
NORTH SENECA

SOLAR PROJECT

APPENDIX 5-B

Electrical Design & Substation Plan Drawings
ORES Permit Application No. 23-00036

REVISION 1

PROJECT INFO:

NORTH SENECA SOLAR FARM
 90MWAC PHOTOVOLTAIC SYSTEM
 APPENDIX 5-B ELECTRICAL DESIGN DRAWINGS PACKAGE

NORTH SENECA SOLAR PROJECT

SENECA COUNTY, NEW YORK

PROJECT OWNER:

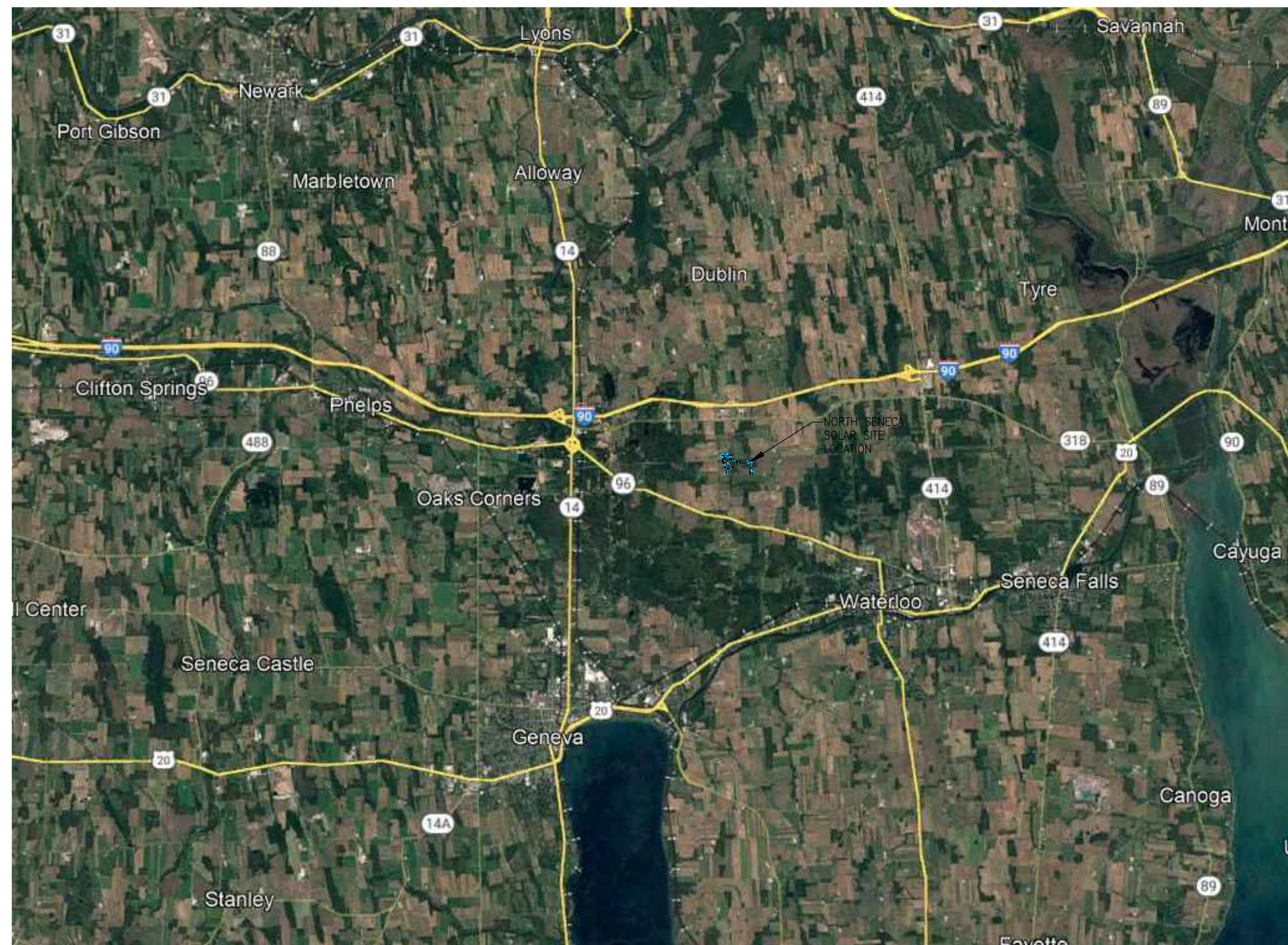
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 KANSAS CITY, MO 64106
 PHONE: (888) 609-7166

ELECTRICAL ENGINEERING COMPANY:

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 ALBANY, NY 12205
 PHONE: (518) 713-4414

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SITE VICINITY AERIAL MAP
 SCALE: NTS

NOTE:
 ALL THOSE DESIGN DRAWINGS LISTED ABOVE HAVE BEEN CREATED AT THE DIRECTION OF A PROFESSIONAL ENGINEER
 LICENSED IN THE STATE OF NEW YORK
 ENGINEER OF RECORD: MICHAEL NADEAU, LICENSE# 090896

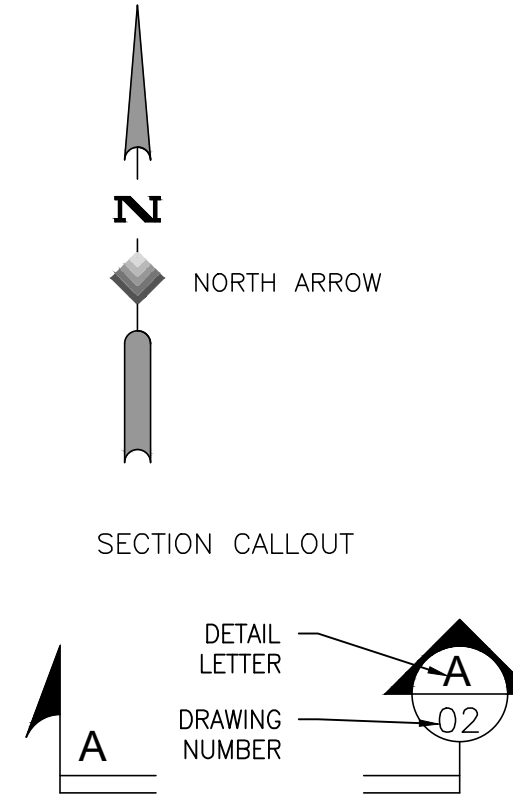
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<p>PROPRIETARY INFORMATION</p> <p>AHV CLAIMS PROPRIETARY RIGHTS TO THE INFORMATION, DESIGN, AND LAYOUT DISCLOSED HEREIN. THIS DRAWING IS ISSUED FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT BE REPRODUCED, DISCLOSED TO OTHERS OR USED TO DESIGN OR CONSTRUCT ANY OF THE ITEMS SHOWN HEREIN WITHOUT THE EXPRESSED WRITTEN CONSENT OF AHV.</p> <p style="text-align: center;">COPYRIGHT 2023 - ALBANY, NY</p>	<table border="1"> <thead> <tr> <th>REV.</th> <th>DATE</th> <th>DESCRIPTIONS</th> <th>BY</th> <th>CHK'D</th> <th>APR'D</th> </tr> </thead> <tbody> <tr> <td>D</td> <td>11/01/24</td> <td>ISSUED FOR REVIEW</td> <td>SDD</td> <td>DS</td> <td>DS</td> </tr> <tr> <td>C</td> <td>10/24/24</td> <td>ISSUED FOR REVIEW</td> <td>SDD</td> <td>DS</td> <td>DS</td> </tr> <tr> <td>B</td> <td>02/22/24</td> <td>ISSUED FOR REVIEW</td> <td>SDD</td> <td>DS</td> <td>DS</td> </tr> <tr> <td>A</td> <td>01/12/24</td> <td>ISSUED FOR REVIEW</td> <td>SDD</td> <td>DS</td> <td>DS</td> </tr> </tbody> </table>	REV.	DATE	DESCRIPTIONS	BY	CHK'D	APR'D	D	11/01/24	ISSUED FOR REVIEW	SDD	DS	DS	C	10/24/24	ISSUED FOR REVIEW	SDD	DS	DS	B	02/22/24	ISSUED FOR REVIEW	SDD	DS	DS	A	01/12/24	ISSUED FOR REVIEW	SDD	DS	DS			<p>NORTH SENECA SOLAR PROJECT SAVION</p> <p>115/34.5kV SUBSTATION TITLE SHEET</p>	<table border="1"> <tr> <td>PLOT SCALE: ARCH ENGRG</td> <td>0 1 2</td> </tr> <tr> <td>PROJ. NO.:</td> <td>19349</td> </tr> <tr> <td>DWG. NO.:</td> <td>001</td> </tr> <tr> <td>SCALE:</td> <td>NONE</td> </tr> <tr> <td>SHEET:</td> <td>01</td> </tr> <tr> <td>REV.:</td> <td>D</td> </tr> </table>	PLOT SCALE: ARCH ENGRG	0 1 2	PROJ. NO.:	19349	DWG. NO.:	001	SCALE:	NONE	SHEET:	01	REV.:	D
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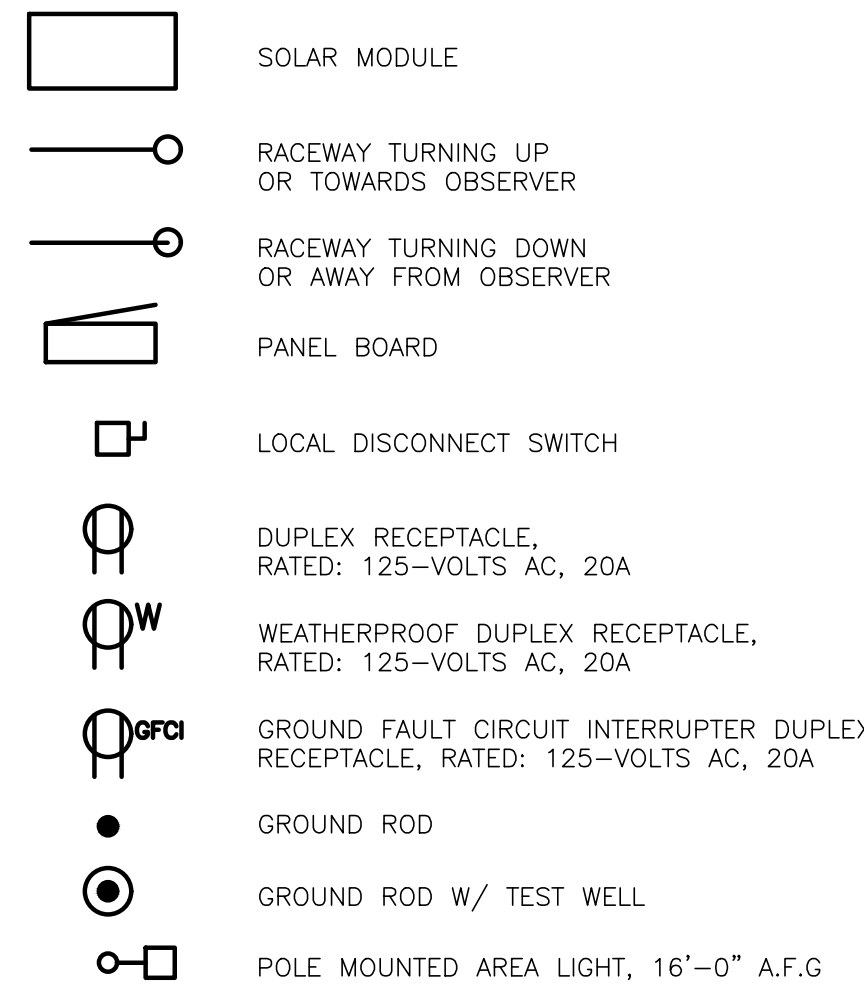
ABBREVIATIONS

A, AMP	AMPERAGE	DAM	DATA ACQUISITION MODULE	kw	KILOWATT	RGH	ROUGH
A/E	ARCHITECT/ENGINEER	DAS	DATA ACQUISITION SYSTEM	kwh	KILOWATT HOUR	RM	ROOM
AAT	AMBIENT AIR TEMPERATURE SENSOR	DC	DIRECT CURRENT	LAR	LIGHTNING ARRESTER	RMT	REVENUE METER
ABAN	ABANDON	DCA	DISCONNECT - AC	LATL	LATERAL	RTU	REMOTE TERMINAL UNIT
ABC	AGGREGATE BASE COURSE	DCD	DISCONNECT - DC	LBS	POUNDS	SA	SURGE ARRESTER
AC	ALTERNATING CURRENT	DCF	DISCONNECT - FUSED	LP	LOWPOINT	SAN	SANITARY
ACC	ASPHALTIC CONCRETE PAVEMENT	DCH	DISCONNECT - HIGH VOLTAGE	LT	LIGHT	SC	SEPARABLE CONDUCTOR
ADDL	ADDITIONAL	DCM	DISCONNECT - MEDIUM VOLTAGE	LTG	LIGHTING	SCHED	SCHEDULE
ADJ	ADJUSTABLE/ADJACENT	DCI	COMBINER INPUT AT INVERTER	LV	LOW VOLTAGE	SD	STORM DRAIN
AFCI	ARC FAULT CIRCUIT INTERRUPTER	DEMO	DEMOLITION	MA	MILLIAMPERE	SECT	SECTION
AFF	ABOVE FINISH FLOOR	DIA	DIAMETER	MATL	MATERIAL	SHT	SHEET
AFG	ABOVE FINISH GRADE	DISC	DISCONNECT	MAX	MAXIMUM	SL	SLOPE
AGGR	AGGREGATE	DTL	DETAIL	MBR	MAIN BREAKER	SOG	SLAB ON GRADE
AIC	AMPS INTERRUPTING CAPACITY	DWG	DRAWING	MCB	MAIN CIRCUIT BREAKER	SPD	SURGE PROTECTION DEVICE
AL	ALUMINUM	EA	EACH	MCC	MOTOR CONTROL CENTER	SPEC	SPECIFICATION
ALG	ALIGNMENT	EL	ELEVATION	MET	METERING STATION	SQ	SQUARE
ALT	ALTERNATE	ELEC	ELECTRIC/ELECTRICAL	SQ FT	SQUARE FEET	STA	STATION
ANE	ANEMOMETER	EMT	ELECTRICAL METAL TUBING	MFR	MANUFACTURER	STD	STANDARD
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	ENGR	ENGINEER	MIN	MINIMUM	STL	STRUCTURAL STEEL
APRX	APPROXIMATE	EOP	EDGE OF PAVEMENT	MLO	MAIN LUG ONLY	SW	SWITCH
APVD	APPROVED	EQ	EQUAL	MON	MONUMENT	SWBD	SWITCHBOARD
ARCH	ARCHITECTURAL	EQUIP	EQUIPMENT	MPNL	MOUNTED	SWF	SWITCH - FUSED
ASSY	ASSEMBLY	EST	ESTIMATE	MTR	METER	SWG	MEDIUM VOLTAGE SWITCHGEAR
ATS	AUTOMATIC TRANSFER SWITCH	EXC	EXCAVATION	NA	NOT APPLICABLE	SY	SQUARE YARD
AUTO	AUTOMATIC	EXIST	EXISTING	NC	NORMALLY CLOSED	SYS	SYSTEM
AUX	AUXILIARY	F	FUSE	NDS	NIGHTTIME DISCONNECT SWITCH	T&B	TOP AND BOTTOM
AWG	AMERICAN WIRE GAUGE	FBO	FURNISHED BY OTHERS	NO	NORMALLY OPEN	TB	TAP BOX
BAT	BATTERY	FG	FINISHED GRADE	NTS	NOT TO SCALE	TC	TRACKER CONTROLLER
BITUM	BITUMINOUS	FLR	FLOOR	OC	ON CENTER	TEL	TELEPHONE
BKR	BREAKER	FLUOR	FLUORESCENT	OHC	OVERHEAD CONDUCTOR	THS	THERMAL SENSOR
BL	BASE LINE	FOC	FACE OF CONCRETE	PAP	PLANE OF ARRAY PYRANOMETER	TM	TRACKER MOTOR
BLDG	BUILDING	FOPP	FIBER OPTIC PATCH PANEL	PB	PUSHBUTTON	TOB	TOP OF BERM
BMP	BEST MANAGEMENT PRACTICE	FT	FEET/FOOT	PCC	PORTLAND CONCRETE PAVEMENT	TOC	TOP OF CURB
BOC	BACK OF CURB	FUT	FUTURE	PCS	POWER CONSERVATION SYSTEM	TOPO	TOPOGRAPHY
BRD	BOARD	GEN	GENERAL	PEN	POWER PENETRATION	TOS	TOP OF SLAB / TOE OF SLOPE
BUS	BUS CONDUCTOR	GFI	GROUND FAULT INTERRUPTER	PED	PEDESTAL	TT	TORQUE TUBE
C	CONDUIT	GRND	GROUND CONDUCTOR	PF	POWER FACTOR	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
C&G	CURB AND GUTTER	GR	GRADE	PH, ϕ	PHASE	TYP	TYPICAL
CAB	CABINET	G5W	GANG OPERATED SWITCH	PIL	SUPPORT PILE	UCT	UNDERGROUND CABLE TERMINATION
CB,CBK	CIRCUIT BREAKER	OVL	GRAVEL	PL	PROPERTY LINE	UG	UNDERGROUND
CBL	CABLE	HORIZ	HORIZONTAL	PLC	PROGRAMMABLE LOGIC CONTROLLER	UNO	UNLESS NOTED OTHERWISE
CCB	CONCRETE BLOCK	HP	HORSE POWER	PLS	POLE - STEEL	UPS	UNINTERRUPTIBLE POWER SUPPLY
CCTV	CLOSED CIRCUIT TELEVISION	HPY	HORIZONTAL PYRANOMETER	PLW	POLE - WOOD	UTIL	UTILITY
CE	CONCRETE EDGE	HT	HEIGHT	PNL	PANEL	USGS	UNITED STATES GEOLOGICAL SURVEY
CF	CUBIC FOOT/FEET	HZ	HERTZ	PROP	PROPERTY/PROPOSED	V	VOLT
CHGR	CHARGER	ID	INSIDE DIAMETER	PVC	POLYVINYL CHLORIDE	VA	VOLT AMPERE
CIP	CAST IN PLACE	IE	INVERT ELEVATION	PVMT	PAVEMENT	VT	VOLTAGE TRANSFORMER
CL	CENTERLINE	IMC	INTERMEDIATE METALLIC CONDUIT	PWR	POWER	W	WATT
CLM	CELLULAR MODEM	IN	INCH/INCHES	QTY	QUANTITY	W/O	WITHOUT
CLR	CLEAR, CLEARANCE	INL	INLET	R	RADIUS	WP	WEATHERPROOF
CBX	COMBINER BOX	INS	INSULATOR	R&R	REMOVE AND REPLACE	WS	WEATHER STATION
CMP	CORRUGATED METAL PIPE	INV	INVERT	RCS	REMOVE AND SALVAGE	WSS	WINDOW STOW SWITCHES
CMT	CHECK METER	IP	IRON PIPE	RCB	RECOMBINER BOX	WVA	WEATHER VANE
CMU	CONCRETE MASONRY UNIT	JB	JUNCTION BOX	RCT	REACTOR	XFMR	TRANSFORMER
CNT	CONDUIT	JBM	JUNCTION BOX - MEDIUM VOLTAGE	REF	REFERENCE	XSECT	CROSS SECTION
CO	CLEANOUT	JMP	JUMPER CONDUCTOR	REL	RELAY		
CONC	CONCRETE	KO	KNOCKOUT	REQD	REQUIRED		
CONN	CONSTRUCTION	kV	KILOVOLT	RET	RETAINING		
CONSTR	CONTRACTOR	kVA	KILOVOLT AMPERE	REV	REVISION		
CPC	CAPACITOR BANK	kVAR	KILOVOLT AMPERE REACTIVE				
CT	CURRENT TRANSFORMER						
CTR	CENTER						
CTRL	CONTROL						
CU	COPPER						

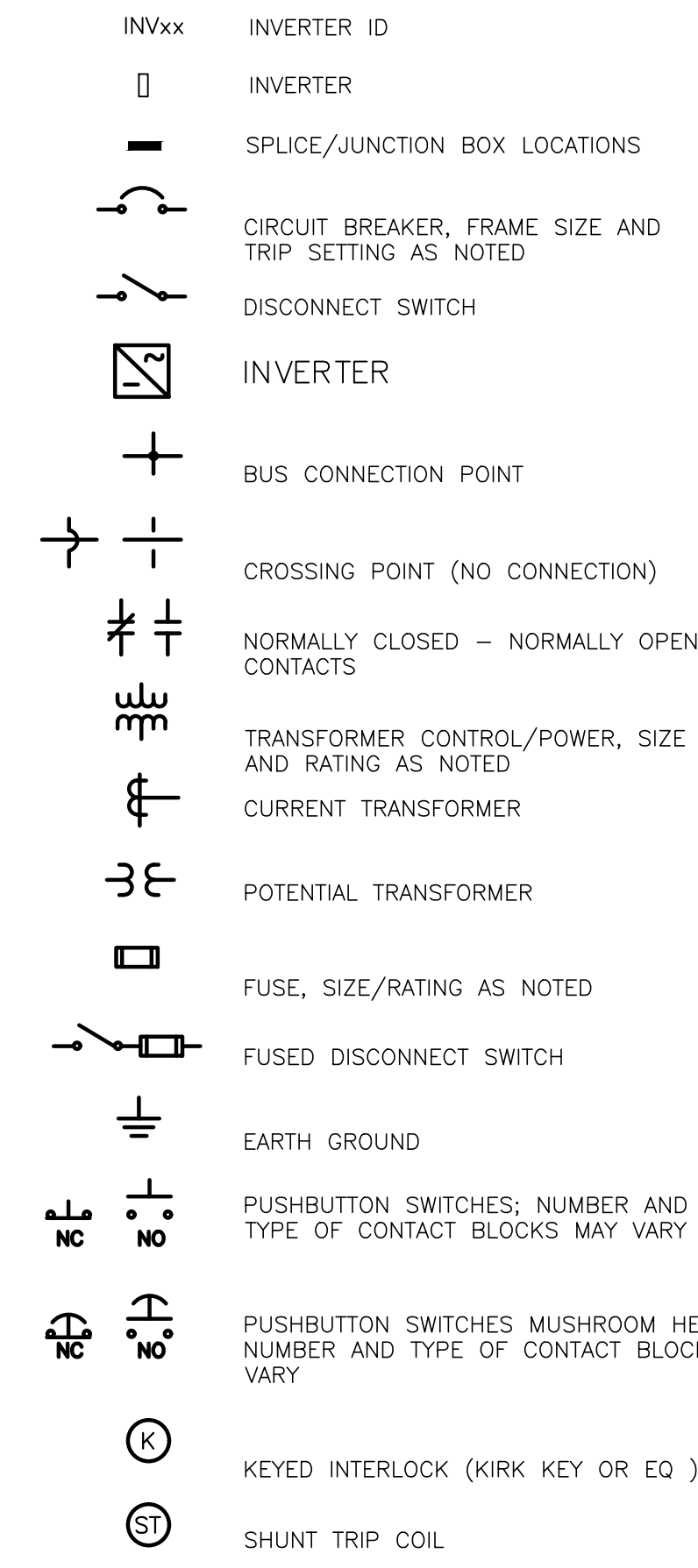
GENERAL SYMBOLOGY



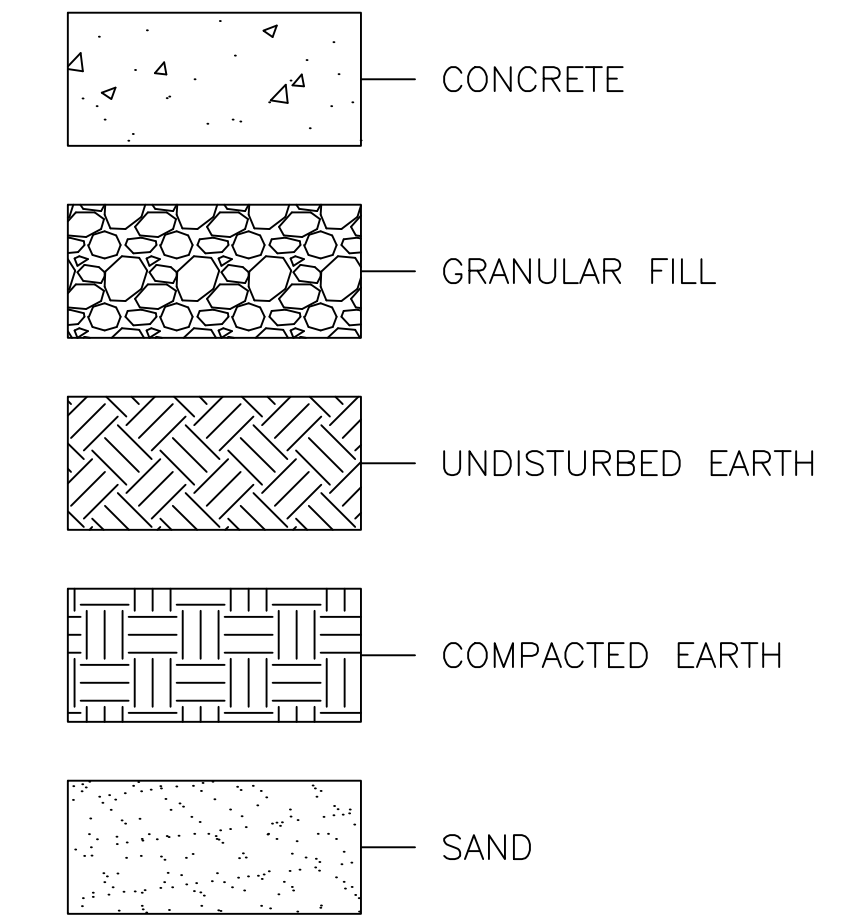
LEGEND - PLAN SYMBOLS



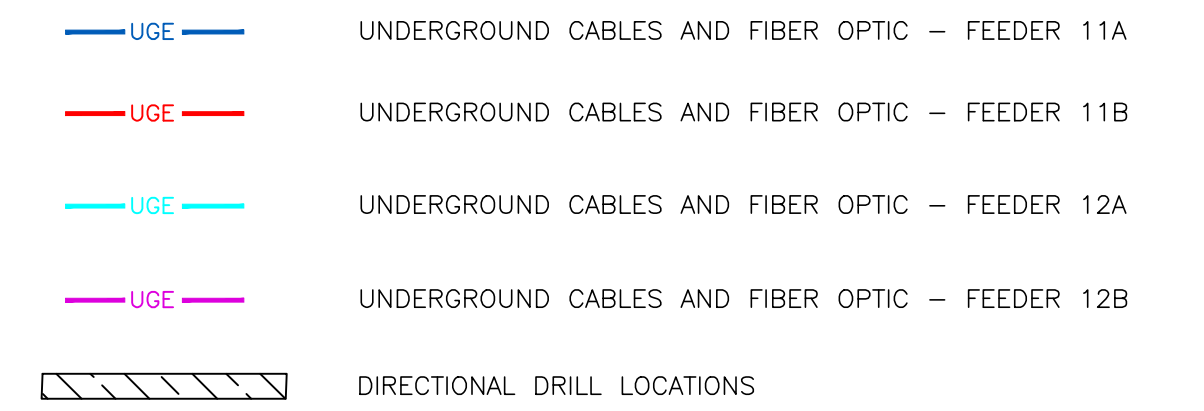
ELECTRICAL SYMBOLOGY



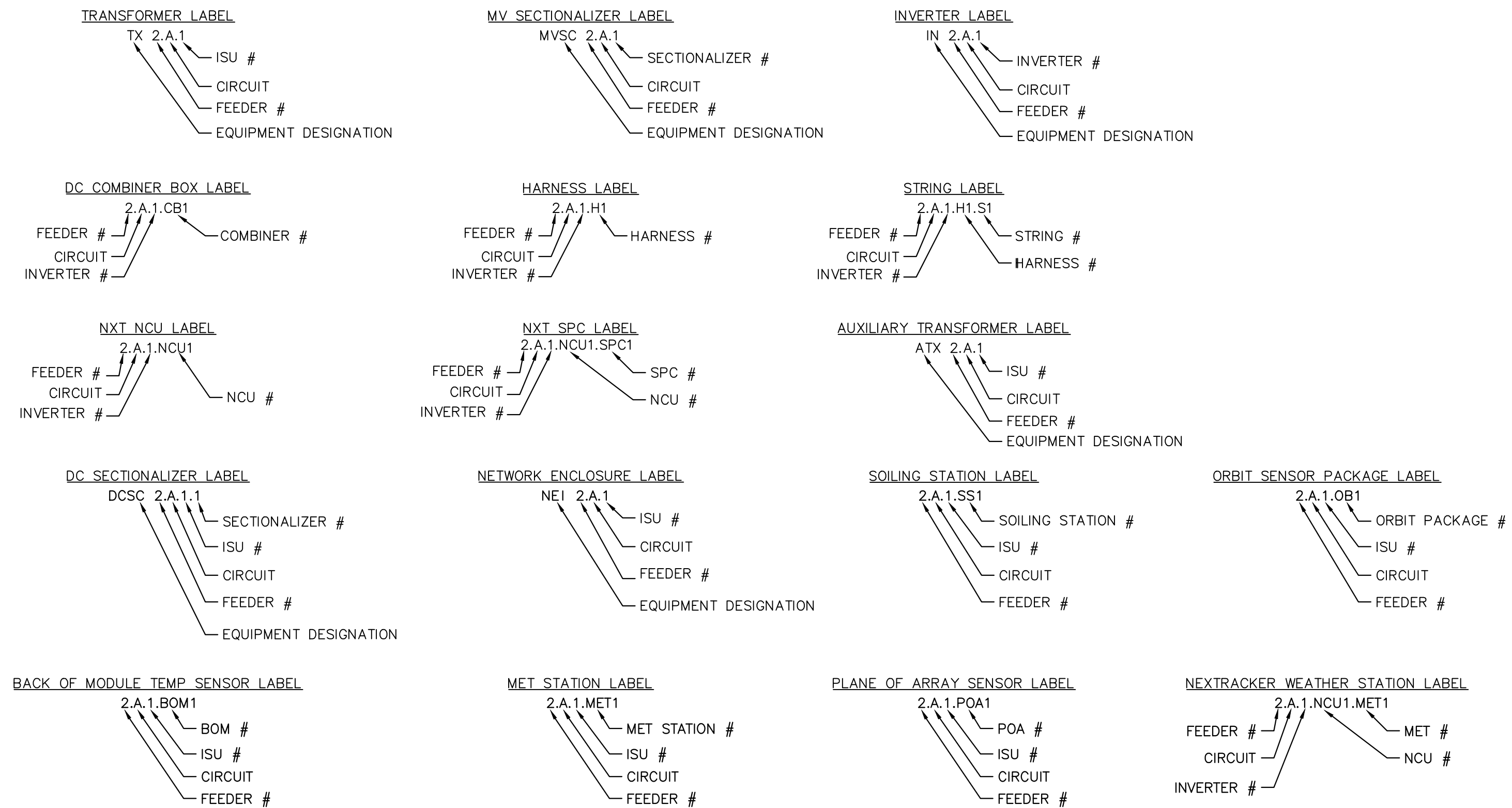
MATERIALS



WIRES SYMBOLOGY



ID NUMBERING SYSTEM



- NOTES:**
- ALL SYMBOLS AND ABBREVIATIONS ARE NOT NECESSARILY USED ON THIS PROJECT.
 - SYMBOLS AND ABBREVIATIONS APPLY TO THE ENTIRE SET OF ELECTRICAL DRAWINGS.

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						D	11/01/24	ISSUED FOR REVIEW	SDD	DS	DS
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NORTH SENECA SOLAR PROJECT SAVION
115/34.5kV SUBSTATION
ELECTRICAL ABBREVIATIONS
AND NOTES

PROJ. NO.:	19349	SCALE:	NONE
DWG. NO.:	002	SHEET:	01
REV.:			D

GENERAL

- 1. THE WORK INCLUDED SHALL CONSIST OF FURNISHING LABOR AND MATERIALS NECESSARY FOR THE COMPLETE INSTALLATION OF PHOTOVOLTAIC SYSTEMS, SUBSTATION AND TRANSMISSION LINES SHOWN ON THE DRAWINGS. ALL WORK SHALL BE COMPLETE AND LEFT IN OPERATING CONDITION AT COMPLETION OF CONTRACT.
2. CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, AND PROCEDURES. CONTRACTOR SHALL PROVIDE TEMPORARY ERECTION BRACING AND SHORING AS REQUIRED DURING ERECTION OF ALL STRUCTURAL FRAMING AND DURING EXCAVATION, COMPLYING WITH ALL OSHA REGULATIONS. EXCAVATION, TRENCHING, AND SHORING SHALL BE PER LATEST OSHA REGULATIONS, 29 CFR CH. XVII, STANDARD 1926, SUBPART "P".
3. SOME EQUIPMENT AND MATERIALS PROVIDED UNDER OTHER DIVISIONS MAY REQUIRE COMPOSITE WORK CREWS BECAUSE OF TRADE JURISDICTION. IT IS THE CONTRACTOR'S OR SUBCONTRACTOR'S RESPONSIBILITY TO REVIEW ALL CONTRACT DOCUMENTS TO DETERMINE WHERE THESE COMPOSITE CREWS ARE REQUIRED.
4. ALL TEMPORARY AND PERMANENT PERMITS AND LICENSES REQUIRED IN CONNECTION WITH THIS DIVISION'S WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR BIDDING THAT WORK.
5. INSTALLATION SHALL MEET OR EXCEED CURRENT APPLICABLE CODES, ORDINANCES AND REGULATIONS IN EFFECT AT THE SITE. IF A CONTRACTOR OR SUBCONTRACTOR OBSERVES THAT THE CONTRACT DOCUMENTS ARE AT VARIANCE WITH GOVERNING CODES AND REGULATIONS, CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER IN WRITING. WHO WILL RESPOND TO SUCH VARIANCES IN WRITING. IF THE CONTRACTOR PERFORMS WORK KNOWING IT IS NOT COMPLIANT WITH APPLICABLE CODES, AND DOES NOT NOTIFY THE ENGINEER, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY AND BEAR ALL COSTS ATTRIBUTABLE TO CORRECTING THE NON-COMPLYING WORK.
6. THE REFERENCE TO CODES AND STANDARDS SHALL NOT PERMIT A LOWER GRADE OF CONSTRUCTION WHERE CONTRACT DOCUMENTS CALL FOR WORKMANSHIP AND/OR MATERIALS IN EXCESS OF THOSE REFERENCES.
7. IF EQUIPMENT OR MATERIALS OTHER THAN THOSE SPECIFIED IN THE DESIGN OF THIS PROJECT ARE PROPOSED TO BE USED ON THIS PROJECT, THE CONTRACTOR AND SUPPLIER SHALL DOCUMENT DIMENSIONAL DIFFERENCES, ELECTRICAL REQUIREMENTS AND ANY OTHER POTENTIAL VARIANCES. THIS DOCUMENTED COMPARISON SHALL BE MADE FOR MANUFACTURERS SPECIFIED AS WELL AS THOSE PROPOSED PRIOR TO REQUESTING APPROVAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA COSTS INCURRED AS A RESULT OF SUBSTITUTIONS, INCLUDING THOSE FOR MATERIALS, SUCH AS MIGHT BE DUE TO (BUT NOT LIMITED TO) DIFFERENT ELECTRICAL, MECHANICAL AND ARCHITECTURAL REQUIREMENTS.
8. SHOP DRAWINGS:
a. CAREFULLY EXAMINE ALL SHOP DRAWINGS NOTING CAPACITY, ARRANGEMENT AND PHYSICAL DIMENSIONS AND MARK THE DRAWINGS AS BEING REVIEWED AND APPROVED PRIOR TO SUBMITTING TO THE ENGINEER. WHERE CATALOG DATA IS SUBMITTED WHICH INCLUDES ITEMS WHICH DO NOT APPLY TO THIS PROJECT, THOSE ITEMS SHALL BE CLEARLY MARKED OUT OR RELEVANT ITEMS CLEARLY NOTED ANY DEVIATIONS FROM THE DOCUMENTS SHALL BE SO NOTED BY THE CONTRACTOR OR EQUIPMENT SUPPLIER THE INTENT AND REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS SHALL BE ADHERED TO AT ALL TIMES AND ARE NOT WAIVED OR SUPERSEDED IN ANY WAY BY THE SHOP DRAWING SUBMITTAL OR REVIEW.
b. SUBMIT A MINIMUM (1) ELECTRONIC COPY OF SHOP DRAWINGS FOR REVIEW AND APPROVAL. CONTRACTOR SHALL RETAIN A FINAL APPROVED COPY FOR INCORPORATION IN THE OPERATION AND MAINTENANCE MANUALS.
c. IF RETURNED SHOP DRAWINGS ARE MARKED "NO EXCEPTIONS TAKEN", NO ADDITIONAL SUBMITTAL IS REQUIRED. IF THE SHOP DRAWING IS MARKED "MAKE CORRECTIONS NOTED", THE CHANGES NOTED ON THE SHOP DRAWINGS ARE TO BE INCORPORATED, WITH NO FURTHER RESUBMITTAL REQUIRED. IF MARKED "REVISE AND RESUBMIT", CHANGES NOTED ON THE SHOP DRAWINGS ARE TO BE MADE AND THE DRAWINGS RESUBMITTED FOR REVIEW. IF MARKED "REJECTED", THE EQUIPMENT SUBMITTED IS UNACCEPTABLE AND DIFFERENT EQUIPMENT OR MATERIALS NEED TO BE SUBMITTED.
9. NO ASBESTOS OR PCB CONTAINING MATERIALS OF ANY TYPE SHALL BE USED ON THIS PROJECT.
10. CONSULT THE CONTRACT DRAWINGS AND SPECIFICATIONS OF ALL OTHER DIVISIONS AND OTHER TRADES FOR CORRELATING INFORMATION AND LAYOUT WORK SO THAT IT WILL NOT INTERFERE WITH OTHER TRADES. VERIFY ALL DIMENSIONS AND CONDITIONS. IF CONFLICTS OCCUR SUCH THAT RESOLUTION IS NOT POSSIBLE BY THE AFFECTED TRADES ON THE JOB, THE ENGINEER SHALL BE NOTIFIED AND A RESOLUTION WILL BE WORKED OUT.
11. ELECTRICAL EQUIPMENT ENCLOSURES (SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, RELAY CABINETS, SYSTEMS RACKS/CABINETS, COMBINER BOXES, ETC.) SHALL BE VACUUMED AND WIPED CLEAN PRIOR TO ENERGIZING.
12. INSTALL INSTALL MATERIAL AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS, INSTRUCTIONS, AND CURRENT N.E.C.A. STANDARDS.
13. INSTALL INSTALL EQUIPMENT AND MATERIALS TO PROVIDE REQUIRED ACCESS FOR SERVICING AND MAINTENANCE. COORDINATE FINAL EQUIPMENT LOCATION WITH REQUIRED ACCESS PANELS AND DOORS. ALLOW AMPLE SPACE FOR REMOVAL OF ALL PARTS THAT REQUIRE REPLACEMENT OR SERVICING.
14. RECORD DRAWINGS: THROUGHOUT CONSTRUCTION ACTIVITIES, IN A NEAT AND LEGIBLE MANNER, DOCUMENT AND RECORD ALL CHANGES OR DEVIATIONS FROM THE CONTRACT DRAWINGS. SUBMIT RECORD DRAWINGS TO ENGINEER FOR REVIEW AT COMPLETION OF WORK AND INTERMITTENTLY IF REQUESTED BY THE ENGINEER IN WRITING. THE RECORD DRAWINGS WILL BECOME PART OF THE OPERATION AND MAINTENANCE MANUAL PACKAGE SUBMITTED TO THE OWNER AFTER THE COMPLETION OF THE PROJECT.

MATERIALS AND METHODS

- 1. ALL MATERIALS SHALL BE NEW, AS SPECIFIED (OR APPROVED), AND RECEIVED IN ORIGINAL PACKAGING CATALOG NUMBERS SPECIFIED SHALL BE VERIFIED WITH VENDORS PRIOR TO ORDERING MATERIAL.
2. ALL MATERIALS SHALL BE LISTED BY A NRTL (I.E. UL, ETL, ETC.) AND HAVE AN ASSOCIATED LABEL UNLESS SPECIAL FABRICATION OF MATERIAL IS REQUIRED. SPECIAL FABRICATED MATERIAL SHALL BE FABRICATED USING LISTED COMPONENTS AND PROCEDURES.
3. ALL WORK SHALL BE TESTED IN ACCORDANCE WITH INDUSTRY ACCEPTED STANDARDS. BEFORE TESTING, A THOROUGH VISUAL INSPECTION SHALL BE MADE TO DETECT CONNECTION PROBLEMS, DAMAGED COMPONENTS, POOR WORKMANSHIP, INAPPROPRIATE OVERCURRENT PROTECTION, DEBRIS, ETC. TESTING APPARATUS SHALL BE CERTIFIED OR DEMONSTRATED TO BE ACCURATE WITHIN REASONABLE LIMITS. COMPETENT PERSONNEL FAMILIAR WITH THE TEST EQUIPMENT SHALL PERFORM ALL TESTS. IF TESTING PROCEDURES EMPLOYED ARE NOT SATISFACTORY TO THE ENGINEER, OUTSIDE TESTING WILL BE DONE AT THE CONTRACTOR'S EXPENSE.
4. PROVIDE PERMANENT IDENTIFICATION FOR ALL ELECTRICAL EQUIPMENT WITH ENGRAVED 1/4" WHITE LETTERS ON BLACK NORPLEX-MICARTA PLATES UNLESS NOTED OTHERWISE NOTED. INSCRIPTIONS SHALL INDICATE THE NAME, VOLTAGE, PHASE, WIRES, FEEDER SIZE, FEEDER SOURCE AND LOCATION OF SOURCE, AND THE DEVICE NUMBER. THIS REQUIREMENT IS IN ADDITION TO OTHER REQUIREMENTS IDENTIFIED BY THE CONTRACT DOCUMENTS.
5. ALL LOW VOLTAGE CABLES SHALL BE BUNDLED AND LABELED AS TO THEIR FUNCTION WITHIN TERMINAL CABINETS, WIREWAYS AND CABLE TRAYS.
6. BRANCH CIRCUITRY SHALL MATCH CIRCUIT NUMBERS AS SHOWN ON THE DRAWINGS AND AS SCHEDULED. NOTIFY ENGINEER IN WRITING AND RECORD ALL DEVIATIONS ON THE AS-BUILT DRAWINGS.
7. ALL OPENINGS INTO EQUIPMENT SHALL BE SEALED WITH GALVANIZED STEEL PLATES OR SCREENS TO PREVENT ENTRY OF INSECTS AND RODENTS.
8. CLEAN, DE-BORE AND RE-FINISH ALL FIELD-PERFORMED ENCLOSURE PENETRATIONS TO MATCH OR EXCEED THE MANUFACTURER'S MEANS OF WEATHERPROOFING AND CORROSION-PREVENTION. UTILIZE MATERIALS THAT MEET OR EXCEED THE PERFORMANCE OF THE MANUFACTURER'S MEANS OF CORROSION PROTECTION.

RACEWAYS

- 1. CONSTRUCTION SHALL BE AS PER UNDERWRITER'S LABORATORIES STANDARD UL 870 FOR WIREWAYS, AUXILIARY GUTTERS AND ASSOCIATED FITTINGS.
2. WIREWAYS SHALL BE PAINTED STEEL WITH HINGED, REMOVABLE COVER WHICH CAN BE USED AS BOTH A HINGED COVER AND A SCREW COVER. WIREWAY SHALL BE FABRICATED SUCH THAT THE ENTIRE LENGTH OF WIREWAY AND FITTINGS PERMIT LAY-IN WIRING APPLICATION. CROSS SECTIONAL AREA SHALL BE 6" X 6" MINIMUM UNLESS OTHERWISE NOTED. RAINIGHT WIREWAY SHALL BE NEMA 3/IP54 CONSTRUCTION WITH GASKETS AND A CORROSION RESISTANT FINISH.
3. WHERE REQUIRED, PROVIDE CABLE STRAIN RELIEF, GROUNDING CONNECTORS AND EXPANSION FITTINGS.
4. SCHEDULE 40 PVC SHALL BE USED FOR ALL RACEWAYS WHERE NOT RESTRICTED BY THIS SECTION OR SPECIFICALLY NOTED OTHERWISE.
5. ABOVE-GRADE PVC CONDUIT IS ONLY ALLOWED WHERE TRANSITIONING FROM BELOW GRADE AND SHALL BE UV RESISTANT TYPE SCHEDULE 80.
6. FLEXIBLE LIQUID TIGHT CONDUIT SHALL BE USED ON ALL MOTOR, MOVING, AND VIBRATING EQUIPMENT CONNECTIONS. USE MINIMUM 3/4" SIZE WITH GROUNDING TYPE FITTINGS AND PROVIDE GROUNDING CONDUCTOR.
7. INSTALLATIONS OF UNDERGROUND WIRING SHALL BE IN TRENCH, DUCT OR CONDUIT OR BY PLOWING IN PLACE AS SPECIFIED ON THE DRAWINGS.
8. UNDERGROUND CONDUIT SHALL BE INSTALLED TO ALLOW DRAINAGE INTO HANDHOLES A MINIMUM OF 4 INCHES PER 100 FEET OF HORIZONTAL RUN.
9. WHEN NON-METALLIC CONDUIT REQUIRES FIELD BENDING, UTILIZE A HOT-BENDING APPLIANCE. USE OF TORCHES TO BEND CONDUIT IS UNACCEPTABLE WHERE CONDUITS TERMINATE IN HANDHOLES/VAULTS OR IN PAD MOUNTED EQUIPMENT. TERMINATE CONDUITS A MINIMUM OF 4 INCHES ABOVE BEDDING OR SLAB, WHERE ROUTED THROUGH SLABS, PROVIDE SLEEVES TO ALLOW SETTILING/HEAVING OF SLAB.
10. WHERE HDPE INNERDUCT IS USED, SCHEDULE 80 PVC CONDUIT SHALL BE USED FOR TRANSITIONS TO ABOVE GRADE.
11. ALL RACEWAYS SHALL UTILIZE POLYWATER FOR SEALANT.

MEDIUM VOLTAGE CABLES

- 1. CABLES FOR THE 34.5 KV SYSTEM SHALL BE UD 35 KV MV105 LISTED SINGLE CONDUCTOR, INSULATED, CONCENTRIC NEUTRAL AND JACKETED MEDIUM VOLTAGE TYPE POWER CABLE WITH 100% INSULATION LEVEL, 90° C. CONTINUOUS OPERATION RATING, 130° C. EMERGENCY RATING, 250° C. SHORT CIRCUIT RATING.
2. CABLE SHALL HAVE ASTM B-609 ALUMINUM CONDUCTORS WITH CLASS B STRANDING IN ACCORDANCE WITH ASTM B-231, MOISTURE BLOCKED STRANDS, AN EXTRUDED SEMI-CONDUCTING SHIELD LAYER (40 MIL MIN.) OVER THE CONDUCTOR FOR STRESS CONTROL, DIRECT-BURIAL TRLXPE INSULATION (345 MILS MIN.), A CONCENTRIC COPPER NEUTRAL, AND MOISTURE/CHEMICAL/OIL/FLAME RESISTANT PVC JACKET.
3. COMPLETE INSTALLATION SHALL BE PER NATIONAL ELECTRICAL CODE ARTICLES 310 AND 328. DO NOT EXCEED MANUFACTURER'S PUBLISHED MAXIMUM PULLING TENSION OR SIDEWALL PRESSURE. PROVIDE SUFFICIENT SLACK IN CABLE, GROUND AND DRAIN WIRES TO PERMIT ELBOW CONNECTORS TO BE MOVED TO THEIR RESPECTIVE PARKING STANDS.
4. ALL CABLES SHALL BE LABELED AT EACH END AT AN ACCESSIBLE LOCATION FOR VIEWING. LABEL SHALL INDICATE CIRCUIT, PHASE, AND DESTINATION/ORIGINATION. LABELS SHALL BE CABLE ID TAGS WITH WHITE LETTERING AND SECURED WITH A MINIMUM OF (2) UV-RESISTANT ZIP TIES.
5. SPLICES ARE NOT ALLOWED UNLESS SPECIFICALLY APPROVED BY OWNER. SPLICES AND TERMINATIONS SHALL BE MADE BY A QUALIFIED JOURNEYMAN.
6. PROVIDE A HALF-LAPPED LAYER OF ARC-PROOFING TAPE 3M SCOTCH 77 OR EQUAL WITH A BINDER OF GLASS FIBER TAPE 3M SCOTCH 69 OR EQUAL FOR ALL EXPOSED CABLE IN MANHOLES/HANDHOLES AND OTHER LOCATIONS OR LOCAL AVAILABLE.
7. ARRANGE PHASES AT TERMINATION POINTS, A-B-C FROM LEFT TO RIGHT OR TOP TO BOTTOM AS VIEWED FROM THE FRONT. PROVIDE APPROPRIATE SLACK TO INTERCHANGE CABLES AT TERMINATION POINTS.
8. PERFORM TESTING IN ACCORDANCE WITH EPC CONTRACT.

MEDIUM VOLTAGE SECTIONALIZING CABINETS

- 1. SECTIONALIZING CABINETS SHALL BE DESIGNED FOR BURIAL WITH THE JUNCTION MODULES MOUNTED ABOVE THE GROUND LINE. PEDESTALS SHALL BE IN COMPLETE CONFORMANCE WITH ANSI C57.12.28, PAD-MOUNTED EQUIPMENT ENCLOSURE INTEGRITY STANDARD.
2. SECTIONALIZING CABINETS SHALL BE MANUFACTURED BY NORDIC, EATON, HUBBELL, G&W, POWER DESIGN INC., HIGHLINE, FEDERAL PACIFIC, HOFFMAN, OR S&C (OR EQUAL).
3. ENCLOSURE SHALL BE 3/16" NOMINAL THICKNESS FIRE RESISTANT, LAMINATE, FIBERGLASS, WITH MUNSELL GREEN GEL COAT FINISH OR SHALL BE 12 GAUGE GALVANIZED STEEL WITH MUNSELL GREEN POLYESTER POWDER COAT FINISH. ENCLOSURE ACCESS DOORS SHALL UTILIZE STAINLESS STEEL HINGES AND SHALL HAVE PROVISIONS FOR PADLOCKING. DOORS SHALL HAVE PROVISIONS FOR SECURING IN THE OPEN POSITION.
4. PROVIDE JUNCTION PANELS WITH WELLS TO ACCOMMODATE THE SIZE AND QUANTITY OF LOAD BREAK ELBOWS INDICATED ON DRAWINGS.
5. PROVIDE GROUND BAR IN UNIT FOR BONDING OF GROUND CONDUCTORS AND CONCENTRIC NEUTRALS.
6. PROVIDE FIBERGLASS GROUND SLEEVE EXTENDING 36" BELOW CABINET INSTALLED ON A 6" PEA ROCK BASE TO ALLOW DRAINAGE OR LOCAL AVAILABLE.

BOXES

- 1. PULL AND JUNCTION BOXES SHALL BE CODE GAUGE, GASKETED, PAINTED, GALVANIZED STEEL, PVC, OR FIBERGLASS. COVERS SHALL BE SECURED WITH SCREWS.
2. OUTLET BOXES SHALL BE CAST MALLEABLE IRON WITH THREADED HUBS OR PVC AND BE OF HIGH CONDUCTIVE METAL TO MAINTAIN MAXIMUM ELECTRIC CONTINUITY.
3. ALL OUTLETS SHALL BE WEATHER RESISTANT WITH WEATHERPROOF WHILE-IN-USE COVERPLATES AND WEATHERPROOF BOXES.
4. COVERS OR PLATES FOR BOXES SHALL CONFORM SUBSTANTIALLY TO THE OUTLET OF THE BOXES WITH NO PROJECTING EDGES OR CORNERS.
5. CONDUIT FITTINGS ("LB", "C", "LL", "LR", "T") OR TYPES APPROVED FOR THE LOCATION MAY BE EMPLOYED AS REQUIRED TO FACILITATE PULLING IN CONDUCTORS.
6. PROVIDE PULL AND JUNCTION BOXES TO FACILITATE PULLING OR SPLICING OF CONDUCTORS.
7. MOUNT BOXES TO ALLOW FOR MAXIMUM FLEXIBILITY.
8. INSTALL GROUNDING BUSHINGS WITH BONDING CONDUCTOR ON ALL METALLIC FEEDER CONDUITS ENTERING BOX. GROUND BUSHINGS AND BONDING CONDUCTORS ARE NOT REQUIRED ON BRANCH CIRCUIT CONDUITS.
9. ALL GALVANIZED EQUIPMENT SHALL BE HOT DIPPED. NO ALTERNATIVES ARE ALLOWED.

COMBINER BOXES

- 1. ALL COMBINER BOXES SHALL BE 1500VDC A COMPLETE WITH CIRCUITRY AS NECESSARY TO PROTECT THE EQUIPMENT INCLUDING DISCONNECT SWITCH WITH FINGER-SAFE FUSE HOLDERS HAVING ALL NECESSARY FUSING. COMBINER BOXES SHALL BE EATON/COOPER, SHOALS, SOLARBOS, AMTEC, TEAL, BENTEK, OR APPROVED EQUAL.
2. A FINGER-SAFE, NON-FUSED DISCONNECT IS REQUIRED AND IT SHALL BE INTERLOCKED TO PREVENT THE OPENING OF THE COVER WHEN THE SWITCH IS IN THE ON POSITION. INTERLOCK SHALL BE DEFEATABLE FOR TESTING PURPOSES. HANDLE MUST BE LOCKABLE IN OFF POSITION.
3. ALL FUSE HOLDERS SHALL BE FINGER-SAFE AND SHALL HAVE LOCAL OPEN-FUSE INDICATION. ALL FUSE HOLDERS THAT OPEN UPRIGHT ALLOWING BUSES TO BE INSERTED TOP DOWN.
4. THE COMBINER BOX SHALL BE ARRANGED TO HAVE A MINIMUM NUMBER OF INPUT CIRCUITS AND FUSE SIZES AS INDICATED ON THE COMBINER BOX SCHEDULES OR A NEGATIVELY GROUNDING SYSTEM. INPUT FUSE HOLDERS SHALL BE RATED AS SHOWN ON PLANS.
5. ENCLOSURES SHALL BE A MINIMUM OF NEMA 3/IP54 WITH SEAMLESS DOOR GASKETS AND AN INTEGRAL DISCONNECT RATED AS INDICATED ON THE COMBINER BOX SCHEDULES.
6. ALL WIRE TERMINATIONS/LUGS SHALL BE LISTED FOR 90°C FIELD TERMINATIONS.
7. COMBINER BOXES INCLUDING DISCONNECT AND FUSES SHALL BE LISTED FOR CONTINUOUS OPERATION AT 100% OF IT'S COLLECTOR BUS/DISCONNECT RATING.
8. PROVIDE UNITS WITH INTEGRAL DC SURGE PROTECTION DEVICES RATED FOR 40KA DISCHARGE CURRENT (8/20 μs) AND MAXIMUM CONTINUOUS OPERATING VOLTAGE OF 1500VDC.
9. EQUIPMENT SHALL HAVE A NAMEPLATE INSTALLED AND MOUNTED TO THE FRONT COVER AND INDICATE, AT A MINIMUM: NUMBER OF INPUT CIRCUITS, AMPERE RATING OF INPUT CIRCUITS, VOLTAGE RATING, SHORT-CIRCUIT CURRENT RATING, AND INTEGRATED DISCONNECT AMPERE RATING.
10. PROVIDE TYPED PV STRING DIRECTORY INSIDE COVER TO DENOTE STRINGS AND THEIR ASSOCIATED FUSE/TERMINAL NUMBER.

GROUNDING

- 1. PROVIDE COMPLETE GROUNDING SYSTEMS AS DESCRIBED HEREIN AND AS SHOWN ON THE DRAWINGS.
2. ALL GROUNDING COMPONENTS SHALL BE LISTED FOR THE PURPOSE THEY ARE INSTALLED FOR.
3. GROUND RODS SHALL BE 3/4 INCH DIAMETER BY 10 FEET LONG COPPER CLAD STEEL. CONNECTING CABLES SHALL BE COPPER, SIZE AS INDICATED ON DRAWINGS. ALL GROUND CONDUCTORS EXPOSED TO THE ELEMENTS OR IN DIRECT CONTACT WITH THE EARTH SHALL BE TIN COATED COPPER.
4. ALL METALLIC CONDUITS, SUPPORTS, CABINETS, NON-CURRENT CARRYING PARTS OF EQUIPMENT, AND METALLIC STRUCTURES SHALL BE SOLIDLY GROUND TO FORM A CONTINUOUS STRUMENT AND EFFECTIVE GROUNDING SYSTEM.
5. ALL WIREWAYS, METAL ENCLOSURES, CABLE TRAYS AND SIMILAR PARTS OF THE ELECTRICAL INSTALLATION DESCRIBED HEREIN SHALL BE GROUNDED.
6. ALL GROUNDING ELECTRODE CONNECTIONS SHALL BE IRREVERSIBLE CRIMP TYPE. CONNECTIONS MADE BELOW GRADE SHALL BE EXOTHERMIC WELD TYPE.
7. BOLTED CONNECTIONS TO GROUND BUS BARS SHALL BE MADE USING A (2) EYELET IRREVERSIBLE CRIMP CONNECTOR ON THE GROUND CONDUCTOR.
8. THE SPECIAL ATTENTION OF THE CONTRACTOR IS CALLED TO METALLIC BUILDING COMPONENTS AND MECHANICAL PIPING WHICH MUST BE GROUNDED IN AN APPROVED MANNER ACCORDING TO THE NEC.
9. PROVIDE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR FOR EACH SINGLE OR THREE PHASE FEEDER AND EACH BRANCH CIRCUIT WITH A THREE PHASE PROTECTIVE DEVICE. INSTALL THE REQUIRED GROUNDING CONDUCTOR IN THE COMMON CONDUIT WITH THE RELATED PHASE/HOT AND NEUTRAL CONDUCTORS. WHERE PARALLEL FEEDERS ARE INSTALLED IN MORE THAN ONE RACEWAY, PROVIDE A GREEN OR BARE INSULATED EQUIPMENT GROUNDING CONDUCTOR IN EACH RACEWAY.
10. SINGLE PHASE BRANCH CIRCUITS FOR LIGHTING, RECEPTACLES, MOTORS AND OTHER SIMILAR EQUIPMENT: PROVIDE SINGLE PHASE BRANCH CIRCUITS SERVING LIGHTING, RECEPTACLES, MOTORS, AND OTHER SIMILAR EQUIPMENT CONSISTING OF PHASE, NEUTRAL, AND GREEN INSULATED EQUIPMENT GROUND CONDUCTOR INSTALLED IN A COMMON CONDUIT.
11. CONNECTIONS TO THE PV MODULES SHALL BE INSTALLED SUCH THAT REMOVAL OF A MODULE FROM THE STRING DOES NOT INTERRUPT THE GROUNDED CONDUCTOR TO ANOTHER STRING. SETS OF MODULES CONNECTED IN SERIES RATED AT 50 VOLTS OR MORE WITH OR WITHOUT BLOCKING DIODES, AND HAVING A SINGLE OVERCURRENT DEVICE SHALL BE CONSIDERED A STRING.
12. THE TRUE RESISTANCE TO EARTH OF THE INSTALLED GROUNDING SYSTEM SHALL BE EQUAL TO, OR LESS THAN 5 OHMS. THE RESISTANCE TO EARTH OF THE COMPLETE GROUNDING SYSTEM SHALL BE MEASURED WITH AN EARTH RESISTANCE TESTER DESIGNED FOR THAT PURPOSE AT EACH GROUND CONNECTION TO ENSURE CONTINUITY OF GROUNDING SYSTEM.

FUSES

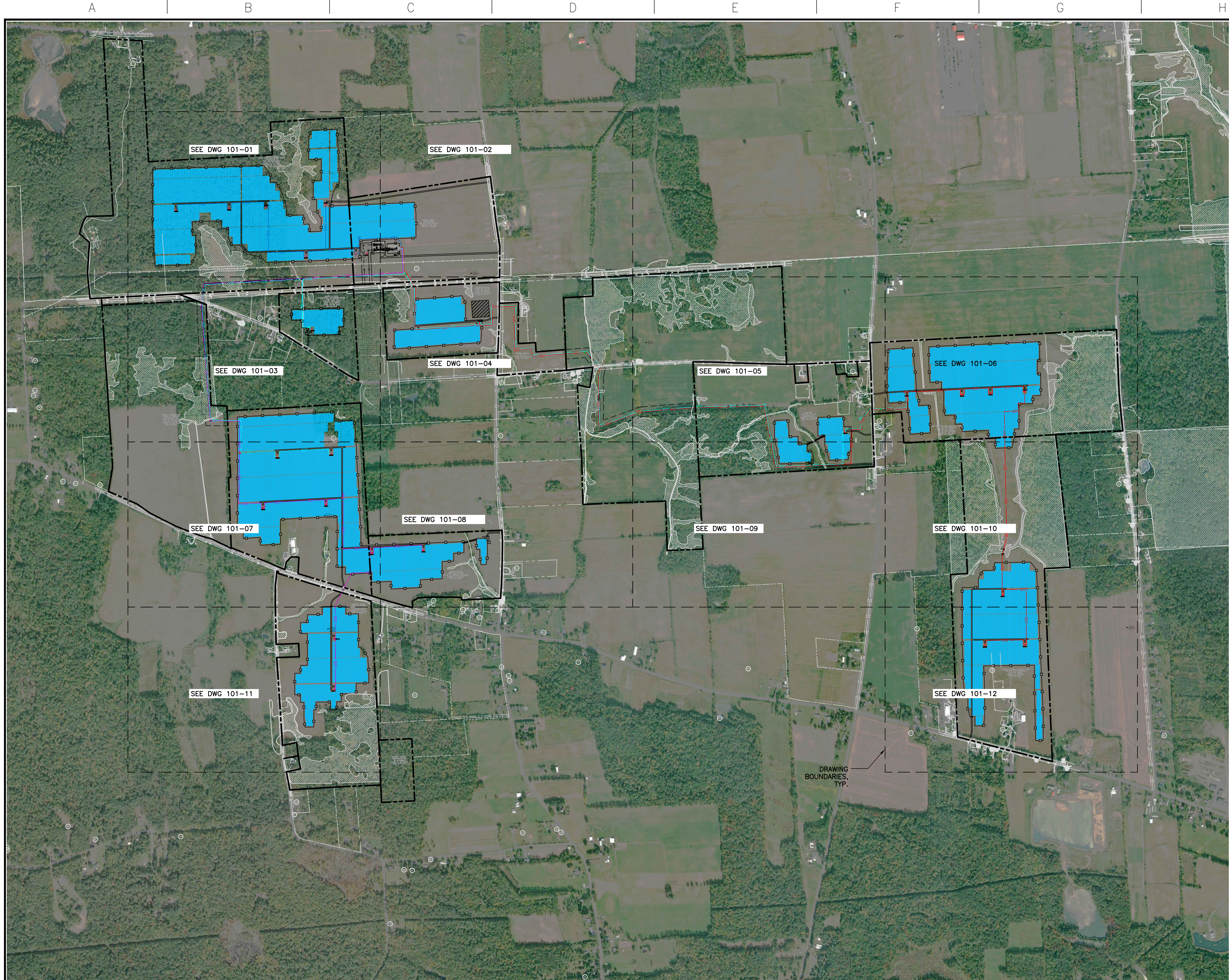
- 1. DC FUSES FOR PV STRING CIRCUITS SHALL BE CLASS GPV TYPE AS MANUFACTURED BY BUSSMAN, MERSEN, LITTELFUSE OR APPROVED EQUAL.
2. DC FUSES FOR PV FEEDERS SHALL BE CLASS J OR GPV TYPE AS MANUFACTURED BY BUSSMAN, MERSEN, OR LITTELFUSE OR APPROVED EQUAL.
3. FUSES SHALL BE INSTALLED SUCH THAT THE RATING IS VISIBLE WITHOUT REMOVAL.

PRELIMINARY DRAWING NOT FOR CONSTRUCTION

Table with 10 columns: PROPRIETARY INFORMATION, REV, DATE, DESCRIPTIONS, BY, CHK'D, APRV'D, REV, DATE, DESCRIPTIONS, BY, CHK'D, APRV'D, PROJECT INFORMATION (NORTH SENECA SOLAR PROJECT SAVION, 115/34.5KV SUBSTATION ELECTRICAL SPECIFICATION), PLOT SCALE, PROJ. NO., DWG. NO., SCALE, SHEET, REV.



115/34.5KV SUBSTATION ELECTRICAL SPECIFICATION, SHEET 01 OF 01, REV: D



NORTH SENECA SOLAR SITE DATA:

CAPACITY(AC): 90MW
 CAPACITY (DC) 120.5MW

PV SOLAR MODULES
 MANUFACTURER: CANADIAN SOLAR
 MODEL: CS7N-695TB-AG
 NAME PLATE: 695W

INVERTERS
 MANUFACTURER: SUNGROW
 MODEL: SG4400UD-MV
 QUANTITY: 24

ARRAY
 MANUFACTURER: NEXTRACKER
 TYPE: NX HORIZON

LEGEND

- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 11A
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 11B
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 12A
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 12B
- EXIST. UTILITY POLE
- EXIST. WATER WELL
- EXIST. SURVEYED GAS WELL
- EXIST. MAPPED NYDEC OIL AND GAS WELL
- EXIST. RIGHT-OF-WAY
- EXIST. UTILITY OVERHEAD LINE
- EXIST. UNDERGROUND FIBER OPTIC
- ADJACENT PROPERTY LINE
- EXIST. GAS LINE
- DIRECTIONAL DRILL LOCATIONS
- EXISTING WETLANDS
- INVERTER ID
- INVERTER
- SPLICE/JUNCTION BOX LOCATIONS
- PV SITE FENCE
- ACCESS ROADS
- PROPERTY LINE
- PROPOSED 115kV OVERHEAD TRANSMISSION LINE
- EXISTING BUILDINGS

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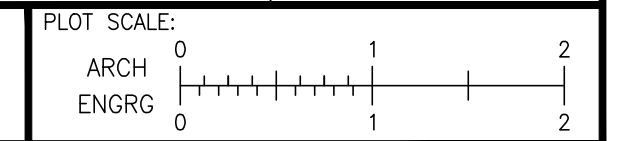
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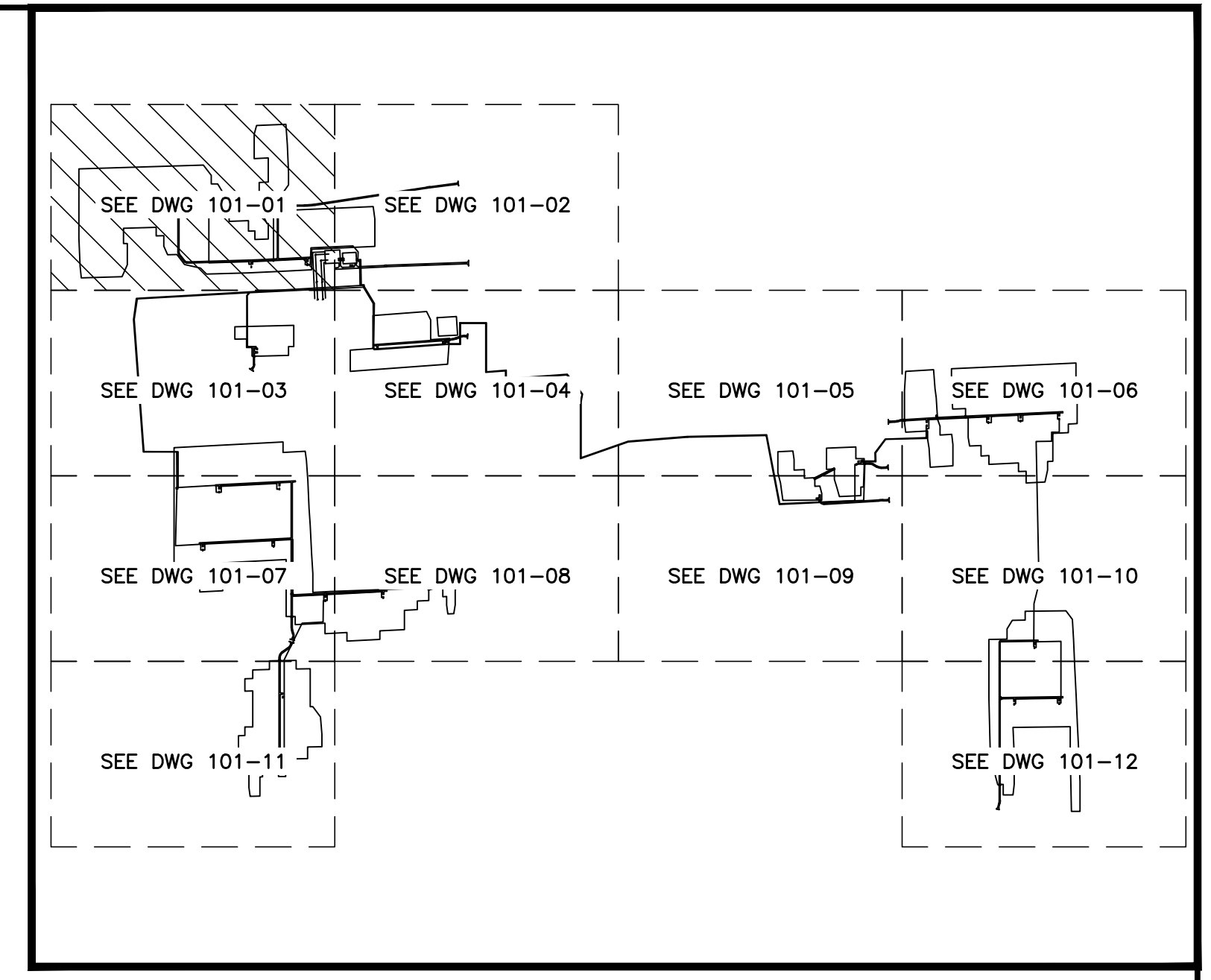
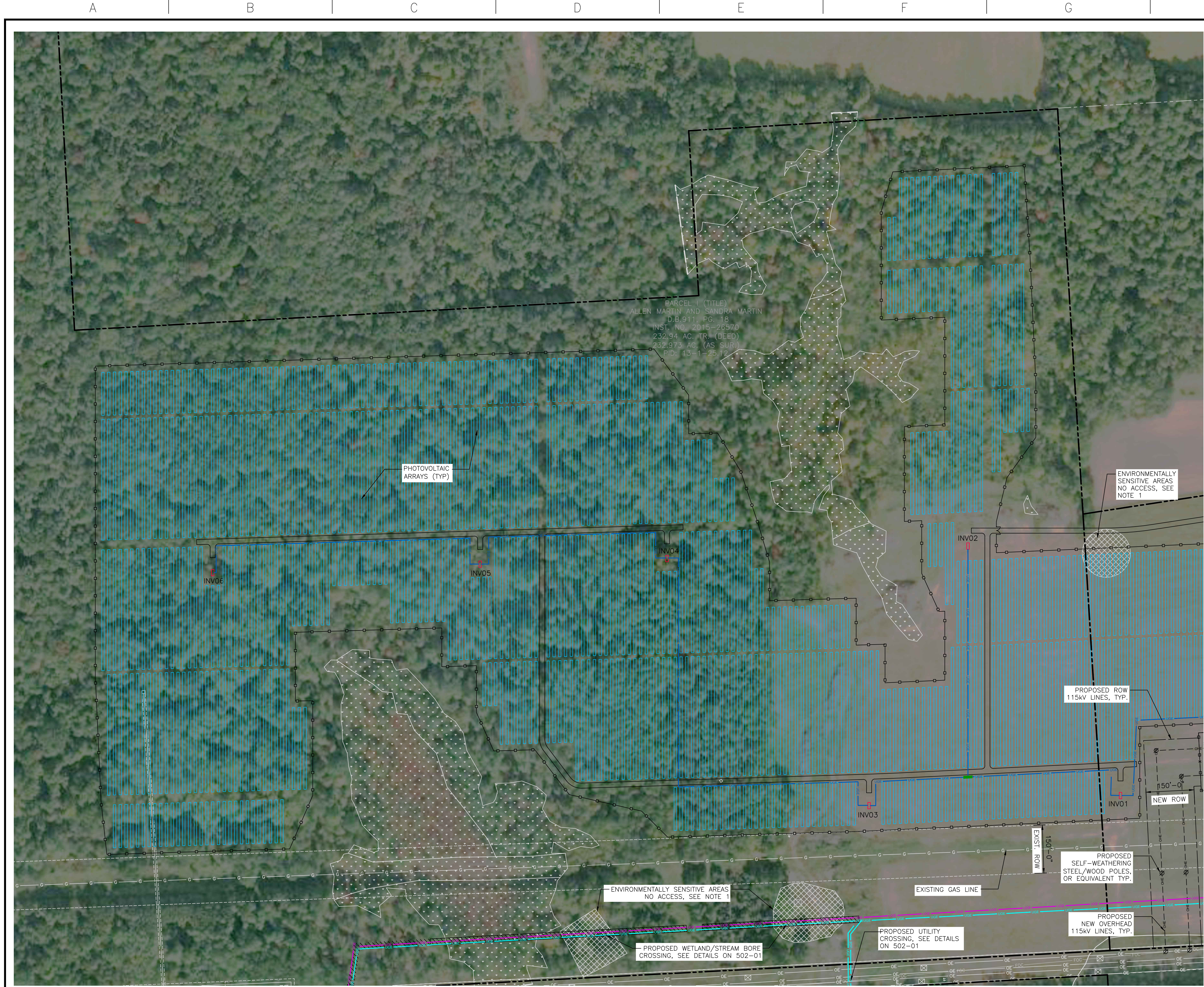


NORTH SENECA SOLAR PROJECT
 SAVION
 34.5kV COLLECTION SYSTEM
 OVERALL SITE PLAN
 ELECTRICAL COLLECTION UNDERGROUND ROUTING

PROJ. NO.:	19.349	SHEET:	01	REV.:	D
DWG. NO.:	100				



PLOT SCALE:
 ARCH 0 1 2
 ENGRG 0 1 2
 SCALE: 1"=750'



NORTH SENECA SOLAR -- KEY PLAN

- LEGEND**
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 11A
 - UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 11B
 - UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 12A
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 - ▨ EXISTING WETLANDS
 - INVxx INVERTER ID
 - INVERTER
 - SPlice/JUNCTION BOX LOCATIONS
 - PV SITE FENCE
 - ACCESS ROADS
 - PROPERTY LINE
 - OE PROPOSED 115kV OVERHEAD TRANSMISSION LINE
 - EXISTING BUILDINGS
- NOTES:**
- SIGNIFICANT GROUND DISTURBANCE WITHIN THE ENVIRONMENTALLY SENSITIVE AREA (ESA) IS PROHIBITED, CONSISTENT WITH THE MEASURES IN THE FINAL ARCHAEOLOGICAL AVOIDANCE PLAN APPROVED BY OFFICE OF PARKS, RECREATION AND HISTORIC PRESERVATION/STATE HISTORIC PRESERVATION OFFICE (OPRHP/SHPO).

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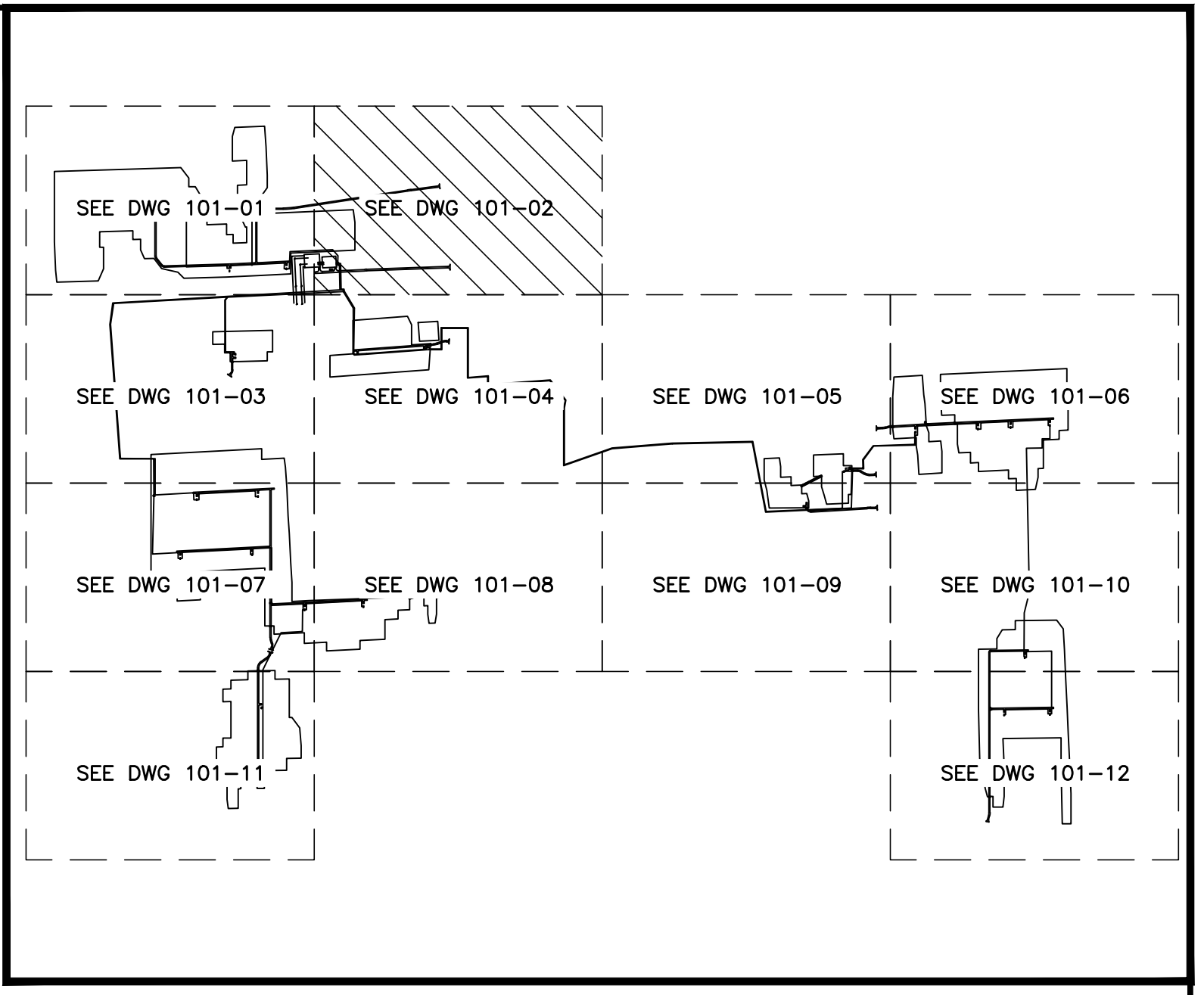
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NORTH SENECA SOLAR PROJECT
SAVION
34.5kV COLLECTION SYSTEM
ELECTRICAL COLLECTION UNDERGROUND ROUTING
AREA 1 - DETAILS

PROJ. NO.:	19349	SHEET:	01	REV.:	D
DWG. NO.:	101				



NORTH SENECA SOLAR -- KEY PLAN

LEGEND

- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH -- FEEDER 11A
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- PV SITE FENCE
- ▭ ACCESS ROADS
- PROPERTY LINE
- PROPOSED 115KV OVERHEAD TRANSMISSION LINE
- EXISTING BUILDINGS

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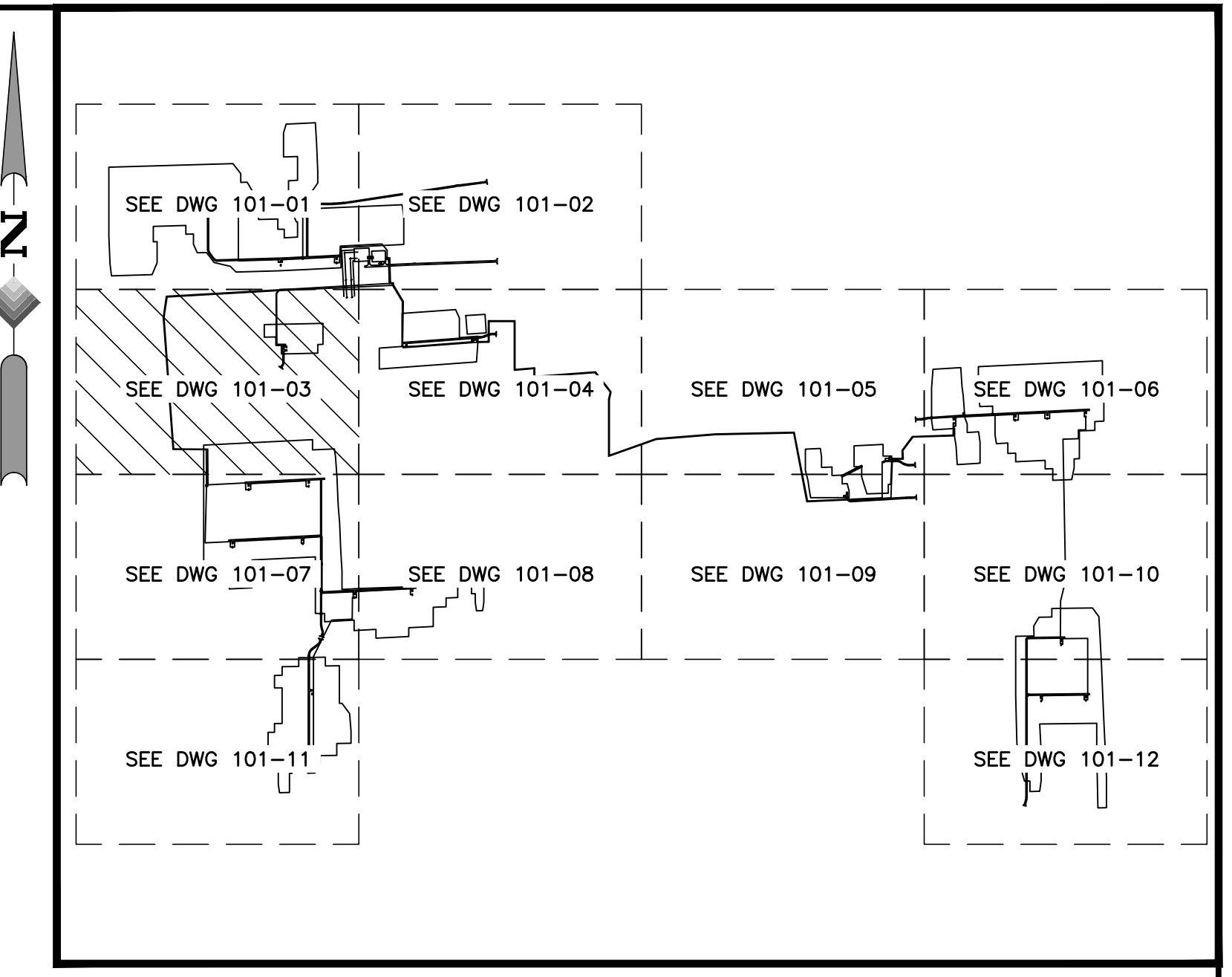
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NORTH SENECA SOLAR PROJECT
 SAVION
 34.5KV COLLECTION SYSTEM
 ELECTRICAL COLLECTION UNDERGROUND ROUTING
 AREA 2 -- DETAILS

PROJ. NO.:	19349	SHEET:	02	REV.:	D
DWG. NO.:	101				



NORTH SENECA SOLAR -- KEY PLAN

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- EXISTING BUILDINGS

NOTES:
 1. SIGNIFICANT GROUND DISTURBANCE WITHIN THE ENVIRONMENTALLY SENSITIVE AREA (ESA) IS PROHIBITED, CONSISTENT WITH THE MEASURES IN THE FINAL ARCHAEOLOGICAL AVOIDANCE PLAN APPROVED BY OFFICE OF PARKS, RECREATION AND HISTORIC PRESERVATION/STATE HISTORIC PRESERVATION OFFICE (OPRHP/SHPO).

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A	01/12/24	ISSUED FOR REVIEW	SDD	DS	DS						



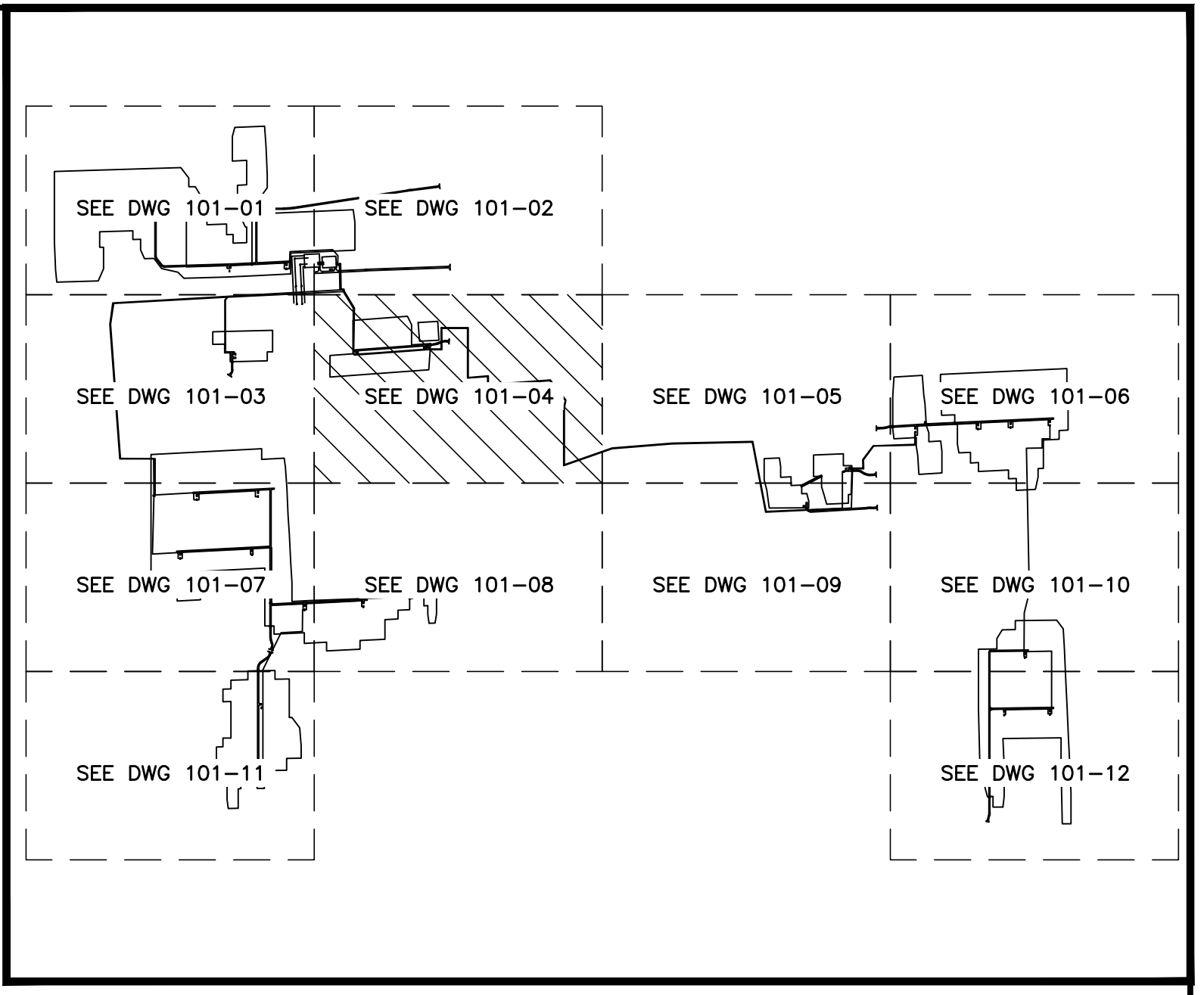
NORTH SENECA SOLAR PROJECT
SAVION

34.5kV COLLECTION SYSTEM
ELECTRICAL COLLECTION UNDERGROUND ROUTING
AREA 3 - DETAILS

PROJ. NO.: 19349
DWG. NO.: 101

SCALE: 1"=150'
SHEET: 03
REV.: D

PLOT SCALE:
ARCH ENGRG 0 1 2



NORTH SENECA SOLAR -- KEY PLAN

LEGEND

- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH -- FEEDER 11A
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH -- FEEDER 11B
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH -- FEEDER 12A
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH -- FEEDER 12B
- ⊗ EXIST. UTILITY POLE
- EXIST. WATER WELL
- EXIST. SURVEYED GAS WELL
- ⊗ EXIST. MAPPED NYDEC OIL AND GAS WELL
- EXIST. RIGHT-OF-WAY
- OE EXIST. UTILITY OVERHEAD LINE
- FOC EXIST. UNDERGROUND FIBER OPTIC
- ADJACENT PROPERTY LINE
- G EXIST. GAS LINE
- ▨ DIRECTIONAL DRILL LOCATIONS
- ⋯ EXISTING WETLANDS
- INVxx INVERTER ID
- INVERTER
- SPLICE/JUNCTION BOX LOCATIONS
- PV SITE FENCE
- ACCESS ROADS
- PROPERTY LINE
- EXISTING BUILDINGS

PRELIMINARY
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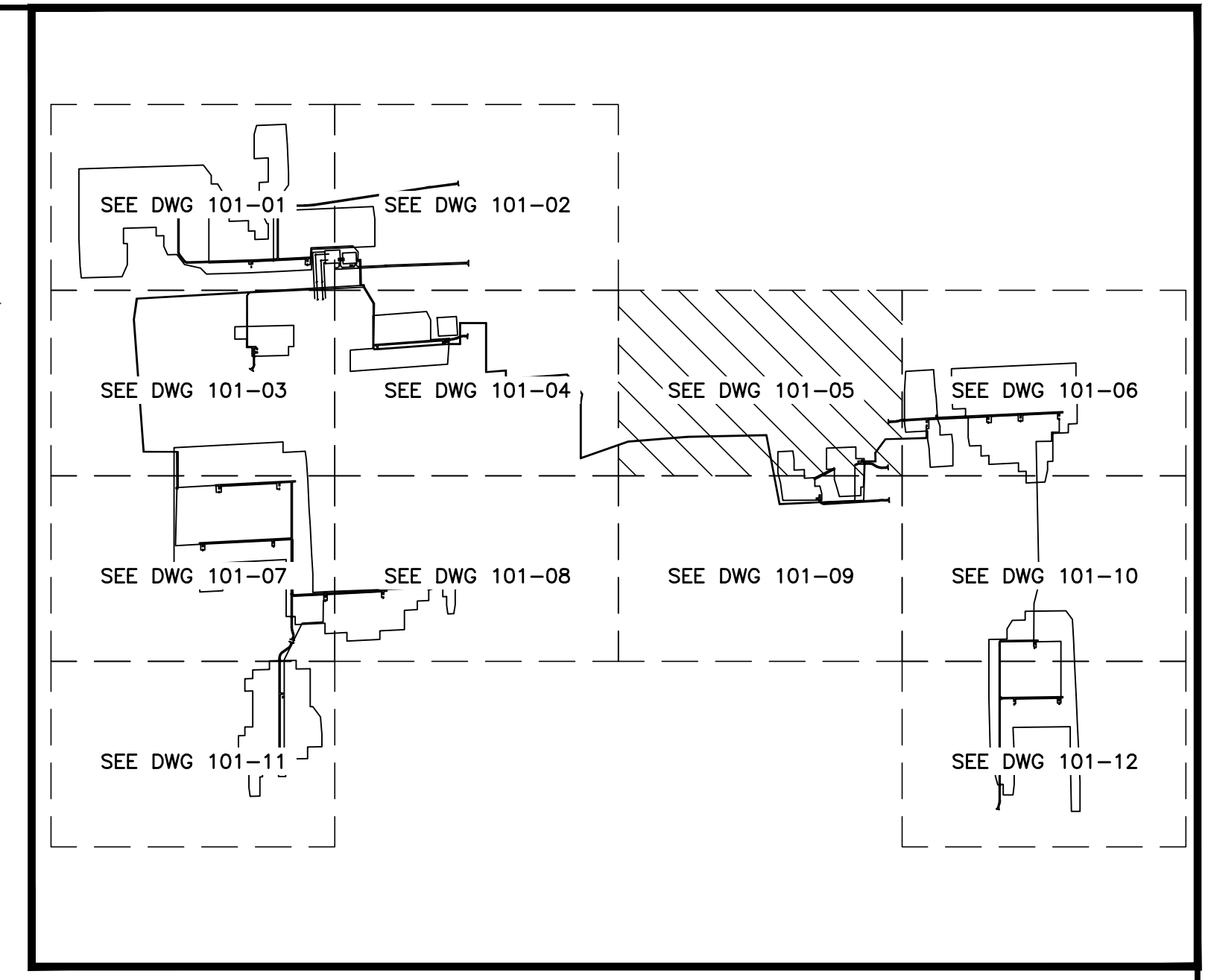
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						A	01/12/24	ISSUED FOR REVIEW	SDD	DS	DS



NORTH SENECA SOLAR PROJECT
SAVION
34.5kV COLLECTION SYSTEM
ELECTRICAL COLLECTION UNDERGROUND ROUTING
AREA 4 -- DETAILS

PROJ. NO.:	19349	SHEET:	04	REV.:	D
DWG. NO.:	101				



NORTH SENECA SOLAR -- KEY PLAN

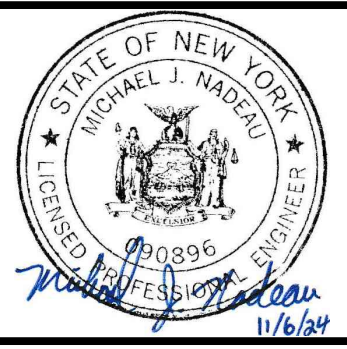
LEGEND

- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH -- FEEDER 11A
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH -- FEEDER 11B
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH -- FEEDER 12A
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH -- FEEDER 12B
- ⊠ EXIST. UTILITY POLE
- EXIST. WATER WELL
- EXIST. SURVEYED GAS WELL
- ⊠ EXIST. MAPPED NYDEC OIL AND GAS WELL
- OE EXIST. RIGHT-OF-WAY
- OE EXIST. UTILITY OVERHEAD LINE
- FOC EXIST. UNDERGROUND FIBER OPTIC
- ADJACENT PROPERTY LINE
- G EXIST. GAS LINE
- ▨ DIRECTIONAL DRILL LOCATIONS
- ▨ EXISTING WETLANDS
- INVxx INVERTER ID
- INVERTER
- SPlice/JUNCTION BOX LOCATIONS
- PV SITE FENCE
- ACCESS ROADS
- PROPERTY LINE
- EXISTING BUILDINGS

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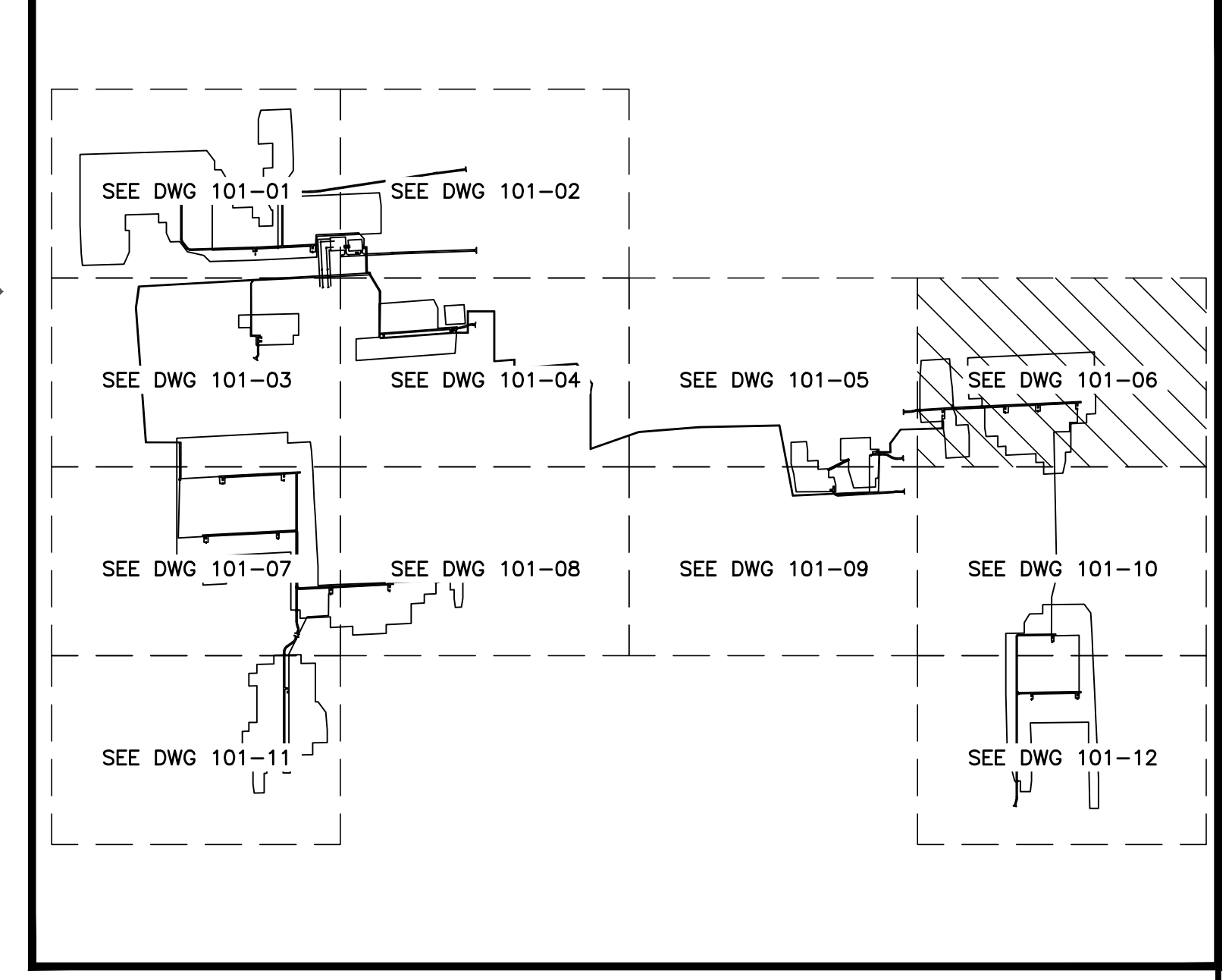


NORTH SENECA SOLAR PROJECT
SAVION
34.5kV COLLECTION SYSTEM
ELECTRICAL COLLECTION UNDERGROUND ROUTING
AREA 5 -- DETAILS

PROJ. NO.:	19349	SHEET:	05	REV.:	D
PLT SCALE:	0 1 2				
ARCH ENGRG:	0 1 2				
DWG. NO.:	101	SHEET:	05	REV.:	D
SCALE:	1"=150'				

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NORTH SENECA SOLAR -- KEY PLAN

LEGEND

- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 11A
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 11B
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 12A
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 12B
- EXIST. UTILITY POLE
- EXIST. WATER WELL
- EXIST. SURVEYED GAS WELL
- EXIST. MAPPED NYDEC OIL AND GAS WELL
- EXIST. RIGHT-OF-WAY
- EXIST. UTILITY OVERHEAD LINE
- EXIST. UNDERGROUND FIBER OPTIC
- ADJACENT PROPERTY LINE
- EXIST. GAS LINE
- DIRECTIONAL DRILL LOCATIONS
- EXISTING WETLANDS
- INVxx INVERTER ID
- INVERTER
- SPLICE/JUNCTION BOX LOCATIONS
- PV SITE FENCE
- ACCESS ROADS
- PROPERTY LINE
- EXISTING BUILDINGS

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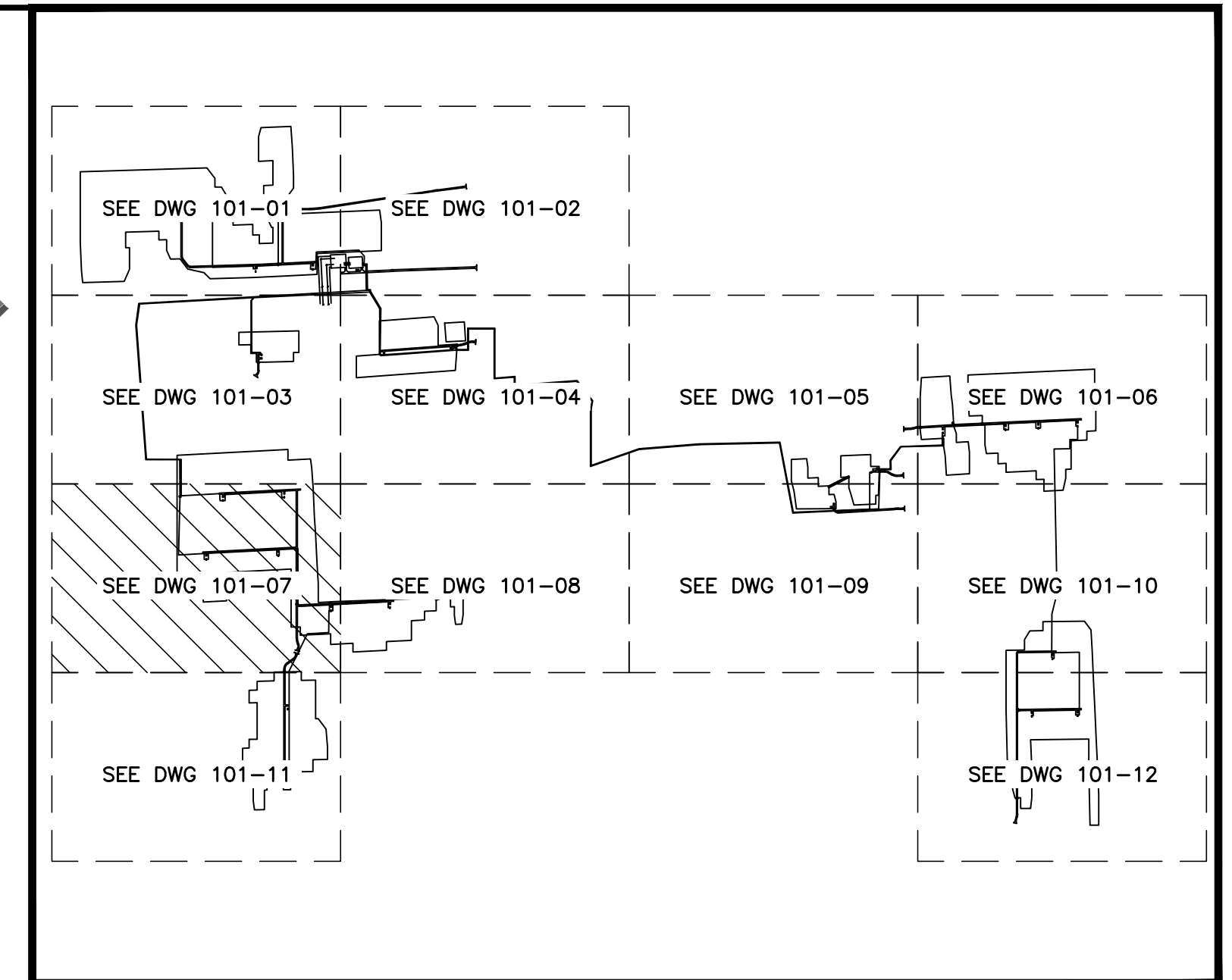
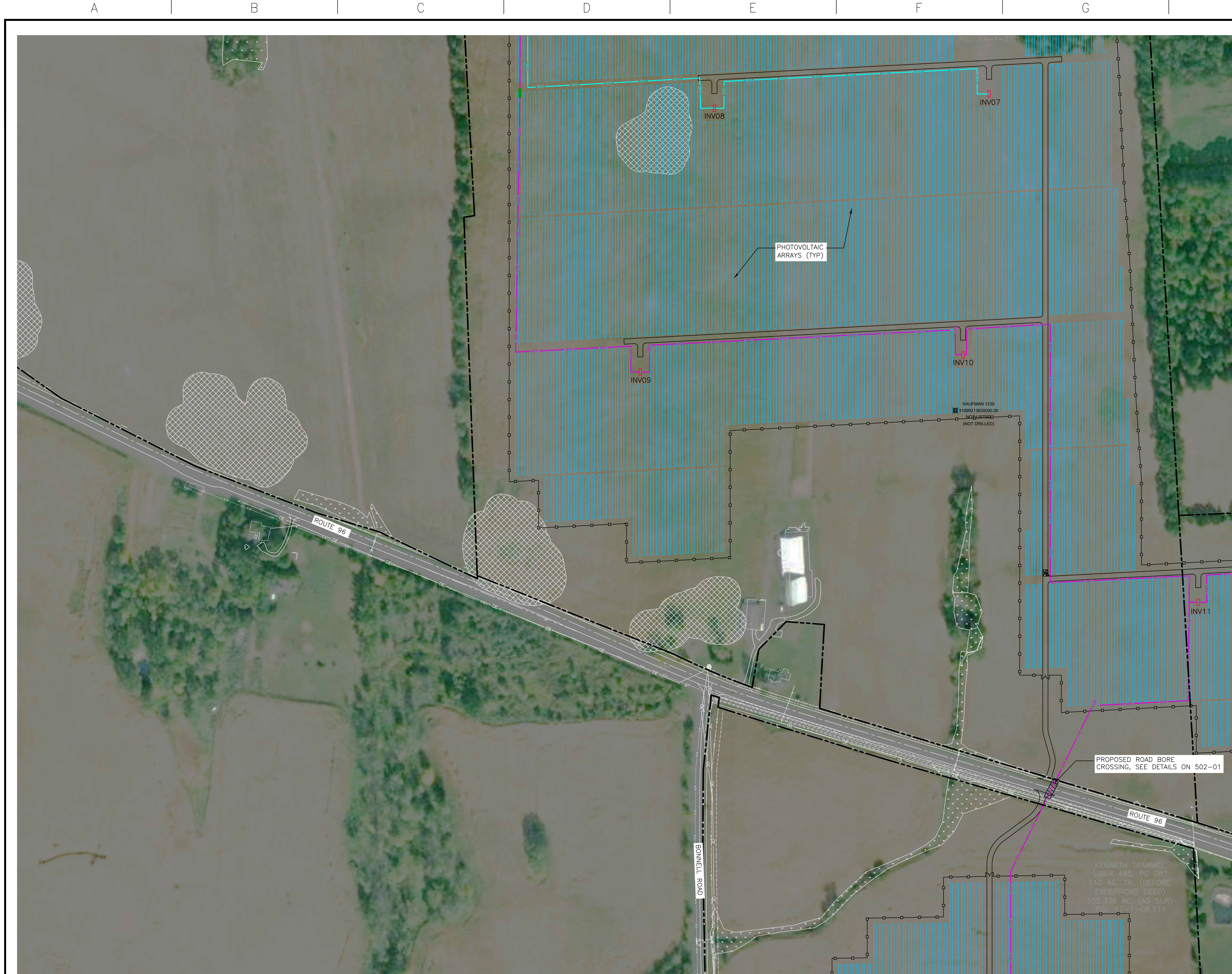
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						A	01/12/24	ISSUED FOR REVIEW	SDD	DS	DS



NORTH SENECA SOLAR PROJECT
SAVION
34.5kV COLLECTION SYSTEM
ELECTRICAL COLLECTION UNDERGROUND ROUTING
AREA 6 - DETAILS

PROJ. NO.:	19349	SHEET:	06	REV.:	D
DWG. NO.:	101				

A | B | C | D | E | F | G | H | I | J



NORTH SENECA SOLAR -- KEY PLAN

LEGEND

- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH -- FEEDER 11A
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH -- FEEDER 11B
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH -- FEEDER 12A
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH -- FEEDER 12B
- ⊠ EXIST. UTILITY POLE
- EXIST. WATER WELL
- EXIST. SURVEYED GAS WELL
- ⊠ EXIST. MAPPED NYDEC OIL AND GAS WELL
- EXIST. RIGHT-OF-WAY
- OE EXIST. UTILITY OVERHEAD LINE
- FOC EXIST. UNDERGROUND FIBER OPTIC
- ADJACENT PROPERTY LINE
- G EXIST. GAS LINE
- ▨ DIRECTIONAL DRILL LOCATIONS
- ▨ EXISTING WETLANDS
- INVxx INVERTER ID
- INVERTER
- SPlice/JUNCTION BOX LOCATIONS
- PV SITE FENCE
- ACCESS ROADS
- PROPERTY LINE
- ▭ EXISTING BUILDINGS

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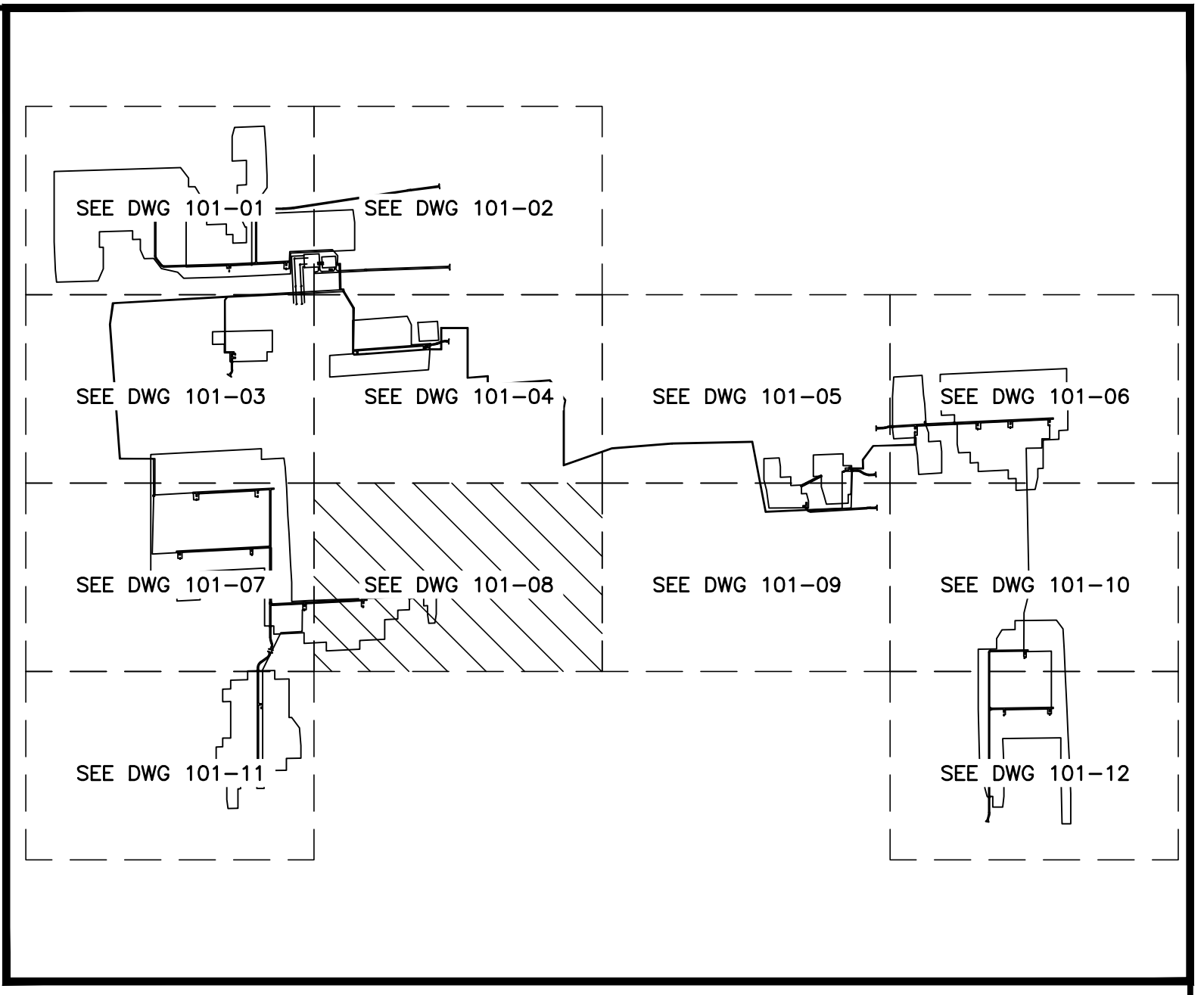


NORTH SENECA SOLAR PROJECT
SAVION
34.5kV COLLECTION SYSTEM
ELECTRICAL COLLECTION UNDERGROUND ROUTING
AREA 7 -- DETAILS

PROJ. NO.:	19349	SHEET:	07	REV.:	D
DWG. NO.:	101				

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NORTH SENECA SOLAR -- KEY PLAN

LEGEND

- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH — FEEDER 11A
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH — FEEDER 11B
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH — FEEDER 12A
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH — FEEDER 12B
- EXIST. UTILITY POLE
- EXIST. WATER WELL
- EXIST. SURVEYED GAS WELL
- EXIST. MAPPED NYDEC OIL AND GAS WELL
- EXIST. RIGHT-OF-WAY
- EXIST. UTILITY OVERHEAD LINE
- EXIST. UNDERGROUND FIBER OPTIC
- ADJACENT PROPERTY LINE
- EXIST. GAS LINE
- DIRECTIONAL DRILL LOCATIONS
- EXISTING WETLANDS
- INVxx INVERTER ID
- INVERTER
- SPLICE/JUNCTION BOX LOCATIONS
- PV SITE FENCE
- ACCESS ROADS
- PROPERTY LINE
- EXISTING BUILDINGS

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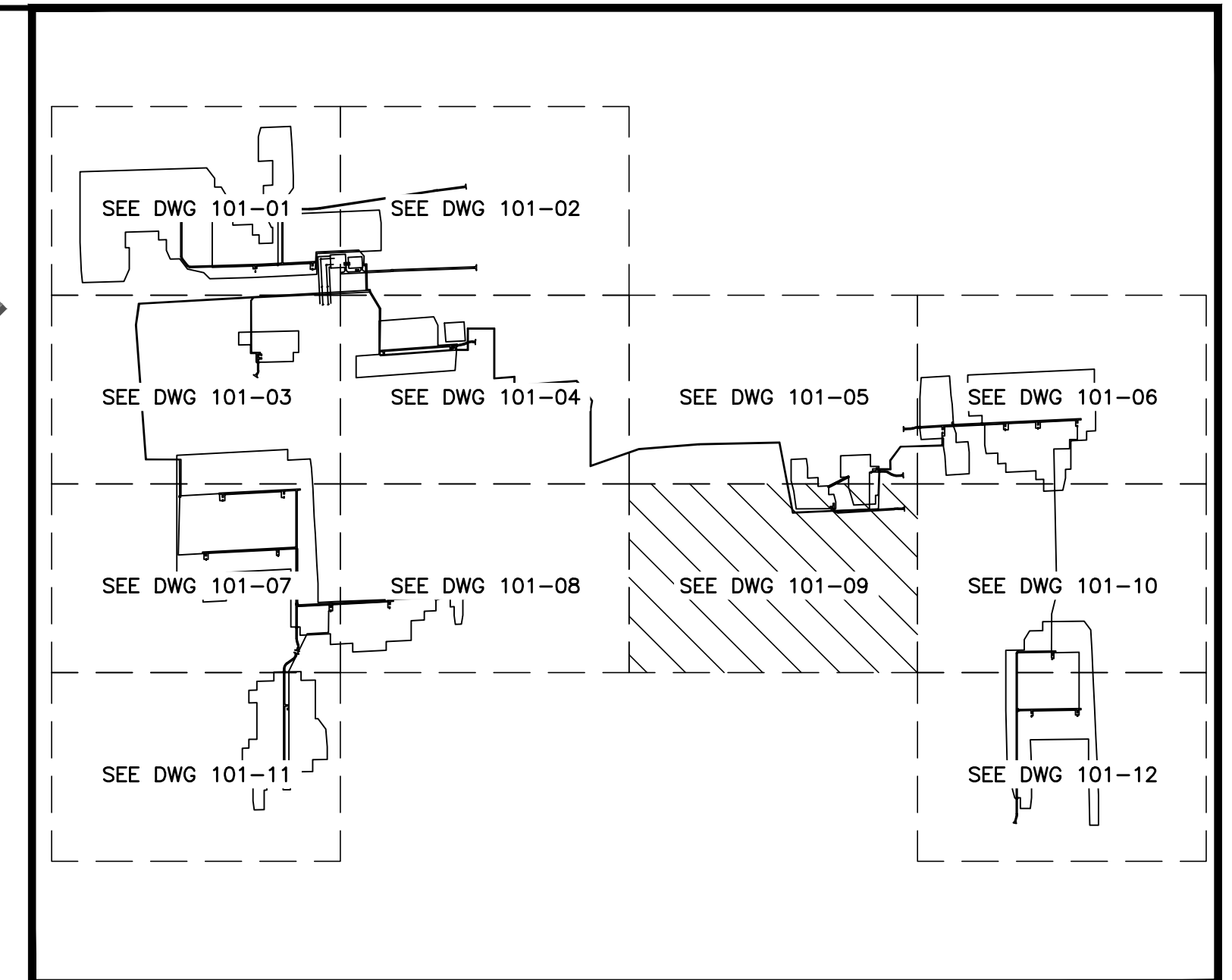
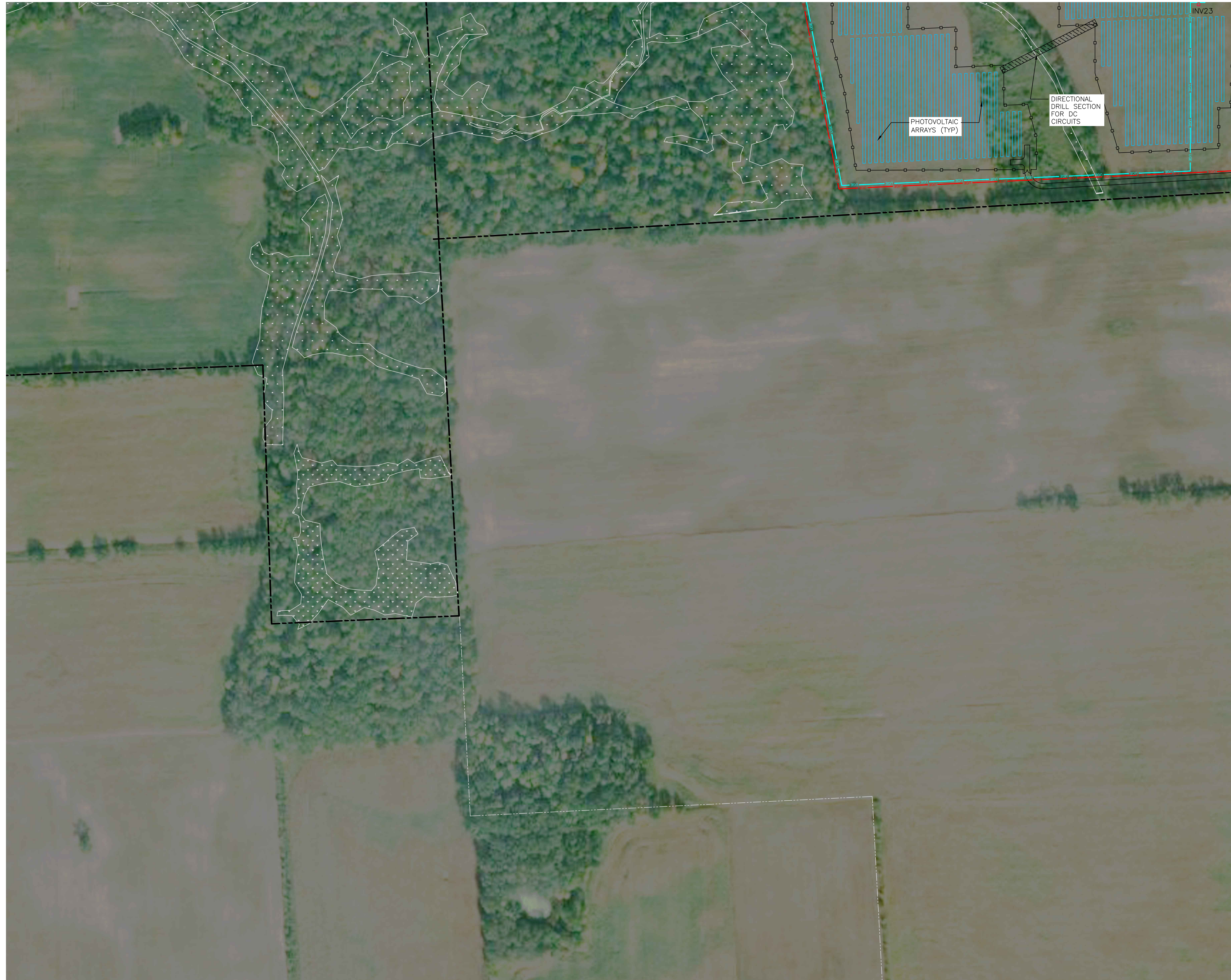
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SAVION
34.5kV COLLECTION SYSTEM
ELECTRICAL COLLECTION UNDERGROUND ROUTING
AREA 8 - DETAILS

PROJ. NO.:	19349	SHEET:	08	REV.:	D
SCALE:	1"=150'				
PLOT SCALE:	ARCH ENGRG 0 1 2				

A | B | C | D | E | F | G | H | I | J

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NORTH SENECA SOLAR -- KEY PLAN

LEGEND

- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 11A
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 11B
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 12A
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 12B
- ☒ EXIST. UTILITY POLE
- EXIST. WATER WELL
- EXIST. SURVEYED GAS WELL
- ⊗ EXIST. MAPPED NYDEC OIL AND GAS WELL
- RW EXIST. RIGHT-OF-WAY
- OEL EXIST. UTILITY OVERHEAD LINE
- FOC EXIST. UNDERGROUND FIBER OPTIC
- APL ADJACENT PROPERTY LINE
- GL EXIST. GAS LINE
- ▨ DIRECTIONAL DRILL LOCATIONS
- ▤ EXISTING WETLANDS
- INVxx INVERTER ID
- INVERTER
- SJB SPLICE/JUNCTION BOX LOCATIONS
- PV PV SITE FENCE
- AR ACCESS ROADS
- PL PROPERTY LINE
- ▭ EXISTING BUILDINGS

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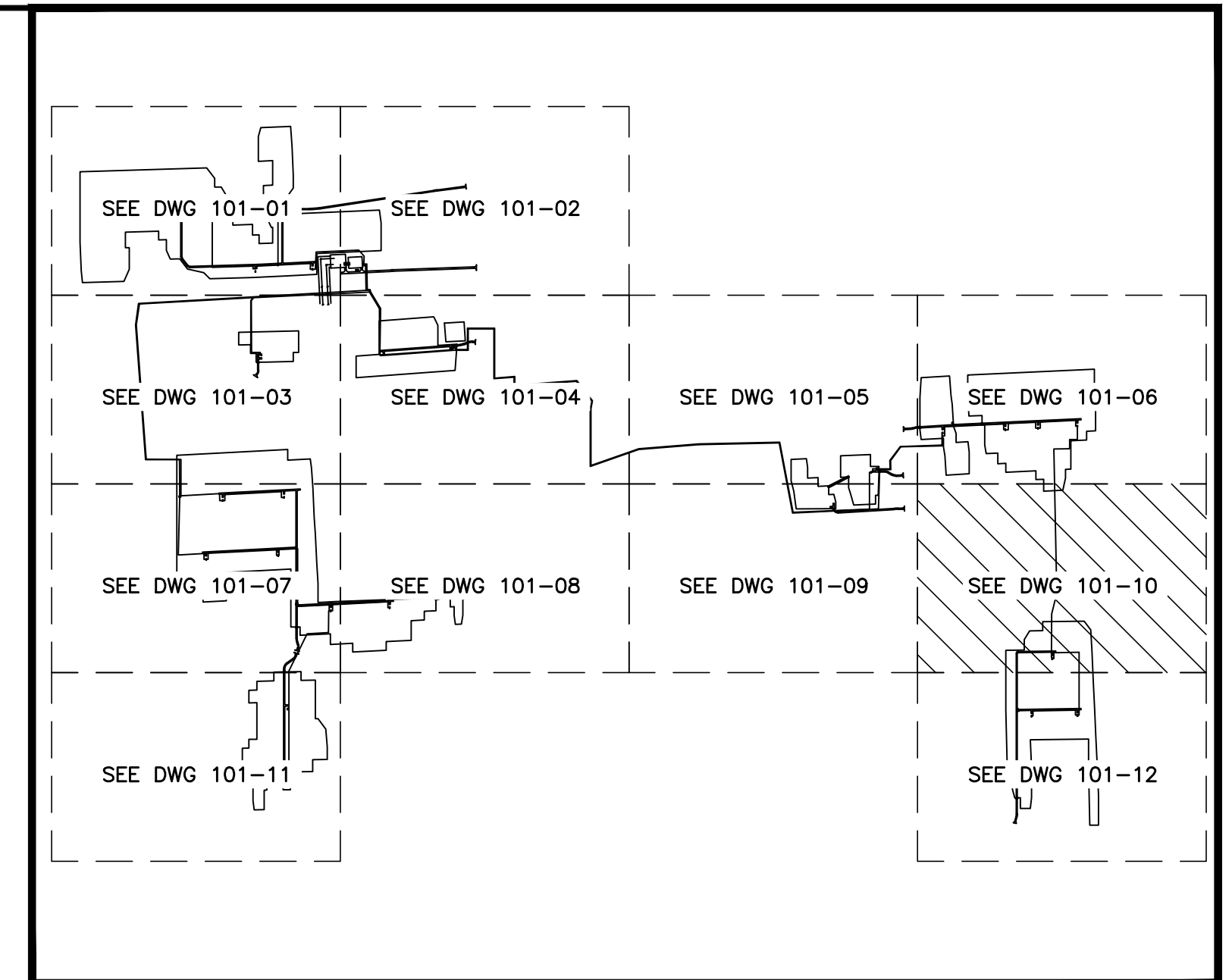
NORTH SENECA SOLAR PROJECT
SAVION
34.5kV COLLECTION SYSTEM
ELECTRICAL COLLECTION UNDERGROUND ROUTING
AREA 9 - DETAILS

PROJ. NO.:	19349	SHEET:	09	REV.:	D
SCALE:	1"=150'				
PLT SCALE:	ARCH ENGRG 0 1 2				

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A | B | C | D | E | F | G | H | I | J

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NORTH SENECA SOLAR -- KEY PLAN

- LEGEND**
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 11A
 - UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 11B
 - UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 12A
 - UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 12B
 - ⊗ EXIST. UTILITY POLE
 - ⊙ EXIST. WATER WELL
 - ⊙ EXIST. SURVEYED GAS WELL
 - ⊗ EXIST. MAPPED NYDEC OIL AND GAS WELL
 - EXIST. RIGHT-OF-WAY
 - oe — EXIST. UTILITY OVERHEAD LINE
 - foc — EXIST. UNDERGROUND FIBER OPTIC
 - ADJACENT PROPERTY LINE
 - g — EXIST. GAS LINE
 - ▨ DIRECTIONAL DRILL LOCATIONS
 - ⋯ EXISTING WETLANDS
 - INVxx INVERTER ID
 - INVERTER
 - SPlice/JUNCTION BOX LOCATIONS
 - PV SITE FENCE
 - ACCESS ROADS
 - PROPERTY LINE
 - EXISTING BUILDINGS

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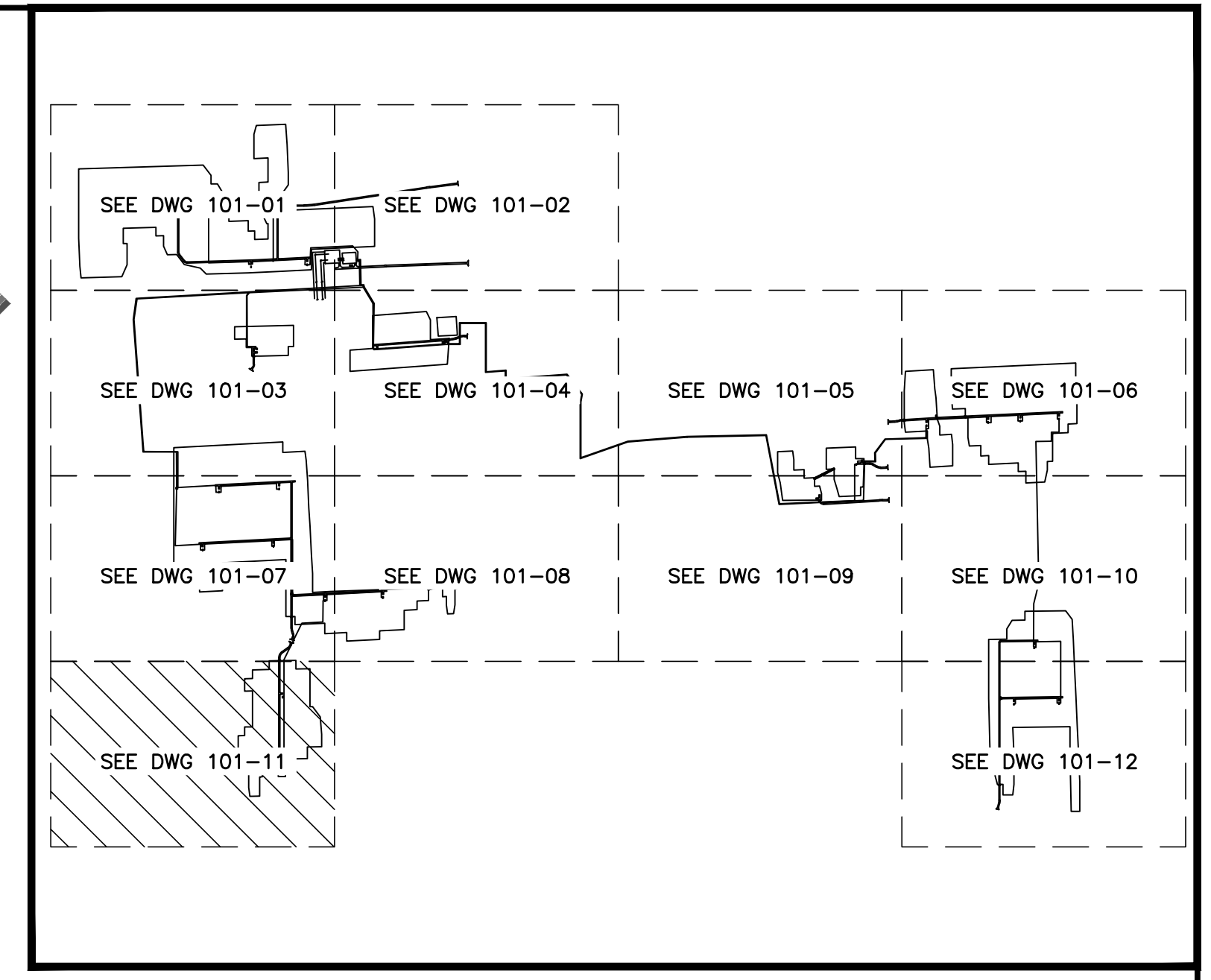
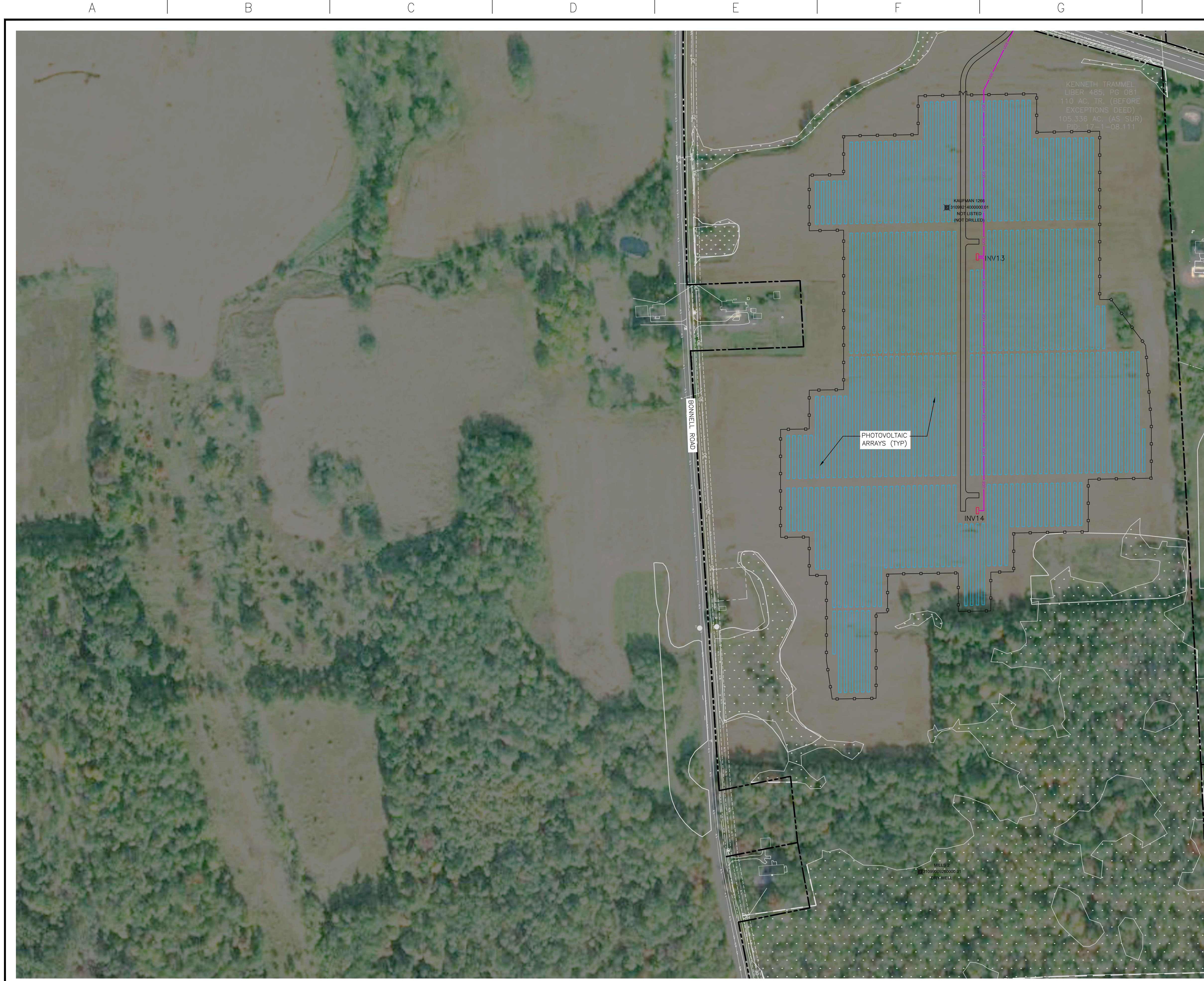
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B	02/22/24	ISSUED FOR REVIEW	SDD	DS	DS						
A	01/12/24	ISSUED FOR REVIEW	SDD	DS	DS						



NORTH SENECA SOLAR PROJECT
SAVION
34.5kV COLLECTION SYSTEM
ELECTRICAL COLLECTION UNDERGROUND ROUTING
AREA 10 - DETAILS

PROJ. NO.:	19349	SHEET:	10	REV.:	D
SCALE:	1"=150'				
PLOT SCALE:	ARCH ENGRG 0 1 2				

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NORTH SENECA SOLAR -- KEY PLAN

LEGEND

- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH -- FEEDER 11A
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH -- FEEDER 11B
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH -- FEEDER 12A
- UGE UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH -- FEEDER 12B
- EXIST. UTILITY POLE
- EXIST. WATER WELL
- EXIST. SURVEYED GAS WELL
- EXIST. MAPPED NYDEC OIL AND GAS WELL
- EXIST. RIGHT-OF-WAY
- EXIST. UTILITY OVERHEAD LINE
- EXIST. UNDERGROUND FIBER OPTIC
- ADJACENT PROPERTY LINE
- EXIST. GAS LINE
- DIRECTIONAL DRILL LOCATIONS
- EXISTING WETLANDS
- INVERTER ID
- INVERTER
- SPLICE/JUNCTION BOX LOCATIONS
- PV SITE FENCE
- ACCESS ROADS
- PROPERTY LINE
- EXISTING BUILDINGS

PRELIMINARY
DRAWING
NOT FOR
CONSTRUCTION

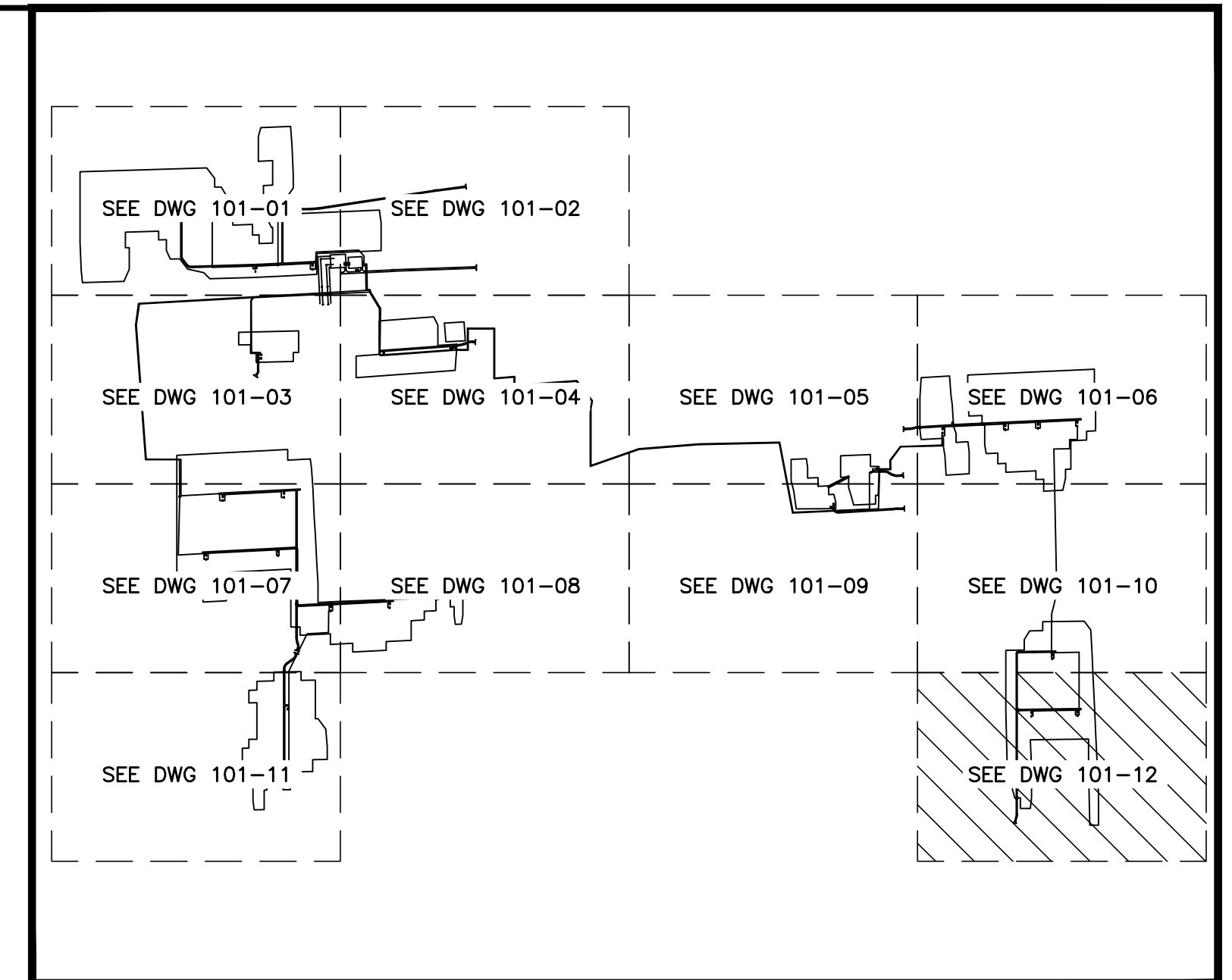
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C	10/24/24	ISSUED FOR REVIEW	SDD	DS	DS						
B	02/22/24	ISSUED FOR REVIEW	SDD	DS	DS						
A	01/12/24	ISSUED FOR REVIEW	SDD	DS	DS						



NORTH SENECA SOLAR PROJECT
SAVION
34.5kV COLLECTION SYSTEM
ELECTRICAL COLLECTION UNDERGROUND ROUTING
AREA 11 -- DETAILS

PROJ. NO.:	19349	SHEET:	11	REV.:	D
PLT SCALE:	ARCH ENGRG 0 1 2				
DWG. NO.:	101				



NORTH SENECA SOLAR -- KEY PLAN

LEGEND

	UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 11A
	UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 11B
	UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 12A
	UNDERGROUND CABLES, FIBER OPTIC AND GROUNDING CONDUCTOR TRENCH - FEEDER 12B
	EXIST. UTILITY POLE
	EXIST. WATER WELL
	EXIST. SURVEYED GAS WELL
	EXIST. MAPPED NYDEC OIL AND GAS WELL
	EXIST. RIGHT-OF-WAY
	EXIST. UTILITY OVERHEAD LINE
	EXIST. UNDERGROUND FIBER OPTIC
	ADJACENT PROPERTY LINE
	EXIST. GAS LINE
	DIRECTIONAL DRILL LOCATIONS
	EXISTING WETLANDS
	INVERTER ID
	INVERTER
	SPLICE/JUNCTION BOX LOCATIONS
	PV SITE FENCE
	ACCESS ROADS
	PROPERTY LINE
	EXISTING BUILDINGS

PRELIMINARY
DRAWING
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CONSTRUCTION

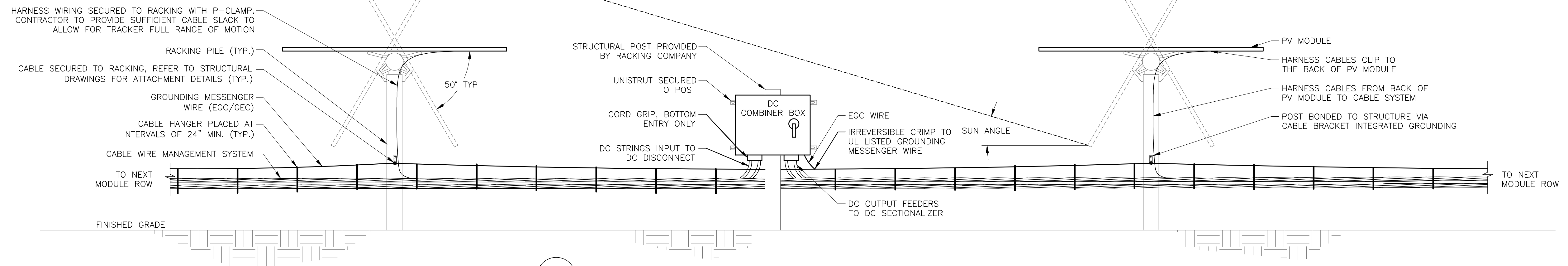
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						C	10/24/24	ISSUED FOR REVIEW	SDD	DS	DS
						B	02/22/24	ISSUED FOR REVIEW	SDD	DS	DS
						A	01/12/24	ISSUED FOR REVIEW	SDD	DS	DS

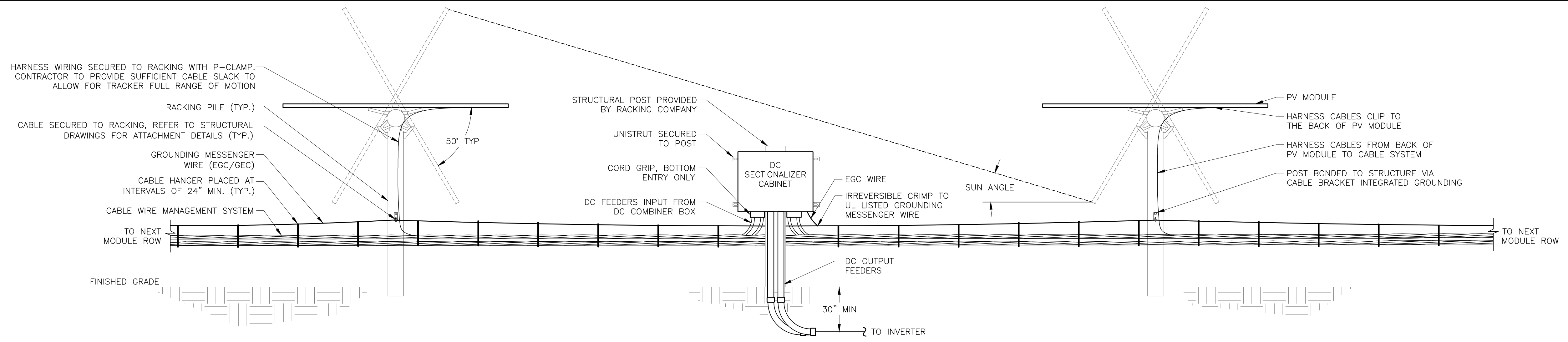


NORTH SENECA SOLAR PROJECT
SAVION
34.5kV COLLECTION SYSTEM
ELECTRICAL COLLECTION UNDERGROUND ROUTING
AREA 12 - DETAILS

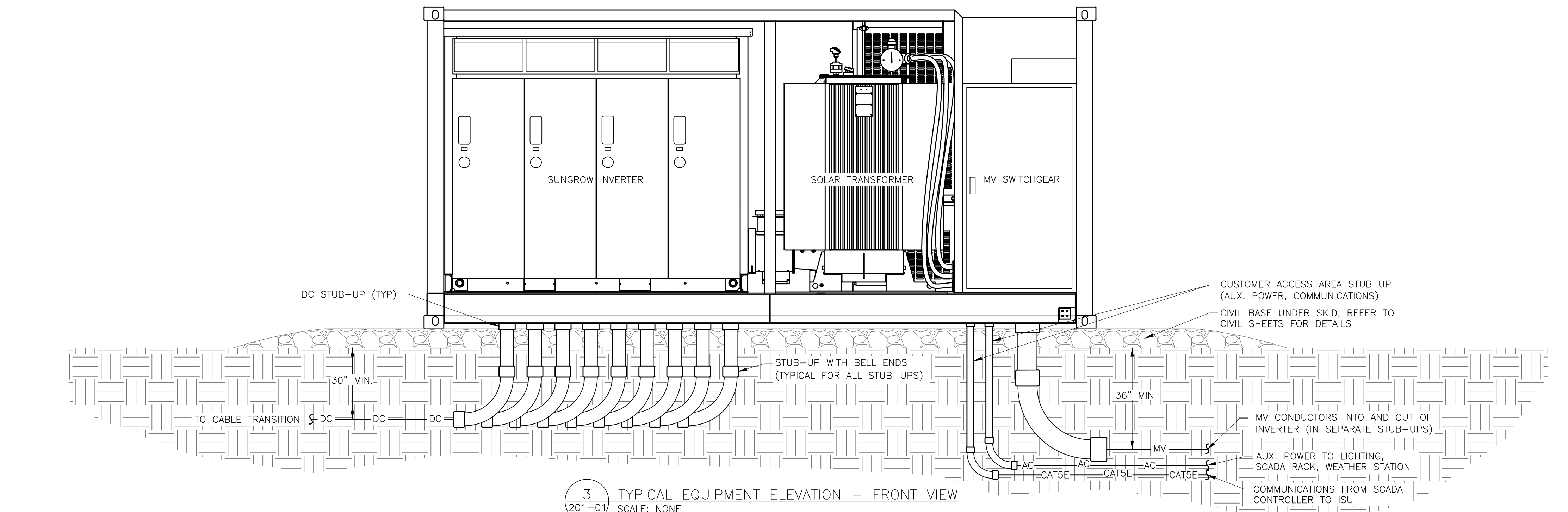
PROJ. NO.:	19349	SHEET:	12	REV.:	D
SCALE:	1"=150'				



1 TYPICAL EQUIPMENT RACKING ELEVATION SIDE VIEW - DC COMBINER BOX
SCALE: NONE



2 TYPICAL EQUIPMENT RACKING ELEVATION SIDE VIEW - DC SECTIONALIZER
SCALE: NONE



3 TYPICAL EQUIPMENT ELEVATION - FRONT VIEW
SCALE: NONE

PRELIMINARY
DRAWING
NOT FOR
CONSTRUCTION

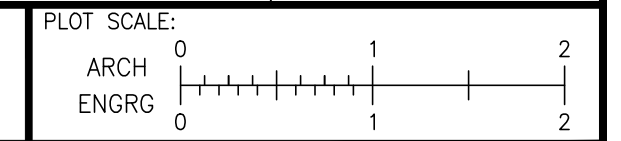
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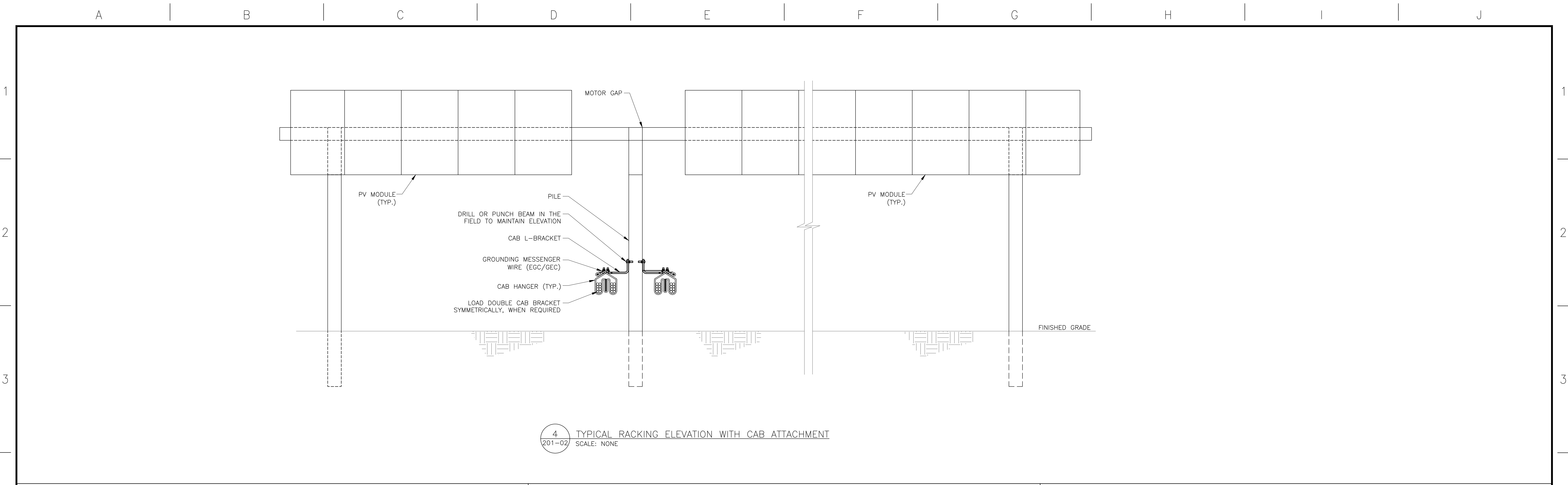
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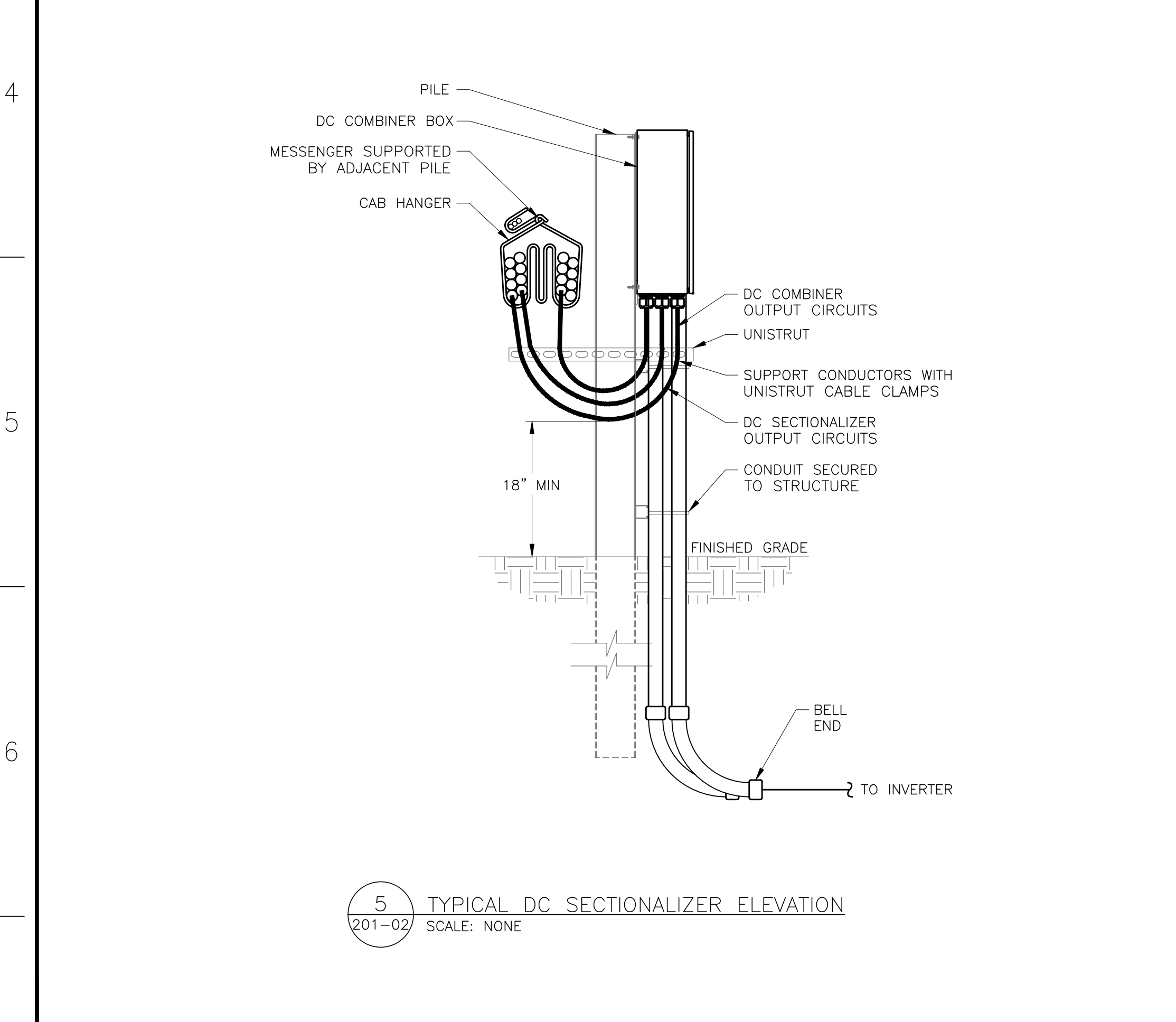
NORTH SENECA SOLAR PROJECT
SAVION
115/34.5kV SUBSTATION
EQUIPMENT DETAILS

PROJ. NO.:	19349	SHEET:	01	REV.:	D
DWG. NO.:	201				

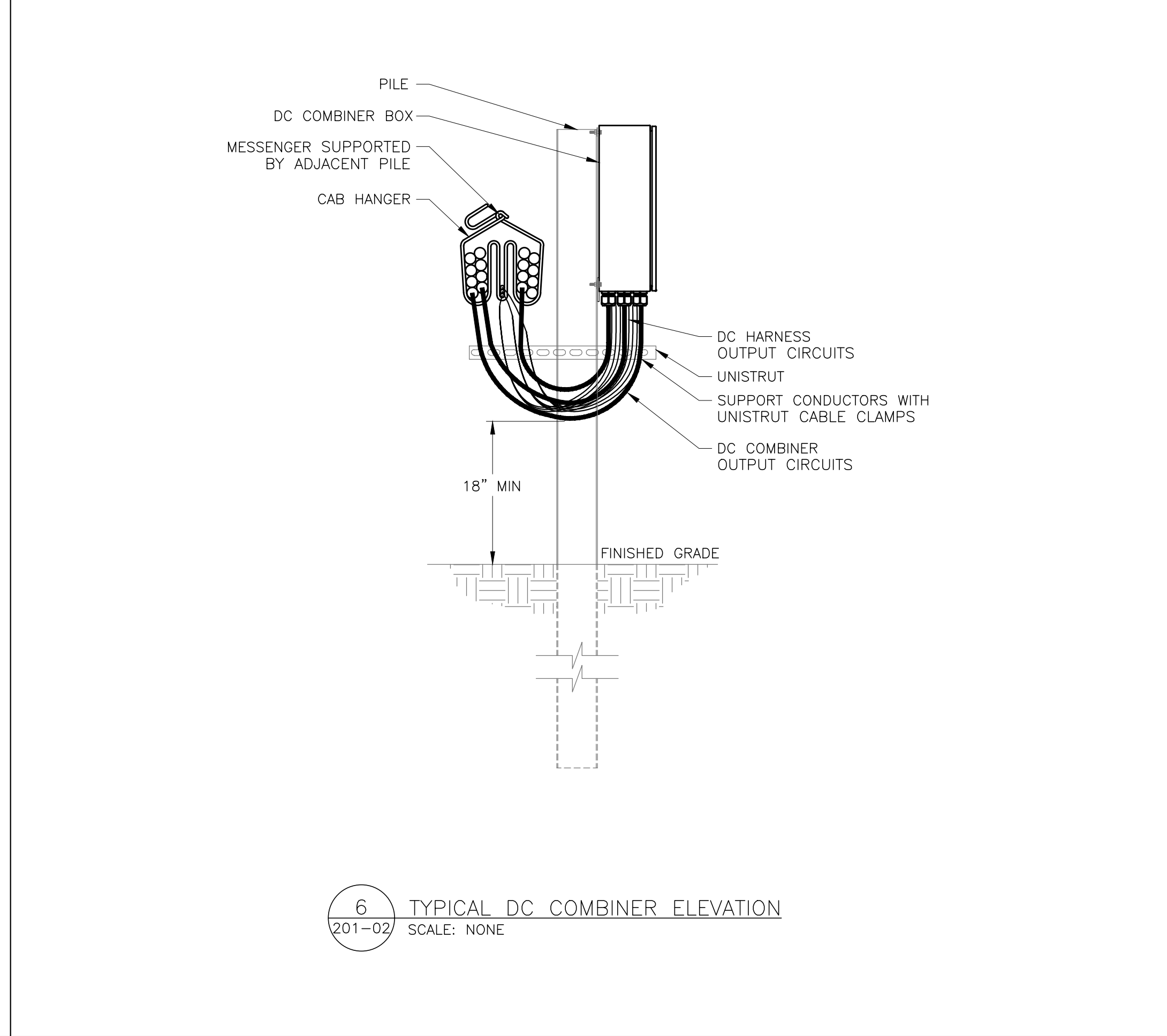




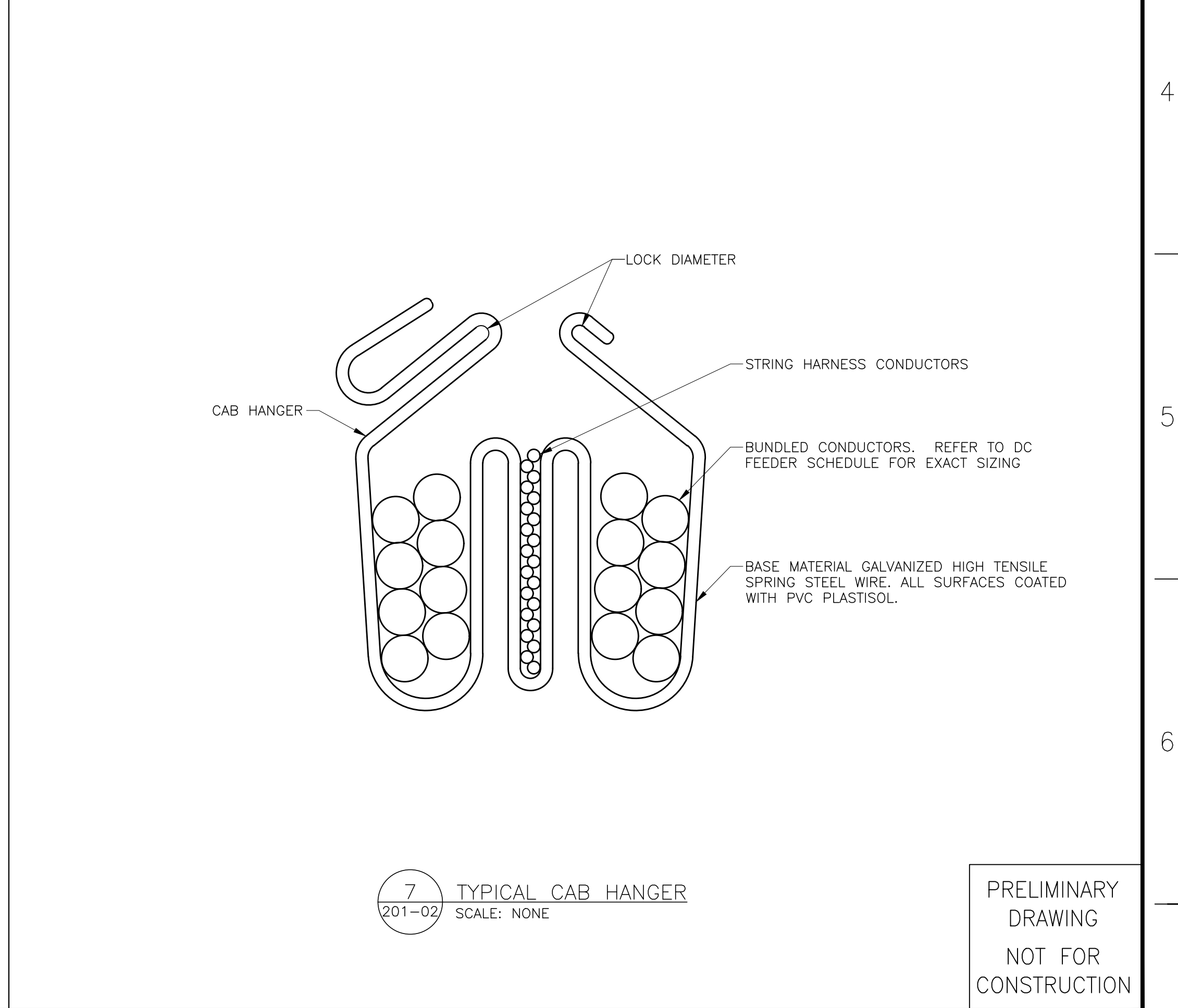
4 TYPICAL RACKING ELEVATION WITH CAB ATTACHMENT
201-02 SCALE: NONE



5 TYPICAL DC SECTIONALIZER ELEVATION
201-02 SCALE: NONE



6 TYPICAL DC COMBINER ELEVATION
201-02 SCALE: NONE



7 TYPICAL CAB HANGER
201-02 SCALE: NONE

PRELIMINARY
DRAWING
NOT FOR
CONSTRUCTION

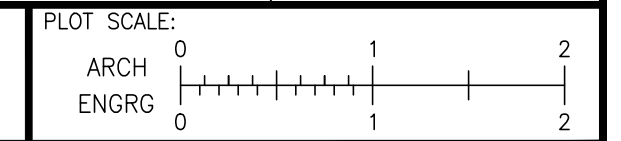
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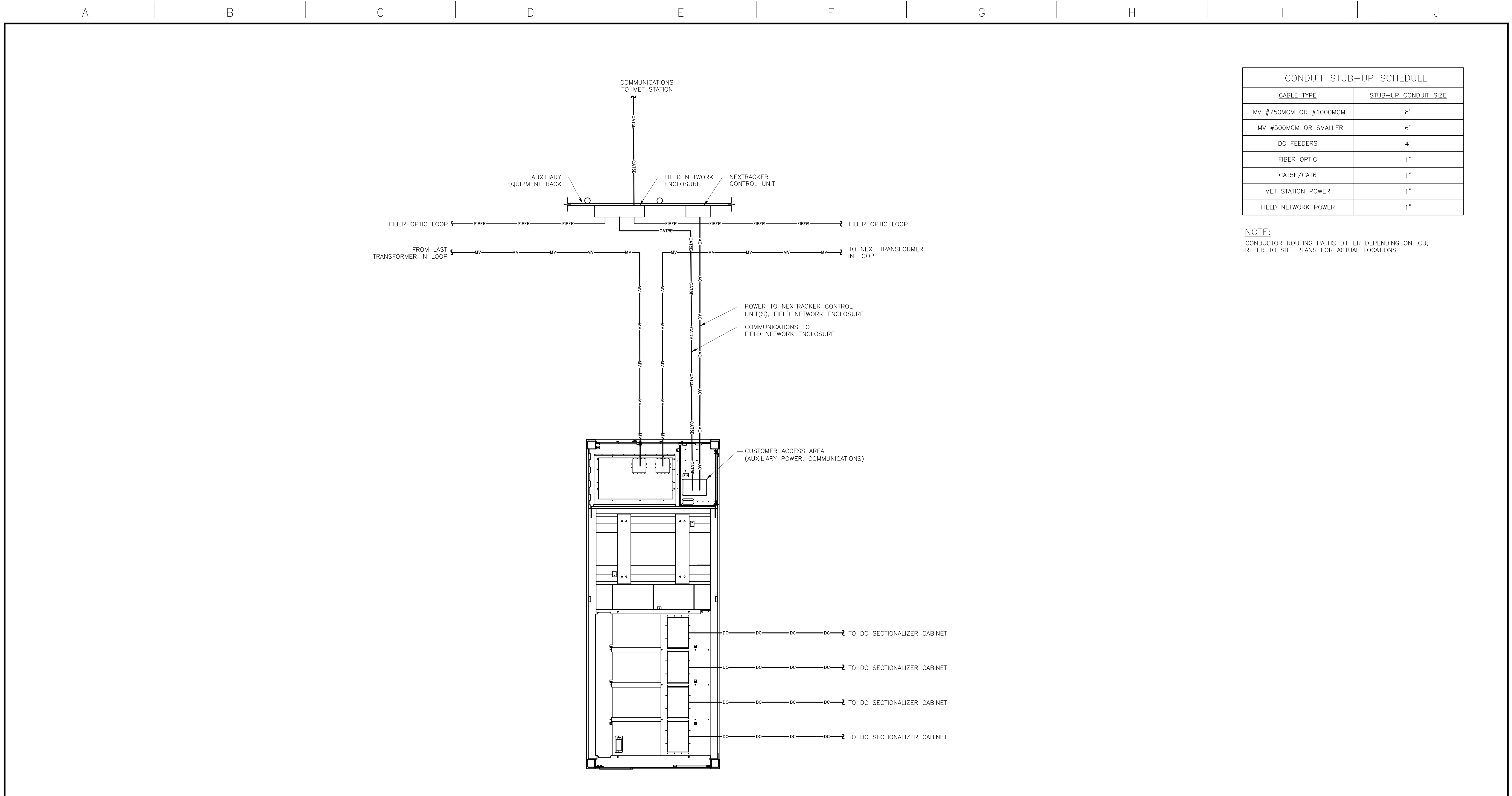
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NORTH SENECA SOLAR PROJECT
SAVION
115/34.5kV SUBSTATION
EQUIPMENT DETAILS

PROJ. NO.:	19349	SHEET:	02	REV.:	D
DWG. NO.:	201				





CONDUIT STUB-UP SCHEDULE	
CABLE TYPE	STUB-UP CONDUIT SIZE
MV #750MCM OR #1000MCM	8"
MV #500MCM OR SMALLER	6"
DC FEEDERS	4"
FIBER OPTIC	1"
CAT5E/CAT6	1"
MET STATION POWER	1"
FIELD NETWORK POWER	1"

NOTE:
CONDUCTOR ROUTING PATHS DIFFER DEPENDING ON ICU. REFER TO SITE PLANS FOR ACTUAL LOCATIONS

8 TYPICAL ISU TRENCH PLAN
201-03 SCALE: 3/8" = 1'-0"

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DRAWING
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CONSTRUCTION

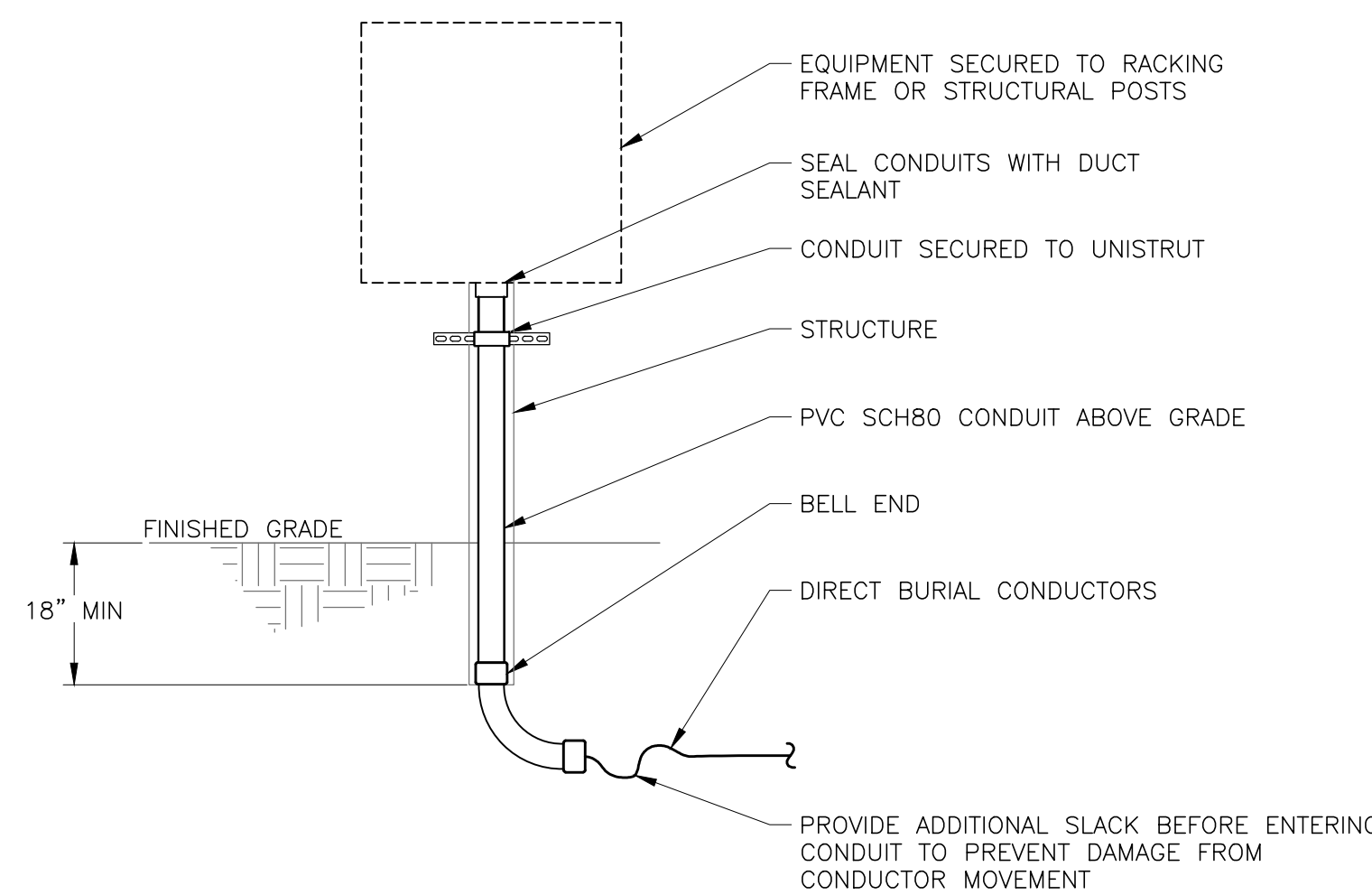
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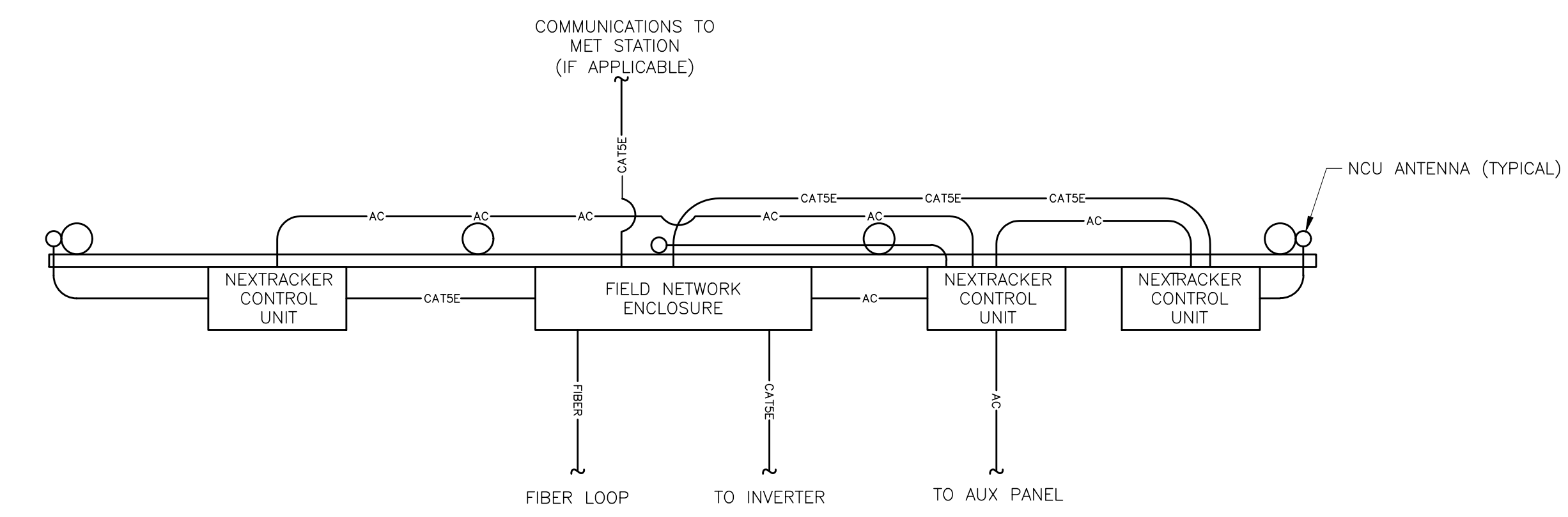


NORTH SENECA SOLAR PROJECT
SAVION
115/34.5kV SUBSTATION
EQUIPMENT DETAILS

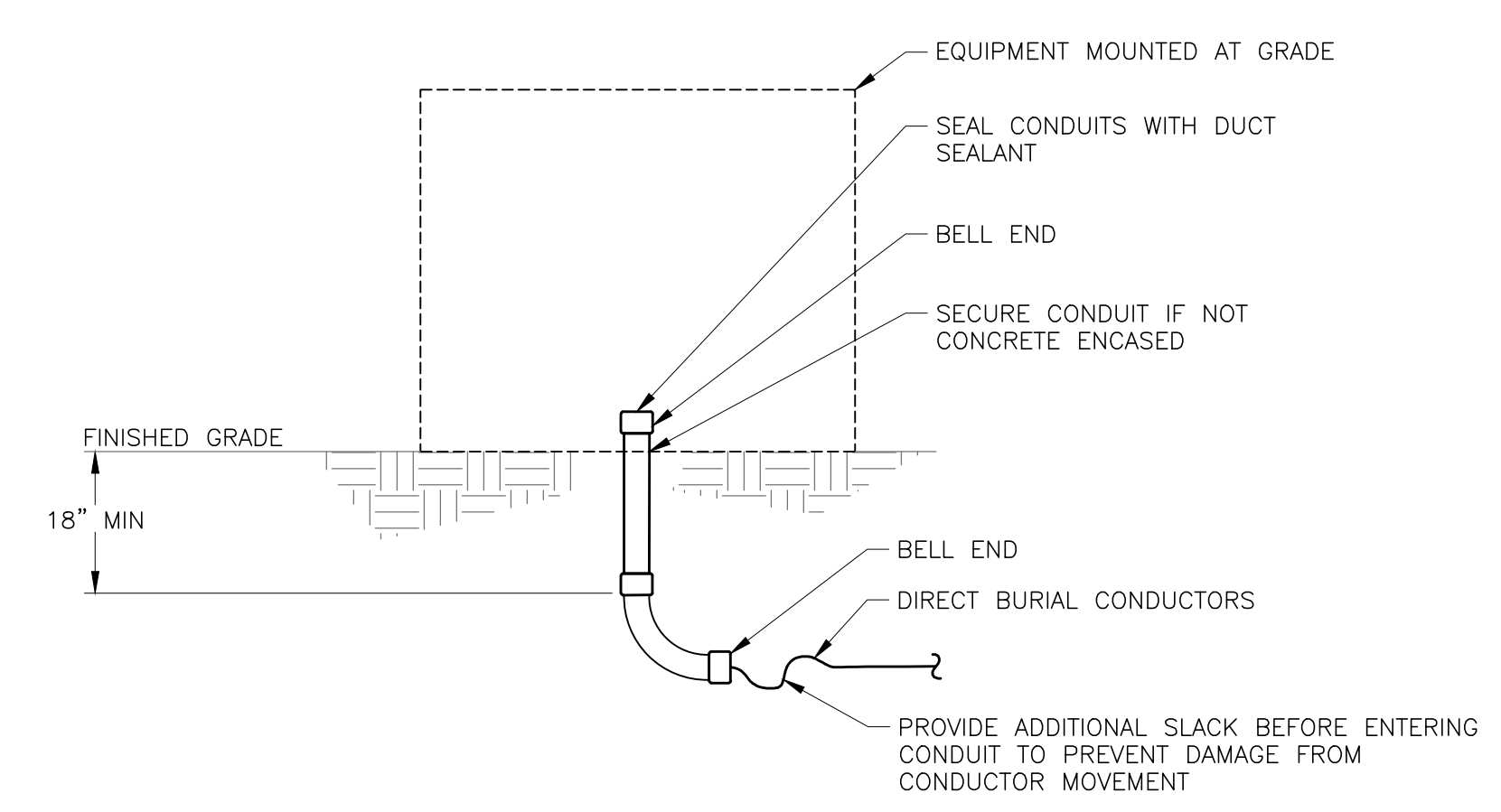
PLT SCALE: ARCH ENGRG 0 1 2	SCALE: AS SHOWN
PROJ. NO.: 19349	SHEET: 03
DWG. NO.: 201	REV.: D



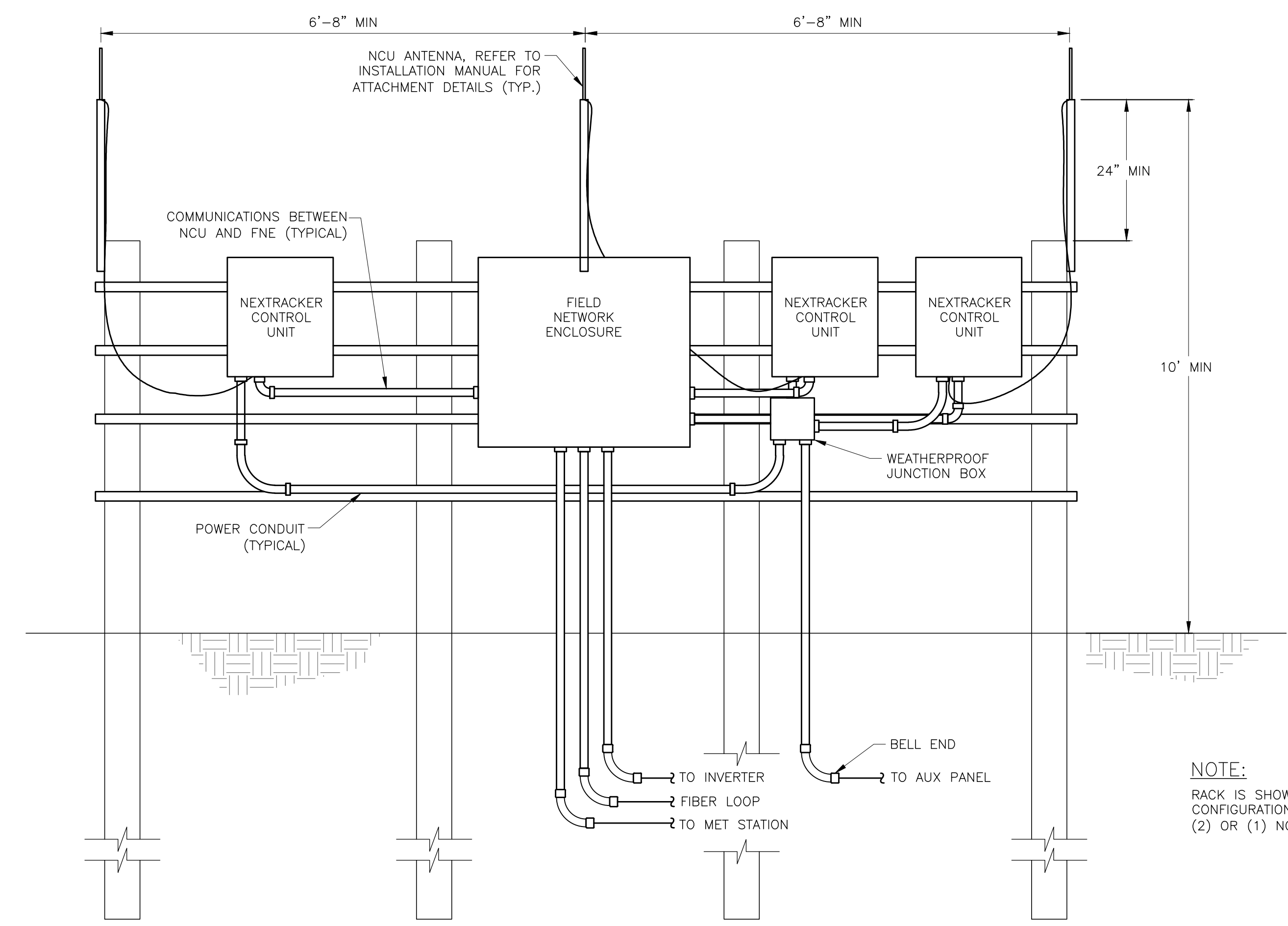
9 TYPICAL CONDUIT TRANSITION ABOVE GRADE - POST OR RACK MOUNTED
201-04 SCALE: NONE



10 TYPICAL AUXILIARY EQUIPMENT RACK PLAN VIEW
201-04 SCALE: NONE



11 TYPICAL CONDUIT TRANSITION ABOVE GRADE - MOUNTED AT GRADE
201-04 SCALE: NONE



12 TYPICAL AUXILIARY EQUIPMENT RACK ELEVATION VIEW
201-04 SCALE: NONE

NOTE:
RACK IS SHOWN WITH (3) NCU'S. SIMILAR CONFIGURATIONS WILL BE USED FOR RACKS (2) OR (1) NCU.

PRELIMINARY
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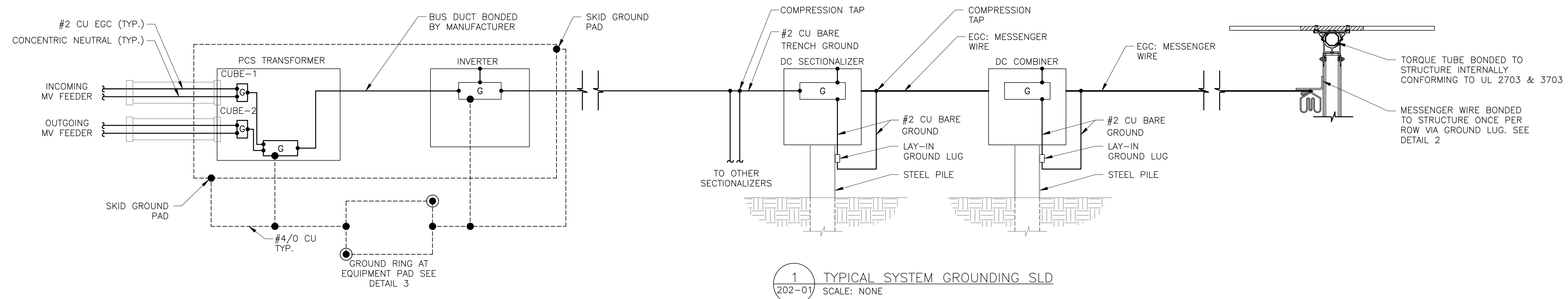
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A	01/12/24	ISSUED FOR REVIEW	SDD	MRC	BRB						

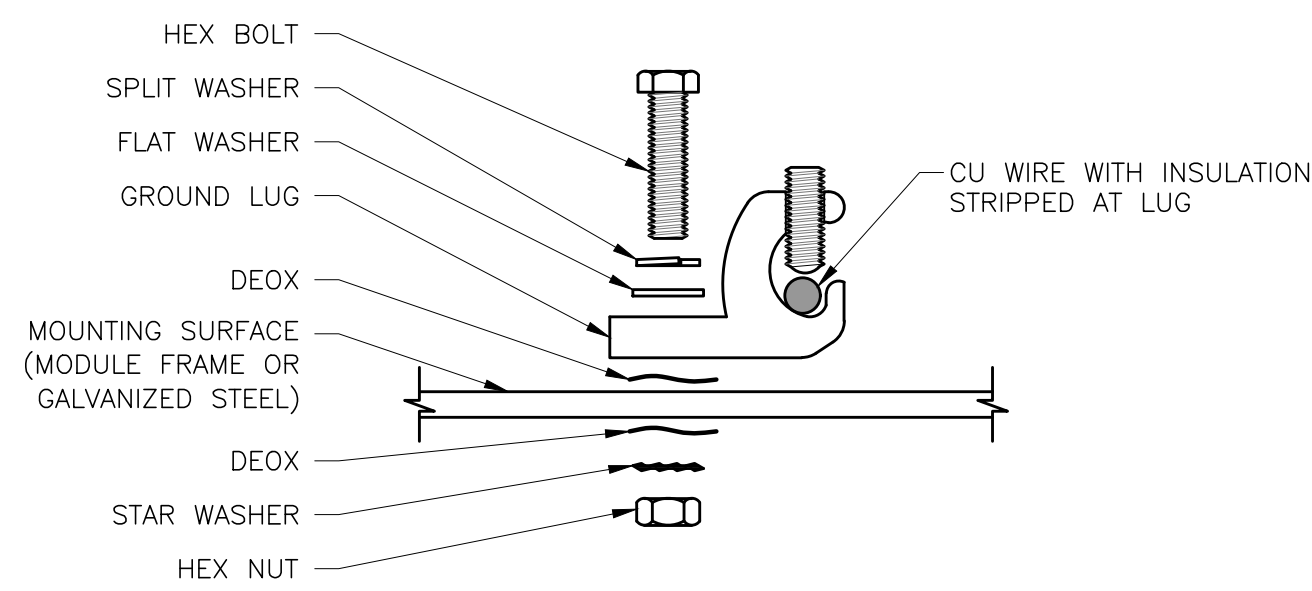


NORTH SENECA SOLAR PROJECT
SAVION
115/34.5kV SUBSTATION
EQUIPMENT DETAILS

PROJ. NO.: 19349	SCALE: AS SHOWN
DWG. NO.: 201	SHEET: 04
	REV.: D

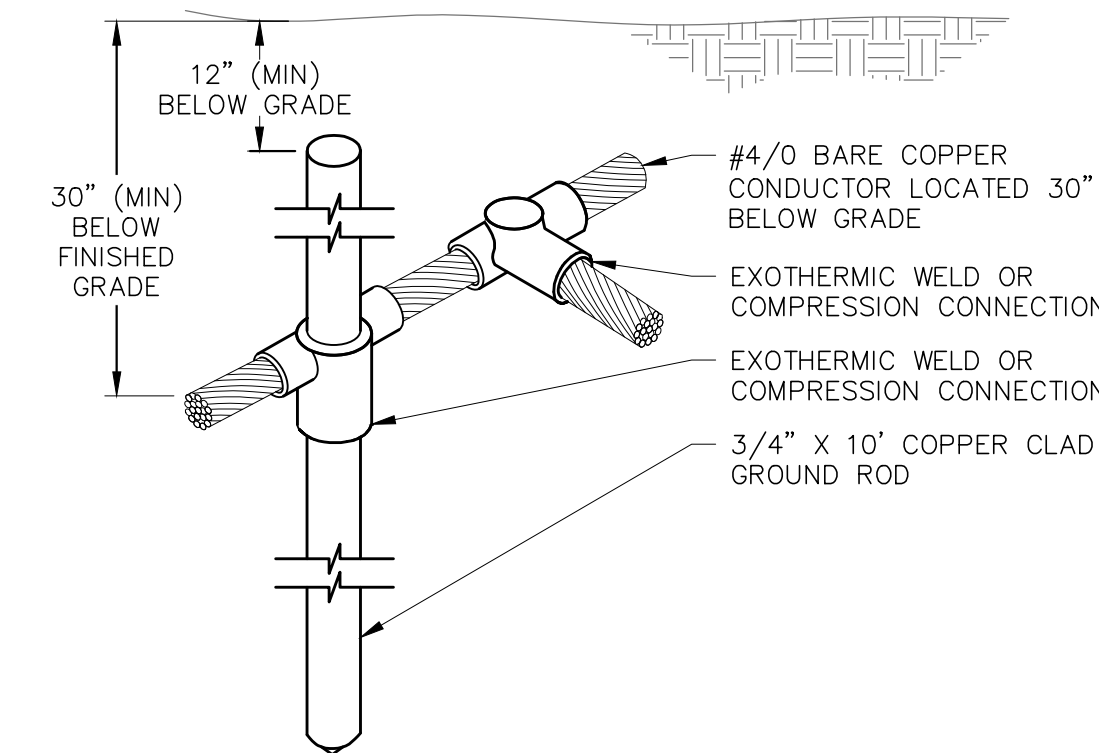


1 TYPICAL SYSTEM GROUNDING SLD
202-01 SCALE: NONE



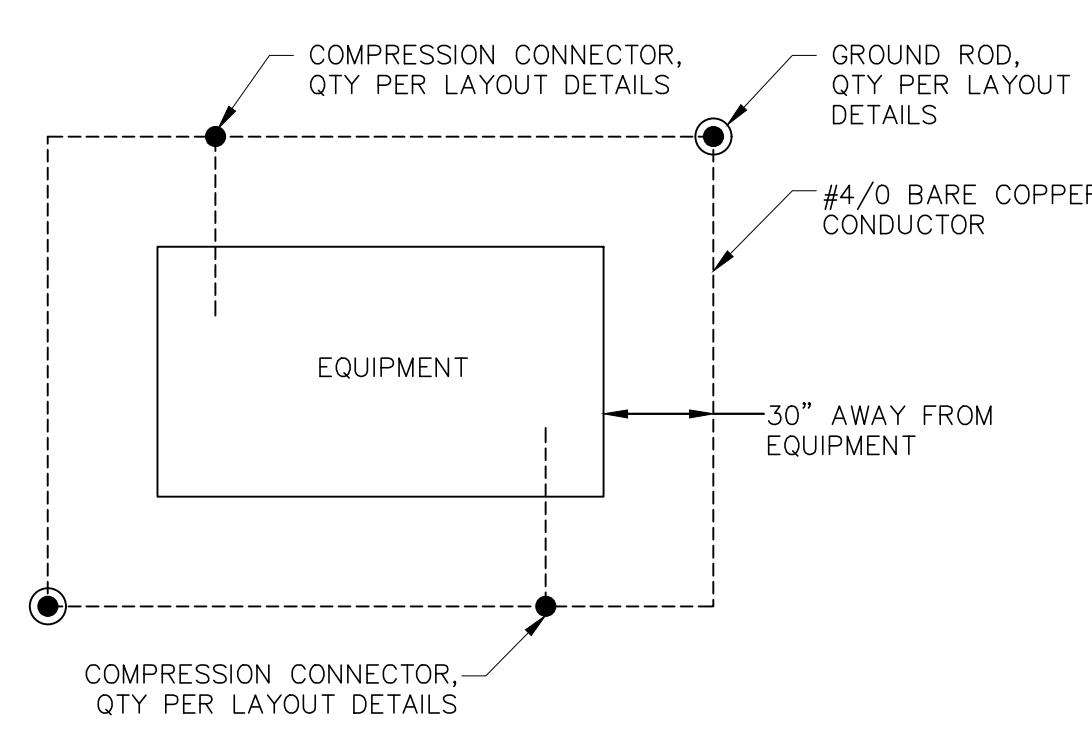
- NOTES:
1. ALL HARDWARE TO BE STAINLESS STEEL.
2. SEE HARDWARE LUG MANUAL FOR TORQUE VALUES.

2 GROUND LUG
202-01 SCALE: NONE

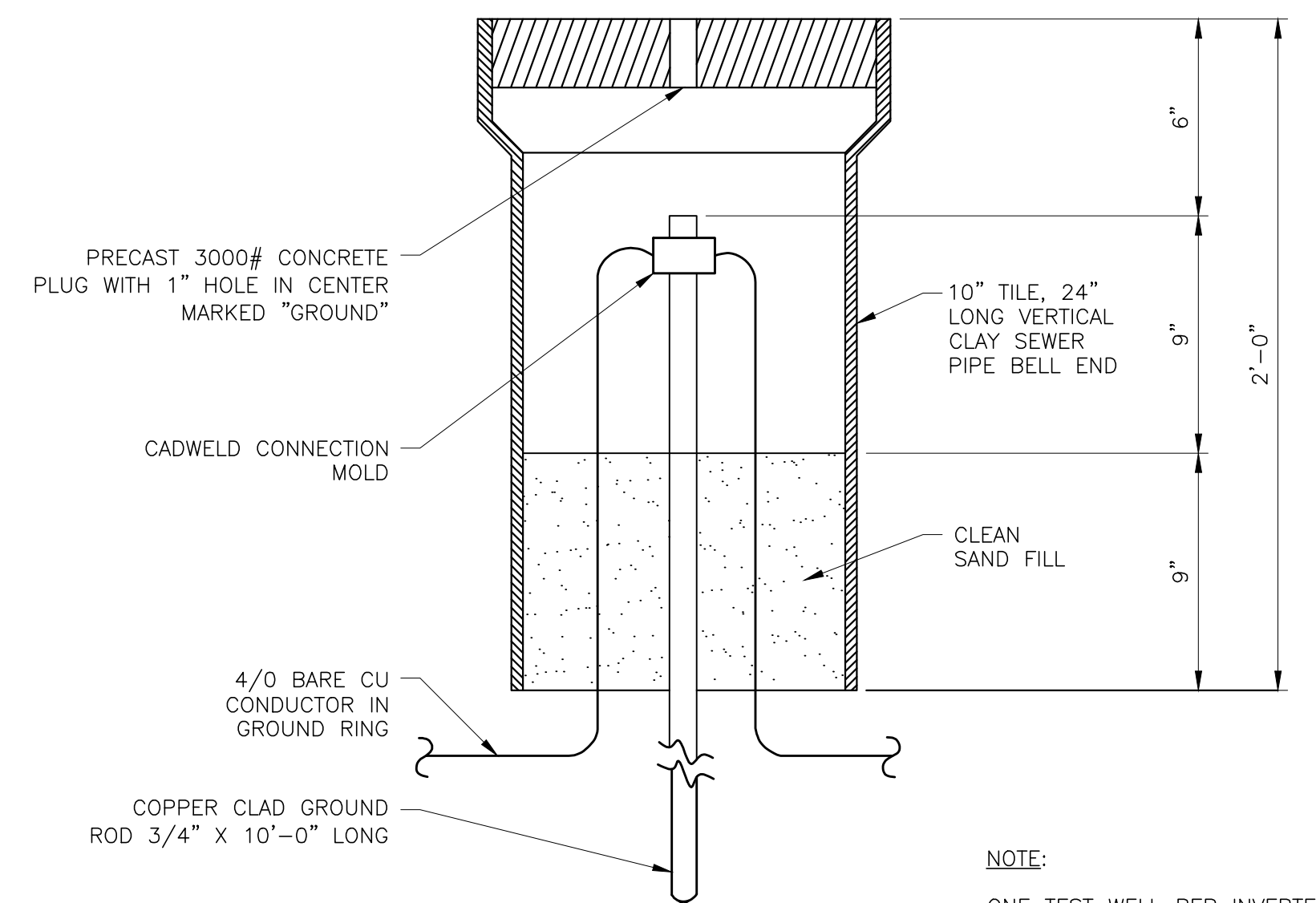


ISOMETRIC VIEW

3 GROUND RING
202-01 SCALE: NONE

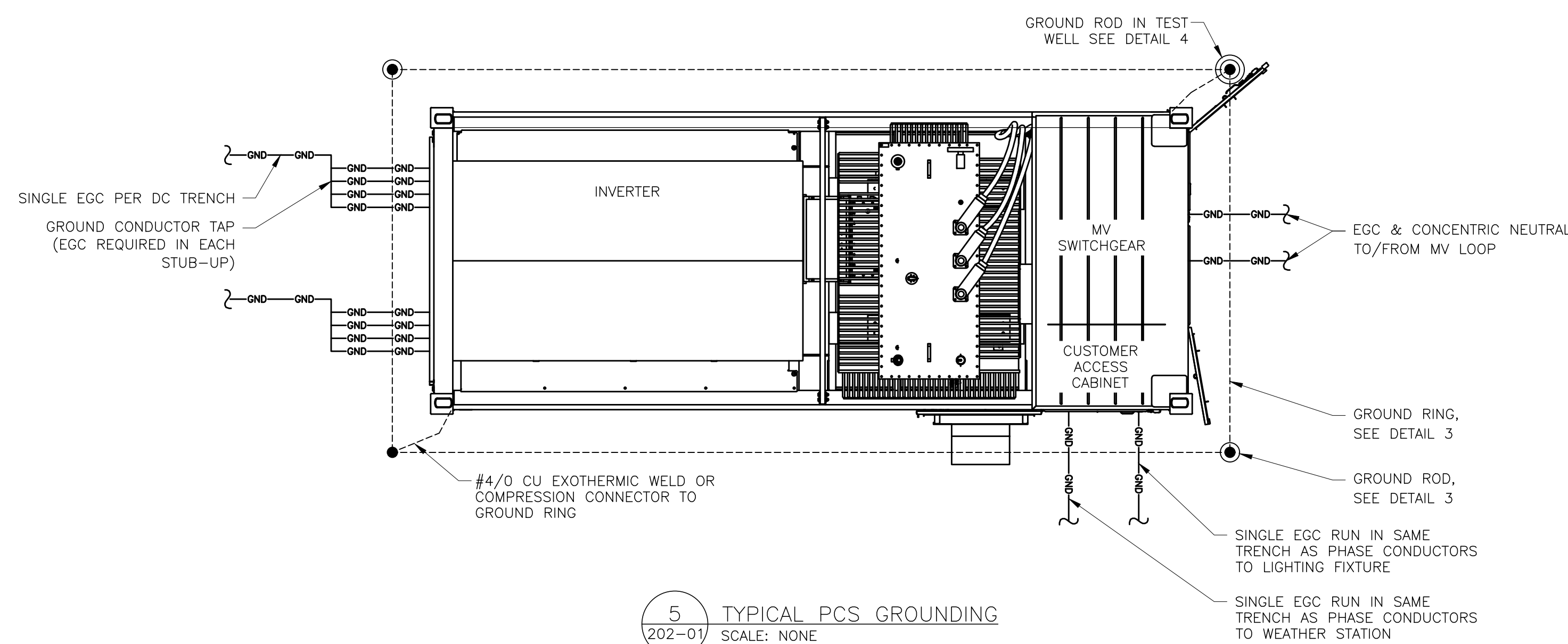


TOP VIEW

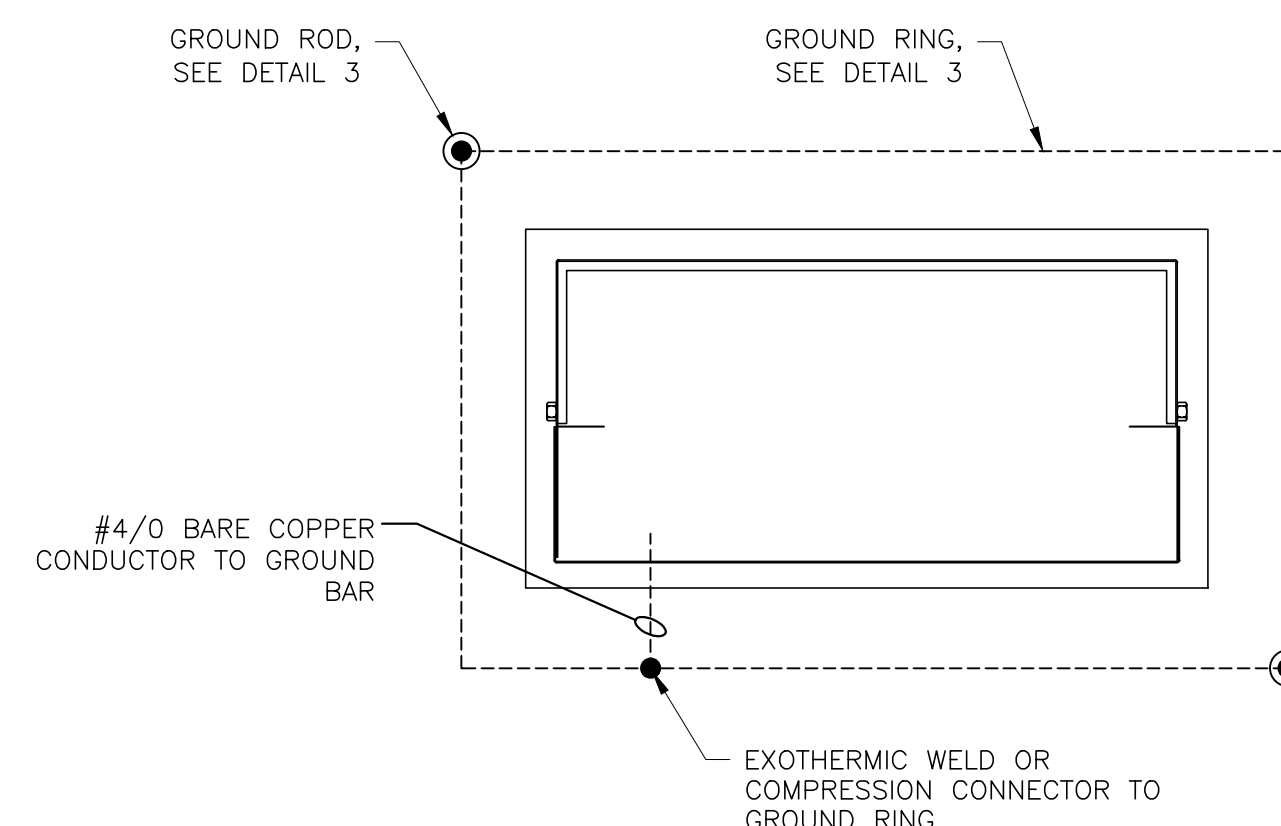


- NOTE:
ONE TEST WELL PER INVERTER PAD.

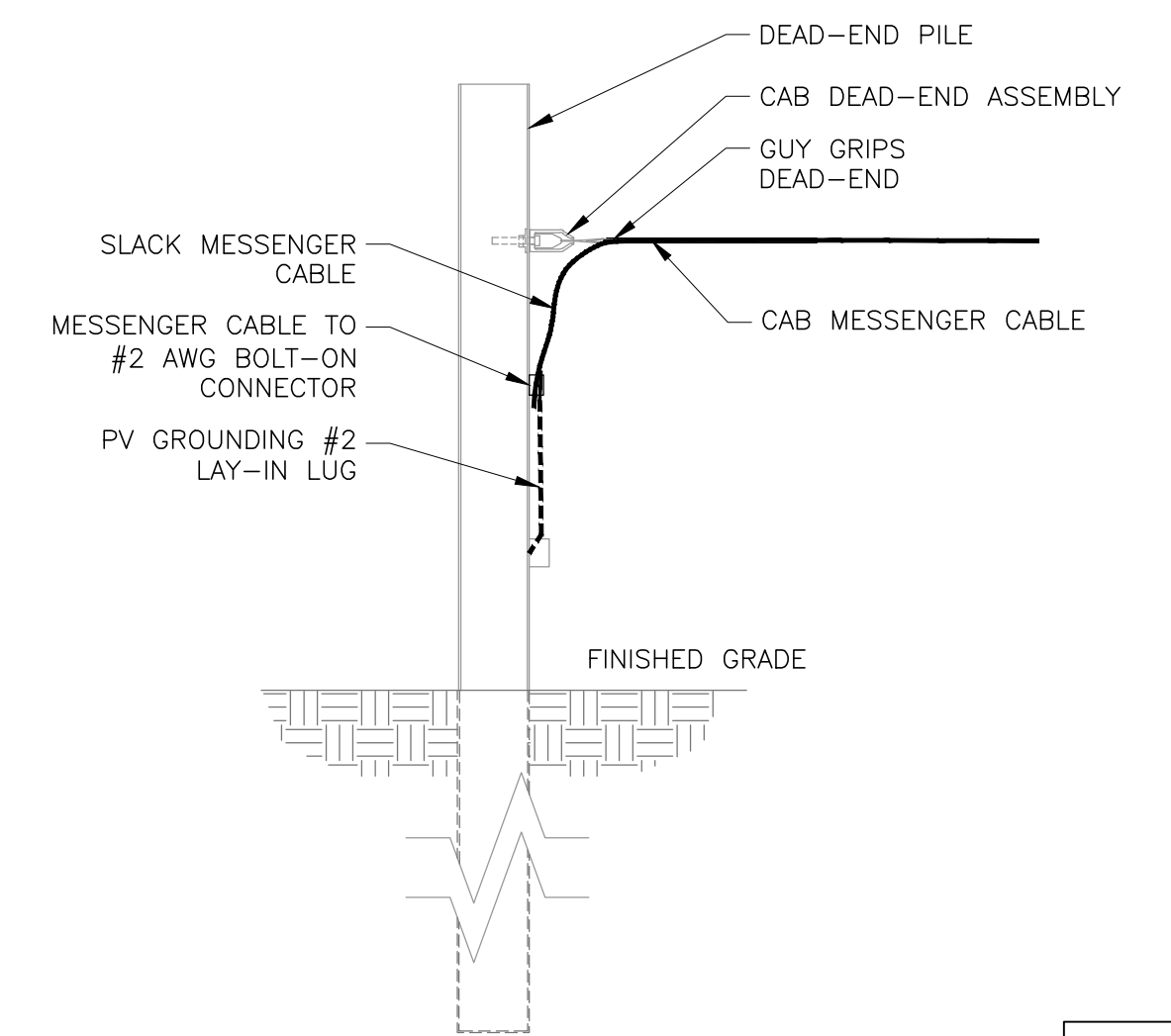
4 GROUND WELL TEST STATION
202-01 SCALE: NONE



5 TYPICAL PCS GROUNDING
202-01 SCALE: NONE



6 MV SECTIONALIZER GROUNDING
202-01 SCALE: NONE

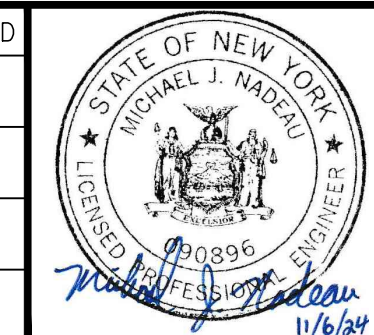


7 CAB DEAD-END GROUNDING
202-01 SCALE: NONE

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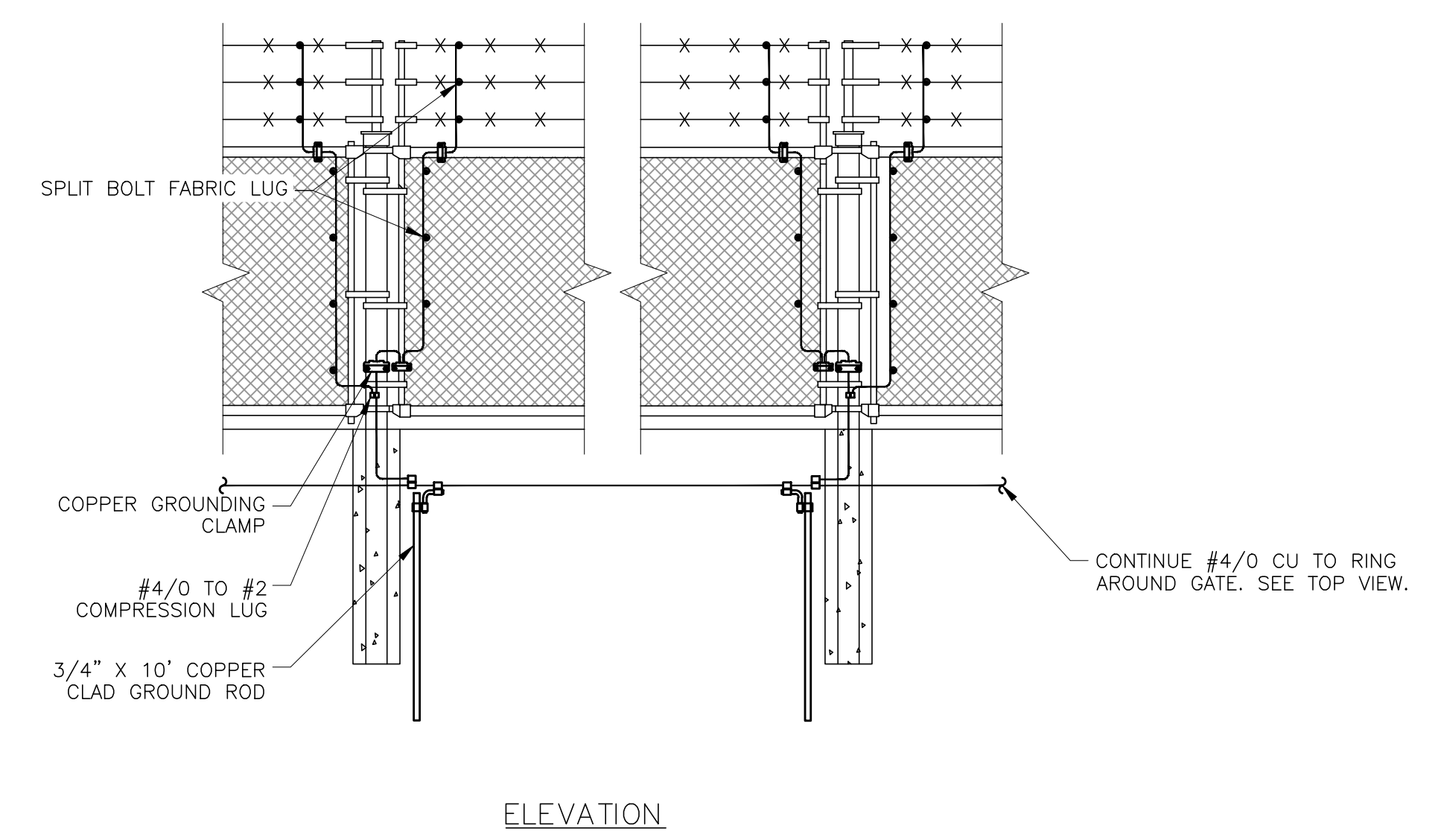
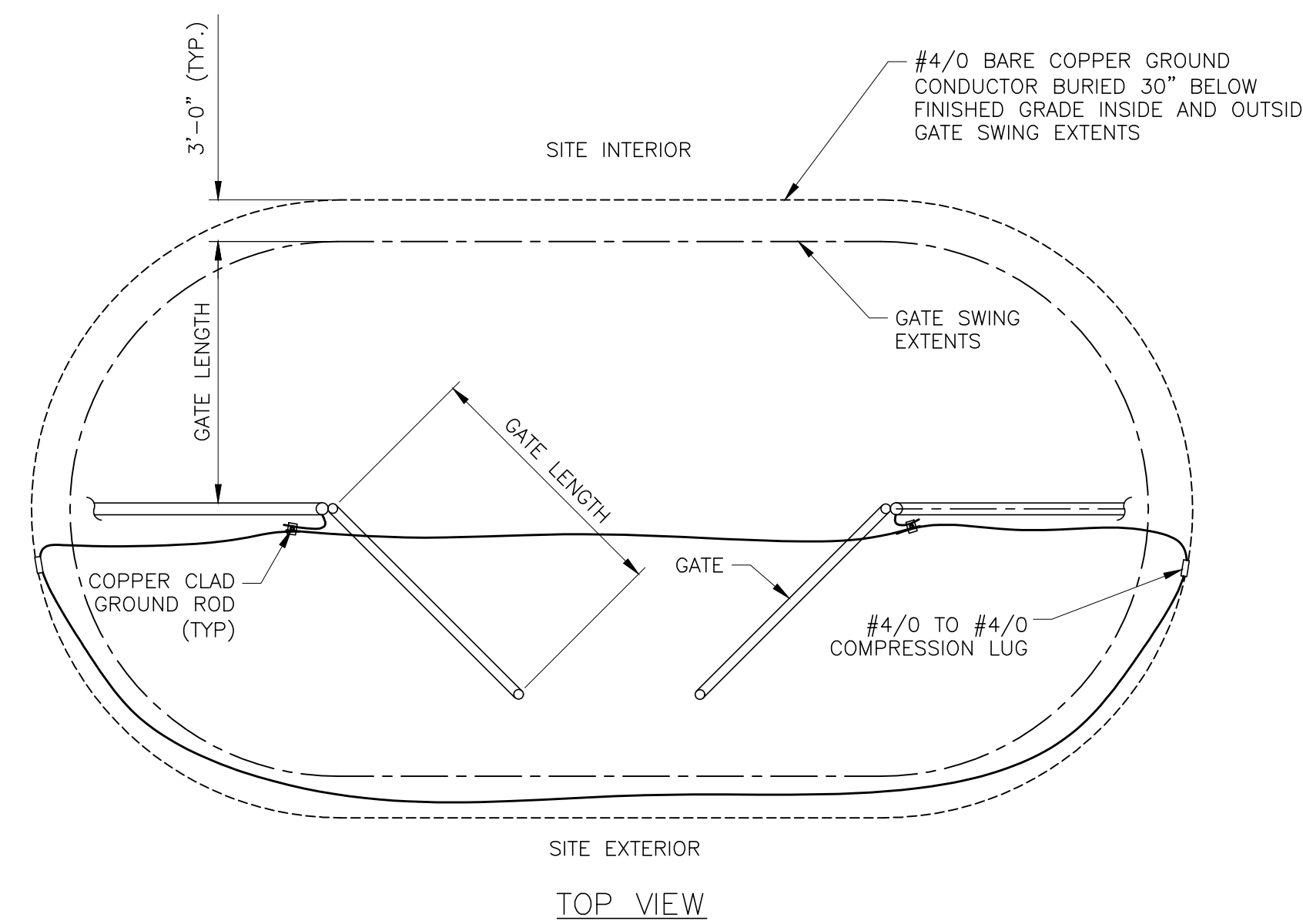
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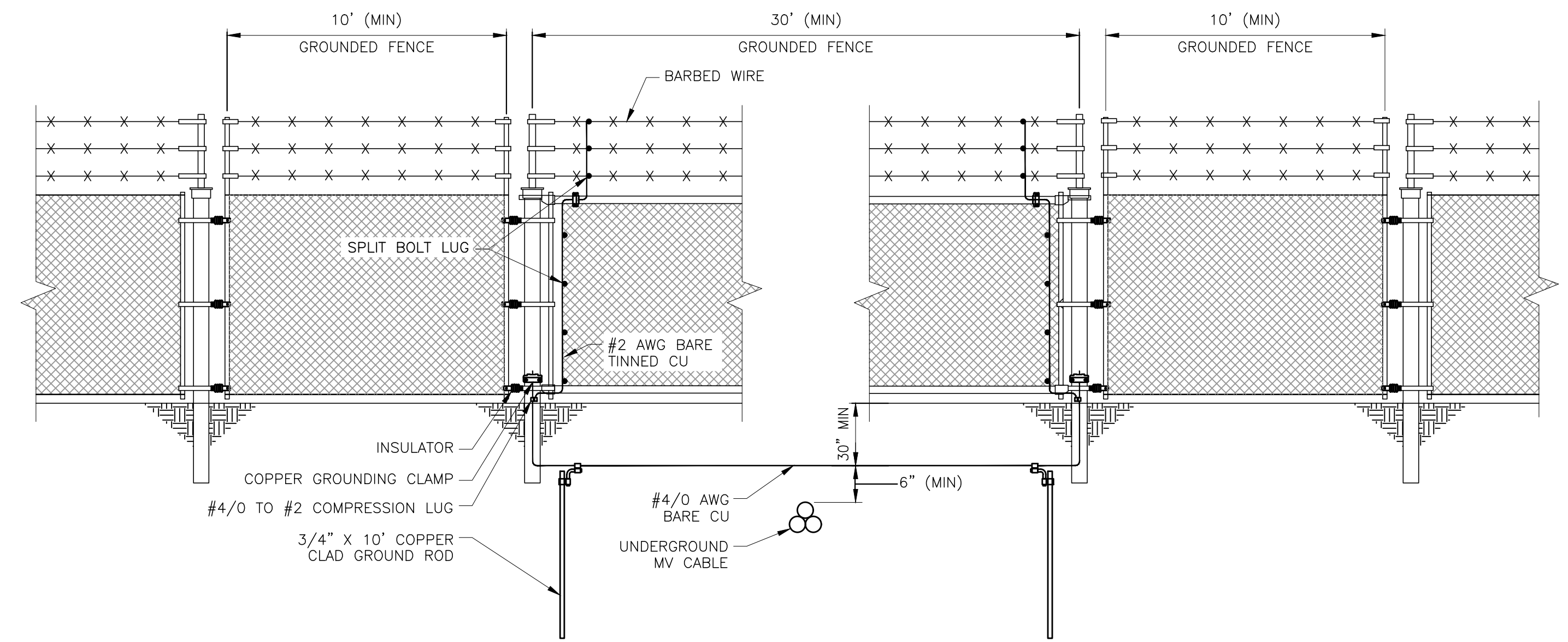


NORTH SENECA SOLAR PROJECT
SAVION
115/34.5kV SUBSTATION
GROUNDING DETAILS

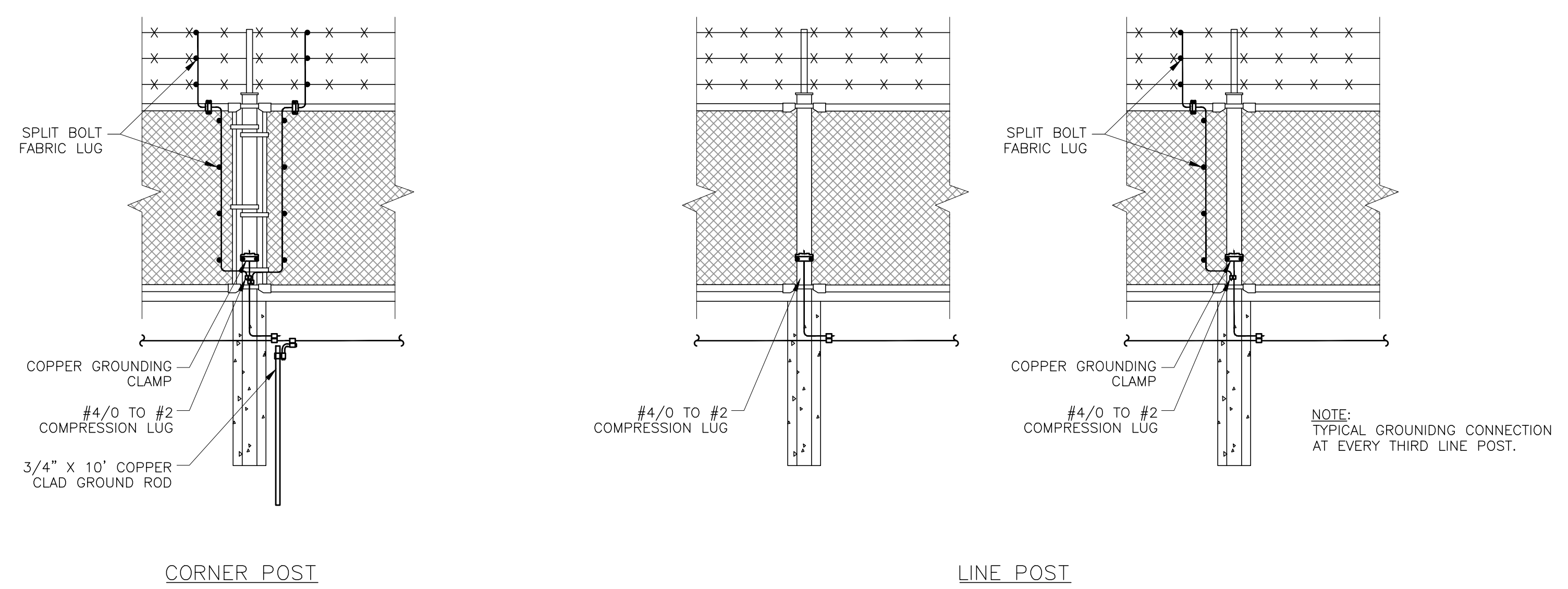
PROJ. NO.: 19349	SCALE: AS SHOWN
DWG. NO.: 202	SHEET: 01
	REV.: D



8 GROUNDED FENCE GATE
202-02 SCALE: NONE



9 GROUNDED FENCE - UNDERGROUND MV CROSSING
202-02 SCALE: NONE



10 GROUNDED FENCE POSTS
202-02 SCALE: NONE

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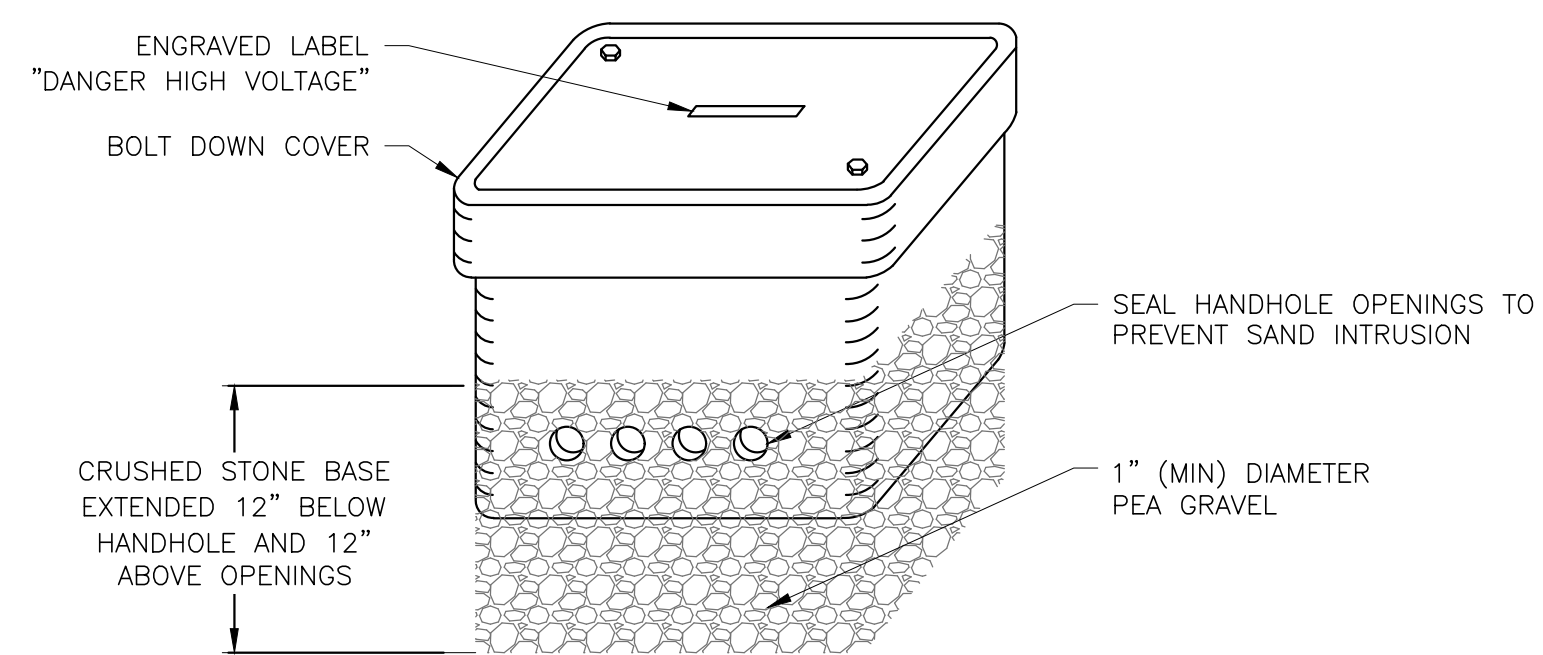


NORTH SENECA SOLAR PROJECT
SAVION
115/34.5kV SUBSTATION
GROUNDING DETAILS

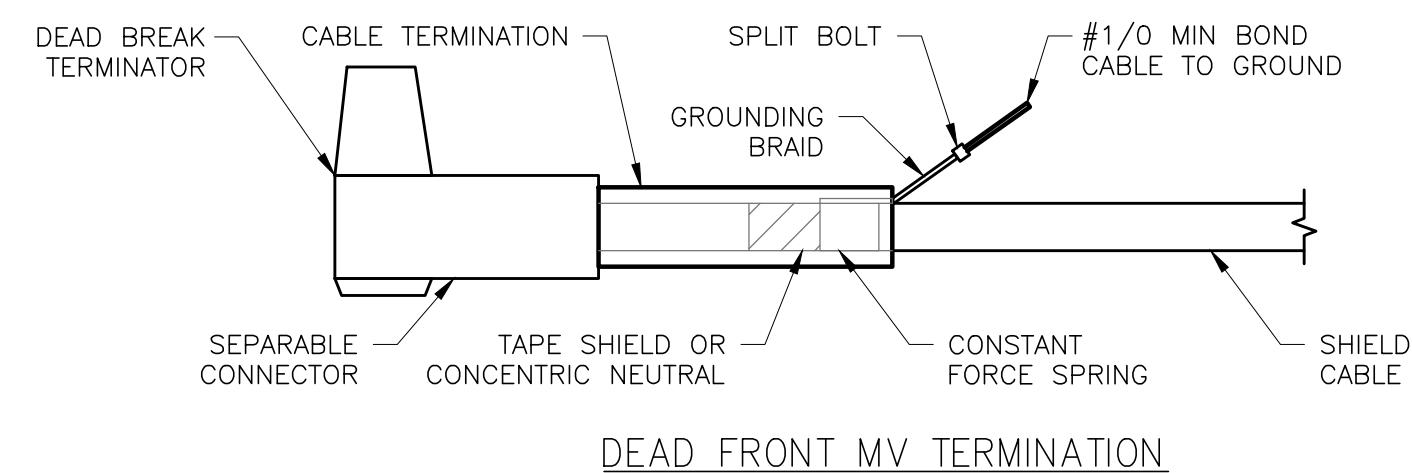
PROJ. NO.:	19349	SHEET:	02	REV.:	D
DWG. NO.:	202	PLOT SCALE: ARCH ENGRG 0 1 2 AS SHOWN			

NOTES:

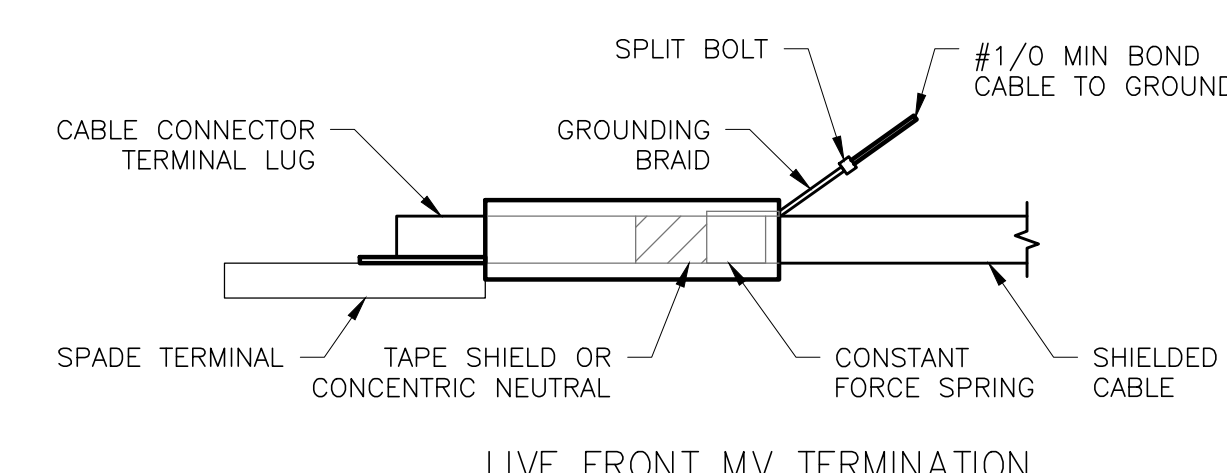
- BOX SHALL BE RATED T8 FOR USE IN GRASSY AREAS NOT SUBJECT TO VEHICULAR TRAFFIC, OR RATED T22 FOR USE IN SIDEWALKS OR PARKING LOTS SUBJECT TO OCCASIONAL NON-DELIBERATE HEAVY VEHICULAR TRAFFIC.
- CONDUITS SHALL ENTER ON SIDES. MINIMUM BURIAL DEPTHS OF CONDUITS IS 24" BELOW FINISHED GRADE.
- CONDUIT KNOCKOUTS SHALL BE DRILLED OR PUNCHED ON SITE.



1 HANDHOLE
203-01
SCALE: NONE



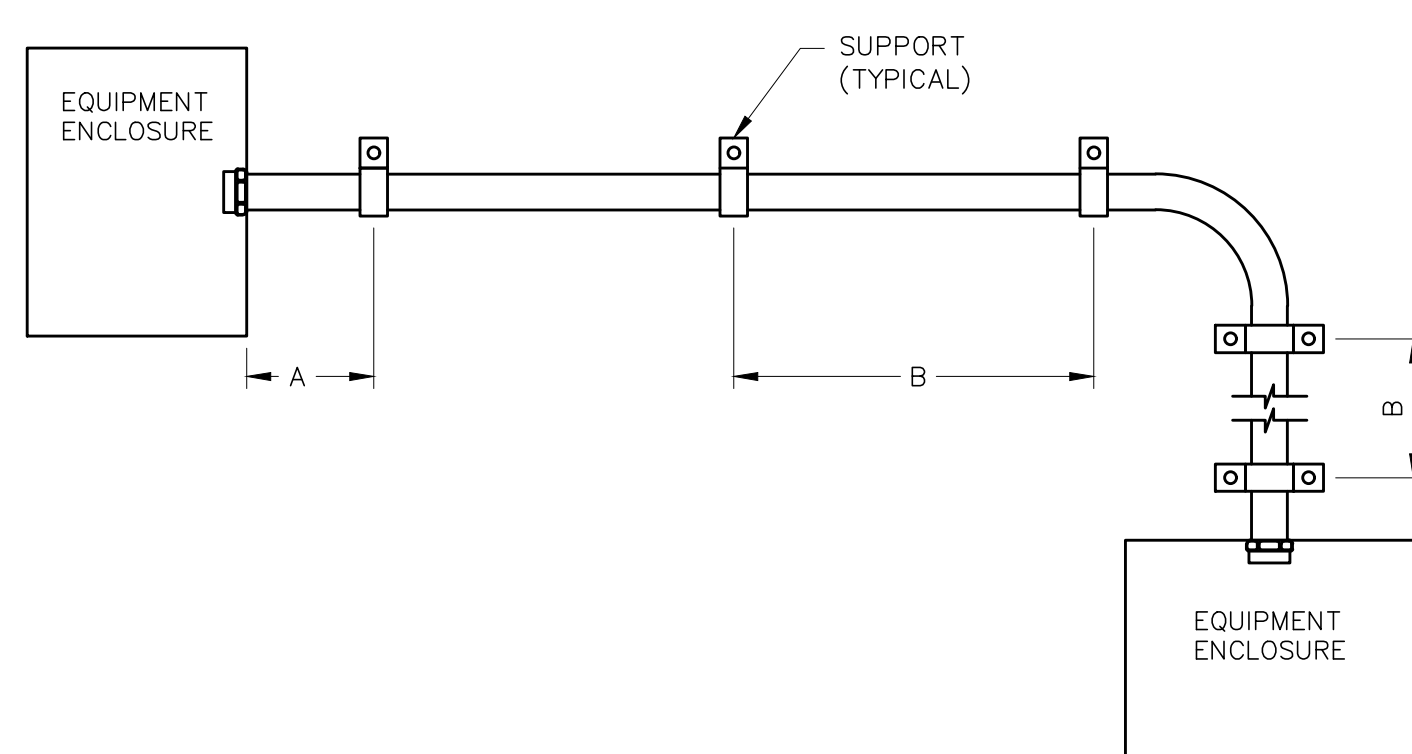
DEAD FRONT MV TERMINATION



LIVE FRONT MV TERMINATION

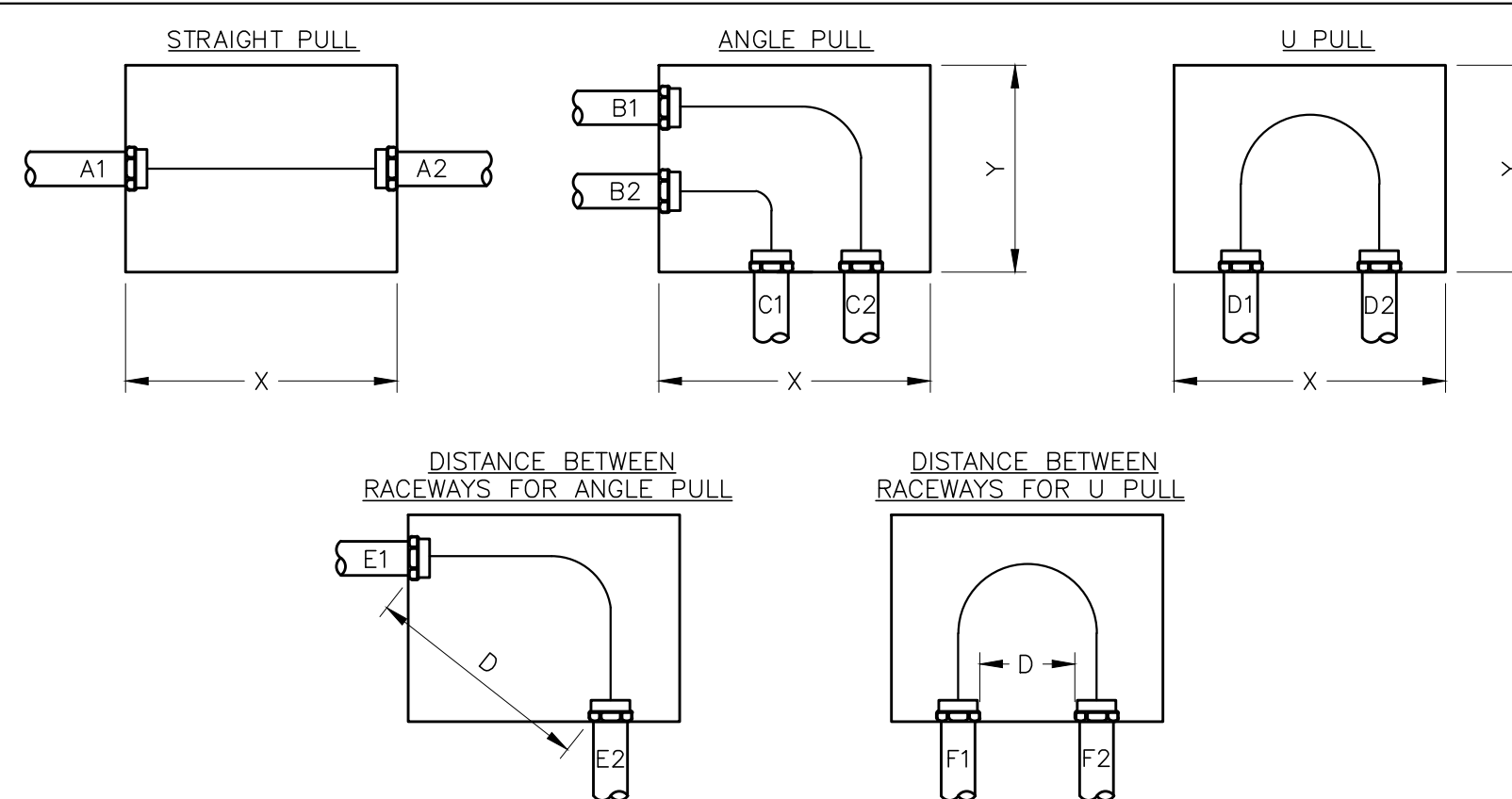
NOTE:
CONTRACTOR TO INSTALL CABLE TERMINATIONS PER MANUFACTURER INSTRUCTIONS.

2 MV CABLE TERMINATION
203-01
SCALE: NONE



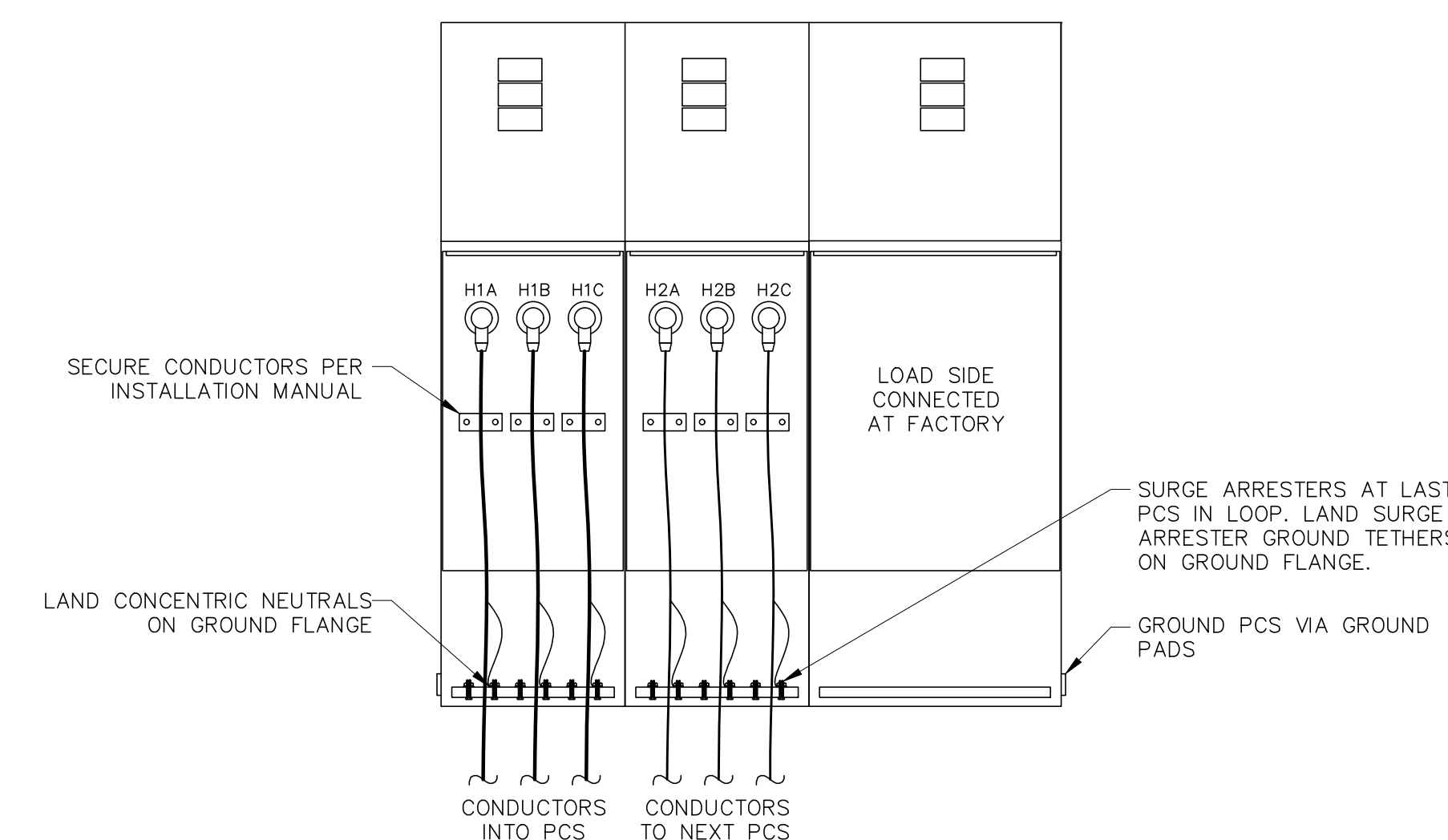
MAXIMUM CONDUIT HARDWARE SPACING			
CONDUIT TYPE	ENCLOSURE TO SUPPORT (A)	SUPPORT TO SUPPORT (B)	NEC ARTICLE
ELECTRICAL METALLIC TUBING (EMT)	3'	10'	358
INTERMEDIATE METAL CONDUIT (IMC)	3'	10'	342
RIGID METAL CONDUIT (RMC)	3'	10'	344
LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC)	1'	4.5'	350
PVC (SCH40 & 80) (0.5" - 1")	3'	3'	352
PVC (SCH40 & 80) (1.25" - 2")	3'	5'	352
PVC (SCH40 & 80) (2.5" - 3")	3'	6'	352
PVC (SCH40 & 80) (3.5" - 5")	3'	7'	352
PVC (SCH40 & 80) (6")	3'	8'	352

3 CONDUIT SUPPORT SPACING
203-01
SCALE: NONE

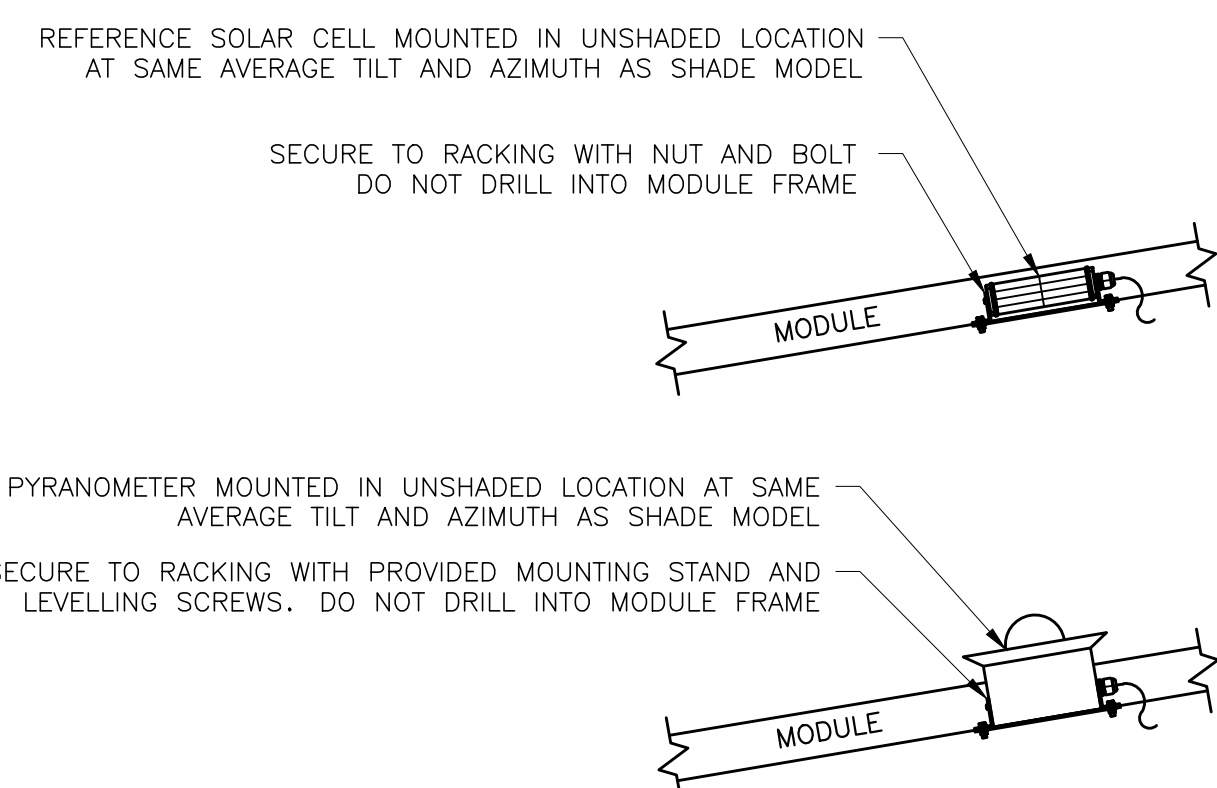


NEC 314.28(A)(1)-(3) PULL BOX SIZING (UP TO 1000V)			
BOX TYPE	LENGTH (X)	HEIGHT (Y)	DISTANCE (D)
STRAIGHT PULL	8 X LARGEST OF A1 & A2	AS NEEDED	N/A
ANGLE PULL	6 X (LARGEST OF B1 & B2) + SUM OF OTHER CONDUIT ENTERING THE SAME WALL	6 X (LARGEST OF C1 & C2) + SUM OF OTHER CONDUIT ENTERING THE SAME WALL	6 X LARGEST OF E1 & E2
U PULL	AS NEEDED	6 X (LARGEST OF D1 & D2) + SUM OF OTHER CONDUIT ENTERING THE SAME WALL	6 X LARGEST OF F1 & F2

4 PULL BOX & JUNCTION BOX SIZING
203-01
SCALE: NONE

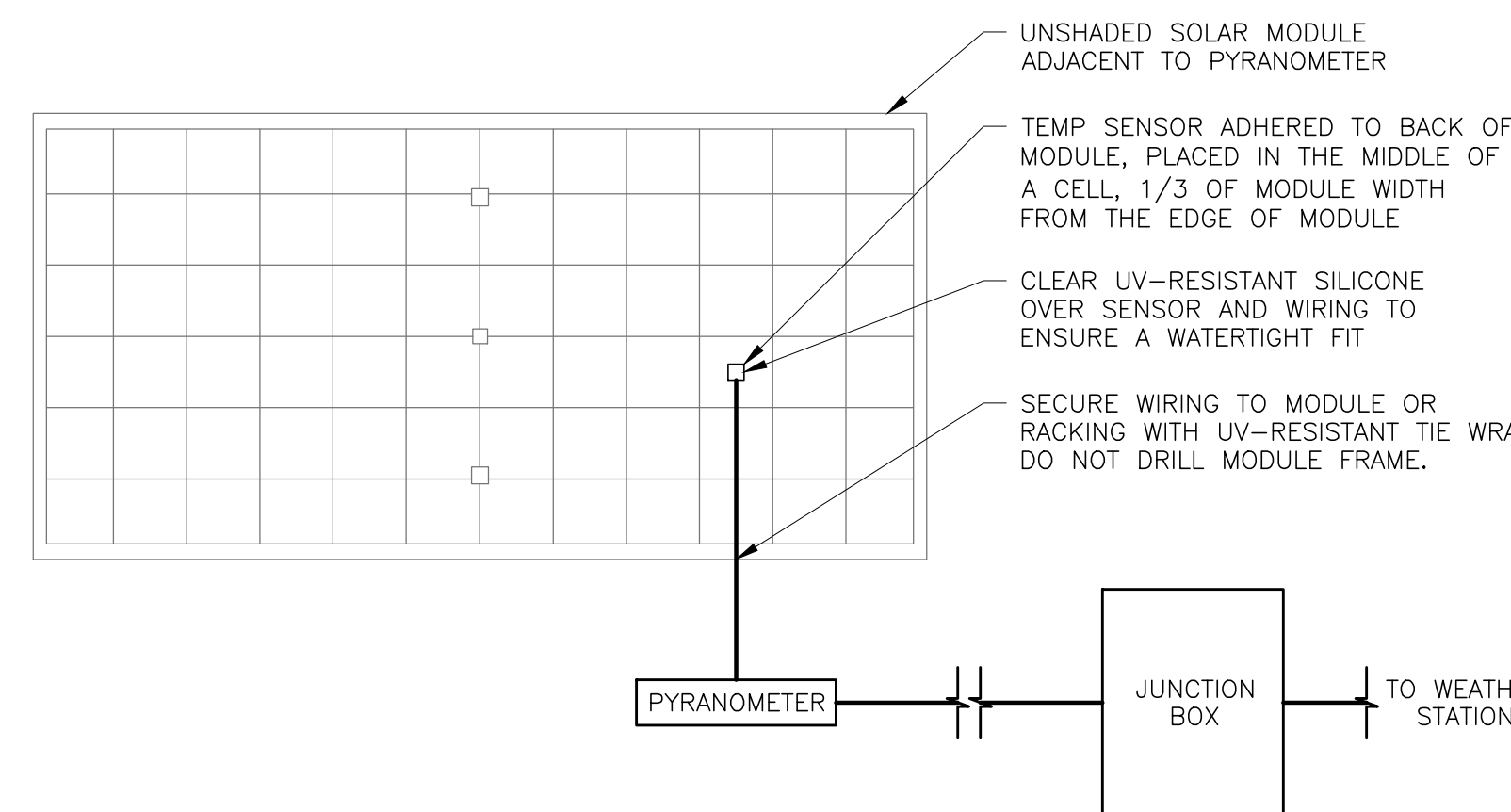


5 PCS MV SWITCHGEAR TERMINATION
203-01
SCALE: NONE

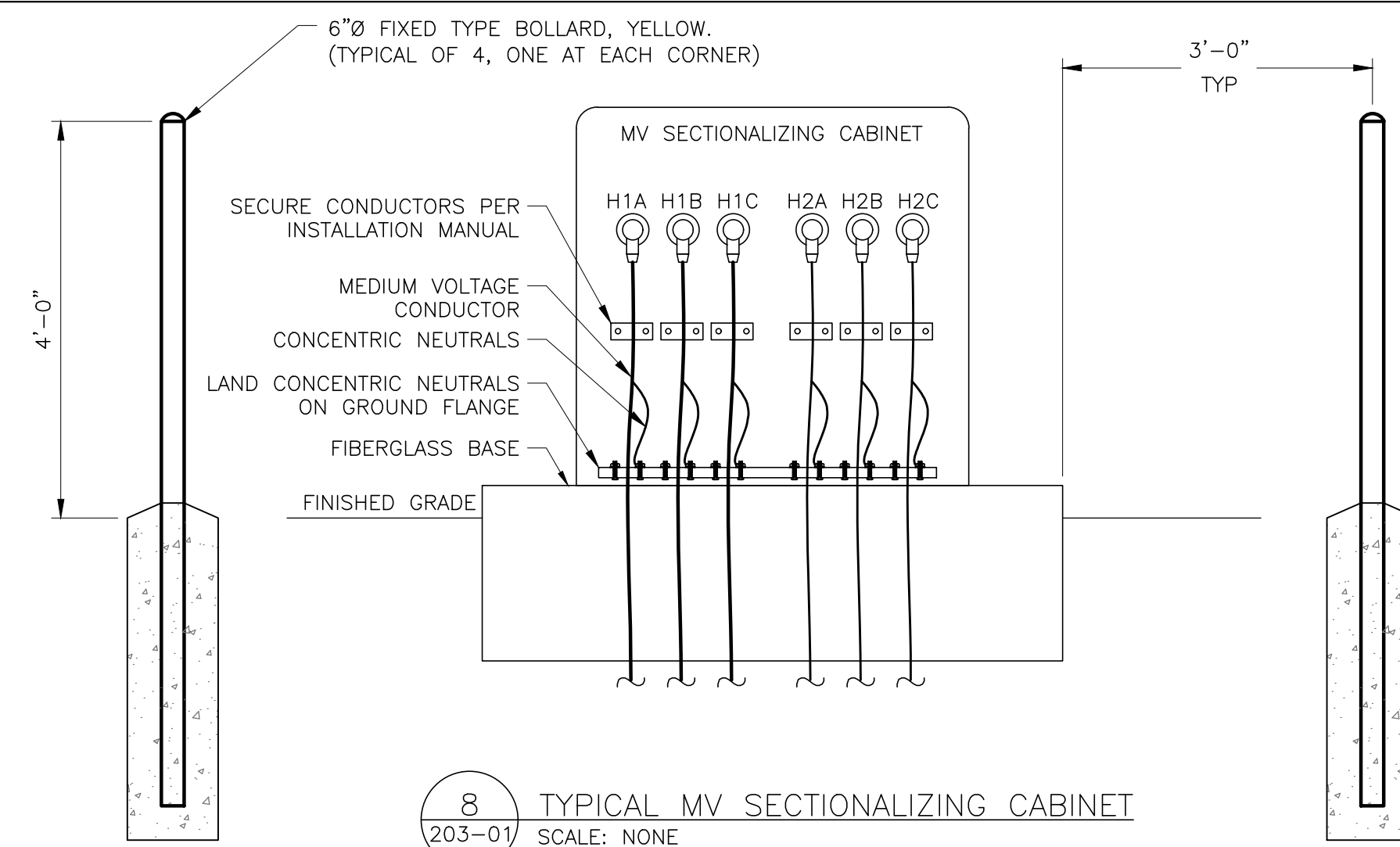


NOTE:
IF NO SHADE MODEL AVAILABLE, MOUNT SENSOR AT MOST COMMON MODULE TILT & AZIMUTH

6 WEATHER SENSOR MOUNTING
203-01
SCALE: NONE



7 MODULE TEMPERATURE SENSOR MOUNTING
203-01
SCALE: NONE



8 TYPICAL MV SECTIONALIZING CABINET
203-01
SCALE: NONE

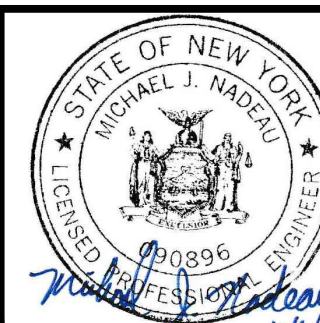
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NORTH SENECA SOLAR PROJECT
SAVION
115/34.5kV SUBSTATION
CONDUIT DETAILS

PLT SCALE:	ARCH	ENGRG
PROJ. NO.:	19349	SCALE: AS SHOWN
DWG. NO.:	203	SHEET: 01
		REV.: D