#### REQUEST FOR HISTORIC AND SCENIC PRESERVATION COMMISSION ACTION

#### VI.A RENEWABLE ENERGY PARTNERS, APPLICANT

PUBLIC HEARING to consider Certificate of Appropriateness No. 618 for the construction of an approximately 1,200 square-foot detached metal solar carport structure. The project is located at 503 Brookside Avenue, and the property is listed as Historic Resource No. 101 within in the A-P (Administrative and Professional Office) District (APN: 0171-221-25-0000). This project is exempt pursuant to Section 15303 (New Construction or Conversion of Small Structures), Section 15301 (Existing Facilities), and Section 15331 (Historical Resource Restoration/Rehabilitation) of the California Environmental Quality Act Guidelines.

HISTORIC AND SCENIC PRESERVATION MEETING: JULY 1, 2021

Planner: Sean Reilly, Senior Planner

#### PROCEDURE FOR PUBLIC HEARING

- 1. Chairperson declares the meeting open as a public hearing.
- 2. Chairperson calls upon staff for report.
- 3. Chairperson calls for questions/comments from members of the Commission.
- 4. Chairperson calls upon applicant, or its representative, for comments/testimony.
- 5. Chairperson calls for comments/questions/testimony from members of the public (3 minutes per speaker).
- 6. Chairperson calls upon the applicant, or representative, for rebuttal comments (5 minutes).
- 7. Chairperson closes the public hearing.
- 8. Commission considers the motion(s) and votes.

#### **SYNOPSIS**

1. Historic Designation: The structure is listed as Historic Resource No. 101 in the

City's List of Historic Resources.

2. Existing Land Use: Zoning: A-P (Administrative and Professional Office) District

General Plan: Office

3. Historic and Scenic Preservation Commission submittal dates:

(A) Submittal Dates: January 19, 2020

(B) Date Accepted as Complete: May 11, 2021

(C) Historic and Scenic Preservation Commission Meeting: July 1, 2021

- 4. Attachments:
  - (A) Location Map
  - (B) Site Aerial Photograph
  - (C) Site Photographs
  - (D) Project Plans
  - (E) Resolution No. 2021 08 with Exhibit A (Conditions of Approval)

#### **PROPOSAL**

The applicant is proposing to construct a 1,157 square foot carport structure which will support photovoltaic (solar) electric panels that will serve the primary building on the project site, a single family residence adaptively reused as a dental office. The carport is proposed to cover existing parking stalls and no additional reconfiguration of the site or parking lot is proposed. The primary building on the site is oriented toward Brookside Avenue and the proposed the carport will be located to the south (rear) of the building. No modifications to the existing structure or the remaining site are proposed.

#### **BACKGROUND**

County Assessor's records indicate that the home was constructed in 1921. Known as the Gordon Nelson Home, the property was designated as Historic Resource No. 101 in March of 2000. Gordon Nelson was citrus farmer and a former president of the Bryn Mawr Fruit Grower's Association who lived in the home until the early 1940s. The home had various other owners and was eventually neglected to the point that it was declared uninhabitable in 1997. A Conditional Use Permit was subsequently approved for the rehabilitation and adaptive reuse of the residential structure as a dental office in 2000. Site improvements, including a paved parking lot and parking lot landscaping planters that accommodate commercial uses, were constructed on the site as part of the adaptive reuse project.

#### **ANALYSIS**

#### A) Zoning

The property is located within the A-P (Administrative and Professional Office) District. The purpose of the A-P District is to provide for the development of business and professional offices which, by nature of their operation and normal business hours, are compatible with residential uses within and adjacent to the district. The scope of work includes constructing a metal carport structure, simple in design, which will support solar panels. No changes to the main structure on the property are proposed. The carport will be located to the rear of the existing dental office building on the property.

There are no standards for accessory structures in the A-P District. As proposed, the carport structure is located ten feet to the rear of the main building and it complies with all of the applicable development standards contained within the zoning district as detailed in the table below.

	Development Standard	Proposed	Complies
Front Yards (S. Buena Vista)	15'	15'	Yes
Interior Side Yard	5'	16'2"	Yes
Rear Yard	20'	23'	Yes
Building Height	No Max Height	20'5" Conditioned: 16"	Yes
Lot Coverage	60% max	30.8%	Yes

#### B) Site Design and Architecture

The architectural style of the existing structure on the property is classified as Spanish Colonial Revival with flat finished stucco, red clay tile roof, and basic double hung windows. The structure is an example of common housing used by working class people in the 1920's. The staff report for the previous historic designation of this property states that this house is important to the historical character of Brookside Avenue and for the City because it is an example of post-World War I housing and also represents the housing occupied by the working class people of Redlands.

The applicant is not proposing any changes to the existing structure on the site. As previously stated the proposed carport is located to the rear of the main building within the parking area of the dental office, where it will be screened from view from Brookside Avenue (the primary and most visible frontage) and partially screen from South Buena Vista Street by an existing solid hedge row. The carport allows the solar panels to be constructed to a separate structure, to avoid the impact of placing the panels on the primary historic structure, itself.

The carport is designed with a cantilevered roof, which sits at a tilted angle to allow for the maximum solar exposure. The structure was originally proposed with a maximum height of 20'-5 3/8" on one side, and 15'-7 5/8 on the other side. In discussions between the applicant and staff, the applicant has agreed to a condition of approval limiting the maximum height of the carport structure to 16 feet on the tallest side, in order to reduce the massing of the carport as it compares to the existing primary structure, which is approximately 18-19 feet in height. This reduced height would allow

HISTORIC AND SCENIC PRESERVATION COMMISSION CERTIFICATE OF APPROPRIATENESS NO. 618 JULY 1, 2021 PAGE 4

the primary structure to better screen the carport. This would make the lower side of the canopy approximately 9 feet in height. The carport will be covering a van accessible ADA parking stall and needs to maintain enough clearance to allow vans to park underneath. This will be able to be accommodated with the reduced height, agreed upon with the applicant. The canopy structure will be separated from the primary structure by 10 feet, as measured from the structure to the cantilevered roof. The carport's cantilevered roof will be supported by a single row of three posts setback 19 feet from the primary structure.

The carport is approximately 27' in depth x 41' in width, and will be open on all four sides, to reduce the appearance of any solid massing. The carport will cover approximately four existing parking stalls, including one van accessible parking stall and its associated loading area. The carport will be located behind an existing solid hedge row that runs along South Buena Vista Street, which has a height of approximately 8'. The placement of the hedge provides a significant amount of screening for the parking area behind the dental office and will also provide screening of the majority of the lower portion of the proposed carport structure.

Typically, similar carport structures used to support the weight of solar equipment utilize unfinished steel. However, the applicant is proposing to paint the structure using BEHR "Stucco Tan" to match the existing stucco color of the main building, for cohesiveness with the property. By painting the structure, unfinished metal surfaces will be avoided, this will help the carport to blend in with the existing structure on the property and give the structure a more compatible finish. The carport maintains a simple functional design, as to not detract from the architectural style of the primary historic structure. Construction of the carport will provide shading the parking stalls, and will facilitate a location for the installation of solar panels, avoiding the need to place the panels on the historic structure itself.

#### C) Secretary of Interior Standards:

The National Park Service (NPS) has developed a website, which discusses the application of the Secretary of the Interior's Standards to the installation of solar projects. (<a href="https://www.nps.gov/tps/sustainability/new-technology/solar-on-historic.htm">https://www.nps.gov/tps/sustainability/new-technology/solar-on-historic.htm</a>). This NPS guidance discusses both ground-mounted and roof-mounted solar installations and provides examples and recommendations on how to best incorporate solar installations while minimizing impacts to the historic property. This guidance discusses minimizing the visual impact by placing them in ways they can be best screened on the property, and also suggests installing them on new non-historic additions, where possible, to allow the original historic structure to remain in-tact. Impacting character-defining features should be avoided. This proposal, as designed, implements these recommendations by locating the structure, intended to be constructed to support solar panels, to the rear of the primary building, where it will be

HISTORIC AND SCENIC PRESERVATION COMMISSION CERTIFICATE OF APPROPRIATENESS NO. 618 JULY 1, 2021 PAGE 5

screened from the primary elevation (Brookside Avenue), and behind an existing solid hedge row, approximately 8 feet in height, along Buena Vista Street. The canopy structure has been designed in such a way so that solar panels could be flush mounted onto the canopy.

The Certificate of Appropriateness application is required for the construction of a carport structure. The carport structure utilizes metal construction, to support the needed structural weight of the system, but will be painted in a neutral tan color, to tie into the appearance of the primary structure.

#### View from Brookside:

The existing historic building, occupied by the dental office, is oriented toward Brookside Avenue, which is the primary visual frontage of the property. The existing building is approximately 21 feet in height. The proposed project would be installed behind the historic building on the property and would not be touching or altering the structure. Portions of the carport structure would be partially visible from specific angles along Brookside Avenue, near the corner of South Buena Vista Street; however, the main portion of the carport would be obscured by the building. Portions of the upper posts of the structure and roof of the structure would be visible to some extent, but due to the existing walls and tall hedge on the east side of the property they would be significantly obscured. In addition to being obscured by landscaping, walls and the existing structure, the portions of the carport that would be visible from the street would be painted in a color that matches the existing structure which will help to make the addition of the carport less of a focal point and less noticeable from this area.

#### View from South Buena Vista:

Along the property's eastern side, there is an existing hedge which is approximately 8' tall that runs parallel to the eastern property line. From the street, on the east side, the majority of the posts would be obscured by the existing hedge however the roof would remain visible. From specific viewpoints along S. Buena Vista Street south of the property, the majority of the carport would be visible and it is likely that the solar panels themselves would be visible due to the tilted-orientation of the carport's roof. It should be noted that this view would not be considered a primary view of the structure and it does not contain the most significant and notable features of the dental office, which would remain visible from other sides of the building.

#### Consistency:

As previously stated the carport does not alter any of the character defining features of the historic structure on the property and the primary views of the structure are from the north, which would not be significantly impacted. The carport if removed would not HISTORIC AND SCENIC PRESERVATION COMMISSION CERTIFICATE OF APPROPRIATENESS NO. 618 JULY 1, 2021 PAGE 6

create any impact to the structure or property and the carport is located to the rear of the building where visibility is reduced as much as possible.

The proposed project was identified as a rehabilitation project, which is defined "as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values."

The proposed project will be consistent with the Secretary of Interior's Standards and the proposed improvements are compatible to the maximum extent practicable with the architectural features and characteristics of the property while still allowing the property owner the ability to achieve their goal of installing a photovoltaic system.

#### **Summary:**

The proposed design, with the incorporation of standard conditions of approval, will not adversely affect or change the context surrounding the subject property, including orientation of buildings, landscaping, parking, and relationship of the structure to its surroundings.

#### **ENVIRONMENTAL REVIEW**

In accordance with the provisions of the California Environmental Quality Act ("CEQA"), the project qualifies for a categorical exemption from environmental review pursuant to Section 15303 (New Construction or Conversion of Small Structures), Section 15301 (Existing Facilities), and Section 15331 (Historical Resource Restoration/Rehabilitation) of the California Environmental Quality Act Guidelines.

#### STAFF RECOMMENDATION

Staff recommends that the Historic and Scenic Preservation Commission approve **Certificate of Appropriateness No. 618,** subject to the recommended Conditions of Approval.

#### **MOTIONS**

If the Historic and Scenic Preservation Commission deems it appropriate, staff recommends the following motion:

"I move that the Historic and Scenic Preservation Commission approve Certificate of Appropriateness No. 618 and adopt Resolution No. 2021-08, based on the facts within this staff report and subject to the Conditions of Approval."

# ATTACHMENT A Location Map



# ATTACHMENT B Site Aerial Photograph



# ATTACHMENT C Site Photographs



#### SITE PHOTOGRAPHS

503 Brookside Avenue



MARCH 30, 2021
RENEWABLE ENERGY PARTNERS
170 N Maple Street #105, Corona, CA 92878



Front





Rear





Side



# ATTACHMENT D Project Plans

# Redlands Family Dentistry 503 Brookside Ave. Redlands, CA 92373

# SOLAR ELECTRIC SYSTEM PROJECT - 21.600kW DC STC RATING / 19.388kW AC CEC RATING

#### GENERAL NOTES:

1. ALL MATERIAL AND WORKMANSHIP SHALL CONFORM TO THE 2019 TITLE 24 OF THE CALIFORNIA BUILDING CODE, CMC,CPC. CEC AND ALL APPLICABLE LOCAL CODES, ORDINANCES, AND STATE AMENDMENTS.

2. THE CONTRACTOR SHALL CHECK ALL DRAWINGS IMMEDIATELY UPON THEIR RECEIPT AND SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS BEFORE STARTING WORK. ALL ARCHITECTS AND ENGINEERS SHALL BE NOTIFIED OF ANY DISCREPANCIES.

3. NO STRUCTURAL MEMBER SHALL BE CUT OR NOTCHED UNLESS SPECIFICALLY SHOWN, NOTED, OR APPROVED BY ALL. NOTCH DETAILS, IF PROVIDED ARE FOR GENERAL GUIDANCE ONLY. ALL SHALL BE CONTACTED TO APPROVE LOCATIONS OF PROPOSED NOTCHES.

4. CONNECTIONS AND IMPLIED CONSTRUCTION ASSEMBLIES THAT ARE NOT SPECIFICALLY DESCRIBED OR DETAILED SHALL BE CONSTRUCTED USING STANDARD CONSTRUCTION PRACTICES IN COMPLIANCE WITH THE GOVERNING CODES AND ORDINANCES.

5. WHEN DETAILS LABELED "TYPICAL" OR "SIMILAR" ARE GIVEN ON DRAWINGS, THE CONTRACTOR SHALL APPLY THE INTENT OF THE DETAIL TO THAT SPECIFIC CONDITION.

6. WRITTEN INFORMATION AND DIMENSIONS SHALL HAVE PRECEDENCE OVER GRAPHIC INFORMATION. DO NOT SCALE.

7. DRAWINGS AND SPECIFICATIONS FOR THIS WORK HAVE BEEN PREPARED IN ACCORDANCE WITH GENERALLY ACCEPTED STANDARDS OF PRACTICE TO MEET THE MINIMUM REQUIREMENTS DF THE CURRENT EDITION DF THE CBC. ANY DISCREPANCIES ON THE PLANS OR ANY DEVIATIONS FROM THE PLANS WHICH ARE NECESSITATED BY FIELD CONDITIONS OR ANY CONDITION DIFFERENT FROM THOSE INDICATED ON THE PLANS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER. ALL WORK IS TO BE COORDINATED SO THAT COOPERATION BETWEEN THE TRADES WHERE REQUIRED IS ACCOMPLISHED.

8. CONTRACTOR AND SUBCONTRACTORS ARE RESPONSIBLE FOR THE ORDER AND MEANS OF CONSTRUCTION AND ALL TEMPORARY BRACING AND ERECTION DURING CONSTRUCTION.

9. APPROVALS BY BUILDING INSPECTORS SHALL NOT CONSTITUTE AUTHORITY TO DEVIATE FROM THE PLANS AND SPECIFICATIONS.

10. ALL WORK SHALL CONFORM TO TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).

11. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.

#### PROJECT SCOPE:

#### SOLAR ELECTRIC SYSTEM

THIS PROJECT ENTAILS THE INSTALLATION OF A PHOTOVOLTAIC SYSTEM AT Redlands Family Dentistry THE SYSTEM WILL NOT BE A NET ELECTRICITY EXPORTER TO THE UTILITY GRID.

THIS INSTALLATION CONSISTS OF A NEW CARPORT PHOTOVOLTAIC (PV) SYSTEM. THE PV SYSTEM IS STATIC MOUNTED.

THIS SYSTEM WILL BE INTERCONNECTED TO AND WILL BE OPERATED IN PARALLEL WITH THE ELECTRIC GRID PER THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND UTILITY INTERCONNECT AGREEMENT

#### CONDITIONS OF APPROVAL:

1. ALL CONSTRUCTION SHALL OCCUR BETWEEN THE HOURS OF 7AM & 7PM, EXCEPT FOR THE PURPOSE OF EMERGENCIES.

SYSTEM SPECIFICATIONS:
(48) CANADIAN SOLAR INC 450W

CS3W-450P

(3) SMA AMERICA 6000 WATT INVETERS SB6.0-1SP-US-40 [240V]

CARPORT 1: (27'-8 3/4" X 41' - 10 3/8"): 1,157 SF

APN: 0171-22-125

#### DRAWING INDEX

Sheet #	Sheet Name
T101	Title Sheet
T102	Notes
A101	Site Plan
A102	Array Layouts
S1	Structural
S2	Structural
S3	Structural
E101	Electrical Layout
E201	Single Line Diagram
E301	Signage
L101	Lighting
SP101	Spec Sheets

#### PERMITTING / PLANNING NOTES:

1. THIS PV SYSTEM INSTALLATION IS SUBJECT TO INSPECTION BY THE AUTHORITY HAVING JURISDICTION, LADBS

JURISDICTION, LADBS

2. THIS PROJECT SHALL CONFORM TO THE FOLLOWING CODE VERSIONS:

2019 CALIFORNIA BUILDING CODE (CBC 2019) 2019 CALIFORNIA ELECTRIC CODE (CEC 2019) 2019 CALIFORNIA FIRE CODE (CFC 2019)

2019 CALIFORNIA MECHANICAL CODE (CMC 2019)

2019 CALIFORNIA ENERGY CODE (CEnC 2019) 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE (CGBSG 2019) 2019 CALIFORNIA PLUMBING CODE (CPC 2019)

3. SYSTEM IS A CARPORT INSTALL WHICH IS EXEMPT FROM 690.12 MODULE LEVEL RAPID SHUTDOWN REQUIREMENTS.

4. 110.2 APPROVAL: ALL ELECTRICAL EQUIPMENT SHALL BE LABELED, LISTED, OR CERTIFIED BY A NATIONALLY RECOGNIZED TESTING LABORATORY ACCREDITED BY THE UNITED STATES OCCUPATIONAL SAFETY HEALTH ADMINISTRATION.

5. ELECTRICAL EQUIPMENT SHALL BE LISTED OR CERTIFIED BY A CITY OF LOS ANGELES RECOGNIZED ELECTRICAL TESTING LABORATORY OR APPROVED BY THE DEPARTMENT.

6. ALL ELECTRICAL WORK SHALL BE DESIGNED PER 2019 CALIFORNIA ELECTRICAL CODE AND 2017 NATIONAL ELECTRICAL CODE.

7. THE CONSTRUCTION SHALL NOT RESTRICT A FIVE-FOOT CLEAR AND UNOBSTRUCTED ACCESS TO ANY WATER OR POWER DISTRIBUTION FACILITIES (POWER POLES, PULLBOXES, TRANSFORMERS, VAULTS, PUMPS, VALVES, METERS, APPURTENANCES, ECT.) OR TO THE LOCATION OF THE HOOK-UP. THE CONSTRUCTION SHALL NOT BE WITHIN TEN FEET OF ANY POWER LINES-WHETHER OR NOT THE LINES ARE LOCATED ON THE PROPERTY. FAILURE TO COMPLY MAY CAUSE CONSTRUCTION DELAYS AND/OR ADDITIONAL EXPENSES.

8. INSTALLATION OF THE PV SYSTEM IN PARALLEL WITH THE UTILITY POWER SHALL BE INSTALLED ONLY BY QUALIFIED PERSONS. 705.6.

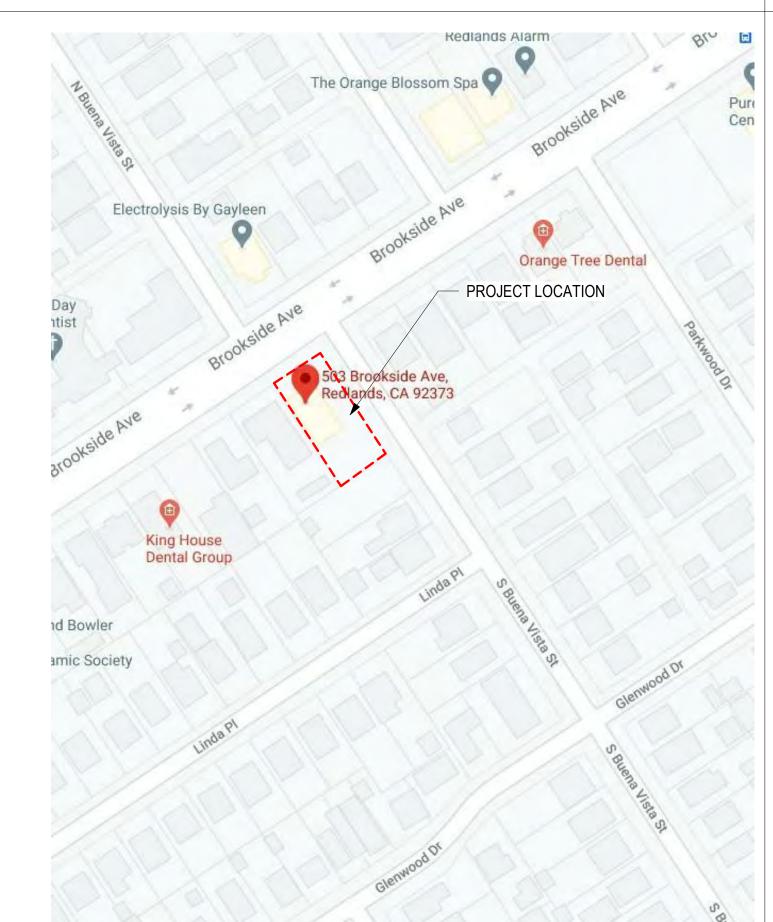
9. THE OUTPUT CHARACTERISTICS OF THE PV SYSTEM SHALL BE COMPATIBLE WITH THE VOLTAGE, WAVE SHAPE, AND FREQUENCY OF THAT OF THE UTILITY OUTPUT. 705.14.

10. INTERCONNECTED ELECTRIC POWER PRODUCTION SOURCES SHALL BE GROUNDED IN ACCORDANCE WITH ARTICLE 250. 705.50.

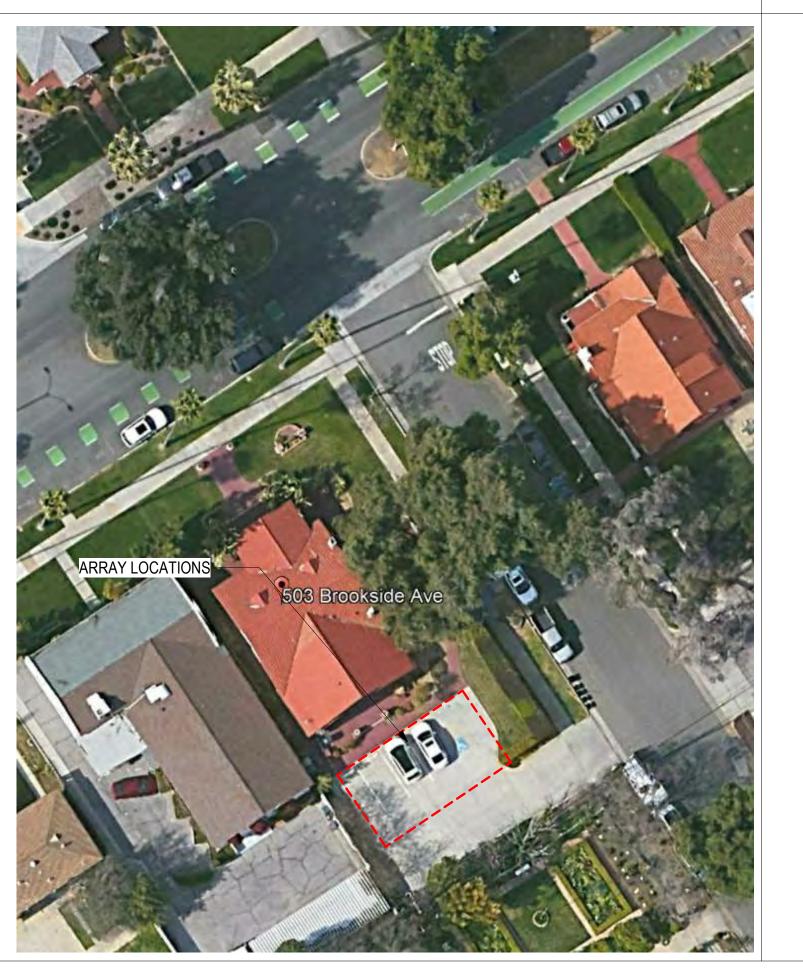
#### VICINITY MAP:

# Electrolysis By Gavicen PROJECT LOCATION Su3 Brookside Ave, Redlands, CA 923/3 Redlands, CA 923/3 Bowler and Bewler C California Islamic Society

#### PROJECT ADDRESS



#### AERIAL PHOTO:



#### PROJECT TEAM:

#### SITE CONTACT:

TONY SPRINGER PHONE: 951-453-3037

#### **CONTRACTOR:**

RENEWABLE ENERGY PARTNERS 170 MAPLE ST, STE 105 CORONA, CA 92878 TEL: 855-519-6633 LIC # C10-989857 REPSOLAR

Renewable Energy Partners, Inc.

RENEWABLE ENERGY PARTNERS

170 MAPLE ST, STE 105

CORONA, CA 92878

www.RENEWEPI.com

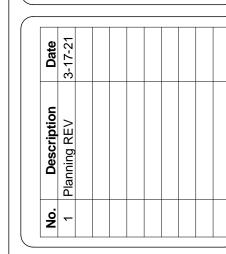
Confidentiality Statement:
This drawing is the property of RENEWABLE ENERGY PARTNERS. This information is confidential and is to be used only in connection with work described by RENEWABLE ENERGY PARTNERS. No part is to be discolosed to

855-519-6633

RENEWABLE ENERGY PARTNERS LIC # C10-989857 EXP: 01/31/2022

others without written permission from RENEWABLE ENERGY PARTNERS

503 Brookside Ave. Redlands, CA 92373



RENEWABLE ENERGY PARTNERS

Title Sheet

T101

4/27/2021 4:44:59 PM To scale on 24x36 paper X-XX

(ENLARGED PLAN)

KEYED NOTES .

GROUND TERMINAL

GROUNDING POINT/ROD

SERIES INTERCONNECTION

STRING I.D. NUMBER

COMBINER BOX

DC DISCONNECT

FUSE BOX . . . . . . . .

BLADE DISCONNECT

FUSIBLE DISCONNECT

OVERCURRENT BREAKER

DC TO AC INVERTER

NORTH ARROW

SOLAR PANEL

### NOTES

SECTION IS LOCATED

DETAIL I.D. NUMBER

SECTION IS LOCATED

DETAIL I.D. NUMBER

· AREA TO BE ENLARGED

SECTION IS LOCATED

KEYED NOTE DESIGNATION

ON APPLICABLE SHEET

ADDENDUM NUMBER

FRAME GROUND POINT

STRING I.D. NUMBER

SOURCE CIRCUIT

COMBINER #

- COMBINER BOX

AND CONDUIT

— COMBINER BOX #

DC DISCONNECT

— DC DISCONNECT #

- DISCONNECTING BLADE

— CURRENT RATING

FUSE RATING

400A BREAKER RATING

- DISCONNECTING BLADE

F1 + FUSE BOX#

AND CONDUIT

----STRING #

DCD-X

CLOUDED

SHEET WHERE

#### **ELECTRICAL NOTES:**

E1. IN EVERY PULL BOX, TERMINAL BOX, AND AT ALL PLACES WHERE WIRES MAY NOT BE READILY IDENTIFIED BY NAMEPLATE MARKINGS ON THE EQUIPMENT TO WHICH THEY CONNECT, IDENTIFY EACH CIRCUIT WITH A PLASTIC LABEL OR TAG FOR NUMBER, POLARITY OF PHASE

E2. THE LAYOUT, OF CONDUIT SHOWN IN THESE PLANS IS INDICATIVE ONLY. CONTRACTOR SHALL ROUTE AND LOCATE THE CONDUITS TO SUIT SITE CONDITIONS BUT SHALL NOT EXCEED THE MAXIMUM CONDUCTOR LENGTHS IDENTIFIED ON THE WIRE SCHEDULE. CONTRACTOR WILL COORDINATE ALL CHANGES IN WIRING AND CONDUIT WITH THE ENGINEER.

E3. BENDS SHALL NOT DAMAGE THE RACEWAY OR SIGNIFICANTLY CHANGE THE INTERNAL DIAMETER OF RACEWAYS (NO KINKS).

E4. SUPPORT CONDUCTORS IN VERTICAL CONDUITS IN ACCORDANCE WITH REQUIREMENTS IN NEC 300.19

E5. INSTALL ALL WIRING MATERIALS IN A NEAT WORKMANLIKE MANNER. USE GOOD TRADE PRACTICE. AS REOUIRED BY CHAPTER 3 OF THE NEC AND ANSI/NECA 1 2000 'STANDARD PRACTICES FOR GOOD WORKMANSHIP IN ELECTRICAL CONTRACTING'

E6. INSTALL CONDUIT TO MAINTAIN PROPER CLEARANCES AND IN A NEAT INCONSPICUOUS MANNER. RUN PARALLEL AND AT RIGHT ANGLES TO STRUCTURAL MEMBERS OR OTHER CONDUITS. PROVIDE BOXES, FITTINGS AND BENDS FOR CHANGES IN DIRECTION. FASTEN CONDUIT SECURELY IN PLACE. CONDUCTORS' INSULATION IT IS BEING USED WITH. IT IS

E7. SUPPORT CONDUIT USING STEEL PIPE STRAPS OAE, LAY-IN ADJUSTABLE HANGERS, CLEVIS HANGERS OR COMBINERS, DISCONNECTS OR INVERTS. DO NOT SPLIT-HANGERS. HANGER SPACING SHALL BE INSTALLED PER NEC REQUIREMENTS FOR THE TYPE OF CONDUIT BEING INSTALLED. USE APPROVED BEAM CLAMPS FOR CONNECTION TO STRUCTURAL MEMBERS.

WHERE REQUIRED TO FACILITATE THE INSTALLATION OF WIRING IN ADDITION TO THOSE ON THE DRAWINGS. BENDS IN CONDUITS BETWEEN PULL BOXES SHALL NOT EXCEED THE EQUIVALENT OF FOUR 90 DEGREE BENDS

E9. WHEN FIELD CUTTING IS REQUIRED, THE CONDUIT SHALL BE CUT SQUARE AND DEBURRED.

E10. CONDUIT SIZES NOT SPECIFIED SHOULD CONFORM TO NEC SPECIFICATIONS, TO INCLUDE FILL FACTOR AND RESPONSIBLE FOR ALL UNDERGROUND WORK DERATING FOR NUMBER OF CONDUCTORS WITH A PERFORMED. MINIMUM CONDUIT SIZE BEING 3/4"

E11. THE WIRING MINIMUM SIZE SHALL BE #12 AWG.

E12. SAFETY REGULATION (LOCK OUT - TAG OUT, ETC.) ON RIGGING, UNPACKING HANDLING, PLANNING, AND IS THE FULL RESPONSIBILITY OF THE CONTRACTOR INSTALLATION DURING CONSTRUCTION.

E13. THE WIRING SIZE IS BASED ON THE ESTIMATED MODULES PER BOX TAKE CARE WHEN OPENING THE BOX CONDUIT ROUTING SHOWN IN THIS DRAWING PACKAGE. SHOULD THE CONDUITS LENGTH INCREASE DUE TO M3. NEVER LEAVE A MODULE UNSUPPORTED OR LOCATION OF SOURCE AND/OR ROUTING THE CONDUITS UNSECURED. THE CONTRACTOR IS RESPONSIBLE FOR ALL AND THE CONDUCTORS MAY NEED BE RESIZED. PLEASE MATERIAL HANDLING ON THE JOBSITE. CONTACT THE ENGINEER PRIOR TO MAKING ANY FIELD CHANGES.

DEGREE CELSIUS APPLICATIONS. USE BARE COPPER FOR GROUND FOR ALL EXTERNAL GROUNDING. USE2/RHW-2/PV WIRE OR APPROVED EQUIVALENT SHALL BE USED FOR ALL EXPOSED OR HOMERUN WIRING.

E15. FOR INTER CONNECTION VIA BUS TAP:

OVERCURRENT PROTECTION (SWITCHING DEVICE AND MEANS OF DISCONNECT) MUST BE LOCATED PER NEC 240.21

A. THE CONDUCTORS SHALL BE CRIMPED WITH A CRIMP-ON TERMINAL LUG, MANUFACTURED BY ILSCO, BURNDY, OAE. THE TERMINAL LUG SHALL HAVE IDENTIFICATION OR COLOR CODING TO MATCH THE CONDUCTOR SIZE. TERMINAL LUGS SHALL HAVE LONG BARRELS TO PROVIDE 2 CRIMPS PER TERMINAL LUG PER CONDUCTOR.

B. CRIMPED TERMINAL LUGS SHALL BE CONSTRUCTED OF PURE COPPER AND TIN PLATED FOR HIGH CONDUCTIVITY AND RATED FOR 600V AT 90 DEGREES CELSIUS.

C. THE CRIMP MUST BE MADE WITH THE MANUFACTURER'S APPROVED TOOL DEVICE TO ACHIEVE THE PROPER CRIMP CONNECTION.

D. USE STAINLESS STEEL HARDWARE WITH THE TO MANUFACTURER'S RECOMMENDATIONS ON ALL THREE PHASES TO COMPLY WITH ARTICLE 110.14 OF THE 2016 NEC.

E. MINIMUM BEND RADIUS SHALL BE OBSERVED TO MAINTAIN GOOD CONDUCTOR OUALITY AND WIRE MANAGEMENT IN THE LOAD CENTER OR TRANSFORMER IF THIS BEND RADIUS IS TOO CONSTRICTING, USE A 90 DEGREE CRIMP-ON LUG MANUFACTURED BY ILSCO BURNDY, OAE. 90 DEGREE CRIMP-ON LUG MUST BE INSTALLED WITH RATED INSULATION THAT MEETS OR EXCEEDS THE CONDUCTORS' INSULATION IT IS BEING USED WITH. IT IS RECOMMENDED THAT ACCEPTABLE CLEARANCES ARE MAINTAINED WITH THIS BUS TAP FOR SAFE, CONTINUOUS OPERATION.

F. FOLLOW MANUFACTURER'S GUIDELINES, OR THE APPLICABLE AHJ, FOR MODIFICATION OF BUS BAR(S).

E16. ALL CONDUITS SHALL BE FREE OF ANY OBSTRUCTIONS AND PROPERLY SECURED BEFORE WIRE IS PULLED.

E17. ELECTRICAL CONTRACTOR TO PROVIDE SIGNAGE TO ALL ELECTRIC BOXES, JUNCTION BOXES, PULL BOXES, DC DISCONNECTS, CONDUIT RUNS, AC DISCONNECTS, SUB PANELS, AND MAIN SERVICES PER NEC ARTICLE 690.

E18. MEGGER TESTING: MEGGER (INSULATION) TEST ALL CONDUCTORS AT 1,000V TO 5 MEGAOHMS BETWEEN THE CONDUCTOR UNDER TEST AND GROUND WIRE. CONDUCT TEST AFTER WIRE IS PULLED THROUGH THE CONDUIT BUT BEFORE TERMINATING TO THE MODULES, MEGGER THE SOLAR MODULES, AS THIS WILL LIKELY DAMAGE THEIR INTERNAL DIODES. MEGGERING IS INTENDED FOR ALL CONDUCTORS E8. PROVIDE PULL, JUNCTION OR CHRISTY BOXES MEGGER TESTING OF CONDUCTORS BEYOND THE POINT OF COMMON COUPLING (POCC) IS THE SOLE RESPONSIBILITY OF THE UTILITY PROVIDING SERVICE.

> DONE WITH CARE. LOCATE EXISTING UTILITIES, IRRIGATION LINES AND OTHERS BEFORE COMMENCING UNDERGROUND WORK. CONTACT UNDERGROUND SERVICE ALERT (USA) WITHIN 48 HOURS OF ANY UNDERGROUND WORK. CONTRACTOR SHALL BE

#### **MODULE INSTALLATION NOTES:**

M1. REFER TO THE MODULE MANUAL FOR MORE DETAILS

M2. THE MODULES MAY BE SHIPPED WITH SEVERAL TO ENSURE THAT ALL MODULES ARE SECURELY HANDLED.

#### **SOLAR ARRAY COMMISSIONING:**

COMMISSIONING PROCEDURE SHALL BE COMPLETED:

A. CHECK THE OPEN CIRCUIT VOLTAGE (VOC) AND POLARITY (+/-) OF EACH SOURCE CIRCUIT. RECORD S12. ALL FASTENERS TO BE UV RESISTANT PLASTIC AND THE VALUES ON THE COMMISSIONING RECORD DOCUMENTS

B. CHECK THE SHORT CIRCUIT CURRENT (ISC) FOR S13. STRUCTURES AND SYSTEM LAYOUT MUST COMMISSIONING RECORD DOCUMENTS

C. CHECK THAT ALL FUSES, DISCONNECTS AND OTHER \$14. NO WIRE NUTS SHALL BE USED IN SYSTEM BALANCE OF SYSTEM COMPONENTS ARE RATED CONNECTION POINTS. FOR6OOVDC AND THE APPROPRIATE CURRENT CAPACITY.

WIRES, EXPOSED CONDUCTORS AND ANY OTHER RECOMMENDED. PROBLEMS THAT MAY CAUSE A FAULT.

TESTED FOR CONTINUITY.

#### **INVERTER COMMISSIONING:**

IC1. THIS CHECKLIST MUST BE COMPLETED BY THE CONTRACTOR PRIOR TO COMMISSIONING:

A. CHECK THAT THE INVERTER IS PROPERLY GROUNDED, AS DESCRIBED BY THE MANUFACTURER AND THESE INSTRUCTIONS.

B. CHECK THE INVERTER DC INPUT VOLTAGE (VOC) FROM THE SOLAR ARRAY FOR PROPER POLAR, INSIDE THE INVERTER CABINET.

PROPER RANGE IN THE INVERTER CABINET AS REQUIREMENT DURING THE 25 YEAR LIFE. DEFINED BY THE INVERTER RATING LABEL AND ACCOMPANIED MANUAL

D. CHECK AC INPUT VOLTAGE IS IN THE PROPER PHASE SEQUENCE (CLOCKWISE) IF APPLICABLE

E. CHECK THAT THE AC GRID VOLTAGE, AT THE INVERTER AC TERMINALS, IS WITHIN THE PROPER RANGE DEFINED BY THE INVERTER RATING LABEL AND ACCOMPANIED MANUAL.

F. FOLLOW START-UP SEQUENCE IN MANUFACTURER'S S21. ALL ELECTRICAL WORK TO BE COMPLETED BY OPERATION AND MAINTENANCE MANUAL

G. VERIFY THAT ALL CONDUCTOR TERMINATION AND FASTENER TORQUE MEET LISTED SPECIFICATIONS.

#### **ADDITIONAL SOLAR-360 INSTALLATION STANDARDS**

S1. NFPA 70 (NEC) AND IBC, OR LOCAL CODES AS REQUIRED. COMPLIANCE FOR INSTALLATION AND

WITH EQUIPMENT WEATHERPROOF LABELS. COMPLY WITH NEC ART. 690.7, 690.17, AND 690.53 ESPECIALLY. LABEL UTILITY DISCONNECT AND SOLAR METER.

INSTALLED BY THE ELECTRICAL CONTRACTOR. S4. THE POINT OF CONNECTION SHALL COMPLY WITH NFPA 70 ARTICLE 690.64(B)(2)

S5. LIMIT TOTAL VOLTAGE DROP TO LESS THAN 3% INCLUDING ALL DC AND AC CIRCUITS (PROVIDE E19. ALL UNDERGROUND ELECTRICAL WORK SHALL BE CALCULATIONS FOR WORST CIRCUIT). PREFERRED IS 2% BURIAL.

> S6. INSTALLATION OF ALL COMPONENTS COMPLETED IS WORKMANLIKE MANNER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

S7. USE 90°C OR HIGHER WET RATED WIRE FOR ALL FOR TEMPERATURE AND OTHER FACTORS.

S8. FUSES AND WIRES BETWEEN TRANSFORMER AND POINT OF INTERCONNECTION SIZED FOR TRANSFORMER IN-RUSH CURRENT (OCCURS DAILY DUE TO NIGHT-TIME DISCONNECT)

S9. ALL DC MATERIALS (FUSES, EQUIPMENT, CONNECTORS, WIRES, ETC.) TO BE UL LISTED FOR 600VDC OR 1000VDC WHERE APPLICABLE.

S10. ALL DISCONNECTS AND COMBINERS TO BE SECURED FROM UNAUTHORIZED/UNQUALIFIED PERSONNEL. (MAY BE WITH LOCK OR LOCATION) AND ALL SOURCES L.O.T.O. BEFORE COMMISSIONING.

E14. ALL WIRING IN CONDUIT SHALL BE THWN-2 FOR 90 C1. BEFORE CLOSING DISCONNECTS OR ATTEMPTING S11. ALL EXPOSED CABLES, SUCH AS MODULE LEADS, TO TO ENERGIZE THE INVERTERS, THE FOLLOWING BE SECURED WITH UV RATED PLASTIC OR OTHER APPROVED SUNLIGHT RESISTANT MEANS WITH A 25 YEAR

> ASSEMBLED TO ISOLATE COPPER CONDUCTORS FROM DIRECT CONTACT WITH ALUMINUM COMPONENTS.

EACH SOURCE CIRCUIT RECORD THE VALUES ON ACCOMMODATE EASY ACCESS FOR TROUBLESHOOTING AND MAINTENANCE.

S15. CONNECTORS TO BE TORQUED PER DEVICE LISTING AFTER TREATING THREADS WITH ANTIOXIDANT OR ANTI D. COMPLETE A VISUAL INSPECTION OF ALL THE SEIZE. CAMMED OUT SET SCREWS SHALL BE REPLACED. MODULES TO CHECK FOR BROKEN GLASS, FRAYED HEX OR SQUARE DRIVE SOCKET HEAD SCREWS ARE

S16. SPLIT BOLTS/SPLICES/CONNECTORS SHALL BE E. PRIOR TO INSTALLATION ALL FUSES SHALL BE INSULATED WITH APPROVED MEANS. UL LISTED ELECTRICAL TAPE ALONE IS NOT SUITABLE AS THE ONLY

MEANS. FOLLOW MANUFACTURER'S

S17. STRUCTURE FINISH TO BE CONSISTENT WITH 25 YEAR DESIGN LIFE WITH MINIMAL MAINTENANCE. ACCEPTABLE UNISTRUT FINISHES ARE THOSE COATING

WITH DEMONSTRATED 25 YEAR LIFE.

INSTRUCTIONS FOR APPLICATION OF INSULATING

S18. ANODIZED ALUMINUM. HOT DIPPED GALVANIZED STEEL, AND STAINLESS STEEL ARE ACCEPTABLE MATERIALS. ALL OTHER FINISHES REQUIRE C. CHECK DC INPUT VOLTAGE (VOC) IS WITHIN THE JUSTIFICATION WITH DETAILS ON MAINTENANCE

> S19. ALL FIELD WELDS OR CUT SURFACES REQUIRE FIELD TOUCH-UP TO MAINTAIN FINISH COATING. CUT GALVANIZED/ZINC COVERED SURFACES SHALL BE COATED WITH A COLD ZINC PRODUCT APPLIED IN AN APPROVED MANNER.

> S20. ALL WELDING TO BE COMPLETED BY WELDERS CERTIFIED AND CURRENT IN THE TYPE OF WELDING BEING COMPLETED.

OUALIFIED ELECTRICIANS OR APPRENTICES WORKING UNDER THE DIRECT SUPERVISION OF A OUALIFIED ELECTRICIAN EQUIVALENT IN EXPERIENCE TO A JOURNEYMAN OR MASTER ELECTRICIAN.

S22. STRUCTURE MUST ALLOW FOR UNRESTRICTED AIRFLOW AROUND MODULES AND THE MODULE FRAME

S23. PULL/SPLICE BOXES SHALL BE LISTED FOR PURPOSE AND INSTALLED IN A WORKMANLIKE MANNER. DIRECT BURIAL RATED CONNECTORS SHALL BE USED FOR CONDUCTORS.

S24. GROUNDING SYSTEM WILL USE LISTED COMPONENTS INCLUDING GROUND RODS, GROUNDING LUGS/CLAMPS, AND OTHER DEVICES RATED FOR DIRECT BURIAL WHEN EXPOSED TO THE ELEMENTS.

S25. MODULES SHALL BE GROUNDED WITH EQUIPMENT GROUNDING CONDUCTOR USING THE LISTED MEANS AS DESCRIBED IN THE MODULE INSTALLATION MANUAL MECHANICAL CONNECTORS SHALL BE RATED FOR DIRECT

S26. CONCRETE SHALL BE CURED FOR A MINIMUM OF SEVEN (7) DAYS BEFORE LOADING, UNLESS THE RESPONSIBLE CHARGE ENGINEER CERTIFIES LOADING BEFORE INITIAL CURE, OR SPECIFIES A LONGER CURE

EXTERIOR CONDUITS, WITH APPROPRIATE DERATINGS S27. TOP ENTRY CONDUITS WILL BE ROUTED SO WATER BUILDUP DOES NOT FALL ON ELECTRICAL/ELECTRONIC

> S28. ALL CONDUIT ENTRY AND EXITS FROM ENCLOSURES WILL BE SEALED WITH MATERIAL LISTED FOR PURPOSE SUCH AS FIRE STOP OR DUCT SEAL.

S29. FIELD ASSEMBLY OF MC CABLES WILL BE EXECUTED CERTIFIED PERSONNEL BY ACCORDING TO MANUFACTURER'S GUIDELINES.

S30. OTHER NEARBY UTILITY SERVICES WILL BE SECURED BEYOND THE BOUNDARY OF THE MODULES OR SUPPORT STRUCTURE AS REQUIRED BY APPLICABLE CODE(S). A MINIMUM CLEARANCE OF 7.5CM (3") IS REQUIRED WITH APPROVAL OF THE ENGINEER

S31. CIRCUIT COMBINERS SHALL BE LISTED TO UL 1741 AND APPROPRIATE FOR THE INSTALLATION DESIGN AND LOCATION

S32. PER NEC STANDARD COLORS FOR WIRE SHALL BE USED. WHITE FOR THE GROUNDED CONDUCTOR, GREEN FOR EQUIPMENT GROUND, AND ALL OTHER COLORS NEEDED FOR PHASING.

**ALTERNATING CURRENT** 

**ABBREVIATIONS** 

APPROX APPROXIMATE

AMERICAN WIRE **GUAGE CENTER LINE** 

**COMBINER BOX** 

**DIRECT CURRENT** 

**DROP INLET** 

DISCONNECT

**ELECTRICAL METALLIC TUBING** 

(EXISTING)

**ELEVATION** 

**EQUAL** 

**INSIDE DIAMETER** 

**JUNCTION BOX** 

MAIN COMBINER BOX

MANUFACTURER

MINIMUM

MISCELLANEOUS

(NEW)

OR APPROVED EQUAL

ON CENTER

OUTSIDE DIAMETER

POINT OF COMMON COUPLING

**PHOTOVOLTAIC** 

PROPERTY LINE

STORM DRAIN SQUARE FOOT/FEET

SIMILAR

TO BE DETERMINED

TOP OF FOOTING

**TYPICAL** TYP

**UNLESS OTHERWISE NOTED** 

VERIFY IN FIELD

TRANSFORMER

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REP

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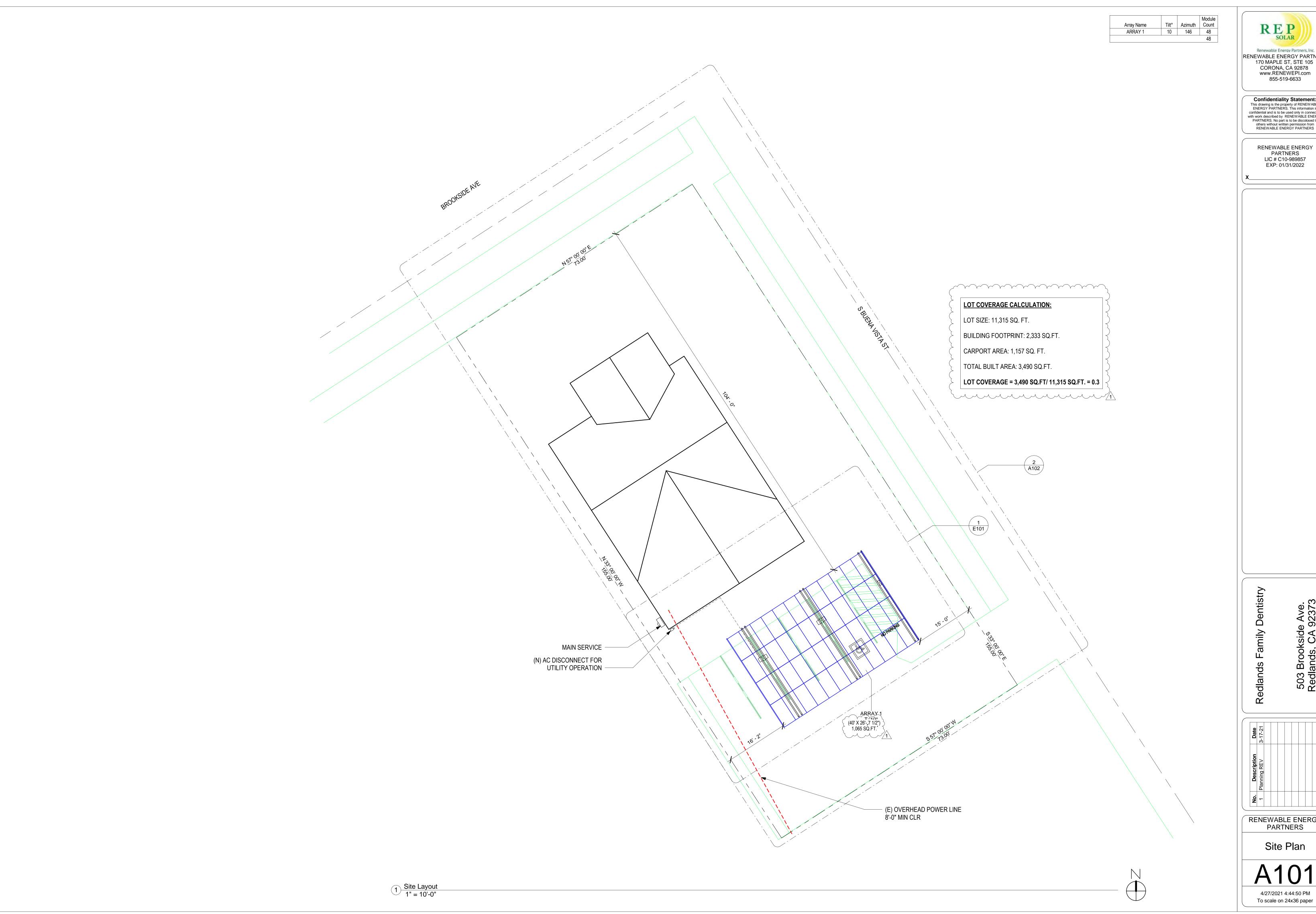
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RENEWABLE ENERGY **PARTNERS** 

Notes

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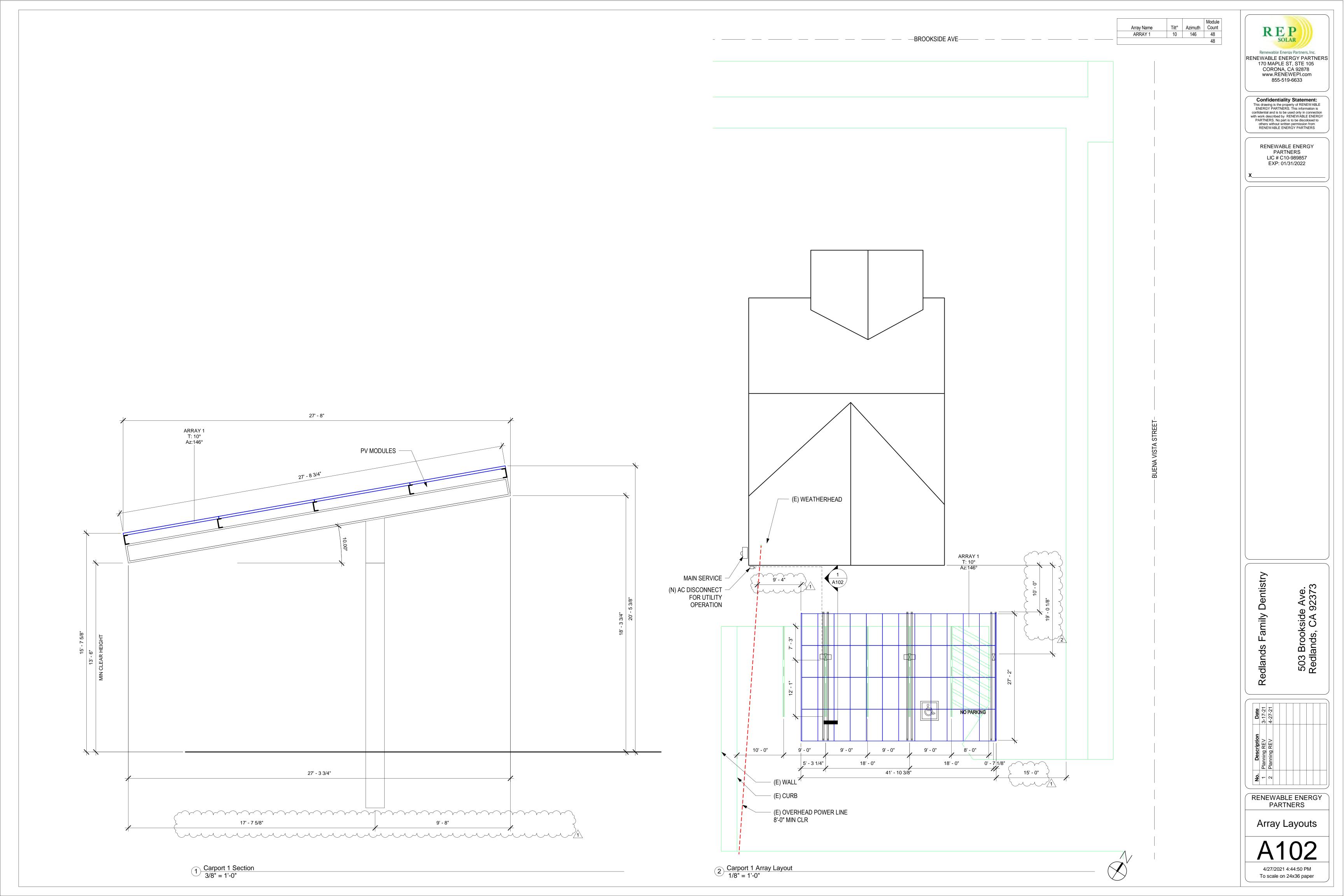
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RENEWABLE ENERGY PARTNERS

Site Plan



**ABBREVIATIONS** 

NOTE: ABBREVIATIONS MAY OR MAY NOT HAVE

— ANCHOR BOLT

PERIODS, BUT SHALL BE READ AS SAME.

#### GENERAL STRUCTURAL NOTES

BUILDING CODE:

ABBREV1

2019 EDITION OF THE CALIFORNIA BUILDING CODE:

#### LOADS:

GRAVITY:

ROOF LIVE LOAD = 12 PSF

CANOPY DEAD LOAD = ACTUAL WEIGHT OF MEMBER: SOLAR PANEL, RAILS, ETC. = 3.0 PSF (MAX) PURLIN = 4.0 PLFBEAM = 22.2 PLF

COLUMN = 22.2 PLF

LATERAL:

#### WIND:

BASIC DESIGN WIND SPEED (3-SECOND GUST), V = 90 MPH. (ASCE 7-16) RISK CATEGORY, I. (ASCE 7-16)

MWFRS WIND LOAD = -23.3 PSF / -9.3 PSF (AWAY FROM THE SURFACE).

WIND LOAD FOR 10 DEGREE MAX SLOPE: (THESE VALUES ARE BEFORE MULTIPLYING BY 0.6 FACTOR IN LOAD COMBINATIONS) C&C WIND LOAD = 21.2 PSF (TOWARD THE SURFACE). C&C WIND LOAD = -23.3 PSF (AWAY FROM THE SURFACE). MWFRS WIND LOAD = 13.2 PSF / 19.5 PSF (TOWARD THE SURFACE).

#### SEISMIC:

SEISMIC IMPORTANCE FACTOR, I = 1.0. RISK CATEGORY, I. (ASCE 7-16) MAPPED SHORT PERIOD SPECTRAL ACCELERATION, Ss = 1.791g. MAPPED ONE SECOND SPECTRAL ACCELERATION, S1 = 0.707g. SOIL SITE CLASS, D. DESIGN SHORT PERIOD SPECTRAL ACCELERATION, Sds = 1.433g. DESIGN ONE SECOND SPECTRAL ACCELERATION, Sd1 = 0.801g. SEISMIC DESIGN CATEGORY, D BASIC SEISMIC-FORCE-RESISTING SYSTEM = CANTILEVERED COLUMN SYSTEMS DETAILED TO CONFORM TO THE REQUIREMENTS FOR ORDINARY STEEL MOMENT FRAMES. SFISMIC RESPONSE COEFFICIENT, Cs = 1.146.

ANALYSIS PROCEDURE USED = EQUIVALENT LATERAL FORCE PROCEDURE

#### FOUNDATIONS:

DRILLED PIER FOOTING DESIGNS ARE BASED ON IBC SECTION 1806, CLASS 5 SOILS PER CITY DESIGN CRITERIA. THE ALLOWABLE LATERAL BEARING PRESSURE MAY BE MULTIPLIED BY 2.0 PER IBC SECTION 1806.3.4. ALLOWABLE LATERAL BEARING PRESSURE = 100 PSF/FT FOR DRILLED PIER FOOTINGS. THE DRILLED PIER FOOTINGS ARE DESIGNED AS CONSTRAINED (SECTION 1807.3.2.2. FOLIATION 18-3) WHERE PLACED IN CONCRETE AREAS, AS PARTIALLY CONSTRAINED (AVERAGE OF CONSTRAINED AND UNCONSTRAINED) WHERE PLACED IN ASPHALT AREAS AND AS UNCONSTRAINED (CZERNIAK) WHEN NOT PLACED IN CONCRETE OR ASPHALT AREAS.

SPREAD FOOTING DESIGNS ARE BASED ON IBC SECTION 1806, CLASS 5 SOILS PER CITY DESIGN CRITERIA. SPREAD FOOTINGS SHALL BEAR ON FIRM, UNDISTURBED SOIL 2'-0" FEET MINIMUM BELOW ADJACENT EXISTING GRADE. DESIGN SOIL BEARING VALUE = 1,500 PSF REFER TO SOILS REPORT FOR ADDITIONAL INFORMATION PRIOR TO COMMENCEMENT OF EARTHWORK. SOILS ENGINEER SHALL INSPECT FOUNDATION EXCAVATIONS PRIOR TO PLACEMENT OF CONCRETE.

SPECIFIED 28 DAY COMPRESSIVE STRENGTH F'c:

RESPONSE MODIFICATION FACTOR (R) = 1.25.

FOUNDATIONS	 2,500	PS
	_,	

#### **GENERAL:**

ALL CAST-IN-PLACE CONCRETE CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE ACI. MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED UNLESS NOTED OTHERWISE. ADMIXTURES CONTAINING CHLORIDES SHALL NOT BE USED. NO OTHER ADMIXTURES PERMITTED WITHOUT APPROVAL. FOR CONCRETE WITHOUT PLASTICIZER, MAXIMUM SLUMP 4 1/2" AT POINT OF PLACEMENT U.N.O. IF PLASTICIZER IS USED, A HIGHER FINAL SLUMP MAY BE ALLOWED UPON STRUCTURAL ENGINEER'S APPROVAL.

FOR REINFORCING INFORMATION, SEE REINFORCING SECTION OF G.S.N., PLANS, SCHEDULES AND

FLY ASH - SHALL BE LIMITED TO 50% OF TOTAL CEMENTITIOUS MATERIALS BY WEIGHT

TEST DATA FOR EACH CONCRETE MIX SHALL BE SUBMITTED FOR REVIEW PER CHAPTER 5 OF ACI 318. REFERENCE FIGURE R5.3 FOR SUBMITTAL REQUIREMENTS AND OPTIONS. CONCRETE MIX DESIGNS THAT ARE SUBMITTED WITHOUT THE APPROPRIATE TEST DATA CANNOT BE REVIEWED. IT IS ACCEPTABLE AND INTENDED TO USE EARTH CUTS FOR THE DRILLED PIER FOOTING AND SPREAD FOOTING. THE FOOTING DESIGNS INDICATED IN THESE DRAWINGS DO NOT APPLY IF THE

EARTH CUTS ARE UNSTABLE AND/OR DO NOT STAND ON THEIR OWN. THE FOOTINGS INDICATED IN THESE DRAWINGS DO NOT APPLY WHERE ORGANIC FILL MATERIALS

CONCRETE SHALL BE ADEQUATELY VIBRATED AROUND THE EMBEDDED STEEL COLUMNS TO ENSURE THE CONCRETE HAS COMPLETELY SURROUNDED THE STEEL COLUMN. CONCRETE SHALL SLOPE UP SLIGHTLY TOWARDS COLUMNS TO PREVENT WATER FROM PONDING AROUND

SLABS ON GRADE AND SLAB/FOOTINGS AT GRADE (E.G. INVERTER SLAB/FOUNDATION) SHALL BE VIBRATED ONLY AT TRENCHES, FLOOR DUCTS, TURNDOWNS, ETC. MIX DESIGNS SHALL TAKE CARE TO PROVIDE THE LARGEST POSSIBLE SIZE OF COARSE AGGREGATE WHILE MAINTAINING CONCRETE WORKABILITY. NOMINAL MAXIMUM AGGREGATE SIZE SHALL NOT BE LESS THAN 3/4 INCH NOR MORE THAN 1/3 THE DEPTH OF THE SLAB. MIX DESIGNERS SHALL SUBMIT SLAB ON GRADE DESIGNS WITH SHRINKAGE CHARACTERISTICS NOT EXCEEDING 0.00078 IN/IN TO MEET THE REQUIREMENTS OF ACI 360R-06. FIG5.6 FOR TYPICAL CONCRETE. SLABS SHALL BE PLACED ON A FLAT, SMOOTH, FIRM, COMPACTED SUBGRADE.

IT IS ACCEPTABLE FOR CONCRETE TO FREE FALL INTO THE DRILLED PIER OR SPREAD FOOTINGS. THE GOAL OF THE CONSTRUCTION WITH THE DRILLED PIER AND SPREAD FOOTING IS TO HAVE CONCRETE WELL PLACED WITH MINIMAL VOIDS AND GOOD CONSOLIDATION (i.e. MINIMAL SEGREGATION OF THE AGGREGATE).

#### **REINFORCING:**

ALL REINFORCING PER CRSI SPECIFICATIONS AND HANDBOOK. ASTM A615 (Fy = 60 KSI / GRADE 60) DEFORMED BARS FOR ALL BARS. WHERE SHOWN ON DRAWINGS ALL GRADE 60 REINFORCING TO BE WELDED SHALL BE ASTM A706. NO TACK WELDING OF REINFORCING BARS ALLOWED WITHOUT PRIOR REVIEW OF PROCEDURE WITH THE STRUCTURAL ENGINEER. LATEST ACI CODE AND DETAILING MANUAL APPLY. CLEAR CONCRETE COVERAGES AS FOLLOWS:

CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH ----- 3" EXPOSED TO EARTH OR WEATHER #6 OR LARGER ----- 2 ¥5 AND SMALLER ----- 1 1/2"

ALL REINFORCING SHALL BE CHAIRED TO ENSURE PROPER CLEARANCES. SUPPORT OF FOUNDATION REINFORCING MUST PROVIDE ISOLATION FROM MOISTURE/CORROSION BY USE OF A PLASTIC OR CONCRETE CHAIR. DUCT-TAPE COVERED REINFORCING IS NOT AN ACCEPTABLE

ALL DIMENSIONS REFERENCED IN DRAWINGS AS "CLEAR" SHALL BE FROM FACE OF STRUCTURE TO EDGE OF REINFORCING, AND SHALL NOT BE LESS THAN STATED, NOR GREATER THAN "CLEAR" DIMENSION PLUS 3/8". ALL OTHERS SHALL BE PLUS OR MINUS 1/4" TYPICAL UNLESS NOTED

FIELD BENDING OR STRAIGHTENING OF DEFORMED BARS SHALL BE LIMITED TO #5 BARS AND SMALLER AND SHALL BE FIELD BENT OR STRAIGHTENED ONLY ONCE. ANY BEND SHALL BE LIMITED TO 90 DEGREES. IF FIELD BENDING OR STRAIGHTENING OF #6 BARS OR LARGER IS REQUIRED, OR IF A SECOND BEND IS REQUIRED FOR #5 BARS AND SMALLER, HEAT SHALL BE APPLIED FOR BENDING OR STRAIGHTENING. CONTRACTOR SHALL SUBMIT PROCEDURE FOR APPLYING HEAT TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO BENDING OR STRAIGHTENING BARS.

#### STRUCTURAL STEEL:

ALL OTHER PER LATEST EDITION OF ACI 318

#### **GENERAL:**

ALL CONSTRUCTION PER LATEST AISC STEEL CONSTRUCTION MANUAL. ALL MISCELLANEOUS STEEL UNLESS NOTED OTHERWISE SHALL BE ASTM A36 (Fy = 36 KSI). IF CALLED OUT ON PLANS, Fy = 50 KSI PLATE STEEL SHALL BE ASTM A529 OR A572.

WITH AN ASTM SPECIFICATION MARK OR TAG PER IBC SEC. 2203.1. PROTECT ALL EXPOSED STEEL BELOW GRADE WITH HE107 ASPHALT EMULSION PRODUCT. EXTEND A MINIMUM OF 2 INCHES ABOVE FINISHED GRADE.

ALL STRUCTURAL ROLLED STEEL MEMBERS WITH FY GREATER THAN 36 KSI ARE TO BE IDENTIFIED

Applies unless noted otherwise on drawings

BOLTS:

ALL BOLTS SHALL BE ASTM A325 (TYPE 1) SHALL BE TESTED AND INSTALLED AS SLIP CRITICAL CONNECTIONS WITH THREADS INCLUDED IN SHEAR PLANE. BOLT INSTALLATION SHALL BE PER THE 2009 RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS. HIGH STRENGTH WASHERS WHERE NOTED SHALL BE PER ASTM F436 (TYPE 1). DTI WASHERS SHALL BE PER ASTM F959. NUTS SHALL BE PER ASTM A563 GRADE DH OR ASTM A194 GRADE 2H. IT IS ACCEPTABLE TO USE OVERSIZE HOLES OR SLOTTED HOLES PER AISC SPECIFICATIONS.

#### WELDING:

UNLESS NOTED OTHERWISE, ALL WELDS PER LATEST EDITION OF THE AWS STANDARDS. ALL WELDING SHALL BE PERFORMED BY WELDERS HOLDING VALID CERTIFICATES AND HAVING CURRENT EXPERIENCE IN THE TYPE OF WELD SHOWN ON THE DRAWINGS OR NOTES. CERTIFICATES SHALL BE THOSE ISSUED BY AN ACCEPTED TESTING AGENCY. ALL WELDING DONE BY E70 SERIES UNLESS NOTED OTHERWISE. FOR GRADE 60 REINFORCING BARS, USE E90 SERIES. THESE DRAWINGS DO NOT DISTINGUISH BETWEEN SHOP AND FIELD WELDS; THE CONTRACTOR MAY SHOP WELD OR FIELD WELD AT THEIR DISCRETION. SHOP WELDS AND FIELD WELDS SHALL BE SHOWN ON THE SHOP DRAWINGS SUBMITTED FOR REVIEW.

SCREW FASTENERS: ALL SCREWS 3/4" MIN. LENGTH U.N.O.

ALL STEEL SCREWS SHALL BE IN ACCORDANCE WITH AISI-GENERAL AND AISI-NAS. Fy = 50 ksi AND Ft = 70 ksi FOR ALL SCREWS.

1. MINIMUM SPACING OF SCREWS SHALL NOT BE LESS THAN 3 TIMES THE NOMINAL DIAMETER. MINIMUM EDGE DISTANCE FOR SCREWS SHALL NOT BE LESS THAN 1.5 TIMES THE NOMINAL 2. THE HEAD OF THE SCREW OR WASHER SHALL HAVE A DIAMETER, DW, OF NOT LESS THAN 5/16". WASHERS SHALL BE AT LEAST 0.05" THICK.

SCREW NUMBER DESIGNATION	8	10	12 (12–14)	14
NOMINAL DIAMETER	0.164"	0.190"	0.216"	0.250"

#### COLD FORMED STRUCTURAL STEEL FRAMING:

GENERAL:

ALL COLD FORMED STRUCTURAL STEEL FRAMING AND COMPONENTS INDICATED ON THE STRUCTURAL DRAWINGS SHALL BE FABRICATED AND FRECTED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH THE LATEST EDITION OF AISI'S "SPECIFICATIONS FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS". FRAMING:

ALL WELDING TO BE PERFORMED BY WELDERS HOLDING A VALID CERTIFICATE AND HAVING CURRENT EXPERIENCE IN LIGHT GAUGE STEEL. CERTIFICATES SHALL BE ISSUED BY AN ACCEPTED TESTING AGENCY. DO NOT NOTCH FLANGES OF MEMBERS WITHOUT EXPRESSED APPROVAL OF THE ENGINEER OF RECORD. ALL WELDING TO BE PERFORMED IN AN APPROVED FABRICATORS SHOP.

COLD FORMED STRUCTURAL STEEL MEMBERS SHALL HAVE A MINIMUM YIELD STRENGTH OF FY = 55,000 PSI. COLD FORM STRUCTURAL STEEL SHALL BE GALVANIZED PER ASTM A653 WITH A MINIMUM COATING DESIGNATION OF G90. THE GRADE AND THE ASTM SPECIFICATION NUMBER OR OTHER SPECIFICATION DESIGNATION SHALL BE INDICATED BY PAINTING, DECAL, TAGGING OR OTHER SUITABLE MEANS ON EACH BUNDLE OF FABRICATED ELEMENTS. IT IS ACCEPTABLE TO USE THE FY SHOWN ON THE MILL CERTIFICATION IN LIEU OF THE "ORDERED" FY.

THE STEEL PURLINS DO NOT HAVE TO BEAR DIRECTLY ON THE STEEL BEAMS. IT IS ACCEPTABLE AND COMMON FOR THE PURLINS TO NEED TO BE RAISED A LITTLE (1/2" MAXIMUM) TO ASSIST IN LEVELING AND 'TUNING' THE STRUCTURE. THE LOAD BETWEEN THE PURLIN AND THE BEAM IS TRANSFERRED ENTIRELY THROUGH THE SCREWS CONNECTING THE PURLIN TO THE PURLIN CLIP. THE PURLIN DOES NOT NEED TO BEAR ON THE BEAM.

MILS	GAGE NO.	MIN DELIVERED THICKNESS	DESIGN THICKNESS
12	30	0.0120"	0.0126"
14	29	0.0132"	0.0139"
16	26	0.0174"	0.0183"
33	20	0.0336"	0.0354"
43	18	0.0447"	0.0470"
54	16	0.0561"	0.0590"
68	14	0.0713"	0.0750"
97	12	0.0998"	0.1050"
118	10	0.1283"	0.1350"
150	9	0.1430"	0.1500"

#### **GENERAL NOTES:**

THE STRUCTURAL CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED STRUCTURE. EXCEPT WHERE NOTED, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. THE STRUCTURAL ENGINEER OF RECORD SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S MEANS, METHODS, TECHNIQUES, SEQUENCES FOR PROCEDURE OF CONSTRUCTION, OR THE SAFETY PRECAUTIONS AND THE PROGRAMS INCIDENT THERETO (NOR SHALL OBSERVATION VISITS TO THE SITE INCLUDE INSPECTION OF THESE ITEMS).

WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDA. ANY ENGINEERING DESIGN, PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW, SHALL BEAR THE SEAL OF A REGISTERED ENGINEER RECOGNIZED BY THE BUILDING CODE JURISDICTION OF THIS PROJECT.

NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT. AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN.

CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS AND SHALL RESOLVE ANY DISCREPANCY PRIOR TO START OF CONSTRUCTION. WITH THE ARCHITECT. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR CIVIL, PLUMBING AND ELECTRICAL ITEMS WITH THE APPROPRIATE TRADE DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.

TYPICAL DETAILS MAY NOT NECESSARILY BE CUT ON PLANS, BUT APPLY UNLESS NOTED

CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED CONSTRUCTION. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT.

OPTIONS ARE FOR CONTRACTOR'S CONVENIENCE. IF AN OPTION IS CHOSEN, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CHANGES, APPROVALS AND THE COORDINATION OF THE WORK WITH ALL RELATED TRADES AND SUPPLIERS.

#### SPECIAL INSPECTION - STRUCTURAL ONLY:

FOR SPECIAL STRUCTURAL INSPECTIONS: CONTACT CARUSO TURLEY SCOTT, INC. AT 480-774-1700 PRIOR TO CONSTRUCTION:

SPECIAL INSPECTIONS SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A STATE REGISTERED STRUCTURAL ENGINEER WHO IS FAMILIAR WITH THE STRUCTURAL DESIGN OF THIS PROJECT. THE SUPERVISING STRUCTURAL ENGINEER SHALL SEAL THE SPECIAL INSPECTION

SPECIAL INSPECTION IS TO BE PROVIDED FOR THE ITEMS LISTED BELOW IN ADDITION TO THE INSPECTIONS CONDUCTED BY THE BUILDING JURISDICTION. "SPECIAL STRUCTURAL INSPECTION" SHALL NOT RELIEVE THE OWNER OR THEIR AGENT FROM REQUESTING THE BUILDING JURISDICTION INSPECTIONS REQUIRED BY SECTION 109 OF THE INTERNATIONAL BUILDING CODE. SPECIAL INSPECTION IS REQUIRED PER CHAPTER 17 FOR THE FOLLOWING:

DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR:

A. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK ASSIGNED TO BE CERTAIN IT CONFORMS TO THE APPROVED DESIGN DRAWINGS AND SPECIFICATION. B. THE SPECIAL INSPECTOR IS NOT AUTHORIZED TO APPROVE DEVIATIONS FROM THE DESIGN DRAWINGS OR SPECIFICATIONS, AND ALL DEVIATIONS MUST BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO PROCEEDING WITH THE WORK. ALL REQUESTS FOR DEVIATIONS SHALL BE INITIATED BY THE CONTRACTOR VIA WRITTEN REQUEST FOR INFORMATION (RFI). THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE ENGINEER OR ARCHITECT OF RECORD. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, TO THE DESIGN AUTHORITY AND THE BUILDING OFFICIAL. D. CONTRACTOR SHALL PROVIDE THE SPECIAL INSPECTOR ACCESS TO ALL ITEMS REQUIRING

SPECIAL INSPECTION. ACCESS SHALL BE PROVIDED BY IN-PLACE LADDERS, SCAFFOLDS, LIFTS

AND/OR OTHER EQUIPMENT OPERATED BY THE CONTRACTOR'S PERSONNEL AS REQUIRED FOR

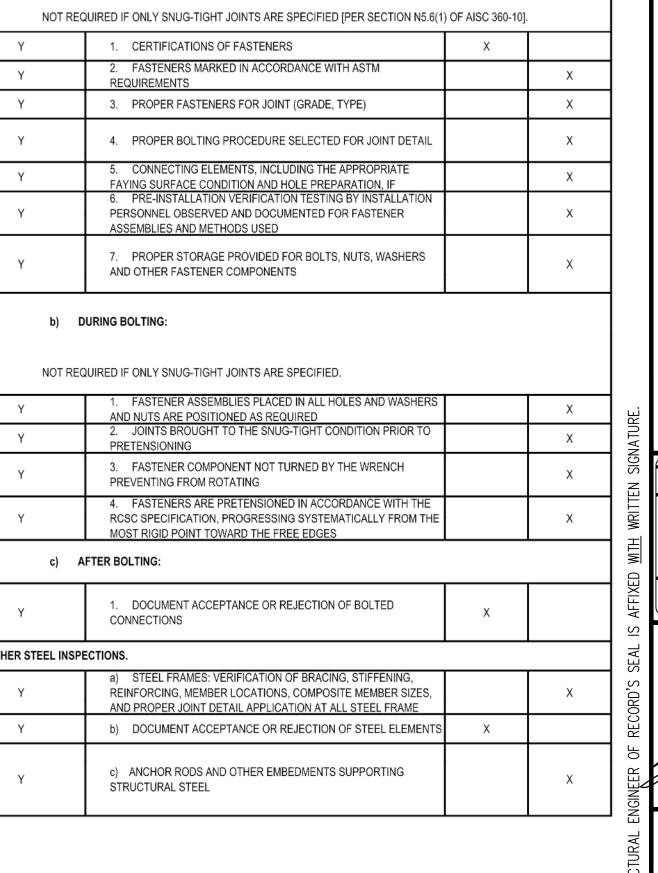
SAFÉ OBSERVATION. INSPECTOR IS NOT RESPONSIBLE OR AUTHORIZED TO OPERATE UPON COMPLETION OF THE ASSIGNED WORK THE ENGINEER OR ARCHITECT SHALL COMPLETE AND SIGN THE APPROPRIATE FORMS CERTIFYING THAT TO THE BEST OF THEIR KNOWLEDGE THE WORK IS IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE CODE.

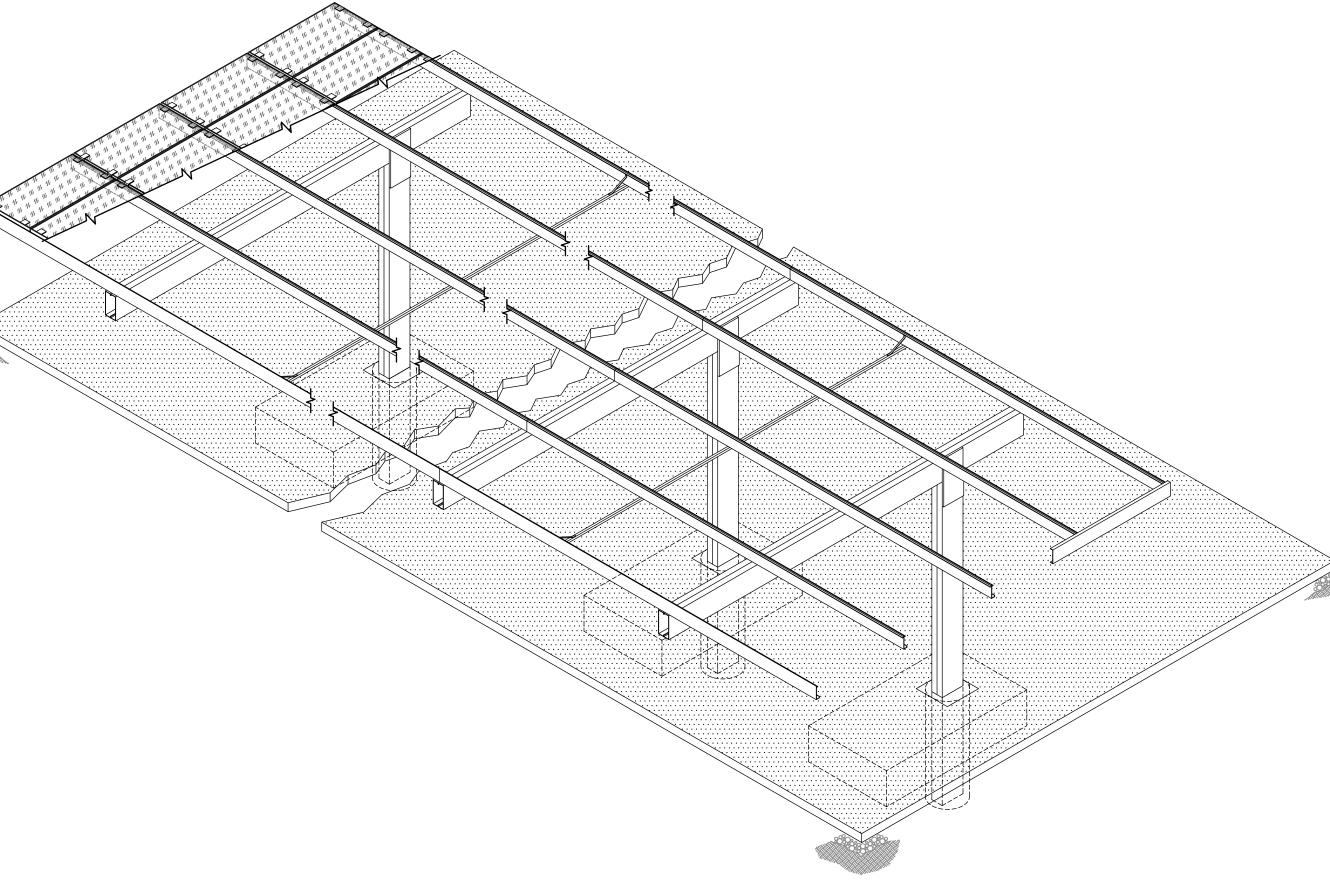
RE	QUIRED VERIFICATION AND INSPECTION OF CONCRETE CONST	TRUCTION	
SPECIAL INSPECTION REQUIRED	VERIFICATION AND	FREQUENCY C	F INSPECTION
Y(YES)/N(NO)	INSPECTION	CONTINUOUS	PERIODIC
Υ	INSPECTION OF REINFORCING STEEL AND PLACEMENT.		Х
Υ	2. VERIFYING USE OF REQUIRED DESIGN MIX.		Х
Y	3. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1705.2.2, ITEM 2B.	Х	
	QUIRED FOR THE PLACEMENT OF FOUNDATION CONCRETE (FOR BUILDING 500 PSI). INSPECTION OF FOUNDATION REINFORCING IS REQUIRED PER "I		

REQUIRED VERIFICATION AND INSPECTION OF STRUCTURAL STEEL CONSTRUCTION

SPECIAL INSPECTION REQUIRED	VERIFICATION AND INSPECTION	FREQUENCY O	F INSPECTIO
Y (YES) / N (NO)	VERNI IDATION AND INGI ECTION	CONTINUOUS	PERIODIO
1. INSPECTION OF WEL	LDING.		
a)	PRIOR TO WELDING AND DURING WELDING:		
Υ	VERIFY WELDING PROCEDURES (WPS) AND CONSUMABLE CERTIFICATES	Х	
Υ	2. MATERIAL IDENTIFICATION (TYPE / GRADE)		Х
Υ	3. WELDER IDENTIFICATION – GC SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED.		Х
Υ	<ol> <li>FIT-UP GROOVE WELDS (INCLUDING JOINT GEOMETRY) –JOINT PREPARATIONS, DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT</li> </ol>		Х
Y	5. FIT-UP OF FILLET WELDS – DIMENSIONS (ALIGNMENT, GAPS AT ROOT), CLEANLINESS (CONDITION OF STEEL SURFACES)		Х
Υ	6. USE OF QUALIFIED WELDERS		Х
Υ	7. CONTROL AND HANDLING OF WELDING CONSUMABLES – PACKAGING AND EXPOSURE CONTROL		Х
Υ	8. NO WELDING OVER CRACKED TACK WELDS		Х
Y	8. ENVIRONMENTAL CONDITIONS – WIND SPEED WITHIN LIMITS, PRECIPITATION AND TEMPERATURE		Х
Υ	<ol> <li>WPS FOLLOWED – SETTINGS ON WELDING EQUIPMENT, TRAVEL SPEED, SELECTED WELDING MATERIALS, SHIELDING GAS</li> </ol>		Х
Y	10. WELDING TECHNIQUES – INTERPASS AND FINAL CLEANING, EACH PASS WITHIN PROFILE LIMITATIONS, EACH PASS MEETS QUALITY REQUIREMENTS		Х
b) .	AFTER WELDING:  1. WELDS CLEANED		X
Y	SIZE, LENGTH, AND LOCATION OF WELDS	Х	
Υ	WELDS MEET VISUAL ACCEPTANCE CRITERIA – CRACK PROHIBITION, WELD/BASE-METAL FUSION, CRATER CROSS	Х	
Υ	4. ARC STRIKES	Х	
Y	5. K-AREA	х	
Υ	6. REPAIR ACTIVITIES	Х	

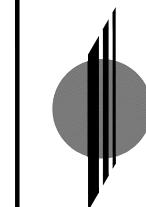
a)	PRIOR TO BOLTING:		
NOT F	REQUIRED IF ONLY SNUG-TIGHT JOINTS ARE SPECIFIED [PER SECTION N5.6(1) (	OF AISC 360-10]	
Υ	CERTIFICATIONS OF FASTENERS	Х	
Υ	FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS		Х
Υ	3. PROPER FASTENERS FOR JOINT (GRADE, TYPE)		Х
Υ	PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL		Х
Υ	5. CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF		Х
Υ	PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED		х
Y b)	7. PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS  DURING BOLTING:		×
<b>b)</b> Not f	AND OTHER FASTENER COMPONENTS  DURING BOLTING:  REQUIRED IF ONLY SNUG-TIGHT JOINTS ARE SPECIFIED.		х
b)	AND OTHER FASTENER COMPONENTS  DURING BOLTING:  REQUIRED IF ONLY SNUG-TIGHT JOINTS ARE SPECIFIED.  1. FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHERS AND NUTS ARE POSITIONED AS REQUIRED		
<b>b)</b> Not f	AND OTHER FASTENER COMPONENTS  DURING BOLTING:  REQUIRED IF ONLY SNUG-TIGHT JOINTS ARE SPECIFIED.  1. FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHERS		X
<b>b)</b> Not f	AND OTHER FASTENER COMPONENTS  DURING BOLTING:  REQUIRED IF ONLY SNUG-TIGHT JOINTS ARE SPECIFIED.  1. FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHERS AND NUTS ARE POSITIONED AS REQUIRED  2. JOINTS BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO		X
b)  NOT F	DURING BOLTING:  REQUIRED IF ONLY SNUG-TIGHT JOINTS ARE SPECIFIED.  1. FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHERS AND NUTS ARE POSITIONED AS REQUIRED  2. JOINTS BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO PRETENSIONING  3. FASTENER COMPONENT NOT TURNED BY THE WRENCH		X X X
b) NOT F Y Y	DURING BOLTING:  REQUIRED IF ONLY SNUG-TIGHT JOINTS ARE SPECIFIED.  1. FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHERS AND NUTS ARE POSITIONED AS REQUIRED  2. JOINTS BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO PRETENSIONING  3. FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTING FROM ROTATING  4. FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE		X X





REPRESENTATIVE SEMI-CANTILEVERED SOLAR CANOPY ISOMETRIC

REFER TO PLAN AND SECTION VIEWS ON S2 FOR PROJECT SPECIFIC DETAILS



**CARUSO TURLEY** SCOTT consulting

engineers 1215 W. Rio Salado Pkwy Suite 200 Tempe, Arizona 85281 (480) 774-1700 (480) 774-1701 FAX www.ctsaz.com

structural

1963 - 2021 YEARS OF **EXCELLENCE** 

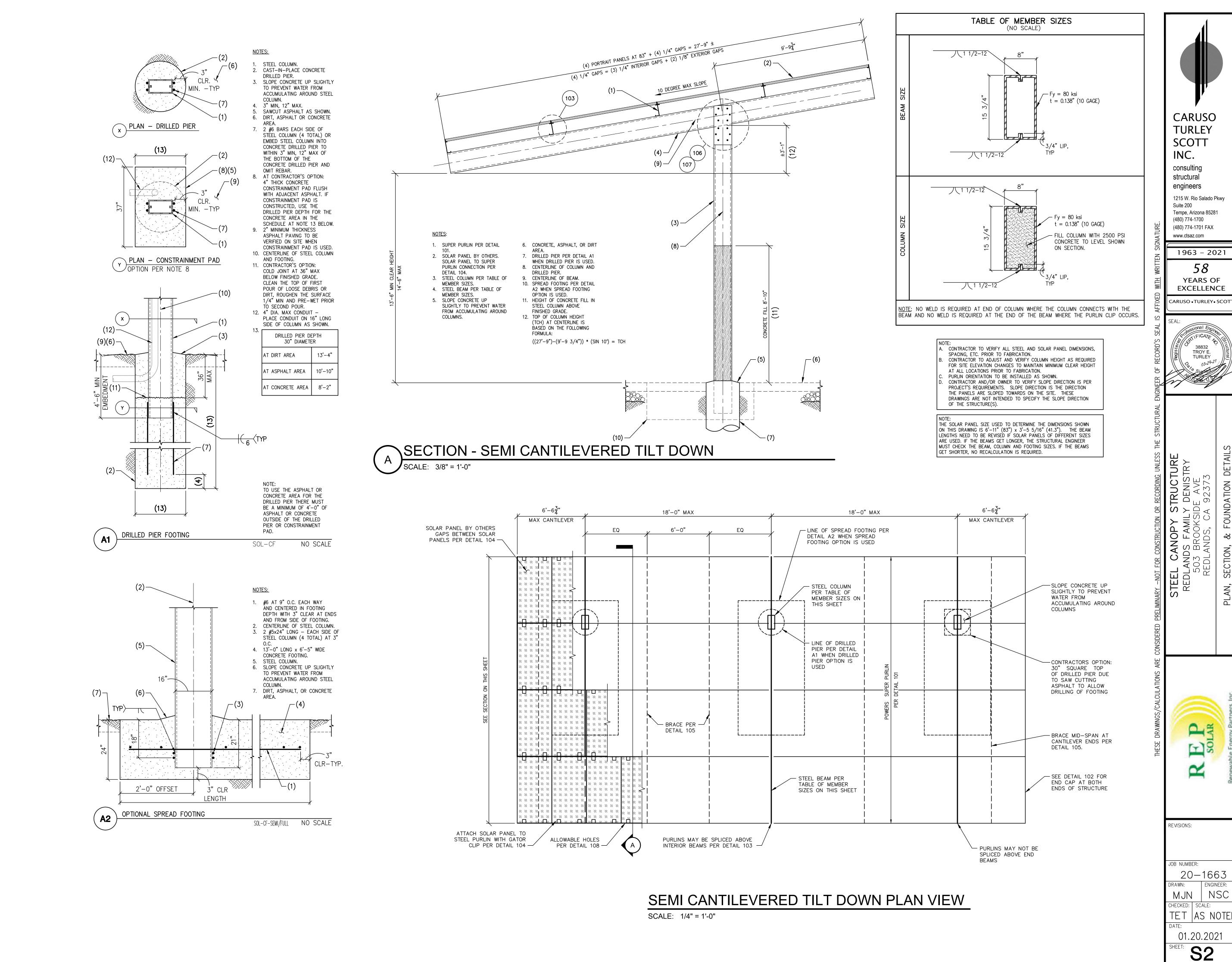
CARUSO •TURLEY• SCO



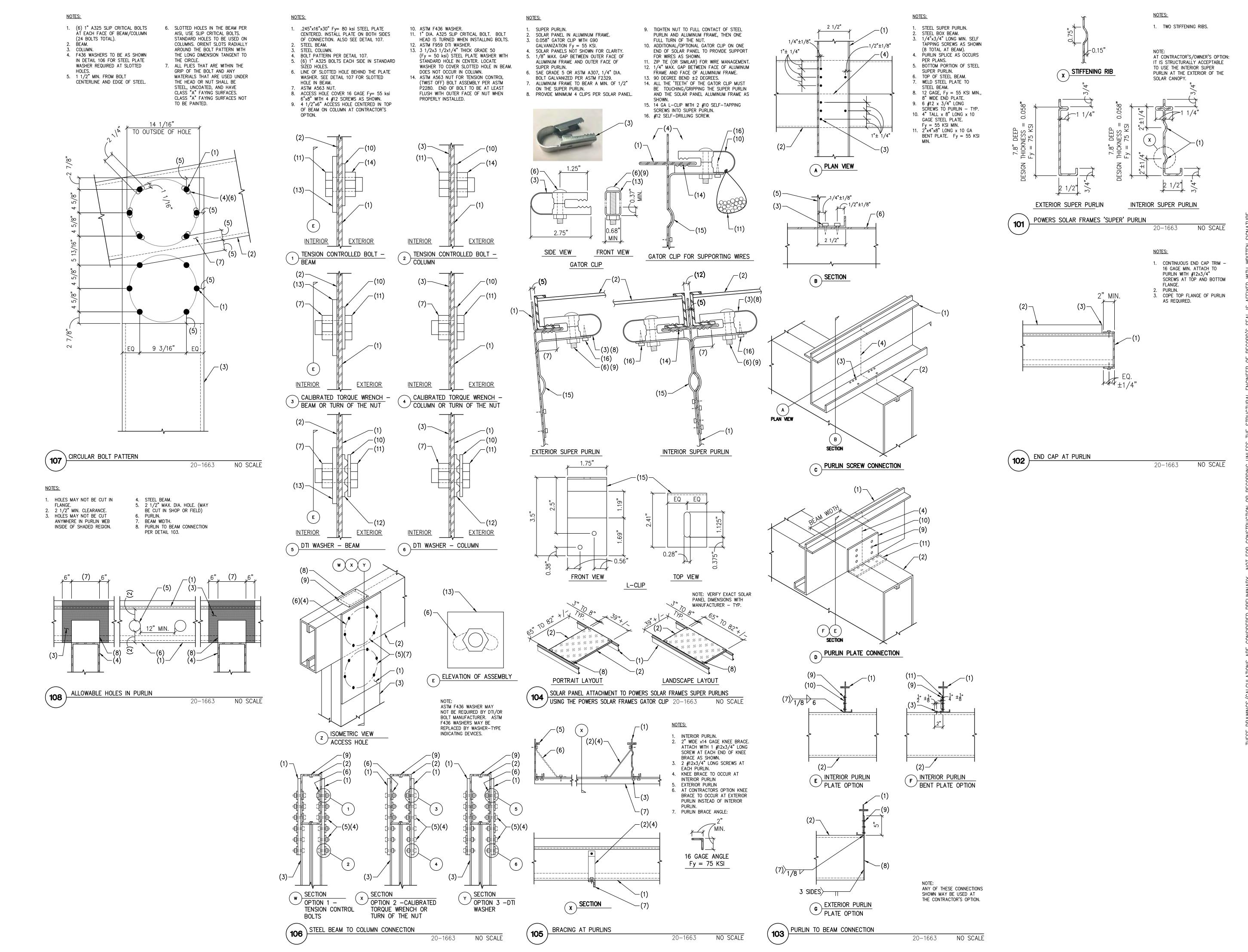


B NUMBER 20-1663 ENGINEER: RAWN: NSC CHECKED: | SCALE: TET AS NOTE

01.20.2021



\Users\dft03\Documents\MY JOBS\201663 redlands family dentistry\201663-S1\_S2.dwg, 3/26/;



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EL CANOPY STRUCTURE
DLANDS FAMILY DENISTRY
503 BROOKSIDE AVE
REDLANDS, CA 92373
DETAILS

REDL FI

REP SOLAR SOLAR Renewable Energy Partners, Inc.

REVISIONS:

JOB NUMBER:

20-1663

DRAWN: ENGINEER:

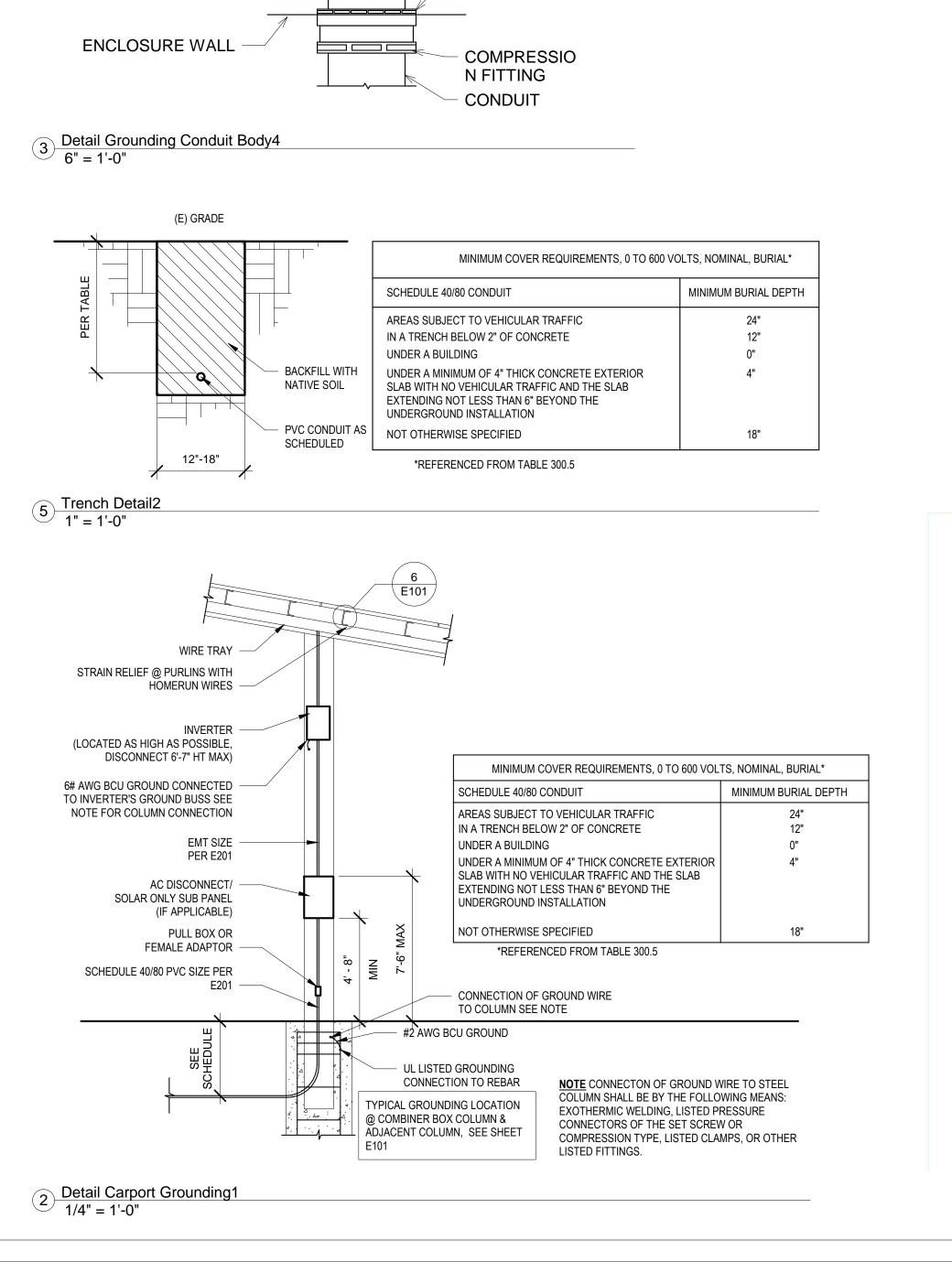
MJN NSC

CHECKED: SCALE:

TET AS NOTE

DATE:

DATE:
01.20.2021
SHEET: **\$3** 



TIE-WRAP @ EACH WIRE CLIP

USE-2 WIRE TYP

6 USE-2 Wire Securing1 12" = 1'-0"

CONTINUOUS **GROUND STRIP** 

INSULATION AT LUG

GROUND BUSHING

WITH LAY-IN LUG

USE WIRE

- PURLIN FRAME

- 10-24 SS NUT /W STAR WASHER

ILSCO #4 LAY

IN LUG TINNED

STAR WASHER

10-24 SS BOLT TORQUE

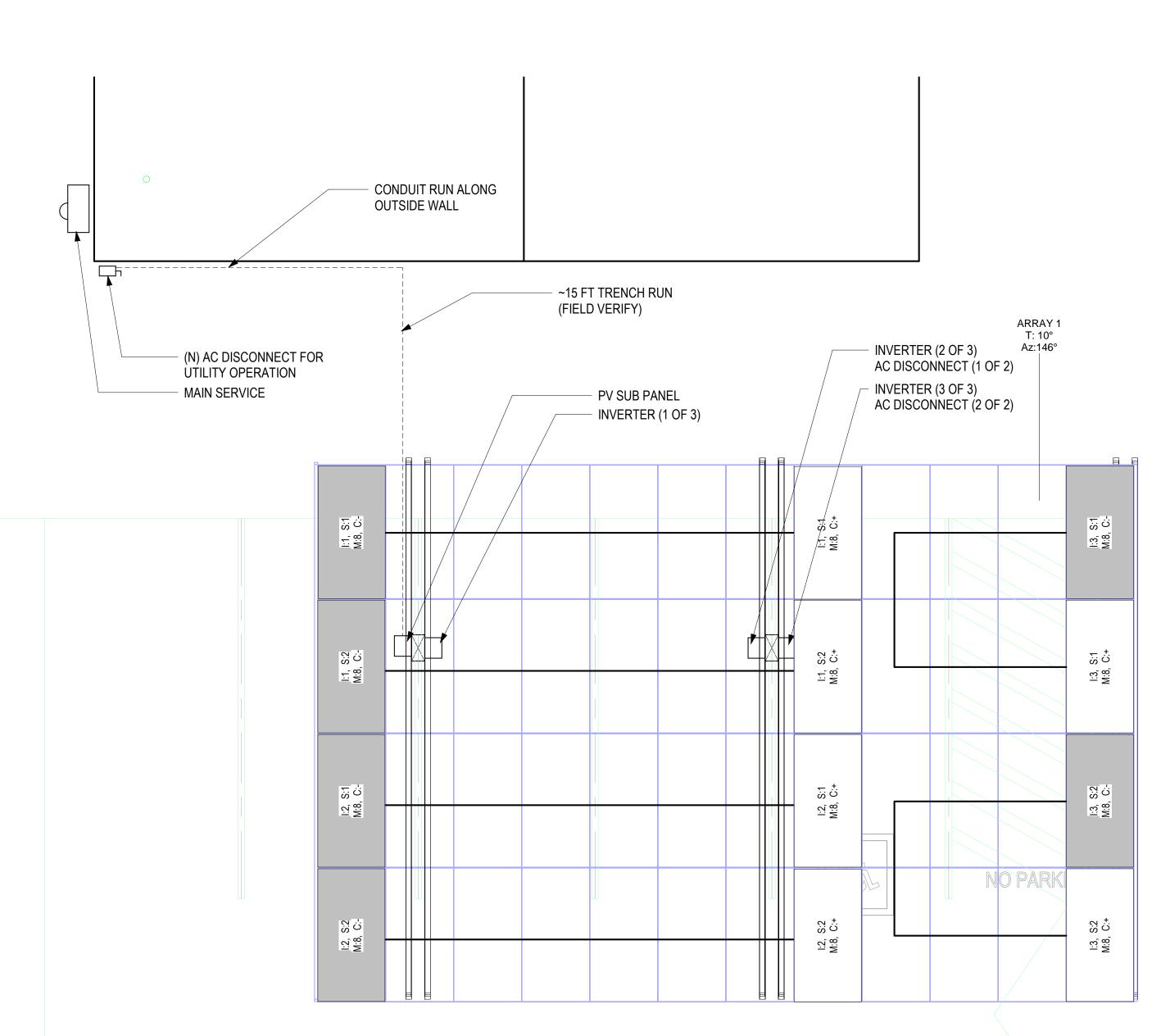
TO 18 FT-LBS

Detail Grounding Lay-in Lug3
6" = 1'-0"

REPRESENTATIVE

CONDUCTORS

LOCK NUT



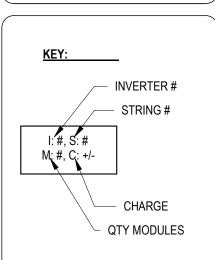
1 Carport 1 Wiring Layout
1/4" = 1'-0"

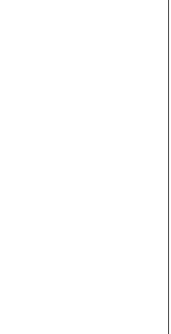
Tilt° Azimuth Count Array Name 10 146 48 ARRAY 1

Renewable Energy Partners, Inc. RENEWABLE ENERGY PARTNERS 170 MAPLE ST, STE 105 **CORONA, CA 92878** www.RENEWEPI.com 855-519-6633

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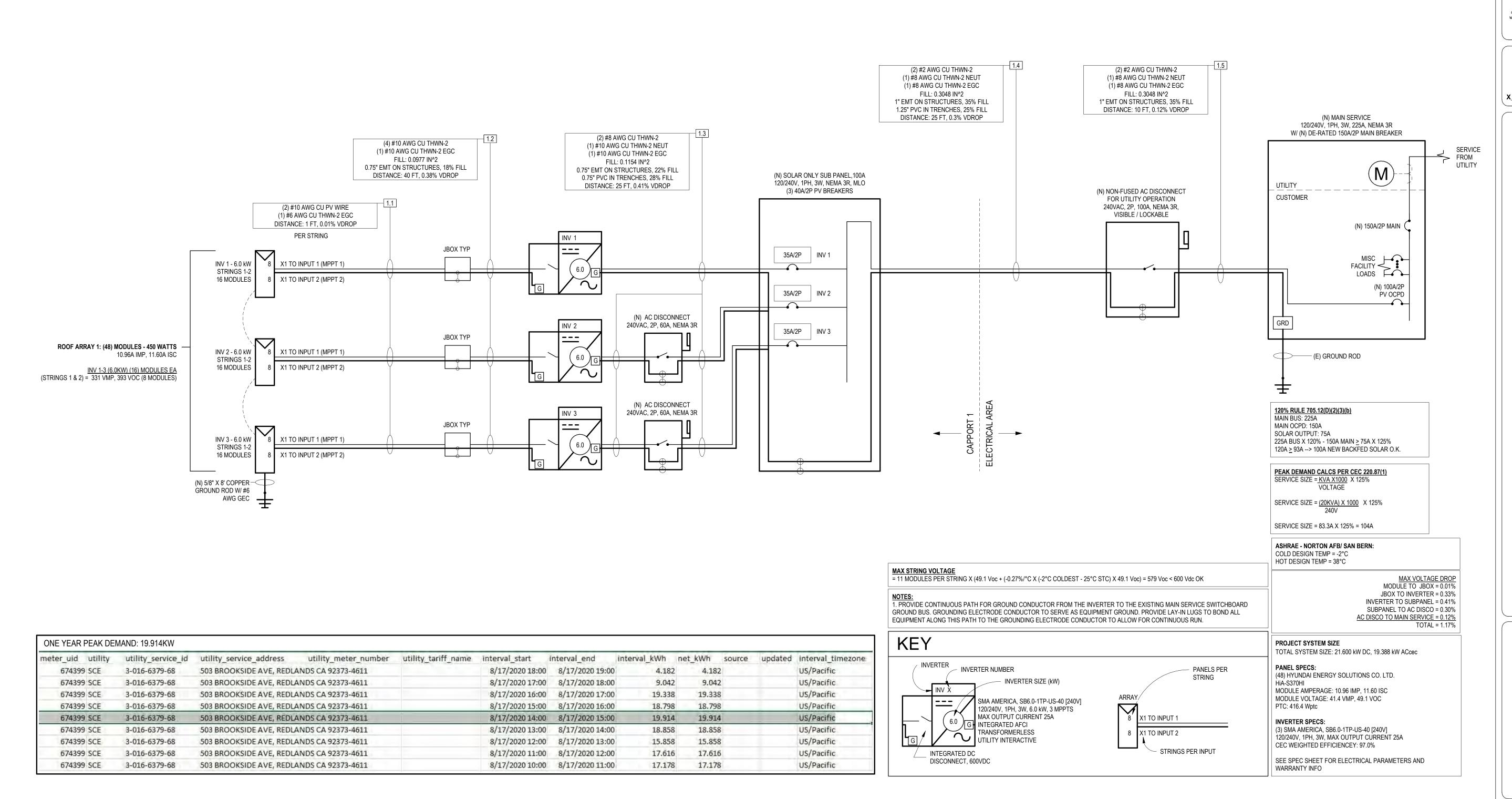
503 Brookside Ave. Redlands, CA 92373

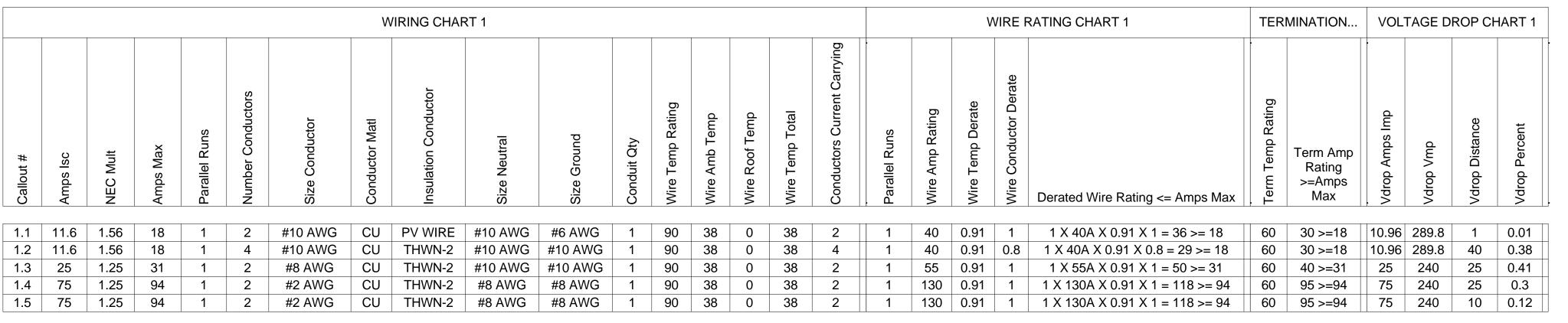
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**Electrical Layout** 

To scale on 24x36 paper

4/27/2021 4:44:51 PM





1 System 1 Single Line Diagram 12" = 1'-0"

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Redlands Family Dentistry

503 Brookside Ave. Redlands, CA 92373

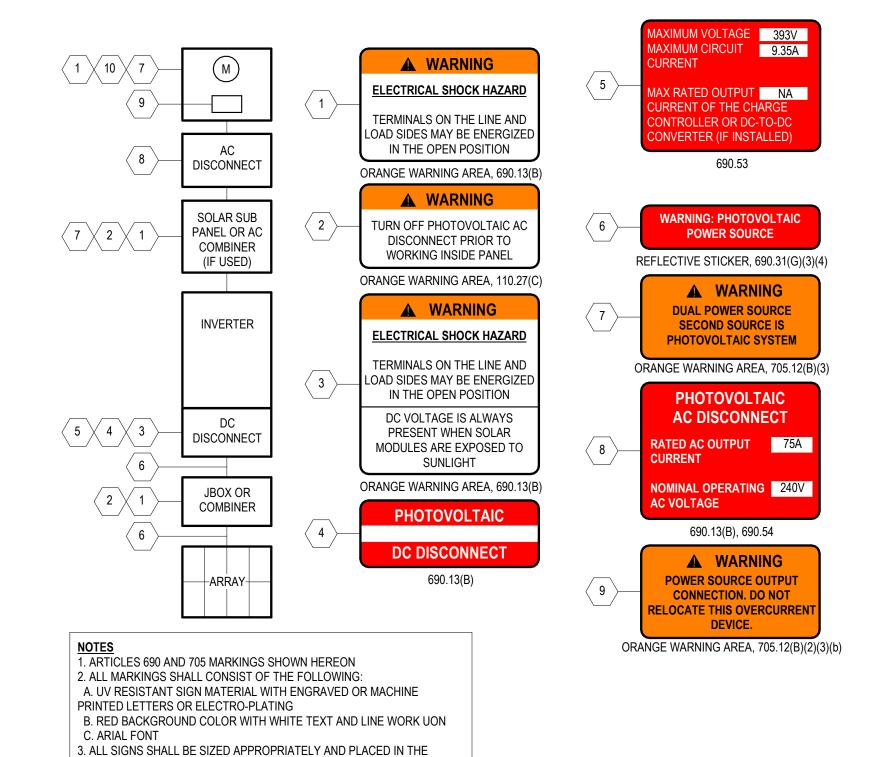
No. Description Date

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Single Line Diagram

E201

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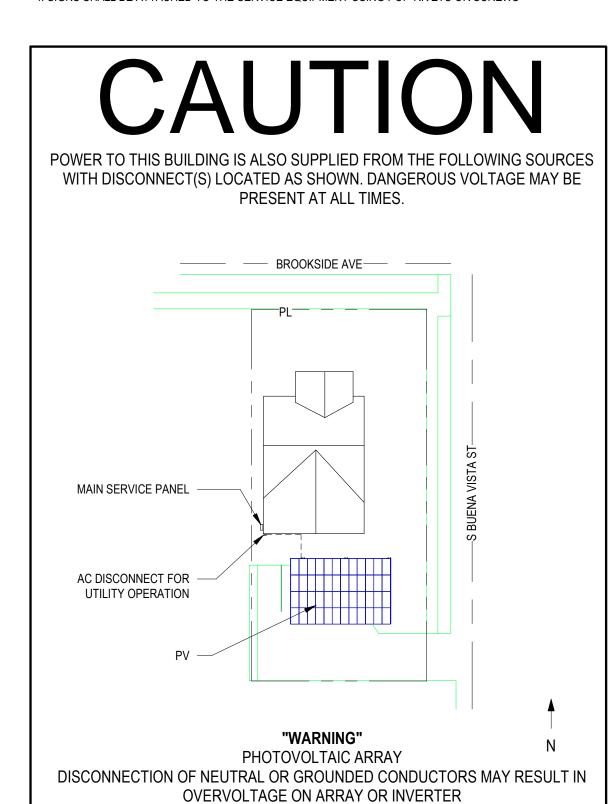


A. UV RESISTANT SIGN MATERIAL WITH ENGRAVED OR MACHINE PRINTED LETTERS OR ELECTRO-PLATING
B. RED BACKGROUND COLOR WITH WHITE TEXT AND LINE WORK

C. ARIAL FONT

3. ALL SIGNS SHALL BE SIZED APPROPRIATELY AND PLACED IN THE LOCAT

ALL SIGNS SHALL BE SIZED APPROPRIATELY AND PLACED IN THE LOCATIONS SPECIFIED.
 SIGNS SHALL BE ATTACHED TO THE SERVICE EQUIPMENT USING POP-RIVETS OR SCREWS



6"X8" TYP - CEC 705.10

System 1\_ Signag 12" = 1'-0"

LOCATIONS SPECIFIED.

4. SIGNS SHALL BE ATTACHED TO THE SERVICE EQUIPMENT USING

PERMANENT ADHESIVE, POP-RIVETS, OR SCREWS

REP

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> 503 Brookside Ave. Redlands, CA 92373

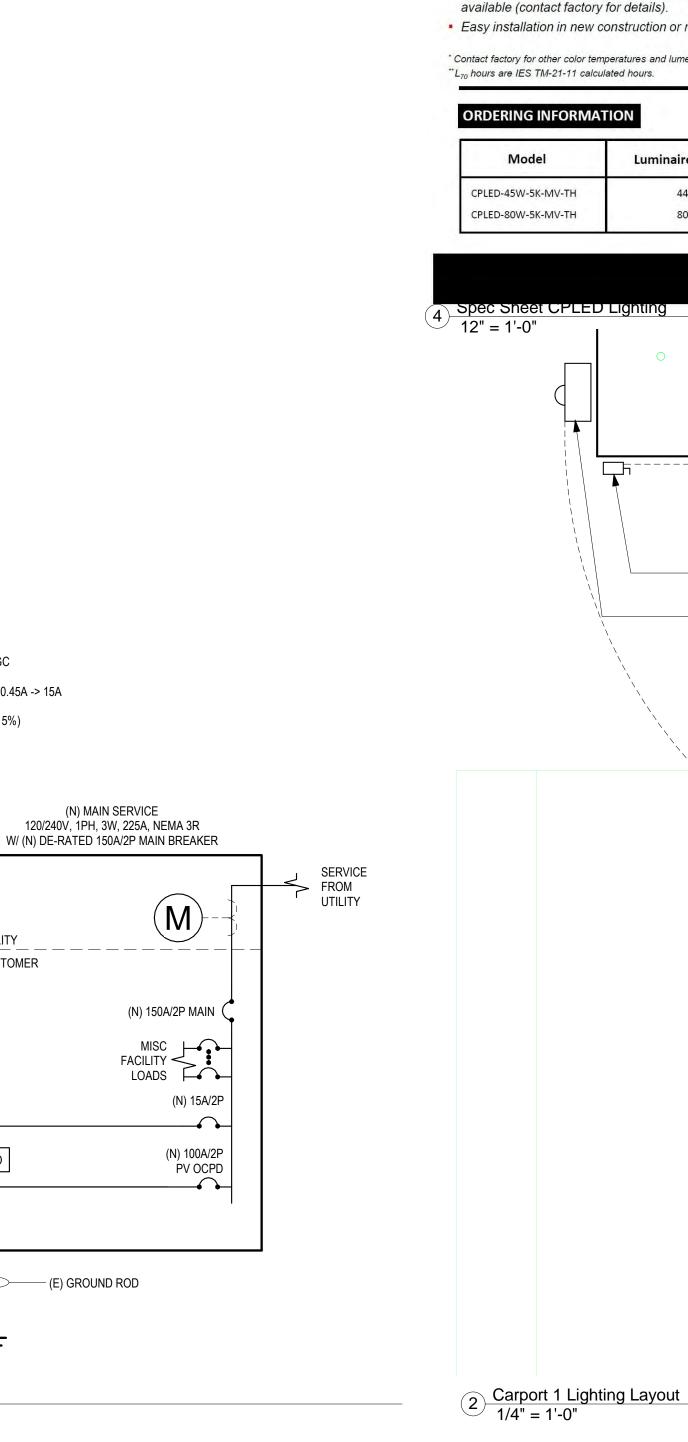
No. Description Date

RENEWABLE ENERGY PARTNERS

Signage

E301

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(2) #10 AWG THWN

MAX LOAD = 0.36A

0.75" EMT CONDUIT

(2) LIGHT FIXTURES CPLED-45W-5K-MV-TH

240V, 0.18A

1 Single Line Diagram Lighting 12" = 1'-0"

(1) #10 AWG THWN-2 EGC

(FILL = 0.0633, FILL% = 15%) VDROP = 0.04% (75FT)

OCPD = 0.36A X 125% = 0.45A -> 15A

JUNCTION

BOX

(2) #10 AWG THWN

MAX LOAD = 0.36A

0.75" EMT CONDUIT

(1) #10 AWG THWN-2 EGC

(FILL = 0.0633, FILL% = 15%) VDROP = 0.04% (75FT)

OCPD = 0.36A X 125% = 0.45A -> 15A

UTILITY CUSTOMER

#### CPLED-TH 45W & 80W LED Canopy Luminaires CPLED-TH 45W & 80W LED Canopy Luminaires

Project:	
Туре:	
Catalog #:	



The CPLED-TH LED canopy light is an ideal solution for illuminating parking garages, storage areas, stairwells, and other applications requiring low-profile luminaire that can be surface- or pendant-mounted. With a die cast aluminum housing and a polycarbonate lens, the CPLED will stand up to many years of punishing environmental conditions. Highefficacy, long-life LEDs provide both energy and maintenance cost savings compared to traditional canopy lights with HID, fluorescent or incandescent lamps.

#### **FEATURES**

- Available in 5000k (cool white) color temperature.\*
- Long-life LEDs provide a minimum of 60,000 hours of operation with at least 70% of initial lumen output (L<sub>70</sub>).\*\*
- CPLED-TH-45W delivers 4,948 lumens and 112 lumens per watt (LPW), and CPLED-TH-80W delivers 9,548 lumens and 120 LPW.\*
- Universal 120-277 AC voltage (50-60Hz) is standard.
- 0-10vdc dimming capability is standard.
- Power factor > 0.90.
- Total harmonic distortion < 20%.</li>
- Color rendering index > 80. 10kV surge protector is standard.
- Die cast aluminum housing with durable, dark bronze, powder coat paint.
- Polycarbonate lens.
- Removable, threaded plugs for side attachment of ½" rigid
- electrical conduit. Optional PIR (passive infrared) occupancy sensors are
- Easy installation in new construction or retrofit.

\* Contact factory for other color temperatures and lumen packages. \*\*L<sub>70</sub> hours are IES TM-21-11 calculated hours.

**Luminaire Watts** 

#### **WARRANTY & LISTINGS**

- cULus listed for wet locations (-40°C to 40°C / -40°F to 104°F).
- IP65 rated. DLC approved.
- Complies with FCC Part 15, class B. 5-year warranty on all electronics and housing.

#### MOUNTING OPTIONS

screwing the luminaire to the canopy.

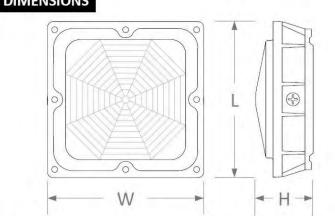
- Junction box mounting plate is standard. Luminaire can also be directly surface-mounted to canopies by removing the lens, drilling holes in the cast housing, and
- Threaded hole on back of luminaire for 3/4" rigid electrical conduit also provides for pendant-mounting.

#### **DIMENSIONS**

**Luminaire Lumens** 

4,948

9,548



	Length (L)	Width (W)	Height (H)	Weight
CPLED-45W	10"	10"	3 5/8"	5.6 lbs.
CPLED-80W	14"	14"	4"	10.0 lbs

**Color Temperature** 

5K = 5000k

5K = 5000k

**Lumens Per Watt** 

112

120

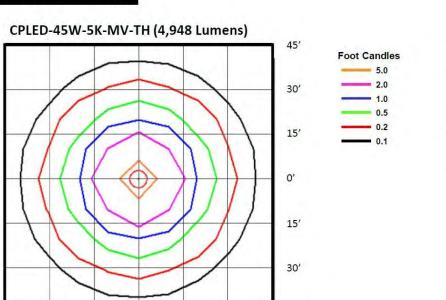
#### **ELECTRICAL**

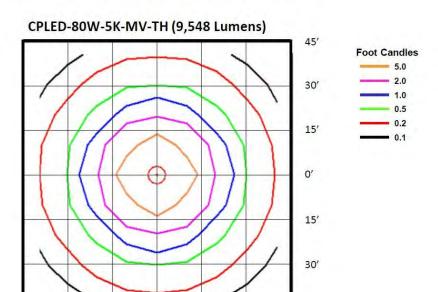
Madel	Color	CDI 1	Luminaire	Luminaire	Lumens	Input	Inpu	t Curren	t (A)	Power	TUD3	L <sub>70</sub>
Model	Temp.	CRI 1	Lumens	Watts	Per Watt	Voltage <sup>2</sup>	120V	240V	277V	Factor	THD <sup>3</sup>	Hours <sup>4</sup>
CPLED-45W-5K-MV-TH	5000k	> 80	4,948	44	112	120-277	0.37	0.18	0.16	> 90%	< 20%	62,000
CPLED-80W-5K-MV-TH	5000k	> 80	9,548	80	120	120-277	0.67	0.33	0.29	> 90%	< 20%	60,000

<sup>1</sup> Color rendering index. <sup>2</sup> All 50-60Hz.

<sup>3</sup> Total harmonic distortion.  $^4$ L<sub>70</sub> refers to the number of hours at which lumen output declines to 70% of the initial level. L<sub>70</sub> hours are IES TM-21-11 calculated hours.

#### **PHOTOMETRIC DATA**





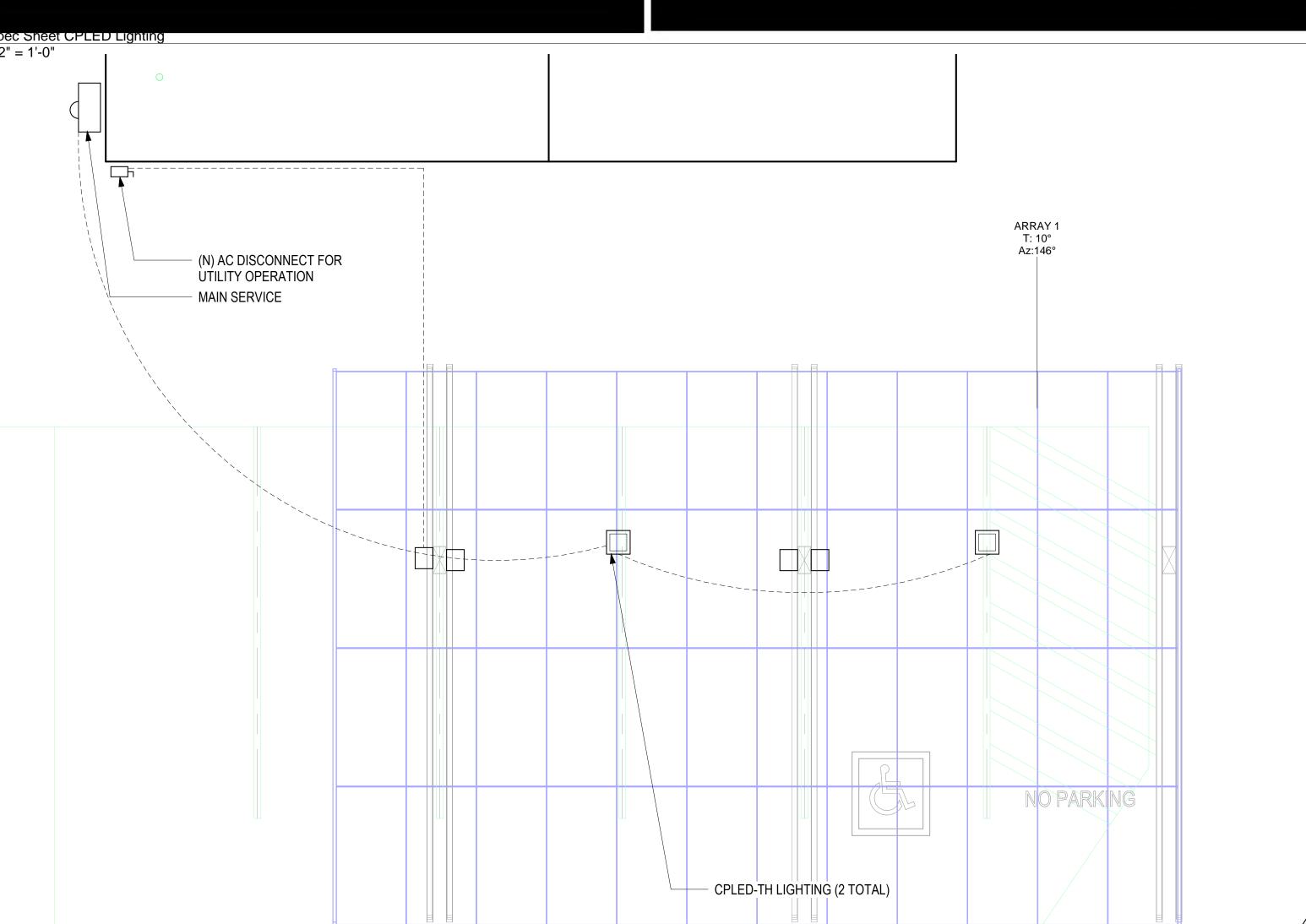
45' 30' 15' 0' 15' 30' 45'

#### BUG Rating: B2-U2-G1

Zone		Lumens	%
FL	- Front - Low (0-30)	673	14%
FM	- Front - Medium (30-60)	1,252	25%
FH	- Front - High (60-80)	454	9%
FVH	- Front - Very High (80-90)	80	2%
Tota	l Forward Light	2,458	50%
BL	- Back - Low (0-30)	672	14%
BM	- Back - Medium (30-60)	1,259	25%
BH	- Back - High (60-80)	462	9%
BVH	- Back - Very High (80-90)	79	2%
Tota	l Back Light	2,472	50%
UL	- Up Light - Low (90-100)	8	0%
UH	- Up Light - High (100-180)	10	0%
Tota	l Up Light	18	0%
Tota	Lumens	4.948	100%

Zone		Lumens	%
FL	- Front - Low (0-30)	1,290	14%
FM	- Front - Medium (30-60)	2,396	25%
FH	- Front - High (60-80)	918	10%
FVH	- Front - Very High (80-90)	152	2%
Tota	l Forward Light	4,757	50%
BL	- Back - Low (0-30)	1,296	14%
BM	- Back - Medium (30-60)	2,407	25%
ВН	- Back - High (60-80)	909	10%
BVH	- Back - Very High (80-90)	145	2%
Tota	l Back Light	4,757	50%
UL	- Up Light - Low (90-100)	17	0%
UH	- Up Light - High (100-180)	18	0%
Tota	l Up Light	35	0%
Tota	Lumens	9,548	100%

Notes: (1) Isofootcandle plots depict initial footcandles at grade. (2) Gridlines represent units of mounting height of 15 feet.





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> RENEWABLE ENERGY **PARTNERS** LIC # C10-989857 EXP: 01/31/2022

RENEWABLE ENERGY PARTNERS

Lighting

4/27/2021 4:44:54 PM

To scale on 24x36 paper



since 2001.

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**ENGINEERING DRAWING (mm)** CS3W-435MS / I-V CURVES Rear View Frame Cross Section A-A 5 10 15 20 25 30 35 40 45 50 5 10 15 20 25 30 35 40 45 50 800 W/m<sup>2</sup> 600 W/m<sup>2</sup> 400 W/m<sup>2</sup> 200 W/m<sup>2</sup> MECHANICAL DATA

#### **ELECTRICAL DATA | STC\***

						•			
CS3W	430MS 4	435MS	440MS	445MS	450MS	455MS	Specification	Data	
Nominal Max. Power (Pmax)	430 W 4	435 W	440 W	445 W	450 W	455 W	Cell Type	Mono-crystalline	
Opt. Operating Voltage (Vmp)	40.3 V 4	40.5 V	40.7 V	40.9 V	41.1 V	41.3 V	Cell Arrangement	144 [2 X (12 X 6) ]	
Opt. Operating Current (Imp)	10.68 A 1	10.75 A	10.82 A	10.89 A	10.96 A	11.02 A	Dimensions	2108 X 1048 X 40 mm	
Open Circuit Voltage (Voc)	48.3 V 4	48.5 V	48.7 V	48.9 V	49.1 V	49.3 V	Dimensions	(83.0 X 41.3 X 1.57 in)	
Short Circuit Current (Isc)	11.37 A 1	11.42 A	11.48 A	11.54 A	11,60 A	11.66 A	Weight	24.9 kg (54.9 lbs)	
Module Efficiency	19.5% 1	19.7%	19.9%	20.1%	20.4%	20.6%	Front Cover	3.2 mm tempered glass	
Operating Temperature	-40°C ~ +	-85°C					Frama	Anodized aluminium alloy,	
Max. System Voltage	1500V (IEC/UL) or 1000V (IEC/UL)				Frame	crossbar enhanced			
Module Fire Performance	TYPE 1 (UL 1703) or						J-Box	IP68, 3 bypass diodes	
Module Fire Performance	CLASS C (IEC 61730)						Cable	4 mm <sup>2</sup> (IEC), 12 AWG (UL)	
Max. Series Fuse Rating 20 A							Cable Langth	Portrait: 500 mm (19.7 in) (+) / 350	
Application Classification	Class A				Cable Length (Including Connector)	mm (13.8 in) (-); landscape: 1400 mm (55.1 in); leap-frog connection: 1670			
Power Tolerance	0 ~ + 10 W							mm (65.7 in)*	
* Under Standard Test Conditions (STC) of irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C.			Connector	T4 series or MC4					
			2000	Per Pallet	27 pieces				

#### **ELECTRICAL DATA | NMOT\***

					455
1 W 32	5 W 3	328 W	332 W	336 W	339
6 V 37	.8 V 3	37.9 V	38.1 V	38.3 V	38.5
4 A 8.	59 A 8	8.65 A	8.71 A	8.76 A	8.82
4 V 45	.6 V	45.8 V	46.0 V	46.2 V	46.4
7 A 9.	21 A	9.26 A	9.31 A	9.36 A	9.41
	.6 V 37 .4 A 8.1 .4 V 45	6 V 37.8 V 64 A 8.59 A 4 V 45.6 V	.6 V 37.8 V 37.9 V 44 A 8.59 A 8.65 A .4 V 45.6 V 45.8 V	.6 V 37.8 V 37.9 V 38.1 V 4 A 8.59 A 8.65 A 8.71 A 4 V 45.6 V 45.8 V 46.0 V	1 W     325 W     328 W     332 W     336 W       6 V     37.8 V     37.9 V     38.1 V     38.3 V       6 A     8.59 A     8.65 A     8.71 A     8.76 A       4 V     45.6 V     45.8 V     46.0 V     46.2 V       7 A     9.21 A     9.26 A     9.31 A     9.36 A

#### **TEMPERATURE CHARACTERISTICS**

technical representatives.

Per Container (40' HQ) 594 pieces

Α	Specification	Data
V	Temperature Coefficient (Pmax)	-0.35 % / °C
Α	Temperature Coefficient (Voc)	-0.27 % / °C
	Temperature Coefficient (Isc)	0.05 % / °C
	Nominal Module Operating Temperature	42 ± 3°C

For detailed information, please contact your local Canadian Solar sales and

#### PARTNER SECTION

\* The specifications and key features contained in this datasheet may deviate slightly from our actual products due to the on-going innovation and product enhancement. Canadian Solar Inc. reserves the  $\,$ right to make necessary adjustment to the information described herein at any time without further Please be kindly advised that PV modules should be handled and installed by qualified people who have professional skills and please carefully read the safety and installation instructions before using our PV

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4 Spec Sheet Trina Module 12" = 1'-0"



\* For detail information, please refer to Installation Manual

CANADIAN SOLAR (USA), INC.

3.0-US / 3.8-US / 5.0-US / 6.0-US / 7.0-US / 7.7-US

direct access via smartphone

interface with fewer components

creates 50% faster setup and

minimizes time in the field

Advanced communication



500' 1000' 2500' Reels 500' 1000' 2500' 5000' Reels

Type Photovoltaic copper conductors are suitable for outdoor rooftop applications without raceways and for use in raceways installed underground in wet locations, and where condensation

Available in 600V and 1000V/2000V. All cables comply with UL's VW-1 (Vertical Wire) Flame Test. Insulation compounds are rated for flame and sunlight-resistance in all sizes and colors.

PV Source and Output conductors that are listed and labeled as Photovoltaic (PV) wire, of any size, are permitted in cable trays located outdoors when installed in accordance with National

and moisture accumulations within the raceway do not exceed 90°C. Applications requiring direct burial is permitted for Type Photovoltaic per UL-854. Applications requiring type Photovoltaic

TYPE PHOTOVOLTAIC / USE-2 / RHH / RHW-2 - COPPER CONDUCTOR - 600V & 1KV/2KV

Standards
Underwriters Laboratories Standards UL-44, UL-854, UL-1581, UL-2556, UL-4703; UL 1685-FT4/EEE 1202 (70,000 Btu/hr) Flame Test (1/0 AWG and larger);

ICEA T-29-520 (210,000 Btu/hr) Flame Test; NEMA WC70/ICEA S-95-658; NFPA 70 (NEC®) Article 690; ARRA 2009 Section 1605 "Buy American"

Compliant; RoHS Compliant; MasterSpec Division 26 Sections 260519, 260523; UL Listing #E-326525

Electrical Code (NEC) 690.31(C)(2). Complies with Flexibility at Low Temperatures and Cold Impact tests at -40°C.

**ENGINEERING SPECIFICATIONS** 

Stranded conductors, uncoated copper per ASTM-B8 and ASTM-B787

Cross-linked polyethylene (XLPE) insulation per UL-854, UL-4703, UL-44

conductor, temperatures shall not exceed 90°C in wet or dry locations.

CONSTRUCTION

APPLICATIONS

2 8 AWG - 2 AWG: 19/w is available upon request.

3 Spec Sheet PV Wire

FEATURES

500' 1000' 3000' Reels 500' 1000' 2500' Reels 500' 1000' 1500' Reels Ampacity of conductors are based on NFPA 70 (NEC) Table 310,15(B)(16) at 90C, See 110,14(C), 240,4(D) and 310,15(B) for other limitations where applicable.

When the neutral is considered current-carrying conductor, the ampacity of four or more current carrying conductors shall be reduced by the as specified in NEC Table 310.15(B)(S)(a).

1/0 AWG THROUGH 1000 KCMIL: ENCORP WRE'CORP SIZE/TYPE'PHOTOVOLTAIC WRE'DR'RHH'OR'RHW'OR'RHW-2'GR2'DIR-BUR'90C WET'OR'DRY'W-1'FT4"EEE\*1202'SUN-RES'-40C'2000V'0LPE'\LUF'S

600V PRINT LEGEND: 10 AWG: ENCORE WREECORP (SZE) TYPEPHOTOVOLTAC WREE OR FRHINFOR PHAYOR PH 1KV/2KV PRINT LEGEND:

ENCORE WIRE

ECORP'(SIZE) TYPE'PHOTOVOLTWC'WRE'OR'RHH'OR'RHW'OR'RHW'2'GR2'OIR-BLR'90C'WET'OR'DRY"VW'1 '3UN-RES'-40C'2000V'XLPE'(UL) 'DATE'TIME'OPERATOR'00

800.962.9473 www.encorewire.com

500' 1000' 2500' 5000' Reels

500' 1000' 2500' 5000' Reels

500' 1000' 2500' 4000' Reels

500' 1000' 3500' Reels

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shade with ease

SUNNY BOY 3.0-US / 3.8-US / 5.0-US / 6.0-US / 7.0-US / 7.7-US

Global Peak technology mitigates

The residential PV market is changing rapidly. Your bottom line matters more than ever—so we've designed a superior residential solution to help you decrease costs at every stage of your business operations. The Sunny Boy 3.0-US/3.8-US/5.0-US/6.0-US/7.0-US/7.7-US join the SMA lineup of field-proven solar technology backed by the world's #1 service team, along with a wealth of improvements. Simple design, improved stocking and ordering, value-driven sales support and streamlined installation are just some of the ways that SMA helps your business operate more efficiently. And, Sunny Boy's superior integration with the innovative Power+ Solution means installers have even more flexibility in addressing their toughest challenges. Finally, SMA Smart Connected will automatically detect errors and initiate the repair and replacement process so that installers can reduce service calls and save time and money.

www.SMA-America.com

Two-part enclosure concept

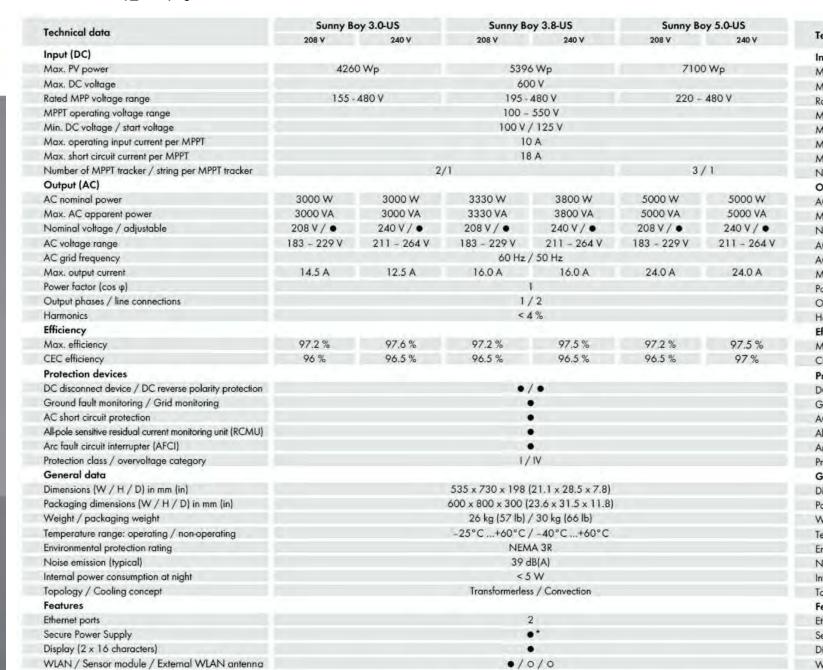
Equipped with SMA Smart

Connected, a proactive service

solution that is integrated into

servicing

allows for simple, expedited



Cellular (4G / 3G) / Revenue Grade Meter 0/0\*\* Warranty: 10 / 15 / 20 years •/0/0 UL 1741, UL 1741 SA incl. Rule 21 RSD, UL 1998, UL 1699B, IEEE 1547, FCC Part 15 (Class A & B), CAN/CSA V Certificates and approvals 107.1-1, HECO SRD-UL-1741-SA-V1.1 Standard features O Optional features - Not available Data at nominal conditions NOTE: US inverters ship with gray lids. \* Not compatible with the Power+ Solution Shutdown functionality \*\* Standard in SBX.X-1TP-US-40 SB3.0-1SP-US-40 / SB3.0-1TP-US-40 SB3.8-1SP-US-40 / SB3.8-1TP-US-40 SB5.0-1SP-US-40 / SB5.0-1TP-US-Type designation

Efficiency curve SUNNY BOY 6.0-1SP-US-40 ---- Eta (V<sub>tv</sub> = 220 V) Output power / Rated power

	Technical data	Sunny Bo	oy 6.0-US	Sunny Boy 7.0-US		Sunny Boy 7.7-US					
٧		208 V	240 V	208 V	240 V	208 V	240 V				
	Input (DC)			- 24							
	Max. PV power	8520	0 Wp		0 Wp	1090	05 Wp				
	Max. DC Voltage				00 V	270 - 480 V					
	Rated MPP Voltage range	220 -	480 V	245	480 V						
	MPPT operating voltage range			100 -	- 550 V						
	Min. DC voltage / start voltage			100 V							
	Max. operating input current per MPPT	10 A									
	Max, short circuit current per MPPT	18 A									
	Number of MPPT tracker / string per MPPT tracker	3/1									
	Output (AC)										
W	AC nominal power	5200 W	6000 W	6660 W	7000 W	6660 W	7680 W				
VA	Max. AC apparent power	5200 VA	6000 VA	6660 VA	7000 VA	6660 VA	7680 VA				
/•	Nominal voltage / adjustable	208 V / •	240 V / •	208 V / •	240 V / •	208 V / •	240 V / •				
264 V	AC voltage range	183 - 229 V	211 - 264 V	183 - 229 V	211 - 264 V	183 - 229 V	211 - 264 V				
	AC grid frequency			60 Hz	/ 50 Hz						
A	Max. output current	25.0 A	25.0 A	32.0 A	29.2 A	32.0 A	32.0 A				
	Power factor (cos φ)				1						
	Output phases / line connections	1/2									
	Harmonics	< 4 %									
	Efficiency										
%	Max, efficiency	97.2 %	97.6%	97.1 %	97.5%	97.1 %	97.5%				
%	CEC efficiency	96.5 %	97%	96.5 %	97 %	96.5 %	97 %				
	Protection devices	3.494.74	** 19	1.515.15	7.5 7.5	10.212-15	2022 69				
	DC disconnect device / DC reverse polarity protection	•/•									
	Ground fault monitoring / Grid monitoring	• / •									
	AC short circuit protection										
	All-pole sensitive residual current monitoring unit (RCMU)										
	Arc fault circuit interrupter (AFCI)										
	Protection class / overvoltage category	1/1/1									
	General data	1/IV									
	Dimensions (W / H / D) in mm (in)	525 - 720 - 100 (01 1 - 00 5 - 7 0)									
		535 x 730 x 198 (21.1 x 28.5 x 7.8) 600 x 800 x 300 (23.6 x 31.5 x 11.8)									
	Packaging Dimensions (W / H / D) in mm (in)										
	Weight / packaging weight	26 kg (57 lb) / 30 kg (66 lb) -25°C+60°C / -40°C+60°C									
	Temperature range: operating / non-operating										
	Environmental protection rating	20	Intal	NE	MA.3R	Ind a t					
	Noise emission (typical)	390	B(A)	-		B(A)					
	Internal power consumption at night	* * *	10	Α.	5 W	1 /					
	Topology / Cooling concept	Transformeries	ss / Convection		Transforme	erless / Fan					
	Features				0						
	Ethernet ports				2						
	Secure Power Supply				•*						
	Display (2 x 16 characters)	•									
	WLAN / Sensor module / External WLAN antenna										
	Cellular (4G / 3G) / Revenue Grade Meter	0/0**									
V22.2	Warranty: 10 / 15 / 20 years	<ul> <li>O/O</li> <li>UL 1741, UL 1741 SA incl. Rule 21 RSD, UL 1998, UL 1699B, IEEE1547, FCC Part 15 (Class A &amp; B), CAN/CSA V22.2</li> </ul>									
V22.2	Certificates and approvals	UL 1/41, UL 1/4	SA Incl. Rule 21 RS		P9B, IEEE 1547, FCC F RD-UL-1741-SA-V1.1	an 13 (Class A & B)	, CAN/CSA V22.				
	Standard features O Optional features - Not available	Data at nominal cond	litions NOTE: US inver			the Power+ Solution S	hutdown functionality				
	NOTE: US inverters ship with gray lids. * Not compatible wi										
-US-40	Type designation		Annual Control of the		/ SB7.0-1TP-US-40	SB7.7-1SP-US-40	/ SB7.7-1TP-US-4				
	47										

\_\_\_\_\_\_

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LIC # C10-989857 EXP: 01/31/2022

25°C ■

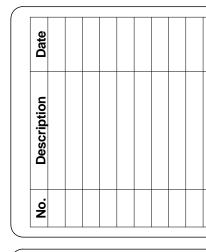
45°C ■

65°C ■

REP

Renewable Energy Partners, Inc. RENEWABLE ENERGY PARTNERS 170 MAPLE ST, STE 105 CORONA, CA 92878 www.RENEWEPI.com 855-519-6633

cside Ave. CA 92373



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Spec Sheets

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# ATTACHMENT E Resolution No. 2021-08

#### RESOLUTION NO. 2021-08

A RESOLUTION OF THE HISTORIC AND SCENIC PRESERVATION COMMISSION OF THE CITY OF REDLANDS APPROVING CERTIFICATE OF APPROPRIATENESS NO. 618 FOR THE CONSTRUCTION OF AN APPROXIMATELY 1,200 SQUARE-FOOT SOLAR CARPORT STRUCTURE LOCATED AT 503 BROOKSIDE AVENUE (APN: 0171-221-25-0000).

WHEREAS, Renewable Energy Partners has submitted an application for Certificate of Appropriateness No. 618 for the construction of an approximately 1,200 square-foot solar carport structure. The project is located at 503 Brookside Avenue, within in the A-P (Administrative and Professional Office) District. (APN: 0171-221-25-0000.)

WHEREAS, notice of this Historic and Scenic Preservation Commission public hearing for the Project was duly published in the Redlands Daily Facts by the Secretary to the Historic and Scenic Preservation Commission; and,

WHEREAS, on July 1, 2021 the Historic and Scenic Preservation Commission held a public hearing and considered the staff report, oral report, the testimony and the written evidence submitted by and on behalf of the applicant and by members of the public; and,

WHEREAS, Public Resources Code Section 15303 (New Construction or Conversion of Small Structures), Section 15301 (Existing Facilities), and Section 15331 (Historical Resource Restoration/Rehabilitation) of the California Environmental Quality Act Guidelines, there is no substantial evidence of any potentially significant impacts, and the project qualifies for this exemption; and,

NOW, THEREFORE, BE IT RESOLVED by the Historic and Scenic Preservation Commission of the City of Redlands as follows:

<u>Section 1.</u> The proposed project is Exempt from the California Environmental Quality Act per Section 15303 (New Construction or Conversion of Small Structures), Section 15301 (Existing Facilities), and Section 15331 (Historical Resource Restoration/Rehabilitation) of the California Environmental Quality Act Guidelines, and there is no substantial evidence of any potentially significant impacts.

<u>Section 2.</u> The proposed Certificate of Appropriateness is hereby approved subject to the conditions of approval contained in Exhibit A attached to this Resolution.

Section 3. This Resolution, if no appeal is filed, shall become effective on July 11, 2021.

ADOPTED, SIGNED AND APPROVED this 1st day of July, 2021.

	Kurt	Heidelb	erg, Historio	e and	Scenic			
	Preservation Commission Chair							
ATTEST:								
Linda McCasland, Secretary								
I, Linda McCasland, Historic and Scenic Pre Redlands, hereby certify that the foregoing re Scenic Preservation Commission at a regular n by the following vote:	esolution v	was duly	adopted by the	he Histor	ric and			
AYES: NOES: ABSENT: ABSTAINED:								
		Linda Scenic	McCasland, Preservation					

Secretary

## EXHIBIT A DEVELOPMENT SERVICES DEPARTMENT PLANNING DIVISION

#### CONDITIONS OF APPROVAL FOR CERTIFICATE OF APPROPRIATENESS NO. 618

Date of Preparation: June 20, 2020

Historic and Scenic Preservation

Commission Date: July 1, 2021

Applicant: Renewable Energy Partners

Location: 503 Brookside Ave

#### **Conditions of Approval:**

1. This approval is for Certificate of Appropriateness No. 618 for the construction of an approximately 1,200 square-foot solar carport structure. The project is located at 503 Brookside Avenue, within in the A-P (Administrative and Professional Office) District. (APN: 0171-221-25-0000.)

- 2. Prior to construction, an administrative construction permit shall be obtained from the Development Services Department.
- 3. All plans submitted to the City as part of the application shall reflect the plans submitted on May 4, 2021 for this Certificate of Appropriateness and shall comply with all provisions of the Redlands Municipal Code and Conditions of Approval.
- 4. Unless construction has commenced pursuant to a building permit, or a time extension is granted in accordance with Code, this application shall expire in eighteen (18) months from the approval date.

**Note:** This project can be extended by staff per Section 2.62.200 K for a period not to exceed thirty-six (36) months.

5. The applicant for this permit, and its successors and assigns, shall defend, indemnify and hold harmless the City of Redlands, and its elected officials, officers, agents and employees, from and against any and all claims, actions, and proceedings to attack, set aside, void or annul the approval of this permit by the City, or brought against the City due to acts or omissions in any way connected to the applicant's project that is the subject of this permit. This indemnification shall include, but not be limited to, damages, fees, costs, liabilities, and expenses incurred in such actions or proceedings, including damages for the injury to property or persons, including death of a person, and any award of attorneys' fees. In the event any such action is commenced to attack, set aside, void or

annul all, or any, provisions of this permit, or is commenced for any other reason against the City for acts or omissions relating to the applicant's project, within fourteen (14) City business days of the same, the applicant shall file with the City a performance bond or irrevocable letter of credit (together, the "Security") in a form and in an amount satisfactory to the City, to ensure applicant's performance of its defense and indemnity obligations under this condition. The failure of the applicant to provide the Security shall be deemed an express acknowledgement and agreement by the applicant that the City shall have the authority and right, without objection by the applicant, to revoke all entitlements granted for the project pursuant to this permit. The City shall have no liability to the applicant for the exercise of City's right to revoke this permit.

- 6. The applicant shall not make any modifications or changes during construction that are in conflict or contrary to the project's approved site design, or building elevations without first consulting with the Development Services Director or his designee.
- 7. The maximum height of the carport structure shall not exceed 16 feet in total height.

Loralee Farris, Principal Planner Historic Preservation Officer

4