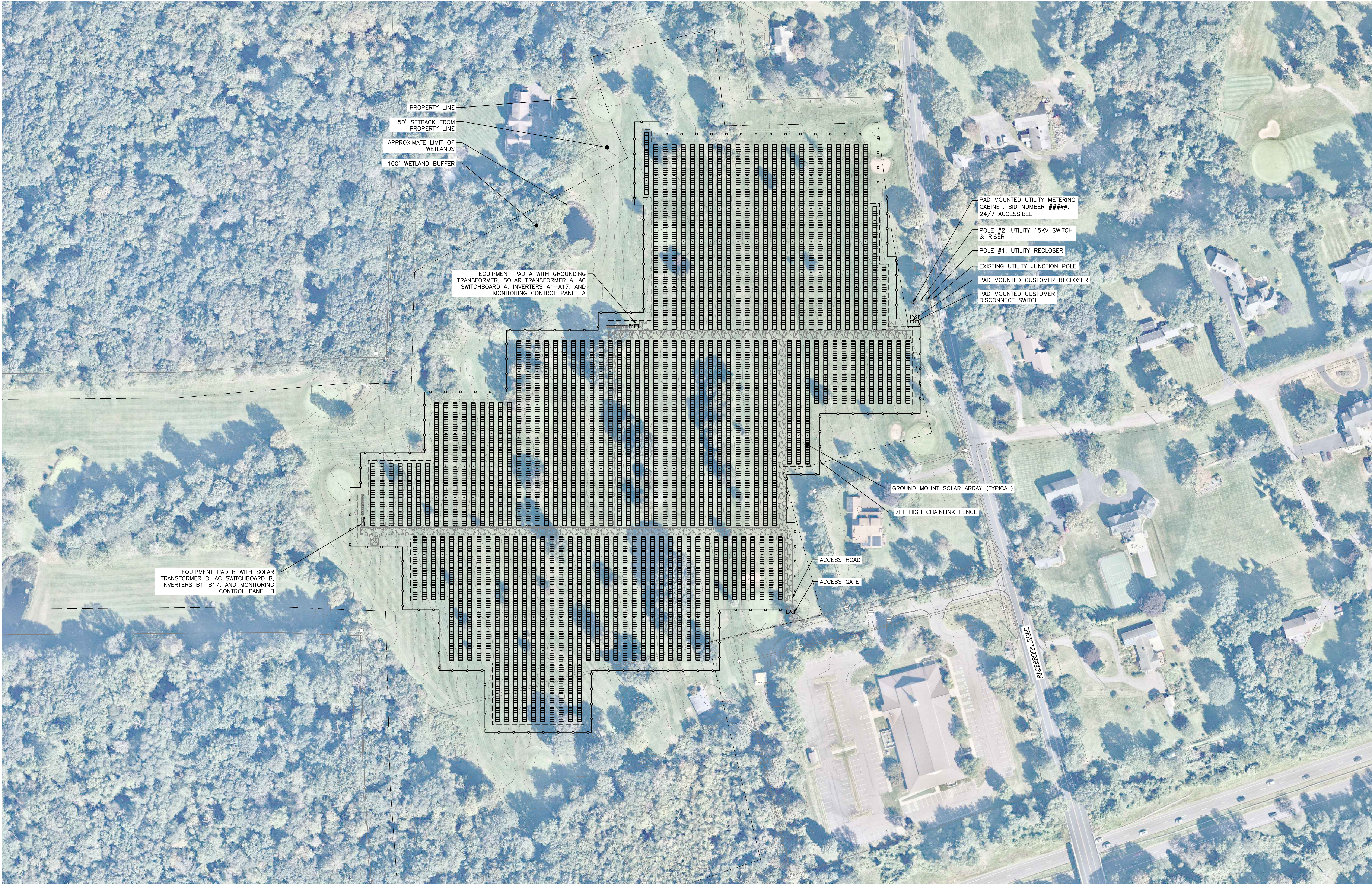


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RULER IN INCHES: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
PLOT DATE: 1/17/2025 6:25 PM



1 SITE PLAN
SCALE: 1" = 80'



NOT FOR
CONSTRUCTION

DRAWING TITLE

SITE PLAN

DRAWING #
G100

PROJECT SOLAR GROUND MOUNT SYSTEM AT
RACEBROOK ROAD
994 RACEBROOK ROAD
WOODBIDGE, CT 06525

DC SYSTEM SIZE: 5,095,760 KWDC
AC SYSTEM SIZE: 4,250,000 KWAC
MODULE TYPE: HANWHA 670W/615W
MODULE QUANTITY: 2,016/6,096
ORIENTATION: SAT, EW TRACKING

PAGE SIZE
36" x 24"
PROJECT #
09520.07

DEVELOPER
Greenskies
a Clean Focus company
127 WASHINGTON AVENUE
NORTH HAVEN, CT 06473
WWW.GREENSKIES.COM



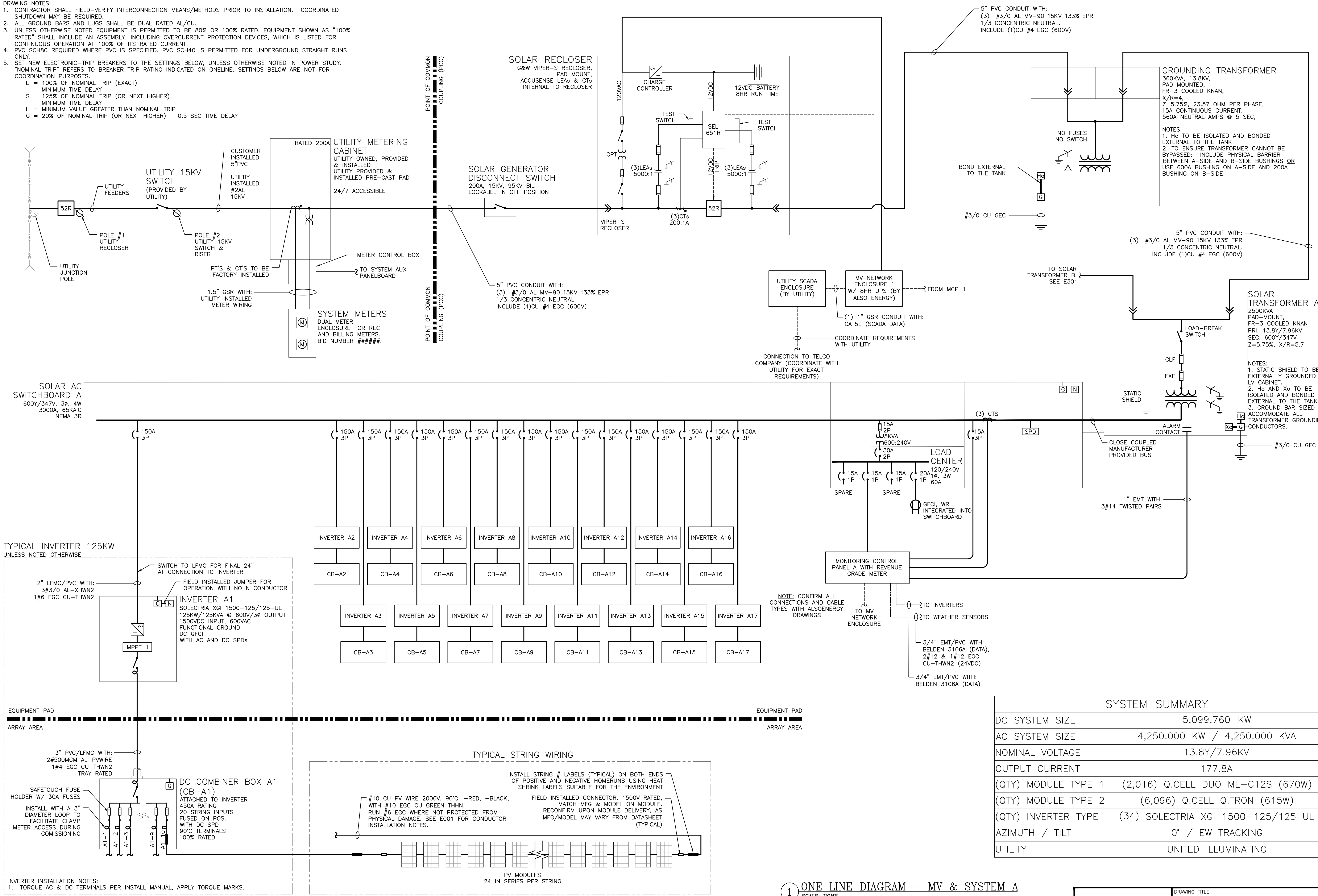
PUREPOWER
ENGINEERING
111
WWW.PUREPOWER.COM
RICHARD A. WINSLOW
CT LICENSE No. 3029262

DATE	REVISION DESCRIPTION	PM	ENG	CHK
01/17/2025	IC DOCS - REV 4	SK	CO	RI
01/06/2025	IC DOCS - REV 3	SK	CO	RI
08/08/2024	IC DOCS - REV 2	SK	CO	RI
02/14/2024	IC DOCS - REV 1	SK	CO	RI

PLOT DATE: 1/17/2023 6:25

DRAWING NOTES:

1. CONTRACTOR SHALL FIELD-VERIFY INTERCONNECTION MEANS/METHODS PRIOR TO INSTALLATION. COORDINATED SHUTDOWN MAY BE REQUIRED.
2. ALL GROUND BARS AND LUGS SHALL BE DUAL RATED AL/CU.
3. UNLESS OTHERWISE NOTED EQUIPMENT IS PERMITTED TO BE 80% OR 100% RATED. EQUIPMENT SHOWN AS "100% RATED" SHALL BE AN ASSEMBLY, INCLUDING OVERCURRENT PROTECTION DEVICES, WHICH IS LISTED FOR CONTINUOUS OPERATION AT 100% OF ITS RATED CURRENT.
4. PVC SCH80 REQUIRED WHERE PVC IS SPECIFIED. PVC SCH40 IS PERMITTED FOR UNDERGROUND STRAIGHT RUNS ONLY.
5. SET NEW ELECTRONIC-TRIP BREAKERS TO THE SETTINGS BELOW, UNLESS OTHERWISE NOTED IN POWER STUDY. "NOMINAL TRIP" REFERS TO BREAKER TRIP RATING INDICATED ON ONLINE. SETTINGS BELOW ARE NOT FOR COORDINATION PURPOSES.
 - L = 100% OF NOMINAL TRIP (EXACT)
 - MINIMUM TIME DELAY
 - S = 125% OF NOMINAL TRIP (OR NEXT HIGHER)
 - MINIMUM TIME DELAY
 - I = MINIMUM VALUE GREATER THAN NOMINAL TRIP
 - G = 20% OF NOMINAL TRIP (OR NEXT HIGHER) 0.5 SEC TIME DELAY



SYSTEM SUMMARY	
DC SYSTEM SIZE	5,099.760 KW
AC SYSTEM SIZE	4,250.000 KW / 4,250.000 KVA
NOMINAL VOLTAGE	13.8Y/7.96KV
OUTPUT CURRENT	177.8A
(QTY) MODULE TYPE 1	(2,016) Q.CELL DUO ML-G12S (670W)
(QTY) MODULE TYPE 2	(6,096) Q.CELL Q.TRON (615W)
(QTY) INVERTER TYPE	(34) SOLECTRIA XGI 1500-125/125 UL
AZIMUTH / TILT	0° / EW TRACKING
UTILITY	UNITED ILLUMINATING

1 ONE LINE DIAGRAM – MV & SYSTEM A
SCALE: NONE

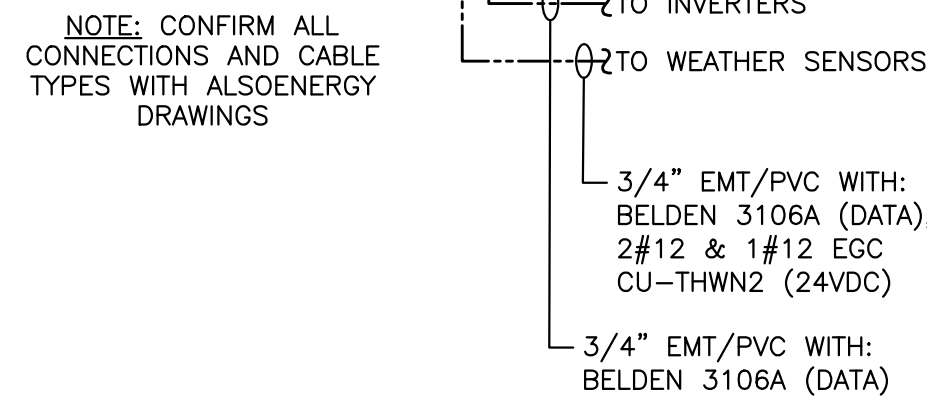
NOT FOR
CONSTRUCTION

DRAWING TITLE

ONE LINE DIAGRAM -
MV & SYSTEM A

DRAWING #
E300

PROJECT	SOLAR GROUND MOUNT SYSTEM AT RACEBROOK ROAD 994 RACEBROOK ROAD WOODBIDGE, CT 06525	DC SYSTEM SIZE: 5.099,760 kWDC AC SYSTEM SIZE: 4,250,000 kWAC MODULE TYPE: HANWHA 670W/61DW MODULE QUANTITY: 2,016/6,096 ORIENTATION: SAT, EW TRACKING	PAGE SIZE	36" x 24"	PROJECT # 08520.07	 Greenskies a Clean Focus company 127 WASHINGTON AVENUE NORTH HAVEN, CT 06473 WWW.GREENSKIES.COM	 ENGINEERING REGISTERED PROFESSIONAL ENGINEER No. 1002862 STATE OF CONNECTICUT EXPIRATION DATE 06/30/2026	 PURE POWER ENGINEERING 111 RIVER STREET, HOBOKEN, NJ WWW.PUREPOWER.COM PHONE: 201.961.5500 CT LICENSE NO. 0032862	DATE	01/17/2025	REVISION DESCRIPTION	PM	ENG	CHK
			REVISION	IC D0C5 - REV 4					SK	CO	RI			
									01/06/2025	IC D0C5 - REV 3	SK	CO	RI	
									01/08/2024	IC D0C5 - REV 2	SK	CO	RI	
									02/14/2024	IC D0C5 - REV 1	SK	SF	RI	



NOT FOR CONSTRUCTION	DRAWING TITLE ONE LINE DIAGRAM – SYSTEM B	DRAWING # E301
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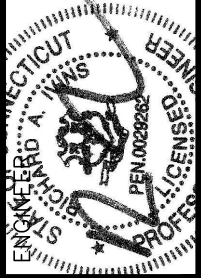
SEL 651R RELAY										
SETTINGS ARE PRELIMINARY PENDING UTILITY APPROVAL AND NOT INTENDED FOR CONSTRUCTION										
Solar System Base AC Size = 5000KVA			209.18A BASE PRIMARY USED FOR 50/51 ELEMENTS			*Total Clear Time = 3 Cycle Breaker Plus Delay (Time Dial or DEF Time)				
1.05A BASE SECONDARY 50/51P,G,N,Q						7967.43V BASE PRIMARY USED FOR 27/59 ELEMENTS				
P,G,N,Q CT RATIO FACTOR = 200						1.59V BASE SECONDARY USED FOR 27/59 ELEMENTS				
P CT Minimum Rating = 200:1 1B0.5 C50			RF = 1.5 @ 30C			LEA RATIO FACTOR = 5000				
ANSI ELEMENT #	Unit	Pickup (Secondary)	Real (Primary)	Level	Def. Time Delay (s)	Time Dial	Total Clear Time (s)*	Total Clear Time (cyc)*	Curve	Description
27-1	L-N Volt	1.40	7011.34	0.8800	1.95	—	2.00	120.00	—	Slow UV
27-2	L-N Volt	0.80	3983.72	0.5000	0.11	—	0.16	9.60	—	Fast UV
59-1	L-N Volt	1.75	8764.18	1.1000	1.95	—	2.00	120.00	—	Slow OV
59-2	L-N Volt	1.91	9560.92	1.2000	0.11	—	0.16	9.60	—	Fast OV
79-UV	L-N Volt	1.51	7569.06	0.9500	299.95	—	300.00	18000.00	—	Min Permissive Close Voltage
79-OV	L-N Volt	1.67	8365.81	1.0500	299.95	—	300.00	18000.00	—	Max Permissive Close Voltage
81U-1	Hz	58.50	58.50	0.9750	299.95	—	300.00	18000.00	—	Slow UF
81U-2	Hz	56.50	56.50	0.9416	0.11	—	0.16	9.60	—	Fast UF
81O-1	Hz	61.20	61.20	1.0200	299.95	—	300.00	18000.00	—	Slow OF
81O-2	Hz	62.00	62.00	1.0333	0.11	—	0.16	9.60	—	Fast OF
79-UF	Hz	59.50	59.50	0.9917	299.95	—	300.00	18000.00	—	Min Permissive Close Frequency
79-OF	Hz	60.50	60.50	1.0083	299.95	—	300.00	18000.00	—	Max Permissive Close Frequency
51P	A	1.31	261.48	1.2500	—	2	3.9 @2X	234.02 @2X	U4	Time Phase OC
50P	A	12.55	2510.22	12.0000	0.05	—	0.05	3.00	—	Instantaneous P OC
51G	A	0.21	41.84	0.2000	—	2	3.9 @2X	234.02 @2X	U4	Timed Ground OC
50G	A	1.05	209.18	1.0000	0.05	—	0.05	3.00	—	Instantaneous G OC
74	—	—	—	—	0.05	—	0.05	3.00	—	Relay Alarm

INVERTER UL1741-SB Compliant						
ANSI ELEMENT #	Pickup	Real	Level	Delay (sec)	Curve	Description
27-1	304.84	528V	88.0%	2.00		Slow UV
27-2	173.21	300V	50.0%	1.10		Fast UV
59-1	381.05	660V	110.0%	2.00		Slow OV
59-2	415.69	720V	120.0%	0.16		Fast OV
81U-1	58.50	58.5Hz	97.5%	300.00		Slow UF
81U-2	56.50	56.5Hz	94.2%	0.16		Fast UF
81O-1	61.20	61.2Hz	102.0%	300.00		Slow OF
81O-2	62.00	62Hz	103.3%	0.16		Fast OF
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

MV FEEDER CALCULATIONS (13.8KV)																							CIRCUIT-SPECIFIC SPECIFICATIONS			CIRCUIT IMPEDANCE (total)							
EQUIPMENT SUPPLIED	FED FROM	CIRCUIT ROUTING	# OF INVERTERS	APPARENT POWER [KVA]	FEEDER LENGTH [FT]	FULL LOAD AMPS 'FLA' [A]	OCPD TYPE	OCPD TRIP RATING [A]	OCPD TRIP % OF FLA	CONDUCTOR MATERIAL	CONDUCTOR SIZE	NEC TABLE REFERENCE	TEMPERATURE ADJUSTMENT	CONDUCTOR AMPACITY [A]	CHECK CONDUCTOR AMPACITY > FLA?	CHECK OCPD RATING > FLA x 1.25?	CHECK OCPD COMPLIANT WITH 240.101(A)?	SEGMENT VOLTAGE DROP AT FLA	TOTAL VOLTAGE DROP AT FLA	PVC CONDUIT SIZE	ADDITIONAL GROUND CABLE	FULL CONDUCTOR SPEC	BUSHING CLASS	CT RATIO (METERING ONLY)	CT RATING FACTOR	R-Pos [ohms]	X-Pos [ohms]	B-Pos [Mohms]	R-Zero [ohms]	X-Zero [ohms]	B-Zero [Mohms]	Rdc [ohms]	
UTILITY RECLOSER	POI	OVERHEAD SPACED	34	4,250	15	177.8	BREAKER	267	150%	AL	#1/0	310.21	1.00	220	PASS	PASS	PASS	0.01%	0.01%	N/A	NONE	(4) #1/0 ACSR	200A	200: 5A	3	0.002517	0.002500	0.000490	0.004360	0.007130	0.000955	Rdc Not Applicable	
UTILITY DISCONNECT SWITCH	UTILITY RECLOSER	OVERHEAD SPACED	34	4,250	15	177.8	BREAKER	267	150%	AL	#1/0	310.21	1.00	220	PASS	PASS	PASS	0.01%	0.01%	N/A	NONE	(4) #1/0 ACSR	200A	200: 5A	3	0.002517	0.002500	0.000490	0.004360	0.007130	0.000955	Rdc Not Applicable	
UTILITY METER	UTILITY SWITCH	UNDERGROUND IN CONDUIT	34	4,250	15	177.8	BREAKER	267	150%	AL	#3/0	311.60(C)(78)	1.00	200	PASS	PASS	PASS	0.00%	0.00%	5"	CU #4	(3) #3/0 AL MV-90 15KV 133% EPR 1/3 CONCENTRIC NEUTRAL- INCLUDE (1)CU #4 EGC (600V)	200A	200: 5A	3	0.001980	0.000630	0.000000	0.003147	0.001602	0.000000	0.001965	
CUSTOMER DISCONNECT SWITCH	UTILITY METER	UNDERGROUND IN CONDUIT	34	4,250	35	177.8	BREAKER	267	150%	AL	#3/0	311.60(C)(78)	1.00	200	PASS	PASS	PASS	0.01%	0.01%	5"	CU #4	(3) #3/0 AL MV-90 15KV 133% EPR 1/3 CONCENTRIC NEUTRAL- INCLUDE (1)CU #4 EGC (600V)	200A	200: 5A	3	0.004620	0.001470	0.000000	0.007343	0.003738	0.000000	0.004585	
CUSTOMER RECLOSER	CUSTOMER DISCONNECT SWITCH	UNDERGROUND IN CONDUIT	34	4,250	5	177.8	BREAKER	267	150%	AL	#3/0	311.60(C)(78)	1.00	200	PASS	PASS	PASS	0.00%	0.02%	5"	CU #4	(3) #3/0 AL MV-90 15KV 133% EPR 1/3 CONCENTRIC NEUTRAL- INCLUDE (1)CU #4 EGC (600V)	200A	200: 5A	3	0.000660	0.000210	0.000000	0.001049	0.000534	0.000000	0.000655	
GROUNDING TRANSFORMER	CUSTOMER RECLOSER	UNDERGROUND IN CONDUIT	34	4,250	555	177.8	BREAKER	267	150%	AL	#3/0	311.60(C)(78)	1.00	200	PASS	PASS	PASS	0.16%	0.18%	5"	CU #4	(3) #3/0 AL MV-90 15KV 133% EPR 1/3 CONCENTRIC NEUTRAL- INCLUDE (1)CU #4 EGC (600V)	200A	200: 5A	3	0.073260	0.023310	0.000006	0.116439	0.059274	0.000006	0.072705	
SOLAR TRANSFORMER 1	GROUNDING TRANSFORMER	UNDERGROUND IN CONDUIT	34	4,250	15	177.8	BREAKER	267	150%	AL	#3/0	311.60(C)(78)	1.00	200	PASS	PASS	PASS	0.00%	0.18%	5"	CU #4	(3) #3/0 AL MV-90 15KV 133% EPR 1/3 CONCENTRIC NEUTRAL- INCLUDE (1)CU #4 EGC (600V)	200A	200: 5A	3	0.001980	0.000630	0.000000	0.003147	0.001602	0.000000	0.001965	
SOLAR TRANSFORMER 2	SOLAR TRANSFORMER 1	UNDERGROUND IN CONDUIT	17	2,125	925	88.9	BREAKER	133	150%	AL	#2	311.60(C)(78)	1.00	120	PASS	PASS	PASS	0.33%	0.51%	4"	CU #6	(3) #2 AL MV-90 15KV 133% EPR 1/3 CONCENTRIC NEUTRAL- INCLUDE (1)CU #6 EGC (600V)	200A	100: 5A	3	0.309875	0.046250	0.000007	0.492655	0.117660	0.000007	0.309875	



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PURE POWER
 ENGINEERING
 111 WILMINGTON AVE., SUITE 100
 NORTH HAVEN, CT 06473
 WWW.PUREPOWER.COM
 RICHARD A. NIMS
 CT LICENSE No. 0029262

PROJECT: SOLAR GROUND MOUNT SYSTEM AT RACEBROOK ROAD 994 RACEBROOK ROAD WOODBRIDGE, CT 06525

DC SYSTEM SIZE: 5,095,760 KWDC
 AC SYSTEM SIZE: 4,250,000 KWAC
 MODULE TYPE: HANWHA 670W/615W
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