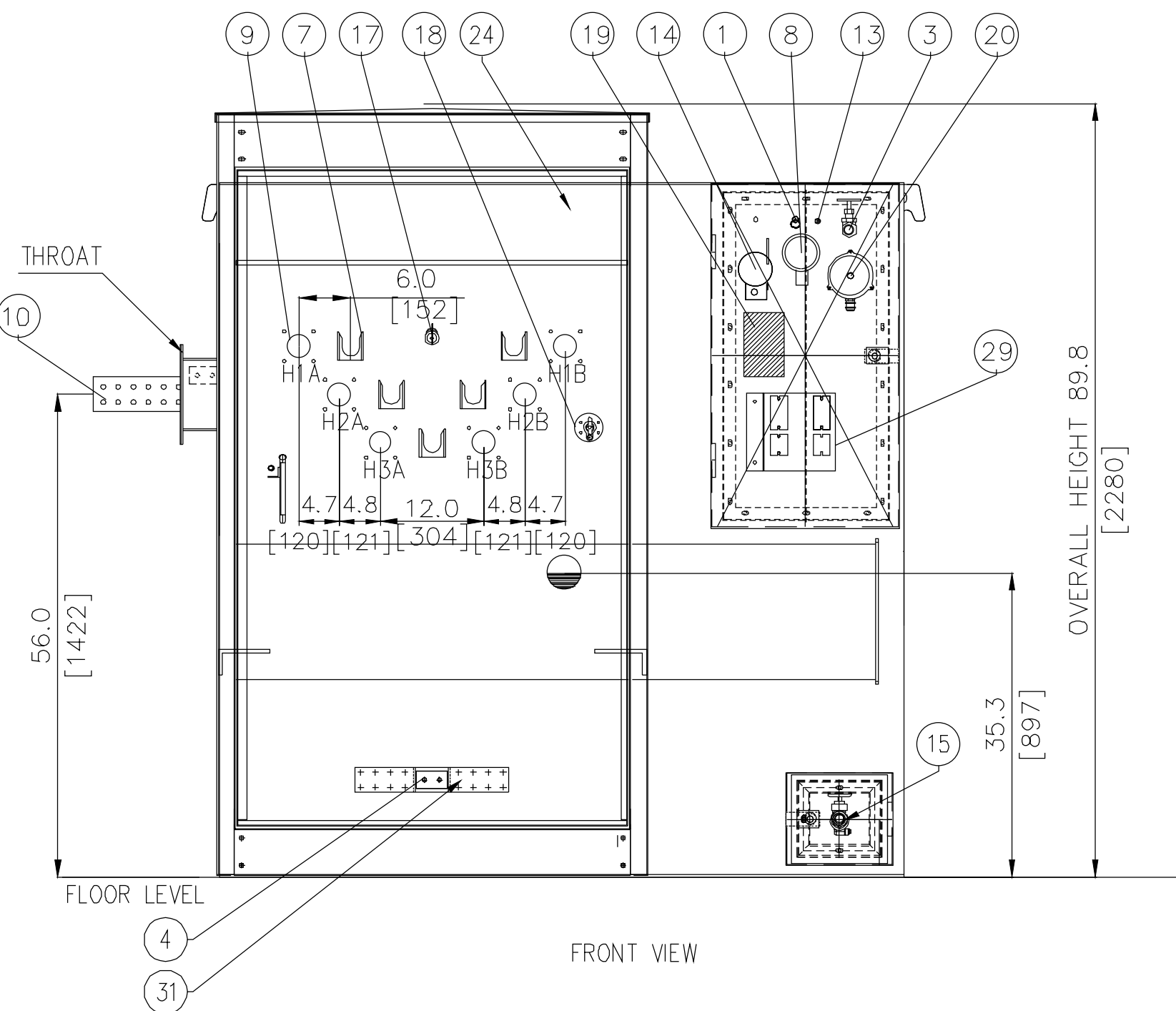
1	PRESSURE RELIEF VALVE, QUALITROL 202-032-01 50 SCFM
2	TANK (MILD STEEL)
3	FILTER PRESS VALVE
4	GROUND PADS
5	TANK COVER
6	BASE (MILD STEEL)
7	PARKING STAND
8	LIQUID LEVEL GAUGE WITH ALARM CONTACTS (SET AT LOW LEVEL)
9	HV INTEGRATED BUSHING 35kV CLASS, 150kV BIL, 600A
10	LV BUSHING 12 HOLE BLADE 30kVBIL 2200A
11	CABINET (MILD STEEL)
12	REMOVABLE RADIATORS
13	SHRADER VALVE
14	PRESSURE VACUUM GAUGE WITH ALARM CONTACTS SET AT -7 PSIG TO 7.5 PSIG
15	1" DRAIN VALVE WITH 3/8" SAMPLER HJ DV1000-001-FB
16	LIFTING LUGS
17	(1) 2 POSITION RADIAL SWITCH 300 AMP
18	TAP CHANGER
19	ANODIZED ALUMINUM NAMEPLATE
20	THERMOMETER WITH ALARM CONTACTS (SET AT 85 C AND 105 C)
21	HAND HOLE 14"x25"
23	DOOR HANDLE WITH PROVISION FOR PADLOCK
24	HV DOOR W/PENTA HEAD BOLT
25	ACCESSORIES BOX
28	MECHANICAL PRESSURE RELIEF DEVICE WITH ALARM CONTACTS SET AT 10PSI (QUALITROL 208-60F)
29	TERMINAL BLOCK
31	GROUND BUS
33	LV THROAT (DETACHABLE)(SEE RIL426B803)



TOP VIEW



SIDE VIEW



FRONT VIEW

TRANSFORMER WEIGHTS

Note: Overall Dimensions
are nominal with tolerance
of +/- 0.5 all other
dimensions have a tolerance
of +/- 0.1

CORE & COIL	7 290 LBS
TANK AND FITTINGS	4 496 LBS
670 GALLONS OF VG 100	5 040 LBS
TOTAL WEIGHT	16 826 LBS

PRELIMINARY - NOT FOR CONSTRUCTION

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REV. #4: ISSUED FOR REVIEW	DATE: 13-NOV-2025
REV. #5:	DATE:
ENGINEER'S SEAL:	

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT

PROJECT OWNER: GSI DEVELOPMENT CORPORATION

TITLE: TRANSFORMER SPECIFICATIONS

SCALE: NOT TO SCALE

DRAWN HEATHER DESIGNED KYLE
BY: SPITTAL BY: EDGINTON

DWG. NO. SHEET NO. REVISION
E502 1 of 1 4



TOPBiHiKu7
N-type Bifacial TOPCon Technology
675 W ~ 700 W
CS7N-675 | 680 | 685 | 690 | 695 | 700TB-AG

MORE POWER

- 700 W
Module power up to 700 W
Module efficiency up to 22.5 %
- EXTRA POWER
Up to 85% Power Bifaciality.
more power from the back side
- Excellent anti-LeTID & anti-PID performance.
Low power degradation, high energy yield
- Lower temperature coefficient (Pmax): -0.29%/°C,
increases energy yield in hot climate
- Lower LCOE & system cost

MORE RELIABLE

- Minimizes micro-crack impacts
- Heavy snow load up to 5400 Pa,
wind load up to 2400 Pa*

* For detailed information, please refer to the Installation Manual.

CSI Solar (USA) Co., Ltd.
1350 Treat Blvd. Suite 500, Walnut Creek, CA 94597 | www.csisolar.com/na | support.ca@csisolar.com

12 Years
Enhanced Product Warranty on Materials
and Workmanship*

30 Years
Linear Power Performance Warranty*

1st year power degradation no more than 1%
Subsequent annual power degradation no more than 0.4%

*According to the applicable Canadian Solar Limited Warranty Statement.

MANAGEMENT SYSTEM CERTIFICATES*

ISO 9001: 2015 / Quality management system
ISO 14001: 2015 / Standards for environmental management system
ISO 45001: 2018 / International standards for occupational health & safety
IEC 62941: 2019 / Photovoltaic module manufacturing quality system

PRODUCT CERTIFICATES*

IEC 61215 / IEC 61730 / CE / INMETRO / MCS / UKCA / CGC
CEC listed (US California) / FSEC (US Florida)
UL 61730 / IEC 61701 / IEC 62716 / IEC 60068-2-68
Take-e-way

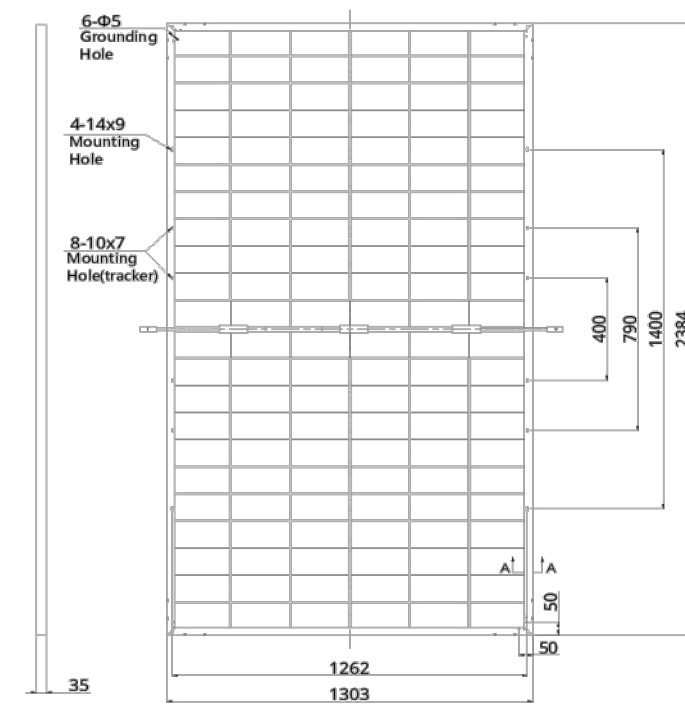


* The specific certificates applicable to different module types and markets will vary,
and therefore not all of the certifications listed herein will simultaneously apply to the
products you order or use. Please contact your local Canadian Solar sales representative
to confirm the specific certificates available for your Product and applicable in the regions
in which the products will be used.

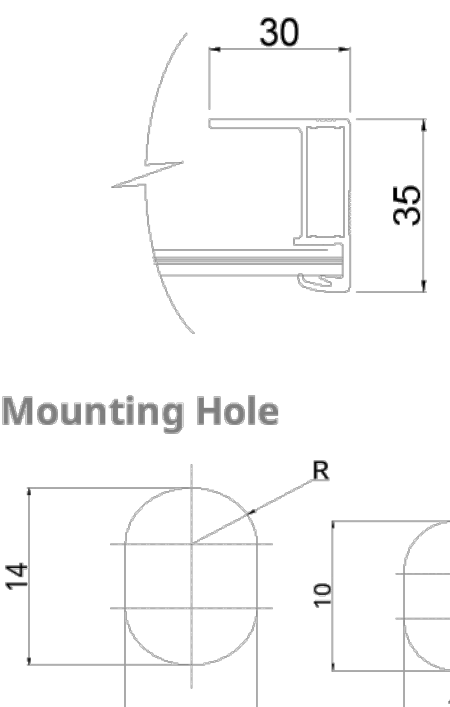
CSI Solar Co., Ltd. is committed to providing high quality solar
photovoltaic modules, solar energy and battery storage solu-
tions to customers. The company was recognized as the No. 1
module supplier for quality and performance/price ratio in the
IHS Module Customer Insight Survey. Over the past 22 years, it
has successfully delivered around 100 GW of premium-quality
solar modules across the world.

ENGINEERING DRAWING (mm)

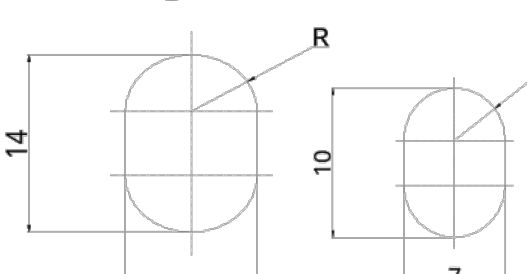
Rear View



Frame Cross Section A-A



Mounting Hole



ELECTRICAL DATA | STC*

	Nominal Max. Power (Pmax)	Opt. Operating Voltage (Vmp)	Opt. Operating Current (Imp)	Open Circuit Voltage (Voc)	Short Circuit Current (Isc)	Module Efficiency
CS7N-675TB-AG	675 W	39.0 V	17.31 A	46.9 V	18.24 A	21.7%
Bifacial Gain**	5%	709 W	39.0 V	18.19 A	19.15 A	22.8%
	10%	743 W	39.0 V	19.04 A	20.06 A	23.9%
	20%	810 W	39.0 V	20.77 A	21.89 A	26.1%
CS7N-680TB-AG	680 W	39.2 V	17.35 A	47.1 V	18.29 A	21.9%
Bifacial Gain**	5%	714 W	39.2 V	18.22 A	19.20 A	23.0%
	10%	748 W	39.2 V	19.09 A	20.12 A	24.1%
	20%	816 W	39.2 V	20.82 A	21.95 A	26.3%
CS7N-685TB-AG	685 W	39.4 V	17.39 A	47.3 V	18.34 A	22.1%
Bifacial Gain**	5%	719 W	39.4 V	18.26 A	19.26 A	23.1%
	10%	754 W	39.4 V	19.14 A	20.17 A	24.3%
	20%	822 W	39.4 V	20.87 A	22.01 A	26.5%
CS7N-690TB-AG	690 W	39.6 V	17.43 A	47.5 V	18.39 A	22.2%
Bifacial Gain**	5%	725 W	39.6 V	18.31 A	19.31 A	23.3%
	10%	759 W	39.6 V	19.17 A	20.23 A	24.4%
	20%	828 W	39.6 V	20.92 A	22.07 A	26.7%
CS7N-695TB-AG	695 W	39.8 V	17.47 A	47.7 V	18.44 A	22.4%
Bifacial Gain**	5%	730 W	39.8 V	18.34 A	19.36 A	23.5%
	10%	765 W	39.8 V	20.18 A	20.28 A	24.6%
	20%	834 W	39.8 V	20.96 A	22.13 A	26.8%
CS7N-700TB-AG	700 W	40.0 V	17.51 A	47.9 V	18.49 A	22.5%
Bifacial Gain**	5%	735 W	40.0 V	18.39 A	19.41 A	23.7%
	10%	770 W	40.0 V	20.22 A	20.34 A	24.8%
	20%	840 W	40.0 V	21.01 A	22.19 A	27.0%

* Under Standard Test Conditions (STC) of irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C.

** Bifacial Gain: The additional gain from the back side compared to the power of the front side at the standard test condition. It depends on mounting (structure, height, tilt angle etc.) and albedo of the ground.

ELECTRICAL DATA

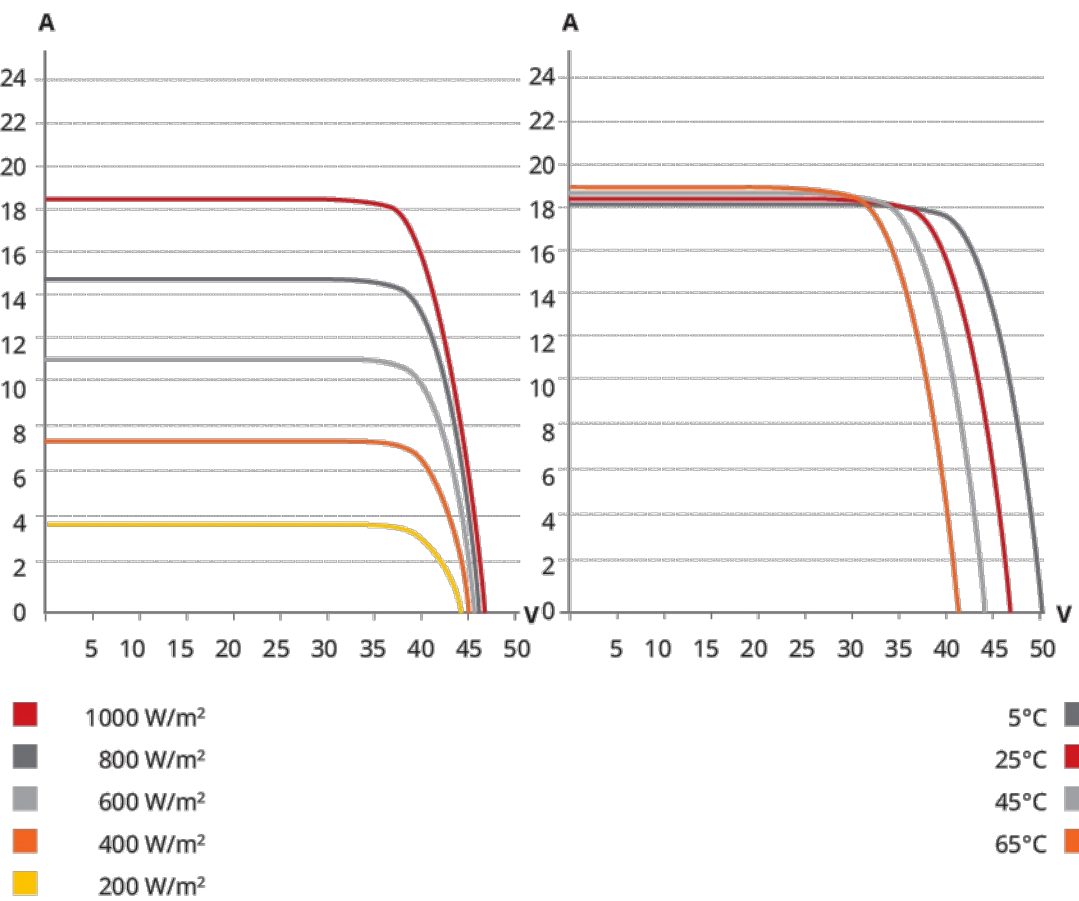
Operating Temperature	-40°C ~ +85°C
Max. System Voltage	1500 V (IEC/UL) or 1000 V (IEC/UL)
Module Fire Performance	TYPE 29 (UL 61730) or CLASS C (IEC61730)
Max. Series Fuse Rating	35 A
Application Classification	Class A
Power Tolerance	0 ~ + 10 W
Power Bifaciality*	80 %

* Power Bifaciality = $P_{max_{rear}} / P_{max_{front}}$, both $P_{max_{rear}}$ and $P_{max_{front}}$ are tested under STC, Bifaciality Tolerance: $\pm 5 \%$

* The specifications and key features contained in this datasheet may deviate slightly from our actual products due to the on-going innovation and product enhancement. CSI Solar Co., Ltd. reserves the right to make necessary adjustment to the information described herein at any time without further notice.
Please be kindly advised that PV modules should be handled and installed by qualified people who have professional skills and please carefully read the safety and installation instructions before using our PV modules.

CSI Solar (USA) Co., Ltd.

CS7N-680TB-AG / I-V CURVES



ELECTRICAL DATA | NMOT*

	Nominal Max. Power (Pmax)	Opt. Operating Voltage (Vmp)	Opt. Operating Current (Imp)	Open Circuit Voltage (Voc)	Short Circuit Current (Isc)
CS7N-675TB-AG	510 W	36.9 V	13.84 A	44.4 V	14.71 A
CS7N-680TB-AG	514 W	37.1 V	13.88 A	44.6 V	14.75 A
CS7N-685TB-AG	518 W	37.2 V	13.91 A	44.8 V	14.79 A
CS7N-690TB-AG	522 W	37.4 V	13.94 A	45.0 V	14.83 A
CS7N-695TB-AG	526 W	37.6 V	13.97 A	45.2 V	14.87 A
CS7N-700TB-AG	529 W	37.8 V	14.00 A	45.4 V	14.91 A

* Under Nominal Module Operating Temperature (NMOT), irradiance of 800 W/m² spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

MECHANICAL DATA

Specification	Data
Cell Type	TOPCon cells
Cell Arrangement	132 [2 x (11 x 6)]
Dimensions	2384 x 1303 x 35 mm (93.9 x 51.3 x 1.38 in)
Weight	37.9 kg (83.6 lbs)
Front Glass	2.0 mm heat strengthened glass with anti-reflective coating
Back Glass	2.0 mm heat strengthened glass
Frame	Anodized aluminium alloy
J-Box	IP68, 3 bypass diodes
Cable	6.0 mm² (IEC), 10 AWG (UL)
Cable Length	410 mm (16.1 in) (+) / 250 mm (9.8 in) (-) or (Including Connector) 2000 mm (78.7 in) (+) / 1400 mm (55.1 in) (-)
Connector	T6 or MC4 series
Per Pallet	31 pieces
Per Container (40' HQ)	558 pieces or 496 pieces (only for US & Canada)

* For detailed information, please contact your local Canadian Solar sales and technical representatives.

TEMPERATURE CHARACTERISTICS

Specification	Data
Temperature Coefficient (Pmax)	-0.29 % / °C
Temperature Coefficient (Voc)	-0.25 % / °C
Temperature Coefficient (Isc)	0.05 % / °C
Nominal Module Operating Temperature	41 $\pm$ 3°C

PARTNER SECTION



GREENWOOD
SUSTAINABLE INFRASTRUCTURE

GSI DEVELOPMENT CORPORATION

CANADA:
140 Foundry Street, Unit A
Baden, ON N3A 2P7
Phone: 519-804-9163
Toll Free: 1-866-961-8654

USA:
134 East 40th Street
New York, New York 10016

DISCLAIMER:

All work shall be performed in compliance with local and federal standards. Contractor responsible for verifying all dimensions. Drawings not to be reproduced or used without GSI approval.

NOTES:

PRELIMINARY - NOT FOR CONSTRUCTION

REV. #1: PRELIMINARY DESIGN	DATE: 13-APR-2023
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REV. #3: ISSUED FOR REVIEW	DATE: 24-SEP-2025
REV. #4: ISSUED FOR REVIEW	DATE: 13-NOV-2025
REV. #5:	DATE:

ENGINEER'S SEAL:

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT

PROJECT OWNER: GSI DEVELOPMENT CORPORATION

TITLE: MODULE SPECIFICATIONS

SCALE: NOT TO SCALE

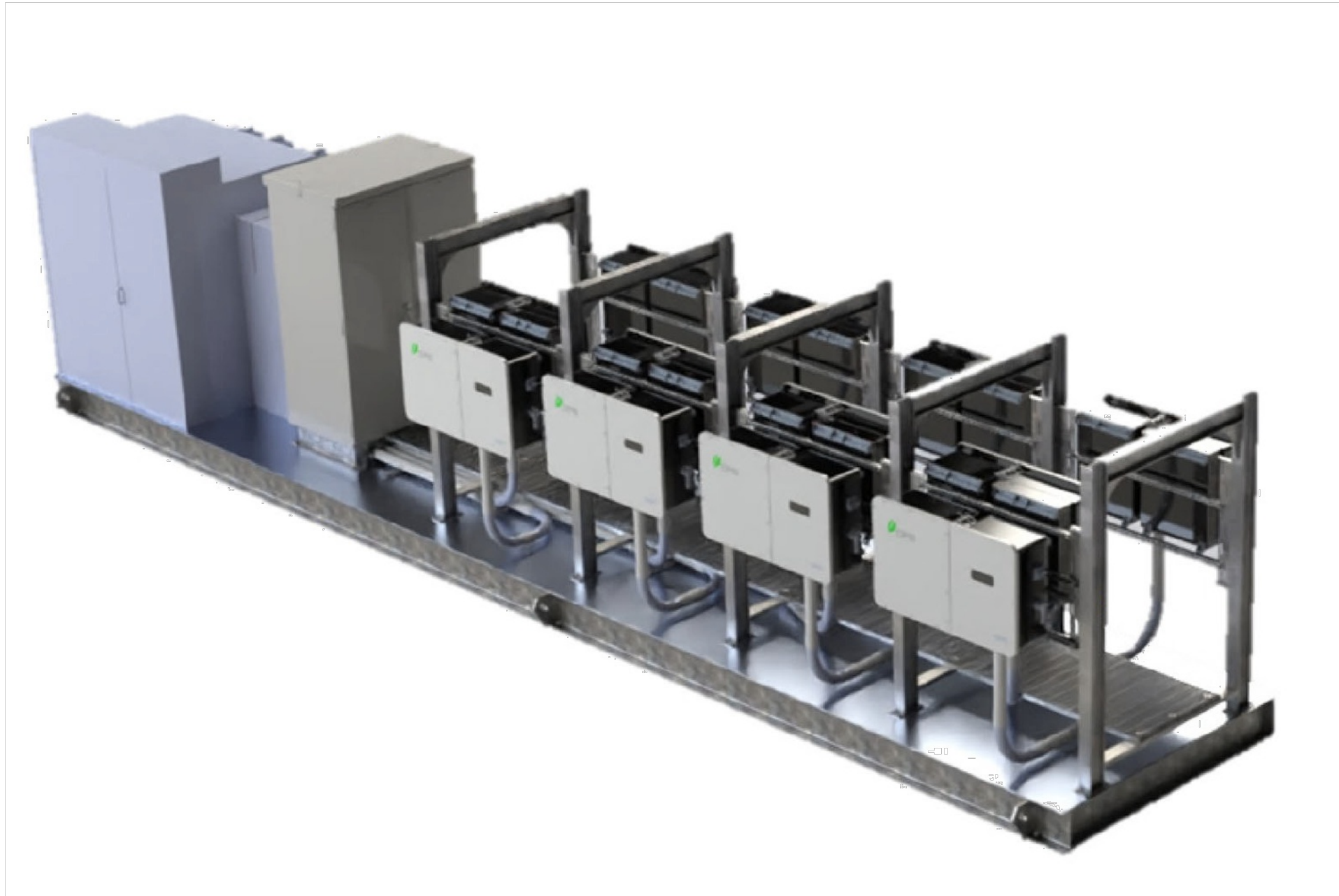
DRAWN BY: HEATHER SPITTAL
DESIGNED BY: KYLE EDGINTON

DWG. NO. E600
SHEET NO. 1 of 1
REVISION 4



Preliminary Data

Skidded String MV Station



The CPS skidded string medium voltage station combines the strengths of string inverters with the efficiency of a centralized layout, optimizing energy production and control granularity. This high performance, pre-integrated system is not only designed for reliability, but additionally reduces on-site labor, shortens installation time, and lowers total project costs. The station can support up to twelve (12) CPS 250 kW-600 V inverters on a single steel skid and is compatible with DC combiners and/or trunk-bus cabling for design flexibility.

Key Features

- Offers 2.5 MW and 3 MW options to maximize power density and ease of deployment
- Separable powerhead wire box design to reduce O&M time and improve serviceability
- Fully integrated plug-and-play solution to simplify procurement and installation
- Includes MV transformer and 600 V switchboard
- US-made skid materials and transformer options available



Technical Data

Product	CPS 2.5/3 MW Skidded String MV Station	
DC Input		
Max. DC voltage	1500 V	
MMPT voltage range	860-1450 V	
No. of MPPTs per inverter	1	
Max. PV short-circuit current	450 A per inverter	
DC inputs	10	12
AC Output		
AC output power	2500 kW @ 107.6°F (42°C)	3000 kW @ 107.6°F (42°C)
Max. AC apparent power output (selectable) ¹	2500 kVA / 2640 kVA @ 107.6°F (42°C)	3000 kVA / 3168 kVA @ 107.6°F (42°C)
Rated output frequency	60 Hz	
Output frequency range	57-63 Hz	
Power factor	> 0.99 (±0.8 adjustable)	
Current TRD (inverter)	< 3%	
Max. efficiency (inverter)	98.83%	
CEC efficiency (inverter)	98.4%	
Transformer		
Transformer rated power	2700 kVA	3300 kVA
High voltage	12.47-34.5 kV	
Low voltage	600 V	
Transformer vector	Dy1 (optional: YNyn0, Yd1)	
Transformer cooling methods	KNAN	
General Data		
Max. operating altitude	3280.8 ft / 1000 m (standard)	
Anti-PID	Standard	

1) Each inverter is factory set to 250 kVA by default. Contact CPS to enable the 264 kVA setting.



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REV. #4: ISSUED FOR REVIEW	DATE: 13-NOV-2025
REV. #5:	DATE:

ENGINEER'S SEAL:

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT

PROJECT OWNER: GSI DEVELOPMENT CORPORATION

TITLE: SKIDDED STRING MV STATION SPECS

SCALE: NOT TO SCALE

DRAWN BY: HEATHER SPITTAL
DESIGNED BY: KYLE EDGINTON

DWG. NO. E601
SHEET NO. 1 of 1
REVISION 4





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REV. #5:	DATE:

ENGINEER'S SEAL:

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT			
PROJECT OWNER: GSI DEVELOPMENT CORPORATION			
TITLE: BIG LEAD ASSEMBLY SPECIFICATIONS			
SCALE:		NOT TO SCALE	
DRAWN BY:	HEATHER SPITTAL	DESIGNED BY:	KYLE EDGINTON
DWG. NO.	SHEET NO.	REVISION	
E602	1 of 1	4	

BIG LEAD ASSEMBLY (BLA)

ABOUT

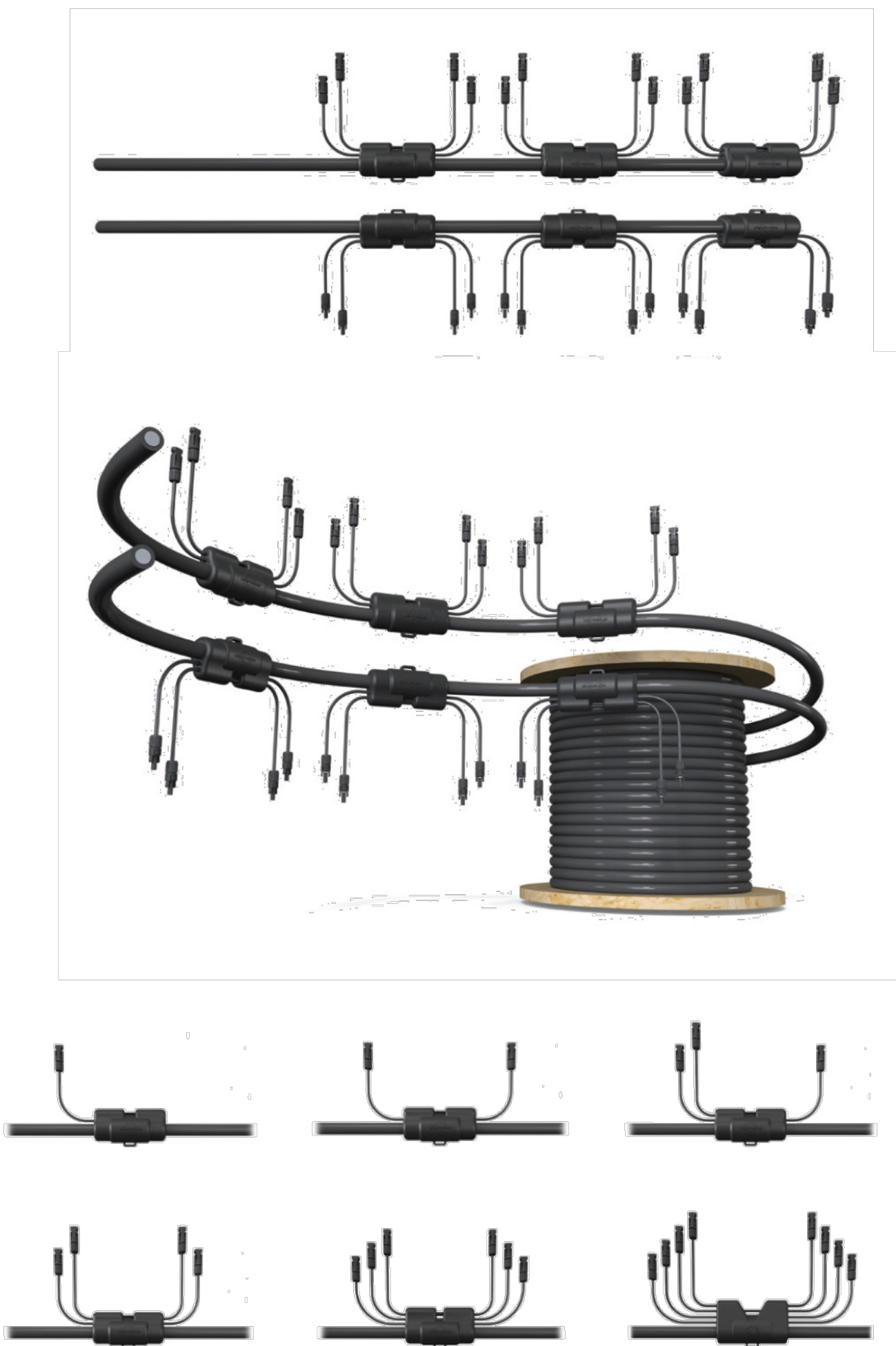
Shoals™ introduces the Big Lead Assembly, or BLA for short. The BLA is an aboveground aluminum trunk system that combines the functionality of cable assemblies, combiner boxes, and fusing all into one. This free air de-rated system eliminates the need for standard combiner boxes, messy multiple conductor string wires, cable trays, trenching, and field crimping. Factory manufactured and quality guaranteed.

FEATURES

- Up to (8) input leads per BLA mold drop
- Configurable for FSLR S4, FSLR S6, FSLR S7, Crystalline, or Bi-Facial
- Plug and Play - eliminates field crimping and splicing
- Patented undermold/overmold process chemically bonds and hermetically seals joints
- Eliminates standard combiner boxes
- Utilizes free air ampacity table NEC 310.17
- Standard 5-year warranty on all models
- ETL certified to UL9703 and UL4248
- ETL certified to CSA C22.2#182.5 for PV Connectors
- ETL certified to CSA C22.2#271 for PV Cables
- ETL certified to CSA C22.2#198.2 for Sealed Wire Connector Systems
- ETL certified to CSA C22.2#4248.1 for Fuseholders

OPTIONS

- Customizable for up to 750 MCM wire gauges
- Messenger cable for mechanical attachment
- Cable available in standard colors



TECHNICAL SPECS	STG.BLA
Voltage Rating	1500 VDC
Max. Current (Trunk)	Up to 700A*
Max. OCPD Per Input Circuit	65A
Max. Trunk Cable Size	750 MCM
Number of Input Circuits	Customer Specific
Max. Ambient Temp. Rating	50°C

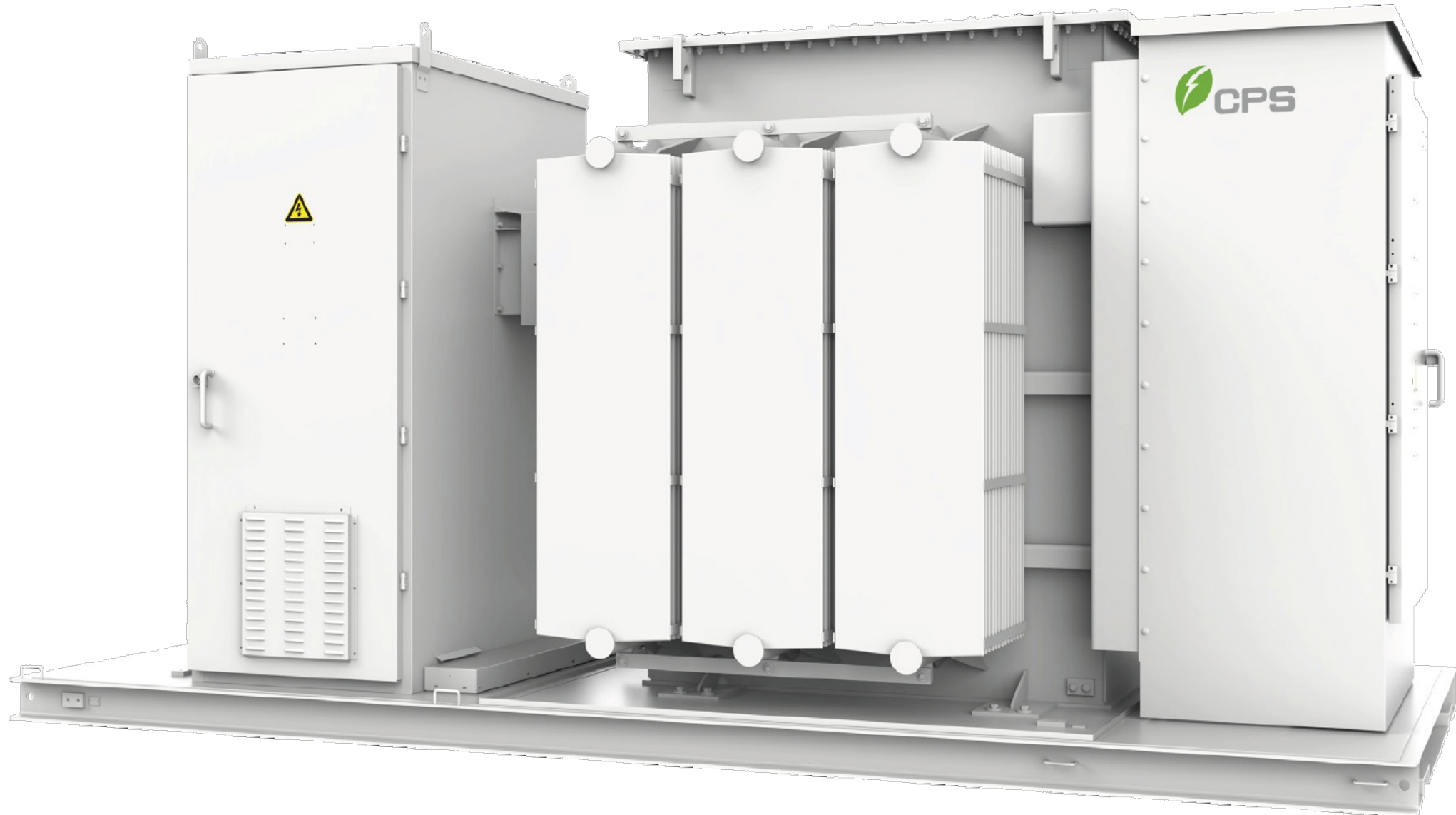
*Max current shown is per NEC Code 2023, Table 310.17 for single-insulated conductors in free air at an ambient temperature of 30°C. Max current per BLA mold drop is determined by max allowable conductor ampacity per NEC 690.8(B) and any additional derating required at different ambient temperatures. Please refer to the Engineer of Record for calculations or use of different tables.

Plastic over-mold material is suitable for outdoor use with respect to exposure to UV light, Water Exposure and Immersion in accordance with UL 746C. Product design and specification subject to change or modification without notice.



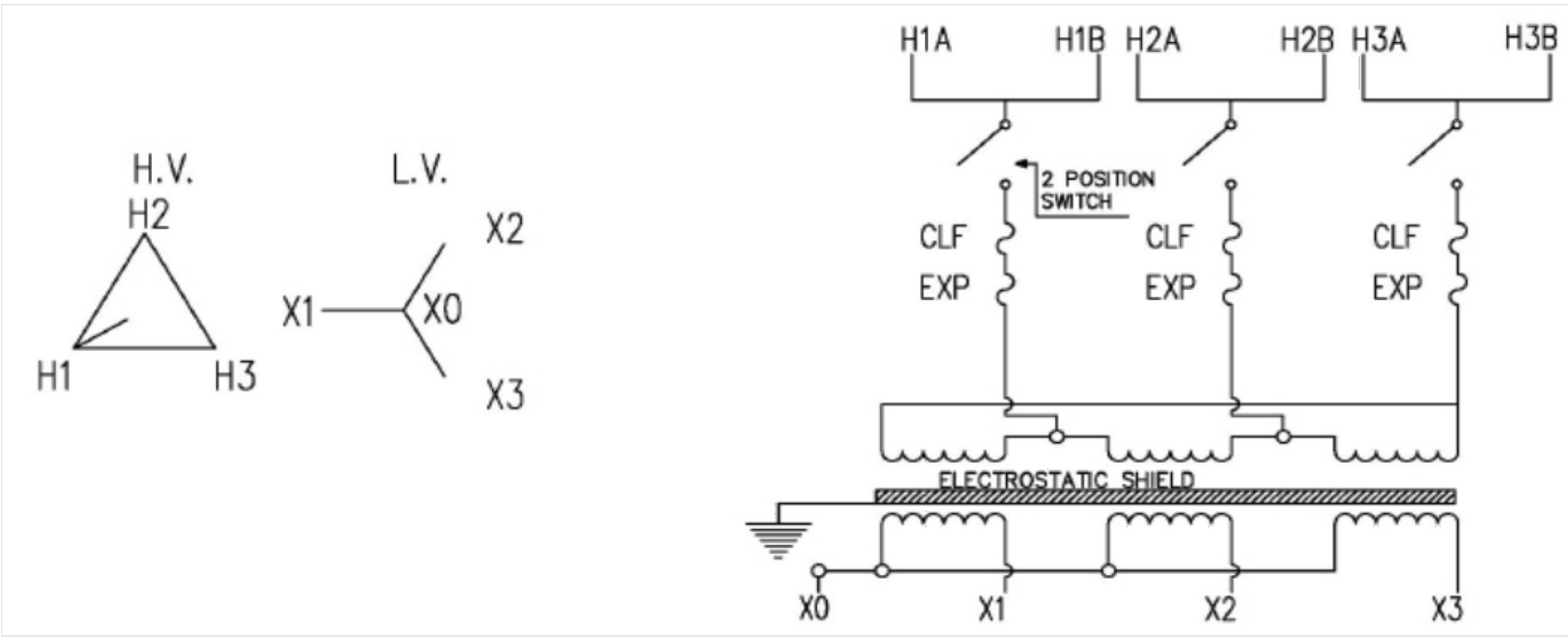


Medium Voltage Transformer Skid

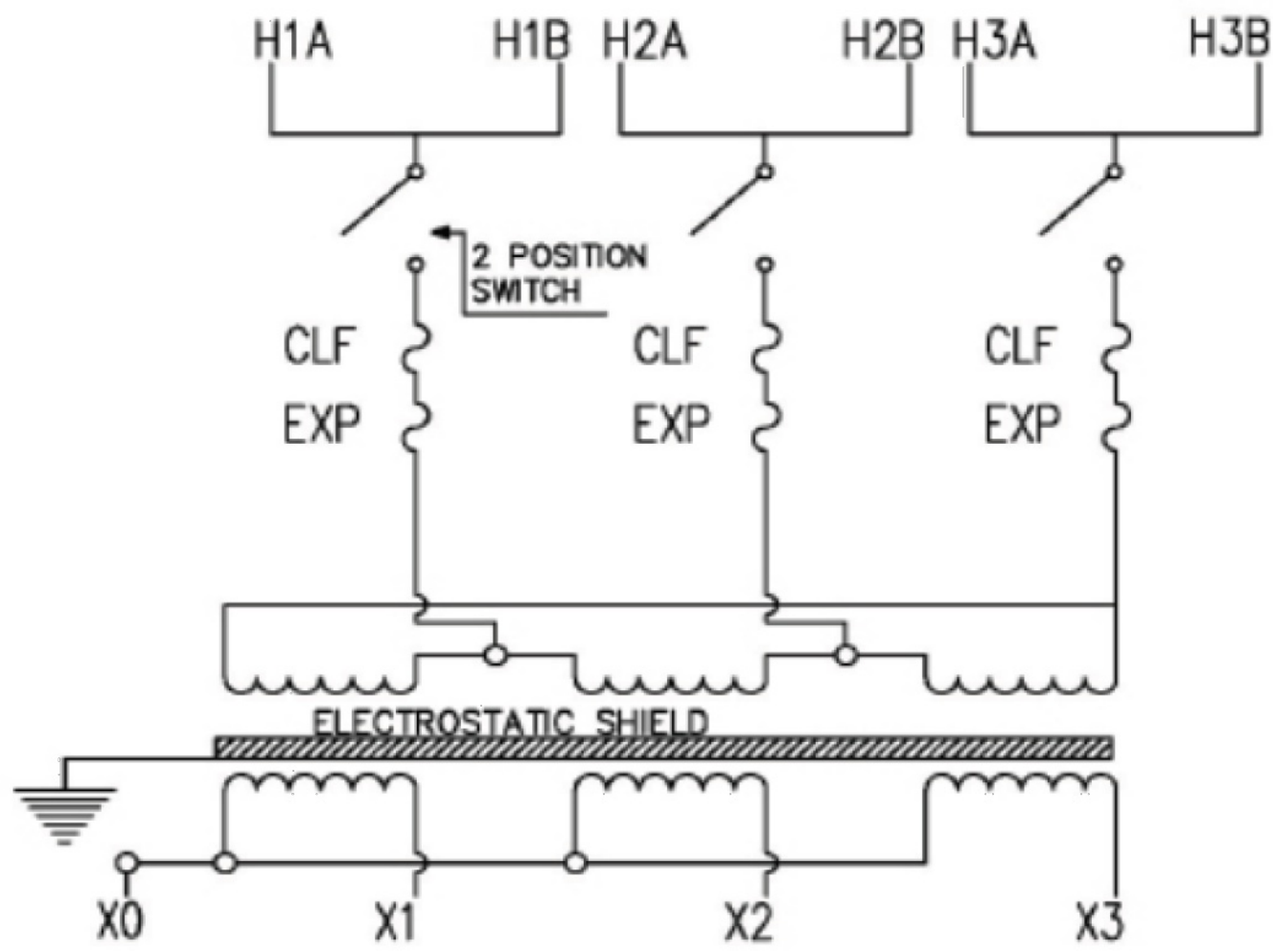


The CPS three-phase medium voltage transformer skid brings electrical power generated from PV inverters to the substation. The transformers are designed for superior reliability, efficiency, and environmental performance. A modular architecture paired with design options ensures cost efficiency and easy, minimal maintenance. The skid integrates a medium voltage transformer, low voltage cabinet, auxiliary transformer, and monitoring gauges. CPS offers various configurations with multiple capacities and interconnection voltages.

Phasor Diagram Example



Connection Diagram Example



Technical Data

Product Name	Medium Voltage Transformer Skid				
Specifications					
Rated power (kVA)	4200 kVA, 3300 kVA, 2800 kVA				
Installation location	NEMA 3R				
Number of windings	2				
Operating ambient temperature range @ rated power	-22°F to 113°F (-30°C to 45°C)				
Average winding temperature rise	140°F (60°C)				
Cooling class	KNAN				
Frequency	60 Hz				
Electrostatic shielding	Electrostatic shield between HV and LV windings (2 windings)				
Insulating fluid	FR3 oil				
High voltage	34.5 kV	24.94 kV	13.8 kV	13.2 kV	12.47 kV
High voltage bushing style	6 - integral deadbreak bushing 600 A 150 kV BIL		6 - integral deadbreak bushing 600 A 95 kV BIL		
High voltage conductor material	Aluminum				
Taps	2-2.5% above and 2-2.5% below nominal voltage				
High voltage configuration	Loop-feed, dead front				
Load-break switching	630 A two position load break switch				
High voltage enclosure type	Bottom entry				
Medium voltage protection	EXP fuses in series with partial-range current-limiting fuses				
Low voltage	800 Vac				
LV bushing BIL	30 kV				
LV bushing connection	Up to (20) 800 kcmil aluminum or copper per phase				
LV conductor material	Aluminum				
Maximum elevation	6561.68 ft (2000 m)				
Vector group	Dy1, Dy11, Yd1, Yd11, YNyn0				
Dimensions (W × H × D)	16.08 × 8.14 × 7.22 ft (4900 × 2481 × 2200 mm)				
Accessories					
Liquid level indicator	Included				
Liquid temperature indicator	Included				
Pressure vacuum gauge	Included				
Off load tap changer	Included				
Pressure relief valve	Included				
Oil filling tube	Included				
Drain valve with sampler	Included				
Nitrogen blanket	Included				
5 kVA single-phase auxiliary transformer (120 Vac)	Included				
40 kVA three-phase auxiliary transformer (480 Vac)	Optional / additional cost				
Applicable Standards					
MV Transformer: IEEE C57.12.00, IEEE 57.12.28, IEEE C57.12.90, CSA C2.1-06, CAN/CSA-C227.3/C227.4 LV Cabinet: UL891					

Specifications may vary per project based on engineering design.



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REV. #4: ISSUED FOR REVIEW	DATE: 13-NOV-2025
REV. #5:	DATE:

ENGINEER'S SEAL:

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT

PROJECT OWNER: GSI DEVELOPMENT CORPORATION

TITLE: MV VOLT TRANSFORMER SKID SPECS

SCALE: NOT TO SCALE

DRAWN BY: HEATHER SPITTAL
DESIGNED BY: KYLE EDGINTON

DWG. NO. E604
SHEET NO. 1 of 1
REVISION 4



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Chint Power Systems America
1380 Presidential Drive, Suite 100, Richardson, TX 75081
Tel: 855-584-7168 Mail: AmericaSales@chintpower.com Web: www.chintpowersystems.com



A
E-605
PROJECT DIRECTORY
NTS

INVERTER #

INSTALL ON ALL EACH
INVERTER

DAS MAIN ENCLOSURE

INSTALL ON DAS MAIN ENCLOSURE

DAS WEATHER ENCLOSURE

INSTALL ON DAS MAIN ENCLOSURE

STATION SERVICE TRANSFORMER #

INSTALL ON EACH STATION SERVICE TRANSFORMER

INV#

INSTALL ON ALL SWITCHBOARD BREAKERS
TO DELINEATE CORRESPONDING INVERTER.
ALL STATION SERVICE PANELBOARD BRANCH
BREAKERS TO BE LABELLED SIMILARLY.

B
E-605

EQUIPMENT LABELS
NTS

SWITCHBOARD #

INSTALL ON ALL EACH SWITCHBOARD

STATION SERVICE PANELBOARD #

INSTALL ON EACH STATION SERVICE PANELBOARD

DAS METER ENCLOSURE

INSTALL ON DAS METER ENCLOSURE

FIBER ENCLOSURE

INSTALL ON FIBER STORAGE ENCLOSURE

ROW#

INSTALL AT BOTH ENDS OF EACH
RACKING TABLE ROW FOR WAYFINDING.

PHOTOVOLTIAc SYSTEM DC DISCONNECT

OPERATING CURRENT	343.2Adc
OPERATING VOLTAGE	867Vdc
MAXIMUM SYSTEM VOLTAGE	11861.11Vdc
MAXIMUM CURRENT	454.75Adc

INSTALL ON 60 INVERTERS

PHOTOVOLTIAc SYSTEM DC DISCONNECT

OPERATING CURRENT	360.36Adc
OPERATING VOLTAGE	867Vdc
MAXIMUM SYSTEM VOLTAGE	1186.11Vdc
MAXIMUM CURRENT	477.4875Adc

INSTALL ON 24 INVERTERS

PHOTOVOLTIAc SYSTEM INVERTER AC CABINET

OPERATING CURRENT	180.5A
OPERATING VOLTAGE	800V

INSTALL ON ALL INVERTER AC CABINETS

PHOTOVOLTIAc SYSTEM AC DISCONNECT

OPERATING CURRENT	180.5A
OPERATING VOLTAGE	800V

INSTALL ON ALL PANELBOARD AC BREAKERS WITHIN THE SWITCHBOARDS

C
E-605

EQUIPMENT OPERATING LABELS AND SHOCK HAZARD LABELS
NTS

PHOTOVOLTIAc AC SWITCHBOARD

OPERATING CURRENT	1985.5A
OPERATING VOLTAGE	800V

INSTALL ON SWITCHBOARDS



WARNING

ARC FLASH HAZARD - 1500VDC

INSTALL ON ALL INVERTERS



WARNING

ELECTRIC SHOCK HAZARD

THE DC CONDUCTORS OF THIS PHOTOVOLTIAc SYSTEM
ARE UNGROUNDED AND MAY BE ENERGIZED

INSTALL ON ALL INVERTERS WITHIN CLEAR VISION OF DC INPUT CONNECTIONS



WARNING

ELECTRIC SHOCK HAZARD

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

INSTALL ON ALL INVERTERS



WARNING

THIS EQUIPMENT IS FED BY MULTIPLE SOURCES
TOTAL RATING OF ALL OVERCURRENT DEVICES EXCLUDING
MAIN SUPPLY OVERCURRENT DEVICE SHALL NOT EXCEED
AMPACITY OF THE BUS BAR

INSTALL ON ALL SWITCHBOARDS & STATION SERVICE PANELBOARDS



GREENWOOD
SUSTAINABLE INFRASTRUCTURE

GSI DEVELOPMENT CORPORATION

CANADA:
140 Foundry Street, Unit A
Baden, ON N3A 2P7
Phone: 519-804-9163
Toll Free: 1-866-961-8654

USA:
134 East 40th Street
New York, New York 10016

DISCLAIMER:

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NOTES:

PROPERTY ADDRESS: 7N904 IL-25, SOUTH ELGIN, IL 60177

1. LAMACOIDS SHALL BE INSTALLED IN ACCORDANCE WITH THE LOCAL/MUNICIPAL AFFAIRS INTERPRETATIONS.
2. ALL LABELS TO COMPLY WITH ANSI STANDARDS FOR PROPER TEXT SIZE (7mm MINIMUM), DESIGN, ETC.
3. ADDITIONAL LABELS MAY BE REQUIRED BY LOCAL AHJ AND/OR UTILITY. CONTRACTOR TO PROVIDE ALL REQUIRED LABELS.
4. PROVIDE 20 SPARE LAMACOIDS FOR ALL LAMACOIDS SHOWN IN DETAIL C.

PRELIMINARY - NOT FOR CONSTRUCTION

LEGEND:

- PROPERTY BOUNDARY
- PROJECT BOUNDARY
- PROJECT FENCE
- EXISTING FENCE
- GRAVEL ACCESS ROAD (20ft/6.1m)
- PV TABLES
- TRANSFORMER/INVERTER BLOCK
- INVERTER
- 12.5 kV FEEDER LINE W7931 (UTILITY)
- 15kV CABLE
- POLES & OVERHEAD LINES (SEE E100 - SH 3 DETAIL)
- NO BUILD AREA - WETLAND w/30FT SETBACK
- NO BUILD AREA - PIPE/VENT w/10FT SETBACK
- APPROXIMATE POI LOCATION

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REV. #5: DATE:

ENGINEER'S SEAL:

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT

PROJECT OWNER: GSI DEVELOPMENT CORPORATION

TITLE: LV WARNING LABELS & LAMACOIDS

SCALE: NOT TO SCALE

DRAWN BY: HEATHER SPITTAL DESIGNED BY: KYLE EDGINTON

DWG. NO. E605 SHEET NO. 1 of 1 REVISION 4



GREENWOOD
SUSTAINABLE INFRASTRUCTURE

GSi DEVELOPMENT CORPORATION

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NOTES:

PROPERTY ADDRESS: 7N904 IL-25, SOUTH ELGIN, IL 60177

PROPERTY CO-ORDINATES:

LATITUDE: 41.982650°

LONGITUDE: -88.271192°

PROPERTY BOUNDARY SETBACK: 50ft (15.2m)

GSi MIN. SETBACK FROM EQUIPMENT TO PROJECT FENCE: 20ft (6.1m)

PROJECT FENCE - 7ft (2.1m) HIGH

GRAVEL ACCESS ROAD: 20ft (6.1m), GRADE LESS THAN 5°

PRELIMINARY - NOT FOR CONSTRUCTION

LEGEND:

- PROPERTY BOUNDARY
- PROJECT BOUNDARY
- PROJECT FENCE
- EXISTING FENCE
- GRAVEL ACCESS ROAD (20ft/6.1m)
- PV TABLES
- PV MODULES (700W - 27/STRING)
- TRANSFORMER/INVERTER BLOCK
- INVERTER
- 12.5 kV FEEDER LINE W7931 (UTILITY)
- 15kV CABLE
- POLES & OVERHEAD LINES (SEE SH 3 DETAIL)
- NO BUILD AREA - WETLAND w/30FT SETBACK
- NO BUILD AREA - PIPE/VENT w/10FT SETBACK
- APPROXIMATE POI LOCATION

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ENGINEER'S SEAL:	

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT

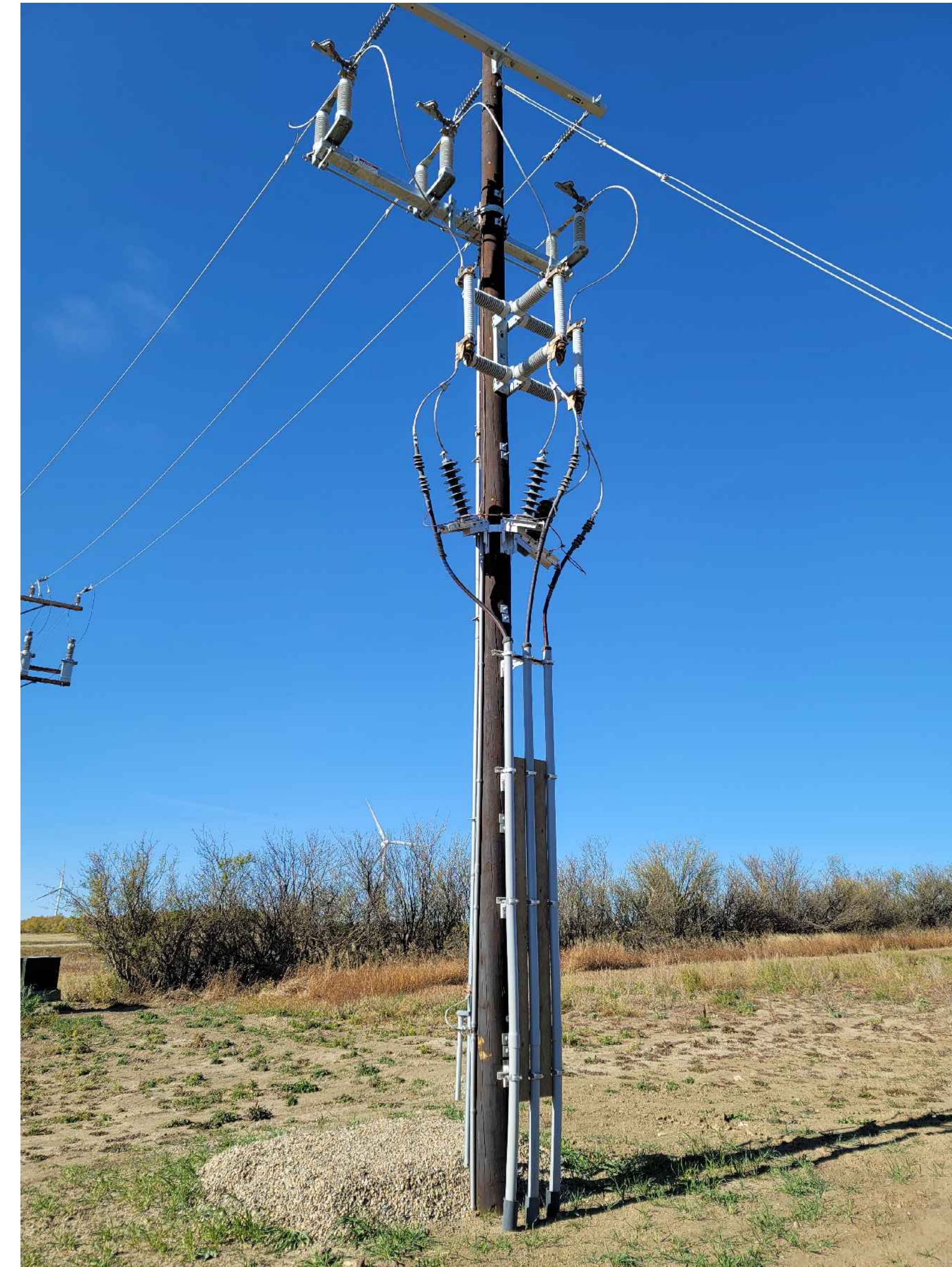
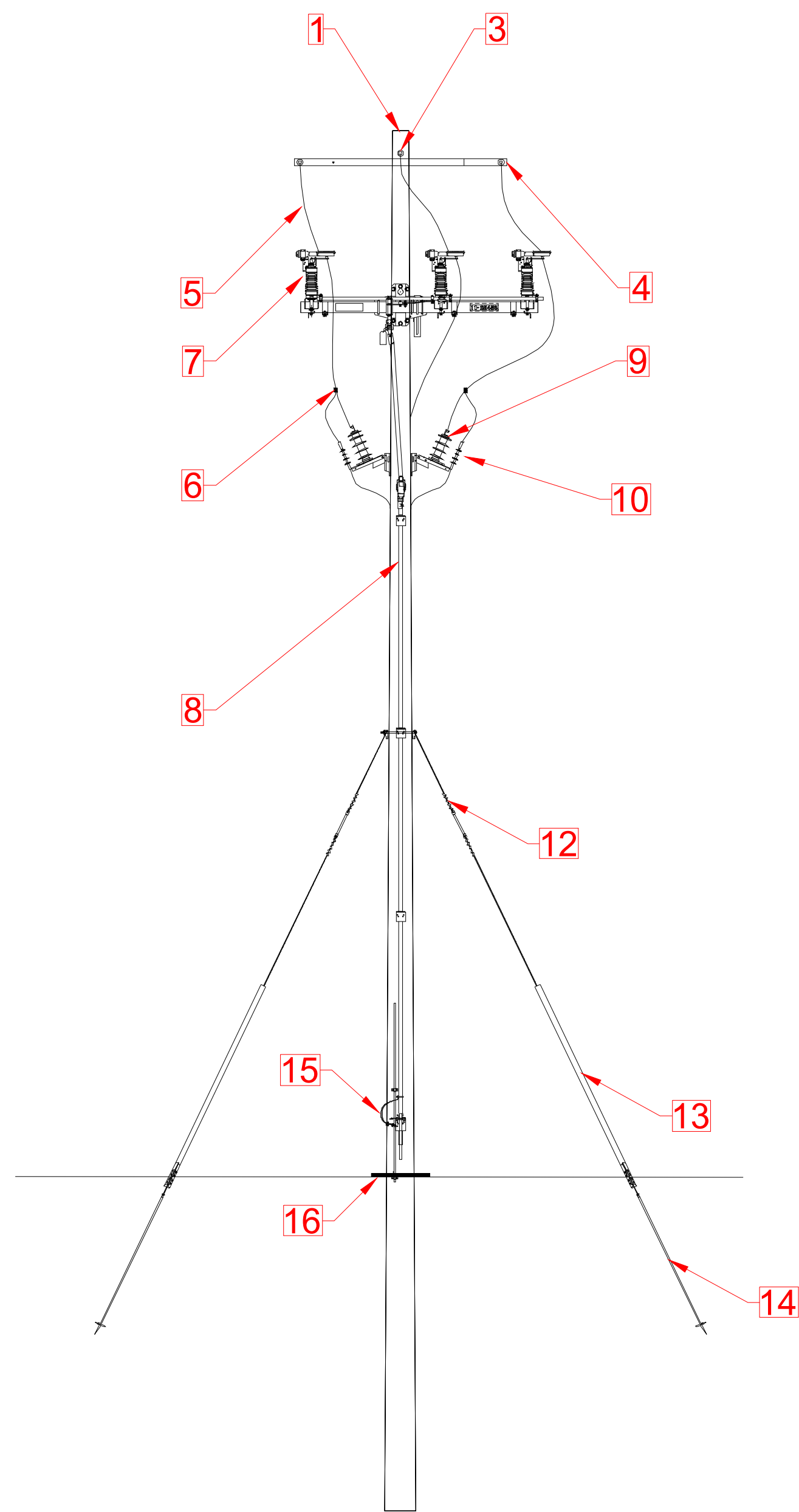
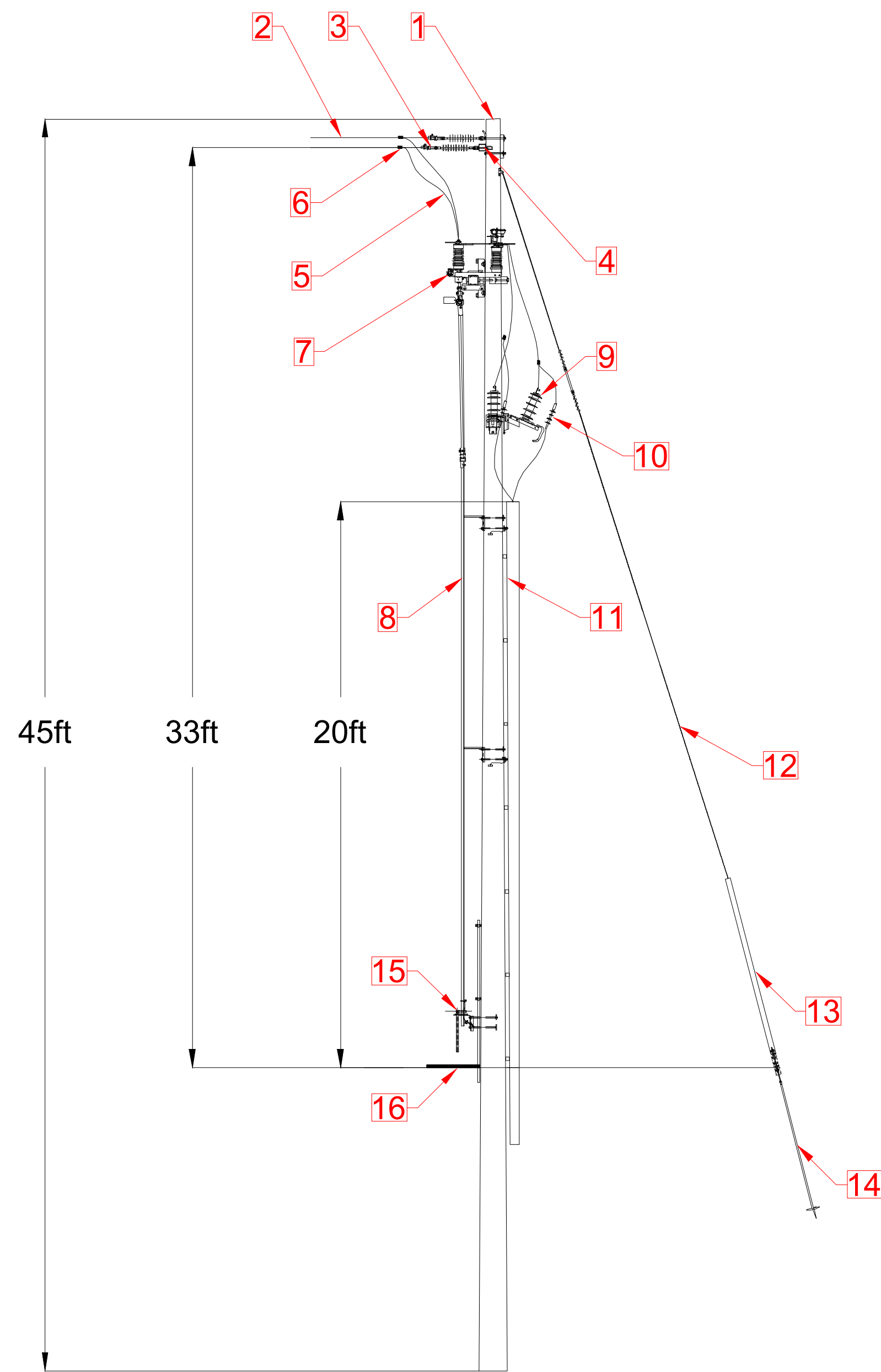
PROJECT OWNER: GSi DEVELOPMENT CORPORATION

TITLE: MV SET
OVERHEAD LINE SITE PLAN

SCALE: NOT TO SCALE

DRAWN BY: HEATHER SPITTAL
DESIGNED BY: KYLE EDGINTON

DWG. NO. E700
SHEET NO. 1 of 1
REVISION 4



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NOTES:

1. METALLIC NON-CURRENT CARRYING EQUIPMENT COMPONENTS TO BE GROUNDED BY #4 AWG BARE COPPER WIRE FOR INSTALLATIONS UNDER 27.6kV AND #1/0 AWG BARE COPPER FOR INSTALLATIONS UP TO 44kV.
2. POLE GROUND WIRE TO BE PROTECTED BY NON-METALLIC GUARD AND EXTEND TO PAST BASE OF POLE TO PROTECT CABLE FROM MECHANICAL DAMAGE.
3. BARE COPPER WIRE TO BE CONNECTED TO GROUND MAT/GROUND GRID IF AVAILABLE, OTHERWISE GROUND WIRE TO BE SECURED TO QTY 1 INSTALLED 10 FT x 3/4" COPPER GROUND ROD.

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ENGINEER'S SEAL:

A LOAD BREAK SWITCH POLE
E-701 SIDE VIEW

A.1 LOAD BREAK SWITCH POLE
E-701 FRONT VIEW

LOAD BREAK SWITCH POLE			
EQUIPMENT ID	DESCRIPTION	EQUIPMENT ID	DESCRIPTION
1	45 FT CLASS 2 WOOD POLE	9	SURGE ARRESTER (SEE SLD FOR KV/KVMCOV RATINGS)
2	ACSR	10	STRESS CONE TERMINATIONS
3	CROSS ARM INSULATORS	11	PVC CONDUIT (SIZE TBD)
4	STEEL CROSS ARM	12	GUY WIRE
5	DROP LEADS (SEE SLD FOR CONDUCTOR SIZING - AAC)	13	YELLOW GUARD GUY
6	AMPACT WEDGE PRESSURE CONNECTORS (OR EQUIV.)	14	ANCHOR
7	LOAD BREAK SWITCH (S&C OMNIRUPTER OR EQUIV.)	15	LOAD BREAK SWITCH HANDLE w/KEY INTERLOCK PROVISIONS (S&C OMNIRUPTER OR EQUIV.)
8	LOAD BREAK SWITCH OPERATING PIPE (TO BE FIELD CUT)	16	GROUND MAT

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT

PROJECT OWNER: GSi DEVELOPMENT CORPORATION

TITLE: MV SET
LOAD BREAK SWITCH POLE

SCALE: NOT TO SCALE

DRAWN BY: HEATHER SPITTAL
DESIGNED BY: KYLE EDGINTON

DWG. NO. E701
SHEET NO. 1 of 1
REVISION 4



GREENWOOD
SUSTAINABLE INFRASTRUCTURE

GSI DEVELOPMENT CORPORATION

CANADA:
140 Foundry Street, Unit A
Baden, ON N3A 2P7
Phone: 519-804-9163
Toll Free: 1-866-961-8654

USA:
134 East 40th Street
New York, New York 10016

DISCLAIMER:

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NOTES:

1. METALLIC NON-CURRENT CARRYING EQUIPMENT COMPONENTS TO BE GROUNDED BY #4 AWG BARE COPPER WIRE FOR INSTALLATIONS UNDER 27.6kV AND #1/0 AWG BARE COPPER FOR INSTALLATIONS UP TO 44kV.
2. POLE GROUND WIRE TO BE PROTECTED BY NON-METALLIC GUARD AND EXTEND TO PAST BASE OF POLE TO PROTECT CABLE FROM MECHANICAL DAMAGE.
3. BARE COPPER WIRE TO BE CONNECTED TO GROUND MAT/GROUND GRID IF AVAILABLE, OTHERWISE GROUND WIRE TO BE SECURED TO QTY 1 INSTALLED 10 FT x 3/4" COPPER GROUND ROD.
4. INSTRUMENTATION/CONTROL WIRING TO BE INSTALLED IN LIQUID TITE NON-METALLIC FLEXIBLE CONDUIT WHEN LEAVING CONDUIT ABOVE GRADE TO PROTECT FROM MECHANICAL DAMAGE.

PRELIMINARY - NOT FOR CONSTRUCTION

REV. #1: PRELIMINARY DESIGN	DATE: 13-APR-2023
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REV. #3: ISSUED FOR REVIEW	DATE: 24-SEP-2025
REV. #4: ISSUED FOR REVIEW	DATE: 13-NOV-2025
REV. #5:	DATE:

ENGINEER'S SEAL:

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT

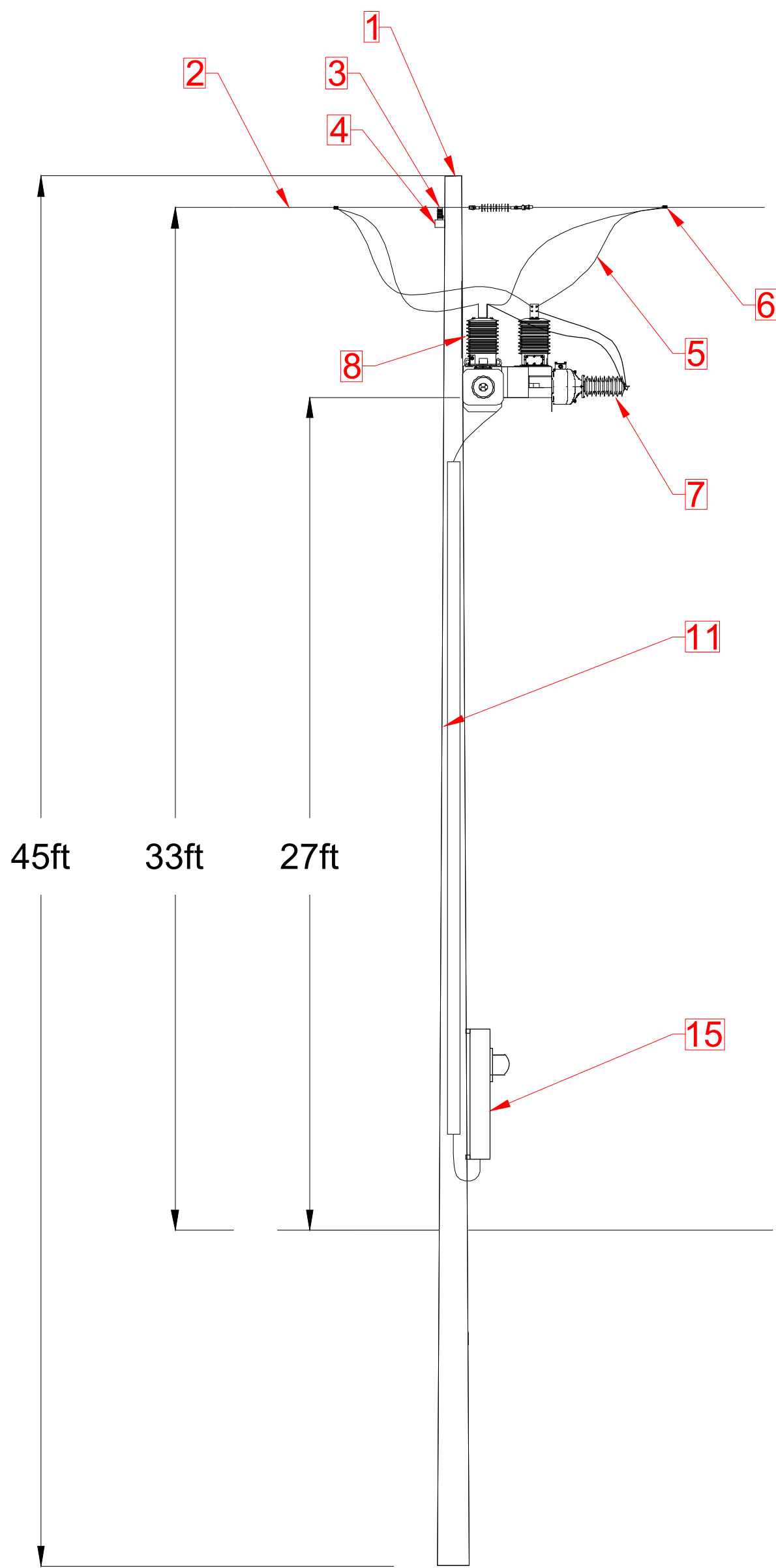
PROJECT OWNER: GSI DEVELOPMENT CORPORATION

TITLE: MV SET
METERING POLE

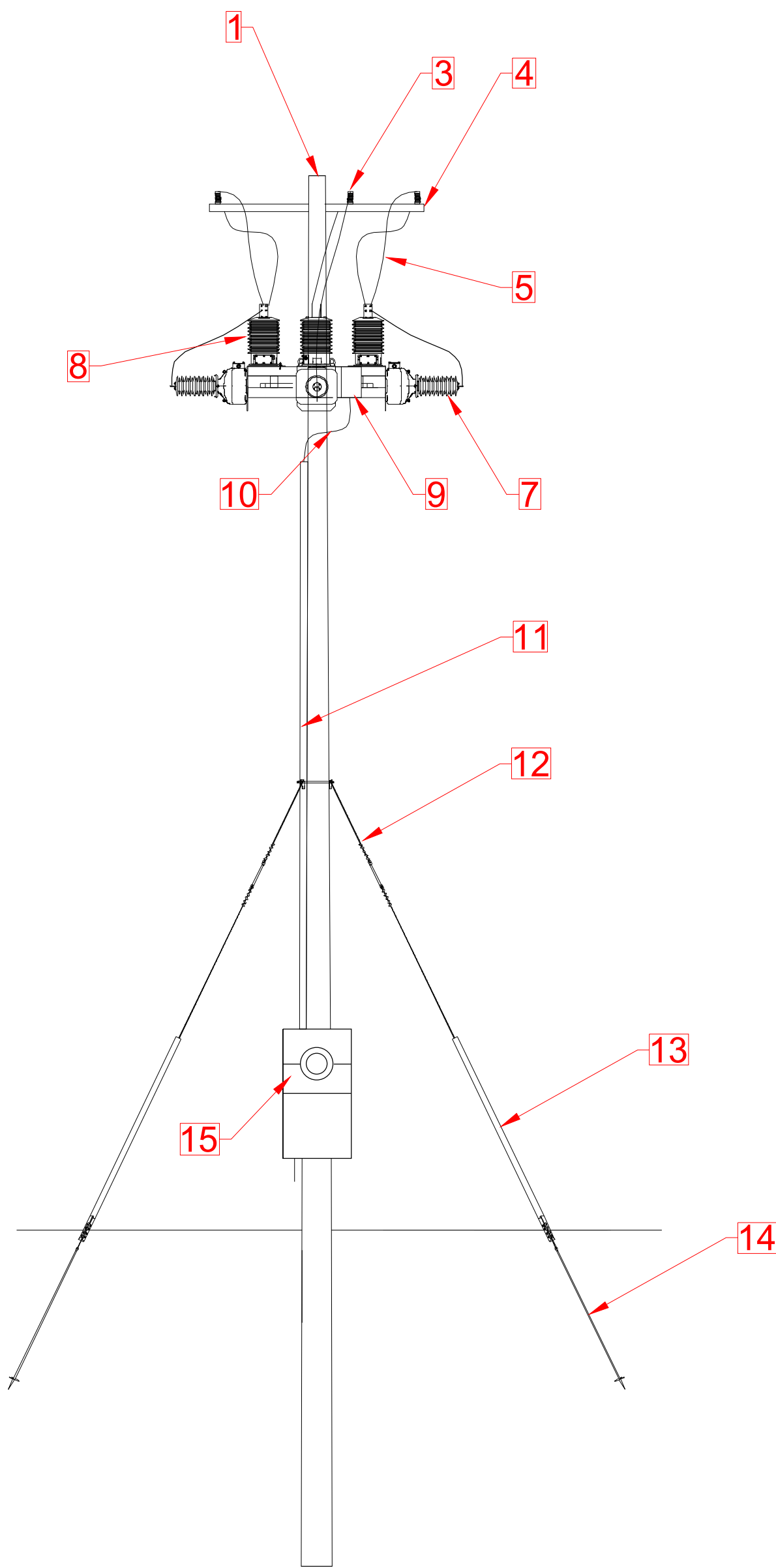
SCALE: NOT TO SCALE

DRAWN BY: HEATHER SPITTAL
DESIGNED BY: KYLE EDGINTON

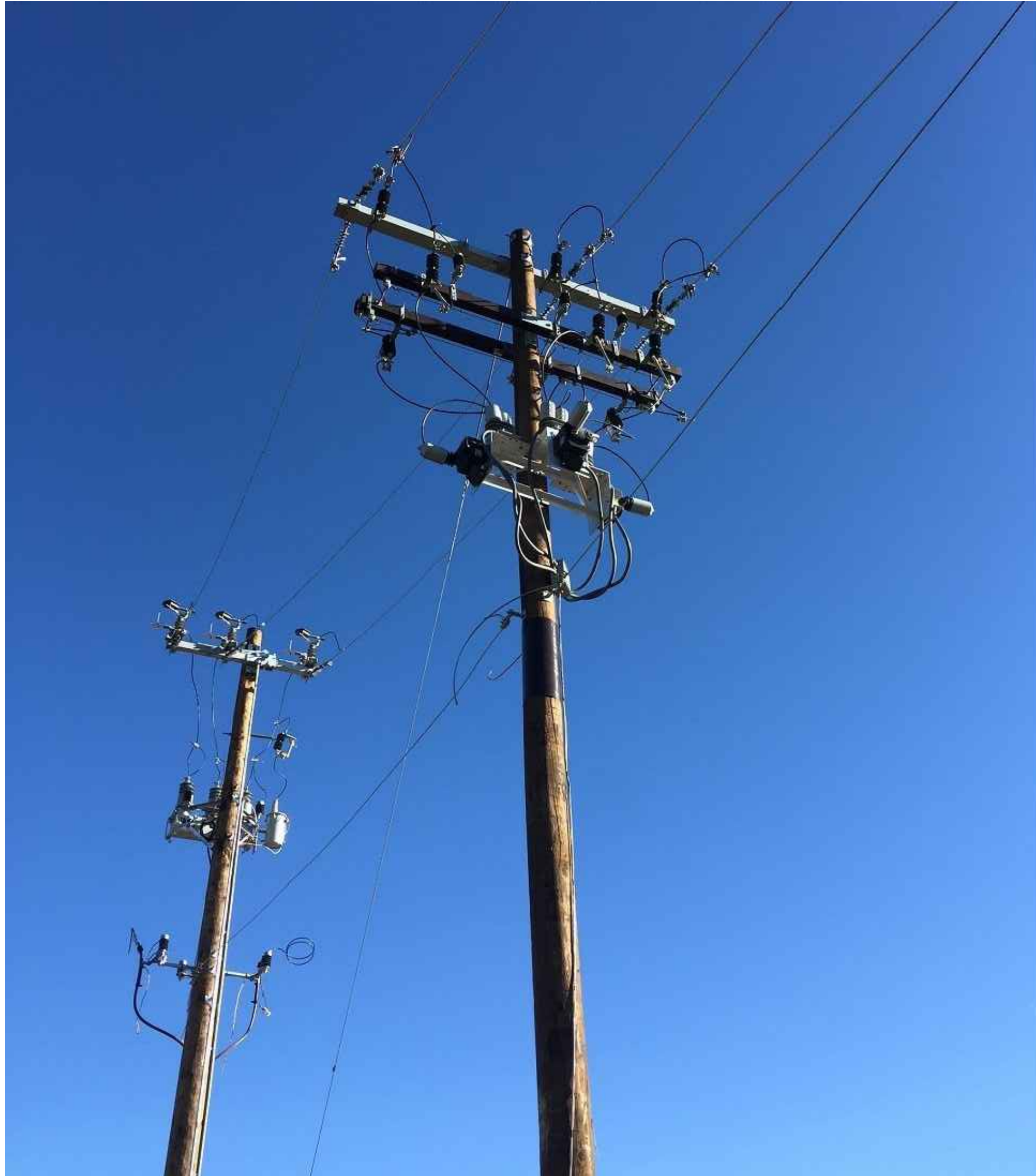
DWG. NO. E703
SHEET NO. 1 of 1
REVISION 4



C METERING POLE
E-703 SIDE VIEW

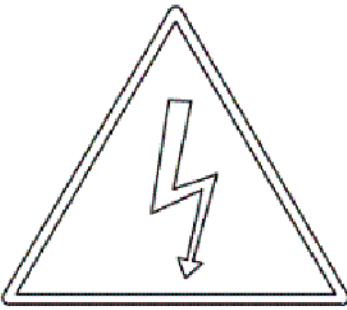


C.1 METERING POLE
E-703 FRONT VIEW



METERING POLE			
EQUIPMENT ID	DESCRIPTION	EQUIPMENT ID	DESCRIPTION
1	45 FT CLASS 2 WOOD POLE	9	INSTRUMENT TRANSFORMER WIRING CABINET
2	ACSR	10	INSTRUMENTATION WIRING
3	CROSS ARM INSULATORS	11	PVC CONDUIT (SIZE TBD)
4	STEEL CROSS ARM	12	GUY WIRE
5	DROP LEADS (SEE SLD FOR CONDUCTOR SIZING - AAC)	13	YELLOW GUARD GUY
6	AMPACT WEDGE PRESSURE CONNECTORS (OR EQUIV.)	14	ANCHOR
7	VOLTAGE TRANSFORMERS	15	METER BASE & GLOBE (SPECS TO BE CONFIRMED WITH UTILITY)
8	CURRENT TRANSFORMERS		

INTERFACE TRANSFORMER WARNING LABEL



INTERFACE
TRANSFORMER

WARNING

DO NOT OPERATE TAP CHANGERS IN OUTDOOR CONDITIONS
BELOW -20°C

INSTALLED ON ALL TRANSFORMERS

INTERFACE TRANSFORMER #1	
INTERFACE TRANSFORMER #1	2500kVA
OPERATING PRIMARY VOLTAGE	12.5kV
OPERATING SECONDARY VOLTAGE	600V

INTERFACE TRANSFORMER #2	
INTERFACE TRANSFORMER #1	2500kVA
OPERATING PRIMARY VOLTAGE	12.5kV
OPERATING SECONDARY VOLTAGE	600V

DANGER HIGH VOLTAGE SIGNS (FENCE)



HIGH VOLTAGE

UNAUTHORIZED PERSONNEL

KEEP OUT

NOTES: DANGER HIGH VOLTAGE signs shall be placed on perimeter fence as required by Rule 26-010

i) located immediately adjacent to the locks on all access gates;

ii) installed at all outside corners formed by the fence perimeter; and

iii) installed at intervals not exceeding 15 m of horizontal distance.

LOAD BREAK SWITCH POLE



HIGH VOLTAGE

AUTHORIZED

PERSONNEL ONLY

TRANSFORMER/SWITCHGEAR/REVENUE METERING CABINET/LOAD BREAK SWITCH WARNING LABELS



WARNING

ELECTRIC SHOCK HAZARD

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



WARNING

THIS EQUIPMENT IS FED BY MULTIPLE SOURCES
TOTAL RATING OF ALL OVERCURRENT DEVICES EXCLUDING
MAIN SUPPLY OVERCURRENT DEVICE SHALL NOT EXCEED
AMPACITY OF THE BUS BAR

INSTALLED ON ALL TRANSFORMERS, SWITCHING CUBICLE, REVENUE METERING CABINET AND LOAD BREAK SWITCH



GREENWOOD

SUSTAINABLE INFRASTRUCTURE

GSI DEVELOPMENT CORPORATION

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DATE: 24-SEP-2025

REV. #4: ISSUED FOR REVIEW

DATE: 13-NOV-2025

REV. #5:

DATE:

ENGINEER'S SEAL:

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT

PROJECT OWNER:

GSI DEVELOPMENT CORPORATION

TITLE:

MV SET
WARNING LABELS & LAMACOIDS

SCALE:

NOT TO SCALE

DRAWN BY:

HEATHER SPITTAL

DESIGNED BY:

KYLE EDGINTON

DWG. NO.

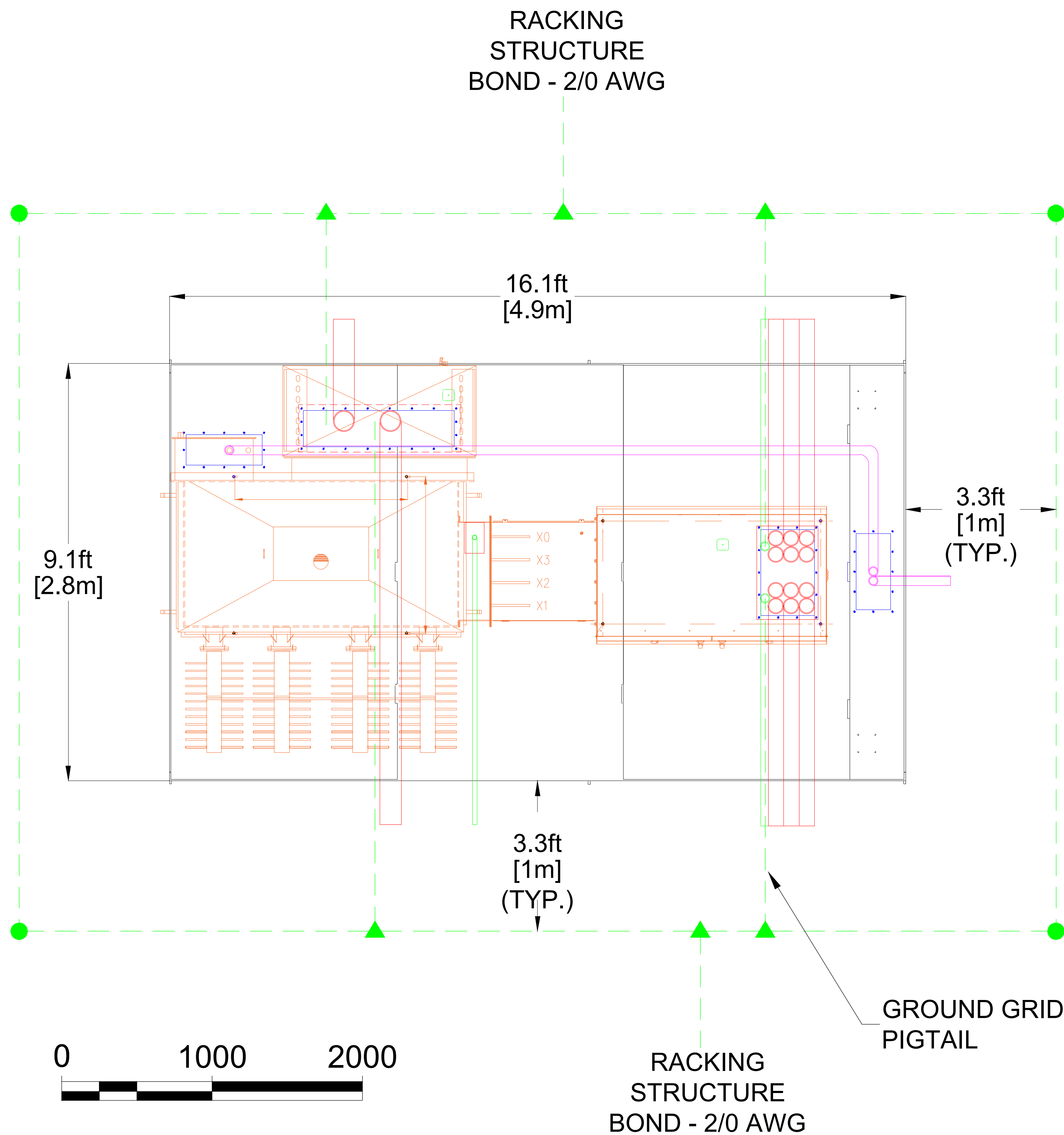
E704

SHEET NO.

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REVISION

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NOTES:

1. CONTRACTOR TO OBTAIN AND CONFIRM EXACT LOCATION FOR EQUIPMENT GROUNDING FROM ENGINEER PRIOR TO INSTALLATION.
2. GROUNDING GRID TO BE SUPPLIED AND INSTALLED IN COMPLIANCE WITH ONTARIO ELECTRICAL CODE.
3. GROUND RODS SHALL BE INSTALLED WITH THEIR TOPS BURIED A MINIMUM OF 50MM BELOW ROUGH GRADE AND CONNECTED TO GROUND GRID.
4. 2/0 AWG BARE CU GROUND GRID CONDUCTOR TO BE INSTALLED 450MM BELOW ROUGH GRADE.
5. CONTRACTOR TO REVIEW VENDOR DRAWINGS AND CONFIRM LOCATION OF EQUIPMENT GROUNDING POINTS PRIOR TO INSTALLING PIG TAILS.
6. CONTRACTOR TO ENSURE PIGTAILS ARE PROTECTED IN PVC CONDUIT AS THEY RISE INTO THE EQUIPMENT AND VERIFY THAT THE PIGTAILS HAVE SUFFICIENT LENGTH TO TIE INTO THE EQUIPMENT.
7. CONTRACTOR TO ADD 100MM LAYER OF SUBSTATION ROCK THAT EXTENDS 1000MM PAST GROUND GRID.



GREENWOOD
SUSTAINABLE INFRASTRUCTURE

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NOTES:

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LEGEND:

- ▲ CABLE TO CABLE C-CRIMP - YGHCH29C26
- 3048MM X 19MM GROUND ROD & GROUND ROD CONNECTOR - YGLR29C34
- #2/0 AWG BARE COPPER CONDUCTOR
- GROUNDING PIGTAIL CONDUIT

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ENGINEER'S SEAL:	

PROJECT: TRI-COUNTY 5 MW SOLAR PROJECT

PROJECT OWNER: GSI DEVELOPMENT CORPORATION

TITLE: MV SET
AC PAD GROUNDING GRID

SCALE: NOT TO SCALE

DRAWN HEATHER DESIGNED KYLE
BY: SPITTAL BY: EDGINTON

DWG. NO.	SHEET NO.	REVISION
E705	1 of 1	4