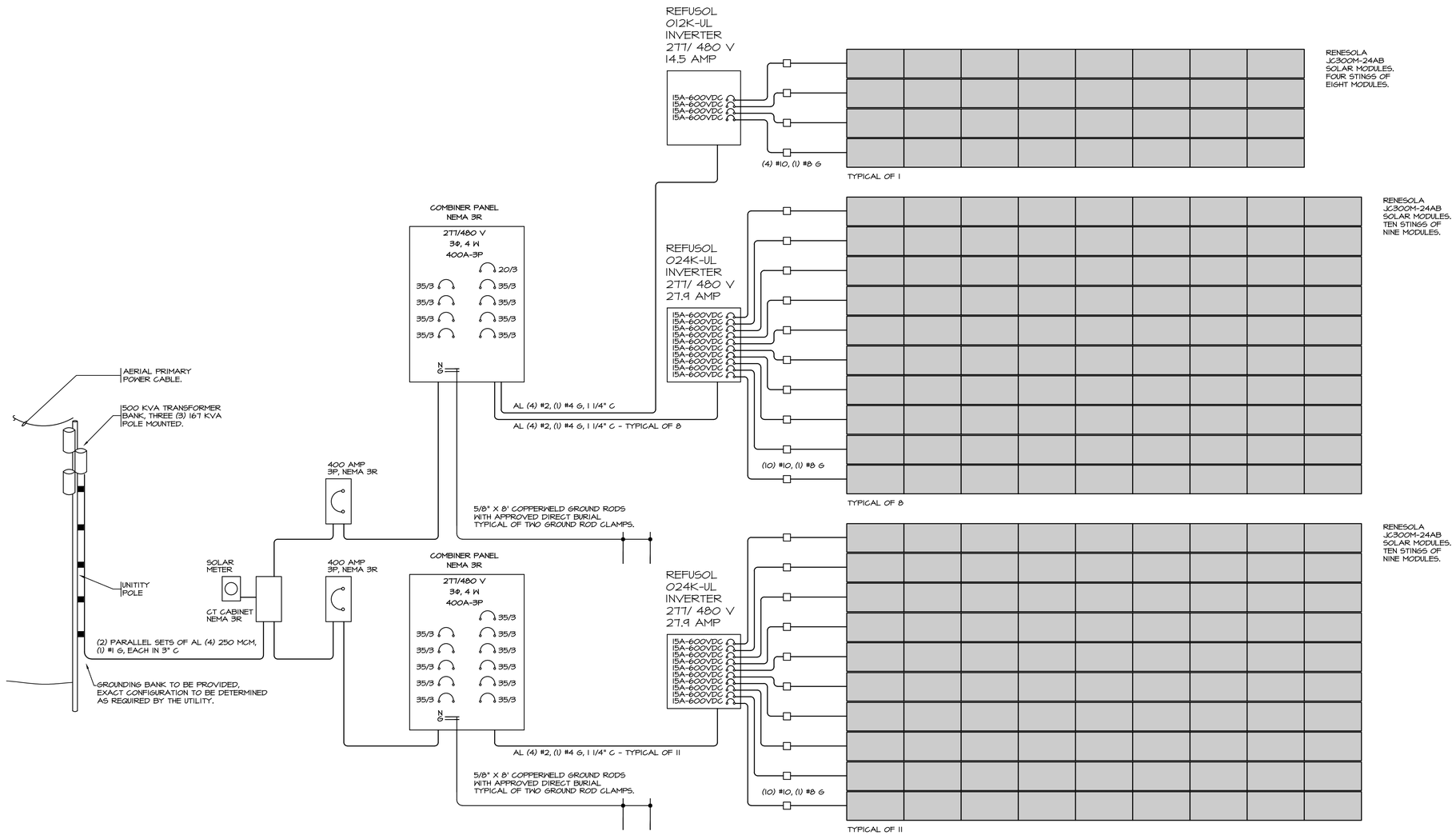

ELECTRICAL RISER DIAGRAM
NOT TO SCALE

revisions		
mk	date	remark

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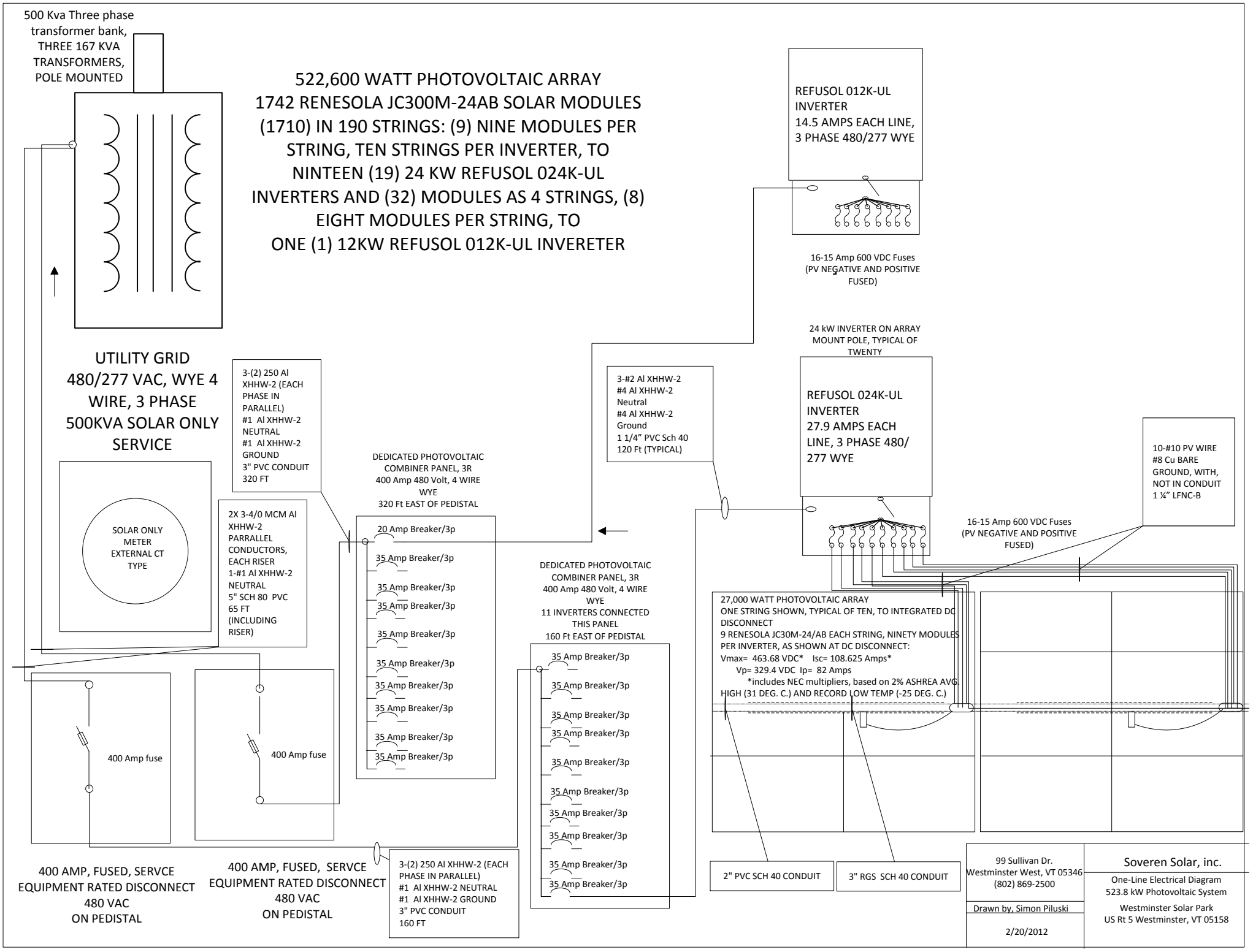
ELECTRICAL POWER RISER DIAGRAM

STATE OF VERMONT
MARK D. VAN DYKE
No. 6202
REGISTERED
PROFESSIONAL ENGINEER

project no.	13039
issue	PERMIT
drawn by	MDV
checked by	MDV
doc. date	03/14/13

sheet

E-1


500 Kva Three phase transformer bank, THREE 167 KVA TRANSFORMERS, POLE MOUNTED
522,600 WATT PHOTOVOLTAIC ARRAY
1742 RENESOLA JC300M-24AB SOLAR MODULES
(1710) IN 190 STRINGS: (9) NINE MODULES PER STRING, TEN STRINGS PER INVERTER, TO NINTEEN (19) 24 KW REFUSOL 024K-UL INVERTERS AND (32) MODULES AS 4 STRINGS, (8) EIGHT MODULES PER STRING, TO ONE (1) 12KW REFUSOL 012K-UL INVERETER
REFUSOL 012K-UL INVERTER
14.5 AMPS EACH LINE, 3 PHASE 480/277 WYE
16-15 Amp 600 VDC Fuses (PV NEGATIVE AND POSITIVE FUSED)
24 kW INVERTER ON ARRAY MOUNT POLE, TYPICAL OF TWENTY
UTILITY GRID 480/277 VAC, WYE 4 WIRE, 3 PHASE 500KVA SOLAR ONLY SERVICE
3-(2) 250 Al XHHW-2 (EACH PHASE IN PARALLEL) #1 Al XHHW-2 NEUTRAL #1 Al XHHW-2 GROUND 3" PVC CONDUIT 320 FT
3-#2 Al XHHW-2 #4 Al XHHW-2 Neutral #4 Al XHHW-2 Ground 1 1/4" PVC Sch 40 120 Ft (TYPICAL)
REFUSOL 024K-UL INVERTER 27.9 AMPS EACH LINE, 3 PHASE 480/ 277 WYE
10-#10 PV WIRE #8 Cu BARE GROUND, WITH, NOT IN CONDUIT 1 ¼" LFNC-B
SOLAR ONLY METER EXTERNAL CT TYPE
2X 3-4/0 MCM Al XHHW-2 PARRALLEL CONDUCTORS, EACH RISER 1-#1 Al XHHW-2 NEUTRAL 5" SCH 80 PVC 65 FT (INCLUDING RISER)
DEDICATED PHOTOVOLTAIC COMBINER PANEL, 3R 400 Amp 480 Volt, 4 WIRE WYE 320 Ft EAST OF PEDISTAL
20 Amp Breaker/3p
35 Amp Breaker/3p
DEDICATED PHOTOVOLTAIC COMBINER PANEL, 3R 400 Amp 480 Volt, 4 WIRE WYE 11 INVERTERS CONNECTED THIS PANEL 160 Ft EAST OF PEDISTAL
16-15 Amp 600 VDC Fuses (PV NEGATIVE AND POSITIVE FUSED)
27,000 WATT PHOTOVOLTAIC ARRAY
ONE STRING SHOWN, TYPICAL OF TEN, TO INTEGRATED DC DISCONNECT
9 RENESOLA JC30M-24/AB EACH STRING, NINETY MODULES PER INVERTER, AS SHOWN AT DC DISCONNECT:
Vmax= 463.68 VDC* Isc= 108.625 Amps*
Vp= 329.4 VDC Ip= 82 Amps
*includes NEC multipliers, based on 2% ASHREA AVG. HIGH (31 DEG. C.) AND RECORD LOW TEMP (-25 DEG. C.)
400 Amp fuse
400 Amp fuse
400 AMP, FUSED, SERVCE EQUIPMENT RATED DISCONNECT 480 VAC ON PEDISTAL
400 AMP, FUSED, SERVCE EQUIPMENT RATED DISCONNECT 480 VAC ON PEDISTAL
3-(2) 250 Al XHHW-2 (EACH PHASE IN PARALLEL) #1 Al XHHW-2 NEUTRAL #1 Al XHHW-2 GROUND 3" PVC CONDUIT 160 FT
2" PVC SCH 40 CONDUIT
3" RGS SCH 40 CONDUIT
99 Sullivan Dr. Westminster West, VT 05346 (802) 869-2500
Drawn by, Simon Piluski
2/20/2012
Soveren Solar, inc.
One-Line Electrical Diagram 523.8 kW Photovoltaic System
Westminster Solar Park US Rt 5 Westminster, VT 05158