

PROJECT DESIGN DATA:

WORK SHALL BE COMPLETED AS PER 2020 RESIDENTIAL CODE OF NEW YORK STATE, PUBLICATION DATE: NOVEMBER 2019, NFPA 70, 2020 NATIONAL ELECTRICAL CODE AND 2018 WOOD FRAME CONSTRUCTION MANUAL LOAD CRITERIA AS FOLLOWS
 EXPOSURE CATEGORY: "B"
 GROUND SNOW LOAD: 40 PSF
 WIND SPEED: 120 MPH, 35SPF

COVERAGE NOTES:

INCLUDING PROPOSED GROUND MOUNT SOLAR ARRAY, TOTAL IMPERVIOUS COVERAGE = 0.192 OR 19.2%

GENERAL NOTES:

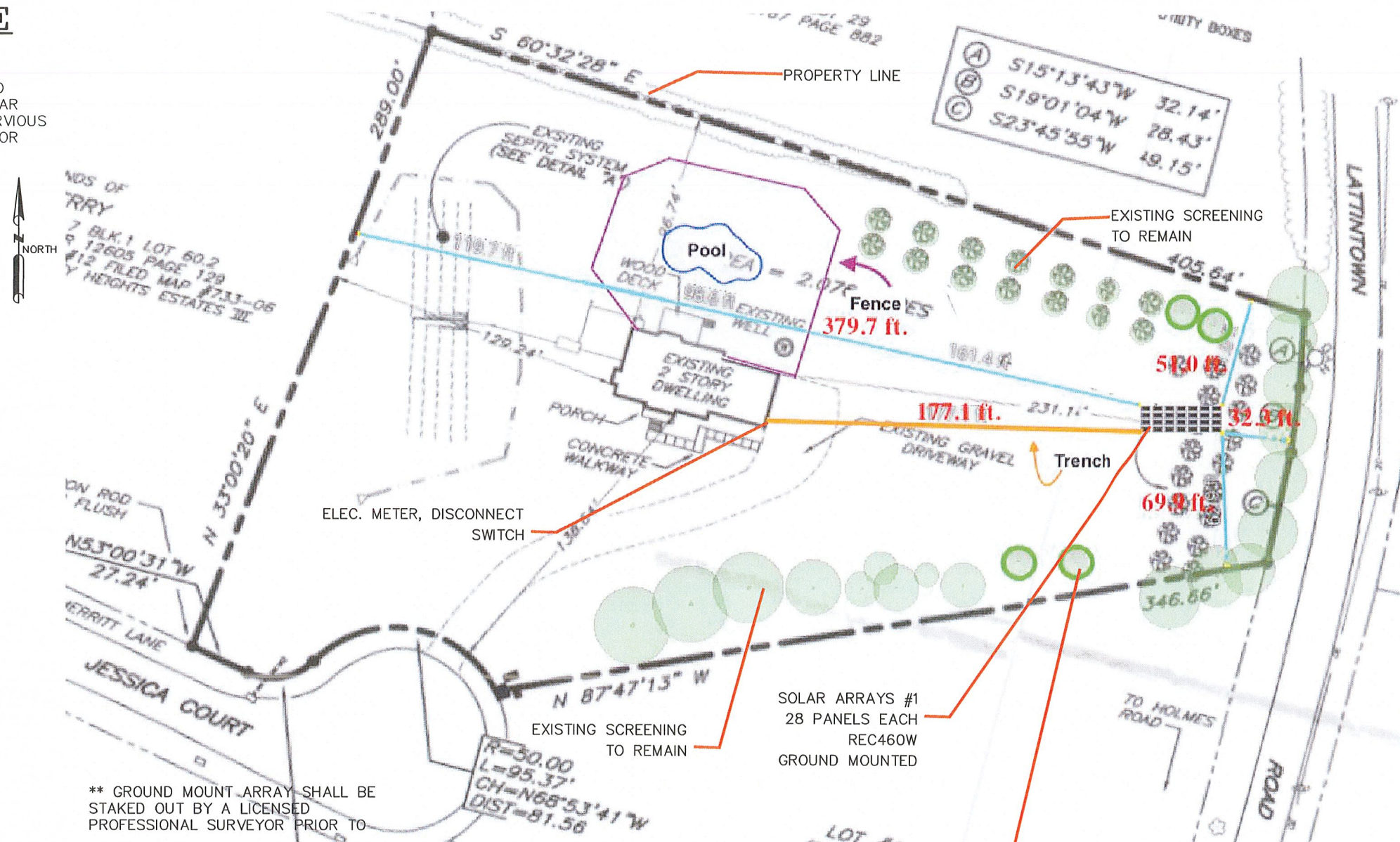
1. ALL SOLAR MODULES TO BE REC460W AND SHALL BE INSTALLED AS PER REC INSTALLATION MANUAL.
2. ALL INVERTERS TO BE SOLAR EDGE INVERTERS ALL RACKING AS PER DETAILS FOR GROUND MOUNT INSTALLATION

ARRAY NOTES:

THERE IS (1) GROUND MOUNT ARRAYS TOTALING = 634.66 SQ.FT.

SETBACK NOTES:

AS PER TOWN OF NEWBURGH ZONING CODE, LATTINTOWN ROAD SHALL NOT BE CONSIDERED A FRONT YARD, FRONT YARD: AN UNOCCUPIED GROUND AREA FULLY OPEN TO THE SKY BETWEEN THE STREET LINE AND A LINE DRAWN PARALLEL THERETO AT THE DISTANCE SPECIFIED IN ARTICLE IV, SCHEDULES OF DISTRICT REGULATIONS, OF THIS CHAPTER.
 STREET LINE: THE DIVIDING LINE BETWEEN A LOT AND A STREET.
 STREET: A PUBLIC OR PRIVATE WAY WHICH AFFORDS PRINCIPAL MEANS OF ACCESS TO ABUTTING PROPERTIES. THIS ROAD DOES NOT PROVIDE PRINCIPAL MEANS OF ACCESS FOR THIS PARCEL OF ITS ABUTTING PROPERTIES, THEY ARE ALL ACCESSED FROM JESSICA COURT

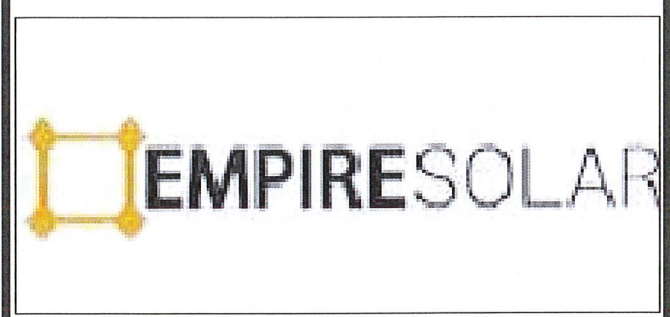


** GROUND MOUNT ARRAY SHALL BE STAKED OUT BY A LICENSED PROFESSIONAL SURVEYOR PRIOR TO

GROUND MOUNT LOCATION:
NTS

PROPOSED PLANTINGS
 TYP. OF 4
 EVERGREENS (GREEN GIANTS)
 -6 FT @ PLANTING
 -6 FT ON CENTER
 -ANNUAL 3-5 FT GROWTH PER YEAR

RESIDENTIAL SOLAR PANEL INSTALLATION
 LOCATED AT - 5 JESSICA CT. NEWBURGH, NY 12550
 TOWN OF NEWBURGH, ORANGE COUNTY, NEW YORK

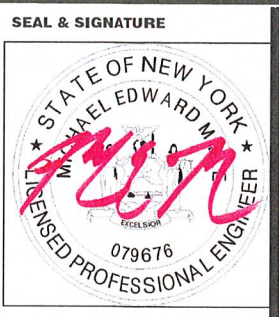


SOLAR PANEL INSTALLATION
DABROSKI RESIDENCE
 5 JESSICA CT.
 NEWBURGH
 NEW YORK 12550

REVISIONS NOTES	
DWG. BY: MEM	SCALE: AS-NOTED
CHECKED BY: MEM	PROJECT #: ES-1150-24
DATE: OCTOBER 24, 2024	SBL #: 7-1-60.3
MUNICIPALITY: TOWN OF NEWBURGH	COUNTY: ORANGE

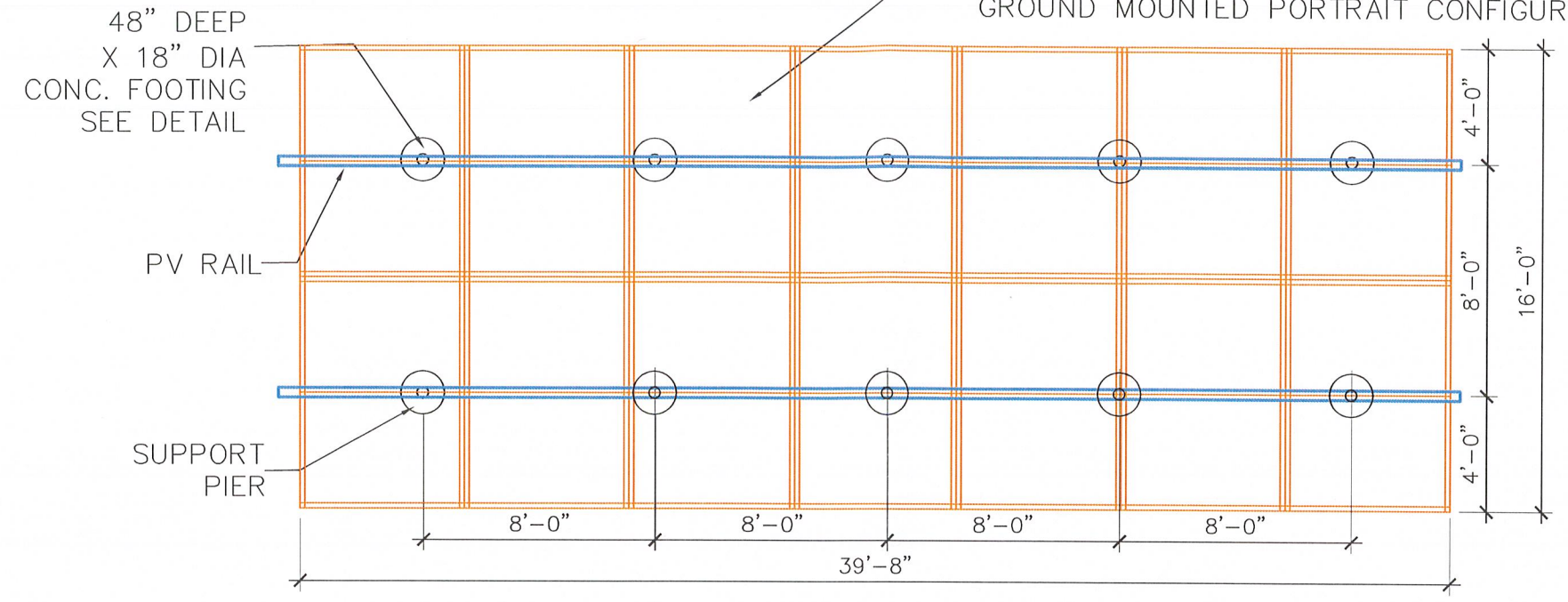
SYSTEM NOTES:	
TOTAL SYSTEM SIZE:	12.88KW DC SYSTEM
PANEL TYPE:	REC 460W
OF PANELS:	28
INVERTER:	SOLAREEDGE SE11,400H-US
OF INVERTERS:	1
ARRAY #	#1
AZIMUTH:	180
TILT:	35
# OF PANELS	28

PROFESSIONAL NOTES:
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DWG# **S-1**
PROJECT SITE PLAN AND NOTES
 DWG. **1 OF 5**

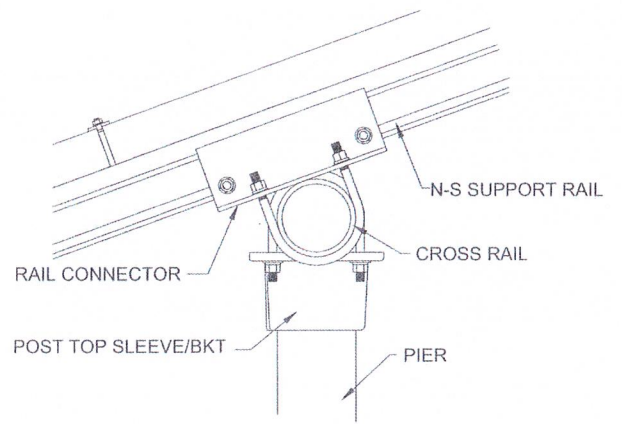
PROPOSED GROUND MOUNT ARRAY #1
 (28) REC460W SOLAR PANEL MODULES
 7 X 4 GRID
 GROUND MOUNTED PORTRAIT CONFIGURATION



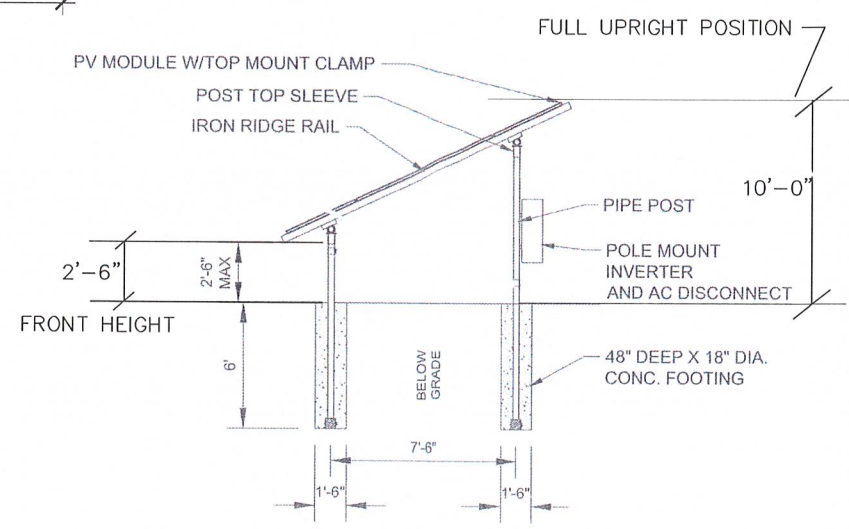
GROUND MOUNT ARRAY LAYOUT
 NTS

SITE VERIFICATION NOTES:

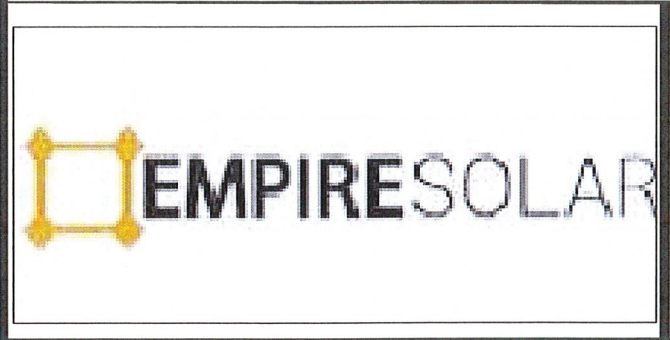
1. PRIOR TO SUBMISSION TO MUNICIPALITY OF THE PLANS, THIS CONTRACTOR SHALL VISIT THE JOB SITE TO ASCERTAIN THE ACTUAL FIELD CONDITIONS AS THEY RELATE TO THE WORK INDICATED ON THE DRAWINGS AND DESCRIBED HEREIN. DISCREPANCIES, IF ANY, SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO SUBMISSION OF THE PLANS. SUBMISSION OF PLANS SHALL BE EVIDENCE THAT SITE VERIFICATION HAS BEEN PERFORMED AS DESCRIBED ABOVE.
2. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS PRIOR TO THE START OF WORK. IF EXISTING CONDITIONS VARY FROM PLANS, THE CONTRACTOR SHALL STOP WORK AND NOTIFY PROJECT ENGINEER A.S.A.P. CONTRACTOR ASSUMES ALL RESPONSIBILITY AND LIABILITY THEREFROM.
3. THE OWNER/CONTRATOR SHALL OBTAIN ALL NECESSARY PERMITS, VERIFY ALL CONDITIONS, EXAMINE THE DESIGN DOCUMENTS AND BE RESPONSIBLE FOR ALL MEASUREMENTS, DIMENSIONS AND CONDITIONS.



PIER AND RAIL ASSEMBLY:



SOLAR PANEL ASSEMBLY:

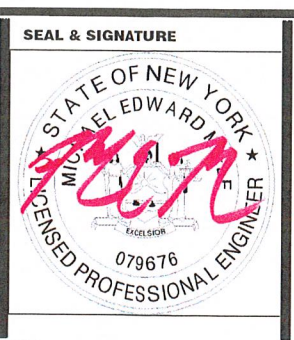


SOLAR PANEL
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SEAL & SIGNATURE
 DWG# **S-2**
**SOLAR
 PANEL
 LAYOUT
 PLAN**
 DWG. 2 OF 5

Rigid Nonmetallic Conduit – Schedule 40

Carlton® Rigid Nonmetallic Conduit (RNC), Fittings & Accessories

Carlton® manufactures the most complete line of nonmetallic conduits and fittings in the electrical industry. Carlton Schedule 40 and Schedule 80 conduits are designed for use aboveground and underground as described in the National Electrical Code. Specify only Carlton conduits and fittings to insure raceway system integrity.

Features

Ease of Installation Nonmetallic conduits are 1/4 to 1/5 the weight of metallic systems, can be installed in less than half the time, and are easily fabricated on the job.

Safety Nonmetallic conduits are nonconductive, assuring a safe system.

Impact Resistant Carlton Schedule 40 and Schedule 80 nonmetallic conduits are resistant to sunlight and are listed for exposed or outdoor usage. The use of expansion fittings allows the system to expand and contract with temperature variations.

Corrosion Resistant Carlton conduits and fittings are nonmetallic and will not rust or corrode.

Carlton nonmetallic Schedule 40 and Schedule 80 conduits and elbows are manufactured to NEMA TC-2, Federal specification WC1094A and UL 651 specifications. Fittings are manufactured to NEMA TC-3, Federal specification WC1094A and UL514B. Both conduit and fittings carry respective UL or ETL Listings and UL or ETL labels.

Schedule 40 PVC Rigid Nonmetallic Conduit (RNC). (Heavy Wall EPC)

Listed for underground applications encased in concrete or direct burial. Also for use in exposed or concealed applications aboveground.

- Sunlight resistant • Rated for use with 90°C conductors • Superior weathering characteristics



Schedule 40 Heavy Wall

With Integral Bell*



Part No.		Nom. Size	Std. Crate Qty.		Wt. Per 100'	Dimensions		
10'	20'		10'	20'		O.D.	I.D.	Wall
49005-010		1/2"	6000'		17	.840	.622	.109
49007-010	49007-020	3/4"	4400'	8800'	23	1.050	.824	.113
49008-010	49008-020	1"	3600'	7200'	34	1.315	1.049	.133
49009-010	49009-020	1 1/4"	3300'	6600'	46	1.660	1.380	.140
49010-010	49010-020	1 1/2"	2250'	4500'	55	1.900	1.610	.145
49011-010	49011-020	2"	1400'	2800'	73	2.375	2.067	.154
49012-010	49012-020	2 1/2"	930'	1860'	124	2.875	2.469	.203
49013-010	49013-020	3"	880'	1760'	163	3.500	3.068	.216
49014-010	49014-020	3 1/2"	630'	1260'	196	4.000	3.548	.226
49015-010	49015-020	4"	570'	1140'	232	4.500	4.026	.237
49016-010	49016-020	5"	380'	760'	315	5.563	5.047	.258
49017-010	49017-020	6"	260'	520'	409	6.625	6.065	.280

Rigid nonmetallic conduit is normally supplied in standard 10' lengths, with one belled end per length. For specific requirements, it may be produced in lengths shorter or longer than 10', with or without belled ends.

Use RNC Fittings with Schedule 40 and Schedule 80 Conduit.

Notes: 1. Special fittings and conduit sizes will be quoted on request.
2. DON'T FORGET TO ORDER CEMENT.
3. Carlton reserves the right to ship to the nearest unitized quantity.

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www.carlton.com



TRENCH NOTES:

1. THE WARNING LABEL FOR THE TRENCH PIPING, SHALL BE INSTALLED EVERY 10'
2. TRENCH BACK FILL BACKFILL SHALL BE (CLEAN SOIL – THE SOIL REMOVED DURING TRENCH EXCAVATION TRENCH WITH THE ROCKS REMOVED)
3. TRENCH LENGTH = 177.1', MIN TRENCH WIDTH 24", MIN TRENCH DEPTH = 24"
4. CONDUIT SHALL BE SCHEDULE 40, (1") SEE SPEC SHEET ON SAME PAGE



SOLAR PANEL INSTALLATION DABROSKI RESIDENCE

5 JESSICA CT.
NEWBURGH
NEW YORK 12550

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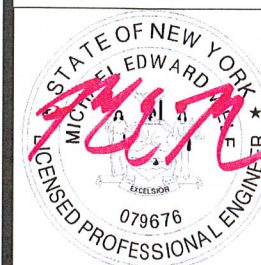
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SEAL & SIGNATURE



DWG#

S-3

TRENCH
DETAILS
AND
NOTES

DWG.

3B OF 5

WARNING
ELECTRIC SHOCK HAZARD !
 THE DIRECT CURRENT CIRCUIT CONDUCTORS OF THIS PHOTOVOLTAIC POWER SYSTEM ARE UNGROUNDED BUT MAY BE ENERGIZED WITH RESPECT TO GROUND DUE TO LEAKAGE PATHS AND/OR GROUND FAULTS

DC WARNING LABEL

WARNING
 INVERTER OUTPUT CONNECTION
 DO NOT RELOCATE THIS OVERCURRENT DEVICE

UTILITY DISCONNECT LABEL

CAUTION
 SOLAR ELECTRIC SYSTEM CONNECTED

AC PANELS

GROUND MOUNT NOTES:

ARRAY RACK ASSEMBLY
 SOLAR GROUND MOUNT RACKING SHOWN FOR ARRANGEMENT ONLY

RACKING MANUFACTURER TO PROVIDE SEALED SHOP DRAWINGS OF FINAL RACKING ASSEMBLY.
 INSTALL AS PER MANUFACTURER STANDARD INSTALLATION DETAILS.

POST SUPPORTED RACKING FOUNDATION AS SHOWN

18" ØX 48" DEEP CONCRETE FOUNDATION WITH EMBEDDED POST.

INSTALLATION NOTES:
 BRACKET TO POST INSTALLATION HEIGHT MAY VARY WITH SITE GRADING. IT IS NOT NECESSARY FOR ALL POST TOP BRACKETS TO ALIGN AT A COMMON ELEVATION FOR EACH ROW (+/-2")

INSTALLATION CONTRACTOR SHALL ENSURE THAT ALL GRADING AND COMPACTION OF SITE IS COMPLETED PRIOR TO INSTALLATION OF THE RACKING SYSTEM TO AVOID POTENTIAL DISTURBANCE OF FOUNDATION AND ALIGNMENT.

SEALED SHOP DRAWINGS SHALL BE PROVIDED BY RACKING MANUFACTURER PRIOR TO THE INSTALLATION OF THE PV ARRAY.

THIS DRAWING IS DIAGRAMMATIC FOR THE MODULE/RACK ARRANGEMENT. FINAL RACKING DETAILS AND ASSEMBLY MAY VARY WITH FINAL INSTALLATION.

PHOTOVOLTAIC INVERTER INPUT DC DISCONNECT

WARNING
ELECTRIC SHOCK HAZARD !

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

INTERACTIVE SOLAR PV SYSTEM RATING

RATED DC CURRENT	AMP
RATED DC VOLTAGE	VDC
MAXIMUM SYSTEM VOLTAGE	VDC
SHORT CIRCUIT CURRENT	AMP

SYSTEM INSTALLER: _____
 FOR SERVICE CALL: _____

DC INPUT WARNING LABEL #1
 INVERTER 1

PHOTOVOLTAIC SYSTEM DISCONNECT FOR UTILITY OPERATION

WARNING
ELECTRIC SHOCK HAZARD !

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

INTERACTIVE SOLAR PV SYSTEM RATING

RATED OPERATING CURRENT	AMP
NORMAL OPERATING VOLTAGE	240 VAC

SYSTEM INSTALLER: _____
 FOR SERVICE CALL: _____

UTILITY DISCONNECT WARNING LABEL

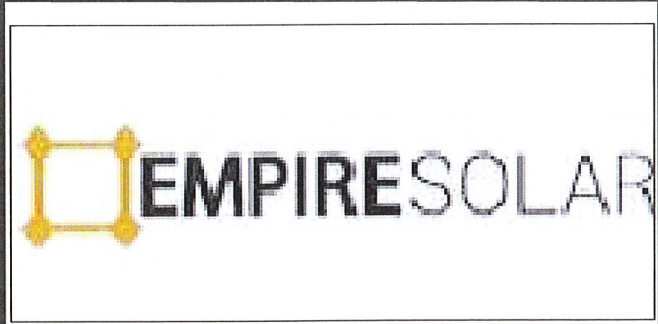
6" (width)
 1 1/2" (height)

WARNING
DC SOLAR CIRCUIT

DC CIRCUIT LABEL

WARNING
 THIS METER IS ALSO SERVED BY A PHOTOVOLTAIC SYSTEM

PV CIRCUITS ONLY
 NO OTHER LOADS SHALL BE APPLIED TO THIS PANEL OTHER THAN PV COMPONENTS AS PER NEC ARTICLE 690



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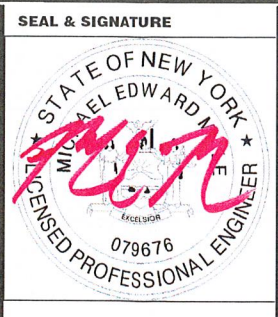
INVERTER: SOLAREEDGE SE11,400H-US

OF INVERTERS: 1

ARRAY #1
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DWG# **S-4**

SOLAR PANEL SIGNAGE

DWG. **4** OF **5**

POWER OUTPUT = PTC RATING X # OF MODULES X INV EFF'
 INVERTER#1=419.095W x 28 x 0.975 =11,441.29W
 TOTAL= 11,441.29W

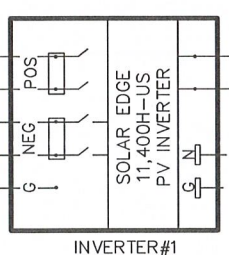
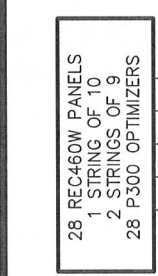
ALL EXTERIOR MOUNTED COMBINERS, JUNCTION BOXES, TROUGHS, DISCONNECTS, ETC. SHALL BE NEMA 3R RATED.

ALL CONDUCTORS ARE TO BE COPPER UNLESS NOTED OTHERWISE

WIRE AMPACITY
 NEC TABLE 310.15(B)(16)
 #10 THWN Cu35A RATED
 #8 THWN Cu50A RATED
 #6 THWN Cu65A RATED
 #4 THWN Cu85A RATED

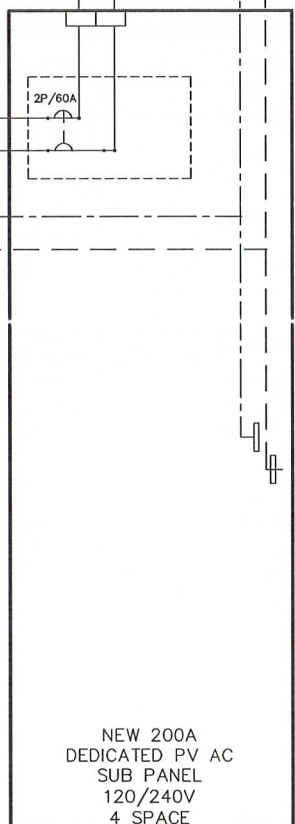
(6 WIRES) #10 PV WIRE #8 GND

(3 WIRES) #6 THWN #6 GND 1-1/4" CONDUIT



(6 WIRES) #10 THWN-2 #8 GND 3/4" CONDUIT

(3 WIRES) #6 THWN #6 GND 1-1/4" CONDUIT



WARNING
 ELECTRIC SHOCK HAZARD
 DO NOT TOUCH TERMINALS ON BOTH THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

WARNING
 INVERTER OUTPUT CONNECTION
 DO NOT RELOCATE THIS OVERCURRENT DEVICE

PHOTOVOLTAIC SYSTEM
AC DISCONNECT
 RATED AC OUTPUT CURRENT A
 NOMINAL OPERATING AC VOLTAGE V

CONTRACTOR TO ENABLE RAPID SHUTDOWN FUNCTIONALITY ON SOLAR EDGE INVERTER PER S.E. DOC.#MAN-01-00186-1.6 AS REQUIRED PER NEC 2020 ARTICLE 690.12 (1) THRU (4)

ELECTRICAL CONTRACTOR TO VERIFY INTERCONNECTION REQUIREMENTS WITH ELECTRICAL UTILITY FOR CONNECTION LOCATION AND STANDARDS

ELECTRICAL CONTRACTOR TO PROVIDE EXPANSION JOINTS AND ANCHORING OF ALL CONDUIT RUNS AS PER NEC REQUIREMENTS

PROVIDE LABEL/PLACARD AT EXISTING UTILITY CONNECTION WITH "WARNING - CUSTOMER OWNED ELECTRIC GENERATION EQUIPMENT CONNECTED" WITH APPROPRIATE HAZARD AND OUTPUT RATING OF PV SYSTEM

CONFIRM LINE SIDE VOLTAGE AT ELECTRIC UTILITY SERVICE ENTRANCE BEFORE CONNECTING INVERTER AND ENSURE PROPER OPERATIONAL RANGE REQUIRED BY SYSTEM INVERTER.

AC & DC GROUNDING CONDUCTORS PER NEC ARTICLE 690.47(c)(2) CONNECTED AS PER 250.64(c)(2)

INTERCONNECTION TO UTILITY AND SYSTEM GROUNDING PER NEC-2020 ARTICLE 690

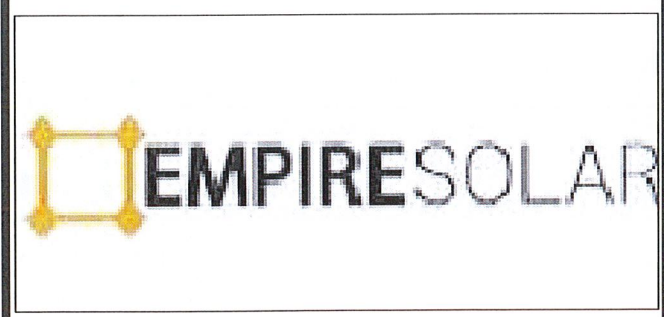
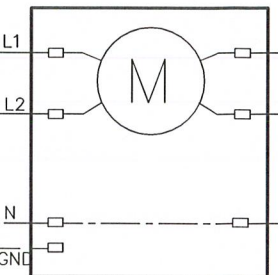
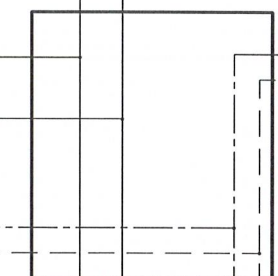
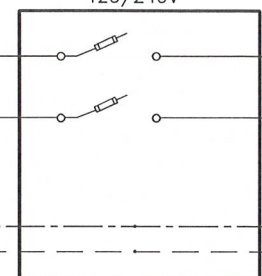
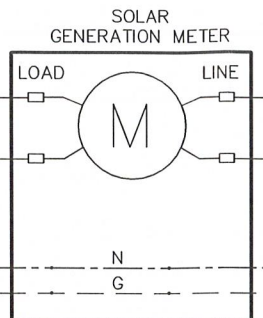
PROVIDE SIGNAGE AS REQUIRED BY NEC-2020 ARTICLE 690.

ALL OUTDOOR EQUIPMENT SHALL BE A MINIMUM OF NEMA-3R RATED.

(3 WIRES) #6 THWN #36 GND 1-1/2" CONDUIT

(3 WIRES) #6 THWN #6 GND 1-1/2" CONDUIT

89L DISCONNECT 60A RATED 60A FUSED DISCONNECT 120/240V



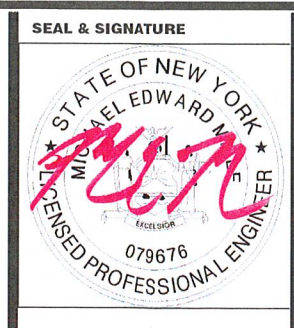
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DWG# **S-5**
SOLAR 3-LINE DIAGRAM
 DWG. 5 OF 5