

PROJECT SUMMARY:

THE PROJECT SCOPE INCLUDES THE DESIGN SPECIFICATION, PROCUREMENT, INSTALLATION AND COMMISSIONING OF A COMPLETE, TURN-KEY, GRID-TIED PHOTOVOLTAIC ELECTRIC SYSTEM.

| | |
|---------------|--------------------------------------|
| MODULE TYPE | (25) REC N-PEAK 330 |
| INVERTER | (1) SE7600H-US |
| OPTIMIZER | (25) SOLAREEDGE P340 |
| ARRAY PITCH | 35° |
| ARRAY AZIMUTH | 120° |
| RACKING | BLACK IRONRIDGE XR100 ALUMINIUM RAIL |
| ATTACHMENT | S-51 WITH ALUMINIUM L-FOOT |

AUTHORITIES HAVING JURISDICTION:

| | |
|---------------------------|------------|
| BUILDING AUTHORITY | MERIDEN NH |
| ELECTRICAL AUTHORITY | MERIDEN NH |
| ZONING/PLANNING AUTHORITY | MERIDEN NH |
| ELECTRICAL UTILITY | EVERSOURCE |

DESIGN CRITERIA:

| | |
|-------------------|--------------------------|
| OCCUPANCY | RESIDENTIAL |
| DESIGN WIND LOAD | 115 MPH |
| RISK CATEGORY | I |
| GROUND SNOW LOAD | 90 PSF |
| EXPOSURE CATEGORY | C |
| ROOF HEIGHT | 22' ABOVE GRADE TO EAVES |
| ROOF COMPOSITION | CORRUGATED METAL |
| RAFTER | 2"X10" |
| RAFTER SPACING | 16" O.C. |

SHEET LIST:

| | |
|------|------------------|
| G001 | TITLE SHEET |
| A001 | SITE PLAN |
| A002 | MODULE LAYOUT |
| E001 | ONE-LINE DIAGRAM |

GENERAL NOTES:

1. ALL WORK SHALL COMPLY WITH LOCAL AND STATE ORDINANCES AND BUILDING CODES.
2. ELECTRICAL INSTALLATION SHALL COMPLY WITH STATE AND LOCALLY ADOPTED ELECTRICAL CODE.
3. ROOFTOP PENETRATIONS SHALL BE SEALED.
4. ALL EQUIPMENT SHALL BE LISTED AND TESTED BY A RECOGNIZED LABORATORY.
5. MODULE CONNECTORS MUST BE MATCHING BRAND AND TYPE OR BE A UL LISTED ASSEMBLY.
6. SYSTEM SHALL CONFORM TO RAPID SHUTDOWN REQUIREMENTS PER NEC 690.
7. CONDUIT RUNS BETWEEN SUB-ARRAYS, COMBINERS, AND DISCONNECTS SHALL BE INSTALLED IN THE MOST DIRECT ROUTE POSSIBLE.
8. ELECTRICAL EQUIPMENT SHALL BE INSTALLED TO MAINTAIN CLEARANCES REQUIRED BY NEC 110.
9. EQUIPMENT SHALL BE LABELED PER NEC 2017 REQUIREMENTS.



**REVISION
ENERGY**

78 MAIN STREET
ENFIELD, NH 03748
(603)-632-1263

CLIENT:

VICKI RAMOS-GLEW
65 JENNEY ROAD
MERIDEN NH, 03781

SYSTEM TYPE:

8.75KW DC GRID TIED SOLAR
PHOTOVOLTAIC SYSTEM

NOT FOR CONSTRUCTION

| | |
|--------------|-----------|
| DESIGNED BY: | MCF |
| REVISION: | 0 |
| PRINT SIZE: | 11" X 17" |
| DATE: | 2/9/2021 |

TITLE SHEET

780 NUMBER

G001

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REVISION ENERGY
 78 MAIN STREET
 ENFIELD, NH 03748
 (603)-632-1263

CLIENT:
 VICKI RAMOS-GLEW
 65 JENNEY ROAD
 MERIDEN NH, 03781

SYSTEM TYPE:
 8.25KW DC GRID TIED SOLAR
 PHOTOVOLTAIC SYSTEM

NOT FOR CONSTRUCTION
 DESIGNED BY: MCF
 REVISION: 0
 PRINT SIZE: 11" X 17"
 DATE: 2/9/2021
 TIME TITLED

SITE PLAN
 TAG NUMBER: A001

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EQUIPMENT LOCATIONS:

- MAIN HOUSE INTERIOR: MAIN LOAD CENTER
- MAIN HOUSE EXTERIOR: PV RAPID SHUTDOWN DISCONNECT (RSID)
- SMALL HOUSE EXTERIOR: UTILITY METER MAIN PANEL



N

SOLAR INVERTER
PV AC DISCONNECT (RSID)

UTILITY METER MAIN PANEL

MAIN HOUSE



CLIENT:

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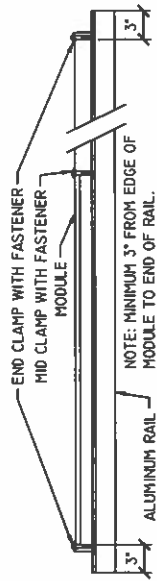
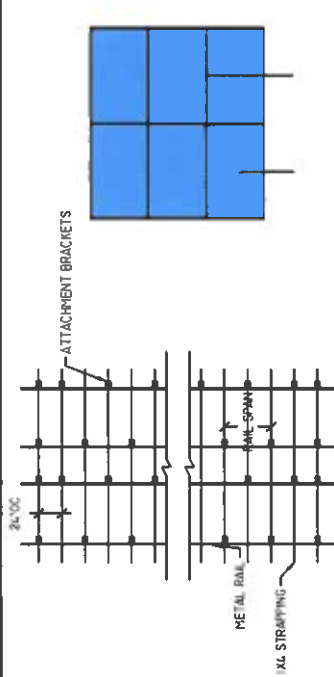
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|-------------|-----------|
| DESIGNED BY | MCF |
| REVISION | 0 |
| PRINT SIZE | 11" X 17" |
| DATE | 2/9/2022 |
| TWP NO. | |

MODULE LAYOUT

A002

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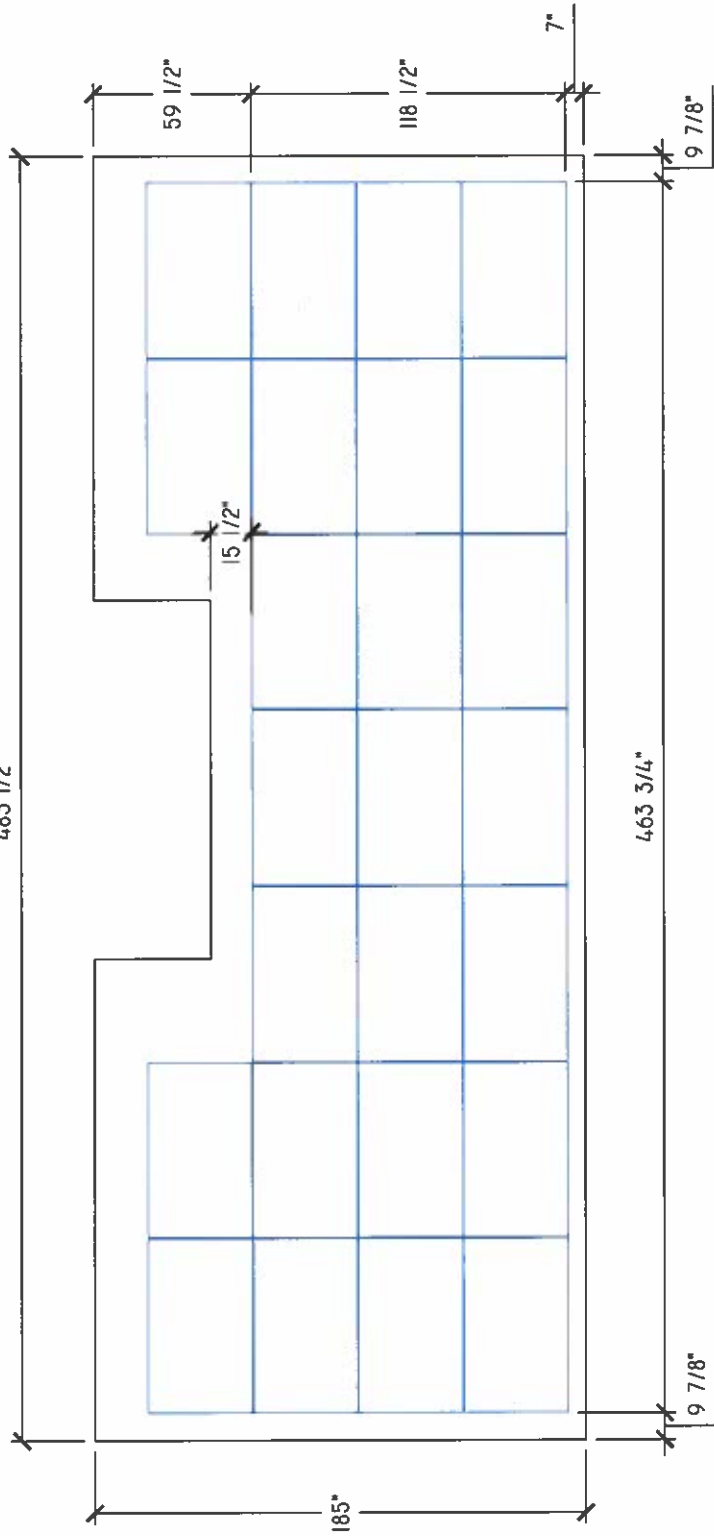


NOTE: MINIMUM 3" FROM EDGE OF MODULE TO END OF RAIL.

ATTACHMENT NOTES:

1. MAXIMUM RAIL LENGTH IS 100' BEFORE EXPANSION GAP IS REQUIRED.
2. MAXIMUM RAIL SPAN IS TYPICALLY 4'. THIS DISTANCE WILL VARY BASED ON ROOF SLOPE, SNOW LOAD, WIND SPEED, AND EXPOSURE CATEGORY.
3. MAXIMUM RAIL CANTILEVER DISTANCE IS 0.40 X RAIL SPAN.
4. SEAL ALL ATTACHMENT POINTS WITH GEOCELL. SEALS SHALL BE WATERTIGHT BETWEEN THE ATTACHMENT BRACKETS, ROOF MATERIAL AND STRUCTURAL MEMBERS.
5. ROOF ATTACHMENTS SHALL BE STAGGERED FOR EVEN DISTRIBUTION OF LOAD ON ROOF RAFTERS.
6. CLEARANCE BETWEEN THE ROOF AND THE BOTTOM OF THE RAIL SHALL BE A MINIMUM OF 2".

483 1/2"



9 7/8"

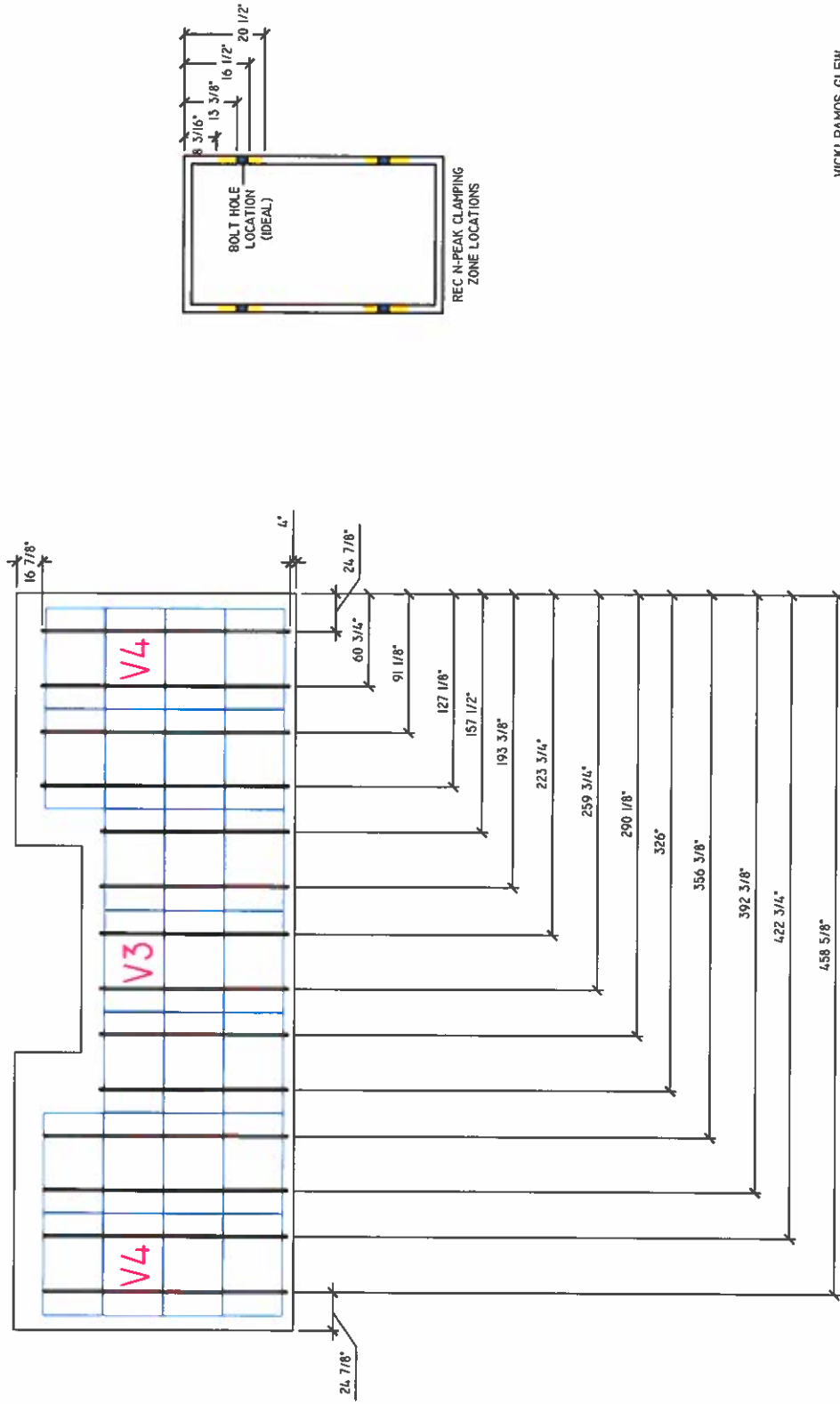
463 3/4"

| SUMMARY | | | |
|------------|------------------|-------------------|-------------------|
| TYPE | PRODUCT | DIMENSIONS | QUANTITY |
| MODULE: | REC N-PEAK 330 | 39.25in x 65.94in | 25 |
| RAIL: | IRON RIDGE XR100 | 248 IN | (0) FULL (14) CUT |
| FASTENERS: | IRON RIDGE UFO | 0.375 IN | 64 MIN |

| INVERTER | WATTS / STRING | MAX MODS PER STRING |
|------------|----------------|---------------------|
| SE7600H-US | 6000 | 18 |

| RAIL LENGTH | | | | | | | |
|------------------|-------------------------|--------------------------|----------------|--------------------|------------------|------------------|----------------|
| RAIL SECTION TAG | NUMBER OF RAIL SECTIONS | QTY OF PANELS IN SECTION | RAFTER SPACING | MODULE ORIENTATION | RAIL ORIENTATION | RAIL LENGTH (IN) | CUT PIECE (IN) |
| V3 | 6 | 3 | 16" | LANDSCAPE | VERTICAL | 124 1/2 | (1) 124 1/2 |
| V4 | 8 | 4 | 16" | LANDSCAPE | VERTICAL | 164 1/8 | (1) 164 1/8 |

| CUT LIST | | |
|------------------|-----|--|
| RAIL LENGTH (IN) | QTY | |
| FULL | 0 | |
| 124 1/2 | 6 | |
| 164 1/8 | 8 | |



WICKI RAMOS-GLEIH
65 JENNEY ROAD
MERIDEN NH, 03781



78 MAIN STREET
ENFIELD, NH 03748
(603)-632-1263

CLIENT:

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65 JENNEY ROAD
MERIDEN NH, 03781

SYSTEM TYPE:

8.25KW DC GRID TIED SOLAR
PHOTOVOLTAIC SYSTEM

NOT FOR CONSTRUCTION
DESIGNED BY: MCF
REVISION: 0
PRINT SIZE: 11" X 17"
DATE: 2/9/2021
TWO LINES: ONE LINE AND EQUIPMENT SPECIFICATIONS
TWO LINES: E001

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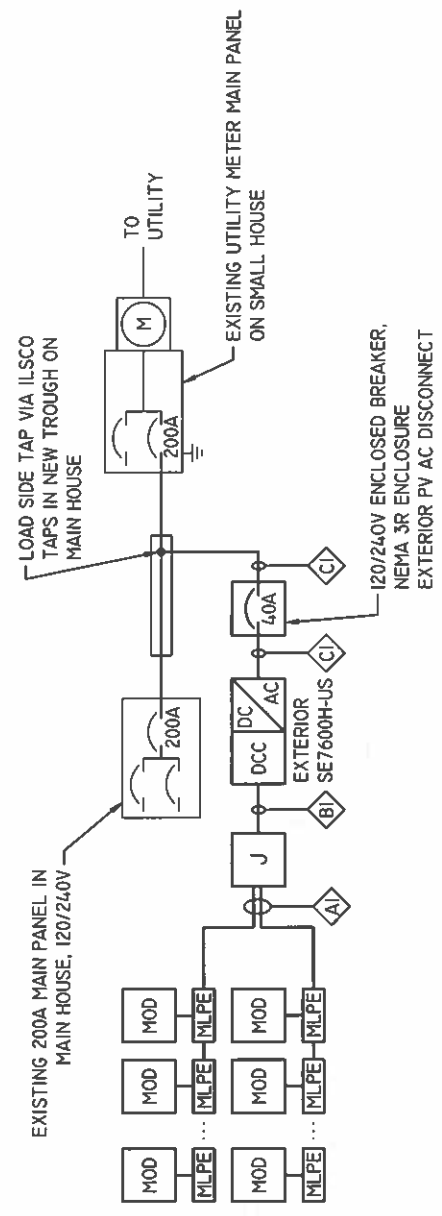
WIRING SCHEDULE

| TAG | FROM / TO | CONDUCTORS | WIRE TYPE | LENGTH (FT) | AS BUILT LENGTH (FT) | VOLTAGE DROP | CONDUIT | CONDUIT FILL |
|-----|----------------------------|------------------------------|------------------|-------------|----------------------|--------------|---------|--------------|
| AI | PV ARRAY / JUNCTION BOX | L-(2) #10 G-(1) #6 | PV WIRE 1000V Cu | 20 | | 0.19% | | |
| BI | JUNCTION BOX / INVERTER | L-(3) #10 G-(1) #10 | THHN-2 600V Cu | 50 | | 0.17% | | 20% |
| CI | INVERTER / INTERCONNECTION | L-(2) #8 N-(1) #10 G-(1) #10 | THHN-2 600V Cu | 20 | | 0.42% | | 22% |

MONITORING: HOME ROUTER

SYMBOLS:

- MOD PV MODULE
- MLPE MODULE LEVEL POWER ELECTRONIC / OPTIMIZER
- DCC DC COMBINER AND DC DISCONNECT
- DC PV DC TO AC INVERTER
- FUSED DISCONNECT SWITCH
- NON-FUSED DISCONNECT SWITCH
- ENCLOSED CIRCUIT BREAKER
- POWER METER



MODULE SPECIFICATIONS

REC N-PEAK 530 QTY 25

| | | |
|-----------------|-------|------|
| STC RATING | 330 | W |
| VMP | 34.6 | V |
| IMP | 9.55 | A |
| VOC | 41 | V |
| ISC | 10.53 | A |
| TEMP COEFF. Voc | -0.27 | %/°C |

MODULE-LEVEL DC OPTIMIZER SPECIFICATIONS

SOLA6REDE P540 QTY 25

| | | |
|----------------------------|-----|---|
| NOMINAL DC RATING (kW/1PH) | 540 | W |
| MAX OUTPUT CURRENT DC | 15 | A |

GRID TIED INVERTER SPECIFICATIONS

SE7600HAS QTY 1

| | | |
|-------------------|--------|---|
| NOMINAL AC RATING | 7600 | W |
| NOMINAL VAC | 240 | V |
| MAX IAC | 52 | A |
| CEE EFFICIENCY | 99.00% | % |

STICKER CALCULATIONS

| | |
|------------------------------|------|
| MAXIMUM DC VOLTAGE | 400V |
| MAXIMUM CIRCUIT CURRENT | 15A |
| RATED AC OUTPUT CURRENT | 52A |
| NOMINAL OPERATING AC VOLTAGE | 240V |

DESIGN NOTES:

- ALL CONDUCTORS SHALL BE COPPER UNLESS NOTED OTHERWISE.
- SYSTEM VOLTAGE DROP SHALL NOT EXCEED 5%.
- LOWEST EXPECTED AMBIENT TEMPERATURE IS BASED ON ASHRAE EXTREME MIN FOR THE SPECIFIED LOCATION.
- AVERAGE HIGH TEMPERATURE IS BASED ON ASHRAE 2% AVG. FOR THE SPECIFIED LOCATION.

LINE TYPES:

- - - DEMOLITION
- EXISTING
- NEW



REVISION ENERGY

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SYSTEM TYPE:

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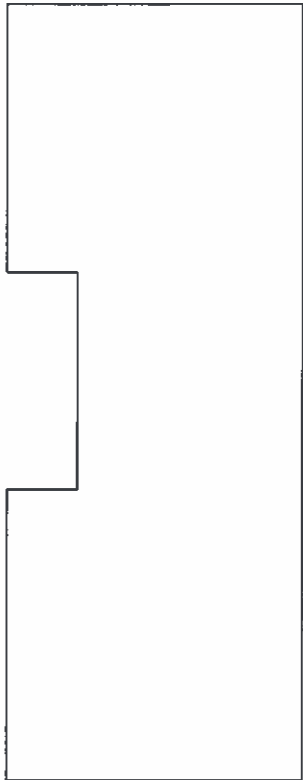
DESIGNED BY: MCE
REVISION: 0
PRINT SIZE: 11" X 17"
DATE: 7/19/2021
JOB TITLE: SAFETY SHEET

THE NUMBER

SAFETY SHEET

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SAFETY SHEET NOTES:

1. DRAW IN APPROXIMATE ANCHOR LOCATIONS AND SWING RADIUS
2. DRAW IN APPROXIMATE RESTRICTED ACCESS ZONE (RULE OF THUMB 10' FOR EVERY STORY OF BUILDING)
3. DRAW IN MACHINERY OR PERSONNEL ACCESS PATHS

ANCHOR POINT ATTACHMENT NOTES:

1. ANCHOR POINTS REQUIRING FASTENERS MUST BE INSTALLED INTO BUILDING STRUCTURE (RAFTERS OR PURLINS)
2. ANCHOR POINTS TO BE INSTALLED A MINIMUM OF 72" FROM ROOF RAISE
3. MAXIMUM SPACING BETWEEN ANCHOR POINTS IS 96"
4. LEAVE BEHIND ANCHOR TO BE INSTALLED UNDER TOP LEFT AND TOP RIGHT PANELS TO FACILITATE SAFE ROOF EXIT
5. 3 MINIMUM ANCHORS PER ROOF
6. ANCHOR POINT III (ONE PERSON PER ANCHOR POINT AT A TIME)
7. WORK IS TO BE DONE WITHIN WHILE WITHIN 30 DEGREES OF ANCHOR.



February 4, 2021

To: ReVision Energy
7 Commercial Drive
Brentwood, NH 03833

Subject: Structural Certification for Installation of Solar Panels
Ramos-Glew Residence
65 Jenney Road
Meriden, NH. 03781

To Whom It May Concern,

A design check for the subject residence was done on the existing roofing and framing systems for the installation of solar panels over the roof. From a field inspection of the property, the existing roof support structures were observed by the client's auditors as follows:

The roof structure of (MP1) consists of metal standing seam decking on plywood sheathing over 2x6 sleepers at 24" o.c.. The 2x6 sleepers are supported by nominal 2x12 SPF #2 rafters at 24" o.c., and built up 6x8 ceiling joists. The rafters have a horizontal span of 12'-0", and a slope of 37 degrees. The rafters are butt joined by steel gusset plates at the peak, and are supported by load bearing walls at the eave. There are 2x6 SPF #2 collar ties at 24" o.c. for structural stability, and 4x12 DF #2 tie beams at 48" o.c..

The existing roof framing system of (MP1) is judged to be adequate to withstand the loading imposed by the installation of the solar panels. No reinforcement is necessary.

The spacing of the solar standoffs should be kept at 48" o.c. with a staggered pattern to ensure proper distribution of loads.

I further certify that all applicable loads required by the codes and design criteria listed below were applied to the Ironridge solar rail system and analyzed. Furthermore, the installation crews have been thoroughly trained to install the solar panels based on the specific roof installation instructions developed by Ironridge for the racking system and S-5! for the roof connections. Finally, I accept the certifications indicated by the solar panel manufacturer for the ability of the panels to withstand high wind and snow loads.

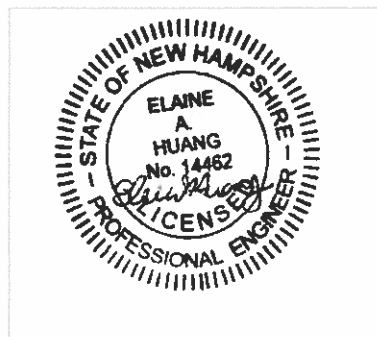
Design Criteria:

- Applicable Codes = 2015 IBC/IRC, ASCE 7-10, and 2015 NDS
- Roof Dead Load = 8.85 psf (MP1)
- Roof Live Load = 20 psf
- Wind Speed = 115 mph, Exposure C
- Ground Snow Load = 90 psf - Roof Snow Load = 62.4 psf

Please contact me with any further questions or concerns regarding this project.

Sincerely,

Elaine Huang, P.E.
Project Engineer



Gravity Loading

| Roof Snow Load Calculations | | |
|---|-----------------|---------------------|
| p_g = Ground Snow Load = | 90 psf | |
| $p_f = 0.7 C_e C_t I p_g$ | | (ASCE7 - Eq 7-1) |
| C_e = Exposure Factor = | 1 | (ASCE7 - Table 7-2) |
| C_t = Thermal Factor = | 1.1 | (ASCE7 - Table 7-3) |
| I = Importance Factor = | 1 | |
| p_f = Flat Roof Snow Load = | 69.3 psf | |
| $p_s = C_s p_f$ | | (ASCE7 - Eq 7-2) |
| C_s = Slope Factor = | 0.9 | |
| p_s = Sloped Roof Snow Load = | 62.4 psf | |

| PV Dead Load = 4 psf (Per ReVision Energy) | |
|--|--|
|--|--|

| Roof Dead Load (MP1) | | |
|--------------------------------|----------------|-----------------------|
| Metal Roofing | 2.50 | |
| Roof Plywood | 2.00 | |
| 2x12 Rafters @ 24"o.c. | 2.35 | |
| Vaulted Ceiling | 0.00 | (Ceiling Not Vaulted) |
| Miscellaneous | 2.00 | |
| Total Roof DL (MP1) | 8.9 psf | |
| DL Adjusted to 37 Degree Slope | 11.1 psf | |

Wind Calculations Per ASCE 7-10 Components and Cladding

Input Variables

| | |
|----------------------|------------|
| Wind Speed | 115 mph |
| Exposure Category | C |
| Roof Shape | Gable/Hip |
| Roof Slope | 37 degrees |
| Mean Roof Height | 20 ft |
| Building Least Width | 40 ft |
| Effective Wind Area | 17.5 ft |

Design Wind Pressure Calculations

Wind Pressure $P = qh(GC_p)$

$qh = 0.00256 * K_z * K_{zt} * K_d * V^2 * I$ (Eq. 30.3-1)

K_z (Exposure Coefficient) = 0.9 (Table 30.3-1)

K_{zt} (topographic factor) = 1 (Fig. 26.8-1)

K_d (Wind Directionality Factor) = 0.85 (Table 26.6-1)

V (Design Wind Speed) = 115 mph

I Importance Factor = 1 (Table 1.5-1)

$qh = 25.90$

Standoff Uplift Calculations

| | Zone 1 | Zone 2 | Zone 3 | Positive | |
|-------------------------|----------------|----------------|----------------|----------|-------------|
| $GC_p =$ | -0.90 | -1.10 | -1.10 | 0.85 | (Fig. 6-11) |
| Uplift Pressure = | -23.31 psf | -28.49 psf | -28.49 psf | 22.0 psf | |
| X Standoff Spacing = | 4.00 | 4.00 | 4.00 | | |
| Y Standoff Spacing = | 2.75 | 2.75 | 2.75 | | |
| Tributary Area = | 11.00 | 11.00 | 11.00 | | |
| Footing Uplift = | -256 lb | -313 lb | -313 lb | | |

Standoff Uplift Check

Maximum Design Uplift = -313 lb

Standoff Uplift Capacity = 400 lb

400 lb capacity > 313 lb demand **Therefore, OK**

Fastener Uplift Capacity Check

Fastener = 1 - 5/16" dia Lag

Number of Fasteners = 1

Embedment Depth = 2.5

Pullout Capacity Per Inch = 205 lb (NDS Eq 12.2-1)

Fastener Capacity = 513 lb (NDS Eq 11.3-1)

w/ F.S. of 1.0 = 513 lb

513 lb capacity > 313 lb demand **Therefore, OK**

Fastener Shear Capacity Check

Embedment Depth Reduction Factor = 1

Lateral Force From Gravity Loads = 259

Attachment Lateral Capacity = 288

(NDS Table 12K)

288 lb capacity > 260 lb demand **Therefore, OK**

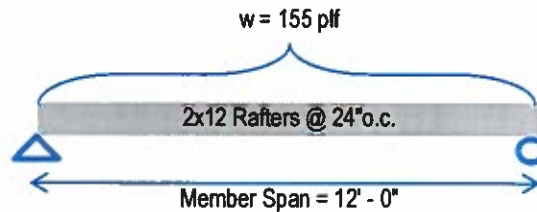
Framing Check

(MP1)

PASS

Dead Load 11.1 psf
 PV Load 4.0 psf
 Snow Load 62.4 psf

Governing Load Combo = DL + SL
 Total Load 77.5 psf



Member Properties

| Member Size | S (in ³) | I (in ⁴) | Lumber Sp/Gr | Member Spacing |
|-------------|----------------------|----------------------|--------------|----------------|
| 2x12 | 31.64 | 177.98 | SPF#2 | @ 24"o.c. |

Check Bending Stress

| | | | | | | | | |
|------------|----------------|---|----------------|---|----------------|---|----------------|-------------------|
| Fb (psi) = | f _b | x | C _d | x | C _f | x | C _r | (NDS Table 4.3.1) |
| | 875 | x | 1.15 | x | 1 | x | 1.15 | |

Allowed Bending Stress = 1157.1 psi

Maximum Moment = $(wL^2) / 8$
 = 2789.33 ft#
 = 33472 in#

Actual Bending Stress = (Maximum Moment) / S
 = 1057.9 psi

Allowed > Actual -- 91.5% Stressed -- Therefore, OK

Check Deflection

Allowed Deflection (Total Load) = $L/180$ (E = 1400000 psi Per NDS)
 = 0.8 in

Deflection Criteria Based on = Simple Span
 Actual Deflection (Total Load) = $(5 \cdot w \cdot L^4) / (384 \cdot E \cdot I)$
 = 0.291 in
 = $L/495 < L/180$ Therefore OK

Allowed Deflection (Live Load) = $L/240$
 = 0.6 in
 Actual Deflection (Live Load) = $(5 \cdot w \cdot L^4) / (384 \cdot E \cdot I)$
 = 0.234 in
 = $L/616 < L/240$ Therefore OK

Check Shear

Member Area = 16.9 in² F_v (psi) = 135 psi (NDS Table 4A)
 Allowed Shear = $F_v \cdot A / 1.5 = 1519$ lb Max Shear (V) = $w \cdot L / 2 = 930$ lb

Allowed > Actual -- 61.3% Stressed -- Therefore, OK

SOLAR'S MOST TRUSTED



REC N-PEAK SERIES

PREMIUM MONO N-TYPE
SOLAR PANELS WITH
WORLD-CLASS PERFORMANCE



MONO N-TYPE: THE
MOST EFFICIENT C-SI
TECHNOLOGY



NO LIGHT INDUCED
DEGRADATION



SUPER-STRONG
FRAME UP TO 7000 PA
SNOW LOAD



FLEXIBLE
INSTALLATION
OPTIONS



IMPROVED
PERFORMANCE IN
SHADED CONDITIONS



GUARANTEED HIGH
POWER OVER LIFETIME



330 W_P

POWER

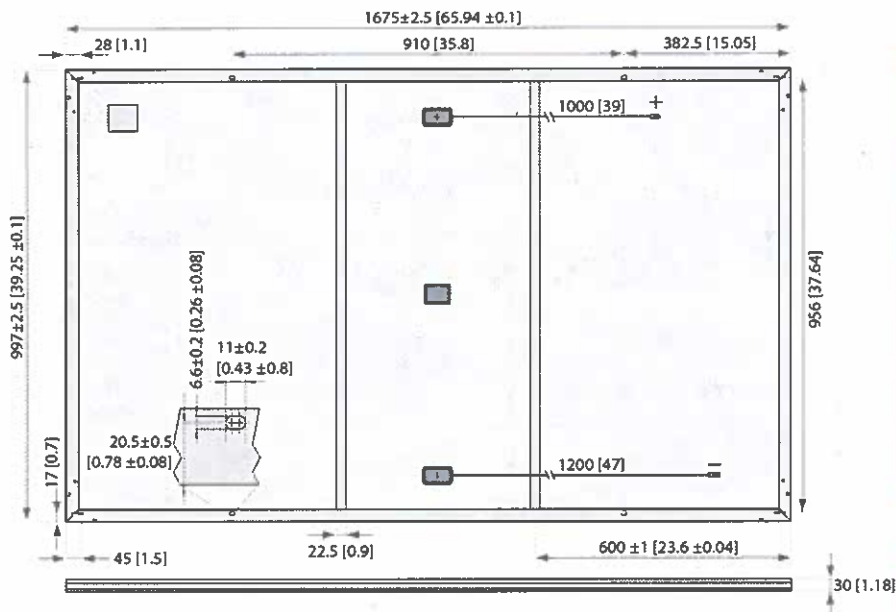
20

YEAR PRODUCT
WARRANTY

0.5%

ANNUAL DEGRADATION OVER
25-YEAR POWER WARRANTY

REC IN-PEAK SERIES



Measurements in mm [in]

| ELECTRICAL DATA @ STC | Product code*: RECxxxNP | | | | |
|---------------------------------------|-------------------------|-------|-------|-------|-------|
| Nominal Power - P_{MPP} (Wp) | 310 | 315 | 320 | 325 | 330 |
| Watt Class Sorting - (W) | -0/+5 | -0/+5 | -0/+5 | -0/+5 | -0/+5 |
| Nominal Power Voltage - V_{MPP} (V) | 33.6 | 33.9 | 34.2 | 34.4 | 34.6 |
| Nominal Power Current - I_{MPP} (A) | 9.24 | 9.31 | 9.37 | 9.46 | 9.55 |
| Open Circuit Voltage - V_{OC} (V) | 40.2 | 40.5 | 40.8 | 41.0 | 41.3 |
| Short Circuit Current - I_{SC} (A) | 10.01 | 10.09 | 10.18 | 10.27 | 10.36 |
| Panel Efficiency (%) | 18.6 | 18.9 | 19.2 | 19.5 | 19.8 |

Values at standard test conditions (STC, air mass AM 1.5, irradiance 1000 W/m², temperature 25°C), based on a production spread with a tolerance of V_{OC} & I_{SC} ±3% within one watt class. *Where xxx indicates the nominal power class (P_{MPP}) at STC above.

| ELECTRICAL DATA @ NMOT | Product code*: RECxxxNP | | | | |
|---------------------------------------|-------------------------|------|------|------|------|
| Nominal Power - P_{MPP} (Wp) | 234 | 238 | 241 | 245 | 249 |
| Nominal Power Voltage - V_{MPP} (V) | 31.1 | 31.4 | 31.7 | 31.9 | 32.1 |
| Nominal Power Current - I_{MPP} (A) | 7.51 | 7.56 | 7.62 | 7.69 | 7.76 |
| Open Circuit Voltage - V_{OC} (V) | 37.3 | 37.5 | 37.8 | 38.0 | 38.3 |
| Short Circuit Current - I_{SC} (A) | 8.01 | 8.07 | 8.14 | 8.22 | 8.29 |

Nominal module operating temperature (NMOT: air mass AM 1.5, irradiance 800 W/m², temperature 20°C, windspeed 1 m/s)
*Where xxx indicates the nominal power class (P_{MPP}) at STC above.

CERTIFICATIONS



IEC 61215, IEC 61730 & UL 1703, MCS 005,
IEC 62804, IEC 61701, IEC 62716, IEC 62782
ISO 9001: 2015, ISO 14001: 2004, OHSAS 18001: 2007

take away take-e-way WEEE-compliant recycling scheme

WARRANTY

20 year product warranty
25 year linear power output warranty, maximum
degression in performance of 0.5% p.a., giving
86% at end of year 25.

See warranty conditions for further details.

GENERAL DATA

| | |
|---------------|---|
| Cell type: | 120 half-cut mono c-Si n-type cells 6 strings of 20 cells in series |
| Glass: | 3.2 mm solar glass with anti-reflection surface treatment |
| Backsheet: | Highly resistant polymeric construction |
| Frame: | Anodized aluminum (black) |
| Junction box: | 3-part, 3 bypass diodes, IP67 rated in accordance with IEC 62790 |
| Cable: | 4 mm ² solar cable, 1.0 m + 1.2 m in accordance with EN 50618 |
| Connectors: | Stäubli MC4 PV-KBT4/KST4 (4 mm ²) in accordance with IEC 62852 IP68 only when connected |
| Origin: | Made in Singapore |

MECHANICAL DATA

| | |
|-------------|---------------------|
| Dimensions: | 1675 x 997 x 30 mm |
| Area: | 1.67 m ² |
| Weight: | 18 kg |

MAXIMUM RATINGS

| | |
|--------------------------|-----------------------------------|
| Operational temperature: | -40 ... +85°C |
| Maximum system voltage: | 1000 V |
| Design load (+): snow | 4666 Pa (475 kg/m ²)* |
| Maximum test load (+): | 7000 Pa (713 kg/m ²)* |
| Design load (-): wind | 1600 Pa (163 kg/m ²)* |
| Maximum test load (-): | 2400 Pa (245 kg/m ²)* |
| Max series fuse rating: | 25 A |
| Max reverse current: | 25 A |

* Calculated using a safety factor of 1.5
* See installation manual for mounting instructions

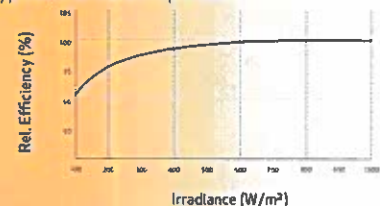
TEMPERATURE RATINGS*

| | |
|--|-------------|
| Nominal Module Operating Temperature: | 44°C (±2°C) |
| Temperature coefficient of P_{MPP} : | -0.35 %/°C |
| Temperature coefficient of V_{OC} : | -0.27 %/°C |
| Temperature coefficient of I_{SC} : | 0.04 %/°C |

*The temperature coefficients stated are linear values

LOW LIGHT BEHAVIOUR

Typical low irradiance performance of module at STC:



Specifications subject to change without notice

Ref: NE-05-11 Rev: B 0119

Founded in Norway in 1996, REC is a leading vertically integrated solar energy company. Through integrated manufacturing from silicon to wafers, cells, high-quality panels and extending to solar solutions, REC provides the world with a reliable source of clean energy. REC's renowned product quality is supported by the lowest warranty claims rate in the industry. REC is a Bluostar Elkem company with headquarters in Norway and operational headquarters in Singapore. REC employs more than 2,000 people worldwide, producing 1.5 GW of solar panels annually.



www.recgroup.com

Single Phase Inverter with HD-Wave Technology

for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US /
SE7600H-US / SE10000H-US / SE11400H-US

INVERTERS



Optimized installation with HD-Wave technology

- Specifically designed to work with power optimizers
- Record-breaking efficiency
- Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- Fixed voltage inverter for longer strings
- Integrated arc fault protection and rapid shutdown for NEC 2014 and 2017, per article 690.11 and 690.12
- UL1741 SA certified, for CPUC Rule 21 grid compliance
- Extremely small
- Built-in module-level monitoring
- Outdoor and indoor installation
- Optional: Revenue grade data, ANSI C12.20 Class 0.5 (0.5% accuracy)

/ Single Phase Inverter with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US/
SE7600H-US / SE10000H-US / SE11400H-US

| | SE3000H-US | SE3800H-US | SE5000H-US | SE6000H-US | SE7600H-US | SE10000H-US | SE11400H-US | |
|---|--------------------------------|----------------------------|------------|----------------------------|------------|-------------|------------------------------|-----------------|
| APPLICABLE TO INVERTERS WITH PART NUMBER | SEXXXXH-XXXXXBXX4 | | | | | | | |
| OUTPUT | | | | | | | | |
| Rated AC Power Output | 3000 | 3800 @ 240V 3300 @ 208V | 5000 | 6000 @ 240V 5000 @ 208V | 7600 | 10000 | 11400 @ 240V 10000 @ 208V | VA |
| Maximum AC Power Output | 3000 | 3800 @ 240V 3300 @ 208V | 5000 | 6000 @ 240V 5000 @ 208V | 7600 | 10000 | 11400 @ 240V 10000 @ 208V | VA |
| AC Output Voltage Min.-Norm.-Max. (211 - 240 - 264) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | Vac |
| AC Output Voltage Min.-Norm.-Max. (183 - 208 - 229) | - | ✓ | - | ✓ | - | - | ✓ | Vac |
| AC Frequency (Nominal) | 59.3 - 60 - 60.5 ¹⁾ | | | | | | | Hz |
| Maximum Continuous Output Current @240V | 12.5 | 16 | 21 | 25 | 32 | 42 | 47.5 | A |
| Maximum Continuous Output Current @208V | - | 16 | - | 24 | - | - | 48.5 | A |
| Power Factor | 1, adjustable -0.85 to 0.85 | | | | | | | |
| GFDI Threshold | 1 | | | | | | | A |
| Utility Monitoring, Islanding Protection, Country Configurable Thresholds | Yes | | | | | | | |
| INPUT | | | | | | | | |
| Maximum DC Power @240V | 4650 | 5900 | 7750 | 9300 | 11800 | 15500 | 17650 | W |
| Maximum DC Power @208V | - | 5100 | - | 7750 | - | - | 15500 | W |
| Transformer less, Ungrounded | Yes | | | | | | | |
| Maximum Input Voltage | 480 | | | | | | | V _{dc} |
| Nominal DC Input Voltage | 380 | | | | 400 | | | V _{dc} |
| Maximum Input Current @240V ²⁾ | 8.5 | 10.5 | 13.5 | 16.5 | 20 | 27 | 30.5 | A _{dc} |
| Maximum Input Current @208V ²⁾ | - | 9 | - | 13.5 | - | - | 27 | A _{dc} |
| Max. Input Short Circuit Current | 45 | | | | | | | A _{dc} |
| Reverse-Polarity Protection | Yes | | | | | | | |
| Ground-Fault Isolation Detection | 600k Ω Sensitivity | | | | | | | |
| Maximum Inverter Efficiency | 99 | 99.2 | | | | | | % |
| CEC Weighted Efficiency | 99 | | | | | | 99 @ 240V 98.5 @ 208V | % |
| Nighttime Power Consumption | < 2.5 | | | | | | | W |

¹⁾ For other regional settings please contact SolarEdge support

²⁾ A higher current source may be used; the inverter will limit its input current to the values stated

/ Single Phase Inverter with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US/
SE7600H-US / SE10000H-US / SE11400H-US

SE3000H-US SE3800H-US SE5000H-US SE6000H-US SE7600H-US SE10000H-US SE11400H-US

ADDITIONAL FEATURES

| | |
|---|--|
| Supported Communication Interfaces | RS485, Ethernet, ZigBee (optional), Cellular (optional) |
| Revenue Grade Data, ANSI C12.20 | Optional ¹⁾ |
| Inverter Commissioning | with the SetApp mobile application using built-in Wi-Fi station for local connection |
| Rapid Shutdown - NEC 2014 and 2017 690.12 | Automatic Rapid Shutdown upon AC Grid Disconnect |

STANDARD COMPLIANCE

| | |
|---------------------------|--|
| Safety | UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCEI according to T.I.L. M-07 |
| Grid Connection Standards | IEEE1547, Rule 21, Rule 14 (HI) |
| Emissions | FCC Part 15 Class B |

INSTALLATION SPECIFICATIONS

| | | | | | |
|--|---------------------------------------|-------------|---------------------------------------|-------------|---------|
| AC Output Conduit Size / AWG Range | 3/4" minimum / 14-6 AWG | | 3/4" minimum / 14-4 AWG | | |
| DC Input Conduit Size / # of Strings / AWG Range | 3/4" minimum / 1-2 strings / 14-6 AWG | | 3/4" minimum / 1-3 strings / 14-6 AWG | | |
| Dimensions with Safety Switch (HxWxD) | 17.7 x 14.6 x 6.8 / 450 x 370 x 174 | | 21.3 x 14.6 x 7.3 / 540 x 370 x 185 | | in / mm |
| Weight with Safety Switch | 22 / 10 | 25.1 / 11.4 | 26.2 / 11.9 | 38.8 / 17.6 | lb / kg |
| Noise | < 25 | | < 50 | | dB(A) |
| Cooling | Natural Convection | | | | |
| Operating Temperature Range | -40 to +140 / -40 to +60" | | | | "F / °C |
| Protection Rating | NEMA 4X (Inverter with Safety Switch) | | | | |

¹⁾ Revenue grade inverter P/N: SExxxxH-US000BNC4

²⁾ Full power up to at least 50°C / 122°F; for power derating information refer to: <https://www.solaredge.com/sites/default/files/se-temperature-derating-note-na.pdf>

