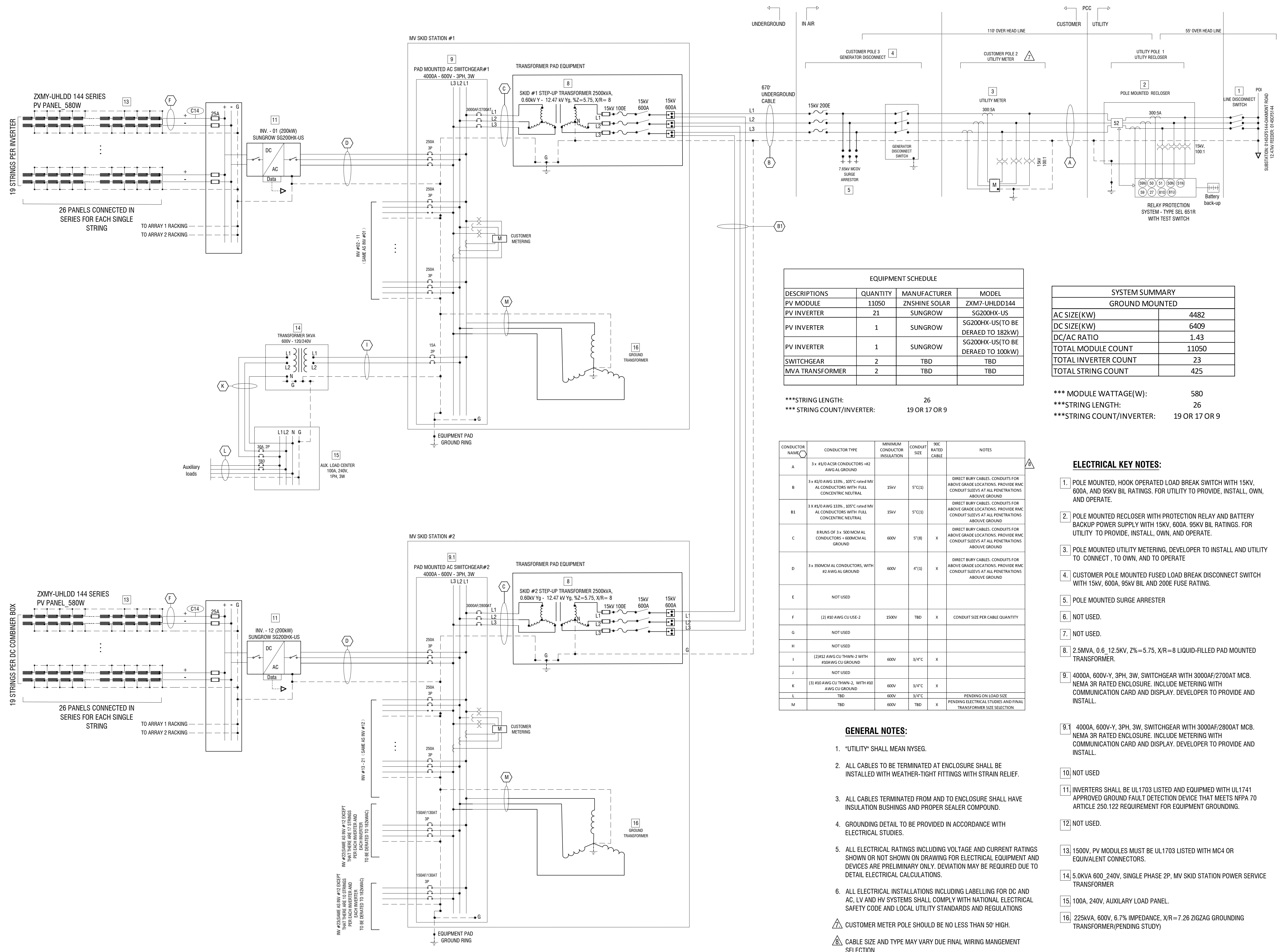


ISSUE STAGE:  
ISSUED FOR PERMIT

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ENGINEER'S SEAL



EQUIPMENT SCHEDULE			
DESCRIPTIONS	QUANTITY	MANUFACTURER	MODEL
PV MODULE	11050	ZNSHINE SOLAR	ZXM7-UHLLD144
PV INVERTER	21	SUNGROW	SG200HX-US
PV INVERTER	1	SUNGROW	SG200HX-US(TO BE DERATED TO 182kW)
PV INVERTER	1	SUNGROW	SG200HX-US(TO BE DERATED TO 100kW)
SWITCHGEAR	2	TBD	TBD
MVA TRANSFORMER	2	TBD	TBD

SYSTEM SUMMARY	
GROUND MOUNTED	
AC SIZE(KW)	4482
DC SIZE(KW)	6409
DC/AC RATIO	1.43
TOTAL MODULE COUNT	11050
TOTAL INVERTER COUNT	23
TOTAL STRING COUNT	425

\*\*\*STRING LENGTH: 26  
\*\*\* STRING COUNT/INVERTER: 19 OR 17 OR 9

\*\*\* MODULE WATTAGE(W): 580  
\*\*\*STRING LENGTH: 26  
\*\*\*STRING COUNT/INVERTER: 19 OR 17 OR 9

CONDUCTOR NAME	CONDUCTOR TYPE	MINIMUM CONDUCTOR INSULATION	CONDUIT SIZE	90C RATED CABLE	NOTES
A	3 x #10 AC9R CONDUCTORS #2 AWG AL GROUND				
B	3 x #2 AWG 133% 105°C rated MV AL CONDUCTORS WITH FULL CONCENTRIC NEUTRAL	15KV	5" (11)		DIRECT BURRY CABLES. CONDUITS FOR ABOVE GRADE LOCATIONS. PROVIDE RMC CONDUIT SLEEVES AT ALL PENETRATIONS ABOVE GROUND
B1	3 x #10 AWG 133% 105°C rated MV AL CONDUCTORS WITH FULL CONCENTRIC NEUTRAL	15KV	5" (11)		DIRECT BURRY CABLES. CONDUITS FOR ABOVE GRADE LOCATIONS. PROVIDE RMC CONDUIT SLEEVES AT ALL PENETRATIONS ABOVE GROUND
C	8 RUNS OF 3 x 500 MCM AL CONDUCTORS + 600MCM AL GROUND	600V	5" (8)	X	DIRECT BURRY CABLES. CONDUITS FOR ABOVE GRADE LOCATIONS. PROVIDE RMC CONDUIT SLEEVES AT ALL PENETRATIONS ABOVE GROUND
D	3 x 150MCM AL CONDUCTORS, WITH #2 AWG AL GROUND	600V	4" (1)	X	DIRECT BURRY CABLES. CONDUITS FOR ABOVE GRADE LOCATIONS. PROVIDE RMC CONDUIT SLEEVES AT ALL PENETRATIONS ABOVE GROUND
E	NOT USED				
F	(2) #12 AWG CU USE-2	1500V	TBD	X	CONDUIT SIZE PER CABLE QUANTITY
G	NOT USED				
H	NOT USED				
I	(2) #12 AWG CU THWN-2 WITH #10 AWG CU GROUND	600V	3/4" (C)	X	
J	NOT USED				
K	(8) #10 AWG CU THWN-2, WITH #10 AWG CU GROUND	600V	3/4" (C)	X	
L	TBD	600V	3/4" (C)		PENDING ON LOAD SIZE
M	TBD	600V	TBD	X	PENDING ELECTRICAL STUDIES AND FINAL TRANSFORMER SIZE SELECTION

**ELECTRICAL KEY NOTES:**

- POLE MOUNTED, HOOK OPERATED LOAD BREAK SWITCH WITH 15KV, 600A, AND 95KV BIL RATINGS. FOR UTILITY TO PROVIDE, INSTALL, OWN, AND OPERATE.
- POLE MOUNTED RECLOSER WITH PROTECTION RELAY AND BATTERY BACKUP POWER SUPPLY WITH 15KV, 600A, 95KV BIL RATINGS. FOR UTILITY TO PROVIDE, INSTALL, OWN, AND OPERATE.
- POLE MOUNTED UTILITY METERING, DEVELOPER TO INSTALL AND UTILITY TO CONNECT, TO OWN, AND TO OPERATE
- CUSTOMER POLE MOUNTED FUSED LOAD BREAK DISCONNECT SWITCH WITH 15KV, 600A, 95KV BIL AND 200E FUSE RATING.
- POLE MOUNTED SURGE ARRESTOR
- NOT USED.
- NOT USED.
- 2.5MVA, 0.6 12.5KV, Z%=5.75, X/R=8 LIQUID-FILLED PAD MOUNTED TRANSFORMER.
- 4000A, 600V-Y, 3PH, 3W, SWITCHGEAR WITH 3000AF/2700AT MCB. NEMA 3R RATED ENCLOSURE. INCLUDE METERING WITH COMMUNICATION CARD AND DISPLAY. DEVELOPER TO PROVIDE AND INSTALL.
- 4000A, 600V-Y, 3PH, 3W, SWITCHGEAR WITH 3000AF/2800AT MCB. NEMA 3R RATED ENCLOSURE. INCLUDE METERING WITH COMMUNICATION CARD AND DISPLAY. DEVELOPER TO PROVIDE AND INSTALL.
- NOT USED
- INVERTERS SHALL BE UL1703 LISTED AND EQUIPPED WITH UL1741 APPROVED GROUND FAULT DETECTION DEVICE THAT MEETS NFPA 70 ARTICLE 250.122 REQUIREMENT FOR EQUIPMENT GROUNDING.
- NOT USED.
- 1500V, PV MODULES MUST BE UL1703 LISTED WITH MC4 OR EQUIVALENT CONNECTORS.
- 5.0KVA 600 240V, SINGLE PHASE 2P, MV SKID STATION POWER SERVICE TRANSFORMER
- 100A, 240V, AUXILIARY LOAD PANEL.
- 225KVA, 600V, 6.7% IMPEDANCE, X/R=7.26 ZIGZAG GROUNDING TRANSFORMER(PENDING STUDY)

**GENERAL NOTES:**

- "UTILITY" SHALL MEAN NYSEG.
- ALL CABLES TO BE TERMINATED AT ENCLOSURE SHALL BE INSTALLED WITH WEATHER-TIGHT FITTINGS WITH STRAIN RELIEF.
- ALL CABLES TERMINATED FROM AND TO ENCLOSURE SHALL HAVE INSULATION BUSHINGS AND PROPER SEALER COMPOUND.
- GROUNDING DETAIL TO BE PROVIDED IN ACCORDANCE WITH ELECTRICAL STUDIES.
- ALL ELECTRICAL RATINGS INCLUDING VOLTAGE AND CURRENT RATINGS SHOWN OR NOT SHOWN ON DRAWING FOR ELECTRICAL EQUIPMENT AND DEVICES ARE PRELIMINARY ONLY. DEVIATION MAY BE REQUIRED DUE TO DETAIL ELECTRICAL CALCULATIONS.
- ALL ELECTRICAL INSTALLATIONS INCLUDING LABELLING FOR DC AND AC, LV AND HV SYSTEMS SHALL COMPLY WITH NATIONAL ELECTRICAL SAFETY CODE AND LOCAL UTILITY STANDARDS AND REGULATIONS

▲ CUSTOMER METER POLE SHOULD BE NO LESS THAN 50' HIGH.  
▲ CABLE SIZE AND TYPE MAY VARY DUE FINAL WIRING MANGEMENT SELECTION.

REV#	DESCRIPTION	DATE	D.B.	C.B.
03	ISSUED FOR PERMIT	2024-03-25	S.X.	J.B
02	ISSUED PER UTILITY COMMENTS	2024-1-9	S.X.	J.B
01	ISSUED FOR CESIR	2023-5-29	S.X.	T.W.B
00	ISSUED FOR PSA	2023-1-30	S.X.	AV

DRAWING NAME:  
**THREE LINE DIAGRAM**

DRAWN BY:  
**S.X**

CHECKED BY:  
**J.B**

SCALE:  
**N.T.S.**

DATE:  
**2024-03-25**

PROJECT NAME:  
**GROUND MOUNT PV SYSTEM  
6882 RICE ROAD  
BLOOMFIELD NY 14469**

PROJECT NO:  
**NY-6882 RICE ROAD**

DRAWING NO:  
**E-2.1**

REV. NO:  
**03**